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

HEALTH BULLETIN 2016

Management Information System
Directorate General of Health Services
Mohakhali, Dhaka 1212
www.dghs.gov.bd

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EDITORIAL BOARD

Honorable Minister
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

MESSAGE

I am pleased to know Health Bulletin 2016 is going to be published soon. This publication of the MIS-Health is an authentic and benchmark document for us to assess the overall healthcare situation in the country and identify our priority areas for future attention and actions.

Development is a collaborative process. With this spirit, let us work in harmony with one another for a better public health situation in Bangladesh. It is the need of time for effective partnership among the community people, local government institutions, government agencies, UN agencies, NGOs, CBOs, development partners, mass media, civil society, the policy-makers, and other stakeholders to achieve the targets of Sustainable Development Goals (SDGs). Since Bangladesh has become a role model for other developing countries in achieving the MDGs, I hope our collaborative efforts will continue the momentum in achieving the targets of SDGs also.

Over the last few years, Bangladesh made tremendous progress in the health sector under the present pro-people government led by our Honorable Prime Minister Sheikh Hasina. These achievements are the results of visionary planning and good monitoring and evaluation of health interventions.

Our goal to establish a 'Digital Bangladesh' has been achieved more markedly in the health sector due to innovative efforts made by the personnel of MIS-Health under the leadership of Professor Dr. Abul Kalam Azad. I congratulate him and his colleagues and expect to see more of such innovations in the coming days.

Joy Bangla, Joy Bangabandhu.

Mohammed Nasim, MP

Honorable State Minister
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

MESSAGE

I am happy to know the 2016 Health Bulletin—our flagship publication to highlight the overall health scenario in Bangladesh—will be published on time. The Health Bulletin is a concise, relevant and well-structured publication of the DGHS. This would clearly meet the information need of the target audience of the health sector and will be a source of learning for us.

I recall with gratitude that our government and non-government partners have contributed in impressive gains in the health sector over the past years. It is a matter of pride that our health services to the nation are continuously drawing global attention. These achievements and recognitions are the results of benchmark initiatives led by Honorable Prime Minister Sheikh Hasina whose leadership has yielded remarkable positive impacts on having a healthy population. A great deal of work still needs to be done. We need to consolidate the gains that have been made in the last few years in the health sector under the present government. We need to sustain our commitment to the disadvantaged people while advancing our development efforts in line with Sustainable Development Goals set by the United Nations.

I congratulate the health personnel in all organizations under the Ministry of Health and Family Welfare for their dedication and achievements. The hard-working personnel of the MIS-Health under the leadership of Professor Dr. Abul Kalam Azad deserve special appreciation for their persistent efforts in strengthening health services through dissemination of information. I am sure the information contained in this bulletin will help us in decision-making to prioritize health issues that deserve our special attention.

Joy Bangla, Joy Bangabandhu.

Zahid Maleque, MP

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

MESSAGE

The Health Bulletin published by the Management Information System of the Directorate General of Health Services appears as a yearbook that helps us understand what we have done in the past year(s) and what remains to be done. I hope Health Bulletin 2016 will serve the same purpose.

Our historic achievements in the Millennium Development Goals (MDGs) and smooth transitioning towards SDGs will guide us in the coming days. Digitalization of the data-collection and record-keeping system has been of enormous help in visiting and revisiting our actual situations of the healthcare services in the country. I would like to extend my special thanks to Professor Dr. Abul Kalam Azad and his staff at the DGHS whose remarkable achievements in this digitalization process have garnered international recognitions.

I not only endorse but also appreciate drive of the DGHS for sharing year-long health interventions through the Health Bulletin. This, in turn, has encouraged the sharing of best development practices, building trust and relationships among the development partners in the health sector.

I am confident that information contained in this publication will be rewarding and will enable us to achieve a better and more sustainable development in Bangladesh.

Md. Sirazul Islam

Director General
Directorate General of Health Services
Mohakhali, Dhaka

MESSAGE AND EDITORIAL

Both as Director General of the DGHS and as Chief Editor, I am delighted to present Health Bulletin 2016 to our distinguished readers on time. This annual publication of ours has been recognized as a useful document for all in the health sector, ranging from policy-makers and planners to the health managers and field workers.

2016 has been a year of special significance as the development partners have reiterated their commitment to continue efforts with us at all levels to enhance cooperation in health services. Successful holding of the 'Regional Conference on Measurement and Accountability for Health' appears to have brought a ray of hope for strengthening health information at a heightened level. The DGHS will continue utilizing its vast experiences earned through working with the concerned government bodies, NGOs, CBOs, private sector, civil society actors, media, national and international agencies, and other stakeholders to promote better health outcomes.

I am grateful to the Honorable Minister, State Minister for Health, and the Secretary for their constant support to and guidance in our journey.

I extend my heartiest congratulations to the members of the production team for their hard work in bringing out the Bulletin on time. I also acknowledge my colleagues working under the DGHS across the country and others who contributed data that constitute the heart of this bulletin.

It needs to be specially mentioned that the readers may, in some cases, encounter differences between data in the main chapters and those in Annexes to the relevant chapters. The underlying cause of these differences is: the Annexes include raw data but, during analysis for reporting, we exclude the outliers following statistical methods.

We are committed to dedicating more efforts to improve the quality of this publication. Any constructive feedback from readers will be highly appreciated.

Professor Dr. Abul Kalam Azad
Director General
Directorate General of Health Services
and
Chief Editor
Health Bulletin 2016

Director (MIS)
Directorate General of Health Services
Mohakhali, Dhaka

MESSAGE

For years, Health Bulletin published by Management Information System (MIS) of the DGHS, has been a vital and authentic source of information on healthcare situation of Bangladesh. I am very lucky to be a part of this colossal endeavor so early after my joining as the Director of MIS. All personnel behind publication of the Health Bulletin worked so hard to collect and gather accurate information from health facilities of the country as well as analyze the data. As the Director of MIS, I thank all of them whole heartedly.

Bangladesh is continuously developing its health indicators. We have been very successful in achieving most of the targets of Millennium Development Goals, and we are looking forward to accomplishing Sustainable Development Goals within 2030. With this in our mind, the coming years will be very important for the policy-makers and health personnel of our country. The Health Bulletin 2016 will give us a true picture of overall health status of our people and the services they receive. We will be able to identify all the shortcomings and will be able to set our priorities.

We want to ensure Universal Health Coverage within 2029. Quality healthcare for all is our utmost priority. With all the data presented in this bulletin, we will get an authentic scenario of our health workforce as well as disease burden. We want to ensure proper facility, adequate manpower, and the highest quality of health services for people of our country.

Management Information System of the DGHS is continuously working on health system digitization, data collection, storing, and analysis. We hope to do more innovative work in future and make our health system an example for other countries to follow.

Despite best efforts of all the personnel behind publication of this bulletin, there can remain areas of improvements. We welcome any constructive criticism from our readers for further improvement of this bulletin in the coming years.

Dr. Nazimun Nessa

ACRONYMS

A2I	Access to Information
ADB	Asian Development Bank
ADP	Annual Development Program
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
AHI	Assistant Health Inspector
AIDS	Acquired Immunodeficiency Syndrome
ALS	Average Length of Stay
AMC	Alternative Medical Care
AMR	Antimicrobial resistance
ANC	Antenatal Care
APIR	Annual Program Implementation Report
APR	Annual Program Review
ARC	American Red Crescent
ARI	Acute Respiratory Infection
ART	Antiretroviral Treatment/Antiretroviral Therapy
BBS	Bangladesh Bureau of Statistics
BCC	Behavior Change Communication
BCG	Bacillus Calmette Guerin
BCPS	Bangladesh College of Physicians and Surgeons
BCS	Bangladesh Civil Service
BDHS	Bangladesh Demographic and Health Survey
BDS	Bachelor of Dental Surgery
BDT	Bangladeshi Taka
BEOC	Basic Emergency Obstetric Care
BGC	Bangladesh Geographic Survey
BHE	Bureau of Health Education
BIDS	Bangladesh Institute for Development Studies
BINP	Bangladesh Integrated Nutrition Project
BOR	Bed-occupancy Ratio
BMA	Bangladesh Medical Association
BMI	Body Mass Index
BMMS	Bangladesh Maternal Mortality Survey
BMDC	Bangladesh Medical & Dental Council
BMRC	Bangladesh Medical Research Council
BNC	Bangladesh Nursing Council
BNHA	Bangladesh National Health Accounts
BRAC	Bangladesh Rural Advancement Committee
BSA	Bangladesh Society of Anesthesiologists
BSL	Bio-safety Level
BSMMU	Bangabandhu Sheikh Mujib Medical University
BST	Bangladesh Standard Time
BTOR	Bed Turnover Rate
BTRC	Bangladesh Telecommunication Regulatory Commission
CBHC	Community-based Healthcare
CABG	Coronary Artery Bypass Grafting
CBN	Cost of Basic Needs (method)
CRVS	Civil Registration and Vital Statistics
CC	Community Clinic
CDC	Communicable Disease Control
CDD	Control of Diarrheal Diseases
CES	Coverage Evaluation Survey
CFP	Conceptual Framework Paper
CGA	Comptroller General of Accounts
CHCP	Community Healthcare Provider
CIDA	Canadian International Development Agency
CIDD	Control of Iodine-deficiency Disorder
CMCH	Chittagong Medical College Hospital
CME	Centre for Medical Education
CMMU	Construction, Maintenance and Management Unit
CMNS	Child and Mother Nutrition Survey
CMSD	Central Medical Stores Depot
CNP	Community Nutrition Promoter
CNS	Child Nutrition Survey
COPD	Chronic Obstructive Pulmonary Disease
COIA	Commission on Informationd and Accountability
CPR	Contraceptive Prevalence Rate
CRF	Chronic Renal Failure
CS	Civil Surgeon
CSG	Community Support Group
CSBA	Community-based Skilled Birth Attendant
CS	Cesarean Section
CSO	Community Support Organization
DAB	Diabetic Association of Bangladesh
DALY	Disability Adjusted Life Years
DBRH	Demand-based Reproductive Health
DEPB	Develop Evidence-based Planning & Budgeting
DCA	Development Credit Agreement
DCM	Dilated Cardiomyopathy
DGDA	Directorate General of Drug Administration
DDC&H	Dhaka Dental College & Hospital
DF	Dengue Fever
DFID	Department for International Development
DG	Director General
DGFP	Directorate General of Family Planning
DGHED	Directorate General of Health Engineering Department
DGHEU	Directorate General of Health Economics Unit
DGHS	Directorate General of Health Services
DH	District Hospital
DHF	Dengue Hemorrhagic Fever
DLH	District-level Hospital
DMC	Dhaka Medical College

DMCH Dhaka Medical College Hospital
DNS Directorate of Nursing Services
DUMS Diploma in Unani Medicine & Surgery
DAMS Diploma in Ayurvedic
DHMS Diploma in Homeopathic
DOTS Directly-observed Treatment-Short Course
DP Development Partner
DPA Direct Project Aid
DPHE Department of Public Health Engineering
DSF Demand-side Financing
DTCC District Training Coordination Committee

ECNEC Executive Committee of National Economic Council
EDPT Early Diagnosis and Prompt Treatment
EmOC Emergency Obstetric Care
EOC Essential Obstetric Care
EPI Expanded Program on Immunization
EPI-CES Expanded Program on Immunization–Coverage Evaluation Survey
EPR Emergency Preparedness
ERD Economic Relations Division
ESD Essential Service Delivery
ESP Essential Service Packages
ETT Exercise Tolerance Test
EU European Union

FCPS Fellow of College of Physicians and Surgeons
FEP Filariasis Elimination Program
FMAU Financial Management and Audit Unit
FMRP Financial Management Reforms Project
FP Family Planning
FPO Family Planning Officer
FSNSP Food Security Nutritional Surveillance Project
FSW Female Sex Worker
FWA Family Welfare Assistant
FWV Family Welfare Visitor
FY Financial Year

GAVI Global Alliance for Vaccine and Immunization
GDP Gross Domestic Product
GFTAM Global Fund to Fight AIDS, Tuberculosis and Malaria
GHDCH Government Homeopathic Degree College Hospital
GO Government Organization
GOB Government of Bangladesh
GMT Greenwich Mean Time
GTC Government Tibbia College
GUADCH Government Unani and Ayurvedic Degree College & Hospital

HA Health Assistant
HDI Human Development Index
HDS Health and Demographic Survey
HEB Health Education Bureau
HEU Health Economics Unit
HFWC Health and Family Welfare Center
HI Health Inspector
HIES Household Income and Expenditure Survey
HIU Health Information Unit
HIS Health Information System
HIV Human Immunodeficiency Virus
HKI Helen Keller International
HLIC High-level Inter-ministerial Committee
HSM Hospital Services Management
HMPD Health Manpower Development
HNP Health, Nutrition and Population
HNPSIP Health, Nutrition and Population Strategic Investment Plan
HNPSP Health, Nutrition and Population Sector Program
HPNSDP Health, Population and Nutrition Sector Development Program
HR Human Resource

IAPB International Association for Prevention of Blindness
IANPHI International Association of National Public Health Institutes
ICD-10 International Statistical Classification of Diseases and Related Health Problems, 10th Revision
icddr,b International Centre for Diarrhoeal Disease Research, Bangladesh
ICMH Institute of Child and Mother Health
ICOVED Integrated Control of Vector-borne Diseases
ICT Information and Communication Technology
IDA Iron-deficiency Anemia
IDD Iodine-deficiency Disorder
IDH Infectious Diseases Hospital
IEC Information, Education and Communication
IEDCR Institute of Epidemiology, Disease Control and Research
IHSM Improved Hospital Services Management
IHT Institute of Health Technology
IHR International Health Regulations
IMCI Integrated Management of Childhood Illness
IMED Implementation, Monitoring and Evaluation Division
IMF International Monetary Fund

IMHR Institute of Mental Health and Research
IMR Infant Mortality Rate
IOL Intraocular Lens
IPH Institute of Public Health
IPHN Institute of Public Health Nutrition
IPM Individual Performance Management
i-PRSP Interim Poverty Reduction Strategy Paper
IRS Indoor Residual Spraying
ISP Internet Service Provider
IST In-service Training
IT Information Technology
ITHC Integrated Thana Health Complex
ITMN Insecticide-treated Mosquito Net
IUD/IUCD Intra-uterine Device/Intra-uterine Contraceptive Device
IVM Integrated Vector Management
IYCF Infant and Young Child-feeding

JICA Japan International Cooperation Agency

KMCH Khulna Medical College Hospital

LAN Local Area Network
LBW Low Birthweight
LD Line Director
LHB Local Health Bulletin
LLIN Long-lasting Insecticidal Net
LLP Local-level Planning
LTSO Long-term Strategy Options

M&E Monitoring & Evaluation
M/F Male/Female Ratio
MATS Medical Assistant Training School
MBDC Mycobacterial Disease Control
MC Medical College
MCH Medical College Hospital
MCPS Member of College of Physicians and Surgeons
MCWC Maternal and Child Welfare Center
MCEE Maternal Child Epidemiology Estimation
MDA Mass Drug Administration
MDG Millennium Development Goal
MICS Multiple Indicator Cluster Survey
MIS Management Information System
MMR Maternal Mortality Ratio
MNC Maternal, Neonatal and Child Health
MNH Maternal and Neonatal Health
MNHC Maternal and Neonatal Healthcare
MO Medical Officer
MOHFW Ministry of Health and Family Welfare
MOLGRDC Ministry of Local Government, Rural Development and Cooperatives
MoU Memorandum of Understanding
MP Member of Parliament
MSA Management Support Agency
MSD Medical Subdepot
MSM Men who have sex with men
MSW Male Sex Worker
MTR Mid-term Review
MWM Medical Waste Management

NASP National AIDS/STD Control Programme
NCD Non-communicable Diseases
NEMEW National Equipment Maintenance and Engineering Workshop
NFSL National Food Safety Laboratory
NGO Non-governmental Organization
NICRH National Institute of Cancer Research and Hospital
NICVD National Institute of Cardiovascular Diseases
NIC National Influenza Centre
NID National Immunization Day
NIDCH National Institute of Diseases of Chest and Hospital
NIKDU National Institute of Kidney Diseases and Urology
NICRH National Institute of Cancer Research & Hospital
NIMHR National Institute of Mental Health and Research
NINH National Institute of Neurology & Hospital
NIO National Institute of Ophthalmology
NIPORT National Institute of Population Research and Training
NIPSOM National Institute of Preventive and Social Medicine
NITOR National Institute of Traumatology, Orthopedics and Rehabilitation
nm Nautical mile
NMSS National Micronutrients Status Survey
NNS National Nutrition Services
NNP National Nutrition Program
NTP National TB Program
NVAC National Vitamin A Campaign

OP Operational Plan
OPD Outpatient Department
ORS Oral Rehydration Salt
ORT Oral Rehydration Therapy
OT Operation Theater

PH Public Health
PKDL Post-kala-azar Dermal Leishmaniasis
PLIV People living with HIV
PMIS Personnel Management Information System
PMMU Program Management & Monitoring Unit

PRSP Poverty Reduction Strategy Paper
PRS Population Registration System
PSM Preventive and Social Medicine
PSTN Public Switched Telephone Network
PWID People who inject drugs

RDU Research and Development Unit
RADP Revised Annual Development Program
RPA Reimbursable Project Aid
RCHCIB Revitalization of Community Healthcare Initiative in Bangladesh
RHC Rural Health Center

SAM Severe Acute Malnutrition
SACMO Sub-Assistant Community Medical Officer
SBTP Safe Blood Transfusion Program
SDG Sustainable Development Goals
SEARO South-East Asian Regional Office
SHRs Shared Health Records
STD Sexually Transmitted Diseases
SIH Specialty Institute Hospitals
SVRS Sample Vital Registration System
SWAp Sector-wide Approach

TAST Technical Assistance Support Team
TEMO Transport & Equipment Maintenance Unit
TB Tuberculosis
TT Tetanus Toxoid
TC Trauma Centers
TTU Technical Training Unit

UESDS Utilization of Essential Service Delivery Survey
UHC Upazila Health Complex
UHC Universal Health Coverage
UHO Sadar Upazilla Health Offices
UHFPO Upazila Health and Family Planning Officer
UHFWC Union Health and Family Welfare Center
UNICEF United Nations Children's Fund
UNFPA United Nations Population Fund
UNAIDS Joint United Nations Programme on HIV/AIDS
UNGASS United Nations General Assembly Special Session
USC Union Subcenter
USD US Dollar
USI Universal Salt Iodization

VAC Vitamin A Capsule
VAD Vitamin A Deficiency

WAZ Weight-for-age z-score
WB World Bank
WCBA Women of Childbearing Age
WHO World Health Organization
WiMAX Worldwide Interoperability for Microwave Access

CONTENTS

Chapter 1

Country profile with health indicators

BANGLADESH

Under the leadership of Bangabandhu Sheikh Mujibur Rahman, Bangladesh emerged as a sovereign nation on 16 December 1971 through a glorious victory in the War of Liberation.

Under the leadership of Bangabandhu Sheikh Mujibur Rahman, Bangladesh emerged as a sovereign nation on 16 December 1971 through a glorious victory in the War of Liberation. Before that Bangladesh was a province of Pakistan and used to be called East Pakistan. After the fall of Nawab Sirajuddowla in the Battle of Plassey on 23 June 1757, this wealthy part of the Indian Subcontinent was ruled by the British from 1757 to 1947. In 1947, the British colonial rule ended, and the Indian Subcontinent was divided into two independent nations–India and Pakistan. Profound disparities in governance between East and West Pakistan led to the craving for independence among the East Pakistanis. The unique Language Movement of 1952 and a series of mass upsurge at various times during the 1960s and early 1970s led to the War of Liberation.

Geographical location

Bangladesh has a total land area of 147,570 square kilometers (56,977 square miles). The country borders India on three sides with the Indian states of West Bengal, Tripura, Assam, and Meghalaya. Only a small strip in the southeast shares a border with Myanmar. The Bay of Bengal lies to the south. Bangladesh comprises primarily floodplains, with scattered hills in the eastern and northern parts. Large rivers and an intricate web of canals and rivers form this Ganges Delta, the largest delta in the world.

Climate

Bangladesh is a tropical country with a hot and rainy summer (March to June), a warm and rainy monsoon (June to October), and a mildly- dry winter (October to March). January is the coldest month. Average temperatures in the winter range from 11°C to 20°C. April is the hottest month. The summer temperatures range from 21°C to 38°C. Major part of Bangladesh receives more than 1,525 mm of rainfall a year, with areas near the hills receiving more than 5,000 mm, primarily during the monsoon (June-September). The humidity varies from 55% to 100% and is the highest during the monsoon and the lowest in the winter.

Religion and Culture

Majority (approx. 89%) of the population is Muslim. Hindus, Buddhists, and Christians comprise 9.6%, 0.6%, and 0.3% of the population respectively. Over 98% of the people speak Bangla. English is also widely spoken. Bangladesh's rich cultural traditions are displayed in archaeological sites, sculptures, terracotta, architecture, museums, archives, libraries, classical music, dance, paintings, dramas, folk arts, festivals, and ethnic cultural activities.

Population and Demography

Bangladesh Bureau of Statistics (BBS) conducted the national population census in 2011 and, according to the census, total population of Bangladesh was 149,772,364 on 15 March 2011. According to the SVRS 2015, the estimated population on 1 July 2015 was 158.1 million, with a density of 1,077 per square kilometer. Bangladesh is now going through a demographic transition, and the proportion of the population in the agile labor force (15–59

years age-group) has increased. The steady economic growth even during spells of global recessions indicates that the hard-working people of Bangladesh are efficiently taking advantages of the demographic dividend. Although the majority of people still live in rural areas, the urban population is rapidly growing. According to a UN study (World Urbanization Prospects: 2014 Revision), the majority of citizens will be urban-dwellers by the year 2039.

Map of Bangladesh showing administrative divisions

Governance

Bangladesh has a parliamentary form of government. President is the head of the State, and the Prime Minister is the head of the Government. The National Parliament is called Bangladesh Jatiya Sangsad. Each ministry is headed a by a minister, with a secretary to head the bureaucrats. Some ministries are divided into functional divisions. As of now (December 2016), the total number of ministries and functional divisions is 61. The Ministry of Health and Family Welfare is one of the largest ministries of the Government of Bangladesh.

Currently the country is divided into 8 administrative divisions. Each division is divided into several districts; each district is subdivided into several upazilas (sub-districts), and each upazila into several unions (Table 1.1). Each union is further subdivided into nine wards and, thus, there are 40,977 such wards under 4,553 unions till December 2016. Finally, the wards are divided into several villages; the approximate number of villages is 87,310. However, ward is the lowest administrative unit of the local government, having at least one representative elected for 5 years by popular vote. The city corporations and municipalities are designated as urban areas, with 12 city corporations and 324 municipalities across the country.

Economy

The agrarian sector still dominates the country's economy, accounting for majority of the

Table 1.1. Number of districts, upazilas, and unions under 8 divisions of Bangladesh with area, estimated mid-year population of 2016, and population density in each of the divisions

Adminstrative units				Area (sq. km)[1]	2016 Population[2]	Population density (per sq. km)
Division	District (No.)	Upazila (No.)	Union (No.)			
Barisal	6	42	333	13,225.20	9,145,000	691
Chittagong	11	100	339	33,908.55	31,980,000	943
Dhaka	13	89	1,833	20,593.74	40,171,000	1,951
Khulna	10	59	270	22,284.22	17,252,000	774
Mymensingh	4	34	350	10,584.06	12,368,000	1,169
Rajshahi	8	68	558	18,153.08	20,412,000	1,124
Rangpur	8	58	536	16,184.99	17,602,000	1,088
Sylhet	4	39	334	12,635.22	11,291,000	894

[1]Population and housing census 2011, BBS
[2]Projected population scenario as described in "Population Projection of Bangladesh, Dynamics and Trends: 2011-2061", BBS

rural labor force. The principal industries of the country include readymade garments, textiles, chemical fertilizers, pharmaceuticals, tea-processing, sugar, and leather goods. The principal minerals include natural gas, coal, white clay, and glass-sand. Bangladesh has been utilizing a mixed system of public and private development, which operates on free-market principles.

According to a BBS publication ("National Account Statistics" published on May 2016), the provisional estimates of GDP for FY2016 indicate an expansion of the economy, with a growth of 7.05% in real term compared to 6.55% in FY2015. The per-capita GDP and GNI for FY2016 were estimated to be BDT 108,172 (USD 1,384) and BDT 114,547 (USD 1,466) respectively at current prices. At constant prices (2005-2006) the per-capita GDP and GNI for FY2016 were estimated to be BDT 55,229 and BDT 58,484 respectively. The value of GDP at current market prices was provisionally estimated to be BDT 17,296 billion which is about 14.10% higher than that of FY2015. GDP at constant market prices was provisionally estimated to be BDT 8,831 billion.

Summarized basic information and health indicators

[See List of Acronyms for the abbreviations]

Administrative Units

Division : 8
City Corporation : 12
Metropolitan city : 4
Municipality : 324
District : 64
Upazila : 489
Union : 4,553
Ward : 40,977
Village (approx.) : 87,310

Geography

Location: Latitude between 20°34' and 26°38' North, Longitude between 88°01' and 92°41' East
Boundary: North and West: India; South: Bay of Bengal; East: India and Myanmar
Border: 4,246 km, Coastline: 580 km
Area: 147,570 sq. km (56,977 sq. miles), Land: 133,910 sq.km, Water: 10,090 sq.km
Maritime boundary: Contiguous zone 18 nm, Economic zone 200 nm, Territorial sea 12 nm
Average temperature: Winter 11°C-20°C; Summer 21°C-38°C
Rainfall: 1,100 to 3,400 mm (June-August); Average 203 mm/month
Humidity: Highest 100% (July); Lowest 55% (December-January)
Standard time: BST (GMT+ 6 hours)

Demography

(SVRS 2015)

Population: Estimated population on 1 July 2015 158.1 million; Projected (2016) population 160.221 million (Projected population in scenario as described in "Population Projection of Bangladesh, Dynamics and Trends:, 2011-2061", BBS, available at www.bbs.gov.bd)
Population density (per sq. km): 1,077; in land area 1,236.811 (in 2015; WB 2016)
Population growth rate: 1.37%
Sex ratio (M/F): 100.3/100.0

Table 1.2. Percent population by broad age-group

Age-group (years)	Both sexes	Male	Female
00-14	30.8	31.3	30.2
15-49	53.7	52.5	55.0
50-59	7.8	8	7.6
60+	7.7	8.2	7.2

Dependency ratio (percentage): Total 55; Rural 59, Urban 49
Child-woman ratio (per 1,000 women of 15-49 years): Total 325; Rural 350, Urban 290
Crude birth rate (per 1,000 population): Total 18.8; Rural 20.3, Urban 16.5
Total fertility rate (per woman of 15-49 years): Total 2.10, Rural 2.30, Urban 1.72

Table 1.3. Age-specific fertility rate (per 1,000 women of reproductive age)

Age-group (years)	Rate
15-19	75
20-24	137
25-29	105
30-34	56
35-39	25
40-44	9
45-49	3

General fertility rate: Total 69, Rural 77, Urban 57
Net reproduction rate (per woman of 15-49 years): Total 1.00, Rural 1.10, Urban 0.84
Crude marriage rate (per 1,000 population): Total 13, Rural 14.9, Urban 10.2

Table 1.4. Mean age at marriage (years)		
Stratum	**Male**	**Female**
Total	26.3	18.7
Rural	25.9	18.3
Urban	27.2	19.8

Economy

Per-capita GDP at current market prices (in USD): 1,384 (2015-2016$_p$), Growth rate of GDP at constant prices (percentage): 7.05 (2015-2016$_p$) (BBS, May 2016)

Principal crops: Rice, jute, tea, wheat, sugarcane, pulses, mustard, potato, vegetables

Principal industries: Garments and textiles (2nd largest in the world), tea, ceramics, cement, leather, jute (largest producer in the world), chemicals, fertilizers, shrimp cultivation and processing, sugar, paper, electric and electronics, medicines, fishing.

Principal exports: Garments, knitwear, frozen shrimps, tea, leather and leather products, jute and jute products, ceramics, IT outsourcing.

Principal imports: Wheat, fertilizers, petroleum goods, cotton, edible oil.

Principal minerals: Natural gas, oil, coal, white clay, glass sand.

Household Characteristics and Utilities
(SVRS 2015)

Household-size (no. of persons): 4.4
Male-headed (%): 87.3
Female-headed (%): 12.7
Water and sanitation (% households)
Drinking–water: Access to tap and tubewell water 97.8%

Toilet facility (%): Sanitary 73.5; Others 23.2; None 3.3

Table 1.5. Source of light (% households)			
Source	**Total**	**Rural**	**Urban**
Kerosene	16.3	23.6	5.8
Electricity	77.9	67.6	92.9
Others	0.4	0.4	0.2

Information Technology
(BTRC 30 November 2016; all figures as of August 2016)

Internet subscribers

Total: 62.248 million
Mobile Internet: 58.375 million
WiMAX: 0.104 million
ISP+PSTN: 3.769 million

Mobile phone subscribers

Total : 117.758 million

Literacy
(SVRS 2015)

Literacy rate of population aged 7+ years (percentage): Both sexes 63.6, Female 61.6, Male 65.6
Adult literacy rate of population aged 15+ years (percentage): Both sexes 64.6, Female 61.6, Male 60.6

Health Service and Medical Education
(DGHS 2016)

Hospitals and beds

Total number of government hospitals under the DGHS: 610
Government hospitals of secondary and tertiary levels under the DGHS: 128
Government hospitals under the DGHS at the upazila and union levels: 482
No. of registered private hospitals and clinics under the DGHS: 4,596
No. of registered private diagnostic centers under the DGHS: 9,741
No. of hospital beds under the DGHS: 48,934
No. of hospital beds in the private-sector (in private hospitals registered by the DGHS: 78,426
Total DGHS-run hospitals and registered private hospitals: 127,360
Population per hospital bed: 1,528 (total beds in the DGHS-run public and registered private hospitals in 2016 against projected mid-year population of 2016 as estimated by BBS)

Teaching/training institutions for healthcare

No. of postgraduate medical teaching institutions: Total 33; Government 23; Private 10
No. of medical colleges: Total 104; Government 36; Private 68
No. of dental colleges: Total 34; Government 9; Private 25
No. of nursing colleges offering Basic BSc Nursing course: Total 38; Government 14; Private 24
No. of nursing colleges offering Post-basic BSc Nursing course: Total 24; Government 5; Private 19
No. of medical assistants training schools: Total 176; Government 8; Private 168
No. of institutes of health technology (IHT): Total 116; Government 8; Private 104; Government-Private 4

Seats for medical degrees

Postgraduate medical degree (MD, MS, Diploma, M Phil, MPH, MTM, MMED): Total 2,237; Autonomous 476, Government 1,592; Private 169
(Fellowships/memberships offered by BCPS do not have any fixed number)
MBBS: Total 9,957; Government 3,812; Private 6,145
BDS: Total 1,917; Government 532; Private 1,385
Bachelor of Unani and Ayurvedic Medicine: 50
Bachelor of Homeopathic Medicine: 50

Seats for other courses

For medical assistants: Total 13,051; Government 716; Private 12,335
For medical technologists: Total 16,042; Government 2,596; Private 13,266; Government-Private 180

Health Status

Coverage of vitamin A capsule
(EPI-CES 2015)

Infant (6-11 months): 79.6%
Children (12-59 months): 87.3%
Postpartum women: 37.6%

Family planning

Contraceptive prevalence rate (%): 62.1 (SVRS 2015)
Unmet need for family planning (%): 12.0 (BDHS 2014)

HIV/AIDS

Antiretroviral treatment (ART) coverage among adults needing ART: 14% (UNFPA 2015)
ART recipients (estimated number) in 2015: 1,428; in 2014: 1,287 (UNFPA 2015)
HIV prevalence among key populations in 2014: PWID 1.1 %; FSW 0.3%; MSW 0.4%; MSM 0.4%; Hijra 1% (UNAIDS 2015)
HIV prevalence among most-at-risk population group: <0.1% (NTP 2016)
Knowledge of all modes of transmission of HIV/AIDS among population (%): 25.8 (SVRS 2015)
Knowledge of at least one mode of transmission of HIV/AIDS among population (%): 66.1 (SVRS 2015)
Mortality rate among HIV+ve TB patients/100,000 population: 0.11 (WHO 2015)
New HIV infection reported in 2015 (up to November): 469 (NASP 2016)
People living with HIV (PLIV) in 2014: 8,900 (NASP 2015)

Immunization (valid vaccination coverage)
(EPI-CES 2015)

≤12 months old children: BCG 99.3%; OPV1 99.1%; OPV2 94.5%; OPV3 93.6%; Penta1 93.9%; Penta2 94.5%; Penta3 93.6%; Measles 87.4%; Full vaccination: 82.5%
≤23 months old children: BCG 99.4%; OPV1 94%; OPV2 94.7%; OPV3 94.1%; Penta1 94%; Penta2 94.7%; Penta3 94.1%; Measles 91.7%; Full vaccination 86.5%
Tetanus toxoid coverage (%) among women of childbearing age: TT1 96%; TT2 94%; TT3 83.6%; TT4 66.7%; TT5 46.1%

Life-expectancy at birth (years)

Both sexes 71.8; Female 73.1; Male 70.6 (in 2015, WB 2016)

Malaria

Malaria positive cases/1,000 population (in endemic areas): 3.00 (in 2015, NMCP 2016)
Malarial mortality/100,000 population (in endemic areas): 0.0068 (in 2015, NMCP 2016)

Maternal and child health, obstetric care

Antenatal care coverage (at least 4 visits) (%): 31 (in 2014, UNICEF, February 2016), 31.2 (BDHS 2014)
Antenatal care coverage (at least one visit by skilled health professional) (%): 63.9 (in 2014, WB 2016)
Births attended by skilled health personnel (%): 42.1 (BDHS 2014)
C-section rate (%): 22.9% (BDHS 2014)
Home delivery rate: 62.2% (BDHS 2014)
Infant mortality rate (per 1,000 livebirths): 29 (SVRS 2015)
Institutional delivery rate (%): Total 37.4; Public facility 12.8; Private facility 22.4; NGO facility 1.9 (BDHS 2014)

Maternal mortality ratio (per 100,000 livebirths): 176 (in 2015, WB 2016)
Neonatal mortality rate/1,000 livebirths: 20 (SVRS 2015)

Under-5 mortality rate (per 1,000 livebirths): 36 (SVRS 2015)

Tuberculosis

Cure rate with DOTS (%): 94 (in 2014, NTP 2016)
Death rate/100,000 population: 51 (in 2014, NTP 2016)
Incidence rate of HIV-positive TB cases/100,000 population: 0.36 (in 2014, NTP 2016)

Incidence rate of TB (all forms)/100,000 population: 227 (in 2014, NTP 2016)
Prevalence rate of TB (all forms)/100,000 population: 404 (in 2014, NTP 2016)
Proportion of new TB cases with MDR-TB (%): 1.4 (in 2014, NTP 2016)
Proportion of retreated cases with MDR-TB (%): 29 (in 2014, NTP 2016)

Health Workforce

Personnel currently working under different agencies of MOHFW

(No. of sanctioned posts are given in parentheses)

DGHS
(DGHS, June 2016)

No. of personnel: 106,104 (127,841)
No. of doctors: 22,374 (24,028)
No. of medical technologists: Total 5,945 (7,790); Dental 484 (540); EPI 462 (500); Lab 1,629 (2,172), Pharmacy 2,106 (2,944); Physiotherapy 171 (286); Radiography 623 (785); Radiotherapy 38 (66); Sanitary inspection 432 (497)
No. of Sub-Assistant Community Medical Officers (SACMO): 4,578 (5,411)
No. of Community Healthcare Providers (CHCPs) for community clinics: 13,622
No. of Domiciliary Workers: Total 22,455 (26,455); Health Inspectors (HI) 1,232 (1,399); Assistant Health Inspectors (AHI) 3,891 (4,205); Health Assistants (HA) 17,332 (20,877)

DGFP
(DGFP 2015)

No. of doctors: 526 (1,079)
No. of Family Planning Officers: 375 (485)
No. of Assistant Family Planning Officers: 263 (485)
No. of Sub-Assistant Community Medical Officers (SACMO): 2,307 (2,500)
No. of Family Welfare Visitors (FWV): 3,962 (4,500)
No. of Domiciliary Workers: Total 24,679 (29,210); Family Planning Inspectors (FPI): 5,096 (5,710); Family Welfare Assistants (FWA): 19,583 (23,500)

DNS
(DNS 2015)

No. of nurses: 16,840 (22,157)
No. of non-nursing officials and staff: 931 (1,093)

Registered professionals

Dental surgeons and physicians
(BMDC, 24 July 2016)
No. of registered dental surgeons (BDS): 7,015
No. of registered physicians (MBBS): 78,572

Nurses and paramedics
(BNC, 30 June 2016)

No. of registered BSc nurses: 4,600
No. of registered diploma nurses: 41,697
No. of registered nurses with Diploma in Cardiac Nursing/Intensive Care Nursing: 210
No. of registered assistant nurses: 2,425
No. of registered family welfare visitors (FWV): 6,364
No. of registered junior midwives: 2,125
No. of registered community skilled birth attendants: 7,858

Population-Health Workforce Ratio
(DGHS 2016)

(The BBS-projected 2016-mid-year-population of 160.221 million was considered as the denominator in applicable cases)

Annual number of enrolment in graduate (MBBS) program to produce physicians per 100,000 population: 6.21
Population per registered physician: 2,039
No. of registered physicians per 10,000 population: 4.90
No. of registered nurses per 10,000 population: 2.90
No. of doctors working under MOHFW per 10,000 population: 1.43
No. of nurses working under DNS per 10,000 population: 1.05
No. of medical technologists working under DGHS per 10,000 population: 0.37
No. of community and domiciliary health workers working under MOHFW per 10,000 people: 4.04

Chapter 2

An intricate web

HEALTHCARE NETWORK IN BANGLADESH

The national-level policies, plans, and decisions in the provision of healthcare and education are translated into actions by various implementing authorities and healthcare delivery systems across the country.

Spread across the country, the intricate web of healthcare network comprises entities ranging from the Ministry of Health and Family Welfare (MOHFW) to healthcare facilities down to the community level. Along with the public health departments of the Government, various NGOs and private institutions constitute a large proportion of this web. The Ministry is responsible for formulating national-level policy, planning, and decision-making. The national-level policies, plans, and decisions in the provision of healthcare and education are translated into actions by various implementing authorities and healthcare delivery systems across the country. The Ministry and its relevant regulatory bodies also have an indirect control over the healthcare systems of the NGOs and the private sector. However, this chapter gives a brief description of the organizational structure of the Directorate General of Health Services (DGHS) only.

Hierarchy of personnel in the Ministry of Health and Family Welfare

The Ministry of Health and Family Welfare is headed by the Honorable Minister and is assisted by the Honorable State Minister. As the principal executive of the Ministry, the Secretary works with a team of officials, including Additional Secretary, Joint Secretaries/Joint Chiefs, Deputy Secretaries/Deputy Chiefs, Senior Assistant Secretaries/Senior Assistant Chiefs, and others (Figure 2.1).

Implementing authorities

There are 9 implementing authorities under the MOHFW. These are as follows:

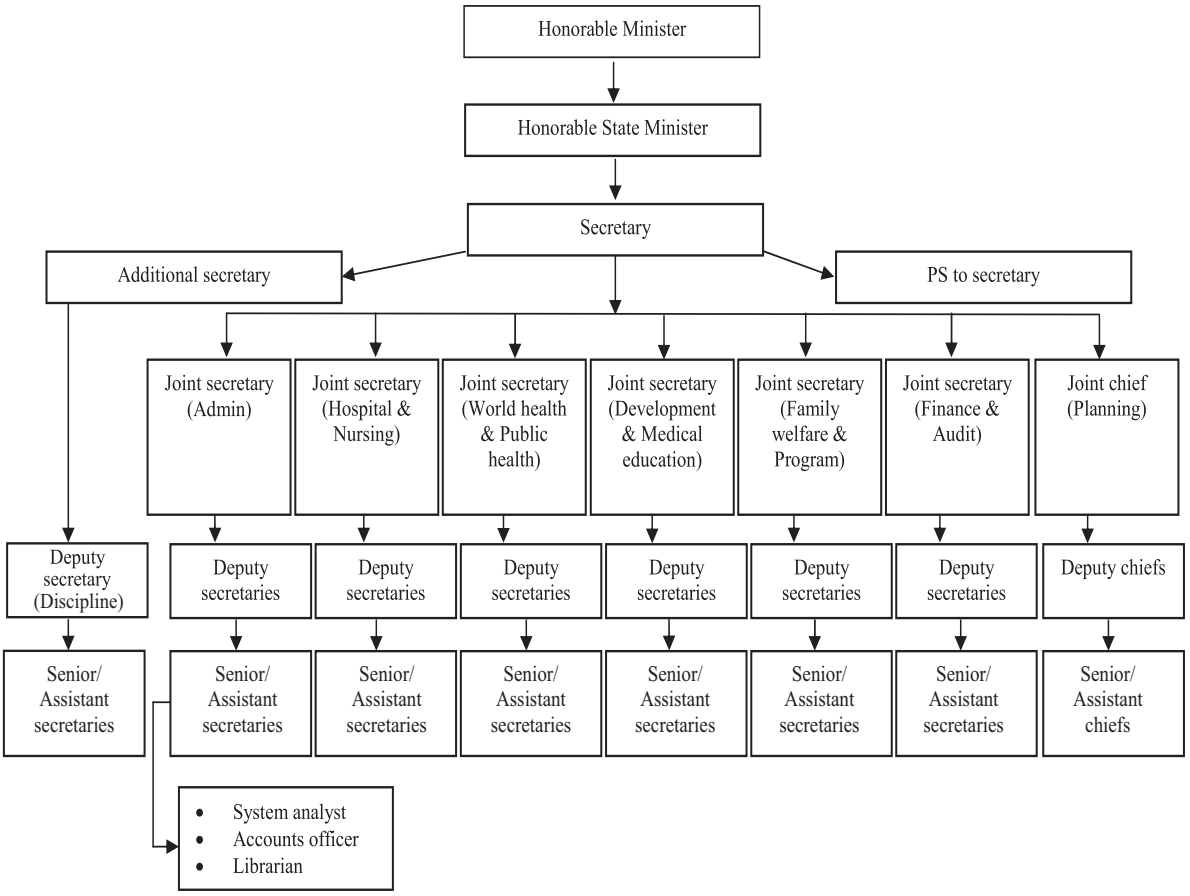
1. Directorate General of Health Services (DGHS)
2. Directorate General of Family Planning (DGFP)
3. National Institute of Population Research & Training (NIPORT)
4. Directorate General of Drug Administration (DGDA)
5. Directorate General of Health Economics Unit (DGHEU)
6. Directorate General of Health Engineering Department (DGHED)
7. Directorate of Nursing Services (DNS)
8. Transport & Equipment Maintenance Organization (TEMO)
9. National Electro-medical & Engineering Workshop (NEMEW)

Regulatory bodies

The regulatory bodies under the MOHFW include:

1. Bangladesh Medical & Dental Council (BMDC)
2. Bangladesh Nursing Council (BNC)
3. State Medical Faculty (SMF)

Figure 2.1. Hierarchy of personnel in the MOHFW



Number of personnel

Core personnel

Secretary	: 1
Additional Secretary	: 1
Joint Secretary	: 6
Joint Chief	: 1
Deputy Secretary	: 13
Deputy Chief	: 2
PS to Secretary	: 1
Senior/Assistant Secretary	: 35
Senior/Assistant Chief	:19
System Analyst	:1
Programmer	: 3
Maintenance Engineer	: 1
Assistant Programmer	: 4
Assistant Maintenance Engineer	: 1
Senior Computer Operator	: 2
Accounts Officer	: 4
Librarian	: 1
Total	**: 96**

Other personnel

Administrative Officer	: 53	Cataloger	: 1
Personnel Officer	: 21	Computer Operator	: 4
Steno-typist	: 39	Draftsman	: 2
Office Assistant/Upper Division Assistant	: 10	Lower Division Assistant	: 1
Office Asstt.-cum-Computer Operator	: 6	Cash *Sarker*	: 2
Typist	: 12	Stenographer	: 1
Data-entry Control Supervisor	: 2	Plain Paper Copier Operator	: 1
Data-entry Operator	: 1	Duplicating Machine Operator	: 2
Accountant	: 2	Dispatch Rider	: 2
Assistant Accountant	: 3	Driver	: 2
Cashier/Accounts Assistant	: 4	*Daftary*	: 1
Audit Super	: 4	Office Assistant/MLSS	: 89
Auditor	: 8	Sweeper	: 3
Statistician	: 1	**Total**	**:277**

4. Homeo, Unani and Ayurvedic Board
5. Bangladesh Pharmacy Council

Directorate General of Health Services

The Directorate General of Health Services (DGHS), with more than one hundred thousand officers and staff members, is the largest implementing authority under the MOHFW. Along with the operation of healthcare-delivery systems in the country, the DGHS provides technical assistance to the Ministry in undertaking new programs and interventions and for improvements in the existing ones.The healthcare-delivery systems under the DGHS extend from national to the community level.

Along with the operation of healthcare-delivery systems in the country, the DGHS provides technical assistance to the Ministry in undertaking new programs and interventions and for improvements in the existing ones.

The activities are implemented under regular revenue setups and the development programs. The development programs are designed following a sector-wide, multi-year approach.

As presented in Figure 2.2, the administrative setup of the DGHS indicates the diversity of activities carried out by the Directorate.

Management structure and type of health facilities under the DGHS

The healthcare infrastructure under the DGHS comprises six tiers: national, divisional, district, upazila (subdistrict), union, and ward (Figure 2.3). At the national level, there are institutions both for public health functions as well as for postgraduate medical education/training and specialized treatment to patients.

A divisional director for health in each division governs activities and is assisted by deputy directors and assistant directors. There is one infectious disease hospital and one or more medical college(s) at the divisional headquarters. Each medical college has an attached hospital. Some divisional headquarters also possess general hospitals and institutes of health technologies. Divisional institutes provide basically the tertiary-level care.

The civil surgeon (CS) is the district health manager responsible for delivering secondary

Figure 2.2. Administrative setup of the Directorate General of Health Services

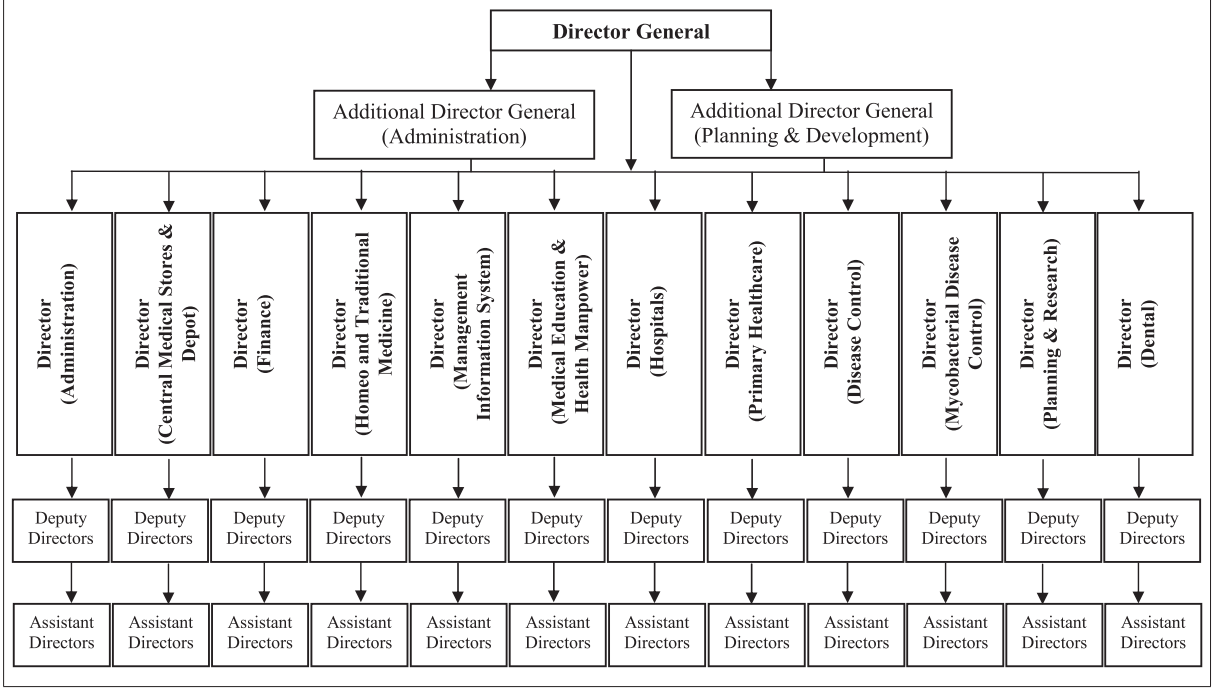
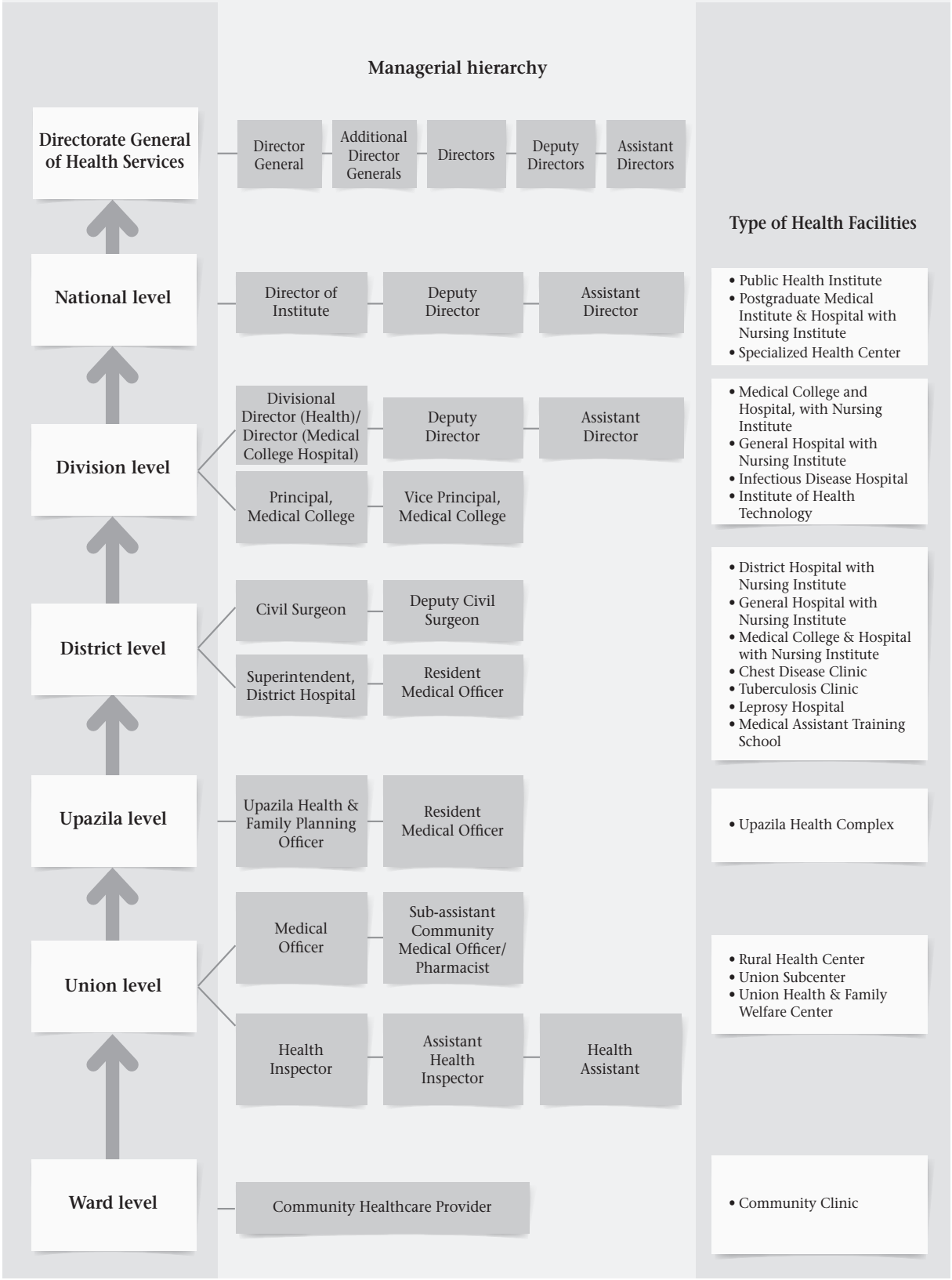


Figure 2.3. Types of organizations and facilities under the DGHS from national to the ward level, with managerial hierarchy



and primary care services. In each district, there is a district hospital. Some district hospitals have superintendents to look after the hospital management. In others, civil surgeons look after the district hospitals. Some of the district headquarters have medical colleges with attached hospitals, medical assistants' training schools, and nursing training institutes.

The upazila health & family planning officer (UH&FPO) is the health manager at the upazila level. S/he manages all public-health programs, especially the primary healthcare services in the upazila and also looks after the upazila hospital. The upazila where the district headquarter is located does not have an upazila hospital, and there, the upazila hospital service is provided by the district hospital.

At the union level, three kinds of health facilities exist: rural health centers, union subcenters, and union health & family welfare centers (UHFWCs). Each union-level health facility employs a medical doctor among other staff. Only outdoor services are available at the union level. All union facilities have sub-assistant community medical officers to provide health services to the people.

The MOHFW planned to establish one community clinic for every 6,000 people, with a total of 13,861 CCs in the country. The existing union and upazila facilities (~4,500) also provide community clinic services. Currently (up to 31 July 2016), 13,336 CCs are in operation. The RCHCIB project was responsible for operationalizing the CCs until June 2015. Now these are functioning under the operational plan of community-based healthcare. These facilities are mainly responsible for delivering primary healthcare services, like EPI, treatment for common diseases (pneumonia, fever, cough, etc), family planning services, health education, and first-aids and serve as the first contact points for patients. Some of the community clinics have also stated services for normal delivery through CSBA at the community clinic. The MOHFW aims to develop the CCs as the unit of comprehensive healthcare-seeking behavior change in the respective local communities through a sense of ownership and provision of leadership by community people.

At the ward or village level, there are also domiciliary health workers – one for every 5,000 to 6,000 people. There are 26,481 sanctioned posts of domiciliary workers under the DGHS: 20,877 health assistants (HA), 4,205 assistant health inspectors (AHI), and 1,399 health inspectors (HI). The Directorate General of Family Planning (DGFP) also has domiciliary family planning staff working at the ward level. Currently, the domiciliary staff members from DGHS and DGFP share the responsibility of running the community clinics, along with the community healthcare provider (CHCP).

Chapter 3

Transition from MDGs to SDGs

HEALTH-RELATED SUSTAINABLE DEVELOPMENT GOALS

> For the Ministry of Health and Family Welfare of the Government of Bangladesh, appropriate planning of the 4th Sector-wide Approach (SWAp) is important.

The Sustainable Development Goals (SDGs) as a whole, particularly Goal 3 of SDGs, created a new opportunity to realize the dream of the highest achievable levels of health for every citizen of Bangladesh. It provides a way forward to fulfilling the constitutional obligations of ensuring required healthcare and nutrition for the citizens. The leader of our country-Prime Minister Sheikh Hasina has taken up the challenge to achieve the health-related SDGs progressively within 2030.

For the Ministry of Health and Family Welfare of the Government of Bangladesh, appropriate planning of the 4th Sector-wide Approach (SWAp) is important. The MOHFW of Bangladesh has rich experiences of implementing SWAps for three consecutive 5-year periods. The SWAp or a modified SWAp will create opportunity for the MOHFW to take managerial decisions, project implementation, supervision, and monitoring quickly. The 4th SWAp of the Ministry is expected to begin sometime in 2017. It will be at a critical juncture of time as the 3rd SWAp designed for attainment of MDGs will step to the 4th SWAp for attainment of health-related SDGs. The 4th SWAp will influence the 5th and the 6th SWAp as driving force for health-related SDGs. The SDGs have a high aspiration for inclusion and leaving no one behind. The 4th SWAp will have to find solutions to set the path towards materializing this high aspiration. The SDGs give priority to measurement and accountability, using reliable data generated through country-led process. The 4th SWAp will have to address this requirement. A robust follow-up and review mechanism for the implementation of the new 2030 Agenda for Sustainable Development will be put in place through a solid framework of indicators and statistical data to monitor progress, inform policy, and ensure accountability of all stakeholders. Throughout the SDG period, demographic transition and shift of disease burden will continue to happen, which will need addressing through the three subsequent SWAps that will have to meet increasing health service expectation of people and policy-makers, keeping pace with the country's economic progress, people's improved quality of life, and expectations of Visions 2021 and 2041. The 4th SWAp will have to address the issue of acute shortage of health workforce (HWF) to fulfill the dream of universal health coverage as included in health-related SDGs. So, the MOHFW and all of its agencies will have to provide the highest level of attention so that all issues are adequately and appropriately addressed in the documents and plans of the 4th SWAp.

The 17 Goals of SDGs

Figure 3.1 summarizes the 17 Goals of the SDGs, which are: (1) No poverty; (2) Zero hunger; (3) Good health and well-being; (4) Quality education; (5) Gender equality; (6) Clean water

and sanitation; (7) Affordable and clean energy; (8) Decent work and economic growth; (9) Industry, innovation and infrastructure; (10) Reduced inequality; (11) Sustainable cities and communities; (12) Responsible consumption and production; (13) Climate action; (14) Life below water; (15) Life on land; (16) Peace, justice and strong institutions; and (17) Partnership for the Goals. Although Goal 3 is directly related to health, the health sector has the responsibility and stake in all the other 16 goals to apply the principles of SDGs in its own settings as well as to complement achievement of the related goals by other sectors.

Goal 3 of SDGs states "To ensure healthy lives and promote well-being for all at all ages."

Goal 3 has 13 targets as follows:

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 livebirths

3.2 By 2030, end preventable deaths of newborns and children below 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 livebirths and under-5 mortality to at least as low as 25 per 1,000 livebirths

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, waterborne diseases, and other communicable diseases

3.4 By 2030, reduce by one-third the premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.5 Strengthen the prevention and treatment of substance-abuse, including narcotic drug-abuse and harmful use of alcohol

3.6 By 2020, halve the number of global deaths and injuries from road-traffic accidents

3.7 By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals, and air, water and soil pollution and contamination

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full extent the provisions in the Agreement on Trade-related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

3.c Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in the least-developed countries and small island developing States

3.d Strengthen the capacity of all countries, in particular, developing countries, for early warning, risk reduction and management of national and global health risks.

Other goals and targets related to health sector

Table 3.1 summarizes the number of other SDGs and targets related to health. It reveals that there are 33 additional targets under 12 other goals that are related to health.

The list of the targets is shown below:

Goal 1

1.3 Implement nationally-appropriate social protection systems and measures for all, including floors and, by 2030, achieve substantial coverage of the poor and the vulnerable

Figure 3.1. The 17 Goals of SDGs

Goal 3 – Health in the SDGs

Goal 2

2.1 By 2030, end hunger and ensure access by all people, in particular, the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally-agreed targets on stunting and wasting in children below 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons

Goal 4

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university degrees

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations

4.a Build and upgrade education facilities that are child-, disability- and gender-sensitive and provide safe, non-violent, inclusive and effective learning environments for all

Goal 5

5.1 End all forms of discrimination against all women and girls everywhere

5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation

Table 3.1. Number of other SDG targets related to health

Goal	No. of targets related to health	Goal	No. of targets related to health	Total goals	Total targets
1	1	9	2	12+1=13	33+13=46
2	2	10	1		
4	4	11	2		
5	5	13	4		
6	3	16	7		
7	1	17	1		

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Program of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences

Goal 6

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking-water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls, and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Goal 7

7.3 By 2030, double the global rate of improvement in energy efficiency

Goal 9

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally-sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Goal 10

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

Goal 11

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

11.6 By 2030, reduce the adverse per-capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Goal 13

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2 Integrate climate change measures into national policies, strategies, and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in the least-developed countries and small island developing States, including focusing on women, youth, and local and marginalized communities

Goal 16

16.1 Significantly reduce all forms of violence and related death rates everywhere

16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children

16.5 Substantially reduce corruption and bribery in all their forms

16.6 Develop effective, accountable and transparent institutions at all levels

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels

16.9 By 2030, provide legal identity for all, including birth registration

16.10 Ensure public access to information and protect fundamental freedom, in accordance with national legislation and international agreements

Goal 17

17.18 By 2030, enhance capacity-building support to developing countries, including for the least-developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.

WHO's suggested list of indicators for health-related SDGs

For understanding the reporting requirement for the health-related SDGs, it is essential to know the indicators list of the same. Recently, the United Nations Statistical Commission, which is entrusted for developing measurement indicators for SDGs, recommended 230 indicators for SDGs, from which the WHO has primarily identified the following indicators as health-related:

- Proportion of stunted U5 children
- Proportion of wasted and overweight U5 children
- Proportion of births attended by skilled health personnel
- Infant mortality rate
- Under-five mortality rate
- Neonatal mortality rate
- Maternal mortality ratio
- Estimated HIV incidence rate
- Mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease
- Suicide mortality rate
- Alcohol per-capita consumption (aged 15 years and older) within a calendar year in liters of pure alcohol
- Death rate due to road-traffic injuries
- Proportion of women married or in a union of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods
- Adolescents' childbirth rate per 1,000 adolescent women aged 15-19 years
- Mortality rate attributed to household and ambient air pollution
- Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene
- Mortality rate attributed to unintentional poisonings
- Proportion of population using improved drinking-water sources

- Proportion of population using improved sanitation facilities
- Tobacco-use rate
- International Health Regulations (IHR) capacity and health emergency preparedness
- UHC tracers (hypertension treatment coverage; diabetes treatment coverage; cervical cancer screening; tobacco-use; ART coverage, tuberculosis treatment, use of insecticide-treated nets, access to safely-managed drinking-water source and sanitation; hospital access, health workforce density by specific cadres, access to medicines and vaccines, IHR capacities; and catastrophic and impoverishing out-of-pocket health spending)
- Death rate due to disasters
- Data disaggregation situation
- Coverage of birth and death registration
- Women and girls subjected to physical, sexual or physiological violence.

Health in 2015 from MDGs to SDGs

The World Health Organization has published a book titled "Health in 2015 from MDGs to SDGs." The book recognized clearly that achievement of health-related SDGs will not be possible through business as usual as we followed in the primary healthcare and MDGs era. Health-related SDGs will require different kinds of modalities to track individual citizens to identify their individual healthcare need and provide tailor-made solutions on case-by-case basis as per the vision of UHC. Table 3.2 broadly describes the difference of focus between health-related MDGs and health-related SDGs.

Health-related SDGs will require different kinds of modalities to track individual citizens to identify their individual healthcare need and provide tailor-made solutions on case-by-case basis as per the vision of UHC.

Economic, social and environmental context of health

The period of SDGs poses challenges, like urbanization and all related negative impacts; environmental pollution; the youth bulge and challenge to make a "demographic dividend"; ageing; and migration (in- and out-country). Therefore, the SDGs emphasize on a much broader approach to poverty reduction to improve not only health; but also nutrition, education, governance, economic reform, marginalized populations, gender discrimination, and violence and conflict. The SDGs want a shift from vertical programs towards more system-wide, cross-cutting support, consistent with the aim of UHC. Primary prevention is the key to protecting from climate risks.

Universal health coverage (UHC)

The UHC has been defined as "Ensuring that all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship." The UHC is prominent in the SDGs declaration and has a specific target under the health goal. The UHC is the key to the achievement of, all the other health-related goals. The national policy will have to decide how and when the three dimensions of UHC, viz. what proportion of population, which health services and what proportion of cost (not out-of-pocket) will be covered by the national scheme.

Reproductive, maternal, newborn, child, adolescent health and undernutrition

Table 3.3 compares the reproductive, maternal, newborn and adolescent health and nutrition targets between health-related MDGs and health-related SDGs.

Infectious diseases

Antimicrobial resistance (AMR) is a global threat but the health-related SDGs miss to mention about it. It needs to be addressed under UHC and WHO Global Action Plan on Antimicrobial Resistance 2015. Table 3.4 compares the infectious disease control targets between health-related MDGs and health-related SDGs. Globalized pandemics of communicable diseases, such as Ebola viral disease, MERS-CoV, Zika viral disease, avian

Table 3.2. Difference of focus between health-related MDGs and health-related SDGs	
Health-related MDGs	**Health-related SDGs**
Focused on national progress and on specific populations, notably mothers and children, and people affected by HIV, TB, and malaria Needless to say, such an approach will also be relevant in monitoring progress towards UHC	Equity is at the heart of the SDGs, which are found on the concept of "leaving no one behind" Address health and well-being at all ages, including newborns and children, adolescents, adult women and men, and older persons Not only is the goal to be monitored much broader, but it is also extended over time, and will thus require a comprehensive, life-course approach Needless to say, such an approach will also be relevant in monitoring progress towards UHC

influenza, etc. and fear of biological weapons in conflicts and terrorism are new threats to global health security. Resilience of health system to such biological threats as well as natural disasters, like large-scale earthquakes, floods, storms, tsunami, drought, and change in disease patterns due to climate change are big health security issues.

Non-communicable diseases

The SDG Target 3.4 calls for reducing the premature NCD mortality by one-third within 2030. It will need strong population-based surveillance in each country to understand the baseline, trend, and progress in each country. The Global Disease Burden (2012) shows that 52% of the global deaths around the age of 70 years are due to NCDs, 34% by communicable, maternal, neonatal and nutritional conditions, and 14% by injuries. The distribution within NCDs is 38% by cardiovascular diseases, 27% by cancers, 8% by chronic respiratory diseases, 4% by diabetes, and 23% by other NCDs. In Bangladesh, both morbidities and mortalities are dominated by NCDs (more than 60% prevalence), with cerebrovascular accidents being the highest cause of hospital-reported deaths. The economic loss due to NCDs in the developing countries is alarming. The World Economic Forum Report 2014 estimates that the combined economic loss in the developing countries due to natural and man-made disasters, all corruptions and crimes, all infectious, maternal and child health and nutritional conditions is far less than the economic loss due to NCDs. According to a WHO estimate (2011), the cost for the whole world for taking responsive actions for NCDs is US$ 11.4 billion per year while the cost for not taking responsive action is US$ 500 billion per year. These facts clearly demonstrate why we would need to address NCDs as one of the top priorities not only for health but for rapid economic development of the country through saving scarce resources. The WHO has adopted the Comprehensive Global Monitoring Framework for NCDs, with 9 voluntary targets and 25 indicators to be achieved by 2025. These population-based targets can be categorized in three groups, viz. Mortality and Morbidity: (1) premature mortality from NCDs (25% reduction); National Health System Response: (2) essential medicines and technologies (80% coverage); (3) drug therapy and counseling (50% coverage); and Risk Factors for NCDs: (4) diabetes and obesity (0% increase); (5) raised blood pressure (25% reduction); (6) tobacco-use (30% reduction); (7) salt/sodium intake (30% reduction); (8) physical inactivity (10% reduction); and (9) harmful use of alcohol (10% reduction). The WHO-SEARO has added the 10th target for 50% relative reduction in the proportion of households using solid fuels as the primary cooking source.

Mental health and substance-use

There were no MDG target for either mental health or substance-use disorders but there are two SDG targets for mental health and substance-abuse as follows:

SDG Target 3.4

By 2030, reduce by one-third the premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

Table 3.3. Comparison of the reproductive, maternal, newborn, adolescent health and nutrition targets between health-related MDGs and health-related SDGs.

Health-related MDGs	Health-related SDGs
MDG Target 1.C • Halve, between 1990 and 2015, the proportion of people who suffer from hunger **MDG Target 4** • Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate **MDG Target 5.A** • Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio **MDG Target 5.B** • Achieve, by 2015, universal access to reproductive health	**SDG Target 2.2** • By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally-agreed targets on stunting and wasting in children below five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons **SDG Target 3.1** • By 2030, reduce the global maternal mortality ratio to less than 70 per 100, 000 livebirths **SDG Target 3.2** • By 2030, end preventable deaths of newborns and children below five years of age, in all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 livebirths and under-five mortality to at least as low as 25 per 1,000 livebirths **SDG Target 3.7** • By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs

Table 3.4. Comparison of the infectious disease control targets between health-related MDGs and health-related SDGs

Health-related MDGs	Health-related SDGs
MDG Target 6.A • Have halted, by 2015, and begun to reverse the spread of HIV/AIDS **MDG Target 6.B** • Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it **MDG Target 6.C** • Have already halted, by 2015, and begun to reverse the incidence of malaria and other major diseases **MDG Target 7.C** • Halve, by 2015, the proportion of people without sustainable access to safe drinking-water and basic sanitation	**SDG Target 3.3** • By 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, waterborne diseases, and other communicable diseases **SDG Target 6.1** • By 2030, achieve universal and equitable access to safe and affordable drinking-water **SDG Target 6.2** • By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls, and those in vulnerable situations

SDG Target 3.5

Strengthen the prevention and treatment of substance-abuse, including narcotic drug-abuse. In our country, as elsewhere, there is a growing prevalence of depression and suicide; dementia; and substance-use and related disorders. During the SDGs era, we will have to address these problems. Moreover, autism and neurodevelopmental disabilities are other issues that require health programs from humanitarian and developmental perspectives.

Injuries and violence

Figure 3.2 shows that, globally, the distribution of leading cause of deaths from different kinds of injuries and violence accounts for 24.4% by road-traffic injuries, 15.6% by suicide, 13.5% by falls, 9.8% by interpersonal violence (also homicide), 7.2% by drowning, 5.2% by fire, 3.8% by poisoning, 2.3% by war and conflicts, and 18.2% by other unintentional injuries. In Bangladesh, road-traffic injuries are increasing alarmingly. Preventable unintentional injuries and drowning are also alarmingly high. In the public hospitals, the second leading cause of hospitalization is assault. Prevalence of poisoning and suicide is also significant. In the health-related SDGs, these issues will have to be addressed.

What is important to remember in the transition from MDGs to SDGs

There is legacy of the unfinished agenda of MDGs. The transition from MDGs to SDGs cannot be seen solely as the exchange of a shortlist of goals and targets for a longer one. The SDGs are fundamentally different from the MDGs in many aspects.

How the SDGs will be followed up and reviewed

It is stated in the SDG declaration that a robust, voluntary, effective, participatory, transparent and integrated follow-up and review framework will be put in place to measure and report the progress of SDGs. Promotion of accountability to the citizens will be at the heart of the review process.

Follow-up and review processes will be done at all levels: local, subnational, national, regional, and global, with the following principles:

(a) Country-led process, with global review, primarily based on national official data sources;

(b) Identify achievements, challenges, gaps, and critical success factors purposefully;

(c) Open, inclusive, participatory and transparent approaches for all people and by all stakeholders;

(d) Adopt people-centered, gender-sensitive strategy, respect human rights, with a particular focus on the poorest, most vulnerable, and those who are furthest behind;

(e) Avoid duplication and to respond to national circumstances, capacities, needs, and priorities; data to be of high quality, accessible, timely, reliable, and disaggregated by income, sex, age, race, ethnicity, migration status, disability, geographic location, and other characteristics relevant in national contexts;

(f) Prepare national reports to allow assessments of progress and identify challenges at the regional and global levels;

(g) Follow-up and review of the goals and targets to be done using a set of global indicators complemented by indicators at the regional and national levels, which will be developed by Member States.

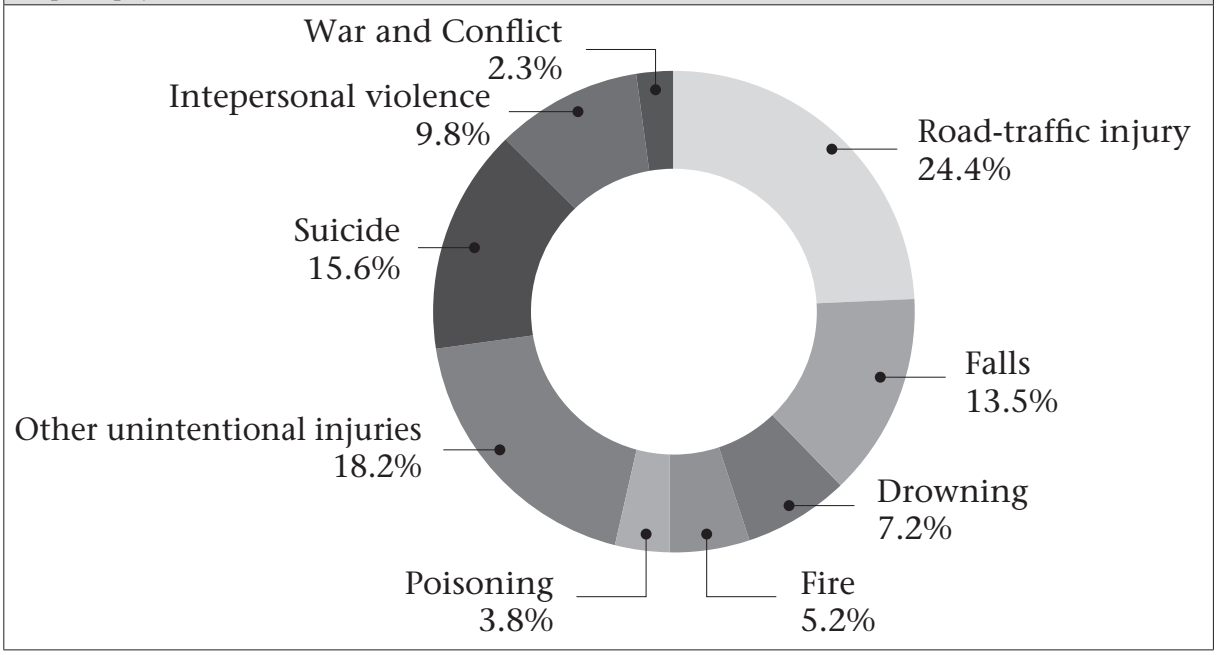
The heads of the National Government Delegation declared "We commit to fully engage in conducting regular and inclusive reviews of progress. We will draw as far as possible on the existing network of follow-up and review institutions and mechanisms."

DGHS to prepare itself for responding to health-related SDGs

The economic development of the country, people's health-related awareness, purchasing power, youth bulge, and increasing quest for quality of life, in one hand, and the experience and ability of the health sector to handle and manage large-scale health programs, on the other hand, are our assets towards the path of health-related SDGs.

The health sector of Bangladesh has made remarkable success stories in the 1980s when there was very high prevalence of diarrhea and communicable disease outbreaks, more floods, less awareness of people, requiring more home-visits to encourage families to bring children to immunization camps and motivate mothers

Figure 3.2. Leading causes for 5.1 million global deaths due to injuries and violence, 2012 *(Source: WHO, retrieved on 14 September 2016 from: http://who.int/gho/publications/mdgs-sdgs/MDGs-SDGs2015_chapter8.pdf)*



for antenatal care. The road networks were very poor; health managers did not have vehicles; there were no mobile network or Internet connectivity. Availability of electricity in the predominantly rural Bangladesh was a dream.

The current situation in 2016 is very different, with diarrheal or infectious disease outbreaks under control; less occurrence of floods, more community awareness and demand for healthcare; home-visits for child immunization and antenatal care are not required. Good roads, multiple ways of commuting, country-wide mobile and Internet network are the realities of current Bangladesh. The health sector has the well-distributed health facility network, which has been further strengthened by 13,000+ community clinics with an additional human resource of 13,000+ young, energetic, and ICT-literate community healthcare providers.

While these are the strong sides, there are weak ones also. The pattern of disease burden changed, with increasing prevalence of NCDs, which will require huge preventive healthcare through strong social and community mobilizations. Size of the health workforce is inadequate compared to the increased current population of the country. There is much room for improving coordination, health systems management, discipline, productivity, and accountability of the health workforce in general. There is shortage in resource availability, and there is also evidence of the wastage of scarce resources.

The pattern of disease burden changed, with increasing prevalence of NCDs, which will require huge preventive healthcare through strong social and community mobilizations.

The health sector and country context of the 1980s now are in better position. With determination, a bit good planning, we can achieve the health-related SDGs.

New requirements in health-related SDGs

1. Set up the baseline of health indicators to measure and regularly review the progress

of health-related SDGs responding through appropriate interventions.

2. Achieve UHC progressively.

In the SDGs, Target 3.8 of UHC has been stated as "Achieve universal health coverage, including financial risk protection and access to quality essential healthcare services; safe, effective, quality and affordable essential medicines and vaccines for all." The World Health Report 2010 defines UHC as "All people receiving the health services they need, including health initiatives designed to promote better health (such as anti-tobacco policies), prevent illness (such as vaccinations), and to provide treatment, rehabilitation, and palliative care (such as end-of-life care) of sufficient quality to be effective while at the same time ensuring that the use of these services does not expose the user to financial hardship."

Central to both health-related SDGs and UHC is the need for efficient measurement system to make data available on overall health systems and track individual citizens for healthcare to make evidence-based decisions and response. Providing healthcare to an individual without justifying the need is a kind of wastage. Equally, not providing healthcare in time of need is also a wastage as this can lead to complications or deviation from health protection. Introduction of universal electronic health-records to capture core health data of every individual citizen routinely through engaging the community health workers and community clinics is the right path towards this direction. Fortunately, the DGHS already achieved this technological competence to introduce universal health-records at least in the rural settings.

Actions that the DGHS can consider for achieving health-related SDGs

1. Integrated and comprehensive primary healthcare

Timor-Leste, a small island country in the South-East Asia, introduced a good example of integrated and comprehensive primary healthcare. With WHO's active partnership, Bill & Melinda Gates Foundation has started an initiative for revitalization of primary healthcare called Primary Healthcare Performance Initiative (PHCPI). These are two recent good sources of innovations and new ideas. In the integrated and comprehensive primary healthcare, there should be clear principles, such as (a) universality, i.e. reaching everybody; (b) comprehensive, i.e. inclusion of all components of PHC, such as promotion, prevention, early diagnosis, early treatment, and rehabilitation; (c) holistic, i.e. covering all aspects of quality of life, such as environmental, social, economic, and familial matters; (d) human rights and equity; (e) quality of service; (f) continuity; (g) participation of the service recipients/community. The integrated and comprehensive primary healthcare will look into all individuals-sick or healthy; so, a strong domiciliary healthcare interfacing families and health facilities remains vital to the service. It would need to transform behavior of the health staff to make them more and more compliant to the government programs, responsive and sensitive to the citizens' need, and accountable to the health management. There should be provisions of early detection and structured referral whenever needed, and back-referral for follow-up.

Uniform organizational structure

The role of each level of service points, although already defined, will require to be further specified clearly with written guideline. The service points will be: (i) domiciliary care; (ii) temporary satellite camp; (iii) community clinic; (iv) union health facility; (v) upazila health facility; (vi) district health facility; (vii) tertiary-care hospital; and (viii) super-specialized hospital. Referral method should also be described clearly and implemented.

Uniform service package across healthcare

It is assumed that the MOHFW will be divided into two divisions, tentatively as (i) health division and (ii) family planning, nursing and drugs division. In this case, the DGHS would need to define also what kind of service package (list of service components), medicines, and drugs will be provided at each specific level; requirements of human resource and equipment at each level will also need to be determined. The deliverables and responsible staff members, work process, reporting requirement, monitoring and supervision and accountability setting will have to be defined clearly at each level. There will be a shortage of union-level health

facilities if the new divisions of the MOHFW are established immediately. The DGHS will have to work out how the initial gap will be handled. One way can be signing of MoU with the DGFP to use their union-level facilities to provide health services also. If so happens, the DGFP's union-level facilities can be used as one-stop service point. The DGHS, with the help of development partners, should explore opportunities to hire multipurpose health volunteers on pay-for-performance basis to support the domiciliary team members (health assistants, assistant health inspectors, and health inspectors) and the community healthcare providers.

Population stratification at community for better tracking and delivering health services

Population stratification, according to respective health conditions, can be a good option for planning and implementing healthcare delivery. Timor-Leste made a design of population stratification for domiciliary visit and healthcare delivery. In Timor-Leste, the populations have been stratified into four groups as shown in Table 3.5.

Mandatory and structured domiciliary visits as per population stratification

As per population stratification, structured and mandatory routine domiciliary visits will have to be made. Community health workers will have to follow written guidelines to make the domiciliary visits. Domiciliary visits will be of the following types:

i. *Integrated visit to family*: Annual household surveys are to be done for entire community catchments. Global Reference List of 100 Core Health Indicators, additional indicators from that list, health-related SDG indicators, indicators selected for the national context, and health programs, etc. will have to be considered to include in the data-collection tool. Online tracking tools, like DHIS2, SHR, OpenSRP, CHW Application, relevant apps, etc., as suitable, will be used.

ii. *Routine/regular domiciliary visit*: Family visits based on population stratification will have to be made when stratification can be updated, and necessary healthcare can be given. Updating of data on individual citizens will have to be done using the online tools as mentioned above.

iii. *Visit for epidemiological surveillance*: These visits will have to be made for special outbreak investigation or illness that requires increased vigilance for any risky health event and/or health problem in the population. Collection of special community-based health data can also be a part of the epidemiological surveillance. There should be no specific period or time of visits for epidemiological surveillance, which will be undertaken as and when required; however, such visits should be made with planned preparation.

Individual tracking through electronic health records

Bangladesh has a good readiness system to track individual health condition electronically, in terms of hardware and software. The health managers' understanding and practice of engaging the community-level health workers and health workers are essential to make success in this case. Individual tracking is important for health-related SDGs, UHC, and CRVS. So, electronic tracking will have to be ensured on annual basis or as and when required.

Generous investment in community health and primary healthcare

Investments should be made in placing more community health volunteers at the union level and below. They will provide better preventive and promotive care. The development partners can support outsourcing for additional community workers, introducing strong and integrated preventive and basic care for NCDs at the community level. Investments in health education and awareness campaigns are also essential. It is better not to place medical doctors at the union health facilities and should be pulled them back to the upazila level. Placing a SACMO at the union health facility and making him/her head of the union health facility is reasonable, assigning him/her the leadership role for all staff members at the union level and below. Placing a trained nurse or midwife in each union health facility is also necessary for ensuring reproductive healthcare.

Strengthening mass health education

Investment in mass health education program will have to be increased manifolds. People will have to be made more and more health

Table 3.5. Grouping of populations for domiciliary visits and healthcare delivery done in Timor-Leste			
Group	**Health condition of persons**	**Minimum number of annual home-visits by staff**	**Minimum number of annual visits to health facility by a person**
I	Supposedly healthy persons manifesting no risk condition, illness, or deficiency	2	1
II	Persons with health risk, including pregnant women; more vulnerable to have other diseases	3*	2*
III	Sick persons, diagnosed by a doctor as having chronic NCDs, chronic mental illness or chronic infections, HIV/AIDS, TB, etc.; acute infections, like malaria, dengue, URTI, diarrhea, etc. are not included	4*	3*
IV	Persons with disability, diagnosed by a doctor or have temporary or permanent impairment of the motor, sensory, psychological and mental health	3	2
*Pregnant women and children have different protocols			

conscious. It should be considered to raise people's skills to a level so they can take critical first-aid measures themselves. At the same time, it would be important to create more active community health support groups.

2. Routine review meetings at all levels

In each organization, there will be routine weekly and monthly meetings for review of management situation, health program, and for resolving urgent issues.

Weekly and monthly meetings at community clinic

Weekly meetings will take place at community clinic. The CHWs both from the DGHS, the DGFP, NGOs, and interested members of the Community Clinic Management Groups (CG and CSG) will attend these meetings. A defined community catchment will be the focus of all discussions in all such meetings. Follow-up of the decisions in previous meetings, review of the health delivery situation, service delivery, immunization camps, satellite clinics, coverage of clients, health education program, services given at the community clinic, and the overall local health situation will be reviewed; planning of service delivery and management for the next week will be made. For review, data from online system for individual records automatically transformed into dashboard reports and also case-by-case reports will be used. It may be understood that the community clinic will serve as a referral point for community people for treatment, preventive and promotive care. The review will consider health situation in the whole community rather than that seen at the community clinic only. The context will include community health situation, community health service, and community clinic service. Mortality patterns of patients attending the community clinics may give clues to the trends in the occurrence of diseases in the community, which will also be discussed and reviewed. On monthly, quarterly, semi-annual and annual basis, summarized view of the health situation will be discussed, and community plans will be chalked out to improve the situation. Community resources (volunteers, finance, other material contributions, etc.) will also be mobilized through local actions. All relevant data will be reliably stored in the online system so that union, upazila, district, divisional and national reports can be prepared.

Weekly and monthly meetings at the union level

Weekly meetings will take place at the union health facility. Head of the union health facility will preside, and all staff members working at the union health facility will attend. Management issues and patient profiles of the union health facility will be discussed and decisions be taken. One monthly meeting will be held where head of the union health facility, other related

staff members, all CHCPs, supervisory staff of health assistants, and chairman or designated member of the Union Parishad will attend. The health data, aggregated and disaggregated for community catchments, community clinic, and union health facility, will be reviewed, decisions be taken, and guidance will be given back to the community-level staff. Similarly, concerns will be communicated to the upazila level.

Weekly and monthly meetings at the upazila level

Meetings will take place at the upazila health office. Head of the upazila health authority will preside, and all officers and important staff members working at the upazila health office/facility will attend. The upazila health management issues and patient profiles of the upazila health facility will be discussed and decisions be taken. One monthly meeting will be held where all field staff, head of the union health facility, and other related staff members will attend. All CHCPs can attend this monthly meeting, or there can be separate meeting for the CHCPs. The health data of the upazila, aggregated and disaggregated for unions, union health facilities, and community clinics, will be reviewed, decisions be taken, and guidance will be given back to staff at the union and community levels, including those working at the union health facilities and community clinics. Similarly, concerns will be communicated to the district level.

Weekly and monthly meeting at the district level

Meetings will take place at the district health office. Head of the district health authority will preside, and all officers and important staff working at the district health office will attend. The district health management issues and local office situation will be discussed and decisions be taken. One monthly meeting will be held where all upazila health managers will attend exclusively. They will describe the upazila health situation, using the online tools. The health data, aggregated and disaggregated for upazilas and other health facilities under the district, will be reviewed, decisions be taken, and guidance will be given back to upazila managers. Similarly, concerns will be communicated to the divisional level.

Weekly and monthly meetings at the divisional level

Meeting will take place at divisional health office. Head of divisional health authority will preside and all officers and important staff working at divisional health office will attend. Divisional health management issues and local office situation will be discussed and decisions be taken. In each month, one monthly meeting will be held, where all district health managers will attend exclusively. If physical presence of the district health managers appears difficult every month, online meeting using video-conference can be used. However, at least one meeting with physical presence must be held every quarter. In the monthly meeting, the district health managers will describe the district health situation using the online tools. The health data, aggregated and disaggregated for district and further in-depth, and for the health facilities under the division, will be reviewed, decisions be taken and guidance will be given back to district health managers. Similarly, concerns will be communicated to national level.

Weekly and monthly meetings at DGHS

Meetings will take place at the DGHS. The DG or one of the ADGs will preside, and all directors/line directors working at the DGHS will attend. The issues relating to the DGHS and the country's health management will be discussed, and decisions be taken. One monthly meeting will be held where all divisional health managers will attend through video-conferencing. In the monthly meeting, the directors, line directors, and divisional directors will describe the country's health situation, using the online tools. The health data of the country, aggregated and disaggregated for divisions, districts, and for the types of health facilities, will be reviewed, decisions be taken, and guidance will be given back to divisional health managers. Similarly, concerns will be communicated to the Ministry.

Weekly and monthly meetings at the organizational level

Meetings will take place in each organization (medical teaching institution, hospital, health center, etc.) not described above. Head of the organization will preside, and all top-level officers and important staff working at the organization will attend. Organizational health management issues, performances, targets, achievements, future plans, etc. will be discussed and decisions be taken. One broad-based monthly meeting will be held with

wider participation. On monthly, quarterly, semi-annual and annual basis, cumulative performance will be analyzed and decisions be taken. The health data of the organization, aggregated and disaggregated for departments, units, etc. will be also reviewed, decisions be taken, and guidance will be given back to departments and units. Similarly, concerns will be communicated to the higher authority.

3. Rationalization of health workforce distribution

Distribution of doctors and other staff at the upazila, district and other levels is necessary, with no consideration whether sanctioned posts exist or not. The rational need may be given the first priority. The principles and set rules should be strictly followed. For placement of all staff, the same principles and set rules should be followed. Staff distribution should be seen as an urgent and priority task. At the upazila level, each MBBS doctor should be assigned for one or more specific union(s) to improve the local health situation through giving proper leadership to the union-level officers and staff. S/he will be accountable to the upazila health manager for the assigned tasks. His/her accomplishments will be recognized through incentives in the form of career development opportunity. Stringent maintenance, use, and adherence to the norms of human resource management information system are of great concern.

4. Efficiency gain

Our aims should be to improve coordination, prevent wastage, gain efficiency, and establish an efficient DGHS. This can be accomplished by undertaking a holistic approach in program planning and implementation; not allowing directors, line directors, projects, development partners, and NGOs to work in isolation that will duplicate same work; making common package of service equitably distributed in all areas in the country; implementing programs together as member of a common team; preventing wastage of scarce resources; and by uncompromised placement of dedicated, sincere, honest and competent personnel.

In our country, we unnecessarily waste time of skilled human resource due to absence of structured referral system. Patients in basic healthcare can visit tertiary-care hospitals for which they could get service in the community clinic. This situation can be transformed gradually through promoting structured referral system even in the existing model. Under a structured referral system, patients will be encouraged to go to nearby primary healthcare center first, be informed what kind of health services are available in each healthcare facility, be informed that, in case of need for better treatment, the health facility by its own responsibility will refer the patients to the higher health facility where the referred patients will get special preference. If not an emergency, the SACMO will not see patients without referral by CHCP. The upazila hospital will not see patients without referral by union facility. Higher centers will also emphasize on the referrals. Vertical approach and fragmentation should be discouraged and coordination be improved. Patients may be given special incentives if they take the opportunity of referral service. However, promise to the patients must be fulfilled. Otherwise, mistrust will be created, and the efforts will go in vain.

As per World Health Report 2010, wastage occurs usually in several areas that can be avoided: underuse of generic medicines; use of over-priced medicines; use of substandard or counterfeit medicines; and inappropriate and ineffective use of medicines; overuse or supply of equipment, investigations and procedures; Inappropriate health workforce or costly staff-mix or unmotivated workers; inappropriate hospitalization and length of stay; medical errors and suboptimal quality of care; wastage, corruption and fraud in the health systems leakage; inefficient mix/inappropriate level of strategies in Health interventions.

5. Campaign for non-communicable diseases

Major non-communicable diseases (NCDs) include cardiovascular diseases, such as high blood pressure, diabetes, cancer, and obstructive respiratory diseases. Certain lifestyles, such as less physical activity, unhealthy dietary habit, smoking, alcohol-abuse are responsible for these health problems. Many NCDs co-exist in the same person. Data show that over 60% of both morbidities and mortalities in Bangladesh are due to NCDs. The burden is much higher in urban settings. NCDs, once these affect, stay for rest of the life and require costly treatment, and if not controlled, may end

in serious complications. In the past decades, the disability-adjusted life years (DALYs) due to NCDs has increased in some cases by 85% to 200%. In Bangladesh, about 8 lakh 37 thousand people die annually due to diseases or natural reasons. About sixty percent, i.e. over 5 lakh of them die due to NCDs. Due to the consequences of longer average life-expectancy, the burden of NCDs will further increase and will exert pressure on our healthcare systems and hospitals. Premature death or disability of a family member due to NCDs leads the family to a helpless situation. It would be needed to introduce social mobilization programs for the prevention and control of NCDs; Physical activity promotion programs, such as daily morning/evening walk or jogging on streets and open spaces, will have to be undertaken for mass participation. Small businesses and law enforcement agencies will have to play their roles in keeping the urban pedestrians' walkways free of obstacles. In fact, if large numbers of people walk through the footpaths, we will have no other ways than to keep the footpaths obstacle-free. Inclusion of physical exercise programs in each government and non-government meeting place may be introduced. We would need to work with other ministries to promote and improve sports and sports venues. It would be needed to introduce, sustain, and strengthen communication programs and campaigns for promotion of the prevention and control interventions for NCDs (physical activity; avoiding risk behaviors, adopt positive food habit, etc.). The DGHS will have to work for implementing the Global Monitoring Framework for voluntary targets and indicators of NCDs (adopted by WHO) and mobilize multisectoral involvements (government, political and social, leaders, individuals, champions, etc.) to join in the NCD interventions.

6. Better response to health emergencies

The high population density creates more accessibility to healthcare. Good healthcare network provides basic and referral healthcare near the homes of people. Good road network allows quicker patient transportation to health facilities. Wider mobile penetration also provides opportunity to people and care providers to avail easier health communication support. Good use of ICT in health ensures efficient health systems management and additional channel of healthcare delivery through telemedicine, call center, mobile phone health service, etc. Many health-related NGOs and development partners facilitate government's efforts to improve healthcare and technology transfer. The care providers in the private sector create room for additional access to healthcare and people's freedom of choice. One/common mother tongue means easy and cost-effective training for health workforce and conduction of easy health awareness campaign. People's health consciousness in Bangladesh is increasing. We should focus on bringing more patients to the existing healthcare facilities rather than building more new health facilities. Promotion of strong ambulance service, both in the government or private sectors, is an urgent priority. The Government will fix standard fees and protocols. It will ensure quicker patient transportation in case of emergency to the appropriate health facility. The community health workers should have the ability to identify emergency condition of patients, should know how to call ambulance and to which health facility the patient should be sent to.

7. Improving quality of health service and medical education

Revisit training plans, adopt appropriate strategies, identify needs in the context of SDGs in Bangladesh, and institutionalize training accordingly are imperative. Harmonize training between programs. revisit medical education, teaching curriculum, and methodology seriously are important steps to be taken immediately. We have to institute regulations; engage medical associations, BMDC, and other regulatory bodies to enhance quality of medical education and medical practice; and promote ethical practice. The DGHS should play a proactive role in providing timely and effective policy suggestions to the MOHFW. The MOHFW oversees over 16,000 health facilities and organizations. The DGHS should assist the MOHFW in placing a strong monitoring mechanism instead to play role mainly as the policy-maker, enabler, innovator, and regulator. It should work for enforcing stringent national healthcare quality standards and protocols. Rather than establishing own health facilities and teaching institutions, it is better to pay attention to encourage private care providers to deliver health service and medical education and to make sure that they follow ethical practice.

8. Moving towards UHC progressively

UHC means ensuring optimum healthcare to each citizen in time of need. It does not allow direct payment at the time of provision of healthcare. However, those citizens who can pay are not exempted from payment; they will pay as per their ability. Those citizens who cannot pay will be even fully exempted. So, the rich or well-to-do people will pay even for primary healthcare and, of course, for elective healthcare. The society, media, policy–makers, and people will have to be motivated gradually that they will have to take part in financial provision of healthcare. The DGHS will have to lead advocacy and discussion in this regard. In China, a transition stage towards UHC has been started through cost-sharing at the health facilities to make the habit of people to pay. Now China plans to shift to social insurance gradually. The UHC has three dimensions: (i) what proportion of population will be covered; (ii) what proportion of health services will be covered; and (iii) what proportion of cost (out-of-pocket payment) will be covered.

The MOHFW is already providing free routine immunization coverage; primary healthcare medicines from community clinics, from union health facilities, and from all other government health facilities. The emergency lifesaving support is also being provided from health facilities where this service is available. All citizens will get the service if they come to the government health facilities. However, the routine preventive healthcare, such as domiciliary visits, screening and control program for the selected health conditions, including NCDs, will also be part of the first UHC package. In the community, there can be social mobilization and campaign to urge well-to-do people to buy prepaid health-cards for these services as well as for extra health services beyond the basic or first UHC package. Having a card will guarantee them that the listed services will be made available to them. To start with, the ultra-poor section of the population may also be provided health–cards free of charge, which will guarantee them to get the listed health services for free. Others not having health-cards will also not be denied health service provision but will not have guaranteed health service under the full UHC package. By encouraging citizens to pay for health services will gradually build financial resources for public healthcare. Government will have to explore new innovative funding model to pool resource for UHC. In some countries, the general tax system provides 2.5% to 3.0% of the revenue as earmarked for health. For example, general VAT in these countries in all commodities is 15%, of which 2.5 to 3% go to the health sector. Some countries apply extra health surcharge or levy on widely-used commodities, like charge for mobile phone calls, tickets of bus, ferry, railway, and airplane. Introduction of pay-for-performance or incentives package in the health facilities can make efficiency gains and improve ability to serve more people with better quality but within the same resource. For example, in Turkey, the Government has introduced a social insurance system where all citizens need to pay 12% of their monthly income for healthcare coverage. Citizens at marginal level are covered by the Government. Others, if not insured, only get free primary and emergency healthcare; they need to pay for elective treatment. The hospitals have been given autonomy. Electronic record for each patient given healthcare from the hospital is updated instantly in the health ministry's database and, accordingly, the hospital is reimbursed each month. The hospital returns 15% of the earning to the ministry for giving regular salary to the staff, uses 40% to give to staff as incentives on the basis of pay-for-performance, and uses 45% for patients' diet, investigations, and medicines. After introduction of this kind of system in 2005, Turkey has shown remarkable improvement in healthcare and health situation in only 5 years by 2010. Patient satisfaction level has increased to an all-time high. Revenue level of the ministry rose to such a high level that the Government could build 600 new tertiary hospitals in 5 years between 2005 and 2010. The minimum standard of general ward of a hospital is to have a maximum of two beds with an attached bath. The numbers of private clinics and hospitals have been reduced from 22,000 in 2005 to only 2,000 in 2010. Hundred percent doctors stopped private practice as they earn sufficiently in the public hospitals under pay-for-performance scheme. No doctor or staff member comes to the ministry for better placement as this is managed by the hospitals themselves. Some government health facilities can be given administrative autonomy in the same model as present in Turkey to see whether this fits to Bangladesh. If successful, the model can be scaled up.

Table: 3.6. Global and national targets on SDG indicators

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.1 : Maternal health	3.1.1: Maternal mortality ratio (MMR)	Less than 70 per 100,000 livebirths	176 per 100,000 livebirths (WB 2016)	105 per 100,000 livebirths by 2021 (HNPSIP 2016-2021)
	3.1.2: Births attended by skilled health personnel	-	42.1 (BDHS 2014)	65% by 2021 (HNPSIP 2016-2021)
3.2 : Newborn and child health	3.2.1: Under-five mortality rate	Less than 25 per 1000 livebirths	46 (BDHS 2014)	37 per 1000 livebirths by 2021 (HNPSIP 2016-2021)
	3.2.2: Neonatal mortality	Less than 12 per 1000 livebirths	28 (SVRS 2015)	21 per 1000 livebirths by 2021 (HNPSIP 2016-2021)
3.3: Communicable diseases 3.3.1: Estimated HIV incidence rate By 2030 end the endemic of AIDs <1 (WHO 2014)				Keep the AIDS epidemic from expanding beyond this current level (<1%) Avoid a gradual spread of HIV infection from high-risk groups to the general population.
	3.3.2: TB case detection rate/TB incident rate per 100,000 population	End epidemics of TB by 2030	53% (GTBR 2014 estimates)	75% (HNPSIP 2016-2021)
	3.3.3: Malaria incidence rate per 1000 population	End epidemics by 2030	Malaria-positive cases per 1,000 population (in endemic areas): 3.00 (in 2015, NMCP 2016	Reduce malaria morbidity and mortality until the disease is no longer a public-health problem in the country
	3.3.4: Hepatitis incidence per 100,000 population	Combat hepatitis	-	-
	3.3.5: Neglected Tropical Diseases (NTDs): people requiring intervention (preventive+ new cases) against NTDs	End epidemic by 2030	-	Kala-azar: Annual incidence rate to <1/10,000 population in all endemic upazilas (subdistricts) by 2015 Elimination of filiariasis Prevention and control of dengue

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.4: Non-communicable diseases	3.4.1: Mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease	Reduce one-third of premature mortality by 2030	18% (World Health Organization- Non-communicable Diseases (NCD) Country Profiles, 2014)	Reduce one-third of premature mortality due to NCDs from current rate
	3.4.2: Suicide mortality rate (per 100,000)	Reduce one-third of premature mortality by 2030	8 per 100,000 according to WHO 2014 report	Reduce one-third of premature suicidal death from current level
3.5: Substance-abuse	3.5.1: Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance-abuse disorders	Strengthen the prevention and treatment of substance-abuse, including narcotic drug-abuse and harmful use of alcohol	-	-
	3.5.2: Alcohol per-capita consumption (aged 15 years and older) within a calendar year in liters of pure alcohol	Strengthen the prevention and treatment of substance-abuse, including narcotic drug-abuse and harmful use of alcohol	Almost zero alcohol consumption (0.2 in 2010) (WHO report 2014)	Committed to global target

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.6: Road-traffic injuries	3.6.1: Deaths due to road-traffic accidents/Mortality rate from road-traffic injuries (per 100 000 population)	By 2020, halve the number of global deaths and injuries from road-traffic injuries	According to World Bank statistics, annual fatality rate from road accidents is found to be 85.6 fatalities per 10,000 vehicles (WB, World development indicators 2002) According to the Accident Research Institute (ARI), Bangladesh University of Engineering and Technology, (BUET), road accidents claim, on average, 12,000 lives annually and lead to about 35,000 injuries (Road safety facts 2012 through 2014)	Committed to global targets
3.7: Sexual and reproductive health	3.7.1 Proportion of women married or in a union of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods (met need) Unmet need for family planning	By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs	12% (7% for limiting and 5% for birth spacing)	Reduce unmet need to 7% by 2021 (FP2020 commitment, Govt. of Bangladesh)
	3.7.2: Adolescents' childbirth rate per 1,000 adolescent women aged 15-19 years	Universal access to sexual and reproductive healthcare by 2030	30.8% in 2014 (BDHS)	25% by 2021 (HNPSIP 2016-2021)

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.8: Universal health coverage	3.8.1: Coverage of essential health services Total fertility rate	Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all	2.1 (SVRS 2015)	1.7 by 2021(HNPSIP 2016-2021)
	Contraceptive prevalence rate (CPR)	Achieve universal health coverage	62.1 (SVRS 2015)	75% by 2021, (CPR in lagging region) 60% by 2021 (HNPSIP 2016-2021)
	ANC 4 coverage	Achieve universal health coverage	31.2 (BDHS 2014)	ANC 4 coverage 50% by 2021 (HNPSIP 2016-2021)
	Measles immunization coverage	Achieve universal health coverage	≤12 months: 87.4% ≤23 months: 86.5%	95% (HNPSIP 2016-2021)
	3.8.1 % of children aged less than 6 months receiving exclusive breastfeeding	Achieve universal health coverage	55.3% (BDHS 2014)	65 % (HNPSIP 2016-2021)
	% of infants aged 6-23 months are fed with minimum acceptable diet	Achieve universal health coverage	22.8% (BDHS 2014)	45 % (HNPSIP 2016-2021)
	Estimated prevalence of diabetes and hypertension among adult men and women aged 35 years and older	Achieve universal health coverage	Diabetes: 11.2%; Hypertension: 31.9% (BDHS 2011)	Diabetes: 10% Hypertension : 30% (HNPSIP 2016-21)
	3.8.2 Number of people covered by health insurance or a public health system (per 1,000 population)	Achieve universal health coverage, including financial risk protection	-	-

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.9 : Mortality for environmental pollution	3.9.1: Mortality rate attributed to household and ambient air pollution	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals, and air, water and soil pollution and contamination	-	-
	3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene	By 2030, substantially reduce the number of deaths and illnesses due to unsafe water, sanitation and lack of hygiene	-	-
	3.9.2: Mortality rate attributed to unintentional poisonings	By 2030, substantially reduce the number of deaths and illnesses due to poisoning	-	-
3.a : Tobacco control	3.a.1: Tobacco-use rate (Age-standardized prevalence of current tobacco-use among persons aged 15 years and older/Tobacco-use among persons aged 18+ years (WHO)	Strengthen the implementation of World Health Organization Framework Convention on Tobacco Control in all countries as appropriate	Tobacco-use by male: 48%, female: 2%, total: 25% in 2011 (2014 WHO Report)	Reduce tobacco-use from current prevalence
3.b : Provide access to all essential medicines and vaccines	3.b.1: Percentage of health facilities with essential medicines and lifesaving commodities	Ensure availability in all facilities	Facilities with essential drugs: 66%; FP methods: 84.4% (HFS 2014)	Facilities with essential drugs: 75%; FP methods: 90% by 2021 (HNPSIP 2016-2021)

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
3.c : Health workforce	3.c.1: Health workers' density and distribution per 1,000 population : Reduction in functional vacant positions in public facilities by category (physician, nurse/midwife, paramedics)	Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in the least-developed countries and small island developing States	-	Physician : 15% by 2021 Nurse: 4% by 2021 Paramedic: 4% by 2021 (HNPSIP 2016-2021)
3.d : National and global health risk	3.d.1: International Health Regulations (IHR) capacity and health emergency preparedness: International Health Regulations (IHR) core capacity index/number of attributes attained out of 13 core attributes	Strengthen the capacity of all countries, in particular, developing countries, for early warning, risk reduction and management of national and global health risks	-	.-
2.2 : Child malnutrition	Prevalence of stunting in under-5 children Proportion of stunted U5 children Proportion of wasted and overweight U5 children	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally-agreed targets on stunting and wasting in children below 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	36.1 in 2014 (BDHS)	25% by 2021 (HNPSIP 2016-2021)

Table: 3.6—Contd.

Table continued...

SDG targets	Name of the indicators	Targets to be achieved by 2030	Baseline values for Bangladesh	National targets (HNPSIP 2016-2021 and other strategic documents)
6.1 : Drinking-water	Proportion of population using improved drinking-water sources	By 2030, achieve universal and equitable access to safe and affordable drinking-water for all	98% (BDHS 2014)	100%
6.2 : Sanitation and Hygiene	Proportion of population using improved sanitation facilities	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	% of households using sanitary toilet facility 73.5 (SVRS 2015)	-
7.1: Clean household energy	Percentage of population with primary reliance on non-solid fuels (%)	By 2030, ensure universal access	18% (BDHS 2014)	-
11.6: Clean cities	Ambient air pollution Percentage of urban solid waste regularly collected and well-managed (disaggregated by type of wastes)	By 2030, reduce the adverse per-capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	-	-
13.1: Natural disasters	Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	-	-
16.1: Violence	Homicide Conflicts Women and girls subjected to physical, sexual or physiological violence		Prevalence of intimate partner violence: 15-71% (WHO multi-country study on women's health and domestic violence, Lancet 2006)	

UHC will bring all people under optimum healthcare coverage gradually. When citizens will see that they have access to optimum healthcare, they will feel encouraged to come to the health facilities. The government health facilities will not be enough to meet this increased demand from people. However, private health facilities can complement the government health facilities. In Turkey or in countries where there is good presence of health insurance, the health facilities are reimbursed for the health services they render to the insured patients or individuals with problems. These countries usually follow a model called DRG (Diagnosis-related Group) where a group of diseases that involve similar cost for treatment is put in a list. Treatment cost for each disease in the DRG is standardized. Hospitals are reimbursed based on the cumulative cost of all DRGs and the number of cases treated under each DRG. In Bangladesh, we can allow the insured or card-holder individuals to go to private health facilities and pay back these health facilities according to the total size of DRGs they treated.

9. Increasing use of the third window

Bangladesh has become the global champion in promoting innovative use of ICT in healthcare. Multiple ICT channels will have to be promoted to receive free flow of feedback from the citizens and clients of health service–public or private. The feedback must be acted on to build the citizens' trust. Alternative channels of service delivery, like mHealth, eHealth, etc. will have to be promoted.

Conclusions

The health-related SDGs as a whole is not a business as usual. So, we will not be able to achieve health-related SDGs if we consider everything in the conventional way. However, if we use the existing health system innovatively and efficiently, we will make more success in achieving health-related SDGs compared to what we did in health-related MDGs.

The global and national targets for SDG indicators are shown in Table 3.6. Available latest figures are also provided as the baseline values for Bangladesh.

Chapter 4

Healthcare at the grassroots level

PRIMARY HEALTHCARE

Located at the ward level, the community clinics are the lowest-level static health facilities.

Through various public health facilities, Bangladesh provides free medical services to people at the community level. The primary healthcare is provided through an extensive network of health facilities. Located at the ward level, the community clinics are the lowest-level static health facilities. These have upward referral linkages with health facilities located at the union and upazila levels. There are 482 primary-care government hospitals at the upazila level and below, which have 19,508 hospital beds. Counting the hospitals and outdoor-only centers together, there are 16,968 public health facilities at these levels. Table 4.1 presents the breakdown by type of facility.

Number of beds is shown as zero in some of the upazila health complexes because these were at different stages of construction at the time of this publication. At the union level, there are 51 primary-care hospitals with 830 beds and 3,083 health facilities for outpatient services only. So, at the union level, there are 3,134 primary-care health facilities. Moreover, there are 5 trauma centers at this level; these are included in the list of secondary and tertiary-care centers. At the ward level, there are13,336 community clinics in operation till 31 July 2016.

Due to the flagship nature of the program, community clinics deserve special mention. In addition to the community clinics, important components of primary healthcare, among others, include domiciliary healthcare, essential service delivery, along with urban primary healthcare, maternal healthcare (inclusive of some screening programs for women's health), child healthcare, school health program, and adolescent health program. The MIS-DGHS is playing the leading role in providing computers with Internet connections, which now extends down to the grassroots-level health facilities as well as the health workers. The union health centers and community clinics have laptop computers and wireless modems, and the community health workers have android tablets.

Community Clinics

Community Clinic (CC) is the brain child of Hon'ble Prime Minister Sheikh Hasina. It is being branded in her name. It is the lowest-tier public health facility. It is a one-stop service outlet on health, family planning and nutrition, each covering around 6,000 rural population. It is a unique example of public-private partnership as all the CCs have been constructed on land donated by the community. Costs incurred for construction, medicine, service providers, logistics, and all other inputs are given by the Government but these are managed by both community and the Government through Community Group (CG). The Government planned to establish CCs at the door-steps of rural people all over the country to ensure the provision of quality primary healthcare.

The CG for each CC comprises 13-17 members and is headed by Elected Member of the Union Parishad; other members in the CG are from different walks of life. To support CG in the management and for community engagement, there are 3 Community Support Groups (CSGs) for each CC. In both CG and CSG, at least one–third of the members are female, including adolescents. All the CGs and CSGs have been made functional. During 1998-2001, more than 10,000 CCs were constructed, of which about 8,000 started functioning but, in 2001, shortly

Table 4.1. Primary healthcare facilities run by the DGHS at the upazila level and below, 2016				
Level	**Type of facility**	**Type of service**	**Total no. of facilities**	**Total no. of beds**
Upazila	Upazila health complex (50-bed)	Hospital	297	14,850
	Upazila health complex (31-bed)	Hospital	113	3,503
	Upazila health complex (10-bed)	Hospital	11	110
	Upazila health complex (0-bed)*	Hospital	3	0
	Subtotal of upazila health complexes		**424**	**18,463**
	Upazila health office	Outdoor	60	-
	31-bed hospital	Hospital	5	155
	30-bed hospital	Hospital	2	60
	Subtotal of hospitals outside health complexes		**7**	**215**
	Total of upazila-level facilities		**491**	**18,678**
Union	20-bed hospital	Hospital	32	640
	10-bed hospital	Hospital	19	190
	Subtotal of union-level hospitals		**51**	**830**
	Union subcenter	Outdoor	1,498	-
	Union health and family welfare center	Outdoor	1,585	-
	Subtotal of union outpatient centers		**3,083**	-
	Total of union-level facilities		**3,134**	
Ward	Community clinic (functional at present)	Outdoor	13,336	-
Grand total of primary-care hospitals (Upazila and below)			**482**	**19,508**
Grand total of primary health facilities (Upazila and below)			**16,968**	**19,508**
*Hospital not yet started				

after commissioning, CC activities were closed due to political change in the Government and continued as such till 2008.

In 2009, the Government took the initiative for revitalization of CC as the topmost priority under a project titled "Revitalization of Community Healthcare Initiatives in Bangladesh" (RCHCIB) setting implementation period from 1 July 2009 to 30 June 2015. Under this project, the closed CCs were made functional in phases after necessary repairing, recruitment, and capacity-building of a new category of service provider (a Community Healthcare Provider or CHCP for each CC). Medicines, with all necessary logistics, were provided. Many new CCs were also constructed under the RCHCIB. At present (31 July 2016), 13,036 CCs are operational. From July 2015, all the activities of CCs are being carried out by an operational plan of the DGHS, namely Community-based Healthcare (CBHC), under the Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016.

In 2009, the Government took the initiative for revitalization of CC as the topmost priority under a project titled "Revitalization of Community Healthcare Initiatives in Bangladesh" (RCHCIB)

Thousands of villagers, particularly the poor and the underprivileged mothers and children, are getting services from the nearby CCs. On an average, 9.5-10.00 million patient-visits take place monthly in the CCs nationwide. As a large proportion of the service-seekers is getting primary healthcare services from the nearby CCs, outpatient attendance at the UHCs is decreasing. As a result, doctors at the UHCs are getting more time for the management of emergency and complicated cases. It is to

be mentioned that, in a good number of CCs (about 8% of the functional CCs), normal child delivery is being conducted at demand of the community, decision of the CG, availability of skilled manpower (CSBA), committed local management and wherefrom cases can be referred easily to the nearby UHC, if necessary. From 2009 till March 2016, more than 28,000 normal deliveries were conducted in CCs without notable casualties to the mother and babies.

The use of ICT by CCs for data management and service provision is quite impressive. The Management Information System (MIS) of the DGHS is providing all out support to develop and maintain the ICT backbone and its usage by CCs. By April 2014, all the community clinics were provided laptop and Internet modem to send service-related data online. In some upazilas, monitoring of CCs is being done through *Skype*; telemedicine services are also being organized between CCs and UHCs with a patient at the CC and a doctor at the other end. It will be scaled up in all areas of the country in the near future.

Figure 4.1 shows the government expenditure for supply of medicines per community clinic per year in different fiscal years. The amount of allocation per community clinic for medicine supply was BDT 0.072 million in 2009-2010, BDT 0.085 million in 2010-2011, BDT 0.11 million in 2011-2012, BDT 0.111 million in each of 2012-2013 to 2014-2015, and 0.113 million in 2015-2016. Twenty-five items were supplied in 2009-2010, and now the number of supplied items is 30.

Figure 4.2 shows the number of service-seekers at CCs and cases referred from community clinics to higher facilities for proper management. From 2011, with the deployment of CHCPs after basic training, number of service-seekers has been increasing. From April 2009-December 2015, there were 460.88 million visits by rural people to CCs all over the country (on an average, 9.5-10 visits per month), and 9.071 million emergency and complicated cases were referred to higher facilities for better management.

Community clinic is an unprecedented instance of community participation and public-private partnership. Being inspired by community participation, some UN agencies and NGOs have started working for the community clinics. Many other organizations are also coming forward to working as the days are passing.

Community clinic is certainly a pro-people health initiative led by the Government. If quality health services can be ensured near doorsteps even at the remotest corner of the country, people will spontaneously seek necessary service from the well-trained care providers at the health facilities, instead of the untrained traditional healers. It is expected that community clinics will ensure provision of quality healthcare for the mass people of rural Bangladesh, particularly the poor,

Figure 4.1. Government expenditure (BDT in million) for supply of medicines to community clinics

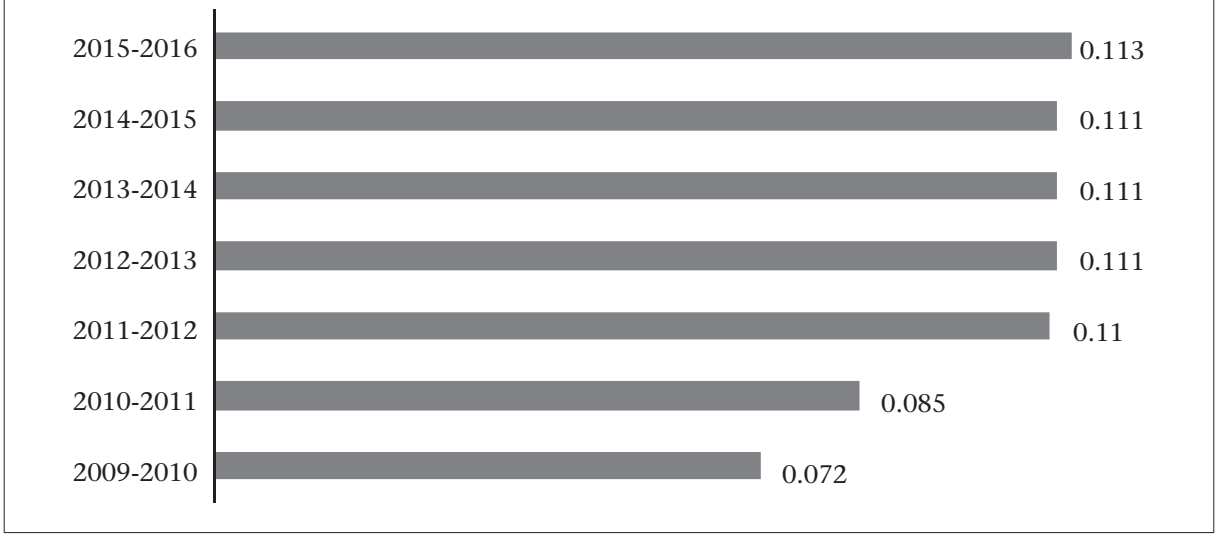
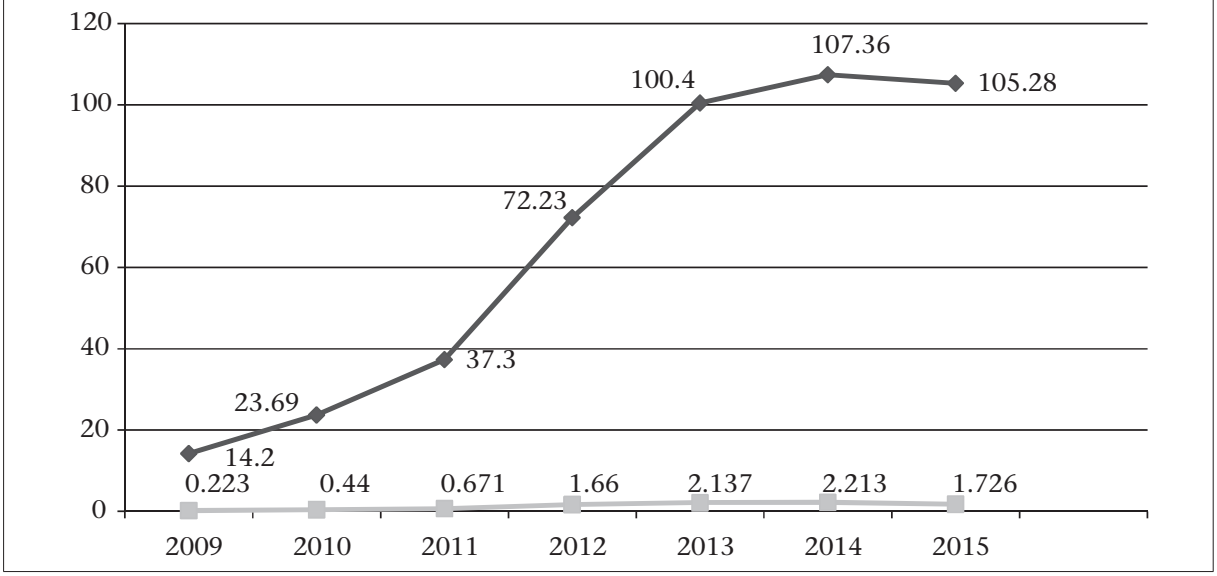


Figure 4.2. No. of clients (in million) treated at (total 460.86 million) and referred from (total 9.07 million) community clinics in different periods



vulnerable, and the underprivileged and will contribute to the achievement of the health development targets envisaged in the just-started SDG era as these did in achieving the MDGs.

Domiciliary health service in rural Bangladesh

There are domiciliary workers—one for every 5 to 6 thousand people at the ward or village level. Under the DGHS, there are 26,482 sanctioned posts of domiciliary workers, of which 20,881 are for health assistants (HA), 4,202 for assistant health inspectors (AHI), and 1,399 for health inspectors (HI).As of now, 83.25% posts were filled up. Like the DGHS, the DGFP also has domiciliary workers to work at the ward or village level. These staff members are called family planning inspectors (FPI) and family welfare assistants (FWA).

Essential service delivery and urban primary healthcare

Under the Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016, there is an operational plan, namely "Essential Service Delivery" mainstreamed under the DGHS to help improve service, particularly at the upazila level and below and complement urban primary healthcare. The areas of services include limited curative care, support services and coordination, medical waste management, urban health, mental health, and tribal health. The urban primary healthcare in Bangladesh is principally the responsibility of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRD), carried out through the city corporations and municipalities. These local bodies run a number of small to medium-sized hospitals and outdoor facilities. Besides, large-scale primary healthcare activities under Urban Primary Healthcare Project (UPHCP) and Smiling Sun Franchise Program are run by NGOs in collaboration with the city corporations and with the financial assistance from donors. The clients in the latter also share a part of the cost through service-charge. There is a concern among the public health communities that there is a need for better coordination between the two ministries, viz. MOHFW and MOLGRD, with regard to urban primary healthcare, although MOHFW contributes to urban primary healthcare through outpatient services distributed through its secondary, tertiary and specialized hospitals located in the urban settings. Besides, there are 35 urban dispensaries and 23 school health clinics in some of the bigger cities and municipalities. To respond to the concerns for the need of better coordination between MOHFW and MOLGRD with regard to urban primary healthcare, the MOHFW included in its HPNSDP 2011-2016 a component named "urban health" under the operational plan "Essential Service Delivery." This urban health component aims at designing programs through maintaining better coordination and collaboration with the city corporations,

municipalities, UPHCP, Smiling Sun Franchise Program, other NGOs, and stakeholders.

Maternal healthcare

The Bangladesh Ministry of Health and Family Welfare, in collaboration with UNICEF, is undertaking facility-based Emergency Obstetric Care (EOC) Program in all districts of Bangladesh to improve the maternal health situation.. All the government medical college hospitals, district hospitals, upazila hospitals, and maternal and child welfare centers (MCWCs) provide obstetric care services, inclusive of emergency obstetric care. A number of private clinics or hospitals and health-related NGOs are also partners in this program. Obstetric care is classified into two categories in this program, viz. Comprehensive Emergency Obstetric Care (CEmOC) and Basic Emergency Obstetric Care (BEOC). Currently, all medical college hospitals, 59 district hospitals, 3 general hospitals, 132 upazila health complexes, and 63 MCWCs provide CEmOC, and rest of the upazila health complexes provide BEOC. The list also includes NGOs and private care providers from a number of districts. Under a program, jointly operated by the Management Information System (MIS) of the DGHS and UNICEF, data are collected from the EOC facilities. For this publication, data from 621 sources, including 14 medical college hospitals, 62 district/general hospitals, 411 upazila health complexes, 53 maternal and child welfare centers, private hospitals from 45 districts, NGOs from 33 districts, and 3 other types of hospitals have been used for analysis to translate into a format called United Nations Process Indicators. Table 4.2 summarizes the sources of data.

Table 4.2. Number of sources of data used for this publication on emergency obstetric care (2015)

Type of hospital	No.	Percentage
Medical college hospital	14	2.3
District and general hospital	62	10.0
Upazila health complex	411	66.2
MCWC	53	8.5
Districts from where private care providers sent data	45	7.2
Districts from where NGO care providers sent data	33	5.3
Other health facilities	3	0.5
Total	**621**	**100.0**

Figure 4.3 shows the number of different obstetric care encounters and clients served by the emergency obstetric facilities in Bangladesh in 2015.

Figure 4.3 reveals that 1,212,963 institutional deliveries were reported in 2015, of which normal deliveries accounted for 61.5%, cesarean section accounted for 37.9%, and vaginal breech and forceps delivery collectively accounted for 0.6%.

Figure 4.4 shows distribution of the types of institutional deliveries conducted in 2015.

Figure 4.5 shows the distribution of deliveries by type between government and non-government (private, NGO) health facilities in 2015.

Table 4.3 shows the distribution of obstetric care services provided by the government and non-government emergency obstetric care facilities.

Table 4.4 shows the distribution of normal, assisted, cesarean and total deliveries within government and non-government emergency obstetric care facilities in 2015. Of the total 449,609 deliveries in the government health facilities, 2.3% took place in medical college hospitals, 7.7% in district hospitals, and the largest proportion (90.0%) took place in upazila health complexes;

Of the total 219,487 deliveries in the non-government facilities (NGO, private), 19.2% were done at NGO facilities and 80.8% at private clinics/hospitals. Table 4.4 also reveals that there were 219,185 cesarean sections in the public health facilities and 150,523 in the non-government health facilities. Of the total cesarean sections at the public facilities, 2.9% were done in medical college hospitals (n=6,311), 8.3% in district hospitals (n=18,232), and 88.8% in upazila health complexes (n=194,642). Of the total cesarean sections done in non-government health facilities, 11.6% were done at NGO facilities (n=17,480) and 88.4% at private clinics/hospitals (n=133,043).

Voucher scheme for maternal health

The Ministry of Health and Family Welfare, in collaboration with WHO, introduced in 2007 an innovative maternal health voucher scheme, a demand-side financing (DSF) initiative, to improve access to and use of quality maternal health services. Currently, the program is being implemented in 53 upazilas of 41 districts. Poor women are defined by specific criteria

Figure 4.3. Number of different obstetric care encounters and maternal death in the healthcare facilities in Bangladesh, 2015

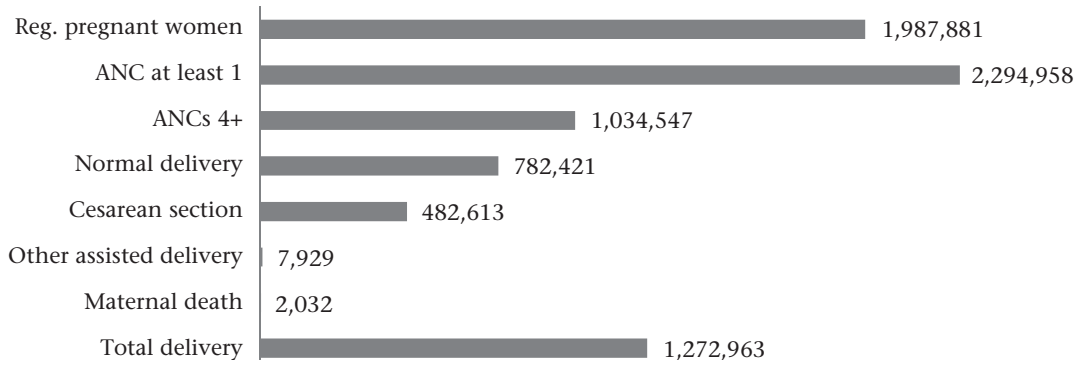


Figure 4.4. Distribution of the types of institutional deliveries (n=1,272,963) in2015

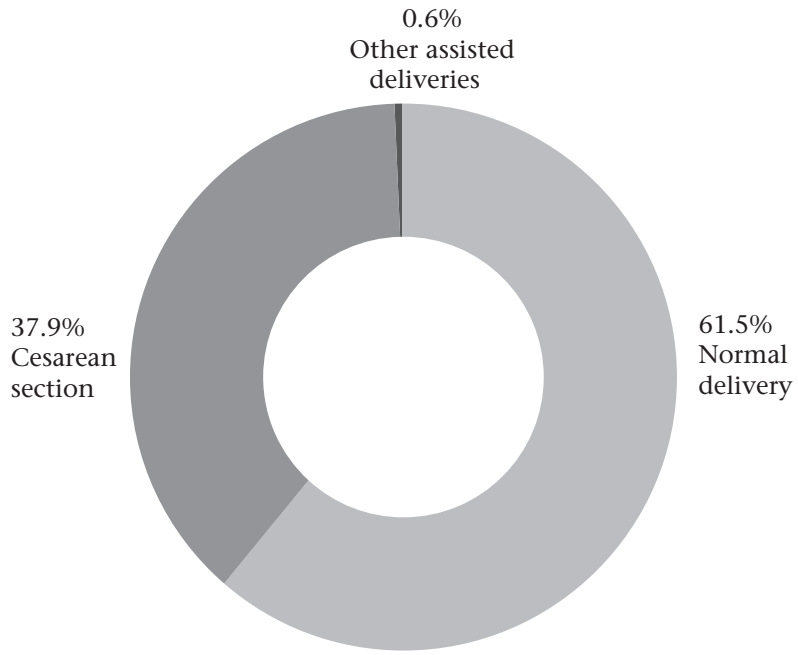


Figure 4.5. Distribution of deliveries by type between government and non-government (private, NGO) health facilities, 2015

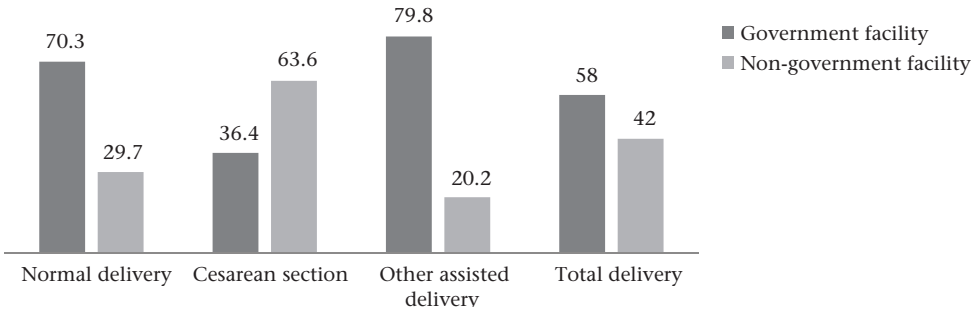


Table 4.3. Obstetric care services provided by the government and non-government emergency obstetric care facilities, 2015

Type of delivery	Government						Non-government		
	PGIH	MCH	DH/ GH	UHC	Other govt. facilities at upazila level	Total	NGO facili-ties	Private facili-ties	Total
Normal delivery	1,918	45,676	71,574	204,586	226,082	549,836	99,645	132,940	232,585
(%)	0.3	8.3	13.0	37.2	41.1	100	42.8	57.2	100
Cesarean section	3,403	53,137	41,751	19,561	58,036	175,888	21,081	285,644	306,725
(%)	1.9	30.2	23.7	11.1	33.0	100	6.9	93.1	100
Other assisted deliveries	9	1,849	1,856	1,618	998	6,330	293	1,306	1,599
(%)	0.1	29.2	29.3	25.6	15.8	100	18.3	81.7	100
Total deliveries	**5,330**	**100,662**	**115,181**	**225,765**	**285,116**	**732,054**	**121,019**	**419,890**	**540,909**
(%)	**0.7**	**13.8**	**15.7**	**30.8**	**38.9**	**100**	**22.4**	**77.6**	**100**

(approximately 40% of the pregnant women of an upazila) and validated by a body consisting of local government representatives, health managers, and other stakeholders. The total number of cumulative beneficiaries reached 1,174,868 (Figure 4.6). Figure 4.7 shows the

> The Ministry of Health and Family Welfare, in collaboration with WHO, introduced in 2007 an innovative maternal health voucher scheme, a demand-side financing (DSF) initiative, to improve access to and use of quality maternal health services.

percentages over the years. In 2014–2015, a total of 145,900 pregnant women received the benefit. A voucher entitles its holder for specific health services free of charge, viz. antenatal and postnatal care, safe delivery, and treatment for complications, including cesarean section, transportation cost, and laboratory tests. If delivery is attended by skilled staff, voucher-holders get unconditional cash benefits for nutritious food. Safe delivery rate is now 80% amongst the voucher recipients. Both public and non-public healthcare providers (NGO and private facilities) participate in the DSF scheme. There is a target to scale the program for more beneficiaries for quality services; .the maternal mortality rate among the voucher-holder women is 12 per 100,000 livebirths, in sharp contrast to the national rate of 170 per 100,000 livebirths.

Maternal and Newborn Health Initiative

The Maternal and Newborn Health Initiative (MNHI) is being implemented by the Director of Primary Healthcare of the DGHS in eleven districts of Bangladesh, with the assistance of UNFPA, UNICEF, and WHO and funded by DFATD Canada. The districts are Thakurgaon, Jamalpur, Narail, Maulvibazar, Panchagarh, Sirajganj, Patuakhali, Barguna, Rangamati, Sunamganj, and Bagerhat. The program focuses on saving maternal and newborn lives through creating need-based demand and priority-based actions. The broad principle of this program is to find the bottlenecks through data analysis. Finally, the health managers develop Evidence-based Planning and Budgeting (DEPB) for every

Table 4.4. Distribution of normal, assisted, cesarean and total deliveries within the government and non-government emergency obstetric care facilities, 2015

Type of delivery	Government facilities								Non-government facilities					
	MCH		DH		UHC		Total		NGO		Private		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Normal delivery	3,882	1.7	16,427	7.3	205,713	91.0	226,022	100.0	24,319	36.2	42,952	63.8	67,271	100.0
Assisted delivery	52	1.2	180	4.1	4,170	94.7	4,402	100.0	407	24.0	1,286	76.0	1,693	100.0
Cesarean section	6,311	2.9	18,232	8.3	194,642	88.8	219,185	100.0	17,480	11.6	133,043	88.4	150,523	100.0
Total deliveries	**10,245**	**2.3**	**34,839**	**7.7**	**404,525**	**90.0**	**449,609**	**100.0**	**42,206**	**19.2**	**177,281**	**80.8**	**219,487**	**100.0**

upazila and hospital. Around 25 districts have been covered under DEPB by UNICEF. The civil surgeon and deputy directors of family planning of the respective districts serve as the local focal points for the program. UNICEF has designed a comprehensive model to improve health of neonates, mothers, and young children (IH&NHMYC) in hard-to-reach areas of Bandarban, Cox's Bazar, and Netrakona district, which introduced a default tracking system to track every mother and child. Under health system strengthening, 10 consultants are working to improve information system by using the data for planning. Innovative dashboard has been created for all health managers. As a part of improving quality, Maternal and Perinatal Death Surveillance and Response (MPDSR) program has been introduced in 10 districts, which has shown good impact in reducing maternal and neonatal deaths.

Tetanus toxoid (TT) for women of childbearing age

Table 4.5 shows the tetanus toxoid coverage among the women of childbearing age in Bangladesh in 2015. The country is maintaining the maternal and neonatal tetanus-free status since 2008. The immunization program of Bangladesh aims to immunize the women of childbearing age by administering TT before the age of 18 years. A period of 2 years and 7 months is required to complete all the 5 doses of TT vaccines. If a woman starts TT vaccination at the age of 15 years and maintains the exact interval, she would be able to complete all the doses before she reaches the age of marriage, ensuring protection for her entire reproductive life.

The data shown in Table 4.5 have been excerpted from EPI Coverage Evaluation Survey 2015. However, the coverage gradually falls for the subsequent TT doses and is remarkably lower for the fourth and final doses. This aspect needs attention to ensure effective coverage.

Community-based skilled birth attendants and midwives

Shortage of skilled manpower in the remote areas to extend obstetric care is one of the major barriers to improving maternal health. The Ministry of Health and Family Welfare undertook a short-term measure to tackle the problem by producing trained manpower for fulfilling the gap in the interim period.

Figure 4.6. Number of DSF (demand-side financing) beneficiary pregnant women by year (total1,174,868)

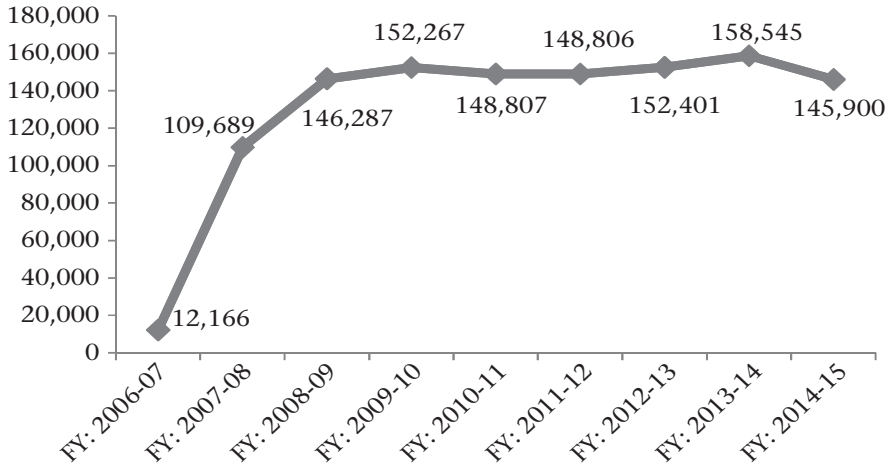
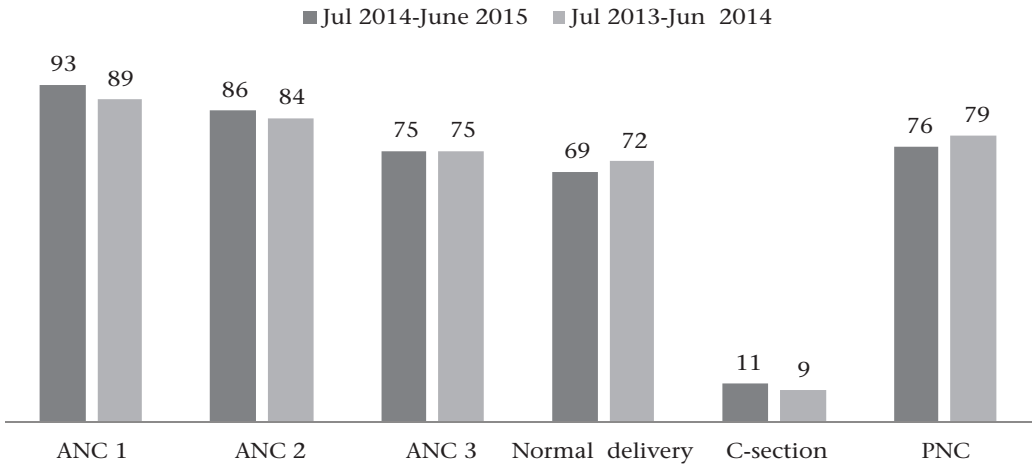


Figure 4.7. Percentage distribution of different services provided under DSF during 2013-2014 and 2014–2015



Young medical doctors were given 6 months' training on obstetrics and anesthesiology. The Directorate General of Health Services is also implementing community-based skilled birth attendant (CSBA) training program since 2003, with the goal to train and educate the family welfare assistants/female health assistants, community healthcare providers, and similar health workers in NGOs and private sector, on midwifery skills. The CSBAs are trained to conduct normal safe deliveries at home and to identify the risks and complicated cases so that they can motivate the women and their family members to refer to the nearby health facilities where comprehensive EOC services are available. The CSBA training program is now organized in 465 upazilas of 64 districts. The Government introduced midwifery course and created posts for 2,994 midwives.

Obstetric fistula program

In Bangladesh, obstetric fistula and other maternal morbidities affect thousands of women. It is estimated that approximately 71,000 women in the country are currently living with fistula (1.69 per 1,000 ever-married women). The UNFPA has been assisting the Government of Bangladesh in strengthening quality service delivery and capacity development of service providers at 10 medical college hospitals and 4 private hospitals. Since 2003, twenty-four doctors and 253 nurses have been trained; 3,050

complicated obstetric fistula surgeries were performed. National Fistula Center has been established in Dhaka Medical College Hospital.

Cervical and breast cancer screening program

The cervical and breast cancers are the most common cancers in women and contribute to a significant disease burden in Bangladesh. Routine screening and early detection of cervical and breast cancer can reduce death rates and can improve life-expectancy of cancer patients. The Government of Bangladesh (GOB) has developed cervical and breast cancer screening program in all districts of Bangladesh through technical assistance of Bangabandhu Sheikh Mujib Medical University (BSMMU) and UNFPA. Since 2005, a total of 373 centers (Table 4.6) have been established throughout the country, and about 1,500 service providers from 64 districts were trained on cervical and breast cancer screening, based on visual inspection with acetic acid (VIA) and clinical breast examination (CBE); 14 government medical college hospitals, along with BSMMU, have been developed as referral centers through development of colposcopy clinics with facilities for colposcopy, histopathology, and management of precancerous condition of the cervix.

Figure 4.8 shows that 1,157,032 VIA tests were performed from 2005 to 2015 at different service centers and, among the tested women, 56,592 (4.9%) were found VIA-positive. The coverage of the screening tests is increasing every year. In 2015, a total of 270,542 VIA screening tests were done, with 4.2% showing VIA-positive result. All VIA+ve cases were referred to colposcopy clinic at BSMMU and different medical college hospitals. It is reported that 9,695 women with VIA+ve result attended the colposcopy clinics at BSMMU and medical college hospitals during 2015 (Table 4.7).

> Routine screening and early detection of cervical and breast cancer can reduce death rates and can improve life-expectancy of cancer patients.

Figure 4.9 shows that a total of 1,054,723 screening tests for CBE were done from 2007 to 2015 throughout the country, using the screening centers and, on average, 1.5% yielded positive results. The coverage of CBE screening is increasing every year. In 2015, a total of 246,681 screening tests were done, with 1.4% CBE-positive results.

Universal routine child immunization

Child vaccination coverage data presented in this section were taken from the EPI Coverage Evaluation Survey 2015 (CES 2015) Report. The EPI-CES validated the vaccination coverage rates by cross-checking vaccination cards with history taken from mothers/caregivers.

Table 4.5. Tetanus toxoid coverage (%) in Bangladesh among women of childbearing age (2015)

Area	TT1	TT2	TT3	TT4	TT5
National	96.0	94.0	83.6	66.7	46.1
Rural	96.6	94.6	84.8	67.7	46.5
Urban	93.8	91.6	78.5	62.9	44.6

Table 4.6. Total number of VIA and CBE centers (2005 to 2015)

Name of locations	Number of centers
District hospitals	57
BSMMU and medical college hospitals	15
MCHTI, MFSTC, mother and child welfare centers	61
Upazila health complexes	180
Union health & family welfare centers	40
Urban Primary Healthcare Project and NGOs	20
Total	**373**

Figure 4.10 shows the trend in vaccination coverage from 2002 to 2015 by the age of 12 months. The Figure indicates that there is gradual improvement in BCG, Penta, and MCV coverage, which contributed in continual improvement in the full valid vaccination coverage.

Figure 4.11 shows the trend in full vaccination coverage from 2005 to 2015 among ≤12 and ≤23 months old children.

Table 4.8 shows the valid vaccination coverage of ≤12 and ≤23 months old children as found in EPI-CES 2015. Measles vaccine coverage was 87.4% and 91.7% among ≤12 and ≤23 months old children respectively. Full vaccination coverage among these two groups of children were 82.5% and 86.5% respectively.

Bangladesh showed a success story on polio eradication. The country is maintaining polio-free status for the last 10 years. The last polio case was identified on 22 November 2006. Under routine childhood immunization schedule, Bangladesh is providing OPV to all the target children to prevent poliomyelitis. The current valid national OPV3 coverage rate is 93.6%, with each district having coverage of more than 80%. The polio eradication program in Bangladesh illustrates Government's commitment in providing 100% cost of routine polio immunization and 95% cost of supplementary polio immunization activities. Among the SEAR countries, the last polio case was detected in India in 2011. After India was polio-free for more than 36 months, Bangladesh, along with other 10

Figure 4.8. Number of VIA tests and VIA+ve results (2005 to 2015)

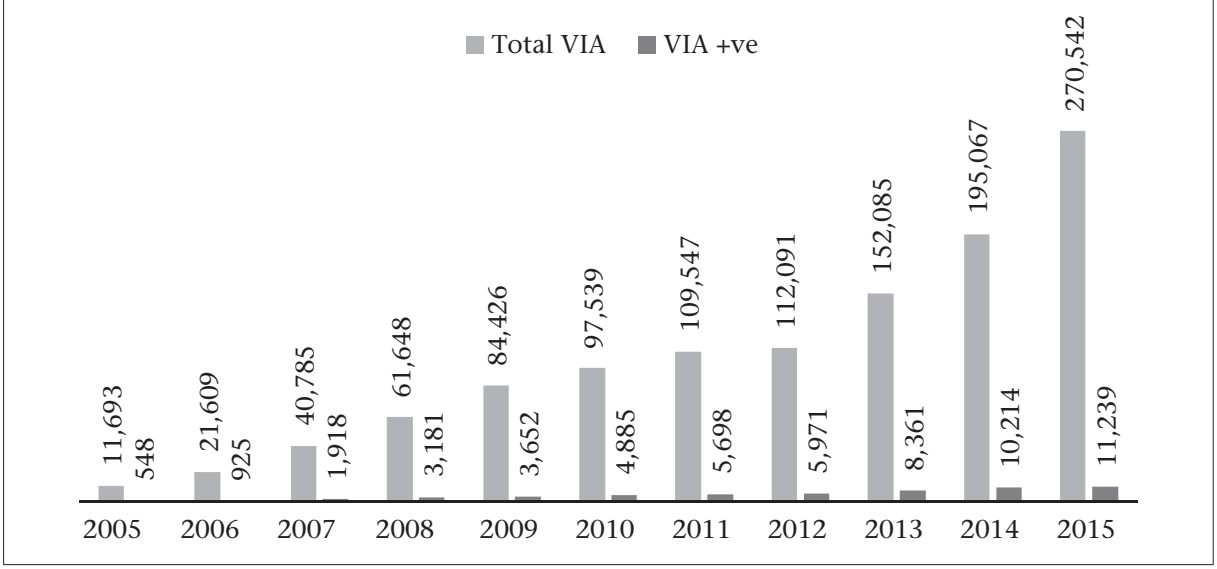
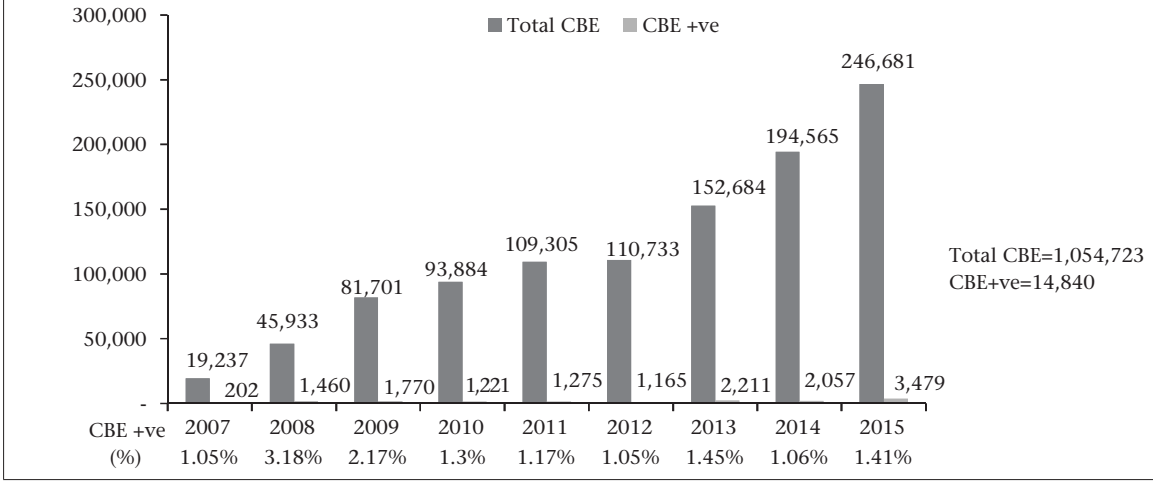


Figure 4.9. Number of CBE tests done, with results, 2007 to 2015



member countries of the South Asia Region, obtained the polio-free certification in March 2014. As per the global polio eradication end-game strategic plan 2013 to 2018, Bangladesh introduced inactivated poliovirus vaccine (IPV) in March 2015 for prevention of vaccine-derived polio viruses due to polio vaccine type 2 component. As planned, Bangladesh switched from trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV) in the month of April 2016 for prevention of outbreak due to type 2 component of OPV. The country is also satisfactorily progressing toward achieving the measles elimination goal of the WHO's South-East Asia Region by 2020. National measles control activities

Table 4.7. Total number of colposcopy tests done in 2015 at different institutions

Name of institution	Number (%) of colposcopy tests
Bangabandhu Sheikh Mujib Medical University	2,860 (25.00)
Rajshahi Medical College Hospital	1,442 (12.80)
Chittagong Medical College Hospital	1438 (12.80)
Khulna Medical College Hospital	653 (5.80)
Sher-e-Bangla Medical College Hospital, Barisal	518 (4.60)
Faridpur Medical College Hospital	470 (4.10)
MAG Osmani Medical College Hospital, Sylhet	440 (4.00)
Mymensingh Medical College Hospital	388 (3.40)
Dhaka Medical College Hospital	365 (3.50)
Dinajpur Medical College Hospital	322 (2.80)
Comilla Medical College Hospital	247 (2.20)
Rangpur Medical College Hospital	224 (2.00)
Shaheed Suhwardy Medical College Hospital	150 (1.30)
Sir Salimullah Medical College & Mitford Hospital	135 (1.20)
Shaheed Ziaur Rahman Medical College Hospital	43 (0.40)
Failure to attend	1,544 (14.00)
Total	**11,239 (100)**

Figure 4.10. Trend in vaccination coverage (%) by the age of 12 months from card plus history

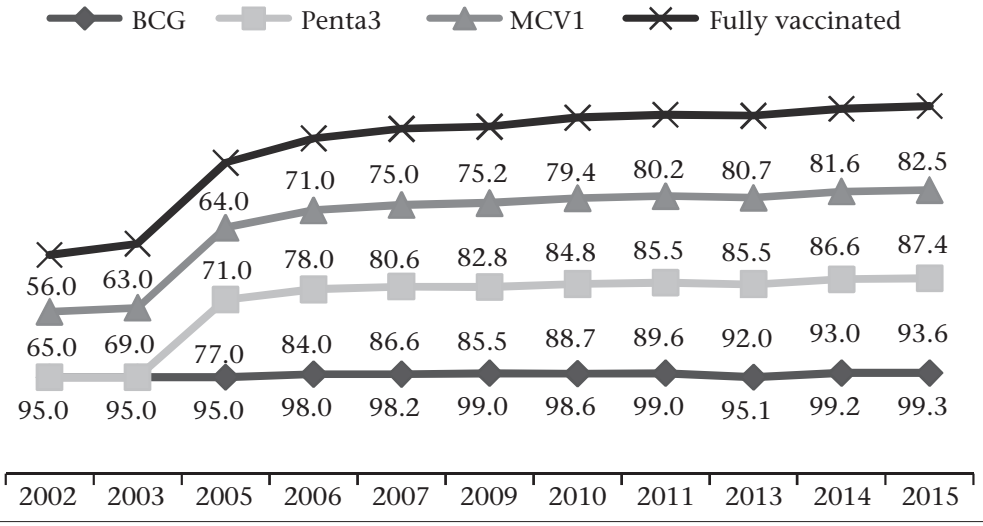


Figure 4.11. Trend in national full vaccination coverage among children aged ≤12 months and ≤23 months (EPI-CES 2015)

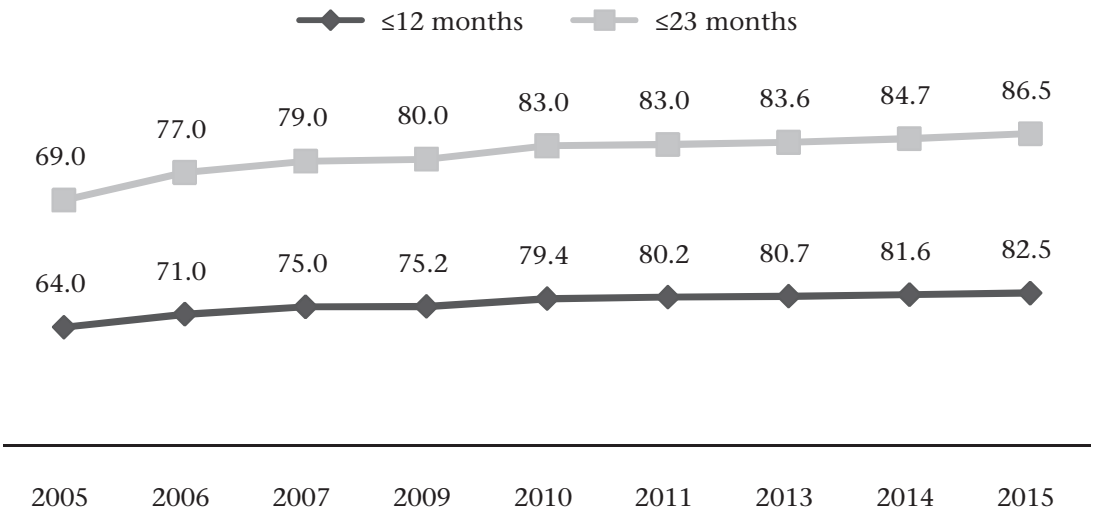


Table 4.8. Valid vaccination coverage of ≤23 and ≤12 months old children as found in EPI-CES 2015

Age-group	BCG	OPV1	OPV2	OPV3	Penta1	Penta2	Penta3	Measles	Full vaccination
≤12 months	99.3%	93.9%	94.5%	93.6%	93.9%	94.5%	93.6%	87.4%	82.5%
≤23 months	99.4%	94.0%	94.7%	94.1%	94.0%	94.7%	94.1%	91.7%	86.5%

Table 4.9. Valid full vaccination coverage differentials by sex, area of residence, and division as found in EPI CES 2015

Age-group	Sex		Residence		Division						
	Male	Female	Rural	Urban	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet
≤12 months	83.8%	81.1%	83.5%	78.4%	86.0%	81.6%	81.1%	83.6%	86.1%	84.9%	76.9%
≤23 months	87.5%	85.4%	87.1%	83.9%	89.3%	85.6%	86.6%	88.0%	89.4%	89.1%	82.8%

Table 4.10. Coverage of vitamin A capsule among under-five children and postpartum women (EPI-CES 2015)

Residence	Vitamin A capsule		
	Infant (6-11 months)	Children (12-59 months)	Postpartum women
Rural	80.6	88.7	37.7
Urban	75.6	81.7	37.5
National	79.6	87.3	37.6

> National measles control activities have been accelerated since 2004 and already implemented all recommended strategies for measles elimination and rubella/congenital rubella syndrome control.

have been accelerated since 2004 and already implemented all recommended strategies for measles elimination and rubella/congenital rubella syndrome control. Coverage of the first dose (MCV1) of measles vaccine was estimated to increase from 71% in 2005 to 87.4% in 2015.

Table 4.9 shows the valid full vaccination coverage differentials by sex, area of residence, and division as found in EPI-CES 2015.

In the vitamin A campaign, high-potency vitamin A was distributed among the infants aged 6-11 months and the children aged 12-59 months. Table 4.10 shows the vitamin A capsule coverage among the under-five children and postpartum women.

Chapter 5

Number of beds increasing steadily

SECONDARY AND TERTIARY HEALTHCARE

The numbers of functional beds in the secondary and tertiary-care facilities have increased in 2016

Compared to the primary healthcare facilities at the ward, union and upazila levels, the secondary and tertiary healthcare facilities provide more advanced or specialty care to the patients. The district hospitals are usually termed secondary hospitals as these have fewer facilities for specialty care compared to many in the medical college hospitals. There are also different types of specialty-care centers, such as infectious disease hospitals, tuberculosis hospitals, leprosy hospitals that fall under the category of secondary-care health facilities. The medical college hospitals are located at the regional level, one for a few districts and provide specialty care in many disciplines. These hospitals are called tertiary-care hospitals. Also, super-specialty hospitals at the national level or centers that provide high-end medical services in a specific field are considered tertiary hospitals. The numbers of functional beds in some of the secondary and tertiary-care facilities have increased in 2016.

The numbers and bed-capacity in different types of secondary and tertiary hospitals/health centers under the DGHS are shown in Table 5.1 (Annex 5 shows relevant data of some private hospitals).

Bangabandhu Sheikh Mujib Medical University

Bangabandhu Sheikh Mujib Medical University (BSMMU) is the only medical university in Bangladesh. The BSMMU and its affiliated hospital receive financial assistance from the Ministry of Health and Family Welfare and Ministry of Education. Both university and its affiliated hospital are autonomous bodies. The hospital has 1,551 beds, including 791 free beds.

Distribution of public hospitals and hospital beds by administrative division

The distribution of secondary and tertiary hospitals by administrative division is shown in Figure 5.1. Dhaka division has the highest number of secondary and tertiary-level health facilities (45), followed by Chittagong, Khulna and Rajshahi division, with 22, 16, and 15 hospitals respectively.

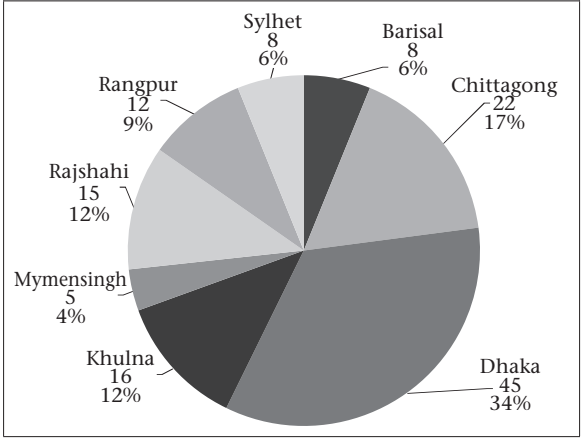
Of the total 14 medical college hospitals, 4 are in Dhaka division (28.57%), 2 in each of Chittagong, Rajshahi and Rangpur division (14.29% in each of the divisions), and 1 in each of Barisal, Khulna, Mymensingh and Sylhet division (7.14% in each division). The distribution is shown in Table 5.2. However, this distribution will be changed once the new public medical college hospitals start functioning. In terms of the number of other 117 secondary and tertiary-level facilities, Dhaka division is placed at the top, with 41 facilities (35.04%). This year, numbers of medical college and other secondary and tertiary hospitals are reduced than those of the previous year in Dhaka division. However, this is not due to actual reduction of the number of facilities. One medical college hospital and 4 other hospitals, which were in Dhaka division in the previous years, are now being counted under the newly-formed administrative division Mymensingh.

Available number of beds is one of the good proxies for measuring the strength of healthcare

Table 5.1. Secondary and tertiary hospitals/health centers under the DGHS, with the numbers of functional beds (as of June 2016)

Hospitals		
Type	**No. of facilities**	**No. of functional beds**
50-bed hospital	2	100
Chest disease hospital	13	866
Dental college hospital	1	200
District and general hospital	65	10,328
Hospital of alternative medicine	2	200
Infectious disease hospital	5	180
Leprosy hospital	3	130
Medical college hospital	14	12,963
Other hospitals	4	325
Specialized hospital	3	850
Specialty postgraduate institute and hospital	11	3,184
Trauma center	5	100
Total (hospitals)	128	29,426
Other facilities (Specialized health centers)		
Name	**No. of facilities**	**No. of functional beds**
Chittagong Skin & Hygiene Treatment Center	1	Not applicable
National Asthma Center	1	Not applicable
National Center For Control of Rheumatic Fever & Heart Disease	1	Not applicable
Total hospitals and other facilities	**131**	**29,426**

Figure 5.1. Distribution (number and percentage) of government-owned secondary and tertiary facilities under the DGHS by administrative division of Bangladesh (2016) (Total 131)



infrastructure in different geographic areas. Figure 5.2 shows the distribution of beds in the government-owned secondary and tertiary-level hospital by administrative division of Bangladesh. These are run under the administrative control of the DGHS. It is not surprising that about 40% (11,834 out of the total 29,306) of beds in the secondary and tertiary hospitals under the DGHS are concentrated in Dhaka division. Chittagong division is in the second position, having 14.38% of beds in these hospitals.

Figure 5.3 shows the number of beds in secondary and tertiary hospitals per 10.000 people by administrative division of Bangladesh. Health facilities in the newly-formed Mymensingh division suffer the most for the paucity of beds (1.19 beds for 10,000 people). The ratio is higher than the country average of 1.83 in Dhaka and Barisal divisions, having 2.95 and 1.94 respectively. The population estimates used here are taken from a publication of Bangladesh Bureau of Statistics titled "Population Projection of Bangladesh, Dynamics and Trends: 2011-2061" (available at www.bbs.gov.bd).

We get a slightly different order of divisional ranking in terms of the availability of

Table 5.2 Distribution of secondary and tertiary public hospitals under the DGHS by division (June 2016)

Type of hospital	Number and percentage	Barisal	Chittagong	Dhaka	Khulna	Mymensingh	Rajshahi	Rangpur	Sylhet	Total
Medical college hospitals	Number	1	2	4	1	1	2	2	1	14
	Percentage	7.14	14.29	28.57	7.14	7.14	14.29	14.29	7.14	100.00
Other secondary & tertiary facilities	Number	7	20	41	15	4	13	10	7	117
	Percentage	5.98	17.09	35.04	12.82	3.42	11.11	8.55	5.98	100.00

Figure 5.2. Distribution of the number of beds (total 29,306) in the secondary and tertiary hospitals by administrative division of Bangladesh (June 2016)

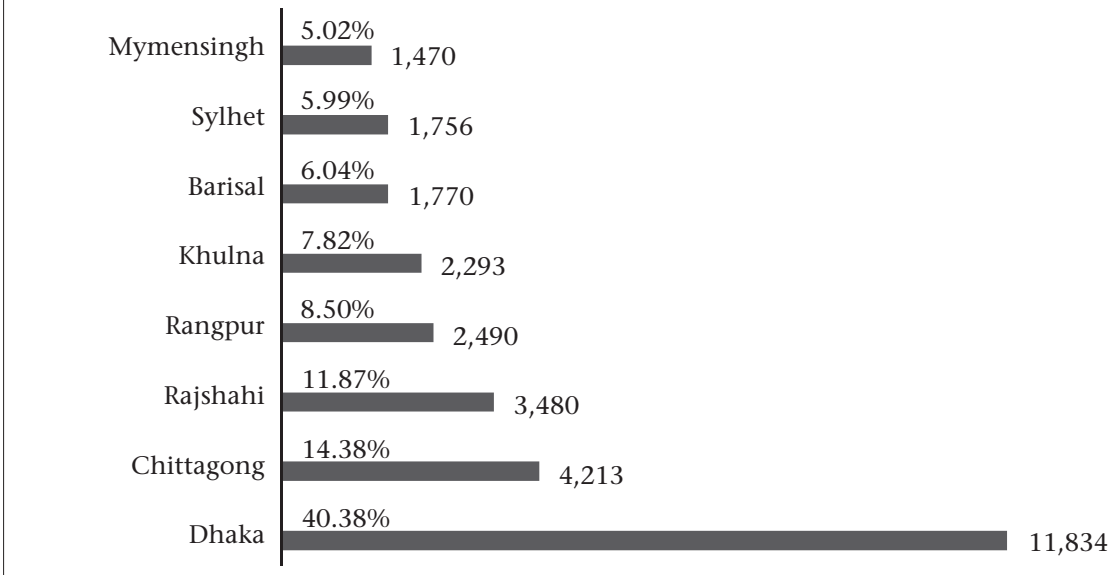


Figure 5.3. Population per bed in government-run secondary and tertiary hospitals by administrative division of Bangladesh (June 2016)

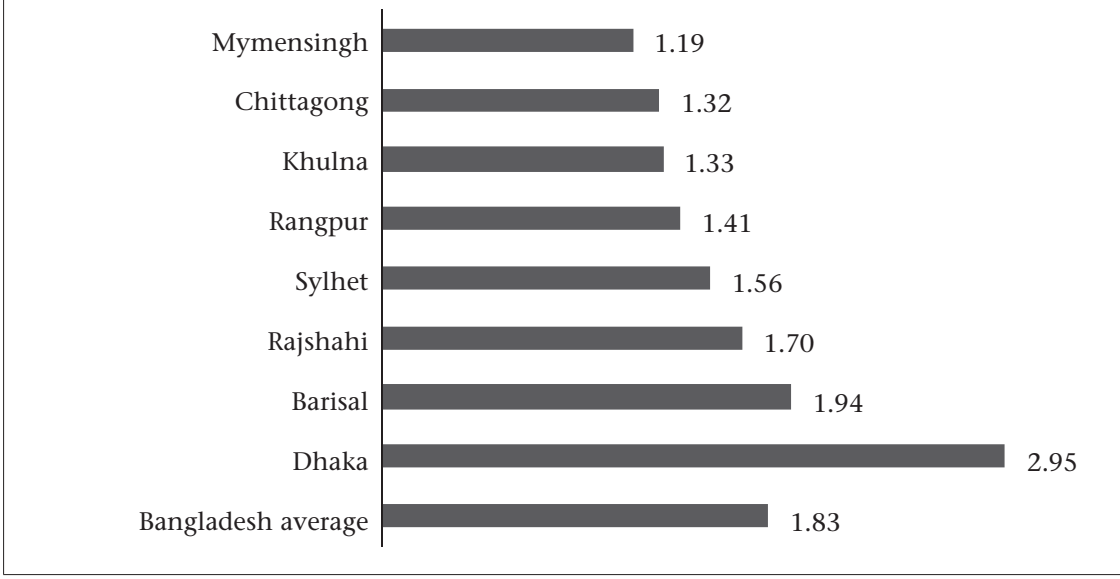
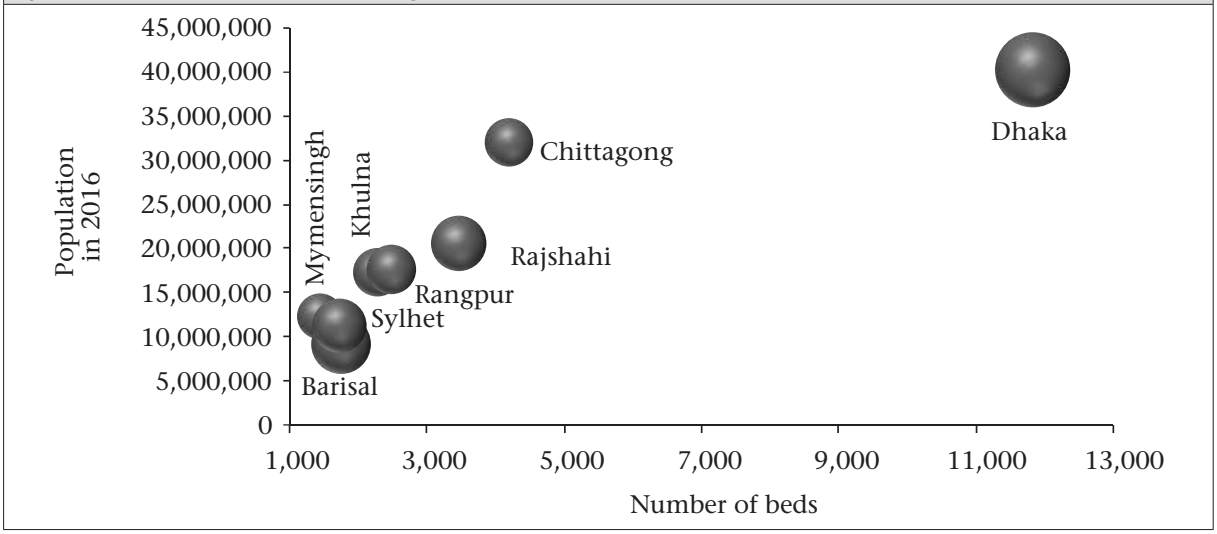


Figure 5.4. Beds in secondary and tertiary hospitals, population in 2016 and bed-population ratio by administrative division of Bangladesh (June 2016)



hospital beds when weighted against population (Figure 5.3). The whole scenario is depicted in Figure 5.4. In this bubble chart, the horizontal and vertical axes plot the number of beds and population respectively in each division while the bubble sizes indicate the bed-population ratio. Dhaka division has the highest bed-population ratio.

Private hospitals, clinics, and diagnostic centers

The DGHS provided license to 14,337 private hospitals, clinics, and diagnostic centers in Bangladesh (as of October 2016). The number of registered private hospitals and clinics is 4,596, and that of registered private diagnostic centers is 9,741. The total number of beds in these registered private hospitals and clinics is 78,426.

Chapter 6

Patients' satisfaction is of prime concern

UTILIZATION OF PUBLIC HEALTH FACILITIES

Healthcare-seeking from the public facilities has been continuing to rise over the past few years, indicating improvements in the management of patients and their increasing satisfaction.

All health bulletins published in the recent past reported utilization of health services from public, private and NGO facilities. Since it was difficult to have data from all private and NGO facilities, those reports had portrayed only a part of the whole scenario in the private and NGO sectors. This year we present data from public health facilities only. Healthcare-seeking from the public facilities has been continuing to rise over the past few years, indicating improvements in the management of patients and their increasing satisfaction.

For 2015 (January to December), we received data from almost all public hospitals and health centers under the DGHS. Table 6.1 shows the sources of data used in the analyses of the service utilization. The analyses are done by grouping similar types of hospitals together. Individual facility-level data are presented in the Annex.

Outpatient attendance

In 2015, a total of 178,697,958 patient-visits took place at the outpatient departments (OPD) of 16,167 public health facilities. Figure 6.1 shows the distribution of the visits among 3 different levels of care.

Table 6.2 shows the breakdown of patient-attendance among different facilities.

From Figure 6.1 and Table 6.2, it is evident that most patient-attendance (89%) occurred in the primary-level facilities, and the community clinics alone handled more than 100 million visits. Only 5% of the OPD visits took place at the tertiary-level facilities. Thus, it can be assumed that care-seeking from the primary healthcare facilities is lowering the patient-load at the higher levels. However, the load is still very high in most of the secondary and tertiary-level facilities, and this will be evident if the available numbers of each type of facilities are used as denominators against the numbers of daily patient-attendance.

Figure 6.2 shows the daily average attendance per facility in selected types of facilities. In this analysis, the number of working days in 2015 was considered to be 290 (by deducting 23 government holidays and 52 weekly holidays from the number of days in 2015).

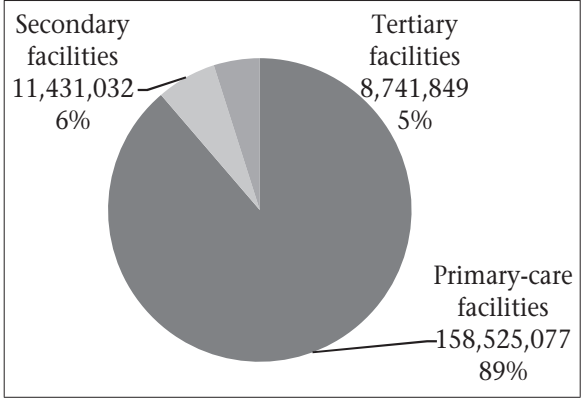
The graph clearly shows that the higher the hierarchical level of institution, the higher is the daily patient-load. The medical college hospitals are facing the highest load. On an average, each of the hospitals is serving more than 1,700 patients daily. The secondary hospitals, situated at the district level, stand next in handling patients—around 600 cases per day per hospital, and the upazila health complexes treating about 200 patients per day per hospital are in the third position in terms of the daily outdoor patient-load.

Gender and age distribution of outpatient attendees

About 60% of attendees at the outpatient departments of all facilities were female. Figure 6.3 shows the overall gender distribution.

Table 6.1. Sources of data on the utilization of health services (2015)		
Level of care	**Type of facility**	**No.**
Primary*	Sadar upazila health offices (UHO)	60
	Upazila health complexes (UHC)	421
	Tejgaon Thana Health Complex	1
	Total	**483**
Secondary	District hospitals/general hospitals	65
	Total	**65**
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	1
	Dhaka Dental College Hospital	1
	Hospitals of alternative medical colleges	2
	Medical college hospitals	14
	Other tertiary hospitals (Mental Hospital, Pabna and Sheikh Abu Naser Specialized Hospital, Khulna)	2
	Specialty institute hospitals	11
	TB Hospitals (Rajshahi and Khulna)	2
	Total	**34**
Grand total		**582**
*The UHCs and UHOs provide data of the lower level facilities		

Figure 6.1. Distribution of patient-visits (N=178,697,958) in 2015 in different tiers of public health facilities (total facilities=16,186)



There are interesting differences in the gender distribution patterns among different types of facilities. Figure 6.4 shows the percentage distribution of the male and female attendees in different types of facilities selected from each of the three tiers. At the lower-level facilities, there is predominance of female attendees but, as the level goes up, the female predominance reduces in a linear fashion. At the medical college hospitals, the male:female ratio is almost 1 (49.19% versus 50.81%) and, in the next level, which contains the super specialized institute hospitals, the scenario is reversed, having a male predominance. Discussion on the significance or reason of this gender distribution pattern is beyond the scope of this report but it can be assumed that some socioeconomic factors are involved.

At the lower-level facilities, there is predominance of female attendees but, as the level goes up, the female predominance reduces in a linear fashion.

Table 6.2. Distribution of the outdoor patient-visits among different facilities

Level of care	Type of facility	Number of facilities	Total visits in OPD
Primary	10-bed hospitals	17	260,840
	20-bed hospitals	26	285,542
	Community clinics (CC)	11,165	103,342,733
	Maternal and child welfare centers (MCWC) (under DGFP)	33	680,946
	Rural/urban/thana health centers	37	462,296
	Sadar upazila health offices (UHO)	60	20,425
	Tejgaon Thana Health Complex	1	38,447
	Trauma centers (TC)	5	21,791
	Union health and family welfare centers (UHFWC) (under DGFP)	2,380	10,309,203
	Union health and family welfare centers (UHFWC) (under DGHS)	714	3,839,318
	Union subcenters (USC)	1,228	15,248,109
	Upazila health complexes (UHC)	421	24,015,427
	Total: primary	**16,087**	**158,525,077**
Secondary	District hospitals/general hospitals	65	11,431,032
	Total: secondary	**65**	**11,431,032**
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	1	29,911
	Dhaka Dental College Hospital	1	89,522
	Hospitals of alternative medical colleges	2	131,996
	Medical college hospitals	14	6,976,954
	Other tertiary facilities (National Center for Control of Rheumatic Fever and Heart Disease, Dhaka; Mental Hospital, Pabna; and Sheikh Abu Naser Specialized Hospital, Khulna)	3	211,991
	Specialty institute hospitals	11	1,295,704
	TB hospitals (Rajshahi and Khulna)	2	5,771
	Total: tertiary	**34**	**8,741,849**
Grand total		**16,186**	**178,697,958**

Table 6.3 gives the age and sex-wise breakdowns of the OPD-attendance in 2015. It shows that about one-fourth (24.79%) of the visitors at the OPD were children aged 5 years or less.

Emergency attendance

In addition to the OPD-attendances discussed above, 7,425,541 emergency visits were reported from the public health facilities of different categories. Table 6.4 shows the age- and sex-wise breakdowns of the attendance among each type of the facilities. The gender and age distribution patterns were similar to those of the OPD-attendance.

The number of OPD and emergency-attendance, when combined, at these public hospitals in 2015 becomes more than 186 million (Table 6.5). It is worth noting that most of these services were provided free of charge; in some of the facilities, only a nominal fee (BDT 5 to 10 per visit) was charged.

Figure 6.2. Average daily patient-attendance per facility at outpatient departments of selected types of facilities in 2015

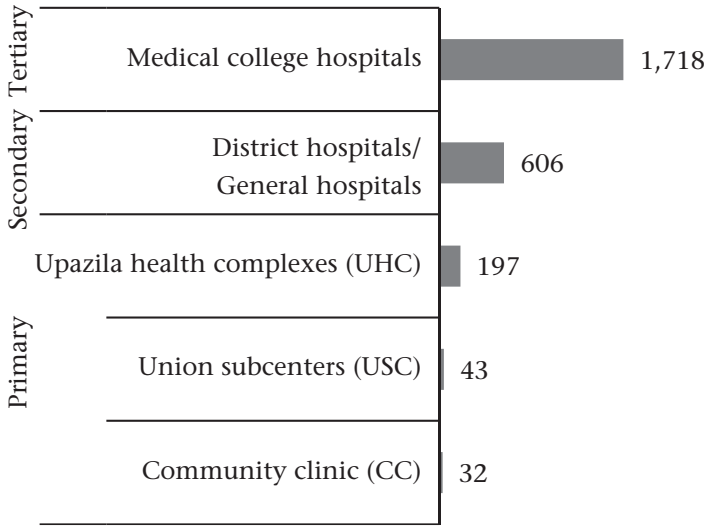
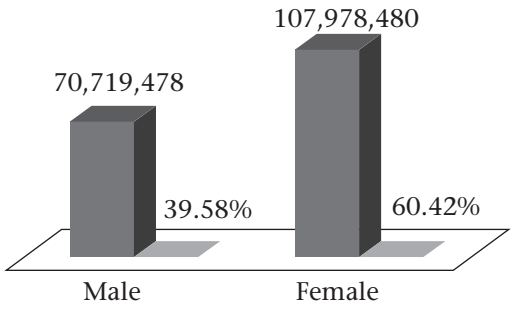


Figure 6.3. Gender distribution among attendees (total visits: 178,697,958) at the outpatient departments of all facilities in 2015



Admission and death

Last year (2015), 5,711,641 admissions were registered in 567 public hospitals; 105,856 patients died, giving an overall death rate of 1.85%, Table 6.6 shows the distribution of admissions as well as inpatient deaths among different types of hospitals. The Table also presents the sex and age distributions.

Efficiency in utilization of hospital resources

Conventionally, the utilization efficiency of hospitals is assessed in terms of average length of stay (ALOS), bed turnover rate (BTOR), and

Figure 6.4. Gender distribution among attendees at the outpatient departments of selected facilities in 2015

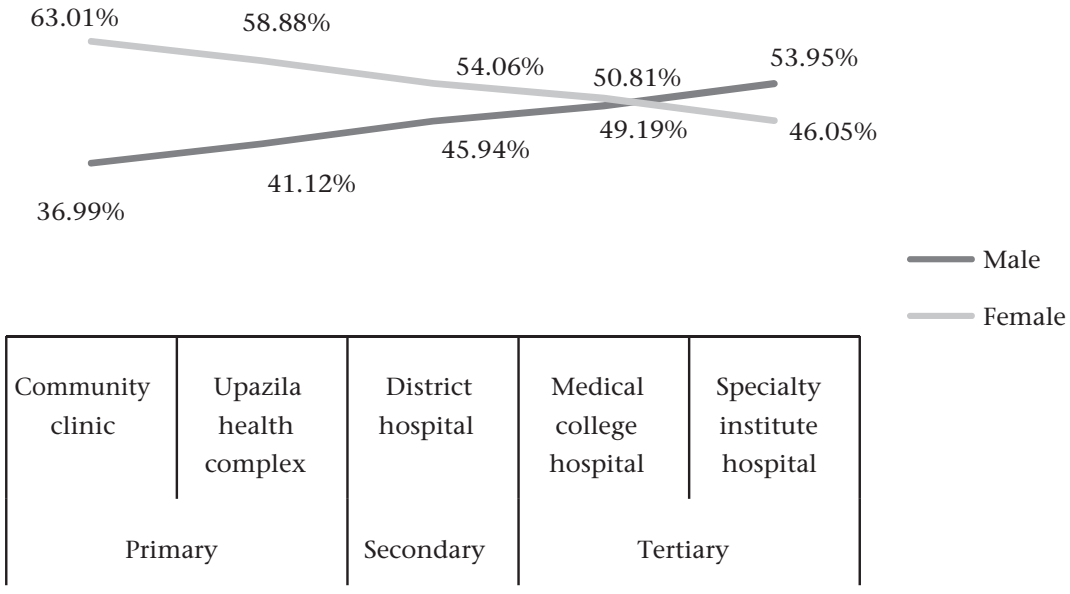


Table 6.3. Age and sex distribution of the OPD-attendance in 2015

Age/Sex	OPD attendance in 2015		
	Male	**Female**	**Total**
<5 Year	21,653,630	22,638,110	44,291,740
%	12.12	12.67	24.79
>5 Year	49,065,848	85,340,370	134,406,218
%	27.46	47.76	75.21
Total	**70,719,478**	**107,978,480**	**178,697,958**
%	**39.57**	**60.43**	**100**

Table 6.4. Age and sex distribution of the emergency-attendance among all hospitals in 2015

Level	Type of facility	Male		Female		Total
		<5 years	**>5 years**	**<5 years**	**>5 years**	
Primary	10-bed hospitals	2,805	4,777	1,767	4,442	13,791
	20-bed hospital	1,782	8,923	1,721	19,718	32,144
	Trauma centers (TC)	3,133	6,019	2,481	8,024	19,657
	Upazila health complex	394,807	1,263,128	449,529	1,237,005	3,344,469
Secondary	District hospitals	252,245	824,848	250,035	807,004	2,134,132
Tertiary	Bangladesh Institute Of Tropical and Infectious Disease, Chittagong	106	2,972	68	2,790	5,936
	Hospitals of alternative medical colleges	1,288	4,081	1,173	4,558	11,100
	Medical college hospitals	119,635	624,750	89,309	567,066	1,400,760
	Other tertiary facilities (Mental Hospital, Pabna and Shaheed Sheikh Abu Naser Specialized Hospital, Khulna)	0	4,223	0	3,711	7,934
	Specialty institute hospitals	23,393	118,991	19,280	66,145	227,809
Total		**822,587**	**2,981,703**	**834,643**	**2,786,608**	**7,425,541**

Table 6.5. Total number of OPD and emergency-attendances at selected public hospitals in 2015

Place of attendance	Male	Female	Total
Outpatient department	70,719,478	107,978,480	178,697,958
Emergency department	3,804,290	3,621,251	7,425,541
Total	**74,523,768**	**111,599,731**	**186,123,499**

bed-occupancy rate (BOR). We analyzed the utilization efficiencies of hospitals by grouping them into 4 categories, viz. upazila health complexes (UHC), district and general hospitals (DH/GH), medical college hospitals (MCH), and specialty institute hospitals (SIH). The analyses are based on hospital statistics available from the local health bulletins of 2015.

Table 6.6. Admissions and inpatient deaths with age and sex distribution in all types of hospitals in 2015

Level	Type of facility	Number of facilities	Admission and death	Total	Male		Female	
					<5 yrs	>5 yrs	<5 yrs	>5 yrs
Primary	10-bed hospitals	17	Admission	6,838	335	1,922	426	4,155
			Death	13	3	6	2	2
	20-bed hospitals	26	Admission	14,931	2,942	4,663	1,366	5,960
			Death	39	6	20	2	11
	Trauma centers (TC)	5	Admission	279	55	95	44	85
			Death	0	0	0	0	0
	Upazila health complexes (UHCs)	421	Admission	2,376,809	265,377	753,563	284,065	1,073,804
			Death	7,242	984	3,014	1,017	2,227
Secondary	District hospitals/ General hospitals	65	Admission	1,767,201	223,460	600,947	208,802	733,992
			Death	24,988	4,137	9,955	3,473	7,423
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	1	Admission	5,986	124	2,965	73	2,824
			Death	30	1	23	1	5
	Dhaka Dental College Hospital	1	Admission	1,868	28	858	26	956
			Death	2	0	1	0	1
	Hospitals of alternative medical colleges	2	Admission	1,499	50	645	62	742
			Death	1	0	1	0	0
	Medical college hospitals	14	Admission	1,382,585	141,214	603,544	124,711	513,116
			Death	66,661	8,381	29,804	6,401	22,075
	Mental Hospital, Pabna	1	Admission	1,570	0	1234	0	336
			Death	14	0	8	0	6
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	1	Admission	2,775	0	1743	0	1032
			Death	232	0	125	0	107
	Specialty institute hospitals	11	Admission	148,554	6,358	86,616	4,618	50,962
			Death	6,603	312	4,343	245	1,703
	TB hospitals (Rajshahi and Khulna)	2	Admission	746	0	506	0	240
			Death	30	0	23	0	7
Total		**567**	**Admissions**	**5,711,641**	**639,943**	**2,059,301**	**624,193**	**2,388,204**
			Deaths	**105,856**	**13,824**	**47,323**	**11,141**	**33,568**

Bed turnover rate

Bed turnover rate (BTOR) is a measure of the productivity of hospital beds. It is calculated by the following formula:

BTOR=No. of admissions/No. of beds

BTOR indicates the speed with which patients on a hospital bed are rotated. Obviously, the more complicated the case dealt with by the hospitals, the smaller the BTOR. A large BTOR indicates that only simple type of treatment is being provided. On the other hand, a BTOR

Figure 6.5. Bed turnover rates by hospital type in 2015

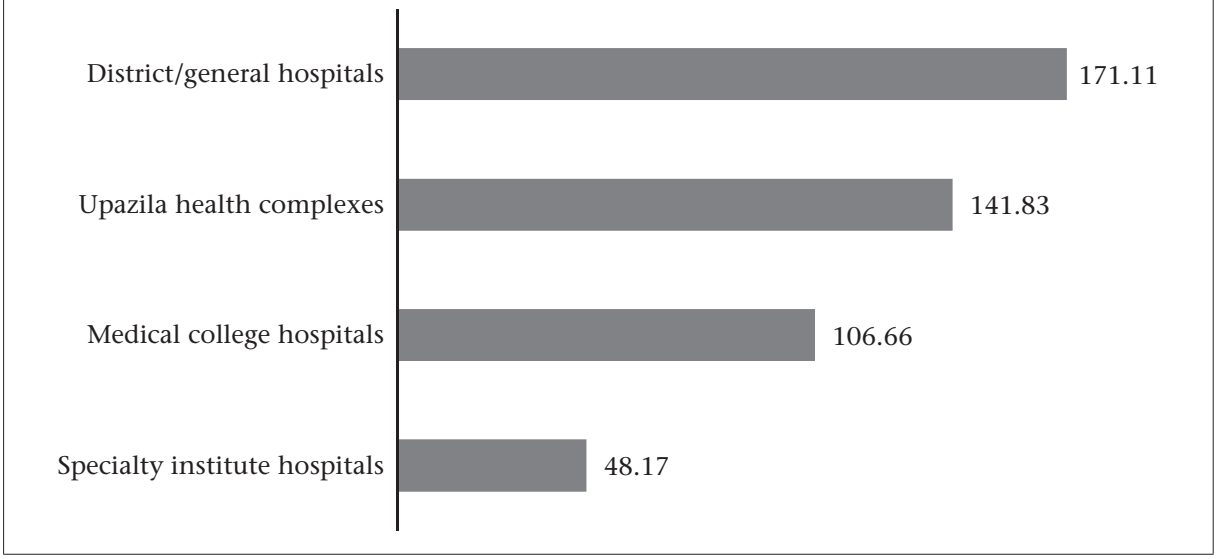
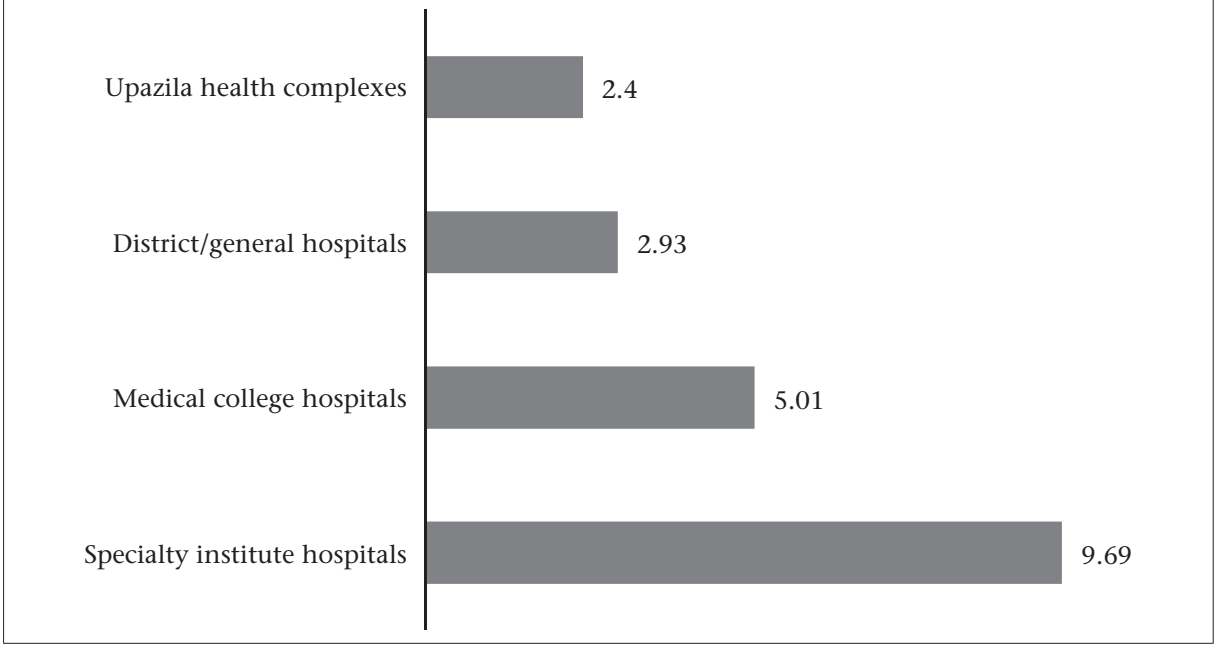


Figure 6.6. Average length of stay (days) by hospital type in 2015



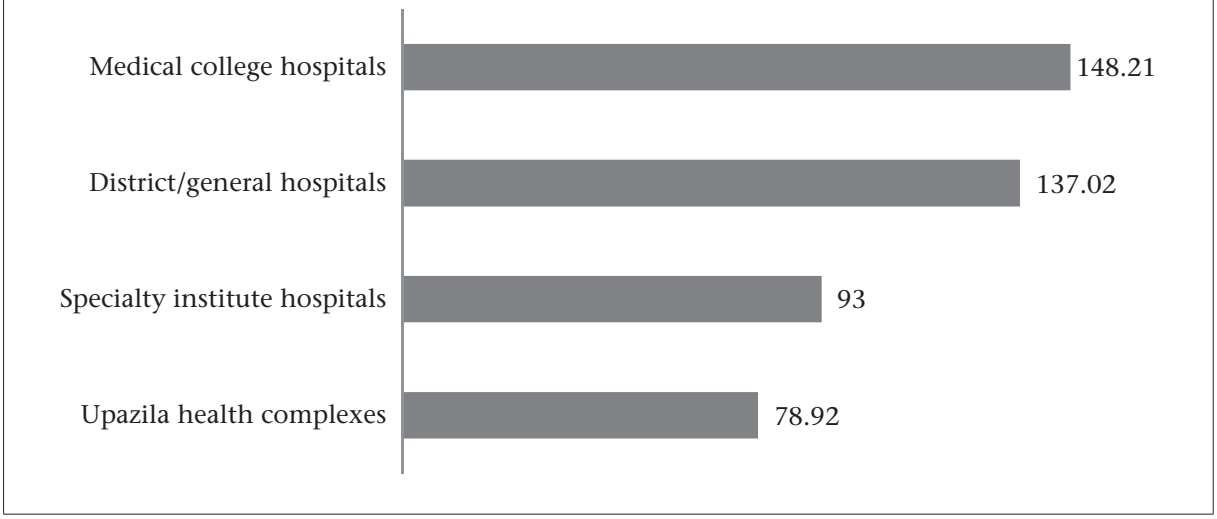
that is very small would indicate that fewer people are utilizing the hospital and, probably, patients are being unnecessarily retained in the hospitals. Thus, both of the extreme values are undesirable. However, in the case of hospitals dealing with chronic diseases or conditions requiring long stay, a low TOR is inevitable. Given these facts, it is obvious that the TOR of higher-level hospitals should be ideally smaller than those of the lower-level hospitals.

Figure 6.5 shows the BTOR in different types of hospitals in 2015. It shows that the Specialty institute hospitals had the smallest TOR, which is expected. The secondary-level district and general hospitals had the largest TOR that placed them above the primary-level upazila hospitals. This may indicate that the number of simple cases attending the secondary hospitals is more than expected.

Average length of stay

Average length of stay (ALOS) in the hospital is calculated by the following formula:

Figure 6.7. Bed-occupancy ratio (%) by hospital type in 2015



ALOS=Cumulative inpatient days/No. of admissions.

The average length of stay, as the name suggests, represents the time a patient stays in the hospital. A longer average length of stay is to be expected in the case of hospitals having better facilities, such as the medical college hospital or specialty institutes. In the case of primary healthcare centers where the level of treatment in general is lower, the average length of stay is likely to be less.

Figure 6.6 shows the ALOS in different types of hospitals in 2015. Expectedly, the longest ALOS is observed at the highest-level tertiary hospitals (specialty institutes) and the lowest at the primary-level upazila hospitals. The secondary-level hospitals are situated in the middle of the two extremes.

Bed-occupancy ratio

Bed-occupancy ratio (BOR) is calculated by the following formula:

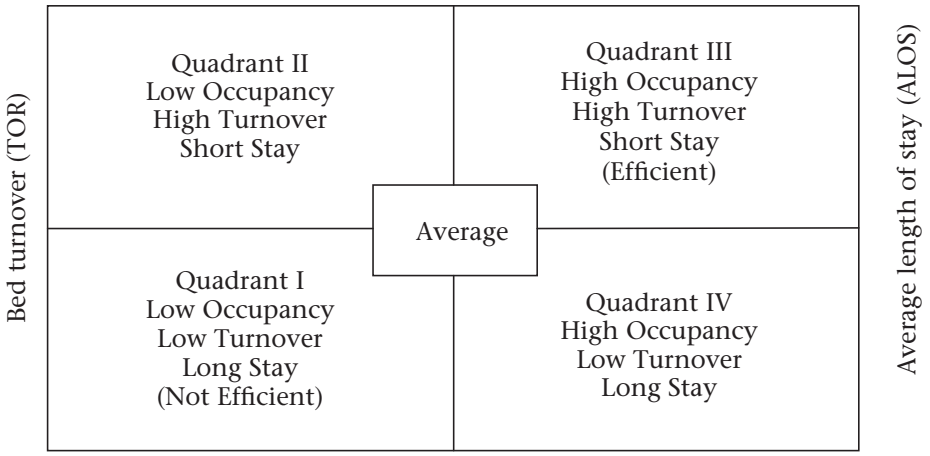
$$\text{BOR (\%)} = \frac{\text{Cumulative inpatient days x100}}{\text{Number of beds x days}}$$

BOR is a measure of the utilization of available bed-capacity. It reflects the popularity of the hospitals among the admitted patients. The level of bed-occupancy varies with the type of facilities available in the hospital. It is normally expected that the bed-occupancy ratio in higher-level hospitals will be higher than that in the primary-level hospitals. From Figure 6.7 showing the BOR in different types of hospitals, it is evident that the highest-level hospitals, namely the specialty institute hospitals do not have the highest BOR, rather these rank 3rd, to remain ahead of only the primary-level upazila hospitals. However, the medical college hospitals, in this regard, are placed at the top, followed by district-level secondary hospitals, both having BOR of more than 100%. This means that these hospitals are handling patients in excess in terms of their bed-capacities.

Upazila health complexes have comparatively lower bed-occupancy rates, indicating underutilization of hospital resources. As these hospitals lack adequate facilities, patients prefer the higher-level hospitals whenever possible.

While the indicators described above (TOR, BOR, and ALOS) are the most acceptable parameters for judging hospital efficiencies, evaluating a hospital by considering only one of these may be inadequate or even deceptive. So, for capturing a more accurate scenario, Hipólito Pabón Lasso, a Colombian scholar, developed a graphical model by combining all of these three indicators back in 1986. This model, named after its inventor, is now widely used for evaluation of hospital performance. Hospitals under evaluation will occupy one of the four zones constructed by two perpendicular lines in the graphical model. One line is drawn from average BOR point on horizontal (X) axis and the other from average TOR on the vertical (Y) axis. Either standard values of the parameters

Figure 6.8. Pabon-Lasso model for evaluation of hospital performance (Pabón Lasso, 1986)



or the average values of the parameters from all hospitals under evaluation can be used for making the subdivisions. The graphical model is shown in Figure 6.8.

In general, district-level hospitals as well as the medical college hospitals both fall in the efficient zone of the model from the group-wise comparison done. However, the comparisons should be ideally done among hospitals of similar categories. Interested readers can compare the efficiencies of selected hospitals using this model and taking data presented in the Annexes to Chapter 6 and 7.

Chapter 7

Morbidity profile of inpatients and other parameters

HEALTHCARE FOR ADMITTED PATIENTS IN PUBLIC HOSPITALS

The pattern of reporting is changed this year, with an added summary that can help media personnel and other instrumental readers to pick important data.

The chapter presents information relating to healthcare for the admitted patients in public hospitals given in 2015. The information portrays an overall scenario of the illnesses that people in Bangladesh suffer from as well as the types of services that the public hospitals offer. For several years, the Health Bulletin has reported these information under a chapter titled 'Morbidity Profile'. Since more topics are analyzed and reported this year, 'morbidity profile' became only a part of the subtitle. The pattern of reporting is changed this year, with an added summary that can help media personnel and other instrumental readers to pick important data.

Summary

Source of data: Data were obtained from the 2015 editions of online local health bulletins published by the public health facilities

Number of admissions: In 2015, a total of 5,711,641 admissions were reported from 567 public hospitals under the DGHS. The number could have been higher if data from all public hospitals were included but all hospitals did not publish the local health bulletins.

Recipients of service: About 53% of the patients admitted in 2015 were male, and 47% were female. Among the admitted patients, around 22% were children aged 5 years or less.

Geographical distribution: In terms of the number of admissions, Dhaka division was at the top, with almost 23% of all admissions while Barisal division was at the lowest position with slightly more than 6% of all admissions.

Reasons of admissions: Among children in the age-group of 5 years or less, the highest percentage (43.15%) of admissions was due to infectious diseases, and diarrheal diseases outnumbered the other conditions. Diseases of the respiratory systems were the next prominent group of diseases causing 34.68% of admissions in the said age-group.

Injuries, poisoning, and other external causes of morbidity together constituted 27.96% of admissions in the age-group of 30 plus years. Although the infectious diseases were responsible for more than 24% of admissions in this age-group, non-communicable diseases, like myocardial infarction (heart attack) and cerebrovascular diseases (stroke), were also prominent causes for hospitalization.

Number of procedures performed: A total of 498,748 major and 1,221,848 minor surgeries were reported during 2015.

Source of data and limitations

As already said, data were obtained from the 2015 editions of the online local health bulletins published by the public health facilities. In the local health bulletins, only top causes for admission are reported to provide a glimpse of the morbidity profile of patients in the hospitals. In 2015, each hospital compiled two separate lists of top 5 causes for admissions in the facility; one is for children aged 5 years or less and the other for persons aged 30 plus years.

Table 7.1. Type and number of public hospitals reporting indoor morbidity data for 2015

Level of care	Type of facility	No.
Primary	10-bed hospitals	17
	20-bed hospitals	26
	Trauma centers	5
	Upazila health complexes (UHC)	421
	Subtotal: Primary	**469**
Secondary	District hospitals/general hospitals	65
	Subtotal: Secondary	**65**
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	1
	Dhaka Dental College Hospital	1
	Hospitals of alternative medical colleges	2
	Medical college hospitals	14
	Other tertiary hospitals (Mental Hospital, Pabna and Shaheed Sheikh Abu Naser Specialized Hospital, Khulna)	2
	Specialty institute hospitals	11
	TB hospitals (Rajshahi and Khulna)	2
	Subtotal: Tertiary	**33**
Total		**567**

Table 7.2. Age and sex distribution of the admitted patients in public hospitals in 2015

Age/sex category	Number	Percentage of total
Male children aged 5 years or less	639,943	11.20
Male aged more than 5 years	2,059,301	36.05
Female children aged 5 years or less	624,193	10.93
Female aged more than 5 years	2,388,204	41.81
Total male (all ages)	**2,699,244**	**47.26**
Total female (all ages)	**3,012,397**	**52.74**
Total children aged 5 years or less	**1,264,136**	**22.13**
Total patients aged more than 5 years	**4,447,505**	**77.87**
Grand total	**5,711,641**	**100**

Table 7.3. Number and percent distributions of hospitalization among 8 divisions in 2015

Division	No. of admissions	Percentage of total
Dhaka	1,300,462	22.77
Chittagong	933,975	16.35
Rajshahi	826,607	14.47
Rangpur	758,586	13.28
Khulna	689,976	12.08
Sylhet	425,969	7.46
Mymensingh	414,330	7.25
Barisal	361,736	6.33
Total	**5,711,641**	**100**

For the reporting, ICD-10 codes were assigned against the conditions/diseases which appeared at the top 5 in the lists. Hence, the analyses presented here are not based on all causes for hospitalization, rather on the top causes for admissions reported by the relevant hospitals.

Various types of institutions from which morbidity data were received are shown in Table 7.1.

Data of the individual facilities can be seen and raw data, aggregated by type of facilities, can be exported from the 'Local Health Bulletin' section under 'Publication' tab of our official website (www.dghs.gov.bd).

Recipients of service

Of the 5,711,641 admissions in 567 public hospitals during January-December 2015, female patients constituted 47.26%. Children aged 5 years or less comprised 22.13% of the total admissions. Table 7.2 shows the breakdown of the age and sex distributions.

Geographical distribution

In terms of the number of admissions, Dhaka division was at the top position with almost 23% of all admissions while Barisal division was at the lowest position with slightly more than 6% of all admissions which took place in the public hospitals in 2015. Table 7.3 shows the division-wise distribution.

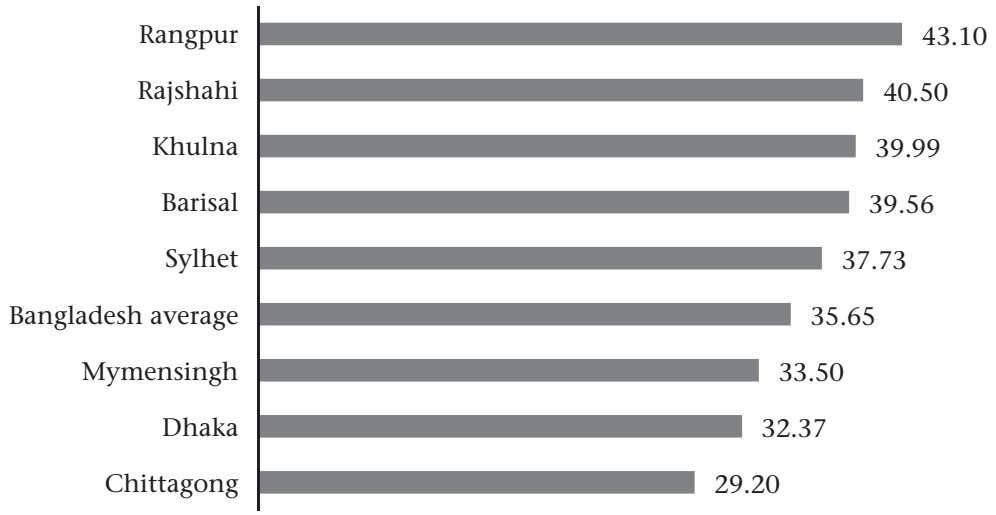
The order of the positions is completely different once population is added as denominator against the number of admissions. Figure 7.1 shows the admission per 1,000 population in each of the divisions as well as the country average.

It shows that the Rangpur division was at the top position in terms of the number of admissions in the public hospitals per 1,000 population, followed by Rajshahi, Khulna, Barisal, and Sylhet division, all having more than the country average of 35.65 admissions per 1,000 population. Surprisingly, Dhaka and Chittagong were in the last two places, although these two divisions occupied the first and second positions respectively in terms of the number of admissions. This might be due to the fact that the private hospitals are absorbing more patients in Dhaka and Chittagong divisions as these two areas have more private hospitals than those in other divisions. Nonetheless, the higher admission rates in some of the divisions deserve a closer review to detect other causes, if any.

Reasons of admissions (morbidity profile)

For analyses presented in this section, two age-groups were considered, one is the group of children aged 5 years or less, and the other group comprises patients aged 30 years or more. In each of the groups, data are aggregated by type of hospitals. Data from upazila health complexes, district and general hospitals, and the medical colleges were grouped and presented separately. In addition, a summary

Figure 7.1. Admissions per 1,000 populations in the public hospitals of 8 divisions in 2015



of each of the age-groups is provided, which contains aggregated data from all types of hospitals, including upazila health complexes, district and general hospitals, medical college hospitals, and other specialized tertiary hospitals as shown in Table 7.1. The WHO-prescribed ICD-10 codes are shown against the conditions and, in the summary tables, the causes for admissions are grouped according to the chapters in the ICD-10 coding system.

Morbidity profile of children aged 5 years or less

Upazila health complexes

Table 7.4 shows the top 5 causes for admissions in the age-group of 5 years or less at the upazila health complexes. As in the previous years, unspecified infectious diarrheal diseases, causing almost 12% of all admissions, are at the top of the list. The list also contains typhoid and paratyphoid fevers and cholera, all of which are mainly waterborne diseases. Why waterborne infections are still persisting at this high rate despite more than 97% households in Bangladesh now having access to tap and tubewell water, should be a matter of concern for the public health authorities.

Different types of pneumonias together occupied the second place in the list. A non-specific condition, termed 'fever of unknown origin' occupied the third position; this may be

Table 7.4. Top causes for admissions among children aged 5 years or less in upazila health complexes in 2015

Condition/Disease	No.	Percentage of total admissions reported from UHCs
Diarrhea and gastroenteritis of infectious origin (A09)	125,930	11.73
Pneumonia (J12-J18)	95,092	8.86
Fever (unknown origin) (R50)	13,539	1.26
Typhoid and paratyphoid fever (A01)	11,381	1.06
Cholera (A00)	8,798	0.82

Table 7.5. Top causes for admissions among children aged 5 years or less at the district-level secondary hospitals in 2015

Condition/Disease	No.	Percentage of total admissions reported from district and general hospitals
Pneumonia (J12-J18)	9,679	1.32
Diarrhea and gastroenteritis of infectious origin (A09)	2,776	0.38
Bacterial sepsis of the newborn, Other septicemia (P36, A41)	4,277	0.58
Acute bronchiolitis (J21)	2,249	0.31
Birth asphyxia (P21)	2,229	0.30

Table 7.6. Top causes for admissions among children aged 5 years or less at medical college hospitals in 2015

Condition/Disease	No.	Percentage of total admissions reported from MCH
Birth asphyxia (P21)	24,171	4.71
Diarrhea and gastroenteritis of infectious origin (A09)	19,372	3.78
Pneumonia (J12-J18)	27,813	5.42
Low birthweight and prematurity (P05-P08)	17,662	3.44
Bacterial sepsis of the newborn, Other septicemia (P36, A41)	9,412	1.83

Table 7.7. Causes for admissions among children aged 5 years or less in all types of hospitals in 2015

ICD-10 chapter	No. of admissions	Percentage of cases reported in the top 5 causes for admission
Chapter I-Certain infectious and parasitic diseases (A00-B99)	287,238	43.15
Chapter II-Neoplasms (C00-D48)	322	0.05
Chapter III-Diseases of blood and blood-forming organs and certain disorders involving the immune mechanisms (D50-D89)	9,097	1.37
Chapter IV-Endocrine, nutritional and metabolic diseases (E00-E90)	3,983	0.60
Chapter V-Mental, behavioral disorders (F00-F99)	19	0.00
Chapter VI-Diseases of the nervous system (G00-G99)	2,348	0.35
Chapter VII-Diseases of the eye and adnexa (H00-H59)	121	0.02
Chapter VIII-Diseases of the ear and mastoid process (H60-H95)	672	0.10
Chapter IX-Diseases of the circulatory system (I00-I99)	67	0.01
Chapter X-Diseases of the respiratory system (J00-J99)	230,907	34.68
Chapter XI-Diseases of the digestive system (K00-K93)	6,310	0.95
Chapter XII-Diseases of the skin and subcutaneous tissue (L00-L99)	54	0.01
Chapter XIII-Diseases of the musculoskeletal system and connective tissue (M00-M99)	55	0.01
Chapter XIV-Diseases of the genitourinary system (N00-N99)	1,139	0.17
Chapter XV-Pregnancy, childbirth and the puerperium (O00-O99)	Not applicable in the age-group	Not applicable in the age group
Chapter XVI-Certain conditions originating in the perinatal period (P00-P96)	89,253	13.41
Chapter XVII-Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	1,288	0.19
Chapter XVIII-Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	22,335	3.35
Chapter XIX-Injury, poisoning and certain other consequences of external causes (S00-T98)	5,936	0.89
Chapter XX-External causes of morbidity and mortality (V01-Y98)	4,604	0.69
Total (reported in top-5 morbidity list)	**665,748**	**100**

due to the fact that the primary-level upazila hospitals are less capable of making precise diagnoses.

District-level secondary hospitals

Table 7.5 shows the top 5 causes for admissions among the children aged 5 years or less in the district-level secondary hospitals. Diseases of the respiratory systems consisting of pneumonia and bronchiolitis are very prominent in this list. Diarrheal diseases are at the second position at this level.

Medical college hospitals

Table 7.6 presents the top causes for admission in the medical college hospitals. Birth asphyxia, a condition affecting the newborn babies, was the leading cause for admission at this level. Diarrheal diseases occupied the second position while pneumonia, illnesses relating to low birthweight and prematurity, and bacterial sepsis of the newborn was the other prominent causes for admission.

Summary of all hospitals

Table 7.7 shows the summarized picture of the causes for admissions among children aged 5 years or less in 567 public hospitals. Types of hospitals included in the analysis are listed in Table 7.1. The percentages shown here are calculated on the basis of cases reported in the top 5 causes for admissions.

Infectious and parasitic diseases were responsible for 43.15% of causes for admissions reported in the list of the top 5 causes for admissions in this age-group. Admissions due to diseases of the respiratory systems were 34.68%. Conditions affecting perinatal period, consisting mainly of birth asphyxia, low birthweight, prematurity, and sepsis of the newborn together accounted for 13.41% of such admissions.

Morbidity profile of persons aged 30 plus years

Upazila health complex

Table 7.8 shows the top 5 groups of conditions among persons aged 30 plus years in the upazila health complexes. The group containing injury, poisoning, and other external causes, being responsible for a stunning 19.49% of all admissions, was at the top position. Road-traffic accidents, assaults, and pesticide poisoning contributed most in the group. Although accidents, assaults, and pesticide poisoning are not the primary concern of the health department, these are consuming enormous resource from health department. Multisectoral collaborations are essential to reduce the effects of these preventable conditions imposing burden on the health system.

The group containing diarrheal diseases was at the second position. A group of diseases of the digestive system, comprising peptic ulcers, gastritis, dyspepsia, etc., was at the third position while diseases of the respiratory system, such as asthma and COPD occupied the 4th and 5th positions respectively.

District and general hospitals

Table 7.9 presents the top causes for admissions among the patients of the stated age-group in the district-level secondary hospitals. The group of conditions containing diarrheal diseases was at the top position, causing 13.51% of admissions. Here also, the group containing injury, poisoning, and other external causes was responsible for a large number of hospitalizations. Asthma, peptic ulcer diseases, and COPD occupied the 3rd to 5th positions. Cerebrovascular diseases (commonly known as 'stroke') and acute myocardial infarction (widely known as 'heart attack') were also significant causes for admissions at this level.

Medical college hospitals

Table 7.10 shows the top causes for admission among persons aged 30 plus years at the medical college hospitals in 2015. The group of conditions relating to injury, poisoning, and other external causes appeared at the top, causing 18.75% of all admissions at the medical college hospitals. Cerebrovascular diseases, COPD, acute myocardial infarction occupied the next three positions. Thus, non-communicable diseases (NCDs) occupied all of the top 4 groups of conditions leading to hospitalizations of persons aged 30 plus years at the medical college hospitals. Diarrheal diseases, tuberculosis, and peptic ulcer diseases were the other significant causes for hospitalization among this age-group.

Summary from all hospitals

Table 7.11 presents summary of the causes for admissions among persons aged 30 plus years

Table 7.8. Top causes for admissions among patients aged 30 plus years at upazila health complexes in 2015

Condition/Disease	No.	Percentage of total admissions reported from UHCs
Injury, poisoning, and certain other consequences of external causes (S00-T98) External causes of morbidity and mortality (V01-Y98)	209,319	19.49
Diarrhea and gastroenteritis of infectious origin (A09), Cholera (A00)	197,580	18.40
Peptic ulcers, gastrojejunal ulcer, gastritis and duodenitis, dyspepsia (K25-K30)	107,780	10.04
Asthma, Severe acute asthma (J45, J46)	53,374	4.97
Chronic obstructive pulmonary diseases (COPD) (J43-J44)	29,432	2.74

Table 7.9. Top causes for admissions among persons aged 30 plus years in the district-level secondary hospitals in 2015

Condition/Disease	No.	Percentage of total admissions reported from DH & GH
Diarrhea and gastroenteritis of infectious origin (A09), Cholera (A00)	99,136	13.51
Injury, poisoning, and certain other consequences of external causes (S00-T98) External causes of morbidity and mortality (V01-Y98)	93,915	12.80
Asthma, Severe acute asthma (J45, J46)	34,603	4.71
Peptic ulcers, gastrojejunal ulcer, gastritis and duodenitis, dyspepsia (K25-K30)	27,522	3.75
Chronic obstructive pulmonary diseases (COPD) (J43- J44)	25,739	3.51
Cerebrovascular diseases (I60-I69)	13,965	1.90
Acute myocardial infarction (I21)	11,867	1.62

Table 7.10. Top causes for admissions among persons aged 30 plus years at medical college hospitals in 2015

Condition/Disease	No.	Percentage of total admissions reported from medical college hospitals
Injury, poisoning, and certain other consequences of external causes (S00-T98) External causes of morbidity and mortality (V01-Y98)	96,201	18.75
Cerebrovascular diseases (I60-I69)	38,378	7.48
Chronic obstructive pulmonary diseases (COPD) (J43-J44)	15,792	3.08
Acute myocardial infarction (I21)	14,231	2.77
Diarrhea and gastroenteritis of infectious origin (A09)	13,221	2.58
Tuberculosis (A15-A19)	4,661	0.91
Peptic ulcers, gastrojejunal ulcer, gastritis and duodenitis, dyspepsia (K25-K30)	4,199	0.82

Table 7.11. Causes for admissions among persons aged 30 plus years in all hospitals in 2015

ICD-10 chapter	No.	Percentage of cases reported in the top 5 causes for admission
Chapter I-Certain infectious and parasitic diseases (A00-B99)	386,598	24.90
Chapter II-Neoplasms (C00-D48)	4,815	0.31
Chapter III-Diseases of blood and blood-forming organs and certain disorders involving the immune mechanisms (D50-D89)	11,317	0.73
Chapter IV-Endocrine, nutritional and metabolic diseases (E00-E90)	6,877	0.44
Chapter V-Mental, behavioral disorders (F00-F99)	39,232	2.53
Chapter VI-Diseases of the nervous system (G00-G99)	10,326	0.67
Chapter VII-Diseases of the eye and adnexa (H00-H59)	15,333	0.99
Chapter VIII-Diseases of the ear and mastoid process (H60-H95)	0	0.00
Chapter IX-Diseases of the circulatory system (I00-I99)	192,629	12.41
Chapter X-Diseases of the respiratory system (J00-J99)	190,389	12.26
Chapter XI-Diseases of the digestive system (K00-K93)	155,763	10.03
Chapter XII-Diseases of the skin and subcutaneous tissue (L00-L99)	6,490	0.42
Chapter XIII-Diseases of the musculoskeletal system and connective tissue (M00-M99)	425	0.03
Chapter XIV-Diseases of the genitourinary system (N00-N99)	15,896	1.02
Chapter XV-Pregnancy, childbirth and the puerperium (O00-O99)	21,109	1.36
Chapter XVI-Certain conditions originating in the perinatal period (P00-P96)	Not applicable in this age-group	Not applicable in this age-group
Chapter XVII-Congenital malformations, deformations, and chromosomal abnormalities (Q00-Q99)	0	0.00
Chapter XVIII-Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	61,347	3.95
Chapter XIX-Injury, poisoning, and certain other consequences of external causes (S00-T98)	87,756	5.65
Chapter XX-External causes of morbidity and mortality (V01-Y98)	346,317	22.31
Chapter XXI-Factors influencing health status and contact with health services (Z00-Z99)	420	0.03
Total (reported in the list of top 5 causes of morbidity)	**1,552,619**	**100**

Figure 7.2. Distribution of major surgeries among different types of hospitals in 2015 (n=498,748)

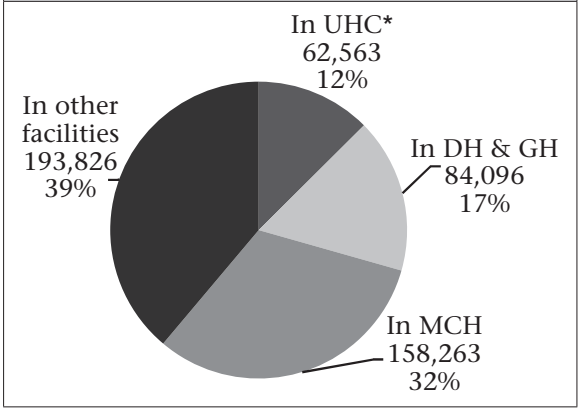
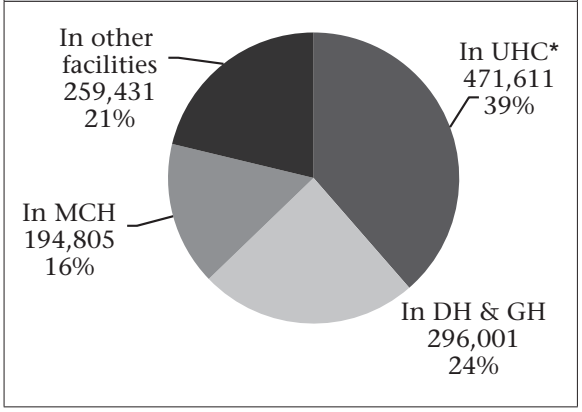


Figure 7.3. Distribution of minor surgeries among different types of hospitals in 2015 (n=1,221,848)



**Include the private and NGO hospital data in the catchment areas under respective UHCs*

in 567 public hospitals. The percentages shown here are calculated on the basis of cases reported in the top 5 causes for admissions among this age-group.

Infectious and parasitic diseases were responsible for 24.90% of causes for admissions reported in the list of the top 5 causes for admissions in this age-group. Injuries, poisoning, and other external causes of morbidity together caused 27.96% of admissions in the age-group. Non-communicable diseases, like myocardial infarction and cerebrovascular diseases, made very prominent appearances among this group of patients as reflected by 12.41% of admissions due to diseases of the circulatory systems. Respiratory system diseases were also notable contributors causing 12.26% of all hospitalizations among persons aged 30 plus years.

Number of procedures performed

A total of 498,748 major and 1,221,848 minor surgeries were performed in all hospitals combined in 2015. Figure 7.2 and 7.3 show the distribution of major and minor surgeries respectively in different types of hospitals.

Chapter 8

Changing pattern of the causes of death

MORTALITY IN PUBLIC HOSPITALS

Measures are being taken jointly by the newly-formed Civil Registration and Vital Statistics (CRVS) Secretariat of the Cabinet Division and the DGHS to ensure death notifications from the community and all health facilities.

The chapter presents mortality profile of inpatients in public hospitals of Bangladesh in 2015. As estimated from the crude death rate, around 880,000 persons died in the country during the said year. From the selected public hospitals 105,856 deaths were reported. Deaths that occur in residents and private health facilities are largely remaining unreported. Recently, measures are being taken jointly by the newly-formed Civil Registration and Vital Statistics (CRVS) Secretariat of the Cabinet Division and the DGHS to ensure death notifications from the community and all health facilities. As in the previous chapter, the pattern of reporting is changed this year, with the addition of a summary at the beginning to facilitate a quick look into the overall scenario of the causes of death in public hospitals of the country.

Summary

Source of data: Data were obtained from the online local health bulletins published by the public health facilities in 2015.

Numbers and rates of deaths in public hospitals: In 2015, a total of 105,856 deaths were reported against 5,711,641 admissions in 567 public hospitals under the DGHS, and, thus, the overall death rate against admission was 1.85% (see Annex 8 for details).

Age and sex distribution: About 58% of the patients who died in hospitals were male, and 42% were female. Among the deceased, around 24% were children aged 5 years or less.

Places of death: The medical college hospitals (total 14) in the public sector reported 66,661 deaths contributing almost 63% of all deaths among admitted patients. Other tertiary hospitals reported 6% of the total deaths..From 65 district and general hospitals, 24,998 (around 24% of the total) deaths were reported; 421 upazila health complexes reported 7,242 deaths showing around 7% of the total deaths.

Leading causes of death: Among children in the age-group of 5 years or less, certain conditions of the perinatal periods, like birth asphyxia, low birthweight and prematurity, and neonatal sepsis were the leading causes of death. Diseases of the respiratory systems, mainly in the forms of pneumonia and bronchiolitis, were among the other top causes of death in this age-group.

In the 30 to 70 years age-group, non-communicable diseases were the main killers. Diseases of the circulatory system caused almost 18% of all deaths reported. The principal causes of death in this age-group were acute myocardial infarction (heart attack), other heart diseases, and cerebrovascular diseases (stroke). Injuries and poisoning from various external causes together constituted 6.23% of all deaths in hospitals. Assault and transport accidents were the main causes of injuries while accidental or intentional misuse of pesticides were the main causes of death due to poisoning. Diseases of the respiratory systems, mainly COPD and asthma caused 4.3% of all deaths reported.

The principal causes of maternal deaths included prolonged labor, various types of abortions, eclampsia, and postpartum hemorrhage.

Source of data and limitations

As in the case of drawing the morbidity profile, mortality data were also obtained from the online local health bulletins published in 2015 by the public health facilities. In those bulletins, only top causes of deaths are reported to provide a hint of the mortality profile among inpatients in the hospitals. In 2015, each hospital compiled three separate lists of top 5 causes of death in the facility: one is for children aged 5 years or less, one for persons aged between 30 and 70 years, and the other is for maternal deaths. In this reporting, ICD-10 codes were assigned against the conditions/diseases, which appeared at the top 5 in each of the groups. Hence, the causal analyses presented here are not based on all causes of death, rather on the top causes of deaths among inpatients broken down into the abovementioned groups.

Types of institutions from which mortality data were received are shown in Table 8.1.

Data of the individual facilities can be seen and raw data, aggregated by type of facilities, can be exported from the 'Local Health Bulletin' section under 'Publication' tab of our official website (www.dghs.gov.bd).

Age and sex distribution

Of the 105,856 deaths in 567 public hospitals during January-December 2015, female constituted 42.24%, although they were 52.74% of the total admitted patients. Thus, hospital death rate of female patients was lower compared to that of the male. Children aged 5 years or less constituted 23.58% of the hospital deaths. Table 8.2 shows the age and sex distributions of hospital admissions, total deaths, and percentage of death against admissions in the respective age and sex categories.

Places of death

Table 8.3 shows the distribution of the total reported deaths by type of hospital. The death rates are shown as percentages of death against admission in the respective types of hospitals.

Figure 8.1 shows the percentage distribution of the deaths among three tiers (primary, secondary and tertiary) of hospitals.

Table 8.1. Type and number of public hospitals reporting indoor mortality data for 2015

Level of care	Type of facility	No.
Primary	10-bed hospitals	17
	20-bed hospitals	26
	Trauma centers	5
	Upazila health complexes (UHC)	421
	Subtotal: Primary	**469**
Secondary	District hospitals/General hospitals	65
	Subtotal: Secondary	**65**
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	1
	Dhaka Dental College Hospital	1
	Hospitals of alternative medical colleges	2
	Medical college hospitals	14
	Other tertiary hospitals (Mental Hospital, Pabna and Shaheed Sheikh Abu Naser Specialized Hospital, Khulna)	2
	Specialty institute hospitals	11
	TB hospitals (Rajshahi and Khulna)	2
	Subtotal: Tertiary	**33**
Total		**567**

Table 8.2. Age and sex distribution of the deaths against admissions among inpatients in public hospitals in 2015

Age/sex category	% of total admissions (n=5,711,641)	Number of deaths	Death rate (%) against admission in respective categories
Male children aged 5 years or less	11.20	13,824	13.06
Males aged more than 5 years	36.05	47,323	44.71
Female children aged 5 years or less	10.93	11,141	10.52
Females aged more than 5 years	41.81	33,568	31.71
	100		100
Total males (all ages)	47.26	61,147	57.76
Total females (all ages)	52.74	44,709	42.24
	100		100
Total children aged 5 years or less	22.13	24,965	23.58
Total patients aged more than 5 years	77.87	80,891	76.42
Grand total	100	**105,856**	100

Most of the deaths (69%) took place in the tertiary-level hospitals. District-level secondary hospitals had 24% of all deaths while the primary-care hospitals reported the remaining 7%. The order of ranking among three tiers of hospitals in terms of number of deaths is opposite to that of the ranking of admission. However, this is quite expected because the higher-level hospitals have to handle more complicated patients nearing death.

Leading causes of death

For analyses presented in this section, data from upazila health complexes, district and general hospitals, and the medical colleges were aggregated and presented separately for each of the two age-groups (<5 years and 30-70 years). A summary for each of the age-groups is also provided. It contains data aggregated from all three types of hospitals, viz. upazila health complexes, district and general hospitals, medical college hospitals. The WHO-prescribed ICD-10 codes are shown against the conditions and, in the summary tables, the causes for admissions are grouped according to the chapters in the ICD-10 coding system. The causes of maternal deaths are separately presented in a summarized form.

Mortality profile of children aged 5 years or less

Upazila health complexes (UHC)

Table 8.4 shows the top 5 causes of death in the age-group of 5 years or less at the upazila health complexes. Pneumonia, causing slightly above 10% of all deaths reported from these hospitals was at the top position. Birth asphyxia, injury and poisoning, sepsis, and low birthweight and prematurity occupied the 2nd through 5th positions respectively.

District-level secondary hospitals (DLH)

Table 8.5 shows the top 5 causes of death in this age-group in the district-level secondary hospitals. Birth asphyxia was the leading cause of death.

Medical college hospitals (MCH)

Table 8.6 presents the top causes of death in the medical college hospitals. Here also, birth asphyxia was the leading cause of death.

Summary from all hospitals

Table 8.7 shows the summarized picture of the causes of death among children aged 5 years or less in all of the three types of hospitals as described above. The percentages shown here are based on all deaths reported from these hospitals.

Conditions affecting perinatal period, consisting mainly of birth asphyxia, low birthweight, prematurity, and sepsis of the newborn together accounted for 13.41% of all deaths. Diseases of the respiratory system accounted for 3.53% of all deaths.

Table 8.3. Distributions of deaths among inpatients in hospitals in 2015				
Level of care	**Type of facility**	**No. of deaths**	**% of total deaths in hospitals**	**Death rate (%) against admission**
Primary	10-bed hospitals	13	0.01	0.19
	20-bed hospitals	39	0.04	0.26
	Trauma centers	0	0.00	0.00
	Upazila health complexes (UHC)	7,242	6.84	0.30
	Subtotal: Primary	**7,294**	**6.89**	**0.30**
Secondary	District hospitals/General hospitals	24,988	23.61	1.41
	Subtotal: Secondary	**24,988**	**23.61**	**1.41**
Tertiary	Bangladesh Institute of Tropical and Infectious Diseases, Chittagong	30	0.03	0.50
	Dhaka Dental College Hospital	2	0.00	0.11
	Hospitals of alternative medical colleges	1	0.00%	0.07
	Institute of Child and Mother Health (ICMH)	412	0.39	2.84
	Medical college hospitals	66,661	62.97	4.82
	Mental Hospital, Pabna	14	0.01	0.89
	National Institute of Cancer Research and Hospital (NICRH)	168	0.16	2.31
	National Institute of Cardiovascular Diseases (NICVD)	4,018	3.80	6.34
	National Institute of Chest Disease and Hospital (NIDCH)	972	0.92	7.06
	National Institute of ENT	-	-	-
	National Institute of Kidney Diseases and Urology (NIKDU)	189	0.18	3.29
	National Institute of Mental Health & Research (NIMHR)	4	0.004	0.13
	National Institute of Neurosciences and Hospital (NINH)	696	0.66	9.53
	National Institute of Ophthalmology (NIO)	0	0.00	0.00
	National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR)	144	0.14	0.77
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	232	0.22	8.36
	TB hospitals (Rajshahi and Khulna)	30	0.03	4.02
	Subtotal: Tertiary	**7,3573**	**69.50**	**4.76**
Grand total		**105,856**	100	**1.85**

Figure 8.1. Percentage distribution of the deaths among three tiers of hospitals in 2015

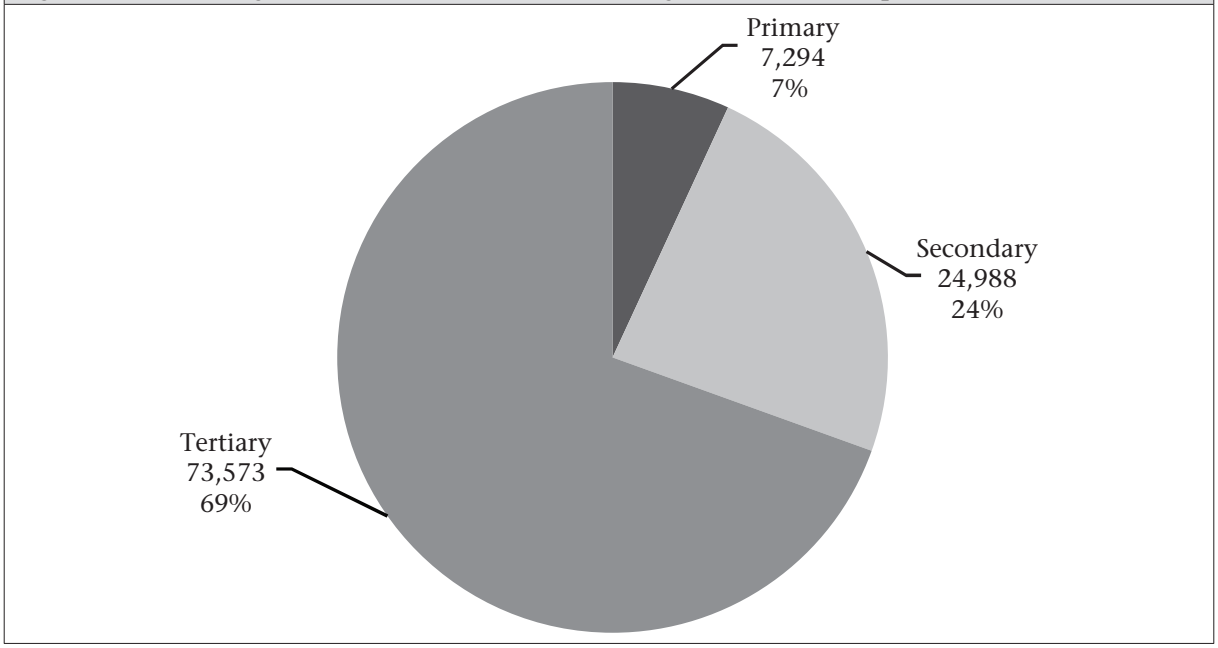


Table 8.4. Top 5 causes of death among children aged 5 years or less in upazila health complexes in 2015

Cause of death	No.	Percentage of total deaths (N=7,242) reported from UHCs
Pneumonia (J12-J18)	729	10.07
Birth asphyxia (P21)	449	6.20
External causes (injury, poisoning and other external causes) of mortality (V01-Y98)	222	3.07
Bacterial sepsis of the newborn, Other septicemia (P36, A41)	221	3.05
Low birthweight and prematurity (P05-P08)	90	1.24

Table 8.5. Top causes for admissions among children aged 5 years or less at the district-level secondary hospitals in 2015

Cause of death	No.	Percentage of total deaths (N=24,988) reported from DLHs
Birth asphyxia (P21)	2,502	10.01
Low birthweight and prematurity (P05-P08)	1,070	4.28
Pneumonia (J12-J18)	853	3.41
Bacterial sepsis of the newborn, Other septicemia (P36, A41)	978	3.91
Acute bronchiolitis and unspecified acute lower respiratory infection (J22)	141	0.56

Child mortality: position of Bangladesh in the global and regional contexts

As revealed from the above analyses, the principal causes of child death in Bangladesh include birth asphyxia, low birthweight and prematurity, sepsis of the newborns, respiratory infections, and injuries. The findings are in agreement with the statistics and information published by WHO. We are presenting an extract from the cause-specific mortality estimates for

Table 8.6. Top causes of death among children aged 5 years or less at medical college hospitals in 2015		
Cause of death	**No.**	**Percentage of total deaths (N=66,661) reported from MCH**
Birth asphyxia (P21)	2,435	3.65
Low birthweight and prematurity (P05-P08)	2,836	4.25
Bacterial sepsis of the newborn, Other septicemia (P36, A41)	2,204	3.31
Pneumonia (J12-J18)	1,505	2.26
Meningitis/encephalitis (G00, G03, G04)	448	0.67

selected causes of under-five child death for the year 2015. The original report was jointly prepared by the Department of Evidence, Information and Research (WHO, Geneva) and the Maternal Child Epidemiology Estimation (MCEE) group. The readers can assess the position of Bangladesh in terms of the causes of child death in the global and regional contexts by the graphs presented in Figure 8.2. These show the rates of death (no. of deaths per 1,000 livebirths) from selected diseases in the countries under the WHO South-East Asian Region (SEAR). The global averages are also shown.

From comparisons of the disease burdens among WHO-SEAR countries, we see that Bangladesh is in better situation for some of the cases, like malaria. We could successfully reduce the burden of malaria having only 0.08 cases per 1,000 livebirths, the global average of which is above 2. In neighboring India, the rate is more than three times of that in Bangladesh. Our positions are around the middle portions in terms of the burden of conditions, like respiratory infections, injury, and prematurity. However, from two of the cases, viz. neonatal sepsis, and birth asphyxia, we are suffering the most. As Bangladesh could significantly reduce her child mortality to achieve the related MDG, it can be safely assumed that, with some fine-tuning, mortality due to these conditions will also be reduced in the near future.

Causes of death among persons aged between 30 and 70 years

Upazila health complex

Table 8.8 shows the leading causes of death among persons aged between 30 and 70 years in the upazila health complexes. Various types of injury, poisoning and other external causes together contributed more than 11% of deaths in these hospitals. Assaults, transport accidents, and pesticide poisoning contributed most for deaths in this group. They were also the leading causes of admissions at this level, as described in Chapter 7.

As Bangladesh could significantly reduce her child mortality to achieve the related MDG, it can be safely assumed that, with some fine-tuning, mortality due to these conditions will also be reduced in the near future.

The group containing cerebrovascular diseases, collectively known as 'stroke' was at the second position causing more than 10% of all deaths at this level. A group of diseases of the respiratory system, known as COPD occupied the 3rd position. Various heart diseases and acute myocardial infarction took the 4th and 5th positions respectively while asthma, another disease from the respiratory system appeared in the next position.

District and general hospitals (DLH)

Table 8.9 presents the top causes of death among the patients of the stated age-group in the district-level secondary hospitals. At this level, acute myocardial infarction was at the top position, causing 7.3% of deaths. Cerebrovascular diseases, another major NCD, appeared at the very next position. The third position was occupied by other heart diseases.

Table 8.7. Causes for admissions among children aged 5 years or less in all types of hospitals in 2015

ICD-10 chapter	No. of deaths	Percentage of all deaths (N=98,891) in UHC, DLH, and MCH
Chapter I-Certain infectious and parasitic diseases (A00-B99)	2,131	2.15
Chapter II-Neoplasms (C00-D48)	22	0.02
Chapter III-Diseases of blood and blood-forming organs and certain disorders involving the immune mechanisms (D50-D89)	72	0.07
Chapter IV-Endocrine, nutritional and metabolic diseases (E00-E90)	180	0.18
Chapter V-Mental, behavioral disorders (F00-F99)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter VI-Diseases of the nervous system (G00-G99)	605	0.61
Chapter VII-Diseases of the eye and adnexa (H00-H59)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter VIII-Diseases of the ear and mastoid process (H60-H95)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter IX-Diseases of the circulatory system (I00-I99)	40	0.04%
Chapter X-Diseases of the respiratory system (J00-J99)	3,486	3.53%
Chapter XI-Diseases of the digestive system (K00-K93)	7	0.01%
Chapter XII-Diseases of the skin and subcutaneous tissue (L00-L99)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter XIII-Diseases of the musculoskeletal system and connective tissue (M00-M99)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter XIV-Diseases of the genitourinary system (N00-N99)	16	0.02
Chapter XV-Pregnancy, childbirth, and the puerperium (O00-O99)	Not applicable	Not applicable
Chapter XVI-Certain conditions originating in the perinatal period (P00-P96)	11,239	11.37
Chapter XVII-Congenital malformations, deformations, and chromosomal abnormalities (Q00-Q99)	156	0.16
Chapter XVIII-Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	62	0.06
Chapter XX-External causes of morbidity and mortality (V01-Y98)	235	0.24
Total (reported in the list of top 5 causes of death)	**18,251**	**18.46**

Figure 8.2. Deaths per 1,000 livebirths from selected diseases in WHO-SEAR countries with global average in 2015

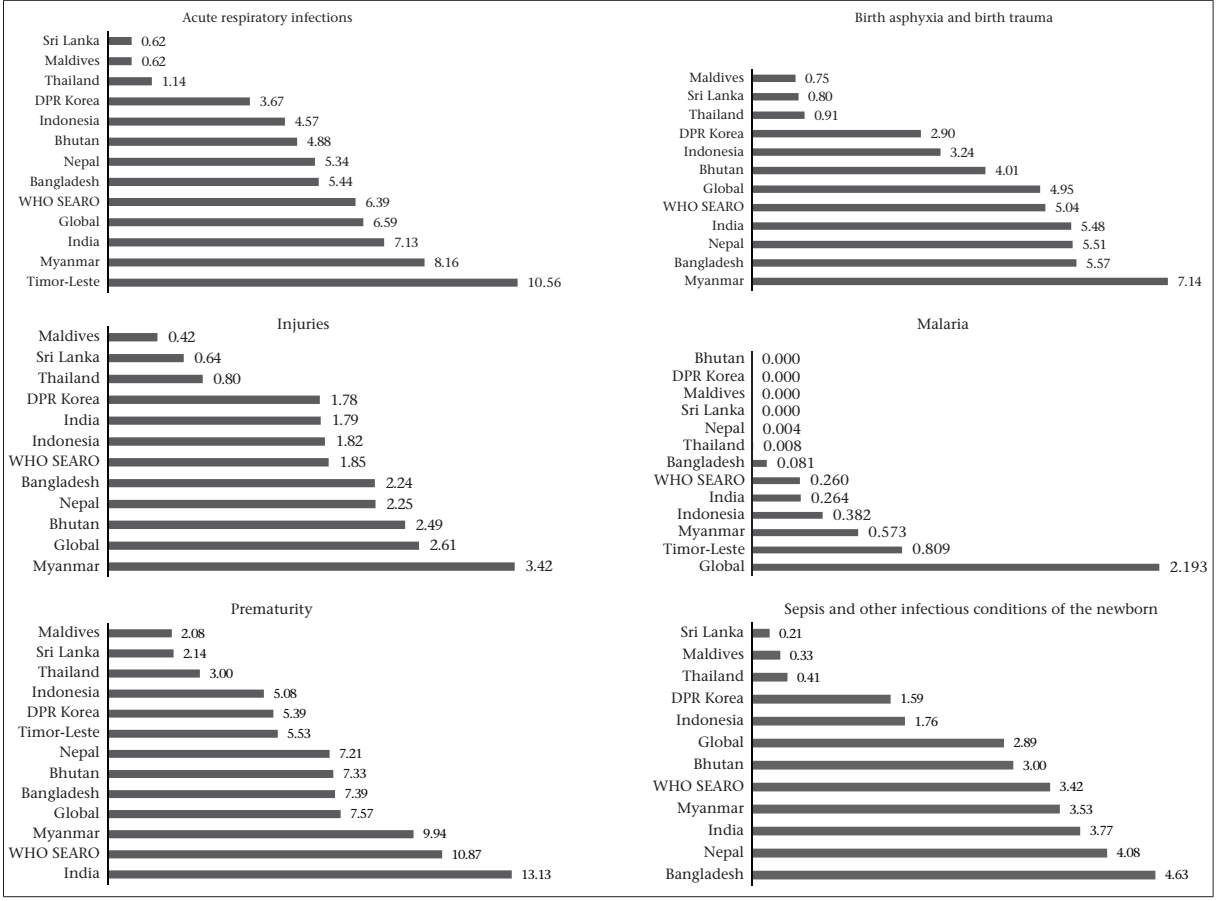


Table 8.8. Top causes for death among patients aged between 30 and 70 years at upazila health complexes in 2015

Cause of death	No.	Percentage of total deaths (N=7,242) reported from UHCs
External causes (injury, poisoning, and other external causes) of mortality (V01-Y98)	798	11.02
Cerebrovascular diseases (I60-I69)	759	10.48
Chronic obstructive pulmonary diseases (COPD) (J40-J44)	645	8.91
Other forms of heart diseases (I20, I22-25, I27, I40, 142, I46, I50, I51)	611	8.44
Acute myocardial infarction (I21)	608	8.40
Asthma, Severe acute asthma (J45, J46)	548	7.57

Medical college hospitals

Table 8.10 shows the top causes of death among persons aged between 30 and 70 years at the medical college hospitals in 2015. The 'usual suspects', all belonging to NCDs occupied the top positions at this level also, the only difference being the order of their positions. Here, cerebrovascular diseases took the first place. Injury and poisoning, acute myocardial infarction, COPD, other forms of heart diseases, and chronic kidney diseases appeared in the 2nd through 6th places respectively.

Table 8.9. Top causes for death among persons aged between 30 and 70 years in the district-level secondary hospitals in 2015

Cause of death	No.	Percentage of total deaths (N=24,988) reported from DLHs
Acute myocardial infarction (I21)	1,825	7.30
Cerebrovascular diseases (I60-I69)	1,791	7.17
Other forms of heart diseases (I20, I23-25, I40, I46, I50, I51)	1,385	5.54
External causes (injury, poisoning and other external causes) of mortality (V01-Y98)	1,007	4.03
Chronic obstructive pulmonary diseases (COPD) (J40-J44)	739	2.96
Asthma, Severe acute asthma (J45, J46)	384	1.54
Chronic kidney disease (N18)	345	1.38

Table 8.10. Top causes of death among persons aged between 30 and 70 years at medical college hospitals in 2015

Cause of death	No.	Percentage of total deaths (N=66,661) reported from MCHs
Cerebrovascular diseases (I60-I69)	4,707	7.06
External causes (injury, poisoning, and other external causes) of mortality (V01-Y98)	4,360	6.54
Acute myocardial infarction (I21)	2,850	4.28
Chronic obstructive pulmonary diseases (J44)	1,089	1.63
Other forms of heart diseases (I20, I46, I50, I51)	1,043	1.56
Chronic kidney disease (N18)	523	0.78

Summary from UHCs, DLHs, and MCHs

Table 8.11 presents a summary of the causes of death among persons aged between 30 and 70 years in 500 public hospitals (421 UHCs, 65 DLHs, and 14 MCHs). The aggregated number of all deaths reported from the abovementioned hospitals was used as the denominator to calculate the percentage shown in Table 8.11.

Non-communicable diseases were the main killers in this age-group. While aggregated, the diseases of the circulatory system took the top position, causing almost 18% of all deaths reported. The principal causes of deaths under this group of diseases included acute myocardial infarction, other heart diseases, and cerebrovascular diseases. Injuries and poisoning from various external causes as a group occupied the 2nd position, leading to 6.23% of all hospital deaths. Assault and transport accidents were the main causes of injuries while accidental or intentional misuse of pesticides were the major causes of death due to poisoning. Diseases of the respiratory systems, mainly COPD and asthma, caused 4.3% of all deaths reported, placing the group in the 3rd position.

Causes of maternal death

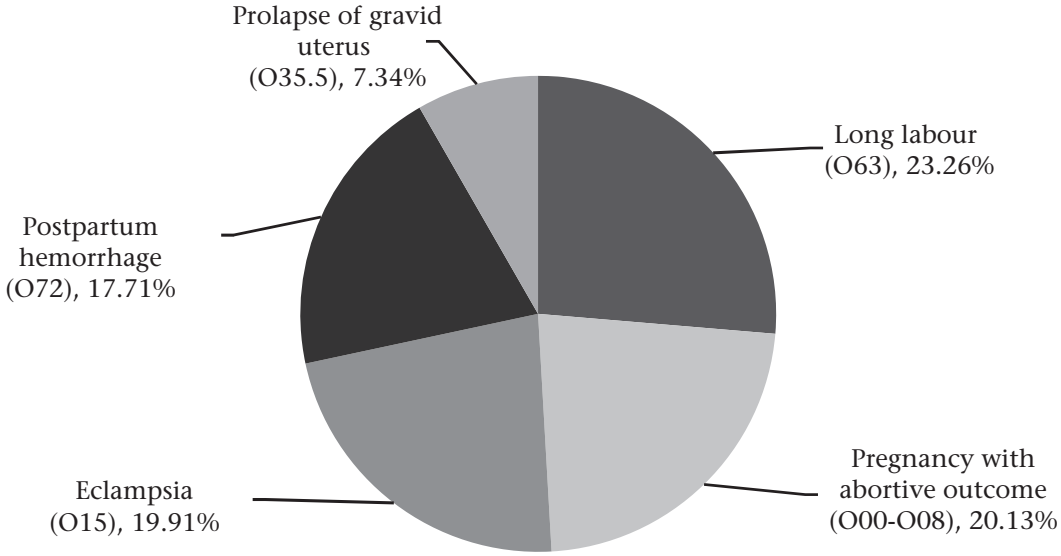
Each of the hospitals (UHCs, DLHs, and MCHs) reported top 5 causes of maternal death separately. Figure 8.3 shows the leading causes of maternal death sorted out from all of these tree types of hospitals. Of the 4,089 maternal deaths reported in the top 5 lists, 23.26% were due to prolonged labor. Various types of abortions (20.13%), eclampsia (19.91%), and postpartum hemorrhage (17.71%) were other notable causes.

Mortality profile at the specialty institute hospitals

The mortality profiles of selected age-groups at the specialty institute hospitals are presented in the following section.

Table 8.11. Causes of death among persons aged between 30 and 70 years in different hospitals in 2015		
ICD-10 chapter	**No. of deaths**	**Percentage of all deaths (N=98,891) in UHCs, DLHs and MCHs**
Chapter I-Certain infectious and parasitic diseases (A00-B99)	663	0.67
Chapter II-Neoplasms (C00-D48)	449	0.45
Chapter III-Diseases of blood and blood-forming organs and certain disorders involving the immune mechanisms (D50-D89)	51	0.05
Chapter IV-Endocrine, nutritional and metabolic diseases (E00-E90)	492	0.50
Chapter V-Mental, behavioral disorders (F00-F99)	3	0.00
Chapter VI-Diseases of the nervous system (G00-G99)	682	0.69
Chapter VII-Diseases of the eye and adnexa (H00-H59)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter VIII-Diseases of the ear and mastoid process (H60-H95)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter IX-Diseases of the circulatory system (I00-I99)	17,495	17.69
Chapter X-Diseases of the respiratory system (J00-J99)	4,257	4.30
Chapter XI-Diseases of the digestive system (K00-K93)	160	0.16
Chapter XII-Diseases of the skin and subcutaneous tissue (L00-L99)	1	0.00
Chapter XIII-Diseases of the musculoskeletal system and connective tissue (M00-M99)	Did not appear in the top 5 causes of death in any hospital	Did not appear in the top 5 causes of death in any hospital
Chapter XIV-Diseases of the genitourinary system (N00-N99)	933	0.94%
Chapter XV-Pregnancy, childbirth, and the puerperium (O00-O99)	Reported under causes of maternal death	Reported under causes of maternal death
Chapter XVI-Certain conditions originating in the perinatal period (P00-P96)	Reported under mortality of ≤5 years age-group	Reported under mortality of ≤5 years age-group
Chapter XVII-Congenital malformations, deformations, and chromosomal abnormalities (Q00-Q99)	16	0.02%
Chapter XVIII-Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	301	0.30%
Chapter XX-External causes of morbidity and mortality (V01-Y98)	6,165	6.23%
Total (reported in the list of top 5 causes of death)	**31,668**	**32.02%**

Figure 8.3. Percentage distribution of the top causes of maternal death (N=4,089) in 2015



Institute of Child and Mother Health (ICMH), Dhaka

A total of 381 children aged 5 years or less died at ICMH in 2015. The causes of death at this hospital are listed in Table 8.12. Birth asphyxia was at the top of the list, causing more than one-fourth (25.5%) of the deaths in this age-group. Prematurity and low birthweight together constituted 21.3% of deaths. Other causes included sepsis and malnutrition.

Table 8.12. Mortality profile of children aged 5 years or less at ICMH in 2015

ICD-10 code with name of disease	No. of cases	%
P21 Birth asphyxia	97	25.5
P07 Disorders related to short gestation and low birthweight	81	21.3
P36 Bacterial sepsis of newborn	76	19.9
A41.9 Septicemia, unspecified	25	6.6
E43 Unspecified severe protein-energy malnutrition	24	6.3
Total deaths (<5 years)=381		

In 2015, only 2 maternal deaths were reported from this hospital; both of them died of eclampsia in the puerperium (O15.2).

National Institute of Cancer Research and Hospital (NICRH), Dhaka

One hundred and sixty-eight cancer-affected patients died at NICRH in 2015. Table 8.13 shows the number and percentage of the top 5 causes of death in the group of persons between 30 and 70 years of age; different anatomical sites were primarily affected by the cancers. Cancers affecting the lungs or bronchus (C34.9) were at the top position, causing 32.14% of all deaths in this hospital. It is worth mentioning that smoking is strongly associated with this type of cancer. Both breast and liver cancers caused 7.75% of deaths.

In the age-group of 5 years or below, 6 patients died from cancers. Non-Hodgkin's lymphoma and acute lymphoblastic leukemia were reported to be the causes (not shown in Table).

Table 8.13. Mortality profile of patients aged between 30 and 70 years at NICRH in 2015

ICD-10 code with site of cancer	No. of cases	%
C34.9 Bronchus or lung, unspecified	54	32.14
C50.9 Breast, unspecified	13	7.74
C22.9 Liver, unspecified	13	7.74
C16.9 Stomach, unspecified	9	5.36
C20 Malignant neoplasm of rectum	8	4.76
Total deaths=168		

National Institute of Cardiovascular Diseases (NICVD), Dhaka

Table 8.14 shows the top causes of death among the group of persons aged between 30 and 70

years at NICVD in 2015. Acute myocardial infarction was responsible for 27.45% of the 4,018 deaths that occurred in this hospital in 2015. Other notable causes included unstable angina, left ventricular failure, and old myocardial infarction.

Table 8.15 shows the top causes of death among children aged 5 years or less at the same institute in 2015. Different types of congenital heart diseases were responsible for the deaths.

Table 8.14. Mortality profile of patients aged between 30 and 70 years at NICVD in 2015

ICD-10 code with name of disease	Number of cases	%
I21 Acute myocardial infarction	1,103	27.45
I20.0 Unstable angina	311	7.74
I50.1 Left ventricular failure	166	4.13
I25.2 Old myocardial infarction	160	4.38
Total deaths=4,018		

Table 8.15. Mortality profile of patients aged 5 years or less at NICVD in 2015

ICD-10 code with name of disease	Number of cases	%
Q21.3 Tetralogy of Fallot	31	0.77
Q21.0 Ventricular septal defect	26	0.65
Q21.1 Atrial septal defect	15	0.37
Q25.0 Patent ductus arteriosus	12	0.30
I42.0 Dilated cardiomyopathy	10	0.25
Total deaths=4,018		

National Institute of Diseases of the Chest & Hospital (NIDCH), Dhaka

Table 8.16 shows the top 5 causes of death among the group of persons aged between 30 and 70 years at NIDCH in 2015. Total number of deaths was 972, and none of them belonged to the age-group of 5 years or less. COPD (20.06%) and respiratory tuberculosis (13.37%) were the two leading causes of death in this hospital. Lung cancer also appeared as the top causes of death in this institute, causing more than 8% of deaths.

Table 8.16. Mortality profile of patients aged between 30 and 70 years at NIDCH in 2015

ICD-10 code with name of disease	No. of cases	%
J44 Chronic obstructive pulmonary disease	195	20.06
A15 Respiratory tuberculosis, bacteriologically- and histologically-confirmed	130	13.37
J47 Bronchiectasis	104	10.70
J12-18 Pneumonia	91	9.36
C34 Malignant neoplasm of bronchus and lung	79	8.14
Total deaths=972		

National Institute of Kidney Disease and Urology (NIKDU), Dhaka

Table 8.17 enlists the top causes of death among patients of the group of persons aged between 30 and 70 years at NIKDU in 2015. In total, 189 patients died at the hospital during 2015. Chronic kidney disease of stage 5 and acute renal failure occupied the top two positions, causing 38.86 % and 27.51% of deaths respectively.

Only four patients of the age-group of 5 years and below died in this institute during the period (not shown in Table). The causes were rapidly-progressive nephritic syndrome (N01), nephrotic syndrome (N04), acute renal failure (N17), and chronic renal failure (N18).

Table 8.17. Mortality profile of patients aged between 30 and 70 years at NIKDU in 2015

ICD-10 code with name of disease	No. of cases	%
N18.5 Chronic kidney disease, stage 5	64	33.86
N17 Acute renal failure	52	27.51
E87 Disorders of fluid, electrolyte, and acid-base balance	23	12.17
N01 Rapidly-progressive nephritic syndrome	14	7.41
Total deaths=189		

National Institute of Mental Health and Research (NIMHR), Dhaka

Table 8.18 summarizes the causes of death at NIMHR in 2015. Four patients died in the hospital during this period. Schizophrenia, drug-abuse, and manic episode were reported as the causes.

Table 8.18. Mortality profile at NIMHR in 2015		
ICD-10 code with name of disease	**No. of cases**	**%**
F20 Schizophrenia	2	50
F19 Mental and behavioral disorders due to multiple drug-use and use of other psychoactive substances	1	25
F30 Manic episode	1	25
Total deaths=4		

National Institute of Neuroscience (NINH), Dhaka

Table 8.19 shows the leading causes of death among the patients aged between 30 and 70 years at NINH in 2015. Stroke was at the top position in the list, accounting for 18.97% of the total 696 deaths. Cancer involving brain had the 2nd place, causing 14.22% of deaths.

Table 8.20 displays the top causes of death among children aged 5 years or less in the institute during the same period. Encephalitis, hydrocephalus, and meningitis were included in the list as causes of death.

Table 8.19. Mortality profile of the patients aged between 30 and 70 years at NINH in 2015		
ICD-10 code with name of disease	**No. of cases**	**%**
I64 Stroke, not specified as hemorrhage or infarction	132	18.97
C71 Cancer involving brain	99	14.22
S09 Injuries of head	29	8.48
G03 Meningitis	35	5.03
Total deaths=696		

Table 8.20. Mortality profile of patients among children aged 5 years or less at NINH in 2015		
ICD-10 code with name of disease	**No. of cases**	**%**
G04 Encephalitis, myelitis and encephalomyelitis	14	2.01
G91 Hydrocephalus	11	1.58
G03 Meningitis	6	0.86
Total deaths=696		

National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR), Dhaka

During 2015, a total of 144 patients died in NITOR. Various types of injuries were the causes of death. Most of the underlying causes of the injuries were transport accidents and assaults.

Pabna Mental Hospital

In total, 14 patients died in Pabna Mental Hospital in 2015, out of whom, 12 were in the age-group of 30 to 70 years. Schizophrenia (F20) was reported as the cause of all these deaths.

Shaheed Sheikh Abu Naser Specialized Hospital, Khulna

Table 8.21 summarizes the causes of death among persons aged between 30 and 70 years at Shaheed Sheikh Abu Naser Specialized Hospital in 2015. In total, 232 patients died at this hospital, and none of them belonged to the age-group of 5 years or less. Cerebrovascular diseases, chronic renal failure, acute myocardial infarction, and heart failure were the top causes of death among patients in the said age-group.

Table 8.21. Mortality profile of patients aged between 30 and 70 years at Shaheed Sheikh Abu Naser Specialized Hospital in 2015		
ICD-10 code with name of disease	**No. of cases**	**%**
Cerebrovascular diseases (I60-I69)	72	31.03
N18 Chronic renal failure	65	28.02
I21 Acute myocardial infarction	55	23.71
I50 Heart failure	38	16.38
Total deaths=232		

Mortality profile at other tertiary hospitals

Dhaka Dental College Hospital (DDCH), Dhaka

Two patients died in DDCH during 2015, and both of them belonged to the age-group of 30-70 years. Osteomyelitis (M86) and carcinoma of the oral cavity (D00) were reported as the causes of death.

Hospitals of alternative medical colleges

Among the two of this type of hospitals, only Govt. Homeopathic Medical College Hospital,

Dhaka, reported 1 death. Unspecified respiratory failure (J96.9) was mentioned as the cause.

Overall scenario of mortality: position of Bangladesh in the global and regional contexts

The findings on the causes of mortality among adults in Bangladesh as presented here match the global mortality scenario which is marked by the dominance of NCDs. For the interested readers, we are presenting (in Table 8.22) the summary estimates of mortality for the year 2012 in the world and the WHO South-East Asia region; These are extracted from the second round of the WHO Global Health Estimates (GHE). The original data, methods, and cause categories are described in a technical paper available on the WHO website. The preparation of these statistics was undertaken by the WHO Department of Health Statistics and Information Systems in collaboration with WHO technical programs.

From the Table, it is evident that conditions, like ischemic heart disease, COPD, respiratory infections, road injury, and hypertensive heart diseases, are included as the leading causes of death around the globe and, for these cases, Bangladesh is no exception. Interestingly, diarrheal diseases appeared in both the lists as

Table 8.22. Leading causes of death in 2012 estimated by WHO

Global					WHO South-East Asia Region				
Rank	**Cause**	**No. of deaths (000s)**	**% deaths**	**Deaths per 100,000 population**	**Rank**	**Cause**	**No. of deaths (000s)**	**% deaths**	**Deaths per 100,000 population**
-	**All causes**	**55,859**	**100.0**	**789.5**	-	**All causes**	**13,759**	**100.0**	**750.5**
1	Ischemic heart disease	7,356	13.2	104.0	1	Ischemic heart disease	1,580	11.5	86.2
2	Stroke	6,671	11.9	94.3	2	Stroke	1,443	10.5	78.7
3	Chronic obstructive pulmonary disease	3,104	5.6	43.9	3	Chronic obstructive pulmonary disease	1,271	9.2	69.3
4	Lower respiratory infections	3,052	5.5	43.1	4	Lower respiratory infections	753	5.5	41.1
5	Trachea, bronchus, lung cancers	1,600	2.9	22.6	5	Diarrheal diseases	651	4.7	35.5
6	HIV/AIDS	1,534	2.8	21.7	6	Preterm birth complications	456	3.3	24.9
7	Diarrheal diseases	1,498	2.7	21.2	7	Tuberculosis	449	3.3	24.5
8	Diabetes mellitus	1,497	2.7	21.2	8	Diabetes mellitus	410	3.0	22.4
9	Road injury	1,255	2.3	17.7	9	Road injury	337	2.5	18.4
10	Hypertensive heart disease	1,141	2.0	16.1	10	Cirrhosis of the liver	326	2.4	17.8

important causes of death but mortality due to diarrheal diseases in Bangladesh over the past years were negligible. Although diarrhea was one of the leading causes of hospitalization in Bangladesh in 2015, it did not appear in any of the lists as top causes of death in any hospital of the country. Cirrhosis of liver and HIV/AIDS, appearing in the WHO-SEAR and global top-

Figure 8.4. Life-expectancy (age in years) of the people in Bangladesh (both sexes) at birth from 2000 to 2015

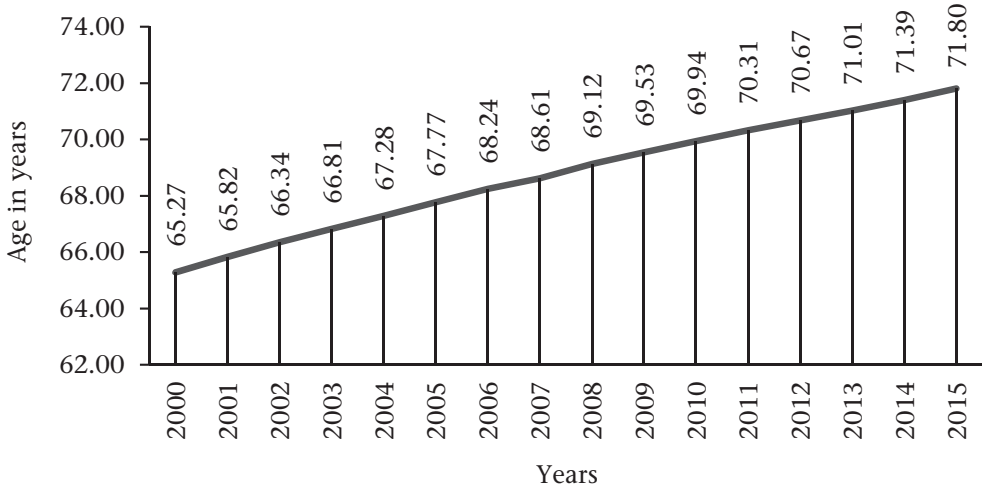
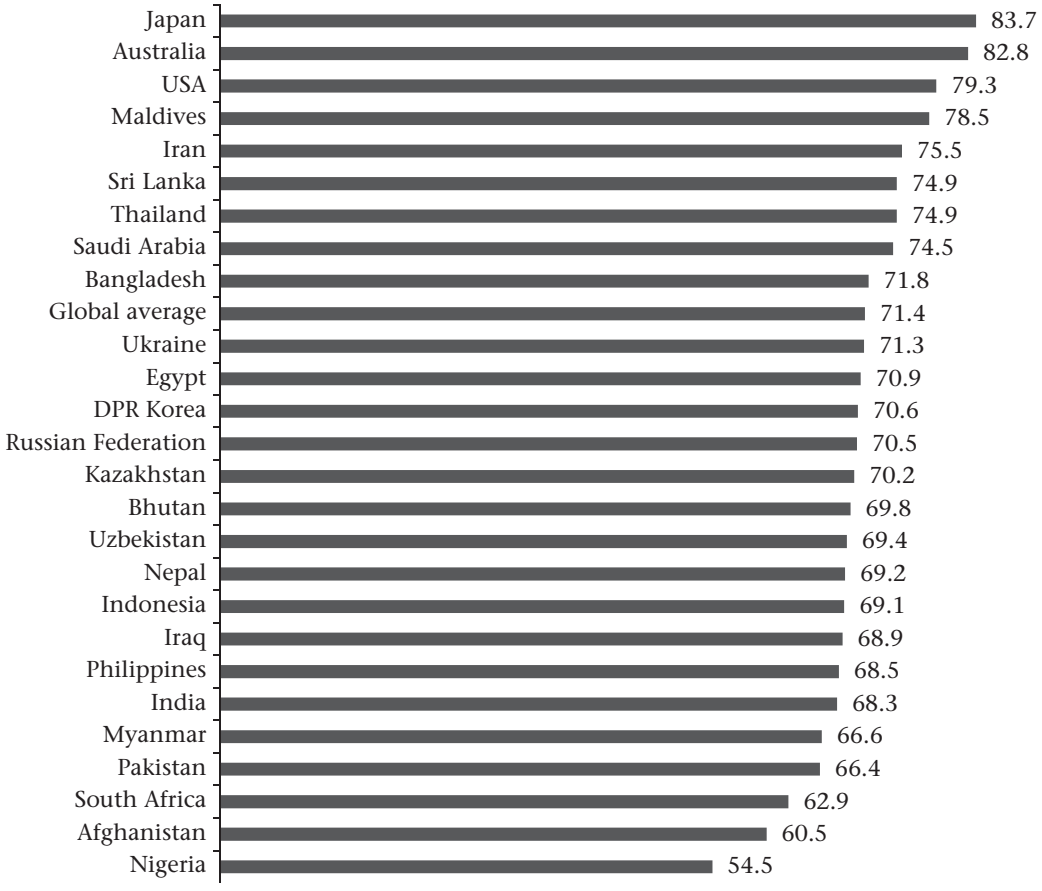


Figure 8.5. Life-expectancy (age in years) at birth (both sexes) in different countries in 2015



10 lists respectively, also did not impose any significant threat to Bangladesh yet. However, the absence of cancers in the list of top causes of death in Bangladesh probably does not reflect the accurate picture. Even in the NICRH, the specialty hospital primarily dealing with cancer patients, did show a much lower death rate compared to other tertiary hospitals. This apparently-paradoxical phenomenon might be explained by our social culture of taking care of dying persons at home and, as a result, most of the deaths from cancers are not being reported.

Successes and further improvement

For hard work of the health workforce in the country, Bangladesh is steadily making its progress in the health sector. The single-most convincing evidence of this might be the 71 plus years of life-expectancy of the people in this country. The figure is better than many of the countries in the region as well as of higher-income groups. Figure 8.4 shows the life-expectancy in Bangladesh from 2000 through 2015, and Figure 8.5 shows a comparison of life-expectancy at birth in different countries.

For making further improvements in reducing preventable deaths, more accurate and complete information relating to the mortality profile of the country is needed. As mentioned at the beginning of this chapter, several initiatives are being taken to count all of the deaths in the country, be it in households or private and public hospitals.

The Management Information System (MIS) under the DGHS is closely working with the CRVS Secretariat of the Cabinet Division to bring both qualitative and quantitative improvements in the pattern of mortality reporting in the country, with support from Bloomberg Philanthropies through their program titled 'Data for Health Initiatives'. A pilot project has been started in the Kaliganj upazila of Gazipur district. One of the objectives of this project is to institutionalize the practice of verbal autopsies so that causes of all deaths occurring in the community can be captured. The domiciliary health workforce of the MOHFW will be engaged in the activities. To implement the WHO-suggested conventions in capturing the underlying causes of deaths that occur in hospitals, four hospitals: Sir Salimullah Medical College Hospital, Dhaka; Shaheed Suhrawardy Medical College Hospital, Dhaka; Shaheed Tajuddin Ahmed Medical College Hospital, Gazipur; and Kaliganj Upazila Health Complex, Gazipur are included in the project. Both local and foreign training courses are being arranged for capacity-building of health personnel in quality reporting. Besides, other development partners, like WHO, UNICEF, etc., are also contributing to improve the quality of morality reporting in the country.

Chapter 9

Improved management protocols sustaining low mortality

COMMUNICABLE DISEASE CONTROL IN BANGLADESH

For awareness-building among mass people about the transmission mechanism of communicable diseases and prevention and treatment, the supporting role of the media is to be patronized.

Comprehensive prevention measures and improved treatment protocols are constantly keeping the spread of communicable diseases under good control. We have a strong signal for policy-makers and implementing bodies to note the changing patterns and put special emphasis on emerging and re-emerging communicable diseases. Due attention to trans-boundary and international migration of people is needed to contain novel emerging diseases at the spots of origin. Core capacity development at the point of entries is to be considered a multisectoral action of national priority. Early detection of infectious diseases, novel pathogens as well as antimicrobial resistance must be prioritized, escalating budget, capacity-building, strengthening infrastructure, providing logistic support, and other related measures. Viral hepatitis, as an important public-health issue, needs due attention of the policy-makers and civil society organizations. For awareness-building among mass people about the transmission mechanism of communicable diseases and prevention and treatment, the supporting role of the media is to be patronized.

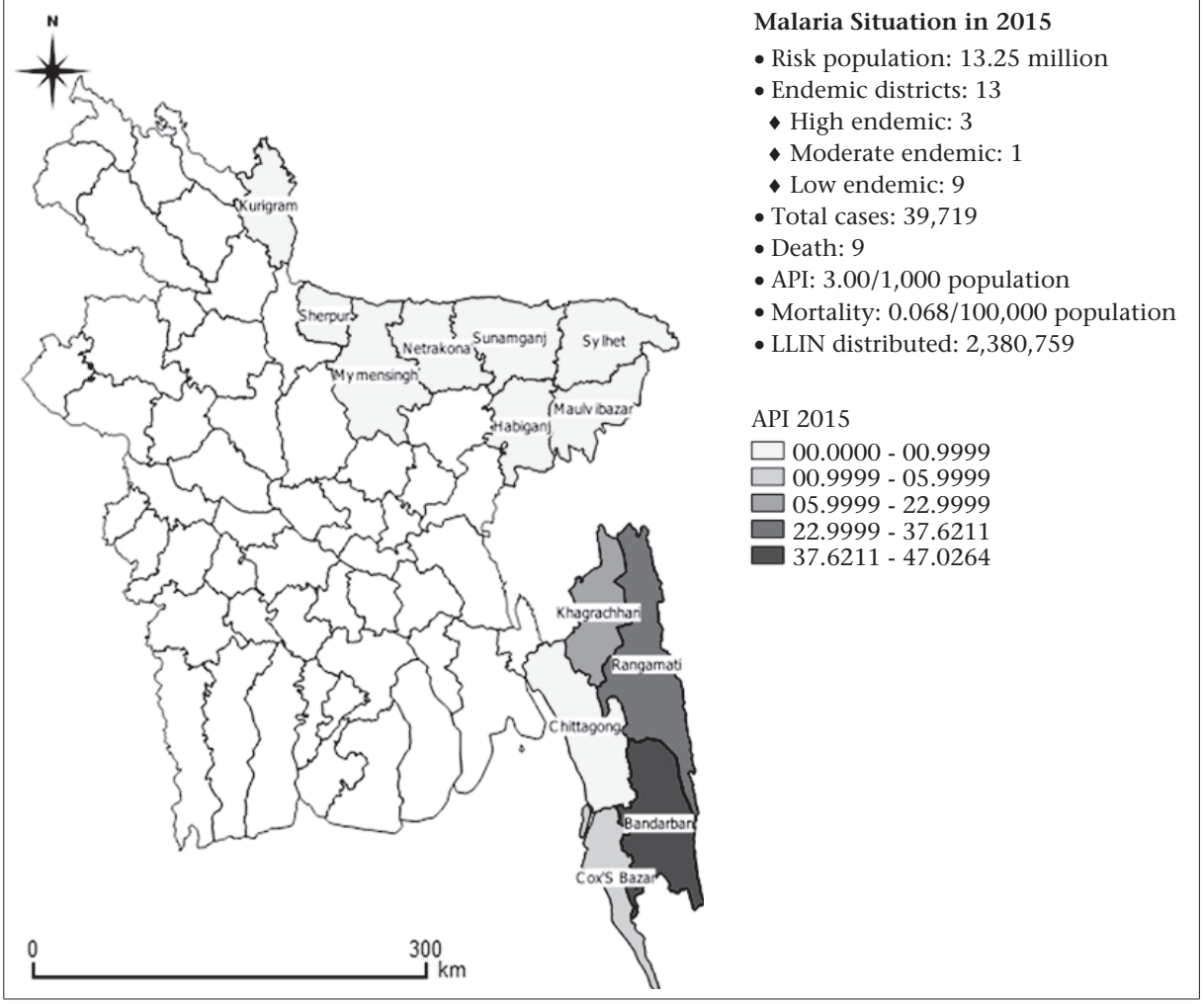
Malaria

Malaria, as one of the major public-health problems in Bangladesh, is endemic in 13 eastern and north-eastern border districts, with variable transmission potentials (high, moderate, and low). A total of 13.25 million people living in these areas are at risk of malaria. Historically, over 90% of the total cases are reported from three districts in the Chittagong Hill Tracts (Rangamati, Khagrachhari, and Bandarban) and the coastal district Cox's Bazar. The endemicity of malaria is shown in Map 9.1.

The National Malaria Control Program (NMCP) is responsible for implementing malaria control interventions under the Communicable Disease Control unit of the DGHS. It is one of the oldest programs in the health sector of the country. In 1960s, Malaria Eradication Program was started under the Malaria Eradication Board in former East Pakistan. After the Liberation, the Eradication Program was merged with Primary Healthcare (PHC) and converted into Malaria Control Program in 1977. Bangladesh adopted the Revised Malaria Control Strategies (RMCS) in the 1990s and, later on, in 1998, the Roll Back Malaria (RBM) Initiative of WHO. Since 2007, the activities of the National Malaria Control Program have been strengthened and accelerated with funding support from Round 6 and 9 of the Global Fund New Funding Model (NFM), and the partnership established with BRAC-led 21-member NGO Consortium, academic and research institutions, and the private sector.

Increased access to diagnosis and treatment through an initiative called Early Diagnosis and Prompt Treatment (EDPT), prevention by using long-lasting insecticide-treated nets (LLINs), strengthened surveillance, monitoring and evaluation, capacity-building of the health personnel in malaria management and reporting through effective training, increased

Map 9.1. Thirteen malaria-endemic districts of Bangladesh (*Source: National Malaria Control Program*)



awareness of the population at risk through effective behavior change communication (BCC), and enhanced collaboration with NGOs and private sector are the main components of the program. Due to effective implementation of the activities, both cases and deaths have been reduced to such a level that the program is now aiming at malaria elimination from the country. The new Strategic Plan 2015-2020 has been developed with the vision of "Malaria-free Bangladesh." The goal of the National Strategic Plan (NSP) is: "to have achieved 'zero indigenous transmission' and 'zero death' by 2020, aiming at malaria elimination in Bangladesh." The strategic objectives of the NSP 2015-2020 are as follows:

1. Achieve 100% coverage of at-risk population with appropriate preventive interventions by 2018
2. Have 100% malaria patients receiving early and quality diagnosis (RDT or microscopy) and effective treatment by 2018
3. Continue strengthening of program management towards elimination of malaria by 2020
4. Continue strengthening of disease and vector surveillance, monitoring and evaluation towards malaria elimination
5. Intensify advocacy, communication, and social mobilization (ACSM) for malaria elimination.

However, the program is in the process of updating the National Strategic Plan to align with the Global Technical Strategy for Malaria 2016-2030 developed by WHO.

The monsoon (June–September) is the peak period for malaria transmission. The following

groups of people are considered high-risk population for malaria infection:

- *Jhum* cultivators, wood-cutters, and forest-goers
- Settlers, refugees, and mobile population
- Members of Armed Forces, Border Guard, and Police from non-endemic areas working in the Hill Tracts
- Travelers from non-endemic areas
- People residing in non-endemic areas for a long time and returning home in endemic areas
- Young children, particularly under-5 children
- Pregnant women.

Malaria control efforts have been augmented since the implementation GFATM grants since 2007, in collaboration with NGO Consortium. Initially, it was possible to detect an increased number of cases in 2008 due to scaling up of interventions; introduction of RDT for diagnosis, and ACT for treatment of *P. falciparum* cases. Since 2008 till 2013, the program has achieved a huge success in terms of reducing morbidity and mortality, and a steady decline is noted. However, there was a regional upsurge in 2014, and Bangladesh was not immune o that principally for favorable meteorological conditions during the monsoon period that year Due to that sudden upsurge, the numbers of both cases and deaths increased in 2014 compared to 2013, mostly in 3 hill districts. The program took various initiatives for the containment of the upsurge. As a result, both number of cases and deaths decreased in 2015, especially the substantial reduction in the number of deaths was remarkable. Therefore, 53% and 94% reduction in morbidity and mortality respectively occurred in 2015 compared to 2008.

Table 9.1 summarizes year-wise epidemiological data (2000–2015) on malaria from the endemic districts.

With the exception of 2014, when the numbers of both cases and deaths increased due to a sudden upsurge, significant progress in malaria control has been achieved in Bangladesh during the period from 2007 to 2013, showing a progressive decline in total cases and deaths.

Table 9.1. Summary of year-wise epidemiological data (2000-2015) from the malaria-endemic districts

Year	Positive cases		*P. falciparum*		*P. vivax*		Death	
	No.	Per 1,000 population	No.	%	No.	%	No.	Per 1,000 population
2000	54,223	5.63	39,272	72.4	14,951	27.6	478	0.049
2001	54,216	5.55	39,274	72.4	14,942	27.6	490	0.049
2002	62,269	6.23	46,418	74.5	15,851	25.5	588	0.058
2003	54,654	5.40	41,356	75.7	13,298	24.3	577	0.056
2004	58,894	5.67	46,402	78.8	12,492	21.2	535	0.052
2005	48,121	4.56	37,679	78.3	10,442	21.7	501	0.047
2006	32,857	3.06	24,828	75.6	8,029	24.4	307	0.029
2007	59,857	5.46	46,791	78.2	13,066	21.8	228	0.021
2008	84,690	7.73	70,281	83.0	14,409	17.0	154	0.014
2009	63,873	5.83	57,020	89.3	6,853	10.7	47	0.004
2010	55,873	5.10	52,049	93.2	3,824	6.8	37	0.003
2011	51,773	3.91	49,194	95.0	2,579	5.0	36	0.003
2012	29,518	2.23	27,819	94.2	1,699	5.8	11	0.001
2013	26,891	2.03	25,908	96.3	983	5.8	15	0.001
2014	57,480	4.34	54,132	94.2	3,348	5.8	45	0.003
2015	39,719	3.00	35,708	89.9	4,011	10.1	9	0.0007

Figure 9.1 shows the epidemiological trend in the cases and deaths during 2007-2015.

Out of 13 malaria-endemic districts, four highly-endemic and moderately-endemic districts (Bandarban, Khagrachhari, and Rangamati of Chittagong Hill Tracts) and Cox's Bazar have reported ~98% of the malaria cases and ~56% of malarial deaths in 2015. Malaria caused by both *P. falciparum* and *P. vivax* is prevalent in the country; the number of reported falciparum cases accounts for 90% of the total cases.

Figure 9.2 gives an idea about the share of total malaria burdens by endemic districts in 2015.

Although three districts in the Hill Tracts report majority of cases, the population of those districts constitutes only around 12% of the total population at risk. The incidence rates in these districts in 2015 are illustrated in Figure 9.3.

Challenges

- Geographical inaccessibility and population movement
- High endemicity in border areas consisting of forests and hills
- Difficulty in implementing EDPT and vector control
- Shortage of human resources at the community level
- Inadequate cooperation and collaboration among the neighboring countries

Figure 9.1. Epidemiological trend in malaria cases and deaths during 2007-2015

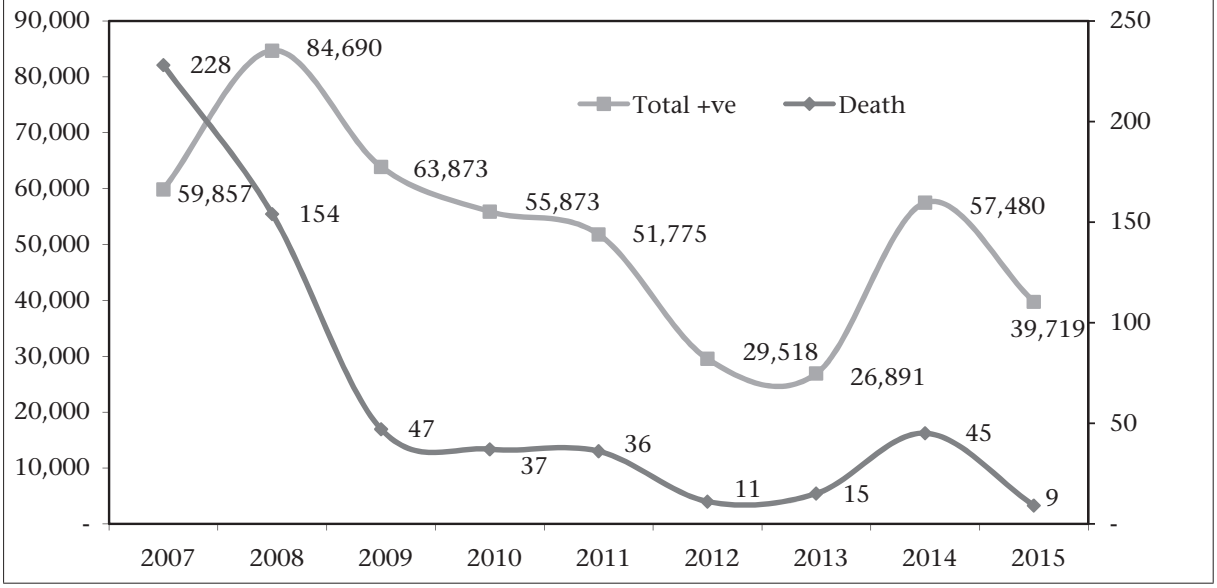
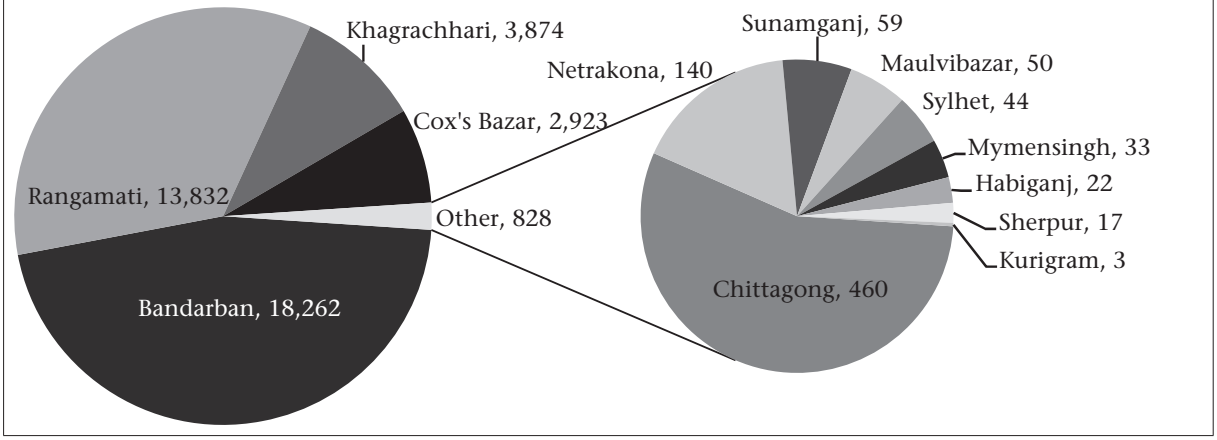


Figure 9.2. Distribution of malaria burden among 13 endemic districts in 2015



- Increasing drug resistance, particularly resistance to Artemisinin Combination Therapies (ACT) in the neighboring countries
- Insufficient preparedness for and response to epidemics
- Minimum monitoring and supervision from the central level due to insufficient budget allocation.

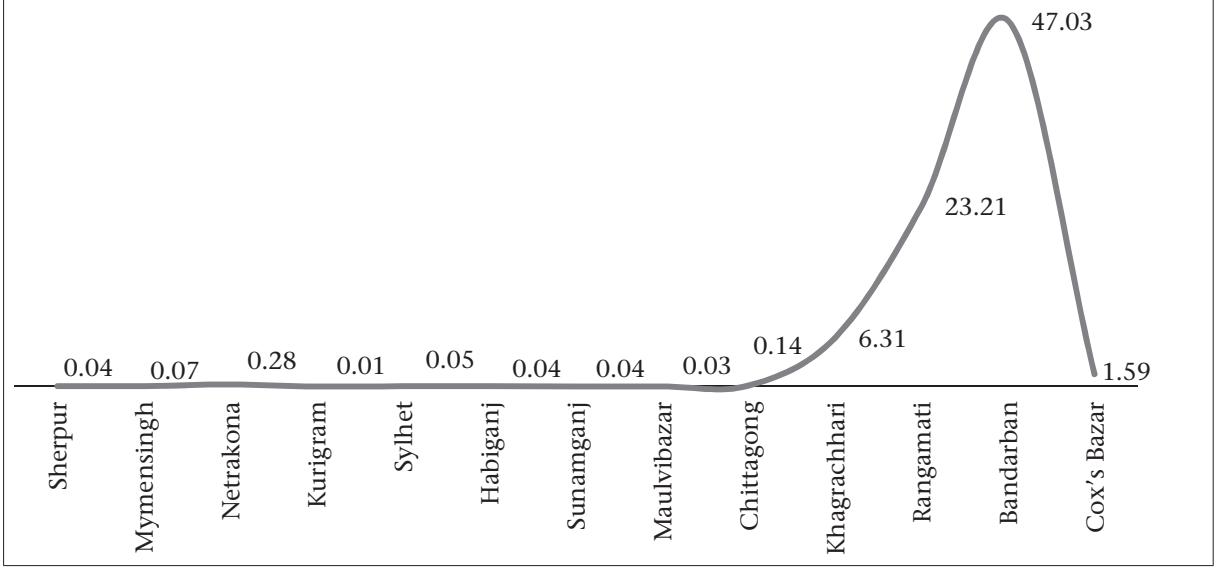
Recommendations

- Develop a formal communication strategy or standard operating procedure (SOP) and inclusion of communication experts in the process to address the linguistic barriers
- Preparing travelers' guideline
- Arranging mobile camps in hard-to-reach areas
- Increase active participation of Armed Forces (Army, BGB, Police, etc.) in the malaria management in the border-belt and geographically-inaccessible areas
- Conducting comprehensive analyses of all fatal cases to find out the factors influencing case fatalities
- Strengthening community clinics and the referral system
- Increasing community participation in malaria prevention by vector management
- Finding vector density and mapping out the insecticide resistance
- Adoption of new interventions for vector control, piperonyl butoxide (PBO) nets, for instance
- Establishing an early warning system
- Net retention surveys, including telephonic survey, can be done to expedite
- Recruiting health workers/volunteers in highly-endemic areas, communicating hill district councils
- Increasing coordination between GOB and NGOs
- Ensuring data-sharing among neighboring countries through political commitment at the highest levels
- Conducting vector management activities simultaneously in both parts of bordering areas
- Taking technical assistance from Global Health Security through IEDCR
- Developing a combined rapid response system to control all outbreaks
- Increasing supervision and monitoring from the central level and ensuring adequate budget for this purpose.

Dengue

The re-emergence of dengue viruses has been very dreadful and created a new threat in

Figure 9.3. Malaria incidence in 13 endemic districts in 2015



recent times in Bangladesh. The country has experienced this viral infection in the most horrific manner in 2000 after an earlier outbreak as Dhaka Fever in the 1960s. The re-emergence resulted in huge number of cases, along with morbidity and mortality of public-health concern. It is not yet possible to address the dengue situation in the country as a separate entity. So far, only sporadic cases of dengue were diagnosed in Bangladesh through small-scale surveys that actually failed to unearth the real situation in the country. In 1996-1997, dengue infections were confirmed in 13.7% of 255 febrile patients screened at Chittagong Medical College Hospital. The first epidemic of dengue hemorrhagic fever occurred in mid-2000 when 5,551 dengue infections were reported from Dhaka, Chittagong, and Khulna cities, occurring mainly among adults. Among the reported cases, 4,385 (62.4%) were dengue fever (DF) infections, and 1,186 (37.6%) cases were dengue hemorrhagic fever (DHF). The case-fatality rate (CFR) was 1.7%, with 93 reported deaths. *Aedes aegypti* was identified as the main vector responsible for the epidemic, and *Aedes albopictus* was identified as a potential vector in Chittagong. According to WHO, the worst outbreak occurred in 2002, with 6,104 cases and 58 deaths. The prevalent serotypes of dengue until 2000 in Bangladesh were: DENV1, DENV2, and DENV3, with the highest number of reported cases attributed to DENV3. A similar situation can be seen in other countries, such as India and Sri Lanka, where DENV3 has been reported most of the time in DF/DHF-related illnesses. Over the last 10-15 years, dengue fever and dengue hemorrhagic fever have become leading causes of hospitalization and deaths among children in South-East Asian regions, followed by diarrheal diseases and acute respiratory infections.

The reporting of dengue cases is based upon information collected from the Control Room at the DGHS. The source of information is mainly the private sector: private clinics and some selected urban NGOs. Moreover, the information sources at present are based in Dhaka city. Information from other parts of the country is lacking. So, it is very difficult to come to a definitive conclusion regarding the program perspective. Still, some assessment can be possible by analyzing the currently available information. Table 9.2 shows the distribution of dengue cases, deaths, and case-fatality rates in Dhaka by year beginning from 2000.

Table 9.2. Distribution of dengue cases, deaths, and case-fatality rates by year in Dhaka city

Year	Cases	Deaths	Case-fatality rate (%)
2000	5,551	93	1.68
2001	2,430	44	1.81
2002	6,132	58	0.93
2003	486	10	2.06
2004	3,934	13	0.38
2005	1,048	04	0.38
2006	2,200	11	0.50
2007	466	0	0
2008	1,153	0	0
2009	474	0	0
2010	409	0	0
2011	1,362	06	0.44
2012	671	01	0.15
2013	1,749	02	0.11
2014	375	00	0
2015	3,162	6	0.19

> So far, only sporadic cases of dengue were diagnosed in Bangladesh through small-scale surveys that actually failed to unearth the real situation in the country.

Figure 9.4 shows the month-wise distribution of 3,162 dengue cases reported in 2015. The graph clearly identifies the peak season of dengue. More than 82% of the cases were reported during the months of August through October, and 30% of the total cases were reported in September alone.

Filariasis

Lymphatic filariasis (LF) is a vectorborne parasitic disease caused by tissue nematodes. *Wuchereria bancrofti* is the most common parasite, and *Culex* mosquitoes are the main vectors for transmission in Bangladesh. It is one of the neglected tropical diseases (NTDs) in Bangladesh.

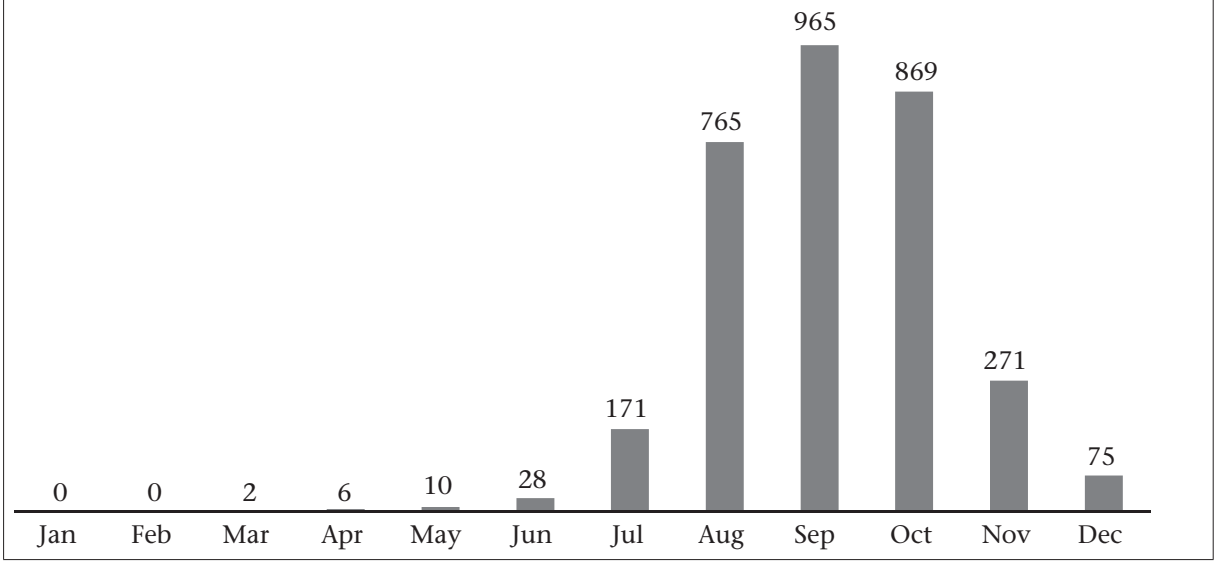
The consequences of filarial infection are many. A large number of afflicted persons exhibit physical and mental disabilities, an impaired ability to work, and a compromised quality of life. These problems arise not only from the disease process but also from social stigma directed towards the afflicted persons. All of these problems, moreover, have a cumulative adverse effect at the individual, household, community and national levels.

Bangladesh is known to be surrounded by endemic areas for filariasis, particularly the northeast border areas of India that are adjacent to Assam, Bihar, and West Bengal, In Bangladesh, the disease is prevalent all over the country, with the highest endemicity in the northern part. Out of the total 147 million population of Bangladesh (as estimated in 2011 census), about 20 million in the area have been suffering from the disease, most of whom are children. The

> The consequences of filarial infection are many. A large number of afflicted persons exhibit physical and mental disabilities, an impaired ability to work, and a compromised quality of life.

exact figures of filariasis cases in Bangladesh are not known but it is endemic in 33 districts out of 64 districts as revealed from ICT by LQAS done in 2002 and 2004. There was high endemicity of filariasis in Nilphamari, Thakurgaon, Dinajpur, Rangpur, Panchagarh, Kurigram, Chapainowabganj, Rajshahi, and Lalmonirhat. It is estimated that about 70 million are at risk of infection while one million people have various

Figure 9.4. Month-wise distribution of dengue cases (total: 3,162) in Dhaka city, 2015



forms of clinical deformity, and another 10 million people are microfilaremics. Microfilaria survey done in March-May 2006 revealed that it is present in 34 districts, and clinical cases are reported from 49 districts.

Mass Drug Administration (MDA) was launched in November 2001 (Round I) at Panchagarh district and, thereafter, it was scaled up in 19 districts by 2008 following the baseline survey of the area. The 19 endemic districts are: Panchagarh, Thakurgaon, Nilphamari, Kurigram, Rangpur, Lalmonirhat, Dinajpur, Rajshahi, Chapainowabganj, Sirajganj, Pabna, Meherpur, Kushtia, Chuadanga, Barisal, Patuakhali, Jhalokathi, Pirojpur, and Barguna.

Goal, objectives, and strategies

Goal of the program is elimination of filariasis by 2020, and the objectives are to reduce microfilaria prevalence to <1% and to give relief to the patients of lymphedema caused by filariasis.

Strategies adopted to achieve this goal and objectives are: Mass Drug Administration (MDA) among at-risk population once a year for successive five years through door-to-door household registration, except for pregnant women, children aged <2 years, and severely-ill patients and alleviation of sufferings of lymphedema patients by community-based morbidity control.

Table 9.3 shows data of MDA rounds from 2001 through 2015.

Transmission Assessment Survey (TAS) is the WHO-recommended survey protocol to assess the status of elimination to stop MDA. Based on microfilaria (Mf) survey report, Bangladesh's Elimination of Lymphatic Filariasis (ELF) Program conducted TAS in 18 out of 19 districts where MDA started. The preconditions for conducting TAS are: completion of at least five to six successive rounds of MDA, Mf result <1%, and MDA coverage >65%. Results of TAS indicate that Bangladesh has achieved preliminary elimination goal in 18 districts. As per WHO protocol, MDA has been stopped in 18 out of 19 districts (except Rangpur).

Table 9.3. Year-wise MDA round (2001–2015) with coverage

Year	District/ Implementation unit (IU)	Total population (Million)	Coverage (%) reported by civil surgeons	Coverage (%) observed in survey	Actual coverage (%) among the eligible
2001	1	0.81	95.5	93.0	ND
2002	4	5.18	93.6	83.2	87.3
2003	6	8.73	93.3	77.9	81.9
2004	10	11.75	98.6	ND	ND
2005	12	20.16	90.3	78.0	82.2
2006	13	23.92	92.2	78.2	82.2
2007	17	31.0	91.5	82.4	84.3
2008	20	42.0	90.53	79.38	83.06
2009	19	35.0	96.87	83.33	85.76
2010	19	35.0	92.47	60.23	62.98
2011	14	29.70	97.14	92.35	94.90
2012	09	16.67	98.11	89.76	92.78
2013	04	8.66	98.86	88.9	93.26
2014	01	3.01	81.72	69.5	90.33
2015	01	3.40	79.83	67.3	93.93

ND=Not done

The outstanding question for the Bangladesh's LF Program was how to assess the 15 endemic districts that were found to have low prevalence (<1%) and not eligible for MDA. Night blood microfilaria and community clinical surveys undertaken in 2008-2010 in selected areas of these districts found little or no evidence of infection and disease, such as lymphedema and hydrocele. Currently, there is no recommended strategy for assessing less-endemic districts; therefore, the TAS method was used as the primary assessment tool in surveys done in 2014-2015.

The results of the TAS conducted to date show promising signs that the National LF Program will be able to 'shrink the LF map' by approximately 38 million people and can start move one step closer to the elimination goal, with an increased focus on the new priorities of surveillance and morbidity management. It will be important to follow up the children who tested ICT-positive to determine if there is some focality of transmission in these areas.

Soil-transmitted helminthes control: a nationwide deworming program

Soil-transmitted helminthes (STH) control is an important component of the Filariasis Elimination Program of CDC. The STH Control Program has been integrated with Filariasis Elimination Program, with the aim to minimize its operation cost.

In 2005, it was started in 3 districts, in 16 till 2006 to June 2007, in 24 till May 2008 and, finally, it was extended up to 64 districts by November 2008.

The 'Little Doctor Program' (involving school students) is another initiative under STH Control Program. It has been introduced nationwide through all primary-level institutions for peer-education in STH control and developing health-related wellbeing, followed by regular and proper hygiene practices. It is estimated that there will be a total of 1,650,000 'little doctors' each year from more than 100,000 primary-level institutions in the country.

The nationwide school-based deworming program has been started in 2008, with an aim of regular deworming among 75-100% school-age children (World Health Assembly resolution 54.19 of 2001). The first National Deworming Day was observed on 1 November 2008. Subsequently, the program was implemented every six months–April and October. From 2010, deworming is conducted for a week, instead of the National Deworming Day, and the age-group of 5 years (baby class) is included as the target. Single-dose *Albendazole* (400 mg) has been replaced by *Mebendazole* (500 mg) and is being administered at school by 'little doctors', with the help of teachers as guide. About 25.5 million children who are studying in Class I-V, or are 5-12 years old are targeted. All types of schools, including government, non-government, NGO, private, English medium ones, madrasahs, etc., are included in the program.

Goal of the program is to control intestinal helminthes among children, with the objective of deworming school-age children of 5-12 years twice a year (April and October)

Achievements

School-based deworming program covered every primary-level institutions in the country to deworm all school-age children of 5-12 years twice a year. The reports of treatment coverage, as sent by the civil surgeons' offices of the concerned districts, are shown in Table 9.4.

Overall, the STH prevalence among school children has been reduced to 8.5 %, according to a survey conducted by STH Control Program in 2015. Similar findings are also observed in the study by other organizations. Figure 9.5 shows the trend of the infection rates based on surveys done in the 2007, 2010, 2013, and 2015. If we strengthen the hygiene status of the schools and maintain this accordingly, the country will be able to control the soil-transmitted helminthes in near future.

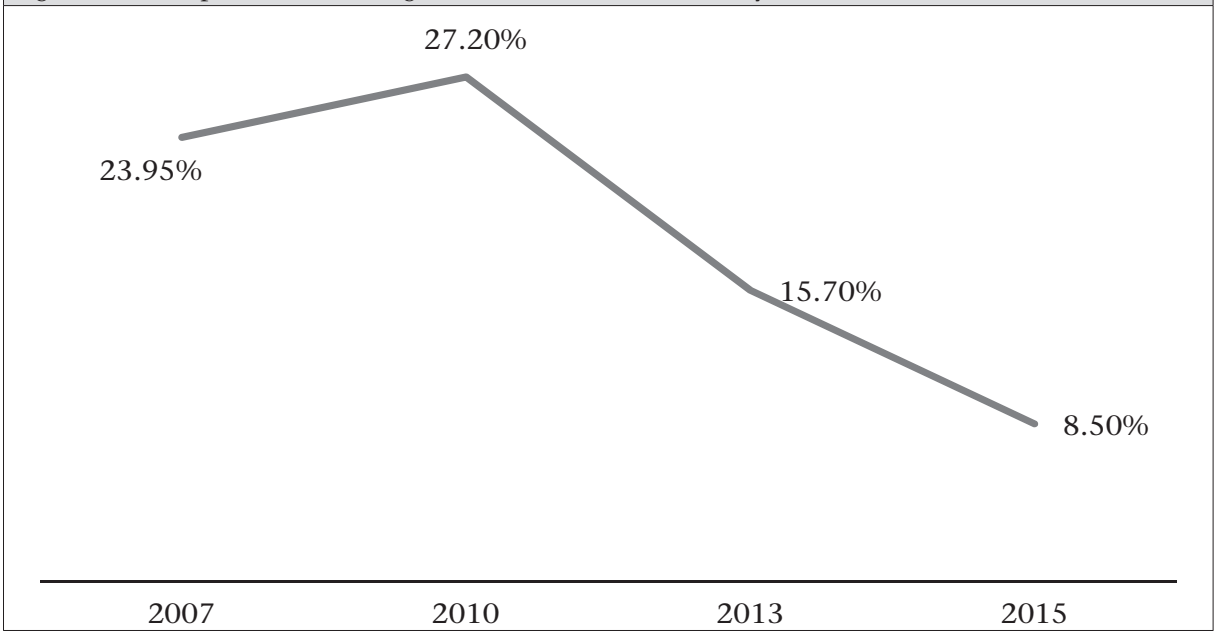
Kala-azar

Kala-azar (KA) or visceral leishmaniasis (VL) is a neglected tropical disease affecting the poor and marginalized rural population. It is prevalent in about 90 countries and threatens 350 million people, especially in South Asian Region and East Africa. Approximately 0.2 to 0.4 million visceral leishmaniasis cases occur worldwide and, among them, 90% of the disease burden is borne by 6 countries: India, Bangladesh, Sudan, South Sudan, Brazil,

Table 9.4. Reported coverage of school-based deworming program (2008–2015)

Year	Round	No. of districts covered	No. of children		Reported coverage (%)
			Targeted	Treated	
2008	November	64	15,743,159	15,482,778	94
2009	May	64	19,303,404	19,101,496	98
	November	64	19,303,404	18,782,212	97
2010	May	64	19,837,612	19,440,860	98
	November	64	2,19,71,611	2,17,45,757	98.97
2011	May	64	2,20,70,512	2,17,35,040	98.48
	November	64	2,20,82,923	2,19,92,383	99.59
2012	May	64	2,22,63,213	2,20,40,581	99
	November	64	2,22,63,192	2,20,38,334	98.99
2013	April	64	2,49,86,323	2,47,99,113	99.25
	October	64	2,50,89,864	2,48,98,332	99.23
2014	April	64	2,48,86,323	2,46,98,576	99.25
	October	64	2,50,90,960	2,49,93,205	99.61
2015	April	64	3,12,81,837	2,67,04,597	85.37
	October	64	3,13,46,057	2,66,00,439	84.86

Figure 9.5. STH prevalence among school children in different years



and Ethiopia. It is estimated that around 147 million people are at risk in three countries: Bangladesh, India, and Nepal. Around 31 million people are at risk in Bangladesh. The people at risk are residing in 26 districts of Bangladesh where kala-azar is endemic. In these 26 districts, 100 upazilas are mostly endemic.

The Kala-azar Elimination Program (NKEP) in Bangladesh has set the target of elimination of kala-azar by 2017. The goal is to reduce the annual incidence of kala-azar to less than 1 patient per 10,000 population. The strategic objectives are to: (i) ensure early diagnosis and complete management of the cases, (ii) implement integrated vector management, (iii) conduct

patient and vector surveillance, (iv) conduct operational research, and (v) develop social mobilization and building partnerships.

At the beginning of 2014, a new activity 'No kala-azar transmission' has been adopted and implemented in moderately- and hyper-endemic upazilas. Besides the 26 kala-azar-endemic districts, a few sporadic cases are being reported from 15 districts that are mostly concentrated in 19 upazilas. The endemicity is arbitrarily defined as: (a) hyper-endemic: ≥2.5 cases/10,000 population, (b) moderately-endemic: ≥1 to 2.49 cases/10,000 population, and (c) less-endemic: <1 case/10,000 population. Kala-azar patients are detected and treated mainly through primary healthcare centers (upazila health complexes) and referral centers, especially at Surya Kanta Kala-azar Research Center (SKKRC) and some medical college hospitals. The ICT-based rK39 is being used for the diagnosis of kala-azar both in the field (UHC) and hospitals. Injection Sodium Stibogluconate (SSG) had long been used in the treatment of kala-azar and post-kala-azar dermal leishmaniasis (PKDL) cases, which have been phased out. In the WHO-supported VL Elimination Program in Bangladesh, single-dose AmBisome (amphotericin B) has been introduced in the treatment for kala-azar since 2013. Initially, it was focused on eight hyper-endemic upazilas but now it is being introduced in the remaining 91 endemic upazilas (Annual Report, KEP, Bangladesh). WHO Bangladesh has been providing technical assistance to increase the capacity of the program to implement the single-dose Inj. AmBisome in all the endemic upazilas.

Monthly reporting of kala-azar cases and case search are running regularly under active and passive surveillance of KA cases. In 2015, the 'Active case detection' (ACD) activities were continued in 20 upazilas to strengthen disease surveillance strategy for Kala-azar Elimination Program by house-to-house searching. A total of 140 camps were arranged to conduct the said case-detection activities. In total, 8,576 suspected cases of kala-azar were found throughout 2015. Out of them, 57 were detected as 'new kala-azar' (NKA) cases while 15 cases were diagnosed as PKDL.

In addition, a program is doing pre- and post-impact of indoor residual spraying (IRS) on malaria vector bionomics and susceptibility test on regular basis as part of vector surveillance. Moreover, operational researches, like pharmaco-vigilence, vector bioassay test, clinical trial of combination therapy for the treatment of new kala-azar, etc., were conducted.

Capacity-building training is regularly being arranged for the key field-level personnel. In 2015, a total of 3,605 persons were provided training. The numbers of trainees in different categories are shown in Table 9.5.

Table 9.5. Number of participants in capacity-building training conducted in 2015

Category	Number of trainees
Medical officer	423
Senior staff nurse	298
Lab technician	13
Health inspector, assistant health inspector, and health assistant	191
Community healthcare provider (CHCP)	2,080
Graduate and non-graduate private doctor	600
Total	**3,605**

NKEP is now about to reach its elimination target. By means of successful implementation of planed activities, NKEP has converted the hyper-endemic upazilas to moderately-endemic upazilas in Bangladesh by 2015.

Figure 9.6 and 9.7 show the year-wise kala-azar cases and related deaths respectively, each from 2000 to 2015. The numbers of cases are steadily decreasing from 2007. In 2006, the highest number of cases was reported to be 9,379 while, in the last year (2015), the number came down to 862.

Diarrhea

In 2015, a total of 2,560,598 diarrhea cases and 24 related deaths were reported. The death rate due to diarrhea thus remains at around 0.001% as in the previous years. Figure 9.8 shows the total diarrhea cases in 2015 by month.

Figure 9.9 shows that the deaths due to diarrhea decreased almost each year but drastically from 2007 to 2015. The amazing reduction in diarrhea-related mortality over the last few years proves the effectiveness of the strategies adopted. The strategies include the provision

Figure 9.6. Year-wise number of kala azar cases from 2000 through 2015

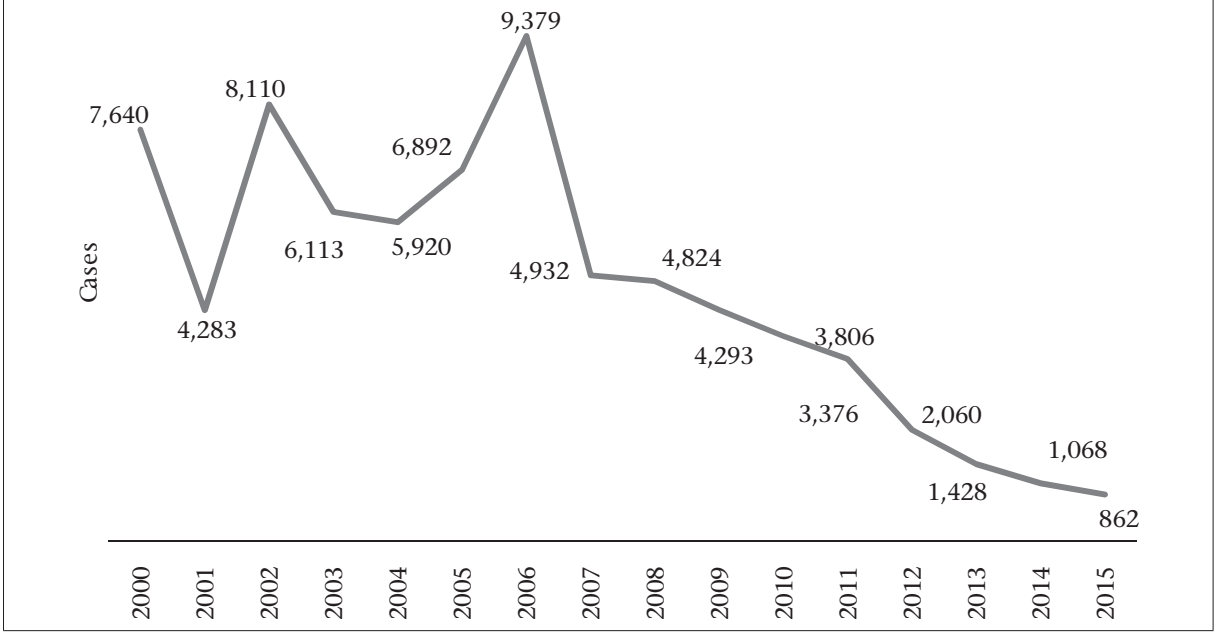
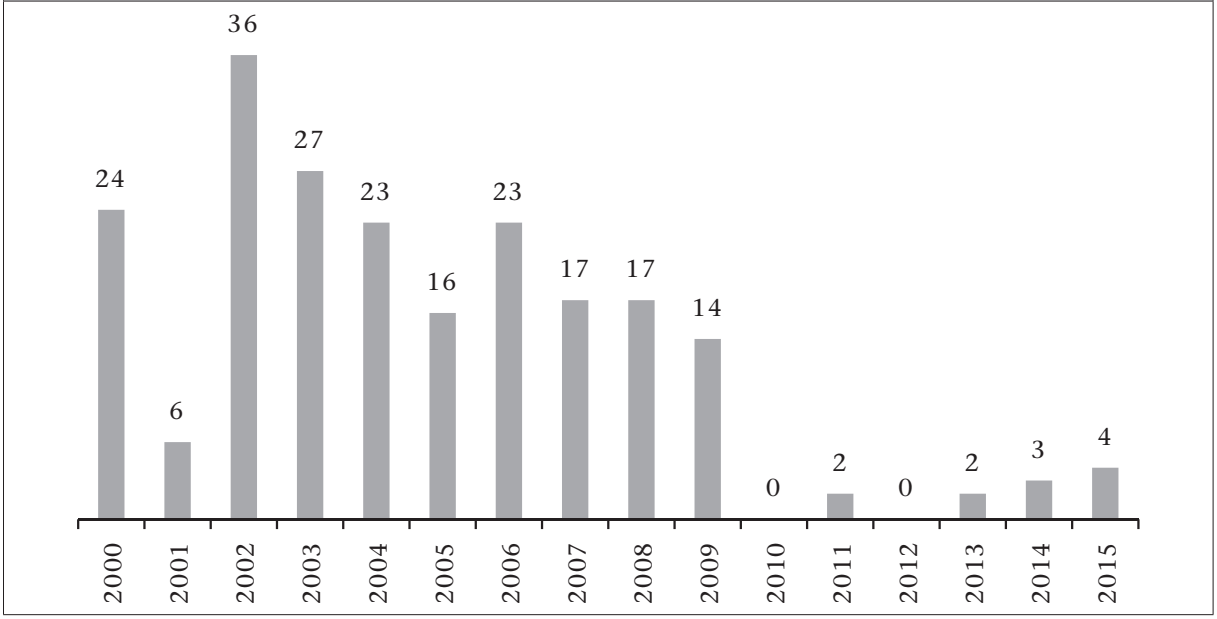


Figure 9.7. Year-wise number of reported deaths from kala-azar during 2000 through 2015



of early oral rehydration at the household level. Cases that cannot be managed at the community level are usually referred to the treatment centers where more efficient therapy, including intravenous rehydration and antibiotics, can be used.

Emerging and Re-emerging Diseases Control Program

- A growing and globalizing threat of emerging and re-emerging diseases is best addressed through reliance on rapid detection, diagnosis, and containment. The Disease Control Unit of the DGHS has separate programs on emerging and re-emerging diseases, including hepatitis, rabies, anthrax, chikungunya, and antimicrobial resistance. Different comprehensive action plans have been taken to combat these diseases. Some important steps, which already have been taken in 2015, are as follows: Training of

Figure 9.8. Numbers of diarrhea cases in Bangladesh in 2015 *[Source: Control Room (DGHS)]*

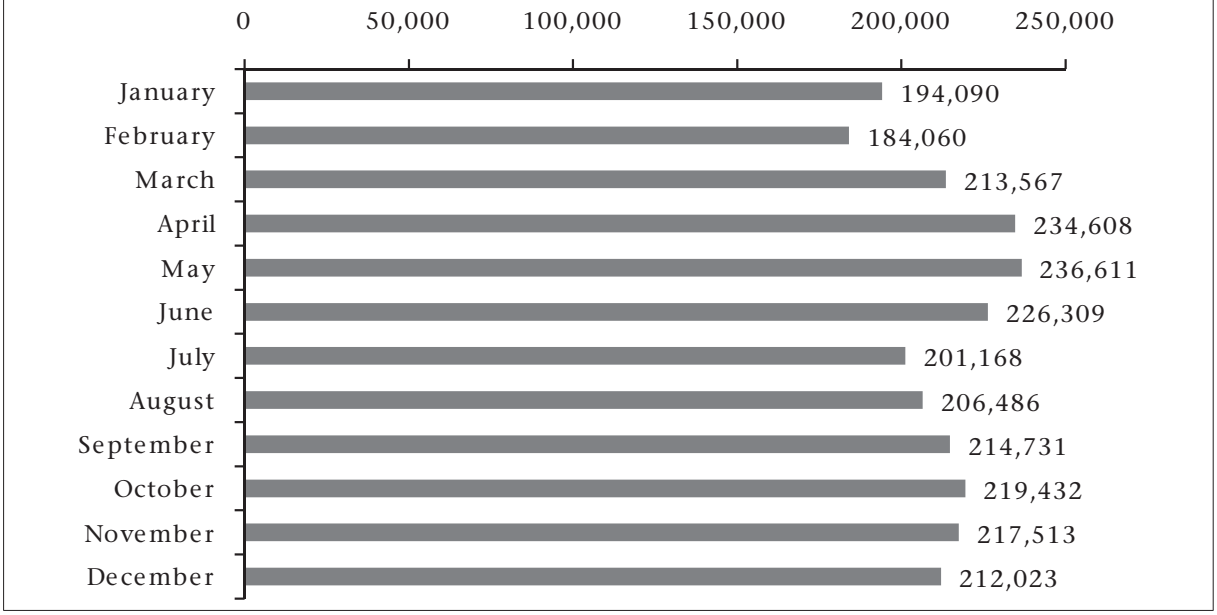
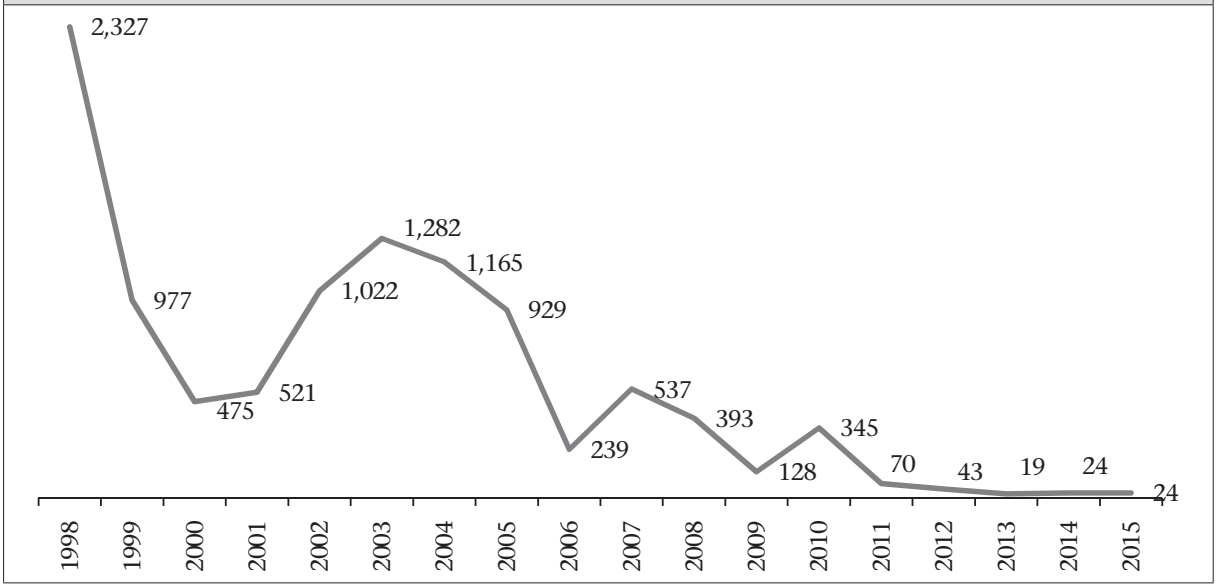


Figure 9.9. Numbers of diarrhea-related deaths in Bangladesh during 1998-2015 *[Source: Control Room (DGHS)]*



trainers (TOT) was conducted for doctors, nurses, and store-keepers of District Rabies Prevention & Control Center (DRPCC) in 64 districts of the country in order to improve and centralize modern treatment and management of dog- and animal-bites

- Nationwide training on rabies prevention, disease surveillance, and technical aspects of vaccine
- Seminar and training on viral hepatitis
- Measures taken on the prevention of Ebola virus
- Training of health assistants and sanitary inspectors on the prevention and control of communicable diseases
- Meeting of the core working committee on antimicrobial resistance
- National symposium on antimicrobial resistance for UH&FPOs in the whole

country held in Dhaka Medical College auditorium

- Training of MT lab on communicable disease prevention and control
- Orientation meeting on emerging diseases (Nipah, MERS-CoV), and re-emerging diseases (dengue, chikungunya fever) conducted for district health education officers of the country
- Approval of National Strategy of Antimicrobial Resistance
- Establishment of thermal scanner in different ports of entry.

Rabies

Rabies was a neglected tropical zoonotic disease. It claims more than 2,000 lives annually in the country. This is the highest for any single infectious disease. Rabies, if manifested, is nearly 100% fatal but is 100% preventable as well if appropriate preventive measures are taken. Annual number of dog-bites in Bangladesh varies between 200,000 and 300,000, and 95% of rabies occur due to dog-bites. Only suspected rabid dogs are thought to be responsible for rabies as dogs rarely can remain healthy. Other animals that occasionally transmit rabies in Bangladesh are cat, fox, monkey, jackal, and mongoose. Other than humans, an estimated 25,000 or more cattle succumb to rabies every year. In the national rabies elimination goal by 2020, a number of activities are being conducted, such as national rabies survey, setting up of national and district rabies prevention and control centers, mass dog vaccination, and management of dog population. To estimate the total dog population and annual events of dog-bites and rabies, a national rabies survey was conducted in 600 clusters all over the country, each cluster comprising 300 households, altogether covering a total of 180,000 households.

A national rabies prevention and control center has been established at the Infectious Diseases Hospital, Mohakhali, Dhaka, where about 350 to 450 dog-bite victims receive the service daily. Antirabies vaccines and rabies immunoglobulin are distributed free of charge from this center. In addition to the national center, 65 rabies prevention and control centers have also been established at the district level where dog-bite victims are receiving modern management. These district centers also distribute antirabies vaccines and rabies immunoglobulin free of charge. Mass dog vaccination, launched in 2011 in Cox's Bazar Sadar Municipality as a pilot, is a unique idea to make the dog population immune from rabies so that any dog-bite does not transmit rabies to humans. If 70% of the existing dog population can be vaccinated, there will be herd immunity among the dog population, keeping them protected from rabies. Large-scale mass dog vaccination activities have been scaled to 37 districts of four divisions (Dhaka, Rajshahi, Sylhet, and Rangpur).

Intra-dermal tissue culture-based rabies vaccines are now being used replacing the locally-produced nerve tissue vaccines for dog-bites. For all these measures, the case-fatality rates are declining.

Anthrax

Anthrax is caused by *Bacillus anthracis*, a bacterium that can form spores. Spores allow it to survive in the soil for long periods. Anthrax is primarily a disease of herbivorous mammals, such as cattle, sheep, goats, and buffaloes, which may have chance to ingest anthrax spores while grazing. Humans generally acquire the disease directly or indirectly from infected animals or from occupational exposure to infected or contaminated animal products. Control in livestock is, therefore, the key to reducing incidence. There is no documented evidence of person-to-person transmission. The impact of the disease on animal and human health can be devastating. The disease exists in animals and humans in most countries of the world. Prevalence of anthrax in Bangladesh was not well-documented earlier. However, since August 2009, the Institute of Epidemiology, Disease Control and Research (IEDCR) investigated 14 outbreaks of cutaneous anthrax in three districts of Bangladesh (Pabna, Sirajganj, and Tangail). Recently, more outbreaks are being reported. In 2015, a total of 189 cases of anthrax were reported from 4 districts: Meherpur, Kushtia, Rajshahi, and Narayanganj.

Nipah virus infection

Nipah virus infection in humans is an emerging zoonotic disease in Bangladesh. First recognized

in a large outbreak with 276 reported cases in Malaysia and Singapore (between September 1998 and May 1999), Bangladesh identified the first cases in 2001. Encephalitis and respiratory distress are common presenting symptoms and signs of Nipah infections.

In 2015, 18 nipah cases were identified by IECDR (Table 9.6); out of them 11 died. These cases were from 6 different districts: Nilphamari, Panchagarh, Faridpur, Magura, Naogaon, and Rajbari. One cluster was identified in Naogaon, which consisted of three Nipah encephalitis cases. Of these, two were laboratory-confirmed cases.

MERS-CoV and A/H7N9

In recent times, newly-emerged MERS-CoV outbreak in the Middle East and novel influenza A/H7N9 outbreak in China have been of growing public-health concern in our country. The IEDCR has started surveillance for those two newly-emerging diseases, using the platform of nationwide influenza surveillance in selected hospitals. The laboratories at IEDCR have the capability to detect these two viruses.

Rotavirus and intussusceptions

IEDCR, in collaboration with icddr,b, has started hospital-based rotavirus and intussusception surveillance in three selected hospitals across the country from July 2012. The objectives of this surveillance are to estimate the proportion of diarrhea-related hospitalization among children aged less than 5 years (which are attributable to rotavirus), to describe the predominant strain of rotavirus throughout Bangladesh, to determine the age, region and seasonal distribution of hospitalizations associated with rotavirus in the population under surveillance, and to estimate the frequency of hospitalization associated with intussusceptions among children aged less than 2 years in the surveillance hospitals.

Chikungunya

Chikungunya fever, a dengue-like disease, is emerging alarmingly in the country in recent years. Chikungunya is also transmitted by mosquito-bites. In 2011 (August to October), suspected chikungunya fever outbreaks were detected in Dohar upazila of Dhaka district and Shibganj upazila of Chapainowabganj district. Recently, two other outbreaks in Rajshahi and

Table 9.6. Yearly distribution of Nipah cases in Bangladesh, 2001-2015

Year	Total number of cases in a year	Total number of deaths in a year	% deaths in a year
2001	13	9	69
2002	0	0	
2003	12	8	67
2004	67	50	75
2005	13	11	85
2006	0	0	
2007	18	9	50
2008	11	9	82
2009	4	0	0
2010	18	16	89
2011	42	36	86
2012	18	13	72
2013	26	22	85
2014	38	15	39
2015	18	11	61
Total	**298**	**209**	**70**

Pabna districts were identified. No case fatality was reported from the outbreaks. Diagnosis of chikungunya is important to distinguish it from dengue. An enhanced vector control program is an essential component to control and contain the spread of the disease.

Avian and pandemic influenza

Background

Influenza pandemics are unpredictable but recurring events can have consequences worldwide. Since the 16th century, influenza pandemics have been described at intervals ranging between 10 and 50 years with varying severity and impact. Characteristics of the four influenza pandemics are summarized in Table 9.7.

The risk of avian influenza and other zoonotic diseases increases due to (i) high population density of humans and animals; (ii) high number of backyard farms and live poultry markets; (iii) mixed farming practice with low biosecurity; (iv) limited control over poultry movements; (v) inadequate regulation of slaughtering and processing of products; and (vi) suboptimal veterinary public health infrastructure, surveillance system, and laboratory facilities. External risk factors include: (i) long porous border (with significant cross-border movements of people and a lack of animal quarantine stations); (ii) importation of avian species, particularly breeder chickens; and (iii) regular movements of companion animals with expatriates from overseas.

Bangladesh developed modern diagnostic laboratories for pandemic influenza, with real-time polymerized chain reaction (RT-PCR) and biosafety level 3 (BSL,3) facilities. The country reports to the WHO on any event of avian influenza following the guidelines of International Health Regulation 2005 (IHR 2005).

Bangladesh situation

About 244 species of migratory birds visit Bangladesh during the winter season (October to March), of which approximately 21 species may carry the HPAI/N5N1 virus. In Bangladesh, the first outbreak of this in poultry was declared on 22 March 2007. The first report of human case of avian influenza in Bangladesh was made on 22 May 2008. Subsequently, the country was declared to have pandemic alert situation.

After that report, two more human cases of H9N2 were detected in 2011 in Bangladesh. The swine flu virus first struck in Mexico six years ago, with panic gripping even in Bangladesh– about 11,000 kilometers away from this Latin American country. Within a couple of months, the World Health Organization declared H1N1 a global pandemic, and Bangladesh recorded the first case of swine flu attack, triggering the panic further. At least eight people died

Table 9.7. Characteristics of the past four influenza pandemics

Year of emergence of pandemic and common name	Area of origin	Influenza virus subtype (type of animal genetic introduction/ recombination events)	Estimated reproductive number	Estimated case fatality	Estimated attributable excess mortality worldwide	Age-groups most affected
1918 'Spanish flu'	Unclear	H1N1 (unknown)	1.2-3.0	2.3%	20-50 million	Young adults
1957-1958 'Asian flu'	Southern China	H2N2 (avian)	1.5	<0.2%	1-4 million	All age-groups
1968-1969 'Hong Kong flu'	Southern China	H3N2 (avian)	1.3-1.6	<0.2%	1-4 million	All age-groups
2009-2010 'influenza A(H1N1) 2009'	North America	H1N1 (swine)	1.1-1.8	<0.2%	100,000-400,000	Children and young adults

among an estimated 10,000 cases. As part of the Government's measures, incoming persons, imported foods, and some goods are checked at landports, airports, and other entry-points for swine flu. After the 2009 outbreak, swine flu became a seasonal influenza in Bangladesh, like other two viruses: influenza B and H3. A combined vaccine against these three viruses is available.

Prevention and control activities for avian and pandemic influenza

Avian influenza is handled under a new program reflected in the operational plan of CDC from 2007-2008. Formerly, it was included in emerging and re-emerging diseases. Since July 2007, it has been a separate program with a Deputy Program Manager (DPM) posted. After Influenza A(H1N1) 2009 pandemic and chance of appearance of new viruses of other types with pandemic potential, the Avian Influenza (AI) Program was renamed Avian Influenza and Pandemic Influenza Program. The activities of the Program are summarized below.

- Implementation and review of national policy
- Adaptation of international protocols and guidelines to Bangladesh
- Development of standard operating procedure (SOP)
- Evaluation of health services/needs assessments
- Upgrading healthcare facilities
- Improving capacity of diagnostic laboratories
- Upgrading of priority infrastructure for health surveillances
- Training of public health workers in disease surveillance
- Reinforcement of rapid response teams for outbreak investigations
- Providing rapid diagnostic kits to regional centers for preliminary diagnosis
- Training of clinicians, healthcare workers, and paramedics
- Implementation and review of communication strategy
- Table-top and field exercises
- Purchase, storage, and distribution of antiviral, supportive medication and disinfectants
- Acquisition, storage, and distribution of personal protective equipment (PPE) sets
- Technical assistance for pandemic planning
- Equipment and materials for quarantine operations and mortality issues
- A technical committee is formed, and drugs have been stockpiled with the Government and the World Health Organization (WHO)
- Twenty-five infrared thermometers have been supplied and are being used. In addition, seven thermal scanners have been set up at selected points of entry
- Pregnant women, older people, children, and those with co-morbid conditions, such as diabetes, heart disease, and asthma, were at higher risk of infection with seasonal influenza as well as swine flu. Public awareness was increased to be cautious about influenza, suggesting the use of handkerchiefs and tissue papers when coughing or sneezing, washing hands regularly, and getting proper rest if suffering from a fever or seasonal influenza
- Bangladesh has put its health offices on high alert over H1N1 following an outbreak of the disease in neighboring India.

Zika virus and preparedness

Zika virus is mostly transmitted through the bite of an infected mosquito, primarily *Aedes aegypti*– the same vector that transmits chikungunya and dengue. *Aedes albopictus* can also transmit the disease, and further studies are in progress to better understand its role in the transmission of Zika virus. This virus may also be transmitted through sexual intercourse. Zika virus disease has a similar epidemiology, clinical presentation, and transmission cycle in cities and towns as chikungunya and dengue, although the illness is generally milder.

Symptoms of Zika virus disease include mild fever, skin rash, conjunctivitis, muscle and joint pain which normally last for 2 to 7 days. There is no specific treatment but symptoms are

normally mild and can be treated with common medicines against fever, rest, and drinking plenty of fluids.

The current Zika virus outbreak and its association with an increase in microcephaly, other congenital malformations and Guillain-Barré syndrome (GBS) have caused increasing alarm in countries across the world, particularly in the Americas. Brazil announced a national public health emergency in November 2015.

Zika virus and its complications, such as microcephaly and Guillain-Barré syndrome, represent a new type of public-health threat with long-term consequences for families, communities, and countries. The experts agreed that a causal relationship between Zika infection during pregnancy and microcephaly is strongly suspected, though not yet scientifically proven. The International Health Regulations (IHR, 2005) Emergency Committee met on 1 February 2016, and WHO declared the recent clusters of microcephaly and other neurological disorders in Brazil (following a similar cluster in French Polynesia in 2014) a Public Health Emergency of International Concern. In the absence of another explanation for the clusters of microcephaly and other neurological disorders, the IHR Emergency Committee recommended enhanced surveillance and research and aggressive measures to reduce infection with Zika virus, particularly amongst pregnant women and women of child-bearing age.

At present, the most important protective measures are the control of mosquito populations and the prevention of mosquito-bites among at-risk individuals, especially pregnant women.

The recent outbreaks in Singapore, Malaysia, and Thailand raised concern that the disease can spread in the region. Moreover, experts predict that Bangladesh is one of the high-risk countries for Zika virus infection. Although Zika virus causes mild disease, its potential to cause microcephaly is a concern, and country capacities need to be strengthened.

Planning and preparation of MOHFW against Zika disease

1. National strategy developed
2. Develop clinical management guideline of Zika virus infection with microcephaly and GBS
3. Develop, strengthen, and implement integrated surveillance systems at all levels for Zika disease, its complications, other arboviral diseases, and their vectors
4. Awareness-raising among gynecologists and pediatricians
5. Consultation with gynecologists and pediatricians, especially about reporting of microcephaly cases
6. Consultation with Chief Health Officer/ Health Departments of Municipalities/ Pourosova regarding mosquito control/ vector control and high-level motivation and support needed; prevent adverse health outcomes associated with Zika virus infection through integrated vector management
7. Surge capacity assessment and actions necessary to strengthen the capacity
8. Lab capacity and SOPs
9. Training to the Rapid Response Team, including consultants of gynecology and pediatrics
10. Training of physicians of big private hospitals/clinics
11. Awareness-raising among general public and preparation of mass media materials; prevent adverse health outcomes associated with Zika virus infection through risk communication and community engagement.

Tuberculosis

Since long, tuberculosis (TB) has been a major public-health problem in Bangladesh. Under the Mycobacterial Disease Control (MBDC) Unit of the DGHS, the National Tuberculosis Control Program (NTP) is working with a mission of eliminating TB from Bangladesh. The goal of the program is to reduce morbidity, mortality, and transmission of TB until it is no longer a public-health problem while the present aim is to achieve universal access to high-quality care for all TB patients.

The NTP introduced DOTS strategy in November 1993. The program was progressively expanded to cover all upazilas by mid-1998. By 2007, the DOTS services were made available throughout

the country, including the metropolitan cities. The NTP started implementing Stop TB Strategy in 2006 giving emphasis on all types of TB cases, including clinically-diagnosed cases, drug-resistant TB, childhood TB, and TB/HIV co-infected cases to ensure quality care for all people with TB.

Now Bangladesh is in the stage of adopting "WHO's End TB Strategy" that is the Global strategy with its ambitious targets for tuberculosis prevention, care, and control after 2015. The strategy aims to end the global TB epidemic, with targets to reduce TB-related deaths by 95% and to cut new cases by 90% between 2015 and 2035, and to ensure that no family is burdened with catastrophic expenses due to TB. It sets interim milestones for 2020, 2025, and 2030 as shown in Table 9.8.

Tuberculosis situation

The incidence and prevalence rates of all forms of tuberculosis in 2014 were 227 and 404 per 100 000 people respectively according to the revised estimates by WHO. It is further estimated that about 51 per 100 000 people died of TB in the same year. Although the HIV prevalence is still low, HIV poses a threat to TB control. The estimated incidence rate of HIV-positive TB cases reduced from 0.40/100,000 people in 2011 to 0.36/100,000 in 2014. The proportion of multidrug-resistant tuberculosis (MDR-TB) among new TB cases was 1.4%, and that among re-treatment cases was 29% (Table 9.9).

Progress in TB control

Remarkable progress in TB control has been made in terms of DOTS coverage, detection of TB cases, and treatment success since the introduction of DOTS in Bangladesh in 1993.

In all upazilas, DOTS coverage was achieved by June 1998 and, by 2007, NTP reached the 100% DOTS coverage.

In total, 209,438 cases (including 2,523 combined cases of return after failure, return after loss to follow-up, and others) have been reported to NTP in 2015. So, the overall case notification rate of all forms of TB cases (excluding 2,523 returning cases) was 130 per 100 000 population. The case notification rate for bacteriologically-confirmed pulmonary (new smear-positive) cases in 2015 was 72 per 100 000 people (Figure 9.10 and 9.11; Table 9.10, and 9.11). The projected population for 2015 based on 2011 census is 158,917,106.

Table 9.8. Global strategy and targets for TB prevention, care, and control

Indicator	Milestones		Targets	
			SDG	End TB
	2020	2025	2030	2035
Reduction in number of TB-related deaths compared to 2015 (%)	35%	75%	90%	95%
Reduction in number of TB incidence compared to 2015 (%)	20%	50%	80%	90%
TB-affected families facing catastrophic costs for treatment and management (%)	Zero	Zero	Zero	Zero

Table 9.9: Estimated population and TB burden in Bangladesh, 2014 (reported by WHO in 2015)

• Population	159 million
• Mortality rate	51/100 000 population
• Prevalence rate (all TB cases)	404/100 000 population
• Incidence rate (all TB cases)	227/100 000 population
• Incidence rate (HIV-positive TB cases)	0.36/100 000 population
• Proportion of new TB cases with MDR-TB	1.4%
• Proportion of re-treated TB cases with MDR-TB	29%

Source: Global Tuberculosis Report, WHO, 2015

The program has successfully treated 94% of the new smear-positive cases registered in 2014 as shown in Figure 9.12.

Drug-resistant tuberculosis (DR-TB)

The multidrug-resistant tuberculosis (MDR-TB) has become a significant public-health threat globally against effective TB control. There were an estimated 480 000 (range: 350 000–610 000) new cases of MDR-TB worldwide in 2014. Globally, an estimated 3.3% of new cases and 20% of previously-treated cases have MDR-TB.

Bangladesh is also facing the challenge of drug-resistant TB. To combat this problem under National TB Control Program, Bangladesh has taken appreciable steps in terms of diagnosis and management of drug-resistant TB. The diagnostic facilities are available at: National TB Reference Laboratory (NTRL) in the NIDCH, Dhaka; and Regional TB Reference Laboratory (RTRL) in the CDHs, Rajshahi; Chittagong, and Khulna. The treatment facilities for drug-resistant TB are available at: NIDCH, Dhaka; CDH, Rajshahi, Chittagong, Khulna, and Sylhet; and 20-bedded CDH at Pabna.

Besides these, the government-run hospitals have the treatment facilities for DR-TB management and are also available at three other hospitals of Damien Foundation at Jalchhatra under Tangail district, Onontopur under Netrakona district and Shambhuganj under Mymensingh district, with a shorter regimen of 9 months. The Damien Foundation, Bangladesh also conducts operational research on drug-resistant TB.

From 2008 to 2015, a total of 4,340 multidrug-resistant TB patients have been enrolled for treatment; 2,989 under 24 months regimen (supported by the Global Fund) and 1,351 under 9 months regimen (supported by the Damien Foundation, Bangladesh) (Table 9.12). The treatment success rates of the enrolled cases of cohort 2013 are 80% and 73% under 9 months and 24 months regimen respectively (Figure 9.13).

Figure 9.10. Nationwide TB case notification; absolute number, 2001-2015

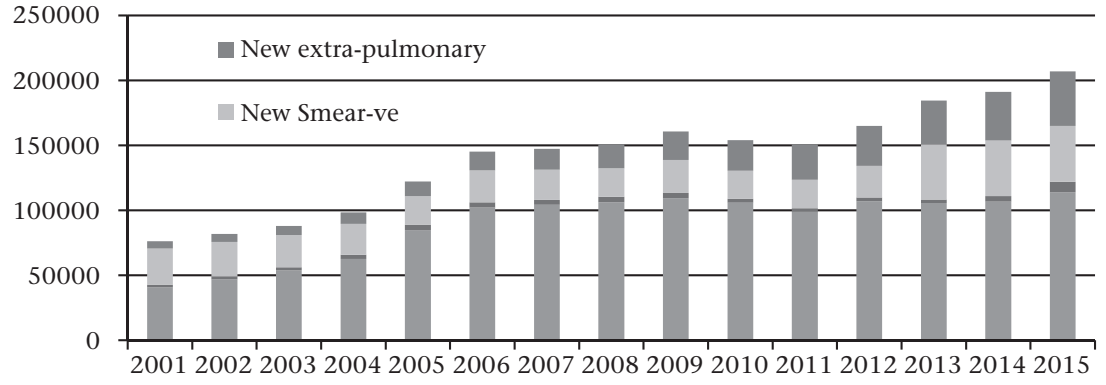


Table 9.10. Nationwide TB case notification; absolute number, 2015 (according to new classification)

Reporting unit	Type of cases							
	Pulmonary (Bacteriologically-confirmed)		Pulmonary (Clinically-diagnosed)		Extra-pulmonary		All re-treated cases, except relapses	Total
	New	Relapse	New	Relapse	New	Relapse		
Upazila	102,192	2,223	36,885	3,028	31,186	807	2,053	178,374
Metropolitan area	10,478	842	5,567	360	9,559	484	394	27,693
CDC	1,278	101	617	15	1,255	29	76	3,371
Total	**113,948**	**3,166**	**43,078**	**3,403**	**42,000**	**1,320**	**2,523**	**209,438**

Figure 9.11. Nationwide TB case notification rate (per 100 000 population/year), 2001-2015

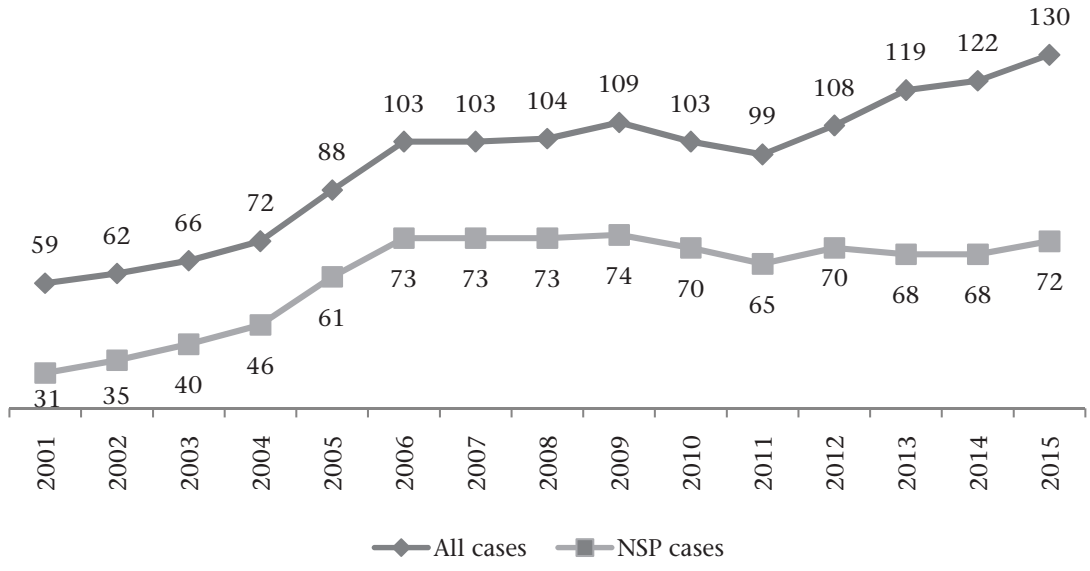


Table 9.11. Year-wise (2011-2015) tuberculosis case notification by type of reporting unit, 2011-2015

Year	Area	Pulmonary Smear+ve/ Bacteriologically-confirmed		Pulmonary Smear -ve	Extra-pulmonary	Total
		New	Relapse	New	New	
2011	Rural/Upazila	87743	1889	16,433	20,340	126,405
	Metropolitan area	9,391	698	4,442	5,648	20,179
	CDC	1,814	114	1,046	1,341	4,315
	Total	**98,948**	**2,701**	**21,921**	**27,329**	**150,899**
2012	Rural/Upazila	95,132	2,135	18,856	22,506	138,629
	Metropolitan area	10,068	820	4,640	6,849	22,377
	CDC	1,640	112	955	1,194	3,901
	Total	**106,840**	**3,067**	**24,451**	**30,549**	**164,907**
2013	Rural/Upazila	94,668	2,024	36,036	25,081	157,809
	Metropolitan area	9,372	751	5,367	7,393	22,883
	CDC	1,501	93	990	1,231	3,815
	Total	**105,541**	**2,868**	**42,393**	**33,705**	**184,507**
2014	Rural/Upazila	95,716	2,496	36,346	27,854	162,412
	Metropolitan area	9,585	442	5,663	83,48	24,038
	CDC	1,438	51	851	1,204	3,544
	Total	**106,739**	**2,989**	**42,860**	**37,406**	**189,994***
2015	Rural/Upazila	102,192	2,223	36,885	31,186	172,486
	Metropolitan area	10,478	842	5,576	9,559	26,455
	CDC	1,278	101	617	1,255	3,251
	Total	**113,948**	**3,166**	**43,078**	**42,000**	**202,192***

*Pulmonary smear-negative relapse and extra-pulmonary relapse are not included in the total

Figure 9.12. Treatment success rate (%) of new smear-positive TB cases, 2001-2014 cohorts

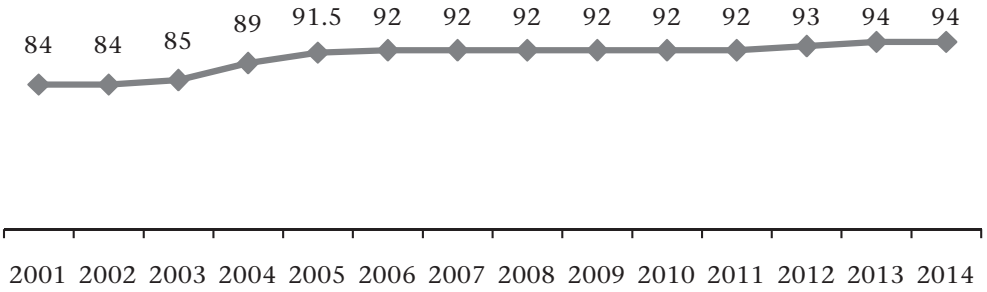
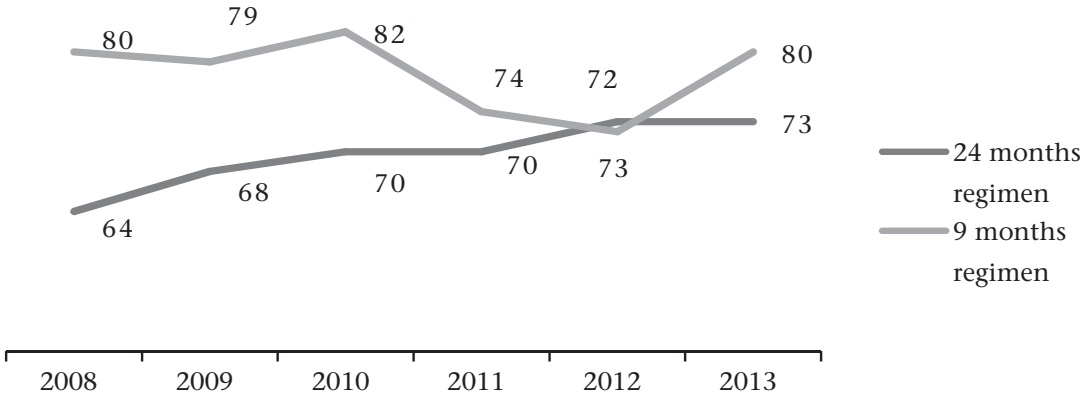


Table 9.12. Number of MDR-TB cases enrolled for treatment, 2008-2015

Year	24 months regimen	9 months regimen	Total
2008	107	129	236
2009	179	181	360
2010	183	154	337
2011	253	137	390
2012	376	129	505
2013	495	191	686
2014	716	230	946
2015	680	200	880
Total	**2,989**	**1,351**	**4,340**

Figure 9.13. Treatment success rates of enrolled MDR-TB cases of 2008-2013 cohort



Leprosy

Leprosy is an ancient and chronic infectious disease caused by *Mycobacterium leprae,* affecting mainly the peripheral nerves. The disease also affects the skin, mucosa of the upper respiratory tract, muscles, eyes, bones, testes, and internal organs. Before 1873, the cause of leprosy was not known, and no effective treatment was available. In 1873, the discovery of the pathogen *M. leprae* (Hansen's Bacillus) by Dr. Armuer Hansen opened avenues to the diagnosis of and treatment for leprosy. In 1943, the sulphone drugs (dapsone monotherapy) were introduced in the treatment for leprosy. In 1985, multidrug therapy was introduced in the treatment for leprosy due to emergence of dapsone-resistant strains of *M. leprae*.

Bangladesh has achieved elimination of leprosy at the national level by the end of December 1998. It was 2 years ahead of WHO-targeted date. The 'elimination' as defined by the WHO is to reduce registered prevalence to less than 1 case per 10,000

people. When WHO declared elimination, the registered prevalence was 0.87/10,000 people, and the number of endemic districts/ areas were 15. After achieving elimination at the national level, the National Leprosy Elimination Program (NLEP) is consolidating its effort to achieve subnational (district-level) elimination. At the end of December 2004, the registered prevalence came down to 0.51/10,000 people, and the number of endemic districts/areas came down to 10. The NLEP has been experiencing a very slow decline of leprosy prevalence during the last nine years, with 0.0.2/10,000 at the end of December 2015 (Figure 9.14).

After achieving elimination at the national level, the National Leprosy Elimination Program (NLEP) is consolidating its effort to achieve subnational (district-level) elimination.

Figure 9.15 shows the number of new leprosy cases and completed MDT from 2010 to 2015. Table 9.13 and 9.14 show the division-wise new case detection and completion of MDT (cured) respectively in 2015.

Figure 9.14. Registered prevalence rate of leprosy (per 10,000 people) in different years between 1991 and 2014 in Bangladesh

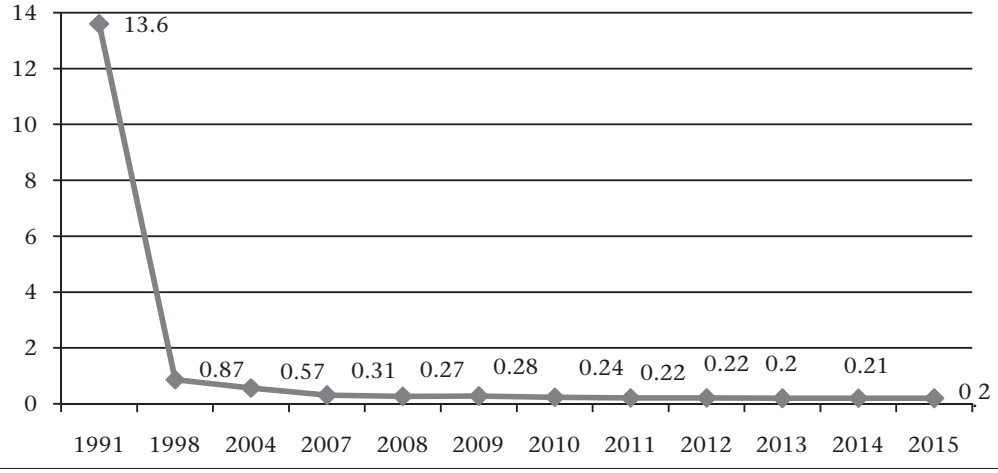


Figure 9.15. Number of new leprosy cases detected and MDT completed (cured) under NLEP, Bangladesh, 2010-2015

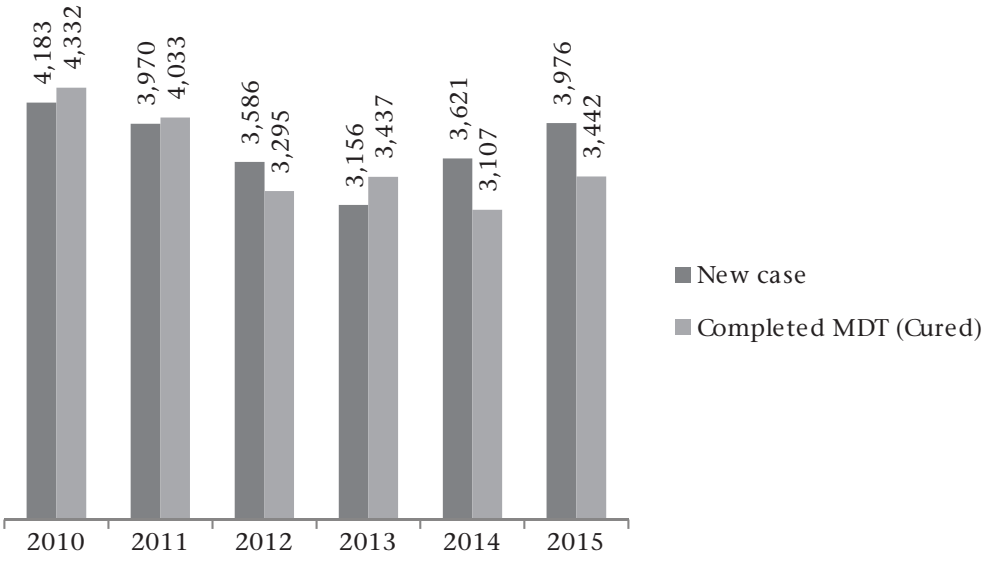


Table 9.13. Division-wise profile of the newly-detected leprosy cases, Bangladesh, 2015					
Division	**Population (N)**	**MB (N)**	**PB (N)**	**Total (N)**	**Registered prevalence/10,000 people**
Barisal	8,717,535	2	00	2	0.002
Chittagong	31,473,600	286	97	383	0.122
Dhaka	53,612,057	735	492	1,227	0.229
Khulna	16,750,368	101	9	110	0.066
Rajshahi	20,184,700	232	147	379	0.188
Rangpur	17,289,615	537	598	1,135	0.656
Sylhet	11,257,091	308	205	513	0.456
Total	**159,284,966**	**2,201**	**1,548**	**3,749**	**0.235**

Table 9.14. Division-wise leprosy cases (completed MDT) in Bangladesh in 2015			
Division	**MB (>5 lesions)**	**PB (1 to 5 lesions)**	**Total**
Dhaka	403	527	930
Barisal	3	0	3
Chittagong	179	152	331
Sylhet	161	184	345
Khulna	49	110	59
Rajshahi	169	160	331
Rangpur	4,530	763	1,443
Total	**1,494**	**1,796**	**3,442**

HIV/AIDS

Although Bangladesh is still considered a low-prevalence country for HIV/AIDS, it remains vulnerable to an HIV epidemic because of the high prevalence in neighboring countries and the high mobility of people within and beyond the country. Inadequacy in correct knowledge about HIV and AIDS due to illiteracy, ignorance, and gender inequity aggravate the vulnerability. The most important factors that may contribute to a potential HIV epidemic include: high rate of needle-sharing among people who inject drugs (PWID), low rate of condom-use, and high prevalence of sexually transmitted infections (STIs) among the key populations.

As in other countries of the region, HIV prevalence in Bangladesh is higher among key populations (i.e. female and male sex workers (FSW and MSW), men who have sex with men (MSM), PWID, and Hijra/transgender population), with a concentrated epidemic among the PWID. The prevalence rate of HIV among PWID was more than 5% in Dhaka in 2011. Although it is estimated that less than 0.1% of the total population of 160 million is infected with HIV, the number of HIV cases is increasing rapidly according to a report titled "Assessment of Impact of Harm Reduction Interventions among People Who Inject Drugs (PWID) in Dhaka City."

HIV and AIDS are beyond the health issues as the economic and social challenges for the most productive age-group are surmounted due to HIV. Bangladesh has an estimated 22,178 PWID, 81,605 FSW, 96,610 MSM, 22,619 MSW, and 9,840 Hijra (according to the unpublished Mapping Study and Size Estimation of Key Populations in Bangladesh, 2016), "counting the numbers of men who have sex with men, male sex workers, and Hijra in Bangladesh to provide HIV prevention service); 23% of the total

population comprises young people. Due to various societal barriers, the young people have limited knowledge about HIV and AIDS.

> The most important factors that may contribute to a potential HIV epidemic include: high rate of needle-sharing among people who inject drugs (PWID), low rate of condom-use, and high prevalence of sexually transmitted infections (STIs) among the key populations.

Precautionary measures are being undertaken by the Government of Bangladesh to limit the spread of HIV infection since the detection of the first HIV-positive case in 1989. The National AIDS Committee (NAC) was formed in 1985 and reconstituted in 2010. The MOHFW is playing the leading role in the prevention of HIV and control of AIDS. The National AIDS/STD Control Program (NASP) is implementing HIV and AIDS prevention activities in Bangladesh through a coalition of three functionaries, namely the NAC, MOHFW, and the DGHS. The NASP under the DGHS is responsible for coordinating activities of all stakeholders and development partners involved in the areas of concerns.

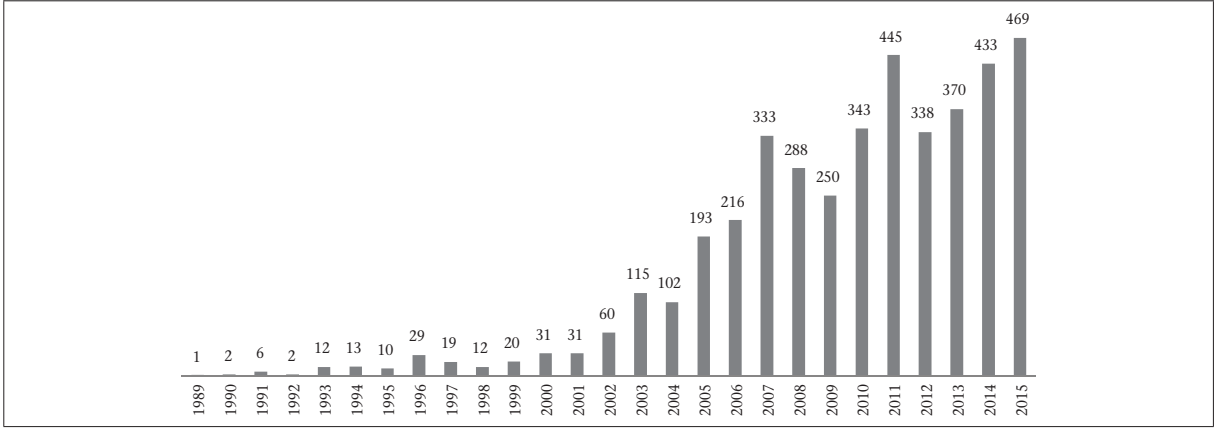
Strong political history and commitment of Bangladesh to the HIV response helped the nation attain a unique position to succeed whereas several other developing countries have not been that successful to keep the AIDS epidemic from expanding beyond this current level. The comprehensive, timely and strategically-viable prevention measures have prevented the gradual spread of HIV from key populations (KPs) to the general population. To a significant extent, this is probably attributable to the willingness of the Government to acknowledge the existence of key populations and risk behaviors, which facilitated the start of the effective interventions at early time, high-quality interventions by NGOs, strong technical support from international and local agencies and communities, and a clear strategic focus by donor agencies extending support to Bangladesh.

A total of 469 new HIV infections have been detected in 2015 (Figure 9.16). Further, until December 2015, the total number of detected cases was 4,143, of whom 658 people living with HIV (PLHIV) have died, leaving 3,485 known people living with HIV. However, the majority of infections are likely to remain undetected, and the total national estimate is around 9,000 PLHIV (source: GARRP 2014).

Surveillance

Since 1998, the NASP introduced a surveillance system, using facility-based data from HIV/AIDS and STI/STD service providers. As in previous years, Round IX of serological surveillance was conducted among the key populations, including heroin-smokers (HS). This round was conducted during December 2010-June 2011, and 12,894 individuals were sampled from 36 geographical areas of Bangladesh. The overall prevalence of HIV and active syphilis was respectively 0.7% and 3%.

Figure 9.16. New HIV-positive cases as reported and estimated by year in Bangladesh (1989-2014)



The PWID in Dhaka have the highest rate of HIV. The prevalence was 5.3% in Round VIII and 7% in Round IX. The decline is not statistically significant. Fortunately, the localization of the cases among PWID to one neighborhood of Dhaka observed in the previous years has also remained static. HIV was also detected in another four groups of people who use drugs (PWUD)–male PWID from Narayanganj (1.5%) and Satkhira (0.4); combined female PWID and heroin-smokers from Dhaka, Narayanganj, Tongi (1.2%), and Benapole (1%).

Active syphilis rates at >5% was detected among six groups of PWID, and the highest proportion was found in male PWID in Narsingdi (7.9%). High active syphilis rates suggest practice of unsafe sex.

Antibodies to hepatitis C virus (HCV), a marker of unsafe injecting practices, were measured in all PWID and groups of combined PWID and heroin-smokers but not in the groups consisting of only heroin-smokers and, in six cities, >50% were HCV-positive. The higher prevalence of HCV was found among PWID from several cities of Rajshahi division, with Kanshat having the highest prevalence (95.7%). HCV rates have declined significantly ($p<0.05$) over the rounds of surveillance in Dhaka.

In total, 3,568 female sex workers were sampled from 13 areas of Bangladesh. Overall HIV prevalence was low (<1%) in all groups of FSW, except in casual sex workers from Hili where two in 125 samples were positive (1.6%). Active syphilis rates at >5% was detected in three sites–street-based FSW of Hili (12.5%) and Chittagong (10.3%) and hotel-based FSW of Sylhet (9.3%).

A cross-sectional survey was conducted in 2013-2014 by icddr,b with support from Global Fund to assess changes in risk behaviors and prevalence of HIV and active syphilis among MSM (males having sex with males), MSW (male sex workers), and Hijra population. The results show that, in Dhaka, the prevalence of HIV in MSM, MSW and Hijra population was <1% while, in Hili, HIV was detected only among two of 28 Hijra (7.1%). In the same group, active syphilis was <1%. Over the years in Dhaka, the prevalence of active syphilis declined significantly among the Hijra and MSW but it has remained unchanged at <2% among MSM. In Chittagong, although HIV was not detected in these groups, active syphilis was 2.2% among MSM and MSW (combined). The overall prevalence of HIV in all three cities (Dhaka, Chittagong, and Hili) was 0.4% among MSM, 0.4% among MSW, and 1% among the Hijra. The overall prevalence of active syphilis in all three cities was 1.2% among MSM, 2.4% among MSW, and 2.8% among the Hijra.

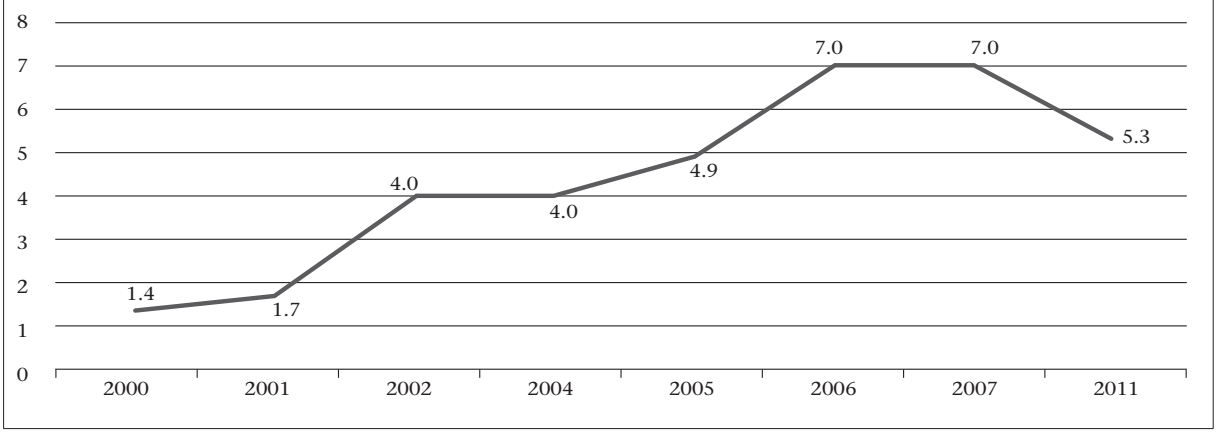
HIV prevalence over the rounds

Over the rounds of surveillance, the overall HIV prevalence has remained at <1%, irrespective of whether the total population is considered or when segregated for the key (most at-risk) and bridging populations (Figure 9.17). It is to be noted that bridging population groups (e.g. mainly truck-drivers, dockyard workers, etc.) were not sampled since Round VI of surveillance.

Cross-border mobility in recent years (among FSW, MSM, MSW, and Hijra)

Two areas where more than one population group with HIV were detected include: Benapole (female PWID and residence-based FSW) and

Figure 9.17. HIV prevalence among PWID over the rounds of surveillance in Dhaka city



Hili (Hijra and casual FSW); both sites have border with West Bengal of India. It is well-recognized that mobility and migration can enhance vulnerability to HIV, and women are particularly vulnerable (Blanchet, Biswas *et al*. 2003). Figure 9.18 and 9.19 show the percentage of FSW, MSM, MSW, and Hijra living in border areas, who crossed the border in the year 2011 and sold sex while abroad. It is clear that cross-border mobility is more common in Hili. Little is known about the sex workers (male, female, and Hijra) living in these border areas. For evidence-based programming, a better understanding is essential.

Geographical and occupational distribution

It is evident from regular case reporting that the highest number of PLHIV is recorded in Dhaka but Sylhet has the highest concentration of PLHIV. Map 9.2 shows the district-wise case reports.

Estimated size of key populations

A new size estimation of key populations is being planned in Bangladesh. As per existing information, the estimated sizes of the different key populations are shown in Table 9.15.

Figure 9.18. Cross-border mobility of different key populations, 2011

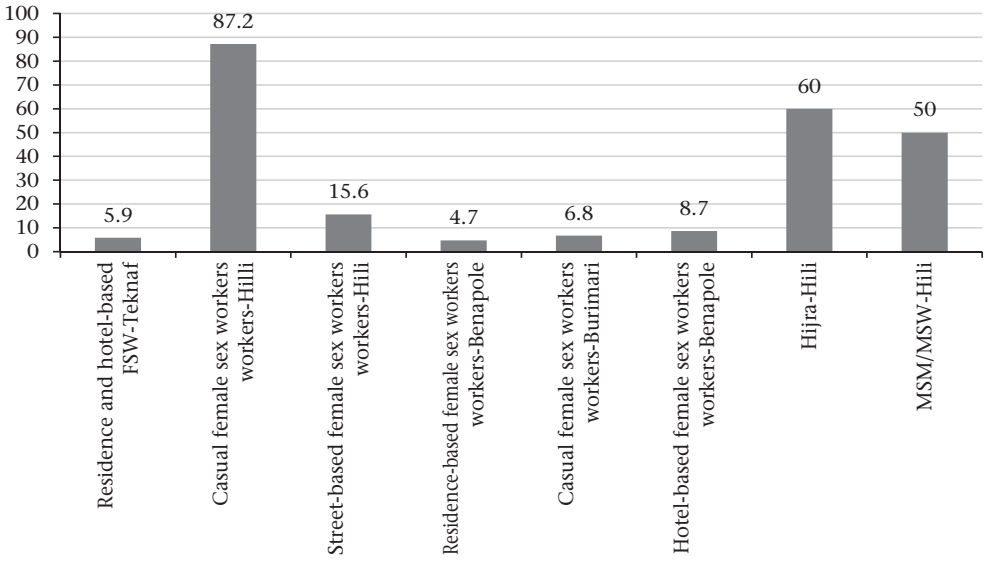
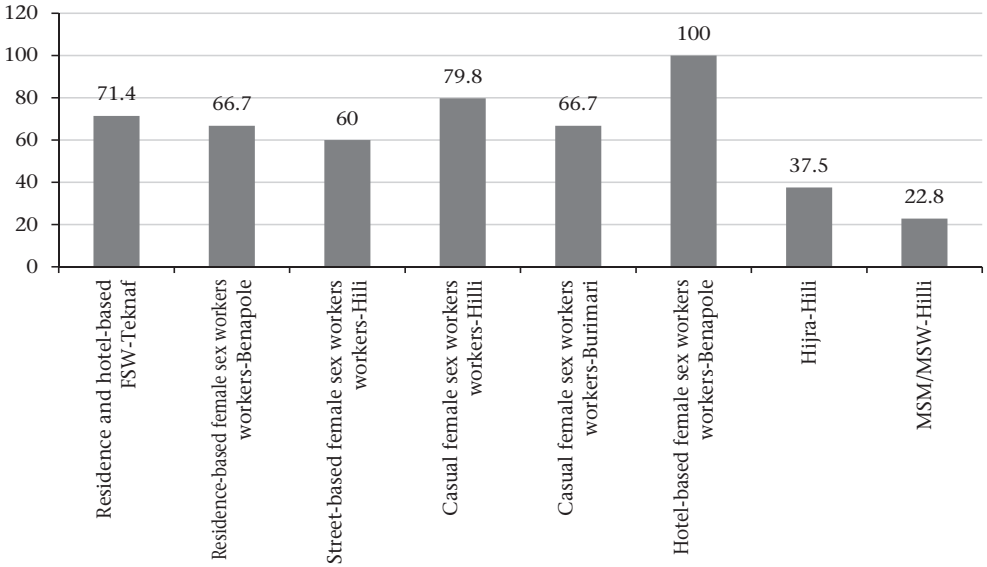
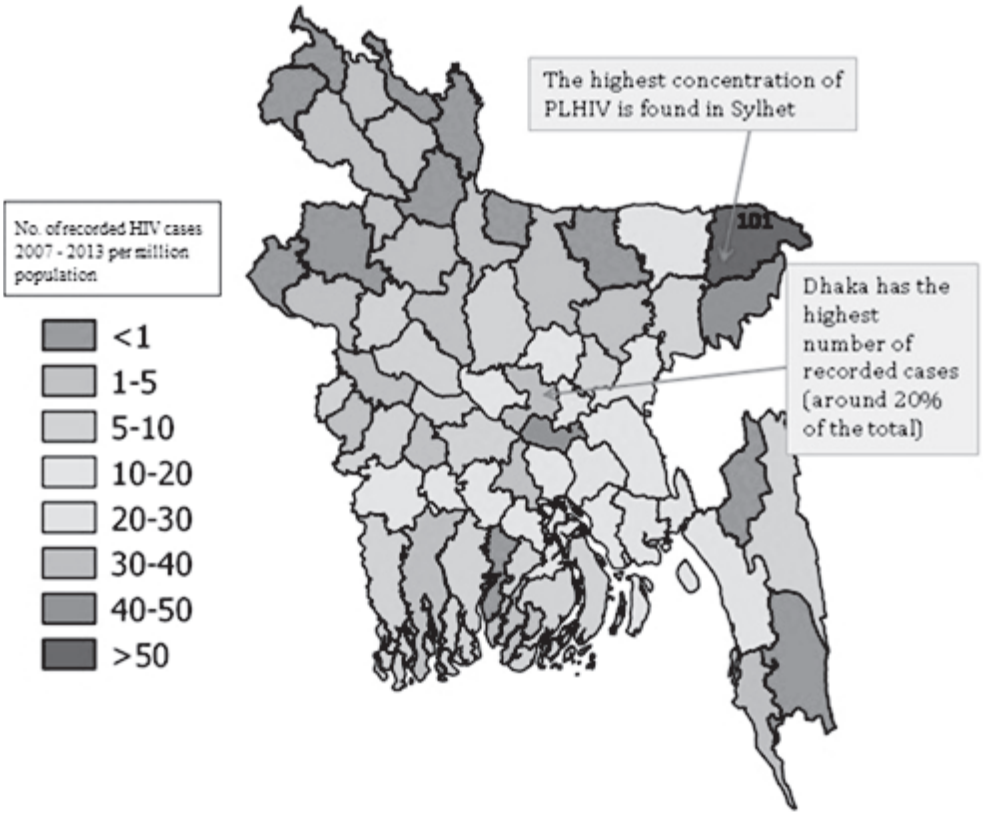


Figure 9.19. Selling sex while abroad in the last year (by those who crossed the border in 2011)



Map 9.2. Geographical distribution of PLHIV



[Source: National AIDS/STD Control Program (NASP), Directorate General of Health Services]

Table 9.15. Estimated sizes of different key populations

Key population	Estimated size (2015)
Total FSW	78,470
Brothel-based FSW	4,417
Street-based FSW	35,749
Hotel- and residence-based FSW	38,304
PWID	22,178
MSM	96,610
MSW	22,619
TG [Hijra]	9,840

Investment case study

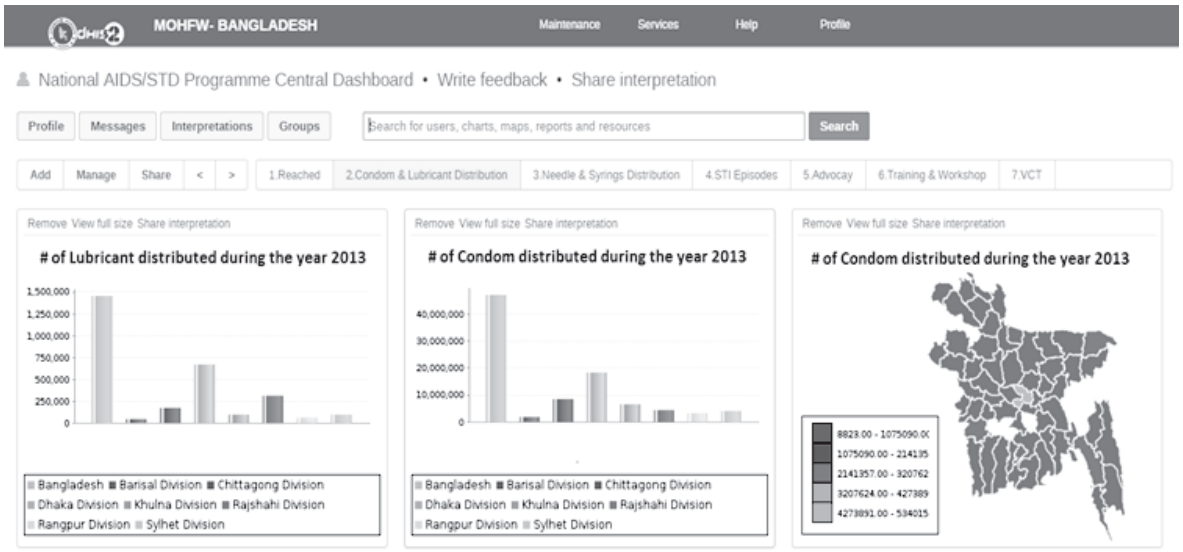
Bangladesh undertook an initiative from January 2015 to conduct an investment case study to explore how limited resource could be used in maximizing impact and to help direct a rapid and sustainable increase in domestic and donor investment. With this backdrop, the 'Investment Case Study' in Bangladesh analyzes the HIV status and response, examines the impact and implications of various future scenarios, and establishes priorities that aim to make the response more effective, efficient, and sustainable, towards the global goal of "Ending AIDS by 2030". For developing the study design, the AIDS Epidemic Model (AEM) and programmatic analysis were used.

It is clear from the AEM that the early response to HIV/AIDS helped maintain a low prevalence in the country. AEM analysis demonstrates that the ongoing interventions have averted a total of 141,225 HIV infections up to 2014 in Bangladesh and saved 3,841,000 DALYs and 19,545 lives till 2014. The HIV prevalence would have exceeded 20% in most KPs within the next 20 years, and a generalized epidemic would have taken off if there would be no interventions since 2000.

Care, support, and treatment services

Under the direct supervision of NASP, the Government of Bangladesh has taken the initiative to provide optimum care and treatment to key populations and PLHIV through care, support, and treatment (CST) services at GO and NGO facilities.

Figure 9.20. A screen-shot from the national reporting system for HIV/AIDS



The Government had a target to provide optimum care to 65% PLHIV by 2014 in its Millennium Development Goal 6 (MDG 6). So, the package of services aims to take initiative on early detection of HIV through HIV testing and counseling (HTC) to detect more cases and increase the coverage of optimum care for PLHIV.

GOB initiative for comprehensive care, support, and treatment to PLHIV

- NASP is procuring 100% ARV drugs from November 2012 onwards
- ARV drugs are dispensed through 5 government health facilities through GO-NGO collaboration under HPNSDP
- Twelve government health facilities are providing other services relating to PLHIV
- Eight NGO facilities are providing BCC, home-based care, community sensitization, drug adherence, opportunistic infections (OIs) management and capacity-building of health service providers
- Three tertiary-level health institutions are supporting PMTCT among ANC attendees.

In addition to the abovementioned treatment, care and support package, the Government of Bangladesh recognized the need of the key populations: FSW, MSM, Hijra, and PWID and is providing prevention services to them. The major services covered STI management, BCC and advocacy, HIV testing and counseling (HTC), and community sensitization.

National reporting system for HIV and AIDS

In 2013, a unified online national reporting system for HIV and AIDS was established. This was a collaborative initiative among NASP, icddr,b, MIS of the Directorate General of Health Services, and UNAIDS. Previously, in assessing the national progress of programs on HIV and AIDS, data were collected manually from each of the organizations conducting the program, which was time-consuming, infrequent, cumbersome, and prone to errors. Using the existing web portal of MIS of the DGHS where the country's overall health information is routinely collected, a unified reporting system for HIV and AIDS was initiated. Through this system, data on HIV and AIDS program relating to key populations are now being collected on output/coverage indicators every six months from all drop-in-centers (DICs) and service delivery points, including HTC centers for the general population. This web-based reporting allows assessment of the national response at a six-month interval, which facilitates NASP to monitor and plan activities in an informed manner. A screen-shot from the national online repotting system is shown in Figure 9.20.. Efforts are being made to incorporate HIV and AIDS program data from all agencies engaged in HIV and AIDS intervention programs into the online system since June 2013.

Chapter 10

Quick response with real-time information

PREPAREDNESS AND RESPONSE IN HEALTH EMERGENCIES

The overall disaster situation of the country causes high burden of disaster-related diseases, disabilities, and deaths

Natural calamities requiring medical help in mass health emergencies are common in Bangladesh but the year 2016 experienced comparatively less disasters, with a few incidences of flood, cyclone, and tornado of moderate intensity, and earthquake of low intensity. However, our preparedness continued as usual. Bangladesh being the most densely-populated country in the world has more victims of road, rail and river traffic accidents than other developing countries. Sudden onset of re-emerging and newly-emerging diseases often requires emergency responses. The overall disaster situation of the country causes high burden of disaster-related diseases, disabilities, and deaths. What are required for the best public-health practices at adequate level include: skilled manpower, uninterrupted supply of logistics, and availability of guidelines to reduce the adverse health impact of these disasters.

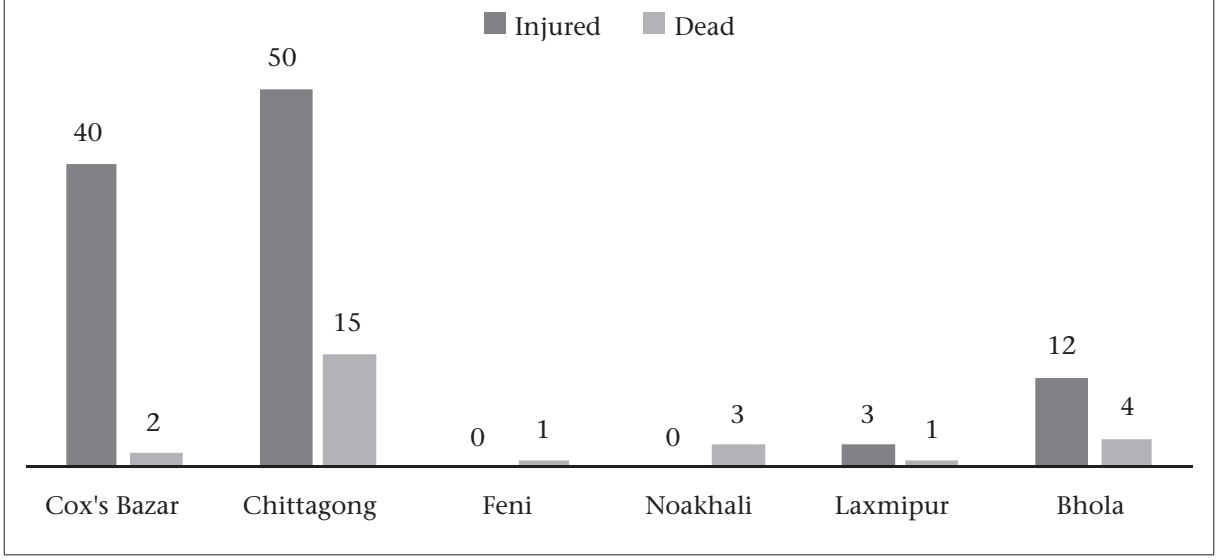
The health emergency preparedness and response program is actively focusing on adequate preparedness for and quick responses to mass health emergencies during disasters under the relevant operational plan of the DGHS for non-communicable disease control (NCDC). Two programs work in collaboration with each other. One is the National Health Crisis Management Center and Control Room (NHCMC&CR) under NCDC program of the DGHS supported by the Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016, and the other one is the Emergency Preparedness and Response (EPR) supported by WHO.

At the national level, the NHCMC&CR of the DGHS and, at subnational level, local control rooms, situated at the district and upazila health facilities, along the coastal belt, have been made functional. A central hotline number (+8801759114488) has also been activated.

The NHCMC&CR operates round-the-clock, all seven days a week, to receive reports of any health emergencies relating to disasters or accidents. Some of the recent experiences will clarify its effectiveness.

The south-eastern and southern parts of Bangladesh (Chittagong and Barisal division) were affected by cyclonic storm Roanu on 21 May 2016 causing heavy rains after crossing the Chittagong coastal area in Bangladesh. From the report of National Health Crisis Management Center and Control Room, the DGHS could compile the casualty statistics very quickly (on 22 May 2016). The district-wise summarized report is shown in Figure 10. The Figure shows that a total of 105 persons were injured, and 26 others died during the calamity, and Chittagong district suffered the most in terms of the number of causalties. By virtue of the agile reporting system, rescue missions and other interventions were based on information and could be well-targeted ensuring optimal use of available resources. A total of 671 medical teams were engaged to manage the post-cyclonic health issues with the following district-wise allocation of teams: Chittagong: 242, Cox's Bazar: 90, Feni: 78, Noakhali: 102, Laxmipur: 67, and Bhola: 92.

Figure 10. Number of persons injured and dead in cyclone Roanu by district (21 May 2016)



The regular activities of EPR include capacity-building of the health managers and raising awareness of community people. The primary goal of the program is to reduce avoidable and preventable morbidities, disabilities, and deaths during emergencies through strengthening overall capacity of the health sector to prevent and mitigate the adverse health consequences of disasters. The program activities involve developing plans, policies, guidelines, IEC materials (viz. training modules, leaflets, posters, etc.), collecting disaster-related information, and conducting other coordination functions with the NHCMC&CR and other government and NGO stakeholders during the normal periods.

A number of institutional capacity-building activities, such as formation and training of "Disaster Health Management Committees" at all levels; conducting training of trainers (TOT)/ workshops/mock drills/simulation exercises on search, rescue, evacuation, first-aid, psychosocial support, risk communication, and mass casualty management for health professionals and workers; provision of emergency supplies (first-aid kits, rain-coats, umbrellas, solar lamps, safety rubber boots, jackets, caps, whistles, etc.) for the first-level health responders; and provision of emergency drugs (maintaining buffer stock) and medical equipment/supplies are among the major functions of the EPR program of the DGHS.

In addition, research on EPR program and surveys of various structural and non-structural components of health sector are ongoing under NCDC program of the DGHS. House-to-house active surveillance and interpersonal communication on post-disaster health management have been completed through workshops for fieldworkers of health and family planning sector at 324 upazilas in 40 districts. Assessment and monitoring, critical gap-filling, coordination through cluster approach, and capacity-building during emergencies are treated as strategic priority functions.

House-to-house active surveillance and interpersonal communication on post-disaster health management have been completed through workshops for fieldworkers of health and family planning sector at 324 upazilas in 40 districts.

A team is formed and sent immediately to the affected areas for assessment and monitoring as and when an emergency situation arises after cyclones, floods, etc. The team measures the health status of the victims and promptly makes an assessment of their needs, identifying priority actions to address the health problems and

avert deaths. In June 2015, a team was formed with officials from EPR program of NCDC and Emergency and Humanitarian Action (EHA) program of WHO, and they successfully completed an assessment and monitoring of health situation, needs, vulnerabilities with prioritization of health problems in certain flash floods and landslide-affected areas of Chittagong and Cox's Bazar district.

By emergency response to a recent flood in North Bengal, some parts of Dhaka and Khulna divisions in 2016, the devastating situation was successfully managed with the support of health cluster partners, including technical assistance from Management Information System (MIS) of the DGHS. Necessary medicines, logistics, and Injection Anti-snake Venom were provided adequately throughout the country with the support of WHO and other health cluster partners.

The EPR program ensures that critical gaps in health responses be rapidly identified and filled based on the needs assessment report, with resources that are available.

The emergency situations are assessed, for coordination through cluster approach, by conducting cluster meetings participated by invited humanitarian actors for joint planning and joint response and actions. The participants with multidisciplinary knowledge and experiences share the observations and identify the under-served or over-served areas. To ensure a holistic collaborative effort, all participants are made aware about "who does what and where."

The DGHS, on an urgent basis, conducts some sessions of relevant training on how to manage and overcome ongoing devastating situation for the health managers as part of capacity-building during emergency,. Providing training to staff and local people in the community is helpful in identifying a sustainable strategy to be adopted in future emergencies both for public health interventions and related areas, such as water quality surveillance, mental health counseling, and other required issues.

The EPR program of NCDC of the DGHS has formed the Disaster Health Management Committee at all levels of health facilities for efficient and effective management of health-related problems originated from the disasters; 2,562 trained doctors, along with paramedics, 28,483 other health and family planning workers, and 5,940 volunteers at the union level were recruited. A well-developed buffer stock system is working for making logistics available. Current buffer stock position is being reported every month from every upazila health complex and civil surgeons' offices.

Seven divisional health management committees are there, with 50 trained staff members; there are also 63 district committees, with 880 trained staff, 9 medical college-level committees, and 407 upazila health complex-level committees having 31,045 trained staff members.

Activities of the EPR program of NCDC are supported by the EHA program of the WHO and other stakeholders in the health sector. In addition to the governmental and other organizations, the Comprehensive Disaster Management Program (CDMP) and European Union Narre Consortium provide technical and logistic support to the program for strengthening disease surveillance and emergency supplies, like drugs for replenishing buffer stocks, laboratory reagents, and related goods for proper investigation and case management. The EPR program is part of a strong coordinated response to emergencies, along with the DGHS, armed forces, UN agencies, fire brigade, Red Cross, development partners, and NGOs. Some recent capacity-building activities carried out by the EPR program from January 2012 to June 2016 are shown in Table 10.

Replenishment of buffer stocks at regular intervals; full functioning of Emergency Medical Services (EMS), achievement of 12 SEARO-EHA benchmarks, and adequate coordination among concerned agencies are some identified challenges to be met.

Aims of the EPR program are to: (i) prepare comprehensive national disaster management plan for the health sector, (ii) operationalize the national disaster management institute in the health sector, (iii) strengthen National Health Crisis Management Center and Control Room, and (iv) procure make-shift hospitals and ambulances with devices to run on rivers.

The world's worst victim of climate change is Bangladesh, the country being the most densely-populated. There are obvious resource constraints. However, the use of experience to guide emergency preparedness for health authorities to ensure better response, statistics of some notable disasters of the previous year have been of great concern for us.

Table 10. Training/workshop/seminar organized by EPR program of NCDC of the DGHS, with support from WHO during January 2012-June 2016

Activity	No. of training sessions held	No. of participants
Workshop on comprehensive health-sector emergency preparedness and response for health and disaster management professionals	7	245
Training on public-health risks and interventions in emergencies for health professionals	6	210
Training on prevention and control of post-disaster communicable diseases for health professionals	4	140
Health cluster meetings	6	180
Training on risk communication for health professionals	2	74
TOT on emergency medical services for master trainers	3	110
Training on search, rescue, and evacuation for community-level health workers	3	105
Advanced training on psychosocial health for health professionals	2	68
Workshop on EPR and post-disaster health management for doctors, nurses, paramedics, and fieldworkers at upazila level	300	14,000
Training on health emergency preparedness and response for primary healthcare-level physicians from disaster-prone districts	48	1350

Activities of the National Institute of Preventive and Social Medicine in areas of preparedness and response in mass health emergencies

The National Institute of Preventive and Social Medicine (NIPSOM) performs some activities relating to mass health emergencies. The Asian Disaster Preparedness Center (ADPC) has been conducting the Hospital Preparedness for Emergencies (HOPE) training course in several countries in Asia, including Bangladesh. HOPE is a component of the Program for Enhancement of Emergency Response (PEER), a region-based program initiated by USAID/OFDA. HOPE is a capacity-building and technical assistance program for the staff of medical facilities and healthcare personnel, both medical and non-medical, to prepare healthcare facilities to respond effectively to emergencies. In collaboration with the National Institute of Preventive and Social Medicine, medical service providers are trained with HOPE, and expert assistance is provided on enhancing medical facility preparedness. In Bangladesh, HOPE has developed 24 new trainers, and, under the 3rd phase of PEER, 64 medical professionals have been trained on hospital mass casualty management.

Efforts are being made to better prepare communities in Bangladesh to strengthen earthquake resilience. ADPC has been currently implementing USAID's Strengthening Earthquake Resilience in Bangladesh (SERB). So that the Government of Bangladesh can respond to and manage natural disasters more effectively, the program is involved in capacity-building activities.

Efforts are being made to better prepare communities in Bangladesh to strengthen earthquake resilience.

A resource pool of skilled trainers and facilitators in Bangladesh has already been established by ADPC. They are providing technical assistance in implementing the program. In collaboration with the National Institute of Preventive and Social Medicine, Fire Service and Civil Defense Directorate (FSCD) and partners, such as Department of Disaster Management (DDM) and Directorate General of Health Services, ADPC is implementing the program.

Chapter 11

Rising Burden from Enhanced Life-expectancy

NON-COMMUNICABLE DISEASES

In the current Health, Population and Nutrition Sector Development Program 2011-2016, control of non-communicable diseases is one of the topmost priority areas of healthcare in the country.

Non-communicable diseases (NCDs) mostly affect middle-aged persons and the elderly worldwide, with no exception in Bangladesh, having a major share of the disease burden and mortality. Changing dietary habits and lifestyle, rapid urbanization, growth of commuting, tobacco-use, uncontrolled growth and consumption of processed foods and beverages, indoor air pollution, road-traffic injuries, lack of awareness about healthful behavioral patterns, and psychological pressure are among the important factors responsible for non-communicable diseases. For enhanced life-expectancy, the proportion of population affected with NCDs is on the rise. In the current Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016, control of non-communicable diseases is one of the topmost priority areas of healthcare in the country. The relevant operational plan under the ongoing HPNSDP 2011-2016 categorized non-communicable diseases into two major groups, viz. conventional and non-conventional.

The conventional group includes major NCDs, like cardiovascular diseases (CVDs), peripheral vascular diseases (PVDs), cerebrovascular disease (stroke), cancer, diabetes, chronic obstructive pulmonary disease (COPD), arsenicosis, renal diseases, deafness, osteoporosis, congenital anomalies, oral health, and thalassemia. The non-conventional group of health issues constitute: road safety and traffic injury; child injury (including drowning); sports injury; snake-bite; suicide and related injury; violence against women; acid burn; occupational health and safety; and industrial and agricultural health hazards; climate change; air pollution; water, sanitation and other environmental health issues; emergency preparedness and response; post-disaster health management and emergency medical services; mental health; autism; and tobacco-, alcohol- and substance-abuse.

From the national NCD risk factor survey conducted in 2010, some critical issues that evolved include the following:

- The NCDs may account for 61% of the total disease burden
- Among the sampled adult population (25+ years), 97% had at least one risk factor, half of whom had two risk factors
- The country has 40 million adult smokers and smokeless tobacco-users
- In total, 64.5 million people are not taking adequate fruits and vegetables
- Seventeen million people are not doing adequate physical activity
- About 18% adults have hypertension
- About 4% have documented diabetes as reported by the patients themselves.

Summary of data gathered from different specialized hospitals is presented to understand the volume of patient-loads in these hospitals and the share of national disease burden contributed by NCDs.

National Institute of Cardiovascular Diseases

Figure 11.1 shows the numbers of outdoor visits and admissions in the National Institute of Cardiovascular Diseases (NICVD) in the last seven years (2009-2015).

During 2015, a total of 4,406 exercise tolerance tests (ETTs) were done in the institute; the recipients of services included 72.46% males (n=3193) and 27.53% females (n=1,213).

The numbers of cath-lab procedures done in NICVD in 2015 are shown in Table 11.1.

In 2015, a total of 3,452 coronary angiographies, 99 cardiac cath, 112 other (peripheral/renal) angiographies and 3,423 other procedures were done.

Figure 11.1 Numbers of outdoor visits and admissions in NICVD (2009-2015)

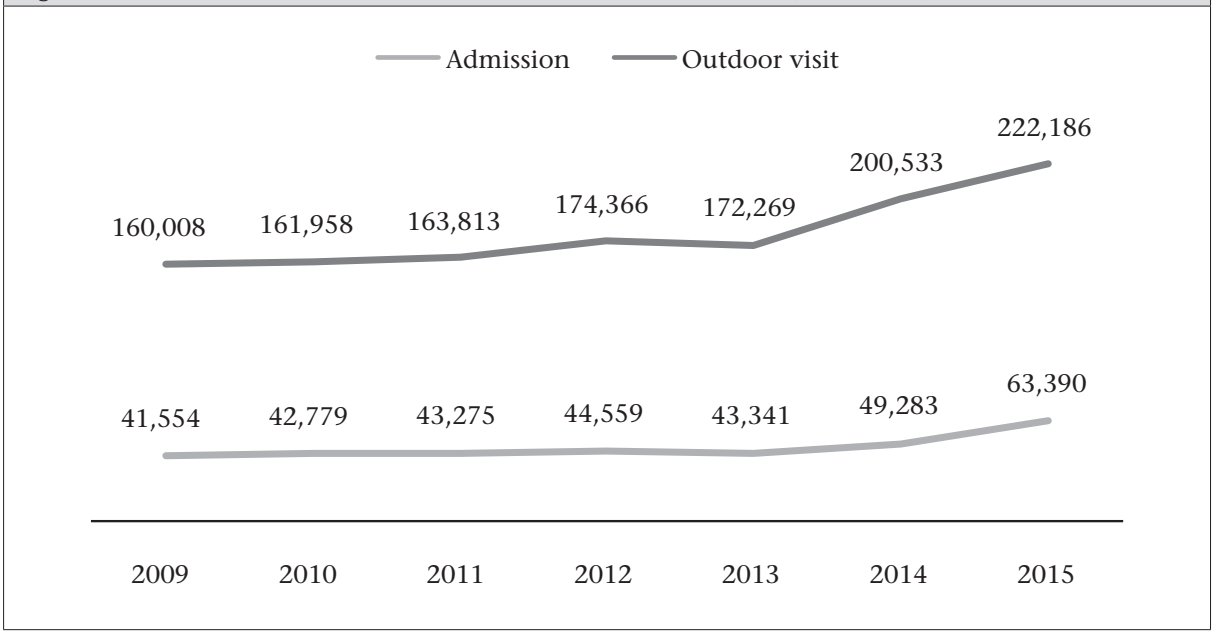


Table 11.1. Number of cath-lab procedures performed in NICVD during 2015

Coronary angiography	Cardiac cath	Other angiographies	Angioplasty	Other interventions						
				PCI	PTMC	TPM	PPM	EPS & RFA	Other	Total
3,452	99	112	02	1,413	89	1,077	552	130	69	3,423

Table 11.2 shows the numbers of heart and vascular surgeries done in the NICVD in 2015. These included a total of 928 open-heart surgeries, 31 closed-heart surgeries, and 1,861 vascular surgeries.

Table 11.2. Heart and vascular surgeries performed at NICVD in 2015

Open-heart surgeries	Closed-heart surgeries	Vascular surgeries
928	31	1,861

National Center for Control of Rheumatic Fever and Heart Diseases

The patients suffering from rheumatic heart diseases and related conditions are treated at the National Center for Control of Rheumatic Fever and Heart Diseases (NCCRFHD). There were 27,247 outdoor visits in 2015; among the visitors, 61.34% (n=16,713) were female, and 38.66% (n=10,534) were male; 50.8% (n=13,842) were new, and 49.2% (n=13,405) were old patients (Figure 11.2 shows the monthly distribution).

Figure 11.3 shows the monthly distribution of the number of prophylactic antibiotic injections (n=8,569) given, ECGs (n=2,146), and echocardiograms (n=1,931) done on patients at the NCCRFHD in 2015.

Figure 11.2. Monthly distribution of outdoor patients attending NCCRFHD in 2015 (total=27,247, new=13,842, old=13,405]

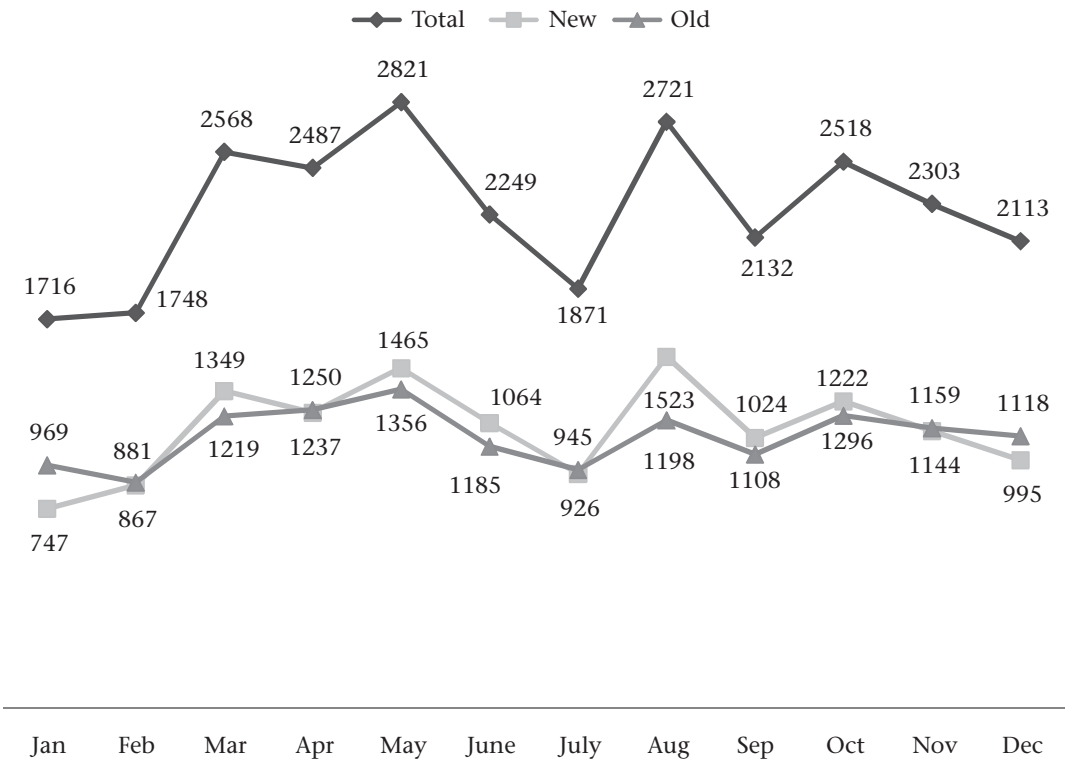
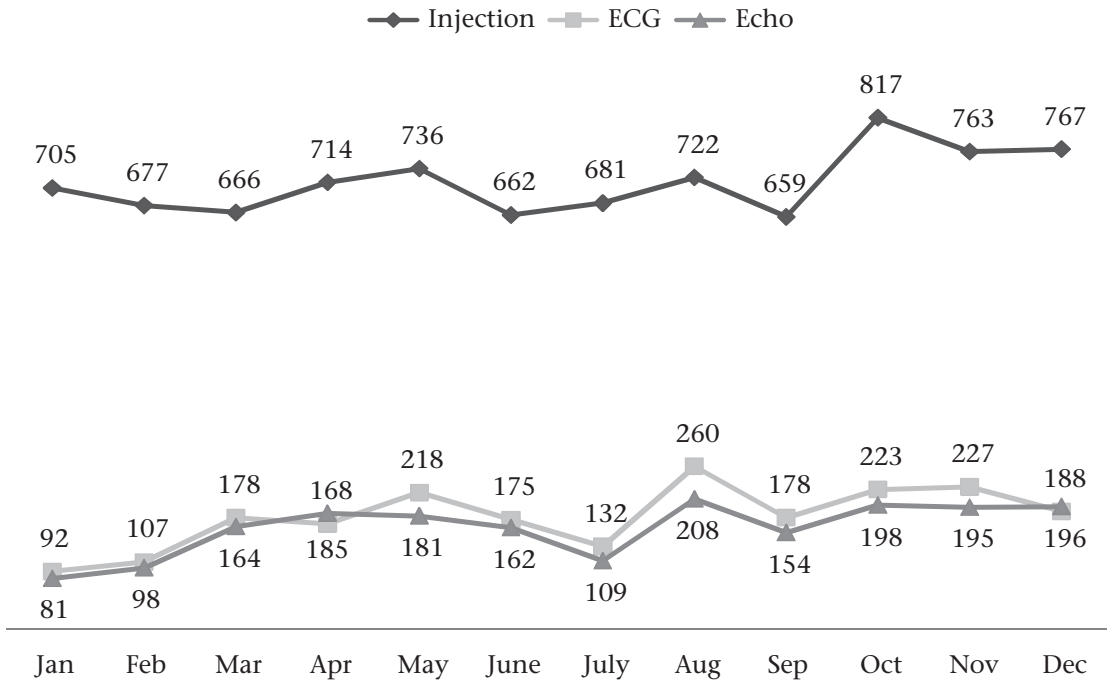


Figure 11.3. Monthly distribution of the number of prophylactic antibiotic injections (8,569) given, ECGs (2,146), and echocardiograms (1,931) done at the NCCRFHD in 2015

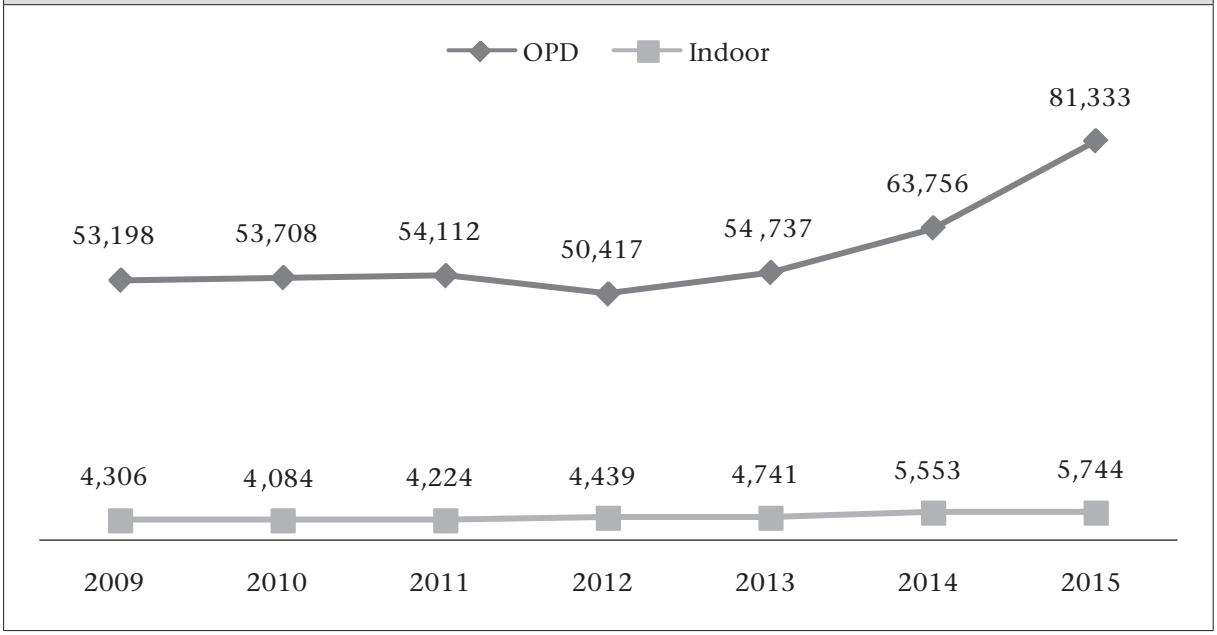


National Institute of Kidney Diseases & Urology

As a specialized postgraduate institute and training center, the National Institute of Kidney Diseases & Urology (NIKDU) offers postgraduate courses, like MD (Nephrology), MD (Pediatric Nephrology), and MS (Urology) and provides postgraduate training on nephrology, urology, pediatric nephrology, radiology and imaging, biochemistry, histopathology, microbiology, immunology, hematology, and anesthesiology.

The numbers of outdoor and indoor patients treated in this institute from 2009 to 2015 are shown in Figure 11.4. Outdoor visits were made by 488,56 males,. 28,016 females, and 4,461 children, the total being 81,333.

Figure 11.4. Numbers of outdoor and indoor patients (both sexes and all ages) at NIKDU from 2009 to 2015



Among the indoor patients, 3,196 were males, 2,020 were females, and 528 were children, the total being 5,744.

National Institute of Cancer Research & Hospital

The largest cancer hospital in Bangladesh is the National Institute of Cancer Research & Hospital (NICRH). It is the only tertiary-level cancer institute in the public sector.

It offers a wide range of cancer-related services at low cost or free of charge. There are 23 full-fledged departments at the NICRH. All departments are working together in cancer management from prevention to cure, from diagnosis to research, and from surgery to rehabilitation. In 2015, the NICRH provided services to 174,037 outdoor, 4,479 emergency, and 7,285 indoor patients. Table11.3 and 11.4 show the OPD and emergency visits, admissions and deaths at the NICRH in the last four years. Table 11.5 presents distribution of patients by age-group (n=17,788). Majority of the patients were from 45-54 years age-group (30.3%). The second leading age-group was 55-64 years (16.0%).

Table 11.6 shows the distribution of admitted cancer patients by department in 2015. Majority (48.7%) of the patients were admitted to the Medical Oncology Department, followed by Surgical Oncology (11.4%), Pediatric Oncology (10.4%), Radiation Oncology (9.8%), and Gynecological Oncology (6.0%).

The largest cancer hospital in Bangladesh is the National Institute of Cancer Research & Hospital (NICRH). It is the only tertiary-level cancer institute in the public sector.

Table 11.3. Numbers of OPD and emergency visits at the NICRH in the last four years (2012-2015)

Year	OPD				Emergency			
	Total	Male	Female	Child (Under-5)	Total	Male	Female	Child (Under-5)
2012	59,221	33,073	26,148	1,803	3,606	2,305	1,301	177
2013	163,029	81,753	81,276	2,425	3,720	2,220	1,500	107
2014	201,195	97,585	99,274	4,336	4,493	2,530	1,963	105
2015	174,037	86,565	84,562	2,910	4,479	2,545	1,836	98

Table 11.4. Numbers of admissions and deaths at the NICRH in the last four years (2012-2015)

Year	Admission				Death			
	Total	Male	Female	Child (Under-5)	Total	Male	Female	Child (Under-5)
2012	3,020	1,731	1,289	481	60	45	15	5
2013	3,045	1,820	1,225	577	115	67	48	3
2014	4,057	2,280	1,857	212	124	86	38	4
2015	7,285	4,040	2,830	415	168	96	66	6

Table 11.5. Distribution of patients at the NICRH by age-group in 2015

Age-group (years)	Frequency	Percentage
<14	630	3.54
15-24	867	4.87
25-34	1,841	10.35
35-44	2,685	15.09
45-54	5,387	30.28
55-64	2,849	16.02
65-74	2,473	13.90
75-84	801	4.50
85-94	214	1.20
>95	41	0.23
Total	**17,788**	**100**

Table 11.7 shows the top five types of cancer according to sites of occurrence among the males and females. These data were extracted from draft cancer registry report of 2015 (n=12044). In males, lung cancer topped the list (25.2%). Cancer of the lymph node and lymphatic channel (11.8%) was in the second position. Stomach cancer (5.2%), esophageal cancer (4.9%), and liver cancer (4.3%) occupied the next successive places. Among the females, breast cancer (26.4%) was the leading one, followed by cervical cancer (18.4%), lung cancer (6.1%), cancer of the lymph node (5.5%), and gall bladder cancer (3.6%).

Table 11.6. Distribution of admitted cancer patients at the NICRH by department in 2015

Department	Frequency	Percentage
Medical Oncology	3,552	48.76
Surgical Oncology	833	11.43
Pediatric Oncology	758	10.40
Radiation Oncology	717	9.84
Gynecological Oncology	437	6.00
Hematology	301	4.13
Genito-urinary Surgical Oncology	253	3.47
ENT Oncology	211	2.90
Dental & Faciomaxillary Surgical Oncology	118	1.62
Plastic & Reconstructive Surgical Oncology	105	1.44
Total	**7,285**	**100**

Table 11.7. Distribution of patients by top five types of cancer according to the site of occurrence at the NICRH in 2015 (n=12044)

Male (n=6,793)		Female (n=5,251)	
Site	**Number (%)**	**Site**	**Number (%)**
Lungs	1709 (25.2)	Breast	1387 (26.4)
Lymph node & lymphatic channel	801 (11.8)	Cervix	967 (18.4)
Stomach	354 (5.2)	Lungs	322 (6.1)
Esophagus	334 (4.9)	Lymph node & lymphatic channel	291 (5.5)
Liver	291 (4.3)	Gall bladder	191 (3.6)

National Institute of Mental Health & Research

During 2015, the National Institute of Mental Health & Research (NIMHR) provided services to 42,703 outdoor patients, 2,501 emergency patients, and 3,085 indoor patients. Among the outdoor patients, 21,311 (49.90%) were males, 15,675 (36.70%) females, and 5,717 (13.38%) were children. Among the emergency patients, 1,471 (58.82%) were males, 920 (36.79%) females, and 110 (4.40%) were children. Among the indoor patients 1,917 (62.14%) were males, 1.067 (34.59%) females, and 101 (3.27%) were children.

Arsenic in groundwater: mitigation program of the DGHS

Acutely poisonous and carcinogenic, arsenic is a colorless and tasteless chemical element. The presence of arsenic in harmful level was first detected in 1993 by the Department of Public Health Engineering (DPHE) in tubewell waters of Chamagram village of Chapainowabganj Sadar Upazila. Since the discovery of the arsenic problem in the country, significant work, such as identification of severity of the problem, advocacy, awareness, and mitigation program activities, have been carried out. Despite the efforts made to provide safe water, a water quality survey in 2009 revealed that 12.6% of drinking-water samples collected from 13,423

households around the country exceeded the drinking-water quality standards (GOB,1997) for Bangladesh (BBS; UNICEF, 2010). The total population still being exposed to arsenic contamination is about 20%.

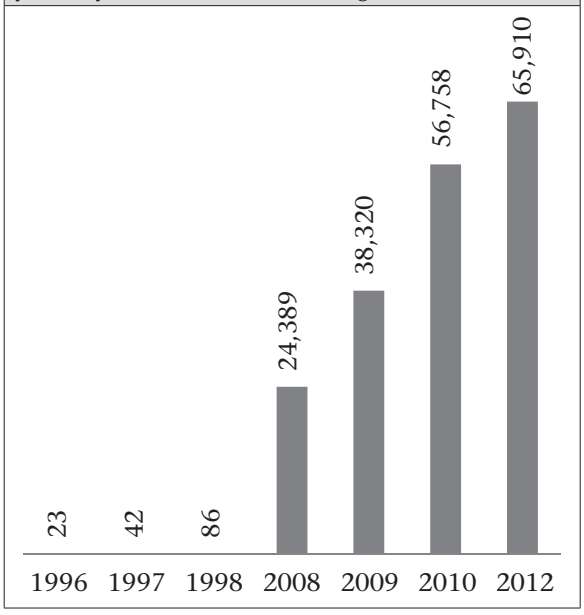
> Despite the efforts made to provide safe water, a water quality survey in 2009 revealed that 12.6% of drinking-water samples collected from 13,423 households around the country exceeded the drinking-water quality standards (GOB,1997) for Bangladesh (BBS; UNICEF, 2010).

The Department of Occupational and Environment Health of the National Institute of Preventive and Social Medicine (NIPSOM) first detected health problems in 8 persons due to drinking of arsenic-contaminated water in 1994. The commonly-reported symptoms of chronic arsenic exposure are: melanesia, keratosis, gangrene skin cancer, bladder cancer, etc. The National Arsenic Program of the Directorate General of Health Services, with technical support from WHO, has been conducting several key activities, viz. (i) consultations and workshops for the development of methodology, tools, database, and data sources; (ii) orientation training of government and non-government health service providers, like nurses, medical assistants, technologists, and field-level health and family planning workers; (iii) mass awareness programs on consumption of arsenic-free safe drinking-water; (iv) testing tubewell water at health facilities for prevention of arsenicosis; (vi) screening of patients through house-to-house searching programs; (vii) identification, diagnosis, and management of arsenicosis patients; (viii) capacity-building of human resources and improving facilities for effective case management and referral; (ix) establishment of rehabilitation centers for disabled arsenicosis patients; (x) conducting surveys and research on arsenicosis; (xi) updating national arsenic mitigation policy and strategy; (xii) strategic partnership with local bodies and community-based organizations regarding the mitigation of arsenicosis; (xiii) further collaboration between the DGHS and the DPHE at the field level to strengthen water screening at the community level; (xiv) strengthening of the existing BAN-net and InfoBase and further inclusion of electronic database at the DGHS (logistics, human resource, and IT network); and (xv) strengthening routine MIS for hospital statistics on arsenicosis and interlinking with MIS of the DGHS.

The DGHS, in future, will work for having the national prevalence data for skin lesions and analysis for estimating death events due to cancers, and heart diseases resulted from exposure to arsenic.

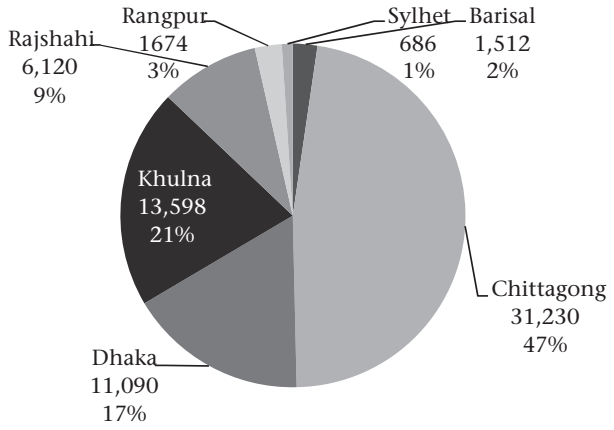
The cumulative number of arsenic patients from 1996 to 2012 is shown in Figure 11.5. The cumulative number stood at 65,910 in 2012.

Figure 11.5. Cumulative number of arsenic patients in Bangladesh detected in different years by National Arsenic Program of the DGHS



The distribution of arsenicosis patients by administrative division of Bangladesh shows that Chittagong division has nearly half of the identified patients (48%; n=31,230), followed by Khulna (21%; n=13,598), Dhaka (17%; n=11,090), Rajshahi (9%; n=6,120), Rangpur (3%; n=1,674), Barisal (2%; n=1,512), and Sylhet (1%; n=686) as shown in Figure 11.6.

Figure 11.6. Distribution of arsenicosis patients by administrative division of Bangladesh (2012)



Climate change and response

The Non-communicable Disease Control Unit of the DGHS, with technical support from WHO, has an action plan which includes raising awareness and building capacities of medical professionals towards understanding the potential impact of climate change on human health and adaptation. Accordingly, training modules–one for doctors and another for nurses, paramedics, health assistants, and family welfare assistants–were developed and published. Several training and orientation sessions have been organized at the central, district and upazila levels. A total of 26,000 field-level personnel have been trained on climate change, its health impact, and management. A total of 3,900 teachers have been oriented. After receiving training, the field-level health workers are now organizing courtyard sessions at the communities. They are also registering climate-sensitive diseases in their respective areas. Necessary collaborations are being made to strengthen the activities of Climate Change Health Promotion Unit (CCHPU) of the Ministry of Health and Family Welfare.

The WHO-IEDCR has jointly conducted the 'Health Vulnerability and Adaptation' assessment of the current and future scenarios. Later, another regional assessment of 'Vulnerability and Adaptation' was carried out in the coastal and drought-prone areas of Bangladesh. The assessment generated primary qualitative and quantitative information regarding the health, including the 'WASH' components (water, sanitation and hygiene) vulnerabilities of the study population, which will support informed decision to define policy and strategy to addressing the impact of climate change. Development process of the Health-National Adaptation Plan (H-NAP) may also be benefited from findings of this assessment.

Injury situation in Bangladesh

In 2016, the Non-communicable Disease Control Program of the DGHS and the Centre for Injury Prevention and Research, Bangladesh (CIPRB) collaborated in the second nationwide injury survey titled Bangladesh Health and Injury Survey (BHIS 2016). Data collection was done from March through June 2016 from a nationally-representative sample with 80,071 households covering a population of 299,216.

Injury-related mortality

The survey showed that injuries accounted for 12.2% of all deaths among all age-groups, and thus the injury-related mortality rate was found 66.8 per 100,000 population per year for all ages. Figure 11.7 shows the mortality rates in different age-groups. The rates were quite high among toddlers (1-4 years) and the older (over 60 years) age-groups.

Leading external causes in terms of fatality rates included suicide, transport accidents, drowning, and falls. Figure 11.8 shows mortality rates by different external causes or injury-mechanisms.

Injury-related morbidity

The injury-related morbidity rate was 12,417 per 100,000 population per year in all ages as

Figure 11.7. Injury mortality rate per 100,000 population by age as found in BHIS 2016

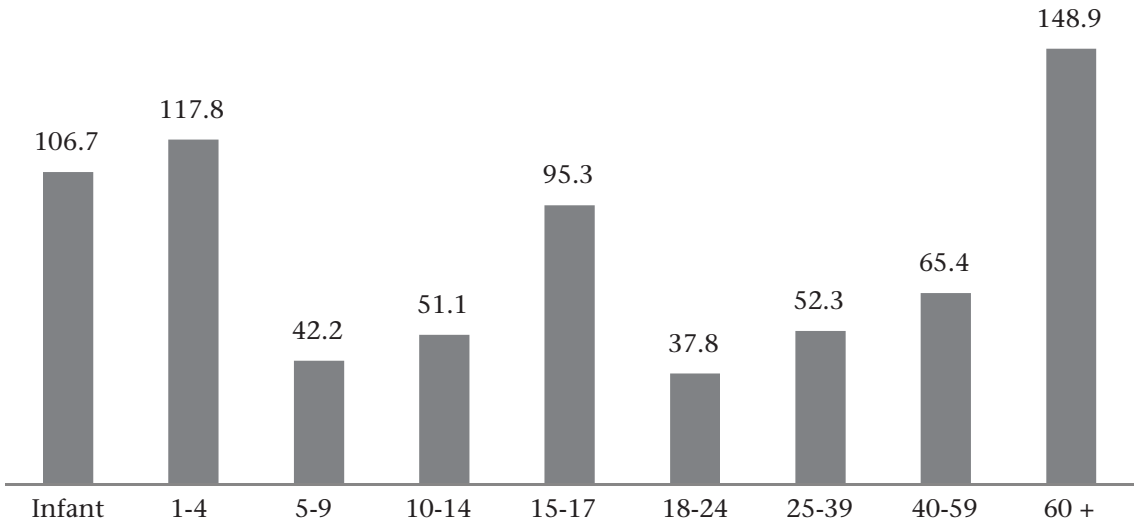
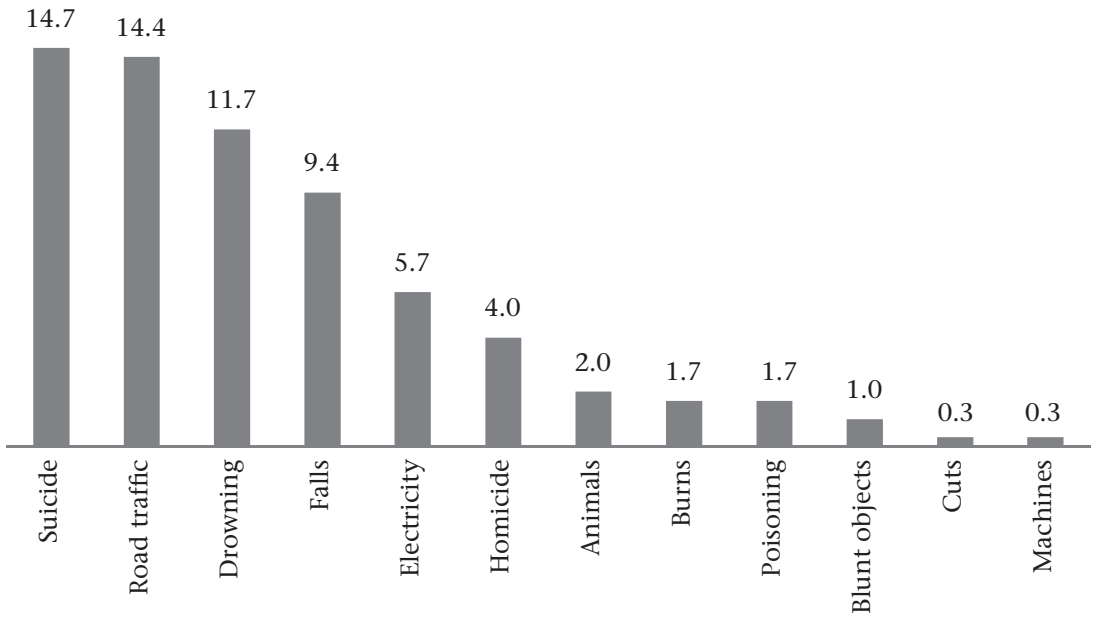


Figure 11.8. Mortality rates per 100,000 population by injury-mechanisms as found in BHIS 2016



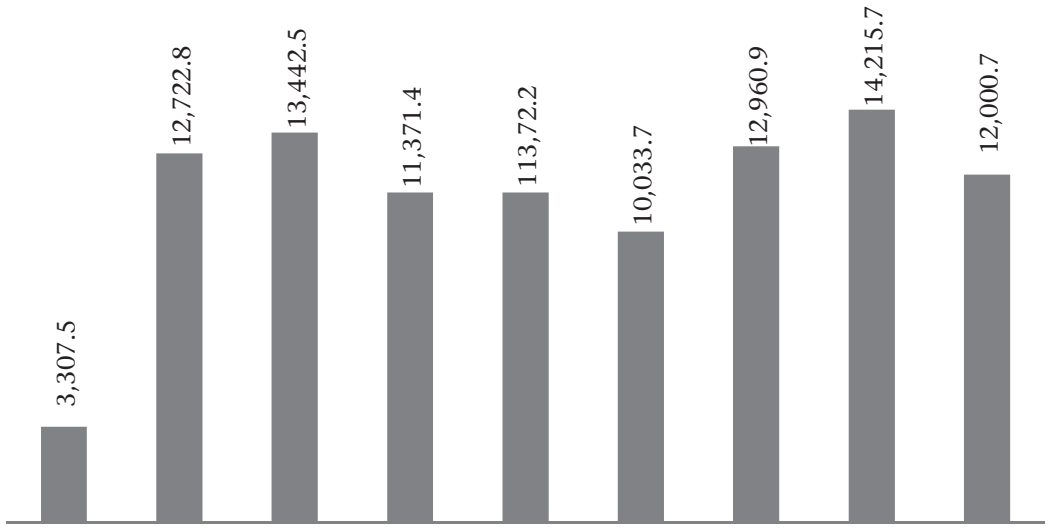
found in the BHIS 2016. Figure 11.9 shows the rates by different age-groups. Among the people aged between 40 and 59 years, the injury-related morbidity rate was the highest.

Autism

One of the most intriguing and challenging neurodevelopmental health problems faced by people all over the world is autism spectrum disorder (ASD). It is estimated that every day 360,000 babies are born in the world. Sadly, one in every 68 of them is born with an autism spectrum disorder.

The challenge of autism is compounded by limited financial, professional and technical resources in a developing country like Bangladesh with a population of over 160 million. However, the bigger challenge has been that of social stigma and isolation, even more than the lack of services.

Figure 11.9 Injury-related morbidity per 100,000 population by age-group



Families living in poverty face immeasurable challenges with their autistic child. The following activities have been undertaken since the national health program has identified this problem as a priority area:

1. National Advisory Committee on Autism and Neurodevelopmental Disability, headed by Saima Wazed Hossain, has been constituted;
2. A 17-membered Autism Technical Guidance Committee has been created;
3. A National Steering Committee on autism by involvement of 15 ministries/divisions/ organizations has been created;
4. A national strategic plan on autism has been formulated, along with a short-term and a long-term action plan;
5. Autism has been incorporated in undergraduate medical curriculum;
6. Child development centers (Sishu Bikash Kendra) have been established in 15 medical college hospitals;
7. Piloting of home-based screening of autism and neurodevelopmental disorders in children aged 0-9 year(s) in selected 7 upazilas, one in each division, has been conducted;
8. Doctors have been trained on autism;
9. IEC materials on autism have been developed, printed, and distributed;
10. Center for Neurodevelopment and Autism in children has been established at Bangabandhu Sheikh Mujib Medical University, which is now the Institute of Pediatric Neurodisorder and Autism (IPNA);
11. Study of "Prevalence of maternal depression of children with autism in Dhaka and pilot testing of feasibility of the implementation of household-based training for mothers" has been done;
12. 'World Autism Awareness Day 2015' has been observed.

Under the initiative of Bangladesh Government, resolutions on autism have been approved by the United Nations General Assembly (2012), Regional Committee Meeting of the WHO South-East Asia (2012), and the Executive Board of the WHO (May 2013), thus placing Bangladesh in the leadership and forefront position in global awareness creation on autism.

Chapter 12

From blood banking to transfusion medicine

SAFE BLOOD TRANSFUSION

To ensure maximum safety for both donors and recipients of blood or blood-derived products, the Safe Blood Transfusion Program (SBTP) was launched in 2000.

Blood transfusion services were started in 1972 at the then Institute of Postgraduate Medicine and Research (IPGMR), with the establishment of a blood bank inaugurated by Father of the Nation Bangabandhu Sheikh Mujibur Rahman. From blood banking to transfusion medicine, the journey was not smooth. To ensure maximum safety for both donors and recipients of blood or blood-derived products, the Safe Blood Transfusion Program (SBTP) was launched in 2000 by Prime Minister Sheikh Hasina. The SBTP was operated under the Health and Population Sector Program (HPSP) 1998-2003, with the assistance of UNDP. Under this program, blood-screening facilities were developed in 99 blood transfusion centers. In 2004, the activities of the SBTP received financial support from the World Bank and DFID through IDA credit. A Memorandum of Understanding (MoU) was signed between the Ministry of Health and Family Welfare and WHO under HIV/AIDS Prevention Project (HAPP), with technical assistance from the latter. This continued till 2007. Since then, the activities were being implemented under the Health, Nutrition and Population Sector Program (HNPSP) 2003-2011. The activities are now being continued under the current Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016 Previously, it was guided by Director NASP. Now, the Director HSM is serving as the line director of SBTP. The Safe Blood Transfusion Law 2004 of Bangladesh is in place that circulated the rules and regulations in 2008.

Notable activities of SBTP are as follows:

1. **Licensing:** So far, one hundred and two private blood banks have been licensed under the DGHS.
2. **Monitoring:** According to the feedback of the monitoring team, licenses of 7 private blood banks were cancelled.
3. **Providing logistics:** Essential logistics for blood banking, like blood bags (360,000 units, including single-, double- and triple-unit bags), testing reagents (anti-A, B, and D groups; 6,000 units) and testing kits for HBV, HCV, HIV, TPHA, and MP (360,000 units) were supplied. An approach for introducing affordable modern technologies, like aphaeresis, automated blood grouping system, PCR, and CLIA is being adopted for safe blood transfusion.
4. **Quality assurance:** The Safe Blood Transfusion Program and the voluntary blood-donation organizations could consistently keep the percentage of paid donors at zero. The paid donors are sources of transfusion-transmitted infections (TTIs), viz. hepatitis B and C, syphilis, malarial parasites, HIV, etc. They dominated the blood donors before inception of the Safe Blood Transfusion Program and emergence of the voluntary blood-donation organizations. The absence of paid donors and screening of collected blood before transfusion substantially reduced the risk of TTIs.
5. **Capacity development:** The SBTP developed guideline for voluntary blood donation, guideline for clinical use of blood for intern doctors. The program supported awareness

campaign for voluntary blood donation; training of medical technologists, medical officers; management training for health managers; orientation of intern doctors on blood safety and rational use of blood.

6. Maintaining reference laboratory: There is a reference laboratory for blood transfusion at Dhaka Medical College Hospital. The function of the reference laboratory is to support various organizations. The reference laboratory also tests the referred samples and validates kits and reagents.

The professionals engaged in the Safe Blood Transfusion Program deeply feel that a National Blood Center be established as soon as possible to further streamline the stewardship role and coordination functions for the current fragmented blood transfusion services operating throughout the country.

The Safe Blood Transfusion Program made a good progress over the past years through reduction in the number of paid donors from 70% to 0%, capacity-building for blood screening for HIV, hepatitis B and C, syphilis, and malaria in all blood transfusion centers and expansion of activities down to the upazila health complex level.

Currently, the number of blood transfusion centers supported by SBTP is 219; number of blood transfusion centers at the upazila level is 92; number of centers where blood-component separation facilities exist is 24; and the number of centers with mobile vans for blood collection is 6.

Figure 12.1. Percentage of blood units rejected due to various reasons from 2001 to 2015 (Total units rejected=60,311)

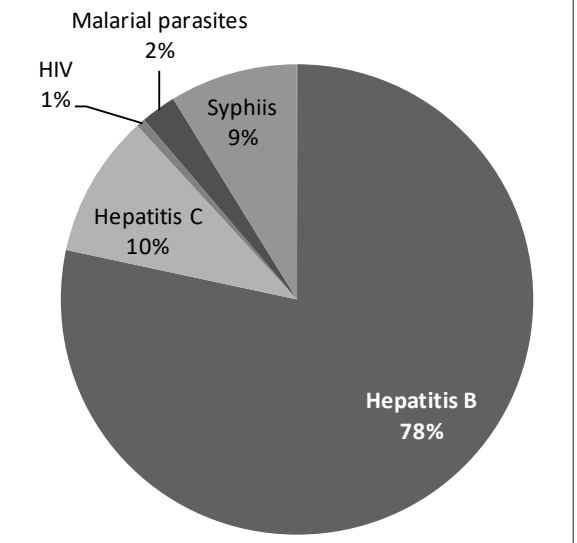


Table 12. Screening report for blood with TTIs, 2001–2015

Year	No. of units tested	HIV		Hepatitis B		Hepatitis C		Syphilis		Malarial parasites	
		No.	%	No.	%	No.	%	No.	%	No.	%
2001	99,653	2	0.002	1,381	1.386	82	0.082	290	0.291	7	0.007
2002	170,948	4	0.002	2,433	1.423	246	0.144	655	0.383	53	0.031
2003	180,015	1	0.001	1,900	1.055	1,024	0.569	428	0.238	13	0.007
2004	121,993	36	0.030	1,284	1.053	251	0.206	257	0.211	8	0.007
2005	203,575	8	0.004	1,689	0.830	201	0.099	305	0.150	6	0.003
2006	228,127	20	0.009	1,814	0.795	242	0.106	209	0.092	1	0.0004
2007	324,005	27	0.008	2,764	0.853	251	0.077	215	0.066	1,013	0.313
2008	369,026	13	0.004	2,996	0.812	309	0.084	143	0.039	4	0.001
2009	358,067	9	0.003	2,135	0.596	181	0.051	115	0.032	7	0.002
2010	384,447	6	0.002	3,313	0.862	374	0.097	182	0.047	37	0.010
2011	415,372	21	0.005	4,356	1.049	272	0.065	179	0.043	39	0.009
2012	541,682	56	0.010	5,052	0.933	676	0.125	399	0.074	58	0.011
2013	593,774	37	0.006	5,184	0.873	597	0.101	573	0.097	98	0.017
2014	651,718	74	0.011	5,529	0.848	462	0.071	754	0.116	48	0.007
2015	679,681	46	0.007	5,428	0.799	752	0.111	605	0.089	72	0.011
Total	**5,322,083**	**360**	**0.01**	**47,258**	**0.89**	**5,920**	**0.11**	**5,309**	**0.10**	**1,464**	**0.03**

Figure 12.2. Year-wise number of blood units collected by the blood centers under SBTP during 2001 through 2015 (Total units: 5,342,083)

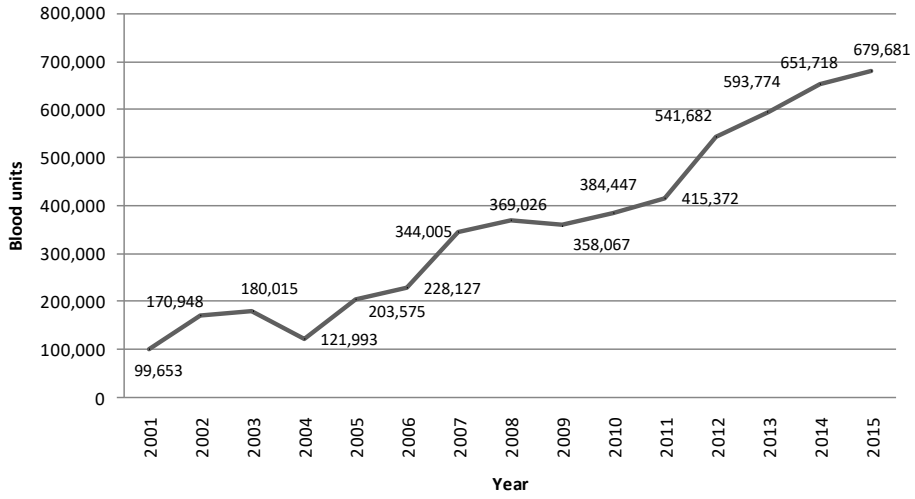
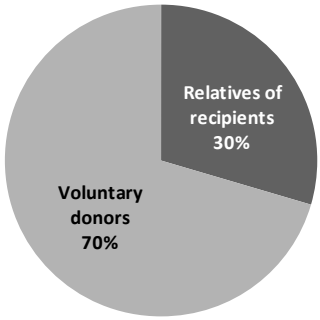


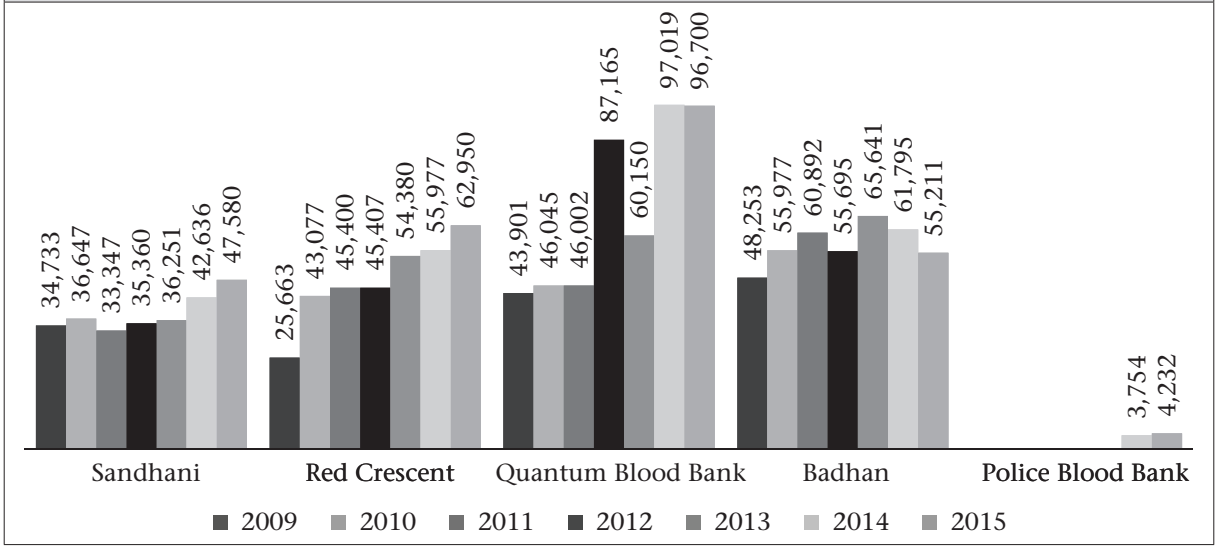
Figure 12.3. Distribution of voluntary and directed relative blood donors in 2015 (n=679,681)



During 2001-2015, a total of 5,322,083 units of blood were tested in 219 centers, out of which 60,311 units were rejected due to the evidence of transfusion-transmitted infections (TTIs). These are shown in Table 12. Of the rejected units, 47,258 were rejected for hepatitis B, 5,920 for hepatitis C, 5,309 for syphilis, 1,464 for malarial parasites, and 360 for HIV. Figure 12.1 shows the percentages.

In 2015, a total of 138,216 units of blood components were produced by the blood centers. These included 62,887 units of red blood cell concentrate, 42,882 units of fresh frozen plasma, 31,672 units of platelet

Figure 12.4. Number of blood units collected by different voluntary blood-donation organizations during 2009 through 2015



concentrate, 316 units of platelet-rich plasma (PRP), 272 units of fresh plasma (FP), and 272 units of cryo-precipitate. The cumulative production of blood components up to 2015 was 710,705 units.

The blood centers under the Safe Blood Transfusion Program collectively gathered a total of 5,342,083 units of blood from 2001 to 2015. The year-wise distribution of collection is shown in Figure 12.2. It shows an increasing trend in the numbers over the years. In 2015 alone, 679,681 units of blood were collected. Out of these, 200,906 bags were collected from voluntary donors, and the rest (478,475 bags) were collected from the relatives of the recipients. The percentage distribution of voluntary and directed relative blood donors is shown in Figure 12.3.

A number of voluntary or non-profit organizations also contribute to encouraging healthy donors for donating blood voluntarily. Figure 12.4 shows the year-wise number of blood units collected by the major voluntary blood-donation organizations. It reveals that their contributions to safe blood transfusion in terms of number of collected bags are also increasing over the past 6 years.

Chapter 13

Integrated Activities under National Nutrition Services

NUTRITION SITUATION IN BANGLADESH

> Malnutrition during pregnancy increases the risk of complications and maternal death as well as the likelihood of having low-birthweight babies.

As a long-standing public-health problem in Bangladesh, malnutrition is responsible for one-third of deaths in children below 5 years of age. Malnutrition during pregnancy increases the risk of complications and maternal death as well as the likelihood of having low-birthweight babies. It has also a great impact on health, cognitive development for education, and work productivity, resulting in a major impediment to the economic growth and development of the country. Despite significant progress in sustained economic growth, reduction in maternal and child mortality, Bangladesh still remains one of the countries with the highest level of malnutrition among the developing countries, with children and women being the most affected.

Public health nutrition program under MOHFW

Beginning in 2011, the National Nutrition Services (NNS) was created to steward mainstreaming of nutrition into health, family planning and other sectors. Through the current Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016, the Government of Bangladesh is trying to reduce maternal and childhood malnutrition by scaling-up the provision of community-based nutrition services throughout the country. This will require the implementation of nutrition-specific and nutrition-sensitive interventions by all relevant sectors. This has resulted in establishing a country-wide cost-effective and comprehensive system for nutrition service delivery. Under the National Nutrition Services (NNS) housed at the Institute of Public Health Nutrition (IPHN), both DGHS and DGFP are streamlining and strengthening their nutrition services by using the frontline government staff in the health sector.

The prime functions of the NNS include: (i) training, (ii) facility-based services, (iii) community/area-based nutrition-related activities, (iv) human resource development, (v) providing micronutrients to the target population, (vi) supply of nutrition-related logistics and medicines, (vii) operational research and surveys, (viii) nutrition information system, and advocacy and communication. Capacities of the upazila health complexes, district hospitals, community clinics and of the facilities under the DGFP, e.g. MCWCs, are now in the process of strengthening. The NNS aims to cater nutrition services through establishing IMCI and Nutrition Corners in all the health facilities where IMCI Corners are already established. Mass awareness is also being created through behavior change communication (BCC).

Current nutrition situation in Bangladesh

Although there have been some improvements in the nutritional status of children over the years, malnutrition among children and women is one of the major health problems in Bangladesh. According to BDHS 2014, 36% of the under-five children are stunted, with 12% being severely stunted. Stunting is most prevalent in Sylhet

(50%) and at the lowest level in Khulna (28%). The prevalence of wasting among the under-five children is 14%. The prevalence of underweight children is 33%. However, the level of stunting has been declined from 51% in 2004 to 36% in 2014. Wasting has been declined from 17% in 2007 to 14% in 2014. The level of underweight has been declined to 33% in 2014 from 43% in 2004.

Figure 13.1 shows the trends in nutritional status of under-five children over the years as revealed from BDHS 2011, 2014 and Utilization of Essential Service Delivery Survey Report 2013.

A survey is being conducted jointly by Bangladesh Bureau of Statistics, Helen Keller International, and BRAC University in several regions of Bangladesh through 'Food Security Nutritional Surveillance Project' (FSNSP). Through this survey, updated and seasonal data on nutrition and food security of six surveillance zones in Bangladesh are being collected and analyzed. As per 2013 annual report of this survey, the prevalence of wasting is higher in Sylhet (15%) than in other areas/ zones (Figure 13.2) and even higher than the prevalence (14%) found in BDHS 2014. Dhaka and Khulna had lower rates of wasting than in Rajshahi and Sylhet. Wasting rates in urban areas were markedly lower than in rural areas.

Like wasting, Sylhet had also the highest proportion of underweight children in 2013 as was the case in 2012. Less than one-quarter of children in urban areas was underweight while almost one-third of the children in rural areas were underweight.

Figure 13.3 shows the prevalence of underweight among children by administrative division

As shown in Figure 13.4, the levels of chronic childhood undernutrition varied greatly by area of residence. Similar to the past results, Sylhet had the highest rates of childhood stunting but Chittagong, Rangpur, and Sylhet had the largest reduction in stunting rates between 2012 and 2013. On average, urban areas had much lower rates of stunting than rural areas.

Figure 13.5 shows the trends in underweight and acute wasting rates over the rounds of FSNSP. Prevalence of wasting has decreased from Round 11 (14%) in Round 12 (9%) and that is also less than the national-level prevalence (16%). Prevalence of underweight also decreased from Round 11 (34%) in Round 12 (28%), and that is again less than the national rate (36%) reported in BDHS 2011.

The recent National Micronutrients Status Survey (NMSS) 2011-2012, jointly conducted by the Institute of Public Health Nutrition (IPHN), UNICEF, icddr'b, and GAIN, shows that underweight and stunting rates are comparatively higher in the slum area than in the improved urban and rural areas (Figure 13.6).

Figure 13.1 Trends in nutritional status of under-five children over the years

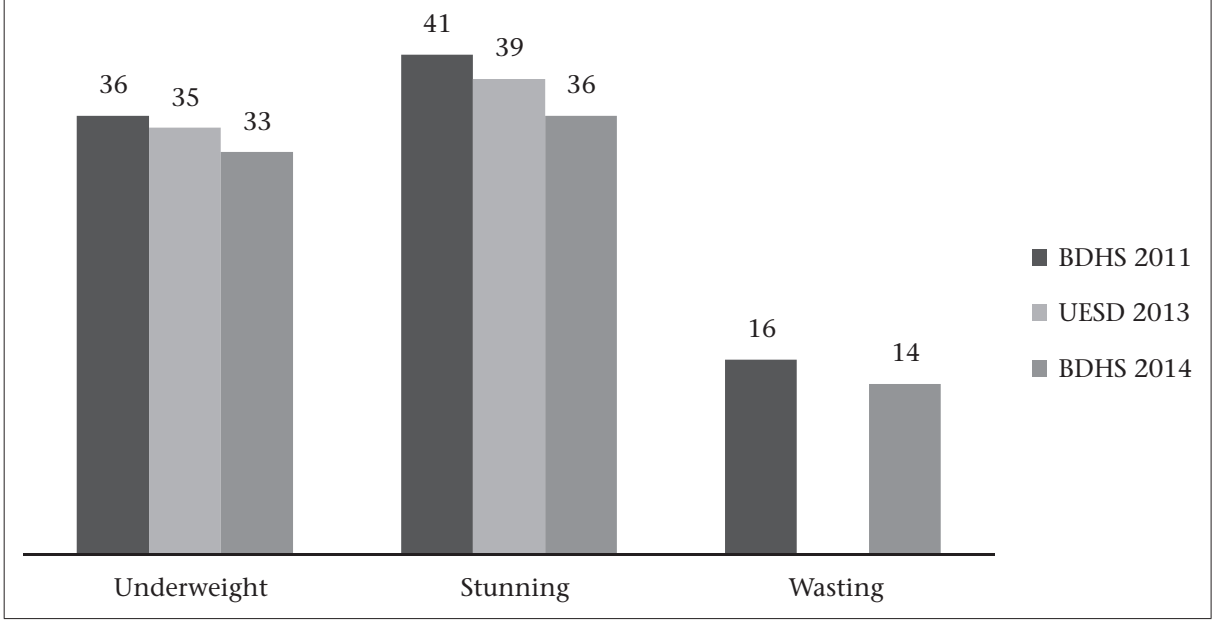


Figure 13.2 Prevalence (%) of wasting among children by administrative division

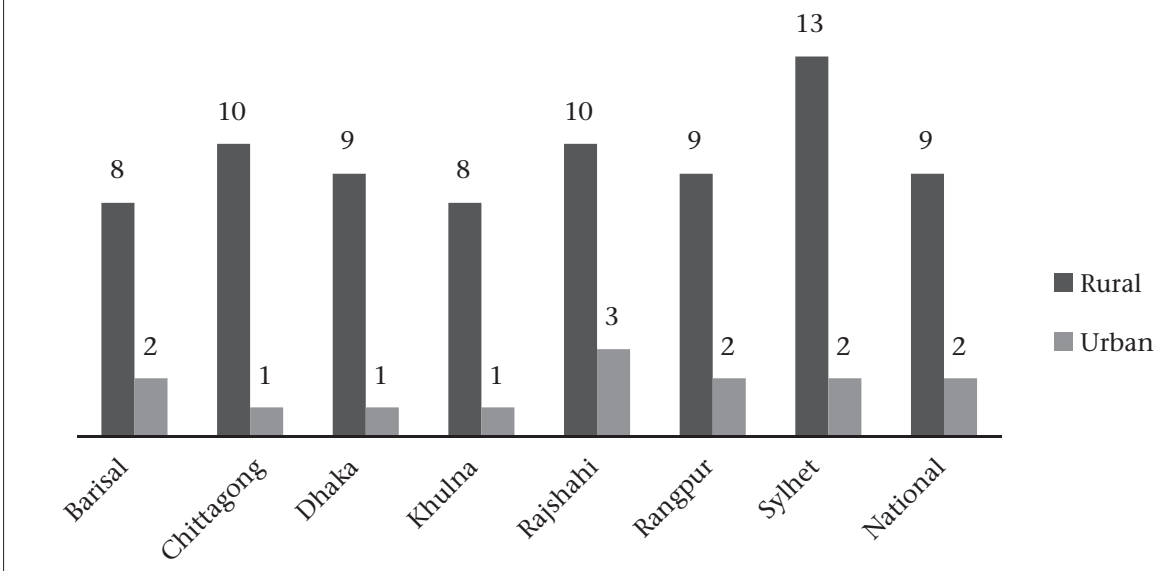


Figure 13.3. Prevalence (%) of underweight among children by administrative division

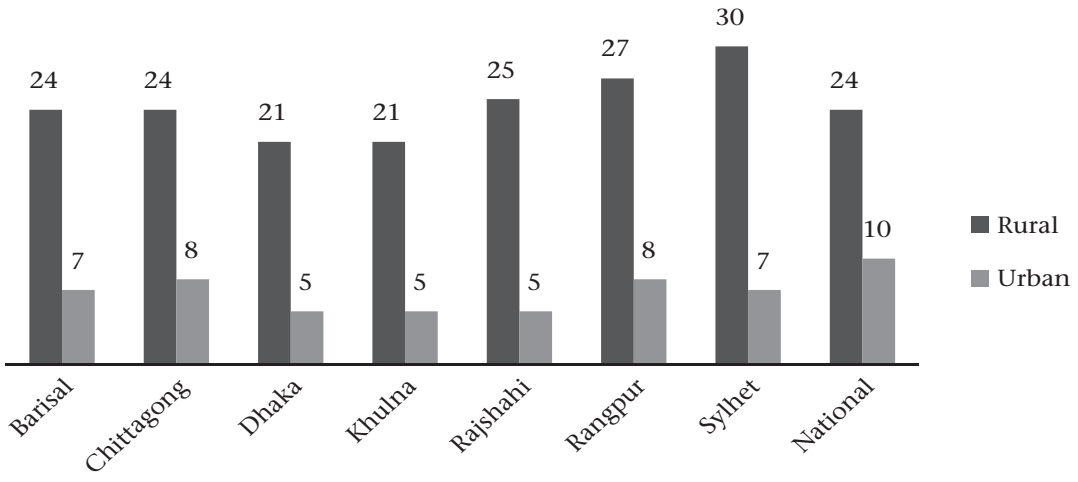
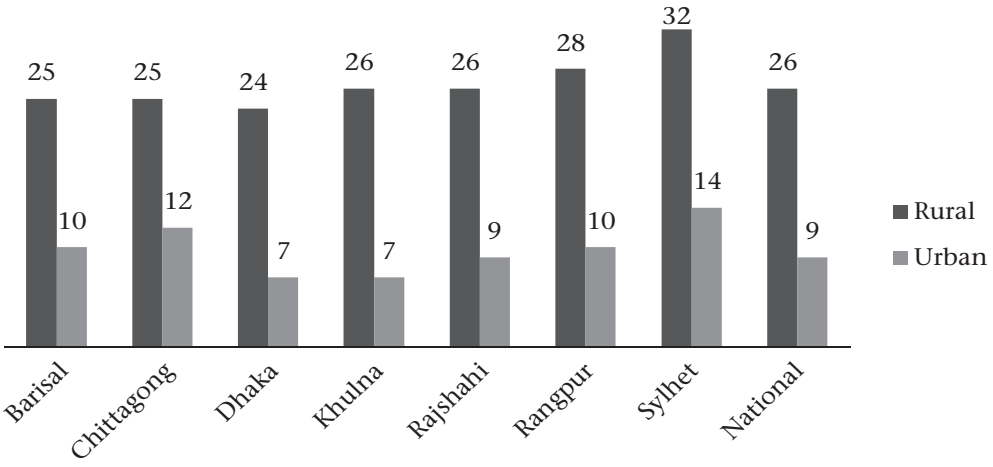


Figure 13.4. Prevalence (%) of stunting among children by administrative division



Nutrition status of women and adolescent girls

Figure 13.7 presents national, urban and rural rates of underweight among women and adolescent girls, along with the rates of overweight among adult women. Overweight among adult women is much more prevalent in urban areas than rural areas. Over half of the adult women in urban areas were classified as overweight.

As shown in Figure 13.8, there is a substantial variation in the proportions of underweight women by place (division) of residence. While roughly an equal proportion of underweight and overweight women were found in Rangpur, all other areas of the country, except Sylhet, the northern *char* and *haor* areas, had a greater proportion of women who were overweight compared to underweight. Sylhet and Barisal had a much greater proportion of adolescent girls who were underweight. Between 2012 and 2013, rates of underweight among adolescents have increased in Barisal and Sylhet while the proportion of underweight women has not increased in any area. The proportion of

Figure 13.5. Trend of acute wasting and underweight over the rounds

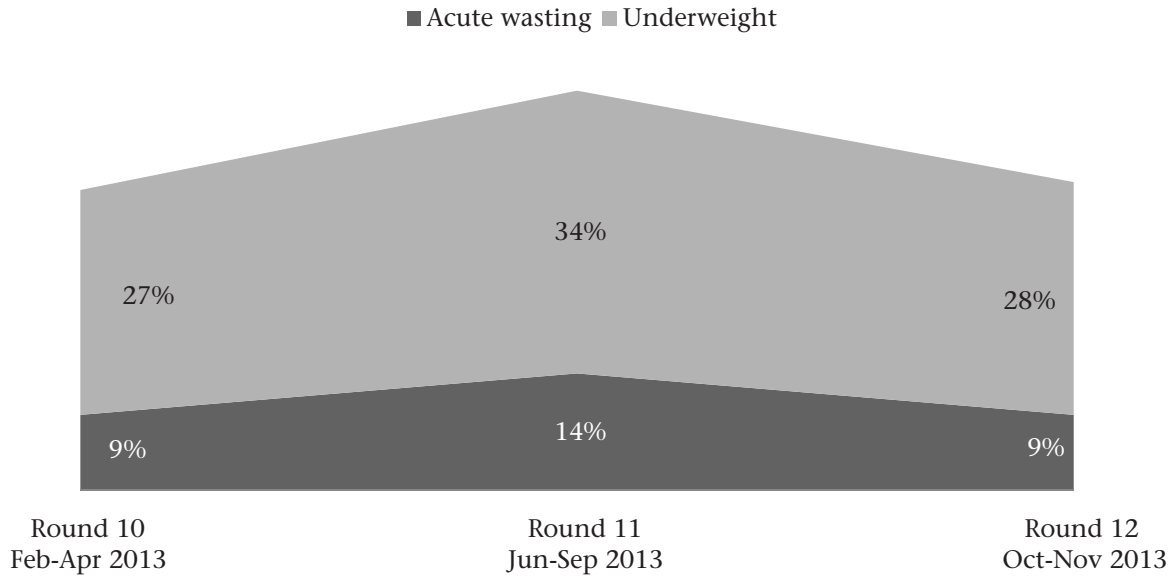
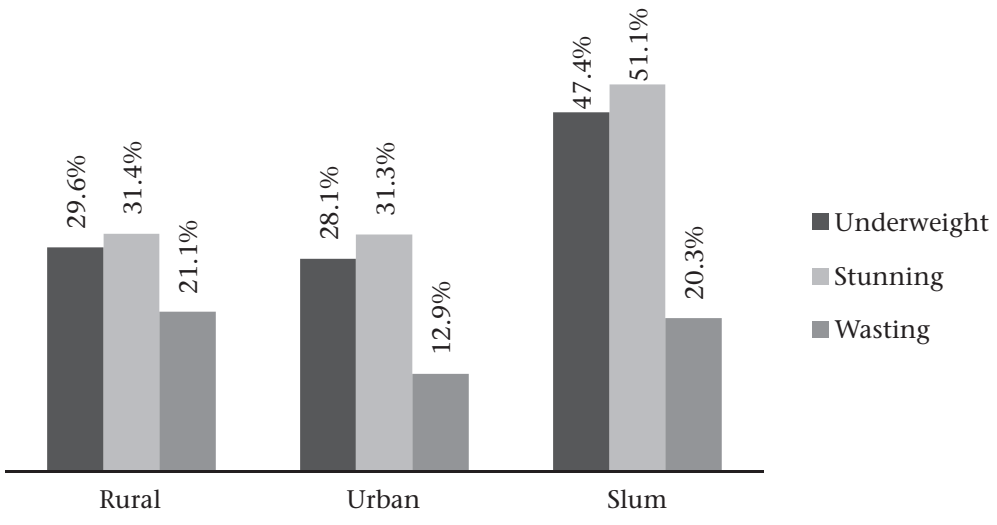


Figure13.6. Prevalence of underweight, stunting, and wasting among under-5 children in rural, urban and slum areas



overweight adult women has increased mostly in Barisal and Khulna.

The nutritional status of adolescent girls has not changed much over the past year, although women's nutritional status has varied significantly. The FSNSP report, in Round 12 (October-November 2013), shows that 14% of adolescent girls and 17% of women were severely and moderately underweight (Figure 13.9). The Figure also shows that the proportion of underweight women increased from Round 10 (15%) to Round 11 (19%) and then decreased in Round 12 (17%) but the underweight rate among adolescent girls were increasing since Round 10 (9%) to Round 12 (14%).

> The nutritional status of adolescent girls has not changed much over the past year, although women's nutritional status has varied significantly.

Breastfeeding practices

The exclusive breastfeeding rate for children below 6 months of age was 55% in 2014. Intensive government programs is being implemented with focus on maternal, newborn and childcare, working in synergy with the health programs undertaken by other stakeholders for improving IYCF practice, including exclusive breastfeeding, Findings in the FSNSP Annual Report 2013 show that 43% were continuing exclusive breastfeeding but exclusive breastfeeding was 60% as per UESD report 2013.

Infant and young child-feeding practices

Timely initiation of solid, semi-solid or soft foods from six months of age are included in the infant and young child-feeding (IYCF) practices. Overall, 23% of children aged 6-23 months were fed appropriately according to the standard IYCF practices in 2015, and this shows an increase from 21% observed in 2014. This was far below the HPNSDP target of 52% for 2016. However, the UESD report reveals that 32% of children of 6-23 months were fed as per standard IYCF practices. The FSNSP Annual Report reveals that, in 2013, more than one-third of children were fed minimally-adequate diets. This indicates a considerable increase in children eating minimally-acceptable diets since 2011 but the current level is still far short of the HPNSDP target of 52%.

Micronutrient status

Vitamin A supplementation

The Bangladesh Government prioritizes vitamin A supplementation as an important public-health program and is distributing vitamin A capsules to children of 6-59 months through National Vitamin A Campaign (NVAC). Every year, two rounds of vitamin A

Figure 13.7. Nutritional status of adolescent girls and women by locality

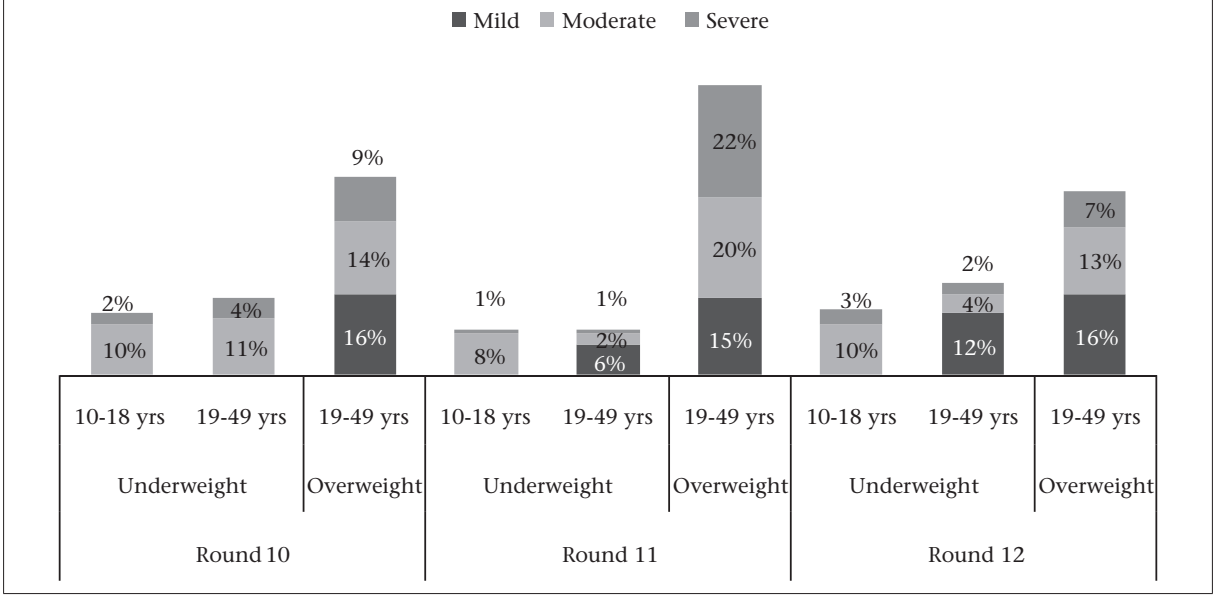


Figure13.8. Nutritional status of adolescent girls and women by division (underweight in the upper graph and overweight in the lower graph)

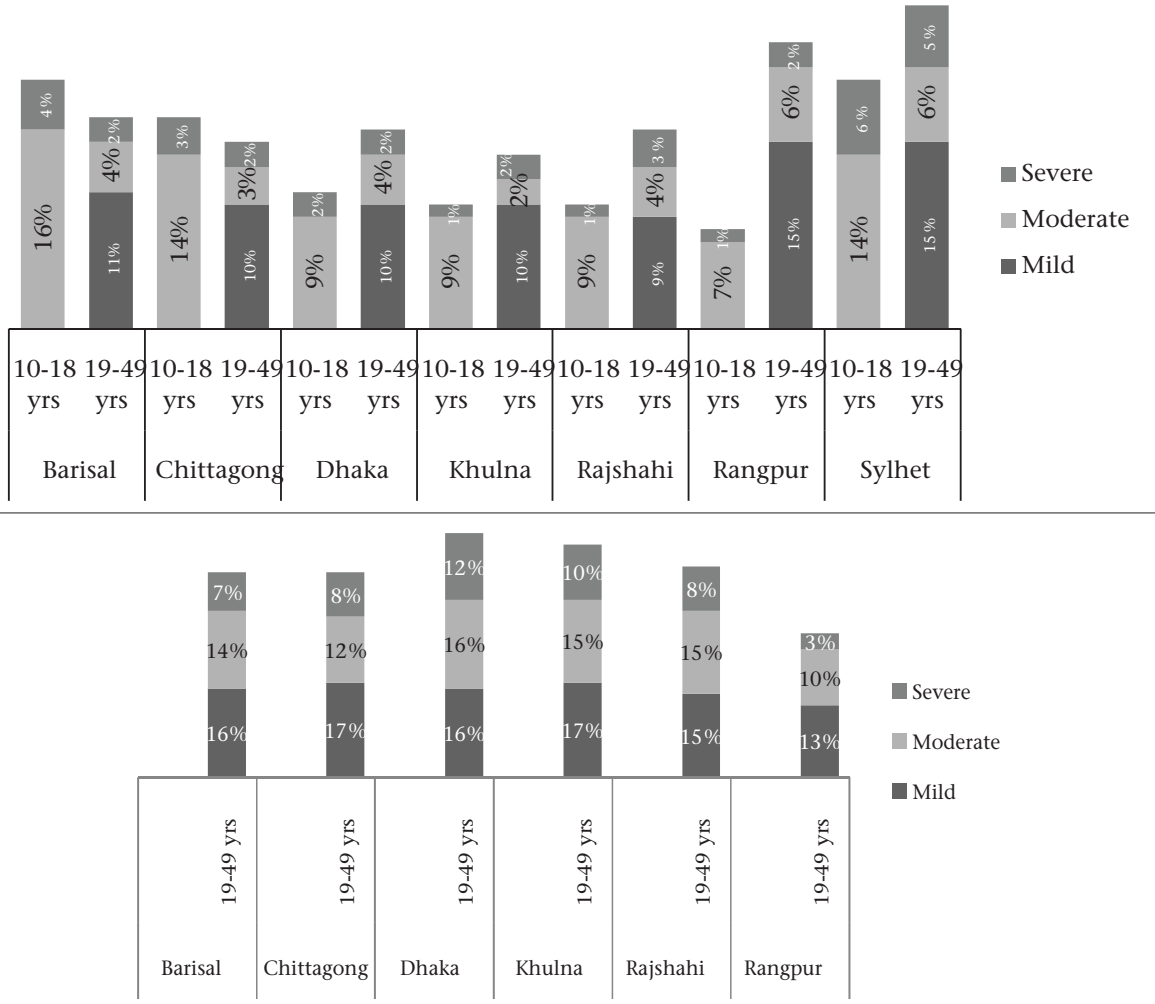
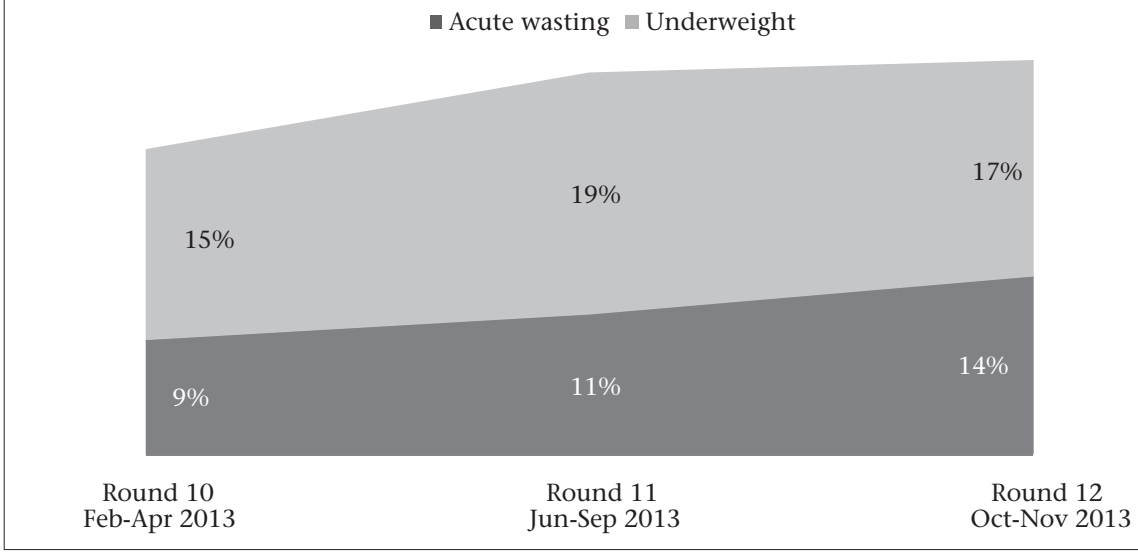


Figure 13.9. Prevalence of underweight among adolescent girls and women (FSNSP 2013, Round 10-12)



capsule supplementation to children aged 6-59 months have been conducted. Through these campaigns, health workers and volunteers administer vitamin A capsules to around 20 million children at more than 140,000 sites located in health facilities, health centers, and schools as well as in mobile sites (bus, boat, and railway stations) throughout the country.

> Every year, two rounds of vitamin A capsule supplementation to children aged 6-59 months have been conducted.

The Honorable President of the People's Republic of Bangladesh Md. Abdul Hamid inaugurated the second round of National Vitamin A Plus Campaign of the year 2015 on 13 November 2015 at the Bangabhaban, and the field-level activities of the campaign was observed throughout the country on the following day. Subsequently, a more intensive 'Child-to-Child' (CtC) campaign was carried on in 24 hard-to-reach upazilas of 6 districts from 15 to 18 November 2015. The first round was conducted on 25 April 2015.

Administrative coverage of both of the rounds of the 2015 campaign was around 99% both in 6-11 months and 12-59 months old children. However, the Coverage Evaluation Survey (CES) 2015 shows that 85% children of 6-11 months age-group and 92% of 12-59 months age-group came under the coverage.

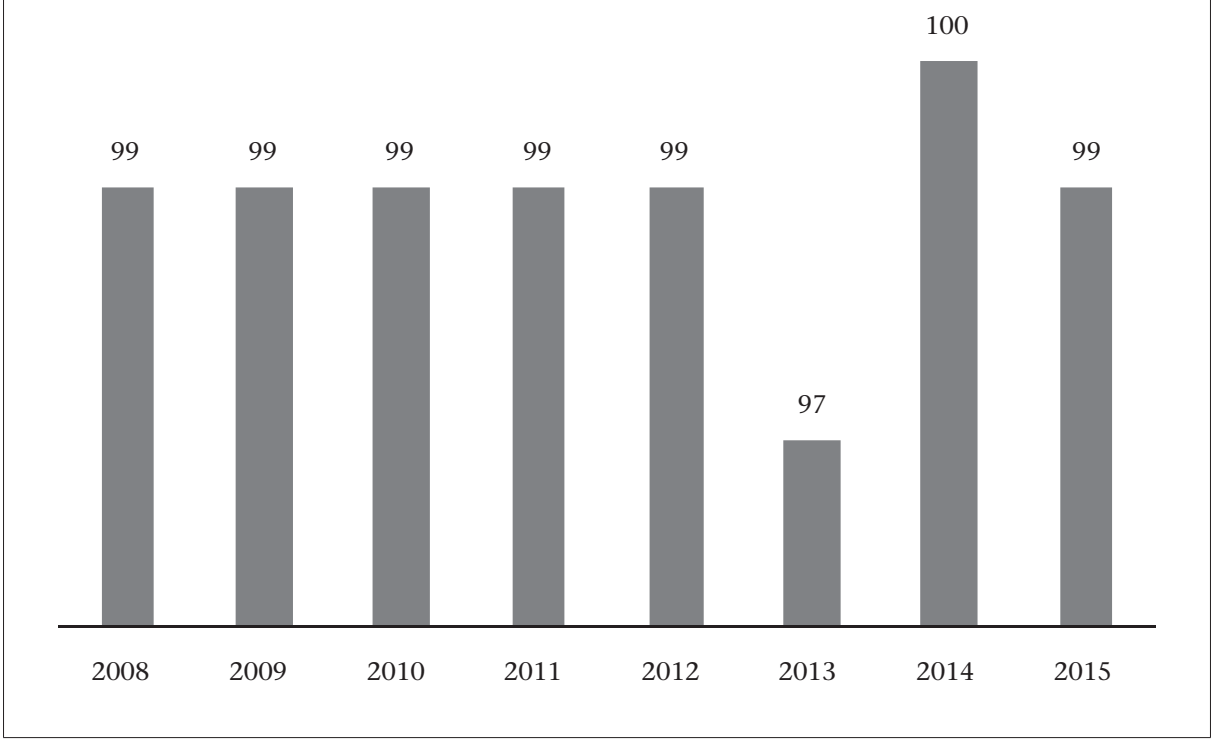
The coverage during the NVAC 2015 is shown in Table 13.1.

Figure 13.10 shows the vitamin A supplementation coverage (%) during the last 8 years.

Table 13.1. Coverage during both rounds of the NVAC 2015

Age-group	First round		Second round	
	No.	%	No.	%
6-11 months old children	2,337,262	98.4%	2,272,264	99%
12-59 months old children	18,510,911	98.8%	18455519	99%

Figure 13.10. Vitamin A supplementation coverage (%) during the last 8 years



At the national level, over half of the preschool-age children (56.3%) and school–age children (53.5%) are having the mild grade of vitamin A deficiency while the mild deficiency affects one-third (34.3%) of the NPNL (non-pregnant and non-lactating) women. Although the prevalence of severe-grade deficiency was low in all the population groups studied (less than 1.0% in most of the strata), it appeared to be somewhat higher in the slums among the preschool-age children (2.4%) and school-age children (2.2%). Normal status of retinol in the preschool-age children was 21.7%, 30.4%, and 8.5% in the rural, urban and slum area respectively (NMSS 2011-2012). Figure 13.11 shows severity of vitamin A deficiency among preschool and school-age children and NPNL women.

Control and prevention of iron-deficiency anemia

The NMSS report 2011-2012 shows that prevalence of anemia among the school-age children was 19.1% and 17.1% respectively in the 6-11 years and 12-14 years age-groups. The prevalence of anemia in the non-pregnant and non-lactating (NPNL) women was 26.0%. The prevalence of iron-deficiency anemia in Bangladesh population appeared to be substantially lower than the widely-held assumption. The amount of consumption of iron from food is short of the daily recommended allowance (RDA) in all the population groups studied. The total consumption of iron from food was 41.0-82.0% of the recommended daily requirement across age and sex of the studied population groups.

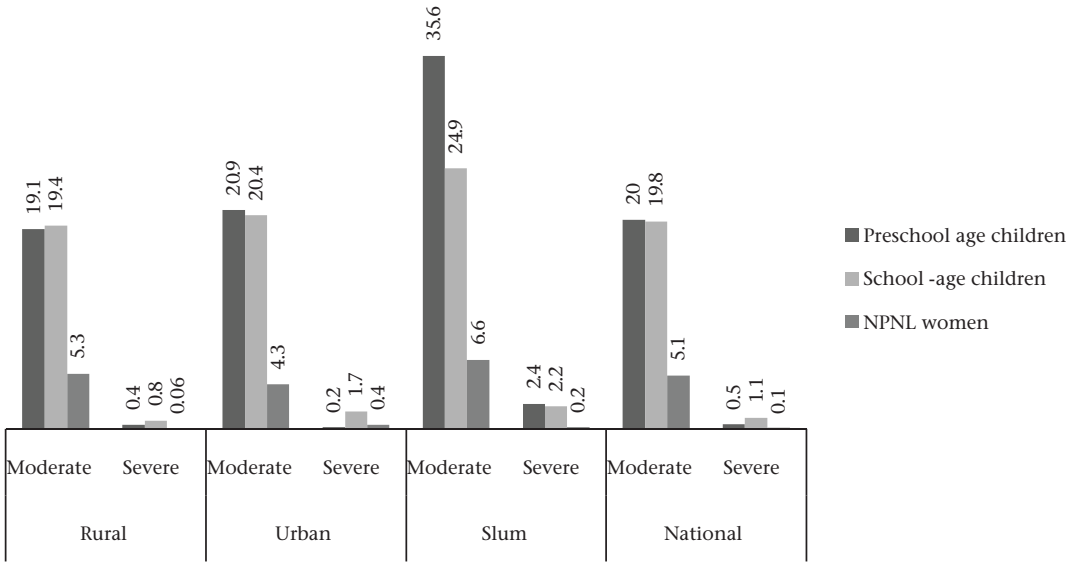
> The prevalence of iron-deficiency anemia in Bangladesh population appeared to be substantially lower than the widely-held assumption.

Control and prevention of iron-deficiency and other nutritional anemia was broadly made through the country's routine service-delivery network and the NNS. In 2013-2014, the NNS distributed 200 million iron-folate tablets to the community clinics. Control of nutritional anemia is done by treating intestinal parasites through distribution of Albendazole tablets during vitamin A campaign and separate deworming program.

Control of iodine-deficiency disorders and other micronutrient problems

The NNS provides training to doctors and other health staff on iodine-deficiency disorders. The NNS also provides training on capacity-building of managers, chemists, and relevant persons in different zones, in collaboration with Bangladesh Small and Cottage Industries Corporation (BSCIC). The IPHN laboratory for

Figure 13.11. The percentage of vitamin-A deficiency among preschool and school-age children and NPNL women



testing the iodine level in salt has also been strengthened. The NMSS 2011-2012 report on urinary iodine concentration shows 40% of the school-age children to have iodine deficiency, highlighting an improved situation from 2004-2005 (33.8%). Among the non-pregnant and nulliparous women, the prevalence of iodine deficiency was 42.1%, showing an improvement from 2004-2005 figure (38.0%). About 80% of the households used iodized salt (iodine level ≥5 ppm) while 57.6% of the households used adequately-iodized salt (iodine level ≥15 ppm). In the rural area, the use of adequately-iodized salt was just 51.8%. The national rate of the use of 'brand' salt was 75.8%; however, a substantial proportion (30%) of households in rural area still uses 'open' salt. The use of 'open' salt was 37.0% and 17.0% in the 'poorest' and the 'richest' households respectively. The proportion of retailer salt samples with adequately-iodized salt (≥20 ppm) was 66.4%.

Micronutrients consumption from foods

Survey shows that consumption of foods of animal sources is increasing in the country (Household Income & Expenditure Survey of Bangladesh 2010). In the case of vitamin A, the median daily consumption, as expressed by Retinol Equivalent (RE), was 270.0, 318.0, and 372.0 respectively among the preschool and school-age children, and the non-pregnant and nulliparous women, these being certainly short of the RDA they need. Daily median consumptions of iron from foods: 4.17, 5.21, and 6.64 mg among the preschool and school-age children, non-pregnant and nulliparous women were also short of the RDAs they require. The consumption of iron from animal sources, the form of dietary iron that is readily absorbed in the body, was low in terms of the total iron consumption. The share of iron from animal sources was 23.0%, 24.0%, and 18.0% of the total iron consumption respectively among the preschool and school-age children, and the non-pregnant and nulliparous women.

Zinc status

The median daily consumption of zinc from foods among the preschool children was 3.2 mg and 2.6 mg respectively in the urban and slum area against the RDA of 3 to 5 mg. The NMSS 2011-2012 provided, for the first time in Bangladesh, the nationally-representative data on zinc status in the selected populations. The national prevalence of zinc deficiency was 44.6% in the preschool children. Urban children were less likely to suffer from zinc deficiency than their rural and slum peers (29.5% in urban vs 48.6% in rural area). Among the NPNL women, the national prevalence was 57.3%. However, over half of the NPNL women suffered from zinc deficiency at the national level and in all the strata, with the prevalence being the highest among women living in slums (66.4%). The amount of consumption of zinc was well below the recommended daily amount. Among the NPNL women, the total consumption was 54.7% and 47.0% of the recommended daily amount in the urban and slum area respectively. Of the total consumption, most part comes from plant origin, which is poorly bio-available.

Nutrition services through Directorate General of Family Planning

The Directorate General of Family Planning (DGFP), through its MCH Services Unit, has been providing healthcare to the pregnant mothers and under-5 children since 1975. The DGFP, since 1975, has been providing services, like monitoring of maternal weight, IFA supplementation and nutrition education during ANC, growth monitoring of under-5 children, referral of severe malnourished children, and vitamin A supplementation for under-5 children.

The MCH Services Unit of the DGFP, since 2011, has been implementing MYCNSIA (Maternal and Young Child Nutrition Security Initiatives in Asia), with collaboration of UNICEF in 22 upazilas of 10 districts covering 6,765,910 population. The initiatives taken are: counseling to mothers/caregivers about IYCF, distribution of micronutrient powder (MNP) among 6-23 months old children, counseling to pregnant and lactating mothers on feeding practice and iron and folic acid (IFA), food security intervention, and handwashing/hygiene practice at the community level.

The MCH Services Unit of the DGFP has trained officials of different levels (both TOT and core training), developed training materials, developed web-based MIS, conducted baseline survey, and procured and distributed MNP sachets, etc., for implementing the MYCNSIA.

The DGFP, through its MCH Services Unit, will scale up nutrition intervention in all upazilas and districts gradually. Service registers and reporting formats were revised to include nutrition information. DGFP's MIS is currently revisited with nutrition indicators for improvement of the situation.

Mainstreaming nutrition information system

The IPHN, through the National Nutrition Services (NNS), is implementing activities under an operational plan of the MOHFW's Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016. The NNS is the umbrella organization for the implementation and management of nutrition-related activities throughout the country. The NNS works closely with the DGHS and the DGFP to implement programs for nutrition effectively. The NNS supports the delivery of nutrition services and interventions with the support of stakeholders at all levels.

> The NNS is the umbrella organization for the implementation and management of nutrition-related activities throughout the country.

MIS of the DGHS has incorporated nutrition indicators at the level of community clinic and IMCI format (DHIS2); the DGFP has incorporated indicators on nutrition in their routine MIS forms. The DGHS is going to pilot the forms in 23 upazilas prior to the nationwide scale-up.

The NNS has started its implementation with a concept of 'mainstreaming' with the DGHS and the DGFP. The nutrition-related activities are implemented by field staff of the DGHS and the DGFP. The NNS has been working with the DGHS, the DGFP, IMCI and RCHCIB (Community Clinic Project) to include nutrition-related indicators within the existing MIS of the DGHS and the DGFP rather than developing a parallel system. Standard nutrition indicators to assess effective coverage of interventions were also defined to measure the scale-up and identify gaps.

Nutrition indicators have been incorporated in service register and reporting format of IMCI: Nutrition Corner, Community Clinic Project, HMIS, and DGFP's MIS. The NNS is extracting nutrition data from these. The NNS is implementing nutrition surveillance all over the country through James P. Grant School of Public Health (JPGSPH) of BRAC University. The NNS is also working on harmonizing nutrition information system among organizations working in urban area and through bilateral donors. For different nutrition-related activities, standardized supervision checklists were also developed.

Nutrition services

At the district and upazila levels, 424 'baby-friendly hospitals' were established. Also, 200 severe acute malnutrition (SAM) units and 395 IMCI and Nutrition Corners were established. The activities are summarized below:

District and upazila-level facilities

- Total number of IMCI and Nutrition Corners is 487 (424 UHCs + 63 DHs); of the total, 476 corners were reported through online whereas 360 were reported to cover nutrition partly in December 2015.
- Currently, more than 13,000 community clinics are providing monthly aggregated report though online HMIS data management software DHIS2.
- Out of the 200 SAM facilities, 164 have been providing reports to IPHN through email or postal services. Reporting rate is more than 84% in December 2015.
- At the district and upazila levels, 424 'baby-friendly hospitals' were established.

Digital Archive at IPHN

Creation of the archive is one of the steps in establishing Digital Bangladesh as declared by the Government of Bangladesh to implement Vision 2021. Following the decisions taken in the meetings on 25 May 2014 and 21 August 2014, the IPHN/NNS, on principle, agreed to establish the Digital Achieve at IPHN/NNS, in collaboration with Bangladesh Knowledge Management Initiative (BKMI) of the Bangladesh Center for Communication Programs (BCCP). The IPHN/NNS engaged a dedicated team of personnel for operations of the Digital Archive.

eToolkit

eToolkit both for fieldworkers and program managers is a very useful digital IPC and counseling BCC materials. A lot of activities are going on surrounding the eToolkit.

Creation of the position of District Nutrition Officer

The Government created a position of District Nutrition Officer for all 64 districts.

BCC activities

- 14 workshops were conducted with participants from GO, NGOs, and INGOs, where different nutrition-based and BCC-related messages were developed and finalized.
- TV spot-shows, folk songs, and drama are being broadcast both in Bangladesh Television (BTV) and Bangladesh Betar regularly. BTV is telecasting programs every Wednesday and Thursday at 11:30 am. Five Uthan Boithak (courtyard meetings) on balanced diet and maternal nutrition have already been aired by BTV. Numbers of programs are waiting to be aired. These are as follows:
- School quiz: 4 sessions
- Talk show: 3 sessions with nutrition issues as priority
- Developed nutrition-related TV spot-show: one comic animation cartoon
- Developed one documentary on growth monitoring and promotion
- Arranged street-drama called PUSHTI PALA
- eToolkit was updated for the frontline workers to make available both online and in android version
- IPHN established its Digital Archive to share and preserve all IEC and BCC material of the IPHN, NNS, in collaboration with BKMI and USAID
- Five posters were developed and utilized in the field on the following topics:
  * Exclusive breastfeeding
  * Complementary feeding
  * Growth monitoring and promotion
  * Iron supplementation to prevent nutritional anemia of the pregnant mothers
  * Nutritional care during pregnancy
- Developed a comic story on nutrition for the school children
- Voice calls relating to infant and young child-feeding (IYCF), maternal nutrition, and message on service availability by Honorable Speaker of the Bangladesh Parliament were sent by Teletalk.

Chapter 14

Outbreak investigations and responses to health emergencies

INSTITUTE OF EPIDEMIOLOGY, DISEASE CONTROL AND RESEARCH

The IEDCR that started in 1976 conducts disease surveillance, investigates and responds to outbreak of diseases, conducts epidemiological research, and provides training to the concerned officials.

The Institute of Epidemiology, Disease Control and Research (IEDCR) undertook and implemented many important public-health interventions in 2014 and 2015 on behalf of the Ministry of Health and Family Welfare of the Government of Bangladesh. Some of these interventions are highlighted here. The IEDCR that started in 1976 conducts disease surveillance, investigates and responds to outbreak of diseases, conducts epidemiological research, and provides training to the concerned officials. The institute is the WHO-designated National Influenza Centre (NIC) in Bangladesh. The IEDCR comprises eight departments, viz., Biostatistics, Epidemiology, Medical Entomology, Medical Social Science, Microbiology, Parasitology, Virology, and Zoonosis.

National Influenza Centre (NIC), Bangladesh

The IEDCR was recognized as the National Influenza Centre (NIC) of Bangladesh by WHO in 2007. All NICs throughout the world are national institutions designated by national ministries of health and recognized by WHO. The NICs form the backbone of the WHO's Global Influenza Surveillance and Response System (GISRS).

The National Influenza Centres (NICs) collect virus specimens in their countries and perform preliminary analysis. They ship representative clinical specimens and isolated viruses to WHO Collaborating Centres for advanced antigenic and genetic analyses. The results form the basis for WHO recommendations on the composition of influenza vaccine each year as well as relevant risk assessment activities of WHO.

The IEDCR as an NIC is currently conducting several influenza surveillance throughout the country. Some of these are independently run by the IEDCR, and some are done in partnership with icddr,b in collaboration with various national and international agencies. These are (i) National Influenza Surveillance, Bangladesh (NISB) in 10 district hospitals; (ii) Hospital-based Influenza Surveillance (HBIS) in 12 medical college hospitals; (iii) Community-based Influenza Surveillance in Kamalapur, Dhaka; (iv) Avian Influenza Surveillance among the high-risk groups and (v) Surveillance of Influenza-like Illness (ILI) among the live bird-handlers in wet markets in different city corporations.

The NIC in the IEDCR, in recent years, developed laboratory capacity and are regularly testing specimens from surveillance sites for influenza typing and subtyping and sequencing for new/novel strains.

National Influenza Surveillance Bangladesh (NISB), since its inception in 2010, has tested more than 10,000 samples for circulating influenza strains and suspected avian

influenza and identified eight A/H5N1 cases in Bangladesh. The NIC under the IEDCR regularly submits data to FluNet and FluID of WHO.

Laboratory capacity of the IEDCR

The IEDCR started its journey with five laboratories for (i) Virology, (ii) Parasitology, (iii) Microbiology, (iv) Entomology, and (v) Zoonosis. In recent years, the country has experienced a number of significant outbreaks of emerging and re-emerging infectious diseases, including dengue, Nipah virus infection, chikungunya, avian influenza, pandemic influenza H1N12009, Japanese encephalitis, hepatitis E, cutaneous anthrax, etc. In response to IHR (2005), the IEDCR has taken initiative to augment and strengthen its laboratory capacities to identify outbreaks or pathogens responsible for public health disasters. The IEDCR has the national reference laboratories for influenza, Nipah, and HIV. These laboratories play a significant role in the diagnosis of emerging infections, conduct and assist in training programs for laboratory personnel, and take part in quality assurance program.

Virology Laboratory: Virology laboratories are able to keep pace with the advancements in laboratory technologies, including virological analysis and the use of molecular biological tools for early diagnosis, typing, and characterization of microorganisms. In the Virology Department, there are three reference laboratories of biosafety level 2 (BSL2) standard, i.e. Nipah Laboratory, Influenza Laboratory as NIC and HIV Laboratory dealing with diagnosis of respective diseases and surveillance. One common Virology Laboratory, with a wing of cell-culture lab contributed to the strengths of the IEDCR. The IEDCR has a well-equipped PCR Laboratory with real-time and conventional PCR facilities. This PCR tools are very useful for early diagnosis of outbreaks, mapping the disease, and for selecting the vaccine strain (of influenza). It has been helping us in taking interventional steps promptly to contain previous pandemic and outbreaks. These facilities are available here since July 2009. The IEDCR also established a BSL3 laboratory, and it is a prefabricated laboratory bought from China, as a national asset by GOB funds in 2009. This high containment laboratory is a separate elegant infrastructure of the IEDCR to handle high-risk microorganisms and novel viruses.

Microbiology Laboratory: Staining, bacteriological culture, microscopy, ICT and other rapid testing facilities are available for diagnosis of microbiological diseases. This BSL2 laboratory is capable of diagnosing anthrax, cholera, salmonella, gonorrhea, syphilis, etc. Laboratory support for investigation of bacterial meningitis is also available. Water testing facility is functioning. This laboratory is working as a focal laboratory for Antimicrobial Resistance (AMR) Surveillance and Foodborne Illness Surveillance (FBIS).

Parasitology Laboratory: The laboratory is capable of diagnosing malaria, kala-azar, filariasis by staining microscopy and ICT. Limited facilities for biochemical and hematological tests for diagnosis and follow-up of cases identified by outbreak investigation are available.

Entomology Laboratory: Biological efficacy test of public health insecticides are being carried out in the laboratory from the very beginning of the Institute. Previously, the insecticides used only by the Government were tested here. Now the laboratory is carrying out the biological efficacy tests of different types of public health insecticides supplied from different organizations.

Quality system of the IEDCR laboratories has been assessed through parameters, like internal quality control, i.e. availability of SOPs and participation of laboratories in External Quality Assurance (EQA) program offered by WHO and CDC.

Biosafety Program: Laboratory Biosafety Program is designed to prevent injury and illness in all laboratory personnel, medical, technical and ancillary staff. Through a specialized laboratory dealing with pathogens of highly-infectious nature (Nipah, avian influenza, HIV), the IEDCR has been trying to achieve safe work practices through periodic training on raising awareness, practices, and availability of safety devices.

Collaboration/Referral System*:* The IEDCR laboratories have established collaboration with the national and international public health laboratories.

Outbreak investigations and response

The IEDCR, since its inception, has conducted numerous outbreak investigations. From 2007, these are systematically recorded and posted at IEDCR website at www.iedcr.gov.bd. More than a hundred outbreak investigations were conducted by the IEDCR from 2007 to 2015. Among these, Nipah virus, puffer-fish poisoning, mass psychogenic illness, human case of avian influenza (AI), chikungunya, unintentional pesticide poisoning, cholera, acute hepatitis, chicken pox, cutaneous anthrax, *Ghagra Shak* poisoning, rubella encephalitis are notable. Figure 14 shows the numbers of outbreak investigations from 2007 through 2015.

Disease surveillance

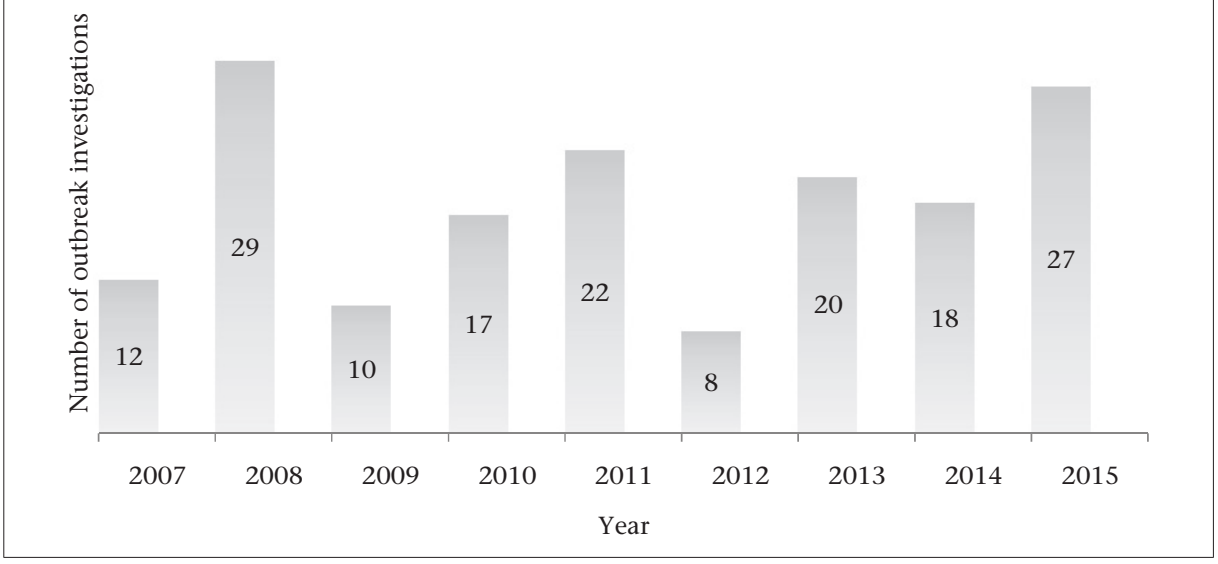
Disease surveillance is one of the main activities of the IEDCR. Routine and disease-specific surveillances are conducted round the year. The routine surveillances include: (i) Web-based Integrated Disease Surveillance (WBIDS); (ii) Foodborne Illness Surveillance (FBIS); and (iii) Cell phone-based Disease Surveillance (CPBDS). The WBIDS collects data on communicable diseases of priority, e.g. blood dysentery, malaria, kala-azar, tuberculosis, leprosy, encephalitis, ARI, SARI, pneumonia, anthrax, and unknown diseases. The FBIS investigates acute watery diarrhea, cholera, enteric fever, and hepatitis A and E. Information on foodborne illnesses, fever, SARI, and behavioral risk factors is collected by CPBDS.

Disease-specific surveillance is also conducted by the IEDCR. These include: (i) event-based surveillance–outbreak investigation and response; (ii) Nipah surveillance; (iii) acute meningo-encephalitis syndrome surveillance; (iv) hospital-based influenza surveillance in 12 sites (tertiary-care hospitals); (v) National Influenza Surveillance, Bangladesh (NISB) in 10 district hospitals; (vi) surveillance for the sero-prevalence of antibodies to avian influenza A viruses among Bangladeshi workers in poultry markets; (vii) surveillance for human infections with avian influenza A viruses among workers of live bird markets and their household members in Dhaka city area; (viii) community-based avian/human influenza surveillance among poultry workers in H5-infected poultry farms; (ix) surveillance of high-risk group in wet markets under Dhaka City Corporation; (x) surveillance for hospital-acquired respiratory infections in patients and healthcare workers in three tertiary-care facilities; (xi) hospital-based dengue surveillance; (xii) hospital-based rotavirus and intussusceptions surveillance (HBRIS); (xiii) surveillance of unintentional acute pesticide poisoning due to carbamate and organophosphate among young children; and (xiv) surveillance for lymphatic filariasis transmission after mass drug administration.

Training and workshops

During 2015, the IEDCR organized 135 workshops, training sessions, and seminars to train a total of 2,770 doctors, 931 nurses, 364

Figure 14. Numbers of outbreak investigations and responses by the IEDCR from 2007 to 2015



medical technologists, 141 statisticians, and 132 government and non-government officials for strengthening disease surveillance; outbreak investigation and response; laboratory capacity; biosafety and infection control, enhancing response to different emerging and re-emerging infections, including Ebola virus disease (EVD), Middle East Respiratory Syndrome Corona Virus (MERS-CoV), avian influenza (H5N1, H7N9, H9N2), Nipah, and other emerging infectious diseases, enhancing foodborne illness surveillance (FBIS); and climate change. Important activities conducted include the following:

- Orientation of 524 national and upazila rapid response team members on newly-emerged Ebola virus infections, MERS-CoV, avian influenza (H5N1, H7N9, H9N2), Nipah, and other emerging infectious diseases
- Doctors (1,172), nurses (931), and medical technologists (364) were trained for enhancing preparedness and emergency response to different emerging and re-emerging infections, including Ebola virus infections, MERS-CoV, avian influenza (H5N1,H7N9, H9N2), Nipah, and other emerging infectious diseases
- A total of 55 doctors were trained on epidemiology, control and prevention, and emergency response to foodborne illnesses in Bangladesh
- A total of 420 doctors, 500 nurses, and 139 medical technologists were trained on biosafety and infection control
- Medical technologists (152) were trained on detection of emerging infectious diseases
- Refreshers training on web-based disease surveillance was conducted, and 141 statisticians were trained on the subject
- Training on needs assessments of biosafety and infection control, with organization of advocacy meeting with policy-makers and health managers, covered 522 health managers.

Academic courses

A few academic courses, some with degrees, are offered by the IEDCR. These include: (a) MSc in Applied Epidemiology (Field Epidemiology Training Program). This two-year course is affiliated with the University of Dhaka; (b) Masters of Public Health in One Health and Biosecurity (in collaboration with Massey University, New Zealand and Chittagong Veterinary & Animal Science University); (c) Clinical Epidemiology Course for Medical Professionals; (d) Frontline FETP,B (Shorter version of FETP course); and (e) Improving Public Health Management for Action (IMPACT) courses. This two-year course is started to build up public health management specialist in Bangladesh.

Activities of the IEDCR in 2015

Research and surveys

- Tuberculosis prevalence survey, Bangladesh
- Assessing prevalence and risk factors of mild/asymptomatic influenza A(H5N1) infections among persons exposed to influenza A(H5N1)-infected poultry
- Estimating the risk of mild human infection among persons exposed to influenza A(H5N1)-infected poultry
- Dengue prevalence survey in Dhaka City Corporation area
- Chikungunya prevalence and entomological survey in Dhaka City Corporation area
- Antibiotic medication and antimicrobial resistance of the bacteria causing upper respiratory tract infection
- Research on understanding of ecology of Nipah virus in Bangladesh
- Investigation of anthrax outbreaks and risk factors for anthrax in humans and livestock in Bangladesh
- Piloting hospital infection control interventions for severe infections spread by respiratory droplet and direct contact routes
- Estimating the incidence of maternal and neonatal deaths from hepatitis E virus (HEV) in Bangladesh
- A pilot study of a mobile technology platform to improve evidence-based practice for the treatment and epidemiological surveillance of diarrheal diseases in Bangladesh

- Development of the protocol to study the effectiveness of household and community-level WASH interventions in reducing health vulnerability to climate change

Surveillance

- National Influenza Surveillance, Bangladesh (NISB) in 10 district hospitals
- Hospital-based Influenza Surveillance in 12 sites (tertiary care hospitals)
- Nipah Virus Transmission Surveillance
- Cell phone-based Behavioral Risk Factor Surveillance System (BRFSS)
- Acute Meningo-Encephalitis Syndrome (AMES) Surveillance focused on Japanese Encephalitis and Nipah
- Sero-prevalence of antibodies to avian influenza A viruses among Bangladeshi poultry market workers
- Surveillance for human infections with avian influenza A viruses among live-bird market workers and their household members in Dhaka City Corporation area, Bangladesh
- Avian/Human Influenza Surveillance among poultry workers in A(H5)-infected poultry farms
- Surveillance for hospital-acquired respiratory infections in patients and healthcare workers in three tertiary-care facilities
- Web-based integrated disease surveillance up to upazilla (subdistrict) level
- Hospital-based dengue surveillance
- Hospital-based rotavirus and intussusceptions surveillance (HBRIS) in collaboration with icddr,b
- Surveillance of unintentional acute pesticide poisoning among young children in Bangladesh
- Post-mass drug administration surveillance for lymphatic filariasis transmission
- Foodborne illness surveillance system, Bangladesh with 4 components:
    - Web-based surveillance
    - Cell-phone based surveillance
    - Laboratory-based surveillance for diarrhea, jaundice, and febrile illness (enteric fever and leptospirosis)
    - Foodborne emergency response.

Others

- 8th One Health Bangladesh Conference: A total of 420 participants attended this important event
- MoU signing with Columbia University and EcoHealth Alliance
- Four-way linking workshop.

International affiliation

The IEDCR is a member of the International Association of National Public Health Institutes (IANPHI), Director of IEDCR is a member of the Executive Board of IANPHI. The IEDCR is a member of the Global Outbreak Alert and Response Network (GOARN). The IEDCR is also a member of the 11-member Emergency Committee on Middle East Respiratory Syndrome Corona Virus (MERS-CoV) and Committee for International Certification of Polio Eradication formed by Director General of WHO. The IEDCR has collaborative activities with the Centers for Disease Control and Prevention (CDC) of USA, Rockefeller Foundation, icddr,b, and IANPHI. The institute is supported by WHO, UNICEF, FAO, USAID, and other UN and international agencies.

Chapter 15

Production, quality control, and health education

INSTITUTE OF PUBLIC HEALTH

The IPH was established combining the public health laboratories in 1952. Major activities of this institute is to support preventive and curative healthcare through laboratory support, production of different biological products, chemicals, quality control, academic courses, training, and research in the field of public health.

The Institute of Public Health (IPH) is one of the oldest national organizations under the Ministry of Health and Family Welfare of the Government of Bangladesh. The IPH was established combining the public health laboratories in 1952. Major activities of this institute is to support preventive and curative healthcare through laboratory support, production of different biological products, chemicals, quality control, academic courses, training, and research in the field of public health.

The institute has a land area of 47.80 acres and a total of 926 personnel. The institute has a previous long reputation for production of vaccines. During the 1970s, the IPH played an important role in eradication of smallpox from the country by producing and supplying smallpox vaccines to the National Immunization Program. Now the institute is working through the following infrastructure:

1. Biological Production Unit
    - Production of different types of intravenous fluid
    - Production of diagnostic reagents and chemicals
    - Production of blood-bags
    - Production of ORS (oral rehydration salts), including five units in different locations
2. Public Health Laboratory and National Food Safety Laboratory
3. Microbiology and Virology Laboratory
    - National Polio and Measles Laboratory
4. Quality Control Unit
5. Academic Wing

In 2015-2016 academic sessions, the IPH started undergraduate courses called BSc (Bachelor of Science) in Health Technology (Laboratory). BSc in Health Technology (Food Safety), and a postgraduation course MPH (Masters of Public Health) will be started very soon. For academic purpose, a well-decorated, enriched library having a huge number of medical books and journals was established.

Very recently, the IPH has established a CAPD (Continuous Ambulatory Peritoneal Dialysis) Fluid Unit for the management of end-stage renal disease patients. The Dhaka Unit of oral rehydration salts (ORS) was shifted to the IPH main campus from Tejkunipara, Tejgaon and is now showing its utmost performance.

The IPH is now on track for the digital health development goal. Under the umbrella of information desk, all departments are connected to the digital network, interlinking with one

another as well as with the DGHS. The IPH has its own website at: www.iph.gov.bd.

The IPH personnel are working round-the-clock, with a vision to establish the institute as a regional and international reference center to support the public health activities in Bangladesh.

Production of intravenous fluids

The intravenous fluid production unit was established in 1973 and expanded in 1981-1982.

Table 15.1 shows the production of intravenous fluids by IPH over the last 5 years (2011 to 2015).

Production of blood-bags and related accessories

Table 15.2 shows the quantity of blood-bags and related accessories produced by IPH over the last 5 years (2011 to 2015).

Production of diagnostic reagents

Table 15.3 shows the quantity of different types of diagnostic reagents produced by IPH from 2011 to 2015.

Production of oral rehydration salts

The oral rehydration salts production unit was established in 1980-1981 financial year.

Table 15.1. Production of intravenous fluids by IPH over the last 5 years (2011 to 2015)

Item	Pack-size (mL)	Year				
		2011	2012	2013	2014	2015
Glucose saline	1,000	70,700	81,590	111,008	88,015	94,035
	500	143,225	127,255	130,733	121,345	170,067
Glucose aqua	1,000	66,225	82,810	88,499	80,660	79,697
	500	120,235	112,785	118,525	114,705	126,960
Normal saline	1,000	51,078	61,471	93,860	79,030	100,741
	500	101,394	12,179	114,010	120,630	170,620
Cholera saline	1,000	56,367	81,227	87,585	74,105	105,695
	500	107,320	124,120	118,030	112,950	191,225
P.D. fluid	1,000	21,192	25,530	40,125	36,250	44,650
	500	-	-	-	-	-
3% Normal saline	1,000	-	-	-	-	-
	500	11,130	10,479	10,149	16,131	15,423
Baby saline	1,000	-	-	-		52,450
	500	30,475	36,355	33,864	42,065	-
Hemodialysis fluid	1,000	7,830	10,700	5,868	1,670	4,080
Hartmann's Solution	1,000	-	-	-		3,500
	500	110,305	86,465	24,380	89,450	185,450

Table 15.2. Production of blood-bags and accessories by IPH over the last 5 years (2011 to 2015)

Item	Pack type	Year				
		2011	2012	2013	2014	2015
CPD blood-bag	Single	62,272	105,523	66,117	114,783	110,192
CPD blood-bag	Double	-	-	-	600	-
Baby bag	150 mL	1,400	-	300	2,390	-
Transfusion set	-	3,800	58,000	127,830	38,000	21,223
Infusion set	-	10,200	75,600	32,200	110,000	52,095

Table 15.3. Production of diagnostic reagents by IPH (2011 to 2015)

Item	Year				
	2011	2012	2013	2014	2015
Benedict's Solution (L)	360	400	140	240	575
ESR fluid (L)	89	160	180	99	280
20% Sulfuric acid solution (L)	-	-	-	-	50
N/10 Hydrochloric acid solution (L)	41	70	40	40	70
Acetone alcohol (L)	-	60	2	-	40
5% Acetic acid solution (L)	10	60	30	50	175
WBC fluid (L)	-	40	-	50	80
RBC fluid (L)	-	30	-	-	47
30% Sulfosalicylic acid (L)	-	10	-		30
20% Sodium hydroxide solution (L)	-	-	-	-	5
20% Potassium hydroxide solution (L)	-	-	-	-	-
Semen analysis fluid (L)	10	-	-		40
Normal saline (L)	-	20	40	10	120
Methylene blue (L)	-	-	-	-	25
Crystal violet (L)	-	-	-		20
Basic fuchsin (L)	-	10	-	-	-
Carbol fuchsin (L)	-	-	-		5
Gram iodine (L)	5	5	-	5	25
Lugol's iodine (L)	15	10	-		31
Leishman stain (L)	50	72	26	17	70
Giemsa stain (L)	43	40	34	14	50
Glucose kits	48	99	-	-	-
Bilirubin kits	-	149	-	100	198
Creatinine kits	250	298	-	191	328
Uric acid kits	-	-	-	-	-
EDTA vials	-	-	-	-	500
Urea kits	48	50	-	-	-

Figure 15.1. Production and distribution of oral rehydration salts (ORS) by IPH over the last 5 years (2011 to 2015)

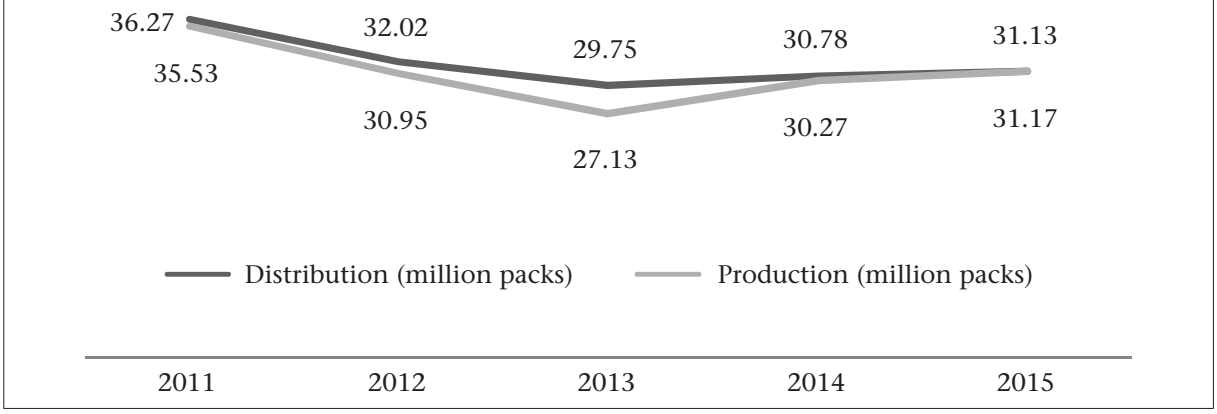


Figure 15.1 shows the quantity of oral rehydration salts (ORS) produced and distributed by IPH from 2011 to 2015.

Testing of food, water, drug and stool samples

Table 15.4 shows the number of food samples tested by IPH from 2011 to 2015. The table also shows the distribution of satisfactory and unsatisfactory samples out of the total samples tested each year.

Figure 15.2 shows the results of water samples, for which bacteriological test was done by IPH during 2011 to 2015.

Table 15.5 shows the number of drug samples received during 2011-2015 by IPH, with the test results.

The National Polio Laboratory of the IPH is a WHO-accredited laboratory established to assist in the eradication of wild polio virus from the country. It is a partner of SEARO-WHO Polio Network. Table 15.6 shows the number of stool samples tested by IPH for polio virus from 2011 to 2015, with results of the tests.

Serological tests for measles and rubella

The Measles Laboratory of the IPH is involved with the serological study of measles and

Table 15.4. Food samples tested by IPH over the last 5 years (2001 to 2015)

Year	Total samples	Satisfactory		Unsatisfactory	
		No.	%	No.	%
2011	5,812	2,671	45.96	3,147	54.15
2012	5,322	2,734	51.37	2,558	48.06
2013	4,967	2,830	56.98	2,137	43.02
2014	5,396	3,249	60.21	2,147	39.79
2015	6,746	4,376	64.87	2,370	35.13

Figure 15.2. Result of water samples tested chemically by IPH in the last 5 years (2011to 2015)

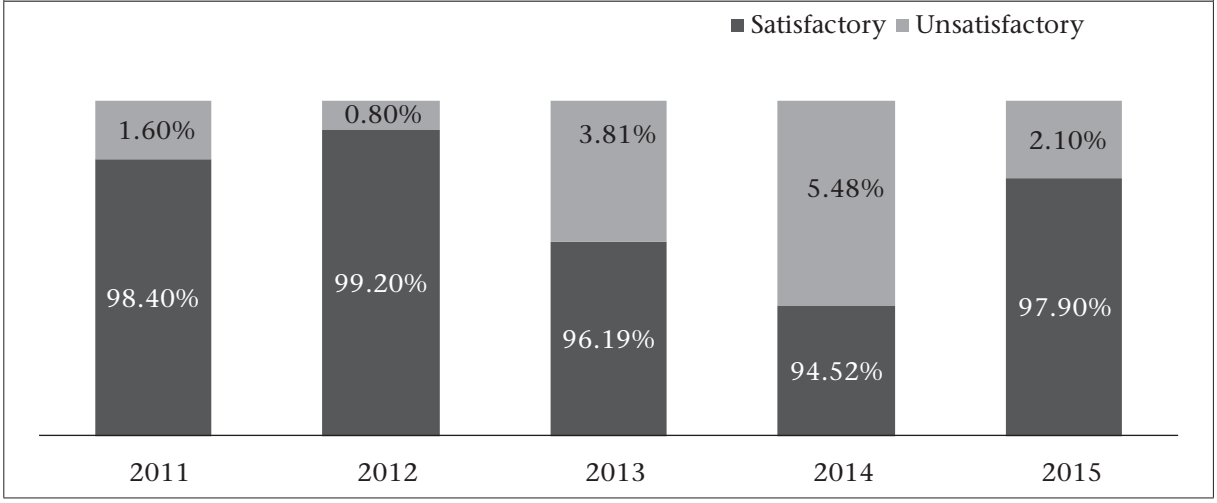


Table 15.5. Number of drug samples received and tested by IPH, with the test results (2011 to 2015)

Year	Samples received (Total)	Satisfactory	Unsatisfactory	Not analyzed	Feedback given to senders
2011	3,720	2,583	104	1,033	-
2012	4,239	2,276	95	1,868	264
2013	5,618	4,635	162	21	962
2014	7,336	5,272	141	1,923	44
2015	7,001	6,859	6,603	256	142

rubella to support measles control program in the country. Table 15.7 shows the numbers of measles-positive, rubella-positive and negative blood samples tested by the Measles Laboratory of the institute from 2011 to 2015.

Routine tests for blood, serum, stool, urine, sputum, throat-swab and ear-swab samples

The IPH performs routine tests on the samples of blood, serum, stool, urine, sputum, throat-swab, ear-swab, etc. Table 15.8 shows a summary of the tests done on such samples by IPH from 2011 to 2015.

Visits by medical and dental students

Figure 15.3 shows the numbers of medical/dental students who visited the IPH during 2009-2013 and in 2015. Graduate medical and dental students from almost all medical colleges come to see the activities of the IPH for learning. The IPH is a designated site for field visit by medical students in the country.

Table 15.6. Number of stool samples tested by IPH for polio virus from 2011 to 2015, with the test results

Item	Year				
	2011	2012	2013	2014	2015
AFP cases (N)	1,600	1,570	1,433	1,473	1,408
Samples (N)	3,619	3,450	3,206	3,112	3,010
Polio virus isolates (N)	75	84	68	34	42
Wild polio viruses (N)	-	-	-	-	-
Vaccine (Sabin) viruses (N)	75	84	68	34	42
NPEV (Non-polio enteroviruses) (N)	638	489	590	706	611
Negative samples (N)	2,906	2,877	2,584	2,372	2,357

Table 15.7. Numbers of measles-positive, rubella-positive (IgM antibody) and total negative blood samples (both measles and rubella) tested by the Measles Laboratory of IPH from 2011 to 2015

Test	Year				
	2011	2012	2013	2014	2015
Measles-positive	1,788	714	77	143	158
Rubella-positive	672	481	639	223	152
Total negative	1,633	1,359	1,047	1,676	2,530
Total samples	4,093	2,590	1,763	2,042	2,840

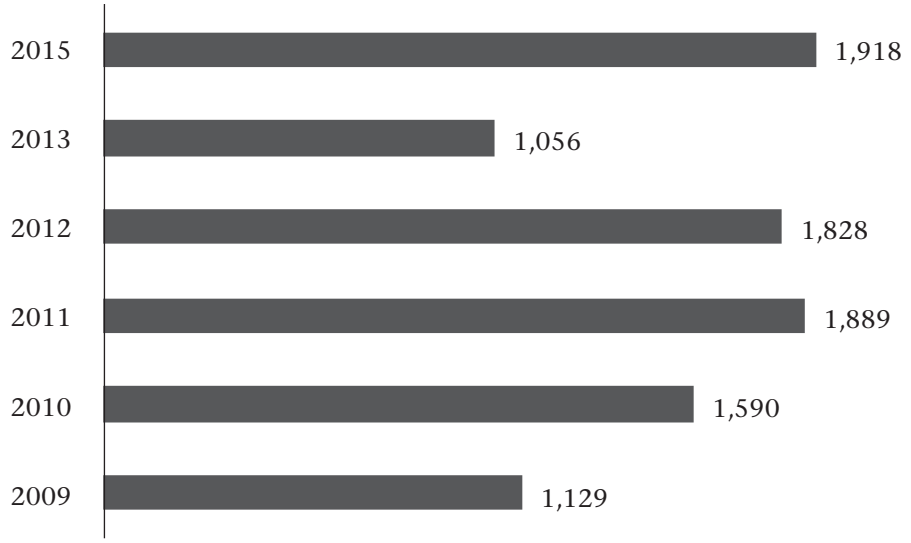
Table 15.8. Number of routine tests done on various samples by IPH during 2010-2012 and in 2015

Test	Year			
	2010	2011	2012	2015
Biochemical (blood)	-	-	9	1,057
Serological	-	11,043	6,449	294
Routine examination (stool, blood-CP, urine, sputum)	162	157	79	443
Culture and sensitivity (stool, blood, urine, sputum, throat-swab, ear-swab)	30	-	-	52

Table 15.9. Summary of the tested food samples by the National Food Safety Laboratory in 2015

Samples from government sources	Samples from non-government sources	Survey samples	Total samples	Parameters tested
472	235	1,107	1814	33,875

Figure 15.3. Numbers of medical/dental students who visited the IPH during 2009-2013 and in 2015



National Food Safety Laboratory (NFSL)

With the financial support of the European Union and the Kingdom of the Netherlands Government, the Food and Agriculture Organization (FAO) established the National Food Safety Laboratory (NFSL) in the 2nd floor of the Institute of Public Health. It was inaugurated in October 2012 by Hon'ble Minister for Health and Family Welfare.

NFSL is playing a key role in the determination of pesticide residues, heavy metals, antibiotics, formaldehyde, coloring agents, myco-toxins, and foodborne pathogens in different food items. Table 15.9 shows a summary of the 2015 activities.

Academic activities in the IPH

Recently, the IPH has started academic activities under the University of Dhaka. In the 2015-2016 academic session, a BSc program in Health Technology (Laboratory) was started with 28 students. From the next session, other programs, like BSc in Health Technology (Food Safety) will be started. The IPH has also taken steps to start MPH courses under the BSMMU.

Chapter 16

More coordination needed for integrated service

HEALTH WORKFORCE SITUATION IN BANGLADESH

Health workforce deployment and redeployment are ongoing processes; attrition due to death, retirement, resignation, termination, migration, transfer, replacement, and filling-in is constantly occurring.

The chapter gives a summary of the health workforce situation in the DGHS and allied departments, viz. Directorate General of Family Planning and Directorate of Nursing Services. The numbers of sanctioned and filled-up posts, along with vacancies, are highlighted in tabular forms. Medical teaching/training institutions and programs, along with training courses, have also been shown. Health workforce deployment and redeployment are ongoing processes; attrition due to death, retirement, resignation, termination, migration, transfer, replacement, and filling-in is constantly occurring. Therefore, by the time this bulletin is published, the status of health workforce as reported here may not remain the same.

With the initiatives of the newly-appointed Director General, the human resource (HR) information is now being kept up-to-date in the online HR management system developed by the Management Information System (MIS) of the DGHS. In the near future, any change in the HR situation, either by new recruitments or by transfers, postings, retirements, etc. will be incorporated in the system in real-time. The updated information will be available at the DGHS web portal (dghs.gov.bd).

Overall health workforce situation of DGHS

A summary of health workforce situation in the DGHS is shown in Table 16.1. The Annex to this chapter shows the division-wise distribution of health workforce.

Table 16.1 reveals that, out of 127,841 sanctioned posts under the DGHS, about half (41.41%) are of Class III category, physicians (Class I) comprise 18.80%, Class II 16.66%, and Class IV employees comprise the rest 22.71%. Of the available 106,104 health personnel, 41.35% are of Class III, 21.09% are doctors (Class I), 16.78% are of Class II, and 20.55% are of Class IV. The Class I non-doctors comprise 0.42% of the sanctioned posts and 0.22% of the available staff. Table 16.1 also shows that 21,737 sanctioned posts remained vacant as of June 2016, which constituted 17% of the total sanctioned posts. Vacancy rate was 6.88% (1,654 posts) for doctors, 56.46% (306 posts) for Class I non-doctors, 16.37% (3,486 posts) for Class II staff, 17.12% (9,062 posts) for Class III staff, and 24.89% (7,229 posts) for Class IV staff.

The percentage distribution of male and female staff under the DGHS remained the same in 2016 as it was in June 2015 (Figure 16.1). Slightly less than two-thirds (61.29%) of the total staff members (n=106,162) were male, and just above one-third (38.71%) of them were female (38.71%) (Figure 16.1) Among the doctors (Class I), almost three-quarters (70.85%) were male, and slightly more than one-quarter (29.55%) were female. Class I non-doctors also had similar distribution (75.53% male vs 24.47% female). For the Class II staff, the scenario was quite opposite (7.30% male vs 92.70% female). However, this was due to the fact that the bulk of Class II staff comprised nurses, and most of the nurses were female. Among the Class III staff, 73.03% were male, and 26.97% were

female. Among the Class IV staff, 73.35% were male, and 26.65% were female.

Figure 16.2 shows the total number of sanctioned posts for the DGHS in 2014, 2015, and 2016 (up to June). Between 2015 and 2016, there was an increase of 11,114 posts comprising 392 Class I posts for doctors, 17 Class I posts for non-doctors, 411 Class II posts, 10,184 Class III posts, and 110 Class IV posts.

Administrative, managerial, academic and clinical positions

The numbers of sanctioned, filled-up and vacant posts at administrative, managerial, academic and clinical positions under the DGHS, as of June 2016, are shown in Table 16.2.

Medical technologists

The numbers of sanctioned, filled-up and vacant posts of medical technologists as in 2013 through 2015 are shown in Table 16.3.

Sub-Assistant Community Medical Officers

Table 16.4 shows the numbers of sanctioned, filled-up and vacant posts of Sub-Assistant Community Medical Officer (SACMO) in the three-year period from 2013 through 2015 under the DGHS. Percentage of vacancy has been slightly increased in 2015 to 15% from 13% in 2014.

Domiciliary staff (Health Inspectors, Assistant Health Inspectors, and Health Assistants)

Table 16.5 shows the numbers of sanctioned, filled-up and vacant posts of domiciliary staff (Health

Table 16.1. Number of sanctioned, filled- up and vacant posts under DGHS (June 2016)

Category of post		Sanctioned post		Filled-up post			Vacant	
		No.	As % of all sanctioned posts	No.	As % of all filled-up posts	As % of sanctioned posts in respective categories	No.	As % of sanctioned posts in respective categories
Class I	Doctors	24,028	18.80	22,374	21.09	93.12	1,654	6.88
	Non-doctors	542	0.42	236	0.22	43.54	306	56.46
Class II		21,294	16.66	17,808	16.78	83.63	3,486	16.37
Class III		52,939	41.41	43,877	41.35	82.88	9,062	17.12
Class IV		29,038	22.71	21,809	20.55	75.11	7,229	24.89
Total		127,841	100.00	106,104	100.00	83.00	21,737	17.00

Figure 16.1 Percent distribution of male and female staff in DGHS (June 2015)

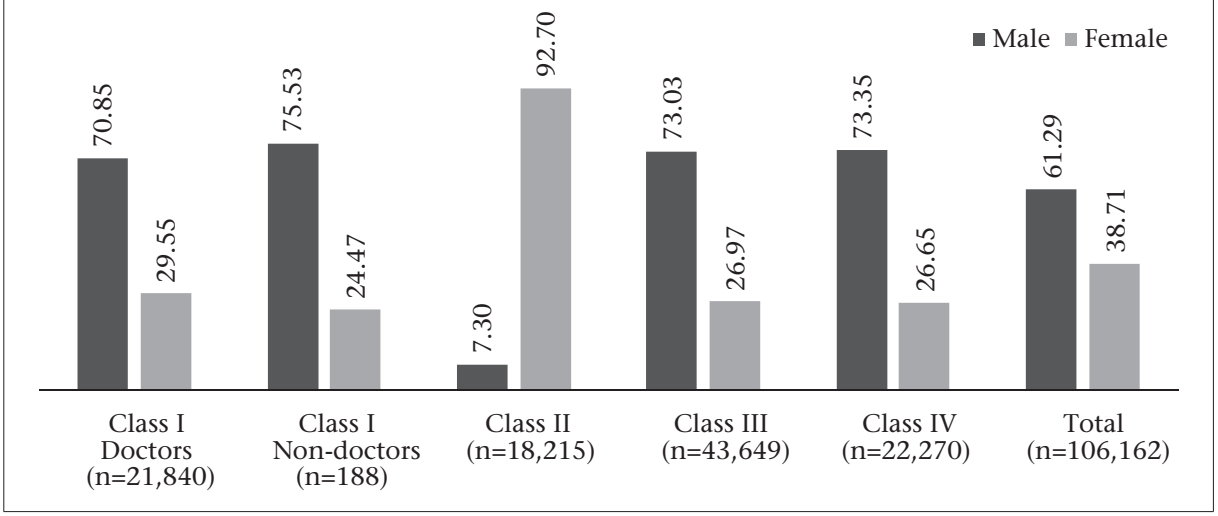


Figure 16.2. No. of sanctioned posts by year

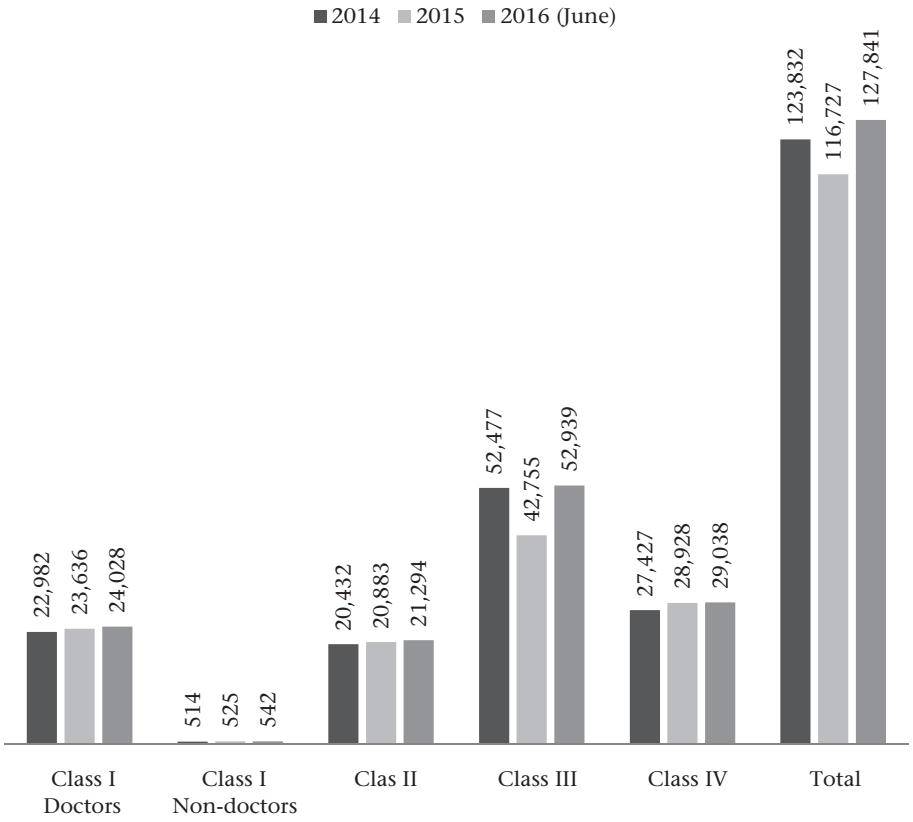


Table 16.2. Numbers of sanctioned, filled-up and vacant posts at administrative, managerial, academic and clinical positions under DGHS (June 2016)

Name of post	Total no. of sanctioned posts	Filled-up		Vacant	
		No.	(%)	No.	(%)
Director General	1	1	100	0	0
Additional Director General/Equivalent	5	4	80	1	20
Director/Principal/Vice-Principal/Equivalent	109	102	94	7	16
Deputy Director/Equivalent	128	95	74	33	26
Assistant Director/Civil Surgeon/ Equivalent	208	154	74	54	26
Deputy Civil Surgeon/UHFPO	935	774	83	161	17
Professor	617	402	65	215	35
Associate Professor	945	731	77	214	23
Assistant Professor	1,442	1,115	77	327	23
Senior Consultant	539	325	60	214	40
Senior Lecturer	8	6	75	2	25
Junior Lecturer	32	28	88	4	13
Junior Consultant/Equivalent	3,661	1,824	50	1,837	50
Assistant Surgeon/Equivalent	14,768	16,313	11	1,545	10
Other posts	369	268	73	101	27
Total	**23,767**	**22,142**	**93**	**1,625**	**7**

Table 16.3. Numbers of sanctioned, filled-up and vacant posts of medical technologists by discipline in the last three years

Year (Month)	Post	Pharmacy	Lab	Radiography	Radiotherapy	Physiotherapy	Dental	Sanitary inspection	MT (EPI)	Total
2013 (Dec)	Sanctioned	2,934	1,922	737	66	216	535	491	-	6,901
	Filled-up	2,126	1,498	629	41	144	501	436		5,375
	Vacant	808	424	108	25	72	34	55	-	1,526
2014 (May)	Sanctioned	2,944	2,170	784	66	264	539	496	499	7,762
	Filled-up	2,113	1,642	644	40	177	501	439	473	6,029
	Vacant	813	528	140	26	87	38	57	26	1,733
2015 (Dec)	Sanctioned	2,944	2,172	785	66	286	540	497	500	7,790
	Filled-up	2,106	1,629	623	38	171	484	432	462	5,945
	Vacant	438	543	162	28	115	56	65	38	1,445

Table 16.4. Numbers of sanctioned, filled-up and vacant posts of Sub-Assistant Community Medical Officer (SACMO) in the three-year period (2013, 2014, and 2015) under DGHS

Year (Month)	No. of posts		Vacancy	
	Sanctioned	Filled-up	No.	(%)
2013 (Dec)	5,411	4,917	494	9.13
2014 (Dec)	5,411	4,684	727	13
2015 (Dec)	5,411	4,578	833	15

Table 16.5. Numbers of sanctioned, filled-up and vacant posts of domiciliary staff (Health Inspectors, Assistant Health Inspectors, and Health Assistants) under DGHS from 2013 through 2015.

Year (Month)	Post	Health Inspector	Assistant Health Inspector	Health Assistant	Total field staff	Vacancy (%)
2013 (Dec)	Sanctioned	1,399	4,202	20,881	26,482	16.75
	Filled-up	1,313	4,042	16,690	22,045	
	Vacant	86	160	4,191	4,437	
2014 (Dec)	Sanctioned	1,399	4,205	20,877	26,481	14
	Filled-up	1,282	4,006	17,532	22,820	
	Vacant	117	199	33,45	3,661	
2015 (Dec)	Sanctioned	1,399	4,205	20,877	26,481	15
	Filled-up	1,232	3,891	17,332	22,455	
	Vacant	167	314	3,545	4,026	

Inspectors, Assistant Health Inspectors, and Health Assistants) under the DGHS in the last three-year period (2013, 2014, and 2015). The rate of vacancy dropped to 15% in 2015 from 16.75% in 2013, although in 2014, the situation was slightly better with a 14% vacancy rate.

Officers and staff in alternative medicines

Table 16.6 shows the numbers of sanctioned, filled-up and vacant posts of various officers and staff in alternative medicines under the DGHS, as of June 2016.

Table 16.6. Numbers of sanctioned, filled-up and vacant posts (revenue and development) of various officers and staff in alternative medicines under DGHS (June 2016)

Name of post	Sanctioned post		Fill-up post		Vacant post	
	Revenue	Development	Revenue	Development	Revenue	Development
Director	1	0	1	0	0	0
Line Director	1	0	1	0	0	0
Principal-cum-Superintendant	2	0	2	0	0	0
Professor	2	0	0	0	2	0
Deputy Director	1	0	1	0	0	0
Assistant Professor	9	4	6	2	3	2
Assistant Director	1	0	1	0	0	0
RMO/RP/(U/A/H), Register(U/A/H)	0	5	0	5	0	0
Lecturer	21	35	15	31	6	4
Medical Officer (U/A/H), DGHS	0	3	0	3	0	0
Medical Officer for Unani Medicine	61	95	10	68	51	27
Medical Officer for Homeopathic Medicine	51	90	0	74	51	16
Medical Officer (Ayurvedic)	61	90	10	63	51	27
Medical Officer: IMO	6	18	0	15	6	3
Other posts equivalent to Medical Officer	14	4	14	2	0	2
Research Officer	0	3	0	3	0	0
Deputy Superintendant	1	0	1	0	0	0
Nurse/Staff Nurse	12	0	12	0	0	0
Secretary	1	0	1	0	0	0
Accountant	0	1	0	0	0	0
Support personnel (compounders for alternative medicine)	157	277	2	63	155	214
Herbal Assistant for Herbal Gardens	0	474	0	433	0	41
Other Class III personnel	100	2	82	0	18	2
Other Class IV personnel	184	2	124	2	50	0
Total	**686**	**1,103**	**283**	**764**	**403**	**339**

Table 16.7. Numbers of sanctioned, filled-up and vacant posts under DGFP from 2012 through 2014

Year (Month)		Class	Sanctioned	Filled-up	Vacant	Vacancy rate (%)
2012	(Dec)	Class I	1,954	1,049	905	46.3
2013	(Apr)		1,954	1,021	933	47.7
2014	(Dec)		1,953	1,039	914	46.80
2012	(Dec)	Class II	1,022	401	621	60.8
2013	(Apr)		1,074	401	673	62.7
2014	(Dec)		1089	525	564	51.79
2012	(Dec)	Class III	16,937	14,646	2,291	13.5
2013	(Apr)		16,886	14,760	2,126	12.6
2014	(Dec)		16,881	14,665	2,216	13.13
2012	(Dec)	Class IV	32,507	29,845	2,662	8.2
2013	(Apr)		32,516	29,103	3,413	10.5
2014	(Dec)		32,512	29,116	3,396	10.45

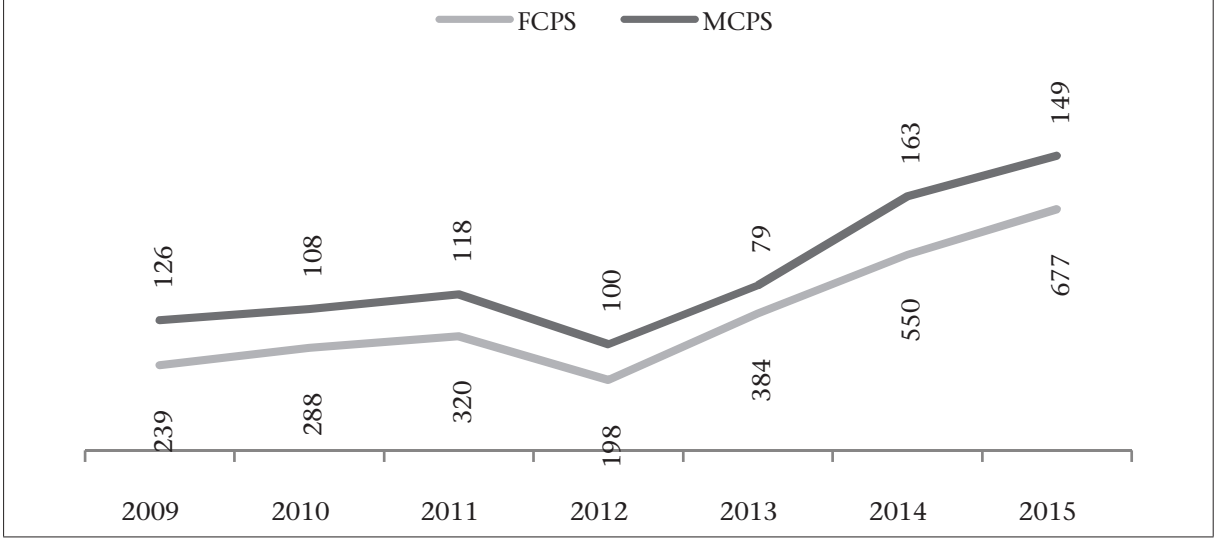
Table 16.8. Numbers of sanctioned, filled-up and vacant posts under the DNS in 2014 and 2015

Year (Month)		Category	Sanctioned	Filled-up	Vacant	Vacancy rate (%)
Class I						
2014	(June)	Nursing	311	166	145	46.95
		Non-nursing	1	-	1	100.0
2015	(June)	Nursing	313	148	165	52.71
		Non-nursing	1	0	1	
Class II						
2014	(June)	Nursing	22,357	12,928	5,429	24.28
		Non-nursing	20	9	11	55.0
2015	(June)	Nursing	21,234	16,082	5,152	24.26
		Non-nursing	20	9	11	55
Class III						
2014	(June)	Nursing	611	611	0	0
		Non-nursing	368	289	79	21.47
2015	(June)	Nursing	610	610	0	0
		Non-nursing	368	299	69	18.75
Class IV						
2014	(June)	Non-nursing	704	664	40	5.68
2015	(June)	Non-nursing	704	623	81	11.50

Table 16.9. Type of institutions offering postgraduate medical courses, with numbers of seats (December 2015)

Type of organization	No. of organizations	No. of seats							
		MS	MD	M. Phil	Diploma	MPH	MTM	MMED	Total
Autonomous (BSMMU)	1	140	150	70	106	0	10	0	476
Government	22	312	360	242	478	185	0	15	1,592
Private	10	21	38	15	95	0	0	0	169
Total	**33**	**473**	**548**	**327**	**679**	**185**	**210**	**15**	**2,237**

Figure 16.3. Number of persons receiving FCPS and MCPS postgraduate degrees by year



Workforce in Directorate General of Family Planning

Table 16.7 shows the numbers of sanctioned, filled-up and vacant posts under the Directorate General of Family Planning (DGFP) from 2012 through 2014.

Directorate of Nursing Services

Table 16.8 shows the numbers of sanctioned, filled-up and vacant posts under the Directorate of Nursing Services (DNS) in 2014 and 2015

Institutions offering postgraduate medical degrees

The numbers of institutions both in the government and private sectors providing postgraduate medical degrees are shown in Table 16.9. Thirty-three institutions—23 in public sector (including autonomous BSMMU) and 10 in private sector—offer such degrees. Table 16.9 also shows the titles of the courses offered by each institution, along with the number of seats in each course. One institution, namely Bangladesh College of Physicians and Surgeons (BCPS), offers FCPS (Fellow of the College of Physicians and Surgeons) and MCPS (Member of the College of Physicians and Surgeons) degrees. Any eligible candidate can sit for the examinations, and results depend on the candidate's competence shown in the examinations. The number of seats is, therefore, variable. Other institutions offer courses, like MS, MD, M.Phil, Diploma, MPH, MTM, and MMED. Detailed list of the organizations, with courses and number of seats, is shown in the Annex.

Figure 16.3 shows the number of doctors who obtained FCPS and MCPS degrees from the Bangladesh College of Physicians and Surgeons (BCPS) from 2009 to 2015. Detailed data are given in the Annex.

Institutions offering MBBS degree

Table 16.10 shows the number of institutions, along with the total number of seats–both in the government and private sectors–which offer MBBS degree. Detailed list of institutions, with number of seats in each, is provided in the Annex.

Table 16.10. Government and private institutions offering MBBS degree, with the number of seats (June 2016)

Type of organization	**No. of** institutions	**No. of seats**
Government	36	3,812
Private	68	6,145
Total	**104**	**9,957**

Institutions offering undergraduate dental degrees

The number of institutions, along with the total number of seats both in the government and private sectors, which offer BDS degree, is shown in Table 16.11. Detailed list of institutions, with number of seats in each, is provided in the Annex.

Table 16.11. Government and private institutions offering BDS degrees, with number of seats (June 2016)

Type of organization	No. of institutions	No. of seats
Government	9	532
Private	25	1,385
Total	**34**	**1,917**

Institutions offering degrees and diplomas in alternative medicines

The list of academic institutions, along with the numbers of seats both in the government and the private sectors, offering degrees and diplomas in alternative medicines is provided in Table 16.12.

Institutions offering nursing degrees

The number of institutions, along with the number of seats in both government and private sectors, offering different types of nursing degrees is shown in Table 16.13. Detailed list of institutions and number of seats in each institution is provided in the Annex.

Institutions producing midwives

Twelve junior midwifery institutions in the private sector exist, with total seats of 320, to produce midwifery professionals (18-month course). Table 16.14 shows the list.

Training facilities for production of community-based skilled birth attendants

The Ministry of Health and Family Welfare has a program to produce community-based skilled birth attendants to facilitate attendance at childbirths by skilled health personnel. There are 47 facilities–45 in the government sector and 2 in the private sector. Table 16.15 shows the location of the training facilities.

Table 16.12. Institutions for teaching and training on alternative medicines in Bangladesh (June 2016)

Name of institution	Total	Govt.	Private	Duration of course	Duration of internship	Degree offered	No. of seats
Govt. Unani and Ayurvedic Medical College	1	1	0	5 years	1 year	BUMS (Bachelor of Unani Medicine and Surgery); BAMS (Bachelor of Ayurvedic Medicine and Surgery)	50
Govt. Homeopathic Medical College	2	1	1	5 years	1 year	BHMS (Bachelor of Homeopathic Medicine and Surgery)	50
Tibbia College/ Unani Diploma College	16	1	15	4 years	6 months	DUMS (Diploma in Unani Medicine and Surgery)	25*
Ayurvedic Diploma College	9	0	9	4 years	6 months	DAMS (Diploma in Ayurvedic Medicine and Surgery)	-
Homeopathic Diploma College	53	0	53	4 years	6 months	DHMS (Diploma in Homeopathic Medicine and Surgery)	-

**Only in government institutions*

Table 16.13. Number of nursing institutions, along with the numbers of seats, offering different types of nursing degrees (June 2016)

Course	Ownership	Affiliation	No.	Seats
BSc	Government	MOHFW	7	700
		Armed Forces Medical Institute, Dhaka Cantonment, Dhaka	1	60
		Faculty of Nursing BSMMU, Dhaka	1	25
		Sub-total (Government)	9	785
	Private	Private (one institution has been closed)	13	430
		Sub-total (BSc in Nursing)	**22**	**1,215**
Post-basic BSc	Government	MOHFW	4	500
	Private	Private	10	345
		Sub-total (Post-basic BSc in Nursing)	**14**	**845**
Specialized education	Private	Private	4	80
		Sub-total (Specialized education in Nursing)	**4**	**80**
Diploma	Government	MOHFW	43	2,580
		Armed Forces Medical Institute	1	50
		Sub-total (Government)	**44**	**2,630**
	Private	Private	47	1910
		Sub-total (Diploma in Nursing)	**91**	**4,540**
		Total	**131**	**8,740**

Table 16.14. Junior midwifery institutions, with number of seats in each (June 2016)

Division	Name of junior midwifery institution		No. of seats
Chittagong	1.	Junior Midwifery Institute, Red Crescent Matrisadan Hospital, Chandpur	20
	2.	Jemison Red Crescent Midwifery Institute, Agrabad, Chittagong	50
	3.	Christian Hospital, Chandraghona, Rangamati	20
	4.	Junior Midwifery Institute, Memon Hospital, City Corporation, Chittagong	30
Dhaka	5.	Junior Midwifery Institute, Holy Family Red Crescent Hospital, Dhaka	60
	6.	Junior Midwifery Institute, Shaheed Moyez Uddin Memorial Red Crescent	20
		Matrisadan Hospital, Bangla Bazar, Dhaka	
	7.	Junior Midwifery Institute, Kumudini Hospital, Mirzapur, Tangail	20
	8.	Central Hospital Nursing Institute, Green Road, Dhanmondi, Dhaka	20
Khulna	9.	Junior Midwifery Institute Ad-Din Matrisadan Hospital, Jessore	20
	10.	Junior Midwifery Institute, Fatema Hospital, Jessore	20
Rajshahi	11.	Junior Midwifery Institute, Christian Hospital, Bogra	20
Rangpur	12.	Prime Nursing College, Rangpur	20
		Total seats	**320**

Table 16.15. Training institutions for production of community-based skilled birth attendants (June 2016)

Ownership	Type of facility	Location	No. of facilities
Government	CSBA Institution run by civil surgeon and attached with general hospital/district hospital	ICMS, Matuail, Dhaka. Narayanganj (WHO), Manikganj, Kishoreganj, Jamalpur, Habiganj, Gopalganj, Narsingdi, Nilphamari, Natore, Naogaon, Kurigram, Panchagarh, Gaibandha, Jhenaidah, Bagerhat, Rajbari, Madaripur, Munshiganj, and Chandpur	20
	Family Welfare Visitor Training Institute	Tangail (WHO), Barisal, Faridpur, Comilla (WHO), Kushtia, Sylhet, Rangamati, Dhaka, Rajshahi, Bogra, and Khulna (WHO)	11
	CSBA Institution attached with nursing institutions	Noakhali, Jessore, Satkhira, Thakurgaon, Feni, Joypurhat, Pabna, Brahmanbaria, Netrakona, Chuadanga, Cox's Bazar, Patuakhali, Chapainowabganj, Rangpur, Dinajpur, and Sirajganj	16
Private	CSBA Institution	Kumudini Hospital, Mirzapur, Tangail; Lamb Hospital, Parbotipur, Dinajpur; Christian Hospital, Chandraghona, Rangamati; OGSB Hospital, Mirpur, Dhaka; Model Family Planning Clinic, Rangpur	5
		Total	**52**

Training schools for production of medical assistants

Medical assistants (now to be designated as Sub-Assistant Community Medical Officer) assist the medical doctors posted at health facilities at the upazila health complex level and below. Medical Assistants are produced by Medical Assistant Training School (MATS) through a three-year academic course comprising theoretical and practical classes. Currently, there are 8 MATS in the government sector and 181 MATS in the private sector (total 189). Total annual production-capacity is 12,610, of which 716 are produced by the government MATS and 11,955 by the private MATS (Table 16.16). Annex shows the detailed list of institutions, with the number of seats in each institution.

Table 16.16. Government Medical Assistant Training Schools (MATS), with the number of seats (December 2015)

Ownership	No. of MATS	No. of seats
Government	8	716
Private	181	11,955
Total	**189**	**12,610**

Institutes of Health Technology (IHT) for production of medical technologists

Medical technologists are laboratory personnel responsible for technical jobs under the supervision of medical experts. A few years back, there was an acute shortage of medical technologists in the country. However, for a steady growth of private institutions, by now there are 137 institutions to produce medical

Table 16.17. Number of institutions of health technology, along with the number of seats (June 2016)

Ownership	Type of course	No. of institutions	Discipline	No. of seats
Government	Diploma	8	Lab (415); Radiology (405); Physiotherapy (370); Sanitary inspection (400); Dentistry (405); Pharmacy (405), and Radiotherapy (140) Note: Offspring of freedom fighters and tribal students have 41 reserved seats	2,596
Private	Diploma	104	Lab; Radiology; Physiotherapy; Sanitary Inspection; Dentistry; Pharmacy; and Radiotherapy (Note: Offspring of freedom fighters and tribal students have reserved seats)	13,266
Government	BSc	3	Lab (85); Physiotherapy (110) Dentistry (120), and Radiology (40)	355
Private	BSc + MSc	18	Lab (395); Physiotherapy (320); Dentistry (320); Occupational (10), and others (115)	1,235
			Total (diploma + BSc + MSc)	**17,451**
Government + Private	Certificate	4	Optometrist, refraction, ophthalmic assistant, ophthalmic nursing assistant, cath-lab technician	180
	Total	**137**	**Grand total**	**17,631**

Table 16.18. Number of participants in on-the-job training given under the operational plan of in-service training in FY 2014-2015

Area/subject of the training/ workshop/seminar	Duration	No. of batches	No. of participants
A. Local training (short-term)			
Essential service delivery	1–21 day(s)	710	17,574
Management training	3–15 days	382	8,617
Orientation of the members of District Training Coordination Committee (DTCC) and District Upazila Training Team (DUTT)	1 day	41	1,025
Development and review of curriculum and training policy	3 days	6	120
Upgrading Training Management Information System (TIMS)	1 day	5	5
Subject-wise specialized training implemented by ICMH, IPH, NIPSOM, IEDCR, BCPS, and CME	1 day–3 month(s)	84	1,708
Sub-total: local training	-	**1,228**	**29,049**
B. Overseas training			
a. Different clinical specialties			
Short-term (4 weeks or less) clinical training for health service providers	1–4 week(s)	4	35
			Contd.

Table 16.18 Contd.			
Area/subject of the training/ workshop/seminar	**Duration**	**No. of batches**	**No. of participants**
Short-term (4 weeks or less) training for basic science and paramedical teachers	1–4 week(s)	2	14
b. Different management and public health specialists			
Short-term (4 weeks or less) training on training and teaching technology, hospital management, waste management, exposure visit of teachers for curriculum development	1–4 week(s)	2	32
c. Specialized overseas training			
Short-term (4 weeks or less) hands-on clinical training for health service providers in local institutions (resource persons from abroad)	1–4 week(s)	8	
Sub-total: overseas training	-	**16**	**100**
Grand total	-	**1,244**	**29,149**

Table 16.19. Year-wise number of new doctors produced in 2010-2015

Name of institution	No. of students graduated					
	2010	**2011**	**2012**	**2013**	**2014**	**2015**
Dhaka Medical College	132	178	202	195	195	145
Sir Salimullah Medical College	146	170	167	220	224	164
Rajshahi Medical College	170	164	205	208	190	117
Rangpur Medical College	185	23	214	131	188	185
Mymensingh Medical College	184	155	207	212	184	170
Chittagong Medical College	181	147	225	174	203	175
MAG Osmani Medical College, Sylhet	160	155	203	203	189	194
Sher-e-Bangla Medical College, Barisal	166	164	190	201	178	188
Faridpur Medical College	59	60	117	108	203	106
SZR Medical College, Bogra	56	93	130	121	156	131
Dinajpur Medical College	52	75	119	83	110	129
Khulna Medical College	46	80	116	119	112	126
Comilla Medical College	60	49	147	115	211	85
Dhaka Dental College	97	129	84	132	95	80
Chittagong Dental College	36	59	43	38	40	45
Rajshahi Dental College	33	13	47	46	88	47
Pabna Medical College	-	-	-	-	-	51
Noakhali Medical College	-	-	-	-	34	19
Cox's Bazar Medical College	-	-	-	-	-	34
Shaheed Suhrawardy Medical College	-	-	-	-	132	133
Jessore Medical College	-	-	-	-	-	26

technologists (Table 16.17). Eleven government institutions and 104 private institutions offer diploma and/or BSc/MSc courses. Four institutions (government plus private) offer certificate course in medical technology. The total number of seats in diploma, BSc and MSc courses is 17,451, and that for certificate course is 180. Annex shows the detailed list of IHTs, along with the number of seats in each.

On-the-job training

A large number of health personnel and support staff receive on-the-job training each year under the operation plan of in-service training. A summary of the types of training programs and the number of participants is given in Table 16.18. Details of on-the-job training are provided in the Annex.

Yearly output from medical and dental colleges of Bangladesh

Table 16.19 shows year-wise number of new doctors produced from various medical and dental colleges of Bangladesh during 2010-2015.

Chapter 17

Bangladesh at the principal focus

HEALTH INFORMATION SYSTEM, eHEALTH, AND MBT

International recognitions in the form of prestigious awards received during the past few years hallmark Bangladesh's glorious efforts for digitalization of the health systems.

Bangladesh has made remarkable progress in developing and deploying a country-wide health information system (HIS) which includes a robust routine health information system (RHIS). Several of its HIS and eHealth initiatives, coming mainly from the Government, are being appreciated and recognized both at home and abroad. International recognitions in the form of prestigious awards received during the past few years hallmark Bangladesh's glorious efforts for digitalization of the health systems.

Inter-country Conference on Measurement and Accountability for Results in Health (MA4Health)

In June 2015, the United States Agency for International Development (USAID), the World Bank (WB), and the World Health Organization (WHO) organized a global event titled "Measurement and Accountability for Results in Health (MA4Health) Summit" at the World Bank Headquarters in Washington, DC. More than 600 delegates from different agencies of 60 countries participated and endorsed a roadmap towards measurement and bringing accountability in the health sector and drafted a 5-point call to action. Bangladesh was one of the two countries invited to co-host this summit, South Africa being the other country. Bangladesh was considered because of its readiness for measurement of progress in health during the post-2015 period, and South Africa for quality of cause-of-death data for understanding the national and subnational health situations. It was decided in the Summit that a follow-on regional conference would be hosted by Bangladesh. Accordingly, the Regional Conference on MA4Health was held in Dhaka during 26-27 April 2016.

As many as 63 international participants representing countries and development partners, including NGOs, and a similar number of local participants representing ministries, government departments, civil societies, universities, and donors attended the conference. Senior officials from Nepal, Myanmar, Bhutan, the Philippines,

Photos from the Inter-country Conference on Measurement and Accountability for Results in Health Summit, Dhaka, 2016

Indonesia, Laos, and South Africa participated. The last day of the conference was dedicated to field trips in 3 sites in urban and rural areas where the visitors observed the implementation of DHIS2 and OpenMRS in facilities in Dhaka and in Kaliganj (a subdistrict in the district of Gazipur); the sites included community clinics. They also observed the implementation of Routine Health Information System (RHIS) in Tangail where the work of community-level public-sector health workers has been digitized using mHealth solutions.

Key points highlighted and discussed at the conference were the following:

- *Demand for data will continue to increase*: The Sustainable Development Goals (SDGs) pose a unique challenge for measurement, with many indicators that will increase demand for data. The SDGs also focus on equity, which will require disaggregation of data at multiple levels.
- *Country measurement and accountability systems are inherently complicated*: The overall measurement and accountability systems in a country have many components, and bringing all of these together for sustainable improvement is a challenge. It is essential to have a visual blueprint to show how the components fit together to make the whole. A blueprint also provides a common plan so that all the actors can work collaboratively. Bangladesh provides a good example of government and development partners working in close collaboration for systems improvement.
- *The process is more important than the technology*: When developing measurement and accountability systems, it is essential to start from the public-health problems to be addressed, then work from there to understand which data are needed and what kind of technology can support those data.
- *Human resources are essential to the development of measurement and accountability systems*: Leadership, ownership, political will, and collaboration are the key factors behind Bangladesh's achievement. Both human elements and technology are essential to the development of large systems for health-related measurement and accountability. Introducing new technology where systems are already in place can be challenging; hence, leadership and political ownership are required to move forward with systemic changes.
- *Strengthening accountability requires horizontal monitoring*: Involving local leaders and the community is a sustainable way to improve accountability in the health sector. Apart from close supervision by the line ministries (vertical monitoring), community supervision and support play important roles in improving measurement and accountability.
- *Strengthening systems requires effective use of resources*: Most countries in the region are working to improve measurement and accountability systems but they require technical assistance and financial resources to carry out their action plans.

At the conference, a marketplace was also set up, which ran for two days, where different organizations displayed many innovative solutions.

NCD interventions are also to be undertaken by COIA Initiative

Established with the aim to register and track pregnant women and under-five children electronically, the Commission on Information and Accountability for Women's and Children's Health (COIA) is an initiative of the United Nations for improving the women's and children's health and attainment of MDG 4 and 5 in countries lagging behind the targets. The Bangladesh COIA Secretariat, established in 2014 with support from WHO-HQ, is operating the COIA activities country-wide. COIA program created momentum in the MNCH activities among the collaborative partners, viz. HIS-EH, CBHC, MNCAH-DGHF, MCH-DGFP, MIS-DGFP, WHO, UNICEF, UNFPA, JICA, SAVE, USAID, Plan International, icddr,b, BRAC, CIPRB, etc. The UNICEF further expanded the COIA model to local-level planning to facilitate overall improvement of health situation at the district and upazila levels through using the government healthcare platform. The evidence is being generated through the same national HMIS portal based on DHIS2. The unique feature of the COIA model is tracking of individuals; community health workers; the community clinics register every pregnant woman and under-five child living

in the respective community catchments through DHIS2. A routine weekly meeting is being held in the community clinic where the government community health workers (CHCP, HA, and FWA), NGO healthcare workers, and members of the community clinic management committee and community support group review the local maternal and child health data; if required, they clean and further update these data, make intervention plan for the next week, and implement the plan. This routine cycle continues to track, follow up, and improve maternal and child health situations. As the WHO-HQ's support was extended through a catalytic seed fund for the COIA Secretariat, it was a concern how to sustain the growing momentum of the COIA program in Bangladesh. The Joint Donor Technical Assistance Fund (JDTAF), which provides technical assistance for HPNSDP 2011-2016 of the MOHFW of Bangladesh, came as a rescue for the period until the end of HPNSDP 2011-2016. However, given the context of high morbidity and mortality burden of non-communicable diseases in Bangladesh, JDTAF also proposed to include community-based NCD interventions into the COIA program as a requirement for funding support; For operating the COIA Secretariat on behalf of the MOHFW and implementing the extended COIA program for two focuses–MNCH and NCDs–icddr,b was selected as the contractual partner.

From July 2015 to October 2016, major accomplishments of COIA Secretariat in Bangladesh are as follows:

With the assistance of the COIA Secretariat, now around 90.5% community clinics are providing online data on pregnant women and under-five children in DHIS2, where community health workers and community clinics are assigned to register every pregnant woman and under-five child living in the respective community catchments. Although online data are still less, compared to the number of services entered in the register, enrolment of both maternal and under-five children significantly increased.

During May-June 2016 and September-October 2016 periods, about 1,350 health managers and statisticians from the division, district and upazila levels received HMIS training, which would help the Divisional Directors, Civil Surgeons, and Upazila Health and Family Planning Officers (UH&FPO) to analyze MNCH and NCD-related data, understand the issues, and plan realistically for the next period.

Giving more priority on NCD-related issues, the COIA Secretariat, in consultation with the national experts on NCDs from both public and private health institutions and on clinical aspects, such as the Non-Communicable Disease Control (NCDC) program of the Directorate General of Health Services (DGHS), MIS-DGHS, DGFP, IEDCR, WHO, UNFPA, NHFH&RI, NICRH, NCCRF&HD, NIPSOM, NIMH, BUHS, icddr,b etc.) developed data-collection tools and guideline to collect NCD-related data from the community. Data-entry on NCD-related issues has been started from August 2016 as a pilot process and soon will be started nationally in full scale.

With an aim to ensure quality of data, completeness of reporting, and timeliness of data, the COIA Secretariat conducts regular monitoring visits to the community clinics and provides hands-on training to the service providers and respective upazila statisticians. Two national guidelines on the "use of information" and "data quality assessment" are also at the end of development process that will be utilized by health managers, monitoring authorities, and service providers. The COIA Secretariat has also prepared dashboard for respective health managers, implementers, policy-makers, and other development partners with an aim to increase the use of health information for better decision-making and program planning. The project is heading towards its endline; however, it is extremely important to continue the momentum created by the COIA Secretariat in Bangladesh.

With an aim to ensure quality of data, completeness of reporting, and timeliness of data, the COIA Secretariat conducts regular monitoring visits to the community clinics and provides hands-on training to the service providers and respective upazila statisticians.

Piloting Shared Health Records–platform for citizens' electronic health records

A platform for maintaining life-time electronic health records of all citizens, designated by the MIS-DGHS as the Shared Health Records (SHRs), has been deployed in two hospitals. These are Kaliganj Upazila Health Complex, Gazipur and Gazipur District Hospital. This platform of the Shared Health Records has been developed as the initial step toward introducing universal electronic health records in the country. However, it also has future potential to contribute in other fields from at least two perspectives. One of the perspectives is the release of a global reference list of 100 core health indicators by the WHO and other members of the International Health Partnership. This list is minimal but comprehensive to allow collection of health data for measuring progress of different health targets proposed in the post-2015 Sustainable Development Goals (SDGs), inclusive of those for universal health coverage (UHC). Another perspective is the global drive toward promoting establishment of universal civil registration and vital statistics (CRVS) system in the countries. The Government of Bangladesh is also pushing the CRVS agenda forward. The SHR platform, due to its plan to register and track every citizen for health encounters, routine check-ups, and surveillance, is best suited for measurement of progress of UHC and health in the SDGs as well as for linking to CRVS, especially for notification of birth and death to the National Birth and Death Registration Authority and capturing data on cause of death. The days to come will say how far the SHR platform is contributing to this ambitious vision but the preliminary feedback from the pilot project is encouraging. We acknowledge that DFID is providing technical assistance to the development of this platform.

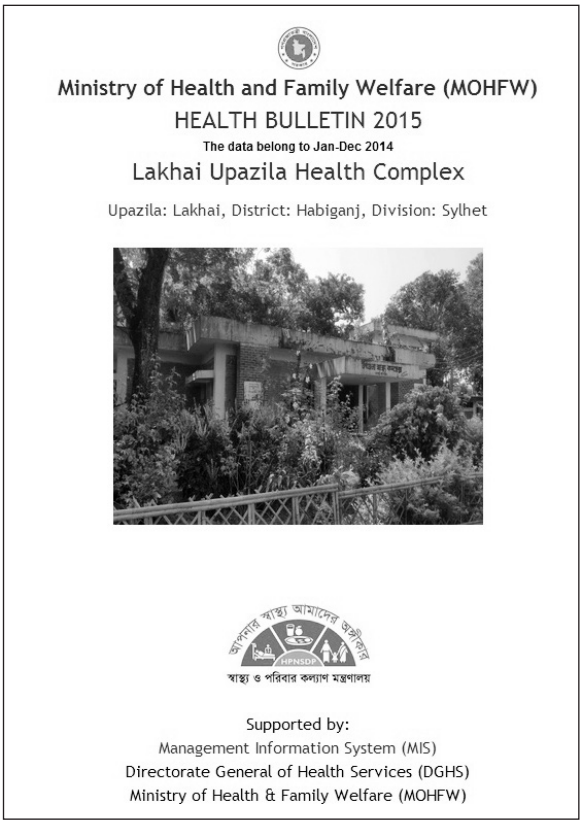
A platform for maintaining life-time electronic health records of all citizens, designated by the MIS-DGHS as the Shared Health Records (SHRs), has been deployed in two hospitals.

Memorandum of Understanding *with A2I of the Prime Minister's Office*

A Memorandum of Understanding (MoU) was signed on 12 July 2015 between the Ministry of Health and Family Welfare and the Access to Information (A2I) project of the Prime Minister's Office to expand effective collaboration between the two parties with respect to promotion of digital health information in the country. The priorities at the short-term have been identified to focus on scaling-up of the platform of Shared Health Records, development of an electronic platform for nationally-managed appointments with health service providers, development of a GIS-supported system for finding and calling ambulance located at the best nearby location anywhere in the country, promoting eLearning system in healthcare, and provision of technical assistance to improve the quality of service of the planned health call center of the MIS at the Directorate General of Health Services.

Local Health Bulletins and Annual MIS Conferences 2016

Online Local Health Bulletins published by different health organizations, beginning since



Screenshot of the cover of a Local Health Bulletin 2015

fiscal 2011-2012, are much appreciated. The number of organizations that published online Local Health Bulletins in fiscal 2014-2015 is 630 (www.dghs.gov.bd >> data). As a convention, the online Local Health Bulletins are presented by the heads of respective organizations, where health managers, MIS focal points, and statistical staff, along with technical experts from the MIS-DGHS, development partners, and major NGOs remain present. Open discussion, critical analysis, and feedback follow after each presentation. In May-June 2016, eight annual MIS conferences were held–seven in the seven divisional headquarters for hospitals and organizations at the division level and below, with the eighth at the MIS-DGHS, Dhaka, for the tertiary-level hospitals. In the annual MIS conference for tertiary hospitals, Mr. Zahid Maleque, MP, Honorable State Minister for Health and Family Welfare was present as Chief Guest in the inaugural session, with Professor Dr. Deen Mohd. Noorul Huq, Director General of Health Services as the Special Guest. Among others, Prof. Dr. Samiul Islam, Director (Hospitals and Clinics) and Dr. Ehtemshamul Haque Choudhury, Director (Administration) of the DGHS spoke in the inaugural session. Professor Dr. Abul Kalam Azad, Additional Director General (Planning & Development) and Director (MIS) made a presentation in the inaugural session to highlight the findings of Local Health Bulletins of all tertiary-level public hospitals.

Monthly and annual reporting for Cabinet Division

Routine monthly and annual reports are submitted by the MIS-DGHS to Cabinet Division of the Government of Bangladesh, using a standard proforma. Exhaustive information items on the overall health sector is provided in these reports.

Data-collection and use

Collection and use of data through DHIS2 on the Shared Health Records have been further improved, and technical experise has been scaled up among different development partners and organizations through providing training. Data from community clinics and programs, like MNCAH, IMCI, EPI, TB, NCDs, communicable diseases, HIV/STD, nutrition, COIA, cervical cancer and breast cancer screening, obstetric fistula screening and care program are being flown to the national HMIS. Data from DGFP, NGOs, DPs, and urban health dataset managed by DMIS as well as financial data for annual development program are also being received by the national HMIS. Besides, administrative and service-related data from IEDCR, IPH, NIPSOM, DGFP, DGDA, DNS, and a number of government and private organizations have been collected and also summarized in Health Bulletin 2016.

New photo album added to the social media portals of the DGHS

The DGHS web portal is increasingly better serving as a popular platform for information dissemination. The major social media portals, viz. Facebook, Twitter, Google+, YouTube, etc. are also used as channels for information dissemination. It is estimated that over half a million visitors come every month to see one or more component(s) of the integrated web portal. In 2014, an electronic photo album has been added, which has now become the living archive of pictures on health programs being run throughout the country.

Publications and dissemination of information

The successes and various elements of digital progress of the MIS-DGHS have been discussed in well over 20 international events between 2014 and 2015. Nationally, there were also many more similar events where the current progress, lessons learnt, challenges, and future potentials have been discussed. The information and statistics generated were also disseminated through web and social media portals, online national and Local Health Bulletins, printed health bulletins, newsletters, manuals, modules, and other publications. Annual MIS conferences, seminars, training courses, workshops, and meetings have also serve as channels for information dissemination.

Remarkable improvement of dashboards

The MIS-DGHS has recently given more attention to improving quality and use of data after satisfactory improvement in platform of the foundation work. For this reason, user-friendly dashboards are being created for advocacy programs with the help of development partners and research organizations. The dashboards give importance to visualization, including increase in the use of geospatial data. Further development in this area is expected in the coming days.

eMIS: digitizing health services through innovative approaches

Digital strategies are entrenched in the work of MIS-DGHS as it vigorously pursues the goal of Digital Bangladesh. It also provided a great springboard for launching eMIS solutions. Four implementing partners of USAID (MEASURE Evaluation, icddr,b, MaMoni HSS, and SIAPS) joined together to develop and implement comprehensive electronic software solutions for the use by rural community health workers in the public sector. These organizations had worked previously with the DGHS and DGFP to improve paper-based registers and MIS-forms to generate reliable information on time, streamline MIS tools to minimize information gaps and duplication, and reduce the burden of data collection and compilation. In due course, it was intended to improve the use of information at the local level and promote evidence-based decision-making in the health, population and nutrition (HPN) sector. Such experiences were elaborated in comprehensive digitization efforts initially at the community and facility levels through Routine Health Information Systems (RHIS), now known as eMIS or electronic Management Information Systems.

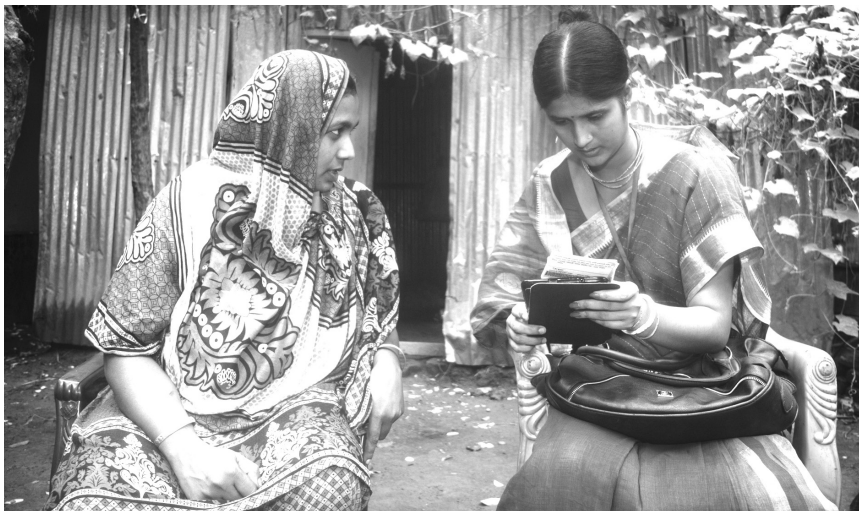
Organizations under the MOHFW have increased investment in hardware and are continuously improving the use of software. Mobile technology and improvement in connectivity have opened up windows for collection of population-based data through routine health information systems. The demonstration phase of eMIS that started in January 2015 addresses institution-wide digitization, the scope of which is very comprehensive. It started with digitizing the work of field-level workers in rural areas. The eMIS tools are being implemented in two districts: Tangail and Habiganj. The eMIS tools are arranged in several layers:

- *Population Registration System (PRS):* It performs census of the catchment area of the CHWs effectively. Population registration using PRS app on tablet PC was introduced in March 2015. It is based on GR or geographical reconnaissance yearly conducted by the DGHS till 2010 to collect demographic information for health service delivery and planning. Registration work is performed by the Health Assistants (HAs) and Family Welfare Assistants (FWAs belonging to DGFP). All 12 upazilas of Tangail and 2 upazilas of Habiganj district have been covered. As on 31 October 2016, the community health workers have successfully registered 3.4 million individuals. The population data are used for identifying the individuals and building their service history.
- Community and facility modules are intended for covering all activities of HAs. It includes immunization and other services provided by HAs, such as maternal and newborn care, care for under-five children, limited preventive care, etc. by household visits or at the EPI sessions and community clinics.
- Administrative modules address the need of inspection and supervisory work of AHI and HIs who act as supervisors to the community-level workers as HAs. These modules allow approval of workplan and communication with supervisors. The supervisors can plan for inspection of areas and individuals and monitor the work of the HAs as recorded in their job descriptions.

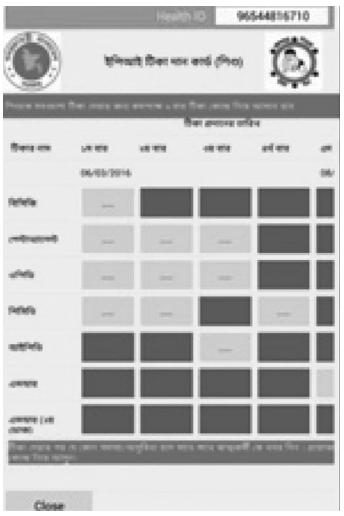
All service-related data could be saved instantly and later updated into a central database. It is also possible to work offline and sync data later if Internet connection is problematic. The field workers need not spend time for filling up the forms. Thus, their work becomes entirely paperless. This improves the quality of work. It would be possible to measure performance and increase accountability.

The community health workers were given training to perform their work. The skills required are easy to acquire. There is a close interaction among the DGHS and the DGFP on development of modules, and the district and upazila officials are providing leadership in the efforts. On the basis of experience of demonstration phase, a national roll-out plan and a training plan would be prepared.

The MOHFW is currently in the process of finalizing the 4th sector-wide program. It is happening in the era of SDGS, with requirement of tracking the services provided to the individuals, and there is emphasis on measurement and accountability at all levels.



A health assistant registering a woman



App mimics existing EPI card

National scale-up of eMIS solutions would make the MOHFW well-prepared for these tasks as it would make it possible to count all with any level of disaggregation.

Telemedicine services

Telemedicine services are provided by the MIS-DGHS in various forms, which include mobile phone-based health service, advanced telemedicine, and Skype-based teleconsultation. Between 2014 and 2015, all platforms have seen expansion. The mobile phone-based health service was introduced in 2009 in 418 upazila health complexes and 64 district hospitals (in total 482). Each hospital has a mobile phone to be carried round-the-clock by an on-duty doctor. People living in the catchment areas call the doctor, if need arises, and the doctor answers to give appropriate medical advice free of charge. Due to simplicity and no cost involvement for operation, the community healthcare providers (CHCPs) have been advised to provide similar health service using their own mobile phone for the people living in the respective community catchments. The mobile phone-based health service received recognition through ICT4 Development Award (2010) and special mention in Manthan India Award (2011).

An advanced telemedicine service which is currently being provided from 42 hospital-based centers across the county has also been introduced by the MIS-DGHS. Additional 15 telemedicine centers were under consideration by the end of 2015. These telemedicine centers are considered 'advanced' because these use high Internet bandwidth, large screen display, good-quality telemedicine camera, and telemedicine peripherals, like telestethoscope, teleECG, telemicroscope, teleglucometer, etc. The first few advanced telemedicine centers were established in fiscal 2009-2010 in 8 hospitals and were formally inaugurated by Honorable Prime Minister Sheikh Hasina on 6 July 2011. Subsequently, similar telemedicine centers were expanded to 34 additional hospitals. To support expansion of advanced telemedicine service to over 20 new hospitals, the Ministry of Science and Technology is currently working with the MIS-DGHS.

In addition to mobile phone-based health service and advanced telemedicine, Skype-based teleconsultation is also pursued. All functioning community clinics (~13,000) and all union health centers (~1,275) have been brought under coverage of Internet connectivity through provision of one laptop and one broadband wireless Internet modem in each. In community clinics or most of the union health centers, no qualified doctor is posted. However, there may be occasions when some patients need to consult a more qualified medical practitioner. In such cases, a Skype video-conferencing can be set up to hook the community clinic or union health center to a doctor sitting in the nearby upazila hospital to have a direct conversation between the patient and the doctor. The laptop computers in the community clinics and union health centers are also being used for multiple purposes, viz. telemedicine, updating community health data, health education to people, training of health staff, monitoring of

clinic operation time, email communication, and Internet-browsing. The National ICT4 Development Award in 2011 was won for the telemedicine project of MIS-Health.

> In addition to mobile phone-based health service and advanced telemedicine, Skype-based teleconsultation is also pursued.

Video-conferencing

Procurement order, on behalf of the MIS-DGHS, has been placed, in fiscal 2014-2015, by the Central Medical Stores and Depot to install 77 video-conferencing system in 77 strategic locations (MOHFW. DGHS. DGFP, offices of 7 division directors and 65 civil surgeons. Once launched, the system will create opportunity for doing remote meetings, conferences, training, etc., thus minimizing travel requirement.

An additional monitoring tool based on citizens' complaints: The Third Eye

The SMS-based complaint-suggestion box continues to remain as the innovative and effective mechanism to know citizens' feedback on the quality of service in the public hospitals. This system is frequently recommended for further promotion to improve accountability and transparency of public hospitals. This system is working in about 800 public hospitals and health organizations. In each of these, a display board is mounted on the wall (Figure 17). The display board describes how to send complaints about quality of services or suggestions for improvement of services. Clients of the hospitals or health organizations make complaints or suggestions in the form of SMS to a particular mobile number. A web server located at the MIS-DGHS receives the complaints-

Figure 17. Example of some complaints excerpted from the DGHS web portal

[redacted] General Hospital, [redacted]	16-07-2015 @ 10:23:27am	room no.110.doctor aseni ekhono.and aste Onek late kore
[redacted] 100 bed District Sadar Hospital, [redacted]	16-07-2015 @ 09:59:46am	have patient not doctor
[redacted] 250 Bedded District Sadar Hospital, [redacted]	16-07-2015 @ 09:50:42am	doctor is not available at opd child dept.
[redacted]- Sher-e-Bangla Nagar- Dhaka, Dhaka	16-07-2015 @ 08:10:37am	outdoor ticket counter room no 132 not open yet.its become regular practice. therefore Long cue.Also Lift not working.Please take action.

suggestions, and these are instantly displayed on the web portal; some details also go for public viewing. Responsible staff members at the MIS-DGHS check the complaints and suggestions and talk to the SMS senders to know more about the message. The staff members then talk to the local or other responsible authority to solve the problem or work on the suggestions .The public view of the complaints-suggestion box is available at www.dghs.gov.bd>>Data >>Complaint & Suggestion Box.

Monitoring of staff attendance through fingerprint machines in remote public hospitals

Absenteeism from workplace, particularly from the remotely-located workplaces, is a common complaint in Bangladesh and many other countries. To track the office attendance of government health staff in workplaces, the MIS-DGHS installed remote biometric time-attendance machines in all upazila and district hospitals and in some tertiary hospitals. These are low-cost fingerprint biometric machines, and the recorded touch-encounter scan can be tracked from central office with the help of software developed locally. During installation, staff members' fingerprints were recorded in the database. Every day, the staff members need to touch the sensor of the machine during their check-in and check-out. The machine itself can keep in memory 30,000 encounters. Connected to a local computer through USB cable, the machine becomes empty of touch-records

through transferring the same to the computer when the latter is switched on. At the MIS-DGHS, a web server captures the attendance data whenever the server finds the local computers switched on and connected to Internet for any purpose. Pre-defined web-based reports can be generated on the server-side, which can be accessed through web-browser from any place.

> To track the office attendance of government health staff in workplaces, the MIS-DGHS installed remote biometric time-attendance machines in all upazila and district hospitals and in some tertiary hospitals.

MAMA and the multipurpose round-the-clock health call center

A multipurpose health call center, launched by the MIS-DGHS in September 2015, is round-the clock (24 hours all 7 days a week) call center, with support from DFID and is being operated through a professional company. A short calling code '16263' is being used for receiving calls and text messages from the clients. The call center is providing live health counseling, complaints management, and content delivery. A partnership program is also being operated with *D.Net* to provide an mHealth service called *MAMA* (Mobile Alliance for Maternal Action). *MAMA* Bangladesh uses a short code '16227' and provides lifesaving information on pregnant and new mothers, including also advice for their newborn babies and children through SMS, IVRs, and direct counseling. This program is supported by USAID, partnered by *S*miling Sun Clinic, and Save the Children, and coordinated by Abt Associates and *D.Net*. The MIS-DGHS is also actively working with Johns Hopkins Bloomberg School of Public Health to develop and implement mCare (for pregnancy care) and *mTika* (for immunization) to track pregnant mothers and under-five children in Gaibandha district of Bangladesh. In 2011, a global competition arranged by mHealth Alliance of the United Nations Foundation recognized mCare project as one of the top 11 innovations of the world.

Bulk SMS

Introduced in 2009 by the MIS-Health, an innovative bulk SMS system remains as an effective solution to disseminate quick and urgent messages to health staff. The use of bulk SMS was frequent and demand-driven. For the bulk SMS system, mobile phone numbers of all health managers and staff members down to the grassroots level were collected and grouped. One or multiple group(s) can receive customized text messages instantly.

Digitally-managed medical and dental admission tests

For both public and private medical and dental colleges of Bangladesh, the digitally-managed medical and dental admission tests were started in 2001, and the system still continues. Admission-seekers submit applications online by using electronic forms. The system then checks and authenticates prerequisite educational qualifications from secondary and higher secondary school examinations databases. Students then submit test-fees by mobile phone top-up. On successful fee submission, a text alert informs the students for collecting the admit cards from a specified website. Locations and seating plans for students' admission tests are also managed and informed digitally. The answer-sheets of examinations use OMR (optical mark reader) technology. After the examination, all the answer-sheets are transported to Dhaka the same day from all over the country. The next day, all answer-sheets are read by OMR machine, and results are prepared with intelligent software to inform the eligible candidates about which institutions they qualified for admission. Results are sent to students' mobile phone numbers and also published through website on the same day or the next day.

> For both public and private medical and dental colleges of Bangladesh, the digitally-managed medical and dental admission tests were started in 2001, and the system still continues.

Automation of hospitalization processes

Automation of hospitalization processes will soon be started in two new hospitals (DMCH and NINS), for which supply of ICT equipment is in the pipeline. These are in addition to the earlier hospitals that started automation functions, viz. National Institute of Kidney Diseases & Urology (NIKDU); Government Employees' Hospital; Azimpur Maternity Hospital; Bangladesh Secretariat Clinic; National Institute of Traumatology, Orthopedics and Rehabilitation (NITOR); and National Institute of Cardiovascular Diseases (NICVD). However, the real expansion of automation for the reasonable number of hospitals will be seen through scaling-up of the Shared Health Records as explained earlier**.**

Digital training facility and connectivity as other eHealth initiatives

Including an auditorium created by the MIS-Health in 2009, the digital training facility was efficiently used over the past years. Its attraction as one of the best meeting and seminar places continues to increase. Equipped with state-of-the-art gadgets, such as digital podium and sound system, interactive board, wireless presentation, wi-fi network, video-conferencing, etc., the facility attracts several organizations to hold their workshops, meetings, and symposia. The MIS-DGHS is still in the forefront in spreading Internet connection all over the country, which now extends down to the grassroots-level health facilities and workers (all union health centers, community clinics, and community health workers).The union health centers and community clinics have laptop computers and wireless modems, and the community health workers have android tablets. To ensure appropriate support for the HIS and eHealth solutions, a robust, highly-secured, and never-sleep data center with plenty of storage space has been put in place. A world-class state-of-the-art data center, equipped with RAID servers, firewalls, VMware, underground cable system, automatic fire protection and humidity control, four tiers of power supply system, anti-spy and anti-hacking system to prevent unauthorized entry, remote monitoring system, text alerts by mobile phone, etc. exists in the MIS-DGHS. In Khulna, an area not prone to earthquake and located 300 km away from Dhaka, there exists a disaster-recovery center also.

Technical partners

Along with the MOHFW, other technical partners assist the MIS-DGHS. to make technology-related solutions, training, and capacity-building; these include A2I Project, World Bank, WHO, UNICEF, DFID, UNFPA, Rockefeller Foundation, JICA, USAID, icddr,b, Measure Evaluation, CIDA, UNESCAP, JPGSPH-BRAC University, BRAC, JHU, MSH (SIAP), Save the Children, *D.Net*, CIRPB, CARE Bangladesh etc.

Medical Biotechnology (MBT)

Medical biotechnology (MBT) is the third component of HIS and eHealth operational plan.

Medical biotechnology is the use of living cells and cell materials to research and produce pharmaceuticals and diagnostic products that help treat and prevent diseases. Two modern technologies that are currently reshaping worldwide have opened window of opportunities for development and include IT (information technology) and BT (biotechnology). IT had a head start earlier and has flourished to become a part of our daily life. On the other hand, biotechnology is quite new but is quickly expanding as a promising tool for developing a nation as well as the world. Experts predict that the 21st century will be the one of biotechnology, and the effect of biotechnology will be enormous compared to the effect of IT.

Among the many branches of biotechnology, red biotechnology or medical biotechnology is the area of our interest as tremendous development in this sector around the globe has enabled scientists to understand more about

Medical biotechnology laboratory at the Center for Medical Biotechnology at the Institute of Public Health

disease processes and cure the patients in more accurate and effective ways. Current prospect of medical biotechnology depicts its economic growth larger than the combined economic growth of all other aspects of biotechnology. Important sectors of medical biotechnology are pharmaceutical products, vaccines, newer and more accurate diagnostic techniques, such as polymerase chain reaction (PCR), monoclonal antibodies, transgenic animal, microarray nano-medicines, bioinformatics, and many others.

The Government of Bangladesh has shown interest in using medical biotechnology for development in health and nutrition sectors and has developed the first National Guideline on Medical Biotechnology in 2006. Later, the guideline was revised and republished as gazette on 21 December 2010. Six successive meetings of the National Technical Committee on Medical Biotechnology (NTCMB) were held between 2004 and 2012, on direct recommendations of the National Executive Committee on Biotechnology (NECMB) and supervision of the National Taskforce on Biotechnology of Bangladesh (NTBB), with Honorable Prime Minister as Chair that ended up with the establishment of Center for Medical Biotechnology at the Institute of Public Health. National Guidelines on Medical Biotechnology 2010 includes guidance to implement provisions in the National Biotechnology Policy and describes deliverables for short, medium and long-term goals. To implement these goals, Medical Biotechnology Program was included in HIS and eHealth operational plan of the HPNSDP 2011-2016. Subsequently, the Center for Medical Biotechnology (CMBT) began an inclusive effort in cooperation with ideSHi (Institute for Developing Science and Health Initiatives) and relevant stakeholders for capacity-building. Till today, over 1,500 stakeholders, professors, physicians, journalists, entrepreneurs, scientists, and members of Medical Curriculum Committee were trained through various training sessions and workshops, including core committee meeting, consultative workshop for updating medical curriculum, training workshop for journalists, sensitization workshop and a 14-day hands-on training for teachers and scientists. MBT-related books were distributed among the medical university, medical colleges, and other health science institutions, and necessary equipment for biotechnology labs were distributed among different institutions.

CMBT has conducted several activities in 2015-2016 sessions as follows:

1. Training/workshops on medical biotechnology supported by HPNSDP (2015-2016) fund:

Type of training/workshop	Venue	Duration (day)	Batch (No.)	Participants (No.)
Hands-on training for medical teachers and scientists	Dhaka	14	4	40
Training/workshop for medical teachers	Dhaka	2	5	150

2. An equipment set of 23 instruments relating to medical biotechnology has been supplied to 4 medical colleges: Sir Salimullah Medical College; Rajshahi Medical College; MAG Osmani Medical College, Sylhet; Chittagong Medical College; and two institutions: CMBT-ideSHi and National Institute of Preventive and Social Medicine.
3. Local Medical Biotechnology Committee comprising 6 members has been formed in 12 medical colleges to build their capacity through hands-on training and motivation for running related activities properly and to provide diagnostic services to people.
4. Local Medical Biotechnology Unit has been formed with a separate laboratory, including necessary equipment in 12 medical colleges, which will serve both academic and clinical purposes.
5. Development Project Proforma has been completed and submitted for conversion of the Center for Medical Biotechnology to National Center for Medical Biotechnology as a center of excellence where academic

and clinical services will be provided to develop our national capability in this sector and take it to the level of international competition.

6. Academic pursuits of PhD students doing their theses at CMBT in collaboration with ideSHi:

Name	Designation	Title of thesis
Dr. Nusrat Sultana	Assistant Professor, Department of Virology, Dhaka Medical College	Development of non-invasive diagnostic method for prenatal diagnosis of Down Syndrome and thalassemias
Suprovath Kumar Sarker	Research Fellow, ideSHi	Profiling of cutoff values of amino acids and acylarnitines for universal screening of inborn errors of metabolism

7. Diagnostic services provided by CMBT in collaboration with ideSHi:

Title	No. of services provided
Glucose-6-phosphate dehydrogenase deficiency diagnosis	121
Basic metabolic screening (Inborn Errors of Metabolism diagnosis)	139

8. Current research projects going on at CMBT in collaboration with ideSHi:

Sl.	Title of research
1.	Prevalence of acute respiratory and enteric infection among under-five children in two hospitals in Dhaka
2.	Genetic analysis and clinical patients with suspected hereditary neurodegenerative disorder in Bangladesh
3.	Study of common mutation determination of glucose-6-phosphate dehydrogenase deficiency in children in Bangladesh
4.	Typhoid diagnostics for measuring disease burden-supplement study
5.	Collaborative management platform for detection and analysis of re-emerging and food-borne disease outbreaks in Europe (COMPARE)
6.	Innovative approaches for development of diagnostic methods for detecting IEM and genetic disorders using high throughput metabolomics profiling as well as monoclonal antibody
7.	Strategic Typhoid Alliance across Africa and Asia
8.	Foodborne illness surveillance

9. Scientific papers published in international journals from CMBT in collaboration with ideSHi:

Title of article	Name of journal
Examination of Huntington's disease with atypical clinical features in a Bangladeshi family tree-clinical case report	Wiley Publishing Group
Molecular analysis of glucose-6-phosphate dehydrogenase enzyme deficiency in Bangladeshi individuals: screening of deficiency using both qualitative and quantitative enzyme assay methods and detection of mutations in gene performing sequencing	PLOS ONE

Capacity improvement and maintenance

Human resource for HIS and eHealth

There are 785 sanctioned posts of statistical staff throughout the country. These staff members are already made skilled through training and engagement in practical work since 2009. These personnel are used as dedicated HIS and eHealth staff. Other staff members are also being trained to play their roles in real-time data-entry at the source of data. The distribution of 785 statistical staff members by type of organization is shown in Table 17.1. By class category, the distribution of these sanctioned posts is as follows: Class I (122, 15.54%); Class II (17, 2.17%); Class III (636, 81.02%); and Class IV (10, 1.27%).

Table 17.1. Distribution of sanctioned posts of HIS and eHealth staff by type of organization and their vacancy situation (June 2015)

Staffing situation	Upazila hospital and health office	District civil surgeon's office	MIS-DGHS	Divisional health office	Postgraduate teaching institute and hospital	DGHS	Medical college hospital	100- to 300-bed hospitals	TB clinic at Chankhar Pool of Dhaka city	Total
Sanctioned posts	483	120	92	23	20	8	17	21	1	785
	61.53%	15.29%	11.72%	2.93%	2.55%	1.02%	2.17%	2.68%	0.13%	100.0%
Existing staff	365	61	40	20	12	6	7	11	1	523
Vacant	118	59	52	3	8	2	10	10	0	271
	24.43%	49.17%	56.52%	13.04%	40.00%	25.00%	58.82%	47.62%	0.0%	33.38%

Training, workshops, and seminars

Several types of training courses, workshops, and seminars of different durations were held in 2014-2015 both at the MIS-DGHS office in Dhaka as well as at the local hospitals/ health offices. A total of 29,149 officers and staff members participated in the training courses, workshops, and seminars held under the HPNSDP (2011-2016). In the WHO- and UNICEF-supported training programs, another 800 and 2,212 personnel participated respectively. It may be mentioned that some participants might have attended more than one training, workshop, or seminar.

Supply of ICT equipment and computer stationeries

Table 17.2 provides information on different types of hardware and machinery procured and distributed from 2011-2012 through 2014-2015.

Table 17.2. Hardware and machinery procurement from fiscal 2012-2013 through 2015-2016

Hardware	FY 2012-2013	FY 2013-2014	FY 2014-2015	FY 2015-2016	Distribution
Desktop computer	4,360	6,000	-	1,725 ("All-in-one desktop")	Hospitals, health offices, academic and training institutions from upazila to the national level across the country
Laptop computer	12,471	2,000	-	-	• FY 2011-2012: To 3,465 community clinics • FY 2012-2013: To union health facilities and to the remaining functional community clinics • FY 2013-14: To newly-functional community clinics and other health facilities and organizations
UPS (offline - 600 VA)	4,000	6,000	-	1,500	• Accompanies one for each desktop computer

Contd.

Table 17.2 Contd.					
Hardware	**FY 2012-2013**	**FY 2013-2014**	**FY 2014-2015**	**FY 2015-2016**	**Distribution**
Tablet device	84,00	10,000	-	4,025	• To community healthcare providers (HA, HI, and AHI)
Equipment for tertiary-level hospital automation	NICVD and NITOR	DMCH and NINH	-	-	-
Equipment for telemedicine centers and peripherals	10	15	15	10	• FY 2009-2010: 8 telemedicine centers established in 8 hospitals and 1 coordination center at the MIS-DGHS • FY 2011-2012: 10 additional telemedicine centers in 10 hospitals • FY 2012-2013: 10 additional centers in 10 hospitals • FY 2013-2014: 15 more centers in 15 hospitals • FY 2014-2015: 15 more centers in 15 hospitals • FY 2015-2016: 10 additional centers in 10 hospitals
Data center equipment	Disaster recovery service center at Khulna	Upgrading the existing data centers	Upgrading the existing data centers	-	• FY 2011-12: Data center at the MIS-DGHS established • FY 2012-2013: Disaster recovery service (DRS) center in Khulna established • FY 2013-2014: Data center and disaster-recovery service center upgraded • FY 2014-2015: Data center and disaster recovery service center upgraded
Medical biotechnology equipment			Equipment for research, development and innovation activities on molecular biology and genetic diagnosis	-	• FY 2014-2015: Total: 6, one each in 4 medical colleges, BSMMU, and CMBT-ideShi Laboratory
Equipment for Local Area Networking (LAN)			Installation of LAN in health facilities	Installation of LAN in 32 civil surgeon offices and 11 tertiary hospitals	• FY 2014-2015: All UHCs and district-level hospitals
Printer	-	-	-	3,450	-

Table 17.3. Number of desktop and laptop computers, monitors, printers, UPSs, and PDAs repaired in FY 2014-2015 by the MIS-DGHS

Institution	CPU	Laptop	Monitor	Printer	UPS	PDA	Total
DGHS	76	37	12	73	18	10	226
Specialized institutes	19	13	8	15	0	0	55
Civil surgeon's offices	28	47	10	31	3	33	152
District hospitals	12	16	5	11	5	7	56
Upazila hospitals	29	280	16	51	10	392	778
Total	**164**	**393**	**51**	**181**	**36**	**442**	**1,267**

Repair and maintenance of computers, printers, and other accessories

The MIS-DGHS repaired 1,267 CPUs and laptop computers, monitors, printers, UPSs, and PDAs. Table 17.3 summarizes the information.

Chapter 18

Allocations distributed among 17 operational plans of DGHS

FINANCING HEALTHCARE

In fiscal 2015-2016, the total allocation under revised annual development program (RADP) for the Directorate General of Health Services (DGHS) was BDT 238,508.00 lakh.

The Health, Population and Nutrition Sector Development Program (HPNSDP) 2011-2016 provided development budget of the Ministry of Health and Family Welfare (MOHFW) and its agencies. In fiscal 2015-2016, the total allocation under revised annual development program (RADP) for the Directorate General of Health Services (DGHS) was BDT 237,590.00 lakh. This allocation were distributed among 17 operational plans of the DGHS as per respective work plans.

Table 18.1 shows the allocation, expenditure, and utilization in FY 2015-2016 (revised ADP) of HPNSDP 2011-2016 fund against different operational plans of the DGHS. Detailed breakdown is shown in the Annex.

Table 18.1. Allocation, expenditure, and utilization in FY 2015-2016 of HPNSDP 2011-2016 fund against different operational plans of the DGHS

Program	Allocation (BDT in lakh)	Expense (BDT in lakh)	Utilization rate (%)
Maternal, Neonatal, Child and Adolescent Health	57,788.00	48,145.19	83.31
Essential Services Delivery	11,500.00	4,510.00	39.22
Community-based Healthcare	25,000.00	18,046.76	72.19
TB and Leprosy Control	13,250.00	9,242.75	69.76
National AIDS/STD Program	3,950.00	2,549.34	64.54
Communicable Diseases Control	14,000.00	12,674.27	90.53
Non-communicable Diseases	4,173.00	2,714.22	65.04
National Eye Care	432.00	333.18	77.12
Hospital Services Management & Safe Blood Transfusion	51,700.00	46,395.68	89.74
Alternative Medical Care	3,500.00	3,132.56	89.50
In-service Training	3,100.00	2,413.68	77.86
Pre-service Education	17,500.00	17,215.70	98.38
Planning, Monitoring, and Research (Health)	400.00	392.18	98.04
Health Information System and eHealth	6,600.00	6,551.75	99.27
Health Education and Promotion	3,200.00	2,232.28	69.76
Procurement, Logistics and Supplies Management	12,597.00	11,640.84	92.41
National Nutrition Services	8,900.00	4,444.78	49.94
Total OPs of DGHS	237,590.00	192,635.16	81.08

Figure 18.1 shows the allocation and expenditure (in lakh taka) against operational plans of the DGHS in fiscal 2015-2016 under HPNSDP.

As of June 2016, the total expenditure was BDT 192,635.16 lakh, the utilization rate being 81.08%. Of the total RADP allocation, the GOB fund was BDT 80,991.00 lakh. The utilization rate of the GOB fund was 99.45% (BDT 80,547.03 lakh), and that of RPA fund (RPA-GOB plus RPA-others) was 86.61% (BDT 136,422.47 lakh out of BDT 157,517.00 lakh). The RPA (GOB) fund utilization rate was 86.88% (BDT 100,243.28 lakh against allocation of BDT 115,382.00 lakh). RPA (others) fund utilization rate was 0.14%. In fiscal 2014-2015, the overall fund utilization rate was 80.43% (GOB: 97.03%; RPA: 77.00%; RPA-GOB: 76.36%; RPA-others:

Figure 18.1. Allocation and expenditure (in lakh taka) against operational plans of the DGHS in fiscal 2015-2016 under HPNSDP (values in parentheses show % of fund utilization against allocation)

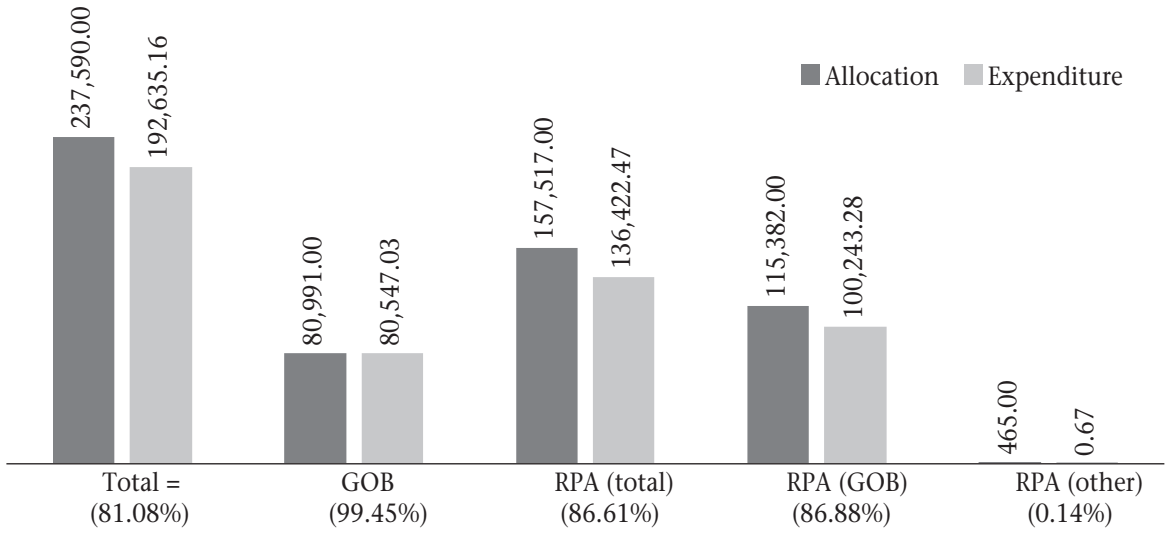


Figure 18.2. Fund utilization rate (%) of the DGHS operational plans in FY 2015-2016

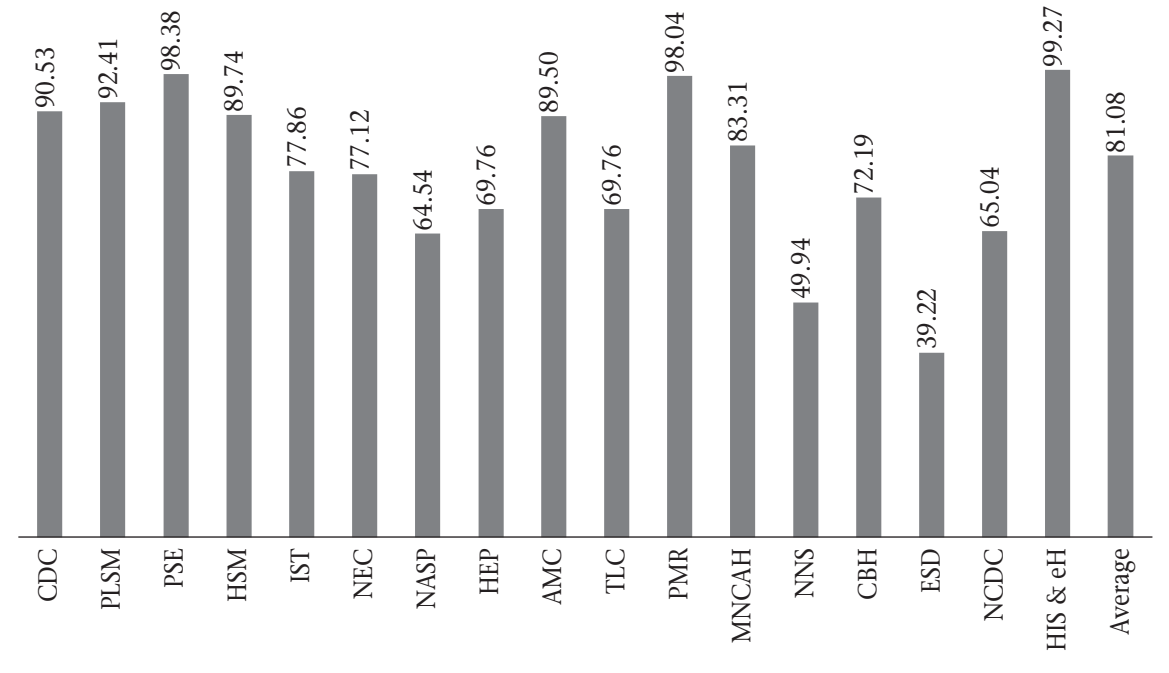


Table 18.2. Allocation, expenditure, and utilization in FY 2015-2016 under HPNSDP 2011-2016 for different investment projects

Investment project	Allocation (BDT in lakh)	Expense (BDT in lakh)	Utilization rate (%)
Establishment of 250 bed National Ophthalmology Inst. and Hospital (1st Phase: 250 beds)	20.00	6.76	33.79
Upgradation of National Institute of Cancer Research and Hospital from 50 beds to 300 beds	750.00	485.99	64.80
Establishment of National Institute of Laboratory Medicine and Referral Centre	4,885.00	3,576.53	73.21
Establishment of Essential Drugs Company Limited, 3rd Plant, Gopalganj	11,615.00	5,929.72	51.05
Expansion and Quality Improvement of Nursing Education	2,405.00	1,314.64	54.66
Conversion of BSMMU to a center of excellence	6,862.00	6,191.65	90.23
Establishment of National Centre for Cervical and Breast Cancer Screening and Training at BSMMU	210.00	206.58	98.37
Establishment of Sheikh Sayera Khatun Medical College and Hospital and Nursing Institute, Gopalganj	4,800.00	4,796.71	99.93
Establishment of Satkhira Medical College & Hospital	3,446.00	3,208.32	93.10
Establishment of Faridpur Medical College & Hospital	10,926.74	10,647.75	97.44
National Institute of Digestive Diseases Research & Hospital	20.00	19.07	95.35
Establishment of Kushtia Medical College and Hospital	6,003.00	5,148.05	85.76
Establishment of Shaheed Sayed Nazrul Islam Medical College, Kishoreganj	12,277.00	10,581.00	86.19
Extension of Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	1,990.00	0.00	0.00
Establishment of Trauma Centre at Gopalganj	735.00	232.00	31.56
Sustaining Influenza Surveillance Networks and Response to Seasonal and Pandemic Influenza in Bangladesh	134.90	223.00	165.31
Provision for equipment and professional training for Ahsania Mission Cancer Hospital	2,000.00	2,000.00	100.00
Extension of National Institute of Orthopedic Hospital and Rehabilitation Center (NITOR) (RADP-1)	5,000.00	4,457.88	89.16
Establishment of Nursing Institute of Pabna	607.00	606.73	99.99
Establishment of National Institute of Advanced Practice Nurses in Bangladesh	750.00	0.00	0.00
Establishment of Sheikh Lutfar Rahman Dental College	187.58	0.00	0.00
Establishment of the Institute for Pediatric Neuro-disorder and Autism in BSMMU	425.00	151.80	35.72
One Health Fellowships–Integrating Education and Action for One Health in Bangladesh	100.46	65.73	65.43
Establishment of Medical College and 250-bed Hospital in Manikganj	40.00	39.85	99.62
Establishment of National Institute of Burn and Plastic Surgery, Dhaka	200.00	102.84	51.42
Total	**76,389.68**	**59,992.61**	**78.53**

Figure 18.3. Allocation and expenses (in lakh taka) of 25 investment projects of the MOHFW under HPNSDP in fiscal 2015-2016 (values in parentheses show fund utilization rate in %)

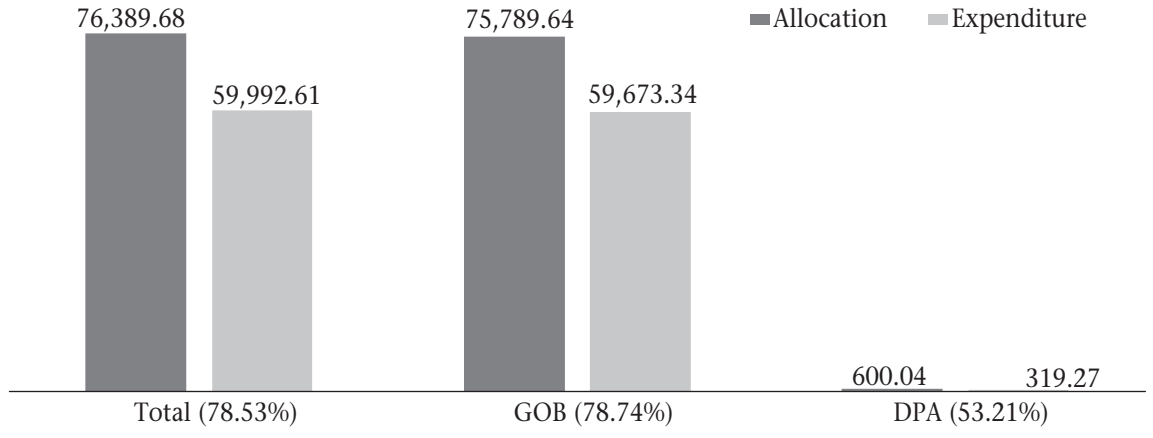


Table 18.3. THE, GDP, and annual growth rates, 1997-2012

Year	Total health expenditure (THE)		GDP		Per-capita				Ratio of THE to PPP (%)
	Amount (Taka in million)	Nominal growth rate (%)	Amount (Taka in million)	Nominal growth rate (%)	GDP	THE			
					Taka		US$	PPP $	
1997	46,356		1,807,013		14,767	379	$9	$19	2.60
1998	51,101	10.20	2,001,766	10.80	16,039	409	$9	$20	2.60
1999	56,529	10.60	2,196,972	9.80	17,270	444	$9	$21	2.60
2000	62,474	10.50	2,370,856	7.90	18,519	488	$10	$23	2.60
2001	71,959	15.20	2,535,464	6.90	19,452	552	$10	$26	2.80
2002	81,488	13.20	2,732,010	7.80	20,760	619	$11	$29	3.00
2003	87,429	7.30	3,005,801	10.00	22,532	655	$11	$30	2.90
2004	100,251	14.70	3,329,731	10.80	24,628	741	$13	$33	3.00
2005	114,338	14.10	3,707,070	11.30	27,059	835	$14	$36	3.10
2006	134,873	18.00	4,157,279	12.10	29,952	972	$14	$41	3.20
2007	153,887	14.10	4,724,769	13.70	33,604	1,095	$16	$44	3.30
2008	178,943	16.30	5,458,224	15.50	38,330	1,257	$18	$49	3.30
2009	205,120	14.60	6,147,952	12.60	42,635	1,422	$21	$52	3.30
2010	244,331	19.10	6,943,243	12.90	47,524	1,672	$24	$58	3.50
2011	289,017	18.30	7,967,040	14.70	53,220	1,931	$25	$64	3.60
2012	325,094	12.50	9,181,414	15.20	60,563	2,144	$27	$68	3.50

Source: Summary Bangladesh National Health Accounts 1997-2012, BHNA Cell, Health Economics Unit, MOHFW

32.16%). Thus, the overall fund utilization was lower in FY 2015-2016.

Figure 18.2 shows the fund utilization rate of different operational plans of the DGHS in fiscal 2013-2014 under the HPNSDP 2011-2016.

Figure 18.3 shows the allocation and expenses of 25 investment projects of the MOHFW in fiscal 2015-2016 under HPNSDP 2011-2016. Total allocation was BDT 76,389.68 lakh, and total expense was BDT 59,992.61 lakh. The utilization

rate was 78.53%. The GOB allocation was BDT 75,789.64 lakh, and expense was BDT 59,673.34 lakh. The utilization rate was 78.74%. The Direct Project Aid (DPA) allocation was BDT 600.04 lakh, and the expense was BDT 319.27 lakh. The utilization rate was 53.21%.

Table 18.2 shows the allocation, expenditure, and utilization rate in FY 2015-2016 under HPNSDP 2011-2016 for different investment projects of thr MOHFW. Detailed breakdown is shown in the Annex.

Bangladesh National Health Accounts (NHA)

The Bangladesh National Health Accounts 1997–2012 was officially published in 2015 by the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare. According to the publication, the total health expenditure (THE) in Bangladesh was Taka 325.1 billion ($4.1 billion) in 2012. It was also mentioned that, in recent years, THE grew at an annual average of around 14% in nominal terms, and, in real terms, the growth level has been approximately 8% annually. Table 18.3 shows THE, GDP, and annual growth rates from 1997 through 2012. The original publication is available in the website of the HEU at www.heu.gov.bd.

ANNEX TO CHAPTER 5

Number of sanctioned beds, free beds, departments, wards, cabins, and operation theaters in some private hospitals (arranged alphabetically), 2015

Name and location of private health facility	Number					
	Sanctioned beds	Free beds	Departments	Wards	Cabins	Operation theaters
A K Eye Hospital, Magura	10	0	1	6	4	1
Ad-Din Medical College Hospital, Dhaka	500	290	23	15	98	7
Ahamedia General Hospital, Mymensingh	10	0	0	2	2	1
Ahsania Clinic, Debhata, Satkhira	10	0	2	2	2	1
Akota Clinic & Diagnostic Center, Rajshahi	10	1	3	3	6	1
Akota Clinic, Satkhira Sadar	10	0	2	2	2	1
Al Hera Private Hospital, Magura	10	0	0	3	4	1
Al Modina Genaral Hospital, Kishoreganj	10	0	2	2	3	1
Al Safa (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	4	1
Al Zannat (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	4	1
Al-Amin Nursing Home, Mymensingh Sadar	10	0	0	2	8	1
Albaraka Clinic, Laxmipur, Rajshahi	10	0	4	2	2	1
Al-Baraka Clinic, Magura	10	0	0	7	3	1
Al-Modina Clinic, Magura	10	0	0	6	4	1
Al-Shefa Clinic, Joypurhat	10	0	2	2	4	1
Ambia Hospital, Bogra Road, Barisal	50	0	4	6	15	2
Ambia Hospital, Pirojpur, Barisal	10	0	2	2	3	1
Amena Clinic, Talaimari, Rajshahi	10	0	2	4	4	1
Amina Hospital, Bonpara, Natore	30	2	4	4	5	1
Anowara Clinic, Satkhira Sadar	10	1	3	2	1	1
Anwara Private Hospital, Jhenaidah	10	0	2	2	3	1
Apollo Hospital &Diagnostic Complex, Maijdee Bazar, Noakhali	20	0	3	12	8	2
Apollo Hospitals, Dhaka	304	0	31	15	49	8
Apollo Nursing Home, Sipaipara, Rajshahi	10	0	3	3	3	1
Arafat Clinic &Diagnostic, Munshiganj	10	0	2	2	3	1
Aroggo Clinic, Magura	10	0	4	6	4	1
Asha (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	1	1
Avicena Hospital Ltd., Sirajganj Sadar	30	0	4	10	20	4
Bangladesh Clinic, Uposhohor, Rajshahi	10	1	4	4	1	1
Baral Clinic LTD, Pabna	10	0	1	2	3	1
Barisal Poly Clinic, Bangla Bazar, Barisal	10	0	3	2	6	1
Bashundhara (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	8	1
Bengal Community, Ullapara, Sirajganj	20	0	3	2	4	1
Bhai Bhai Private Hospital, Jhenaidah	10	0	2	2	3	1
BIRDEM Hospital, Dhaka	596	118	0	27	117	11
BNSB Eye Hospital, Sirajganj Sadar	100	20	4	9	11	2
Bonshepur Nursing Home, Shyamnagar, Satkhira	10	0	2	2	2	1
Brizee Hospital, Laxmipur, Rajshahi	10	2	3	2	2	1
Care Nursing Home, Laxmipur, Rajshahi	10	0	4	2	3	1
Central Hospital, Sirajganj Sadar	15	3	5	12	10	2
Chowmohani General Hospital, Begumganj, Noakhali	10	0	1	0	10	1
Christian Hospital, Chondroghona, Chittagong	125	0	10	10	10	3
City Clinic, Satkhira Sadar	10	0	3	2	2	1
City Hospital Private, Maijdee,Noakhali	40	2	5	2	27	2
Cure Nursing Home, Laxmipur, Rajshahi	10	0	4	2	5	1

Name and location of private health facility	Number					
	Sanctioned beds	Free beds	Departments	Wards	Cabins	Operation theaters
Dr. Moklessur Clinic, Sadar Road, Barisal	40	0	4	3	12	2
Damien Foundation. Netrakona TB & Leprosy Hospital, Anantapur, Netrakona	52	52	1	10	0	0
Dastagir Private Hospital, Narsingdi	10	0	1	2	3	1
Desh Eye Hospital, Gazipur Sadar	10	0	2	2	3	1
Dhaka Community Hospital, Dhaka	250	75	14	3	20	2
Dhaka Hospital, icddr,b	300	300	2	15	29	13
Dobir Uddin Hospital, Kasiadanga, Rajshahi	10	1	5	4	2	1
Doctors Care Clinic and Hospital, Barguna, Barisal	10	0	2	2	3	1
Dolphin Clinic, Bornalimur, Rajshahi	30	2	6	2	15	2
Dr.Khadem Hossain Clinic, Bangla Bazar, Barisal	10	0	3	3	2	2
Dream Hospital, Begumganj, Noakhali	30	0	5	15	15	1
East West Medical College Hospital, Uttara, Dhaka	400	80	14	14	29	6
Ebnee Hashman (Pvt.) Hospital, Feni, Chittagong	10	0	2	2	3	1
Eden Nursing Home, Alekanda, Barisal	20	2	3	3	8	1
Ehsan Genaral Hospital, Magura	10	0	0	5	5	1
Ekushey Hospital (Pvt), Mymensingh Sadar	10	0	0	2	2	1
EM Center, Mohishbathan, Rajshahi	10	0	5	3	5	1
Fair Health Clinic, Barisal	40	0	3	2	18	2
Faruk Al-Nasir Hospital, Kazipur, Sirajganj	10	0	-	-	-	0
Farzina Clinic, Kazipur, Sirajganj	10	0	3	2	4	1
Fatema Nursing Home, Mymensingh Sadar	10	0	0	2	7	2
Fatima Nursing Home, Laxmipur, Rajshahi	10	0	5	5	3	1
Good Heal Hospital, Maijdee, Noakhali	40	5	3	4	22	2
Gorib Shah Clinic, Magura	10	0	1	3	4	1
Gorib-E-Nawaz Clinic, Talaimari, Rajshahi	10	1	3	3	3	1
Hasina Clinic & Nursing Home, Magura	10	0	0	7	3	1
Hathazari Adhunic Hospital, Chittagong	25	2	4	4	5	1
Health Care Clinic, Parara Road, Barisal	20	0	4	4	8	1
Impact Masudul Haque Community Health Centre, Chuadanga	10	0	2	2	1	2
Islami Bank Hospital, Chandmary, Barisal	50	0	16	4	20	2
Islami Bank Hospital, Dhaka	160	0	9	8	76	5
Islami Bank Hospital, Laxmipur, Rajshahi	63	0	8	6	30	2
Islami General Hospital, Keshorhat, Rajshahi	10	0	2	3	1	1
Islami General Hospital, Nowhata, Rajshahi	10	0	5	2	2	1
Islamia Poly Clinic, Bangla Bazar, Barisal	10	0	2	2	2	1
Jahangir Health Complex, Mymensingh Sadar	10	0	0	2	6	1
Jalalabad Ragib-Rabeya Hospital, Sylhet	890	9	14	18	120	10
Jam-Jam Islami Clinic, Laxmipur, Rajshahi	10	2	3	3	3	1
Jamuna (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	4	1
Jamuna Clinic, Kaliganj, Satkhira	10	0	2	2	2	1
Jamuna Clinic, Laxmipur, Rajshahi	10	0	3	2	4	1
Janani Clinic, Jiban Nagar, Chuadanga, Khulna	10	0	2	2	3	1
Janani General Hospital, Noakhali Sadar	40	0	0	2	23	1
Janaseba Clinic & Nursing Home, Magura	10	2	3	3	2	1
Janaseba Clinic, Assasuni, Satkhira	10	0	3	2	2	1
Janata Clinic & Nursing Home, Magura	10	0	0	1	3	1
Janata Clinic, Shipaipara, Rajshahi	10	1	2	2	5	1
Jayeda Hospital, Bonpara, Natore	10	0	2	2	2	1
Kaisar Memorial Hospital, Uposhahor, Chittagong	9	0	3	2	2	1

Name and location of private health facility	Number					
	Sanctioned beds	Free beds	Departments	Wards	Cabins	Operation theaters
Khadiza Clinic, Kalia, Narail	10	0	2	2	3	1
Khawja Yunus Ali Medical College and Hospital, Chowhali, Sirajganj	400	40	67	19	72	9
Labib (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	8	1
Life Care Hospital, Mymensingh Sadar	10	0	0	3	4	1
Lion Eye Institute & Hospital, Dhaka	84	10	6	6	10	4
Luthern Health Care of Bangladesh, Dumki, Patuakhali	40	0	3	2	8	2
Mamota Clinic, Kali Bari Road, Barisal	20	0	4	2	18	2
Maya Clinic, Mymensingh Sadar	10	0	0	2	1	1
Medical College for Women and Hospital, Uttara, Dhaka	350	50	11	7	23	4
Medinova Hospital, Sirajganj Sadar	30	2	5	16	14	2
Mediplus Hospital & Diagnostic Center, Mymensingh Sadar	10	0	0	2	6	1
Micropath Diagnostic and Clinic, Laxmipur, Rajshahi	10	1	5	3	5	1
Mita Private Hospital, Narsingdi	10	0	2	2	4	1
Modern Central Hospital, Barguna, Barisal	10	0	1	3	4	1
Modern Clinic, Munshiganj	20	0	3	3	3	1
Modern Hospital Private, Maijdee, Noakhali	40	0	5	8	32	2
Mohanagar Clinic, Kazihata, Rajshahi	10	1	3	3	5	1
Moin Uddin Hospital, Sirajganj Sadar	10	0	1	2	8	2
Monowara Hospital, Hatkhola Road, Dhaka	74	4	6	26	48	3
Mother Clinic, Bhurungamari, Kurigram	10	0	2	2	2	1
Motherland Clinic, Laxmipur, Rajshahi	10	2	3	2	6	1
Mother's Clinic, Uposhohor, Rajshahi	10	0	2	3	2	1
Mukta Clinic, Shibchar, Madaripur	10	0	1	2	3	1
Muktar General Hospital, Gopalpur, Lalpur, Natore	10	0	2	2	3	1
Mukti Clinic, Laxmipur, Rajshahi	30	0	4	3	15	2
Mukti Clinic, Magura	10	0	2	2	2	1
Muslim Aid Community Hospital, Pirojpur Sadar	20	0	3	3	5	1
Nabila General Hospital, Begumganj, Noakhali	10	0	4	1	7	1
Nagorick (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	5	1
Nalta Hospital, Kaliganj, Satkhira	20	0	6	2	3	2
Nasima Nursing Home, Mymensingh Sadar	10	0	0	2	6	3
Nazma Nursing Home, Mymensingh Sadar	10	0	0	2	5	1
New Arafat Clinic, Magura	10	0	0	4	2	1
New Surgical Clinic, Magura	10	0	0	7	3	1
Nibedita Nursing Home, Assasuni, Satkhira	10	0	2	4	1	1
Niramoya Clinic, Mymensingh Sadar	10	0	0	2	4	2
North Bengal M. C & Hospital, Sirajganj Sadar	400	120	12	10	30	6
Padma Clinic, Kazihata, Rajshahi	20	1	2	2	10	1
Padma Clinic, Magura	10	0	1	2	3	1
Paricharja (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	5	1
Paromita Eye Hospital, Mymensingh Sadar	10	0	0	2	4	2
PKS Clinic, Satkhira Sadar	10	0	1	1	5	1
Poly Clinic, Magura	10	0	2	6	4	1
Prime Hospital Ltd., Hospital Road, Maijdee, Noakhali	60	2	3	4	34	2
Rabeya Banu General Hospital, Biswanath, Sylhet	6	1	11	2	0	1
Rafia Clinic, Ati bazar, Keranjganj, Dhaka	10	0	1	2	3	1
Raihana Clinic, Puthia, Rajshahi	10	0	2	4	2	1
Rajdhani (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	3	1
Razzak Memorial Clinic, Alekanda, Barisal	10	0	2	2	3	1
Rokeya (Pvt) Hospital, Mymensingh Sadar	10	0	0	2	6	1

Name and location of private health facility	Number					
	Sanctioned beds	Free beds	Departments	Wards	Cabins	Operation theaters
Safeway (Pvt) Hospital, Mymensingh Sadar	28	0	0	2	6	2
Saiam (Pvt) Hospital, Mymensingh Sadar	20	0	0	2	9	2
Saleha Clinic, Magura	10	0	0	2	4	1
Salma Clinic, Mymensingh Sadar	10	0	0	2	1	1
Samata Nursing Home, Laxmipur, Rajshahi	10	2	2	4	0	1
Santi Private Hospital, Magura	20	0	2	14	6	1
Sarmin Private Clinic & Nursing Home, Magura	10	0	2	2	4	1
Satata Clinic, Satkhira Sadar	10	1	3	2	2	1
Satata Private Hospital, Sreepur, Magura	10	0	0	8	2	1
Sea Side Hospital, Cox's Bazar	10	0	2	2	3	1
Seba Hospital, Raipur, Laxmipur	10	0	2	2	4	1
Seba Clinic, Magura	10	0	0	2	2	1
Seba General Hospital, Ullapara, Sirajganj	10	0	2	2	1	1
Shagata Clinic, Tala, Satkhira	10	0	2	2	2	1
Shahid Mansur Ali Medical College Hospital, Uttara, Dhaka	500	200	19	13	20	6
Shahin Clinic (PVT.) Hospital, Feni, Chittagong	10	0	2	2	3	1
Shapla Nursing Home, Mymensingh Sadar	10	0	0	2	9	1
Sharmin Nursing Home, Rajshahi	10	1	2	2	7	1
Sheba Clinic, Jiban Nagar, Chuadanga, Khulna	10	0	2	2	4	1
Sheba Clinic, Kalaroa, Satkhira	10	0	2	2	2	1
Shemul Clinic, Satkhira Sadar	10	0	2	2	2	1
Shurakkha Nursing Home, Mymensingh Sadar	10	0	0	2	10	1
Soudia Hospital, Rajpara, Rajshahi	10	0	4	2	2	1
Sreepur Clinic, Sreepur, Magura	10	0	2	2	2	1
Sunmoon Clinic, Magura	10	0	3	3	4	1
Sunrise Clinic, Magura	10	0	2	2	2	1
Surgecare Clinic, Pirojpur Sadar	40	0	0	3	14	2
The Akota Clinic, Ghose Para, Rajshahi	10	0	6	2	2	1
The Ibn-sina Clinic, Magura	10	0	2	2	2	1
Trauma Center and General Hospital, Mymensingh Sadar	10	0	0	2	5	1
Ullapara Hospital, Ullapara, Sirajganj	10	3	2	3	2	2
Upasam (Pvt.) Hospital, Mymensingh Sadar	10	0	0	2	3	1
Uttara Adhunik Medical College Hospital, Uttara, Dhaka	500	0	12	12	0	11
Uttaran Nursing Home, Mymensingh Sadar	10	0	0	2	8	1
Uttarbanga Islami Hospital, Laxmipur, Rajshahi	10	0	3	4	4	1
Woodland Hospital & Diagnostic Complex, Maijdee, Noakhali	20	0	3	8	12	1
Z.H.Sikder Women`s Medical College Hospital, Dhaka	100	0	-	2	17	2

ANNEX TO CHAPTER 6

1. OPD and emergency visits in health facilities under DGHS in 2015

A. Tertiary-level facilities

Type	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
Hospitals of alternative medical colleges (2)	Govt. Homeopathic Medical College Hospital, Dhaka	46,764	4,847	45,941	5,658	103,210	176	46	297	52	571
	Govt. Unani & Ayurvedic Medical College Hospital, Dhaka	13,421	1,352	12,530	1,483	28,786	4,382	1,127	3,784	1,236	10,529
Medical collehe hospital (14)	Chittagong Medical College Hospital, Chittagong	36,882	176,849	56,549	214,665	484,945	77,065	8,645	98,082	11,458	195,250
	Comilla Medical College Hospital, Comilla	106,174	23,332	97,051	18,454	245,011	29,505	7,491	32,477	5,893	75,366
	Dhaka Medical College Hospital, Dhaka	321,795	24,614	415,942	37,545	799,896	141,236	12,088	173,517	19,739	346,580
	Dinajpur Medical College Hospital, Dinajpur	92,558	5,815	77,970	7,739	184,082	19,231	2,938	19,414	2,711	44,294
	Faridpur Medical College Hospital, Faridpur	5,577	44,632	6,583	46,575	103,367	475	1,787	508	5,286	8,056
	Khulna Medical College Hospital, Khulna	141,078	9,717	85,541	6,350	242,686	2,416	628	3,914	510	7,468
	Mymensingh Medical College Hospital, Mymensingh	267,817	43,934	257,521	37,927	607,199	5,671	2,117	5,891	2,189	15,868
	Rajshahi Medical College Hospital, Rajshahi	280,503	117,189	226,724	87,394	711,810	25,088	13,256	28,351	16,556	83,251
	Rangpur Medical College Hospital, Rangpur	161,733	6,427	143,009	6,027	317,196	785	410	520	310	2,025
	Shaheed Suhrawardy Medical College Hospital, Dhaka	320,807	53,068	380,791	71,067	825,733	47,834	14,553	61,805	22,173	146,365
	Shahid Ziaur Rahman Medical College Hospital, Bogra	163,731	18,838	151,136	20,023	353,728	23,692	4,054	25,668	5,037	58,451
	Sher-e-Bangla Medical College Hospital, Barisal	201,415	19,561	197,405	17,899	436,280	45,214	3,161	49,971	3,659	102,005
	Sir Salimullah Medical College (Mitford) Hospital, Dhaka	312,827	44,821	240,788	43,612	642,048	76,376	2,495	35,376	2,624	116,871
	Sylhet MAG Osmani Medical College Hospital	427,875	42,580	343,673	47,706	861,834	57,329	11,077	69,682	14,466	152,554
Other tertiary hospitals (4)	Bangladesh Institute of Tropical and Infectious Disease, Foujdarhat, Chittagong	15,195	1,828	10,995	1,893	29,911	2,790	68	2,972	106	5,936
	Dhaka Dental College Hospital, Dhaka	40,332	2,235	44,395	2,560	89,522	-	-	-	-	-
	Pabna Mental Hospital, Pabna	24,354	11	22,577	57	46,999	-	-	-	-	-
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	67,770	0	69,975	0	137,745	3,711	0	4,223	0	7,934

Type	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
Specialty institute hospital (11)	Institute of Child and Mother Health, Matuail, Dhaka	82,921	48,987	22,988	55,239	210,135	12,541	16,186	5,943	18,698	53,368
	National Center For Control Of Rheumatic Fever & Heart Disease	16,349	364	10,218	316	27,247	-	-	-	-	-
	National Institute of Cancer Research and Hospital (NICR&H), Mohakhali, Dhaka	84,562	1,277	86,565	1,633	174,037	1,836	32	2,545	66	4,479
	National Institute of Cardiovascular Disease (NICVD), Sher-e-Bangla Nagar, Dhaka	40,797	1,872	94,691	2,257	139,617	27,032	184	55,075	278	82,569
	National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka	29,857	356	44,474	496	75,183	2,118	88	7,677	151	10,034
	National Institute of ENT, Dhaka	-	-	-	-	-	-	-	-	-	-
	National Institute of Kidney Disease and Urology (NIKDU), Sher-e-Bangla Nagar, Dhaka	26,828	381	53,451	673	81,333	2,547	38	4,421	70	7,076
	National Institute of Mental Health & Research (NIMHR), Sher-e-Bangla Nagar, Dhaka	17,798	0	24,905	0	42,703	957	0	1,544	0	2,501
	National Institute of Neurosciences and Hospital (NINH) , Dhaka	80,576	9,502	89,698	10,262	190,038	7,107	838	7,912	905	16,762
	National Institute of Ophthalmology (NIO), Sher-e-Bangla Nagar, Dhaka	107,372	4,390	135,503	3,185	250,450	723	127	2,441	292	3,583
	National Institute of Traumatology and Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka	39,885	2,574	58,514	3,988	104,961	11,284	1,787	31,433	2,933	47,437
TB hospital (2)	TB Hospital, Khulna	0	0	0	0	0	-	-	-	-	-
	TB Hospital, Rajshahi	3,076	10	2,675	10	5,771	-	-	-	-	-

B. Secondary (district-level) facility

Division	District	Name	OPD visits					Emergency visits				
			>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
			Female		Male			Female		Male		
Barisal	Barguna	Barguna District Hospital	44,451	9,170	31,405	6,608	91,634	10,738	1,619	11,519	2,123	25,999
	Barisal	Barisal General Hospital	19,500	30,365	11,500	25,200	86,565	880	4,050	1,000	11,000	16,930
	Bhola	Bhola District Hospital	54,342	10,216	32,757	8,581	105,896	5,751	866	6,232	750	13,599
	Jhalokathi	Jhalokathi District Hospital	34,490	8,100	38,561	8,114	89,265	24,264	3,947	27,084	5,182	60,477
	Patuakhali	Patuakhali 250-bed Sadar Hospital	79,171	13,340	52,739	10,974	156,224	14,387	5,190	16,222	3,277	39,076
	Pirojpur	Pirojpur District Hospital	58,553	7,812	39,873	11,697	117,935	16,809	3,532	15,762	3,677	39,780

Division	District	Name	OPD visits					Emergency visits				
			>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
			Female		Male			Female		Male		
Chittagong	Bandarban	Bandarban District Hospital	18,839	6,658	14,818	8,139	48,454	8,073	2,853	6,350	3,488	20,764
	Brahmanbaria	Brahmanbaria 250-bed District Sadar Hospital	114,174	31,969	106,525	30,423	283,091	22,363	3,217	27,374	3,915	56,869
	Chandpur	Chandpur 250-bed General Hospital	59,780	39,360	59,904	26,240	185,284	15,305	8,717	17,847	5,811	47,680
	Chittagong	Chittagong General Hospital	24,918	85,687	23,678	93,282	227,565	1,964	6,377	2,296	6,478	17,115
	Comilla	Comilla General Hospital	41,668	13,229	26,912	14,621	96,430	4,148	1,162	8,166	1,720	15,196
	Cox's Bazar	Cox's Bazar 250-bed District Sadar Hospital	49,338	68,643	42,902	53,628	214,511	7,683	10,690	6,681	8,351	33,405
	Feni	Feni 250-bed District Sadar Hospital	94,545	55,275	72,562	46,720	269,102	16,433	10,340	11,390	6,430	44,593
	Khagrachhari	Khagrachhari District Hospital	31,804	6,290	26,642	6,395	71,131	1,135	191	2,330	349	4,005
	Lakshmipur	Lakshmipur District Hospital	92,356	9,159	43,062	6,597	151,174	4,555	340	7,709	554	13,158
	Noakhali	Noakhali 250-bed General Hospital	82,225	22,561	65,989	24,121	194,896	9,079	18,112	10,125	21,045	58,361
	Rangamati	Rangamati General Hospital	22,534	3,448	21,160	4,089	51,231	3,608	521	3,122	794	8,045
	Dhaka	Kurmitola 500-bed General Hospital	190,000	11,130	266,466	12,023	479,619	14,017	731	18,817	1,022	34,587
Dhaka		Mugda 500-bed Hospital	171,814	13,948	109,725	15,848	311,335	4,522	796	4,787	1,129	11,234
	Faridpur	Faridpur General Hospital	52,244	22,174	34,921	15,542	124,881	19,772	1,707	10,404	2,010	33,893
	Gazipur	Gazipur District Hospital	47,577	23,018	48,504	22,932	142,031	35,847	5,732	37,231	6,034	84,844
	Gopalganj	Gopalganj 250-bedded District Sadar Hospital	79,857	10,826	85,548	11,522	187,753	7,528	1,891	9,561	2,178	21,158
	Kishoreganj	Kishoreganj 250-bed District Sadar Hospital	130,948	12,177	138,064	14,144	295,333	15,497	4,025	27,668	4,492	51,682
	Madaripur	Madaripur District Hospital	59,396	11,690	37,792	9,188	118,066	9,939	1,980	12,040	2,108	26,067
	Manikganj	Manikganj District Hospital	86,263	29,513	78,155	27,203	221,134	23,191	9,844	22,673	9,568	65,276
	Munshiganj	Munshiganj District Hospital	65,776	14,690	50,308	12,914	143,688	22,744	5,686	21,095	4,908	54,433
	Narayanganj	Narayanganj 300-bedded Hospital	147,993	16,241	103,692	15,415	283,341	26,461	1,459	24,623	1,032	53,575
		Narayanganj General Hospital	117,240	31,525	62,401	23,516	234,682	60,075	13,630	59,320	11,445	144,470
	Narsingdi	Narsingdi 100-bed Zilla Hospital	66,893	11,096	55,093	10,136	143,218	16,995	2,227	17,658	1,993	38,873
		Sadar Hospital Narsingdi	32,014	21,927	31,609	22,830	108,380	21,176	6,139	21,736	6,252	55,303
	Rajbari	Rajbari District Hospital	74,101	5,431	57,824	4,453	141,809	5,957	882	6,986	812	14,637
	Shariatpur	Shariatpur District Hospital	44,388	20,880	30,620	28,560	124,448	24,329	3,403	14,200	2,560	44,492
	Tangail	Tangail 250-bed District Hospital	17,995	145,310	23,897	110,022	297,224	3,829	10,281	3,932	23,207	41,249

Division	District	Name	OPD visits					Emergency visits				
			>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
			Female		Male			Female		Male		
Khulna	Bagerhat	Bagerhat District Hospital	70,281	14,162	36,649	8,447	129,539	2,087	430	3,084	357	5,958
	Chuadanga	Chuadanga District Hospital	58,271	21,475	54,710	15,265	149,721	25,262	14,530	20,292	6,710	66,794
	Jessore	Jessore 250-bed General Hospital	190,910	30,492	155,225	20,492	397,119	8,793	1,472	14,680	1,070	26,015
	Jhenaidah	Jhenaidah District Hospital	147,481	12,381	90,489	14,980	265,331	5,283	173	6,246	268	11,970
	Khulna	Khulna General Hospital	106,402	8,475	59,962	6,148	180,987	8,011	5,245	12,930	4,048	30,234
	Kushtia	Kushtia 250-bed General Hospital	141,531	17,002	130,119	17,151	305,803	6,749	863	11,307	1,123	20,042
	Magura	Magura District Hospital	72,172	14,403	65,661	13,230	165,466	4,598	379	4,308	278	9,563
	Meherpur	Meherpur District Hospital	81,416	18,009	53,995	17,871	171,291	3,853	1,146	4,375	1,182	10,556
	Narail	Narail District Hospital	60,049	7,992	35,480	6,872	110,393	4,898	1,219	7,257	1,563	14,937
	Satkhira	Satkhira District Hospital	102,946	23,864	82,969	19,524	229,303	1,986	1,623	2,720	1,333	7,662
Mymensingh	Jamalpur	Jamalpur 250-bed General Hospital	14,604	21,248	35,852	4,641	4,952	9,593	45,445	180	101	281
	Netrakona	Netrakona District Hospital	7,899	13,781	21,680	2,807	1,663	4,470	26,150	93	56	149
	Sherpur	Sherpur 100-bed District Sadar Hospital	8,931	9,463	18,394	3,723	2,447	6,170	24,564	126	77	203
Rajshahi	Bogra	Bogra 250-bed Mohammad Ali District Hospital	7,326	7,709	15,035	1,820	1,149	2,969	18,004	38	33	71
	Chapainowabganj	Chapainowabganj District Hospital	133,082	14,157	179,332	13,225	339,796	11,086	928	12,718	1,451	26,183
	Joypurhat	Joypurhat District Hospital	97,148	23,538	51,335	14,040	186,061	14,430	3,444	7,378	3,934	29,186
	Naogaon	Naogaon District Hospital	105,867	30,302	56,851	24,110	217,130	9,831	4,350	7,996	3,455	25,632
	Natore	Natore District Hospital	95,977	27,370	91,101	22,508	236,956	22,117	7,802	17,203	5,304	52,426
	Pabna	Pabna 250-bed General Hospital	83,963	24,566	72,111	18,944	199,584	4,064	1,835	4,304	1,880	12,083
	Sirajganj	Sirajganj General Hospital	67,367	10,838	99,887	10,700	188,792	16,236	2,066	15,811	2,349	36,462
Rangpur	Dinajpur	Dinajpur General Hospital	48,878	10,583	90,202	14,283	163,946	8,263	1,702	12,336	1,932	24,233
	Gaibandha	Gaibandha District Hospital	57,237	16,651	45,391	13,480	132,759	9,428	1,588	9,035	1,455	21,506
	Kurigram	Kurigram District Hospital	78,133	16,514	55,881	18,961	169,489	12,637	6,418	11,799	5,718	36,572
	Lalmonirhat	Lalmonirhat District Hospital	55,166	5,633	49,915	6,499	117,213	6,707	1,712	6,857	1,888	17,164
	Nilphamari	Nilphamari District Hospital	61,871	27,540	46,299	23,539	159,249	18,900	2,824	18,897	2,823	43,444
		Saidpur 100-bed Hospital	29,658	5,584	21,775	5,121	62,138	7,372	1,609	4,992	1,228	15,201
	Panchagarh	Panchagarh 100-bed District Sadar Hospital	9,051	9,547	8,949	9,347	36,894	2,167	307	4,152	427	7,053
	Thakurgaon	Thakurgaon District Hospital	59,578	20,967	52,222	20,225	152,992	3,155	158	5,080	304	8,697

Division	District	Name	OPD visits					Emergency visits				
			>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
			Female		Male			Female		Male		
Sylhet	Habiganj	Habiganj District Hospital	15,480	58,950	14,150	47,350	135,930	980	6,650	850	6,580	15,060
	Maulvibazar	Maulvibazar 250-bed District Sadar Hospital	95,024	13,245	75,532	11,158	194,959	29,778	10,665	26,316	8,216	74,975
	Sunamganj	Sunamganj 250-bed District Sadar Hospital	47,592	8,558	51,722	8,968	116,840	16,009	2,818	14,787	2,616	36,230
	Sylhet	Shahid Shamsuddin District Hospital	51,387	3,905	43,004	4,663	102,959	999	107	1,585	229	2,920

C. Upazila health complexes (listed alphabetically)

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
1	Abhoynagar UHC	37,726	5,889	26,771	4,864	75,250	6,872	1,087	8,931	1,431	18,321
2	Adamdighi UHC	40,126	5,569	24,874	4,838	75,407	3,579	378	4,246	507	8,710
3	Aditmari UHC	20,062	5,855	13,799	4,789	44,505	2,234	300	1,845	221	4,600
4	Agailjhara UHC	4,803	1,261	4,441	1,360	11,865	1,827	324	1,670	380	4,201
5	Akhaura UHC	23,603	4,043	20,046	4,246	51,938	1,083	592	1,495	612	3,782
6	Akkelpur UHC	22,181	5,941	15,487	5,312	48,921	4,741	353	3,119	283	8,496
7	Alamdanga UHC	29,811	7,293	20,561	5,489	63,154	1,714	31	2,866	48	4,659
8	Alfadanga UHC	26,996	5,443	16,128	3,500	52,067	559	234	899	210	1,902
9	Alikadam UHC	20,605	4,219	14,023	3,197	42,044	279	45	298	73	695
10	Amtali UHC	14,378	2,182	9,596	2,077	28,233	3,095	403	3,151	515	7,164
11	Anwara UHC	38,873	5,403	20,230	4,060	68,566	10,441	3,183	12,424	4,196	30,244
12	Araihazar UHC	4,351	79,945	5,076	42,783	132,155	42	2,383	65	3,372	5,862
13	Ashuganj UHC	13,647	1,605	5,753	1,513	22,518	0	0	0	0	0
14	Assasuni UHC	30,416	2,387	17,727	2,690	53,220	650	130	794	194	1,768
15	Atghoria UHC	53,337	6,101	30,641	6,706	96,785	3,273	212	3,667	312	7,464
16	Atpara UHC	17,649	2,322	13,443	2,124	35,538	6,646	550	7,119	533	14,848
17	Atrai UHC	13,858	3,221	7,102	3,035	27,216	546	149	803	184	1,682
18	Atwari UHC	16,314	1,609	12,397	1,979	32,299	1,173	137	3,410	211	4,931
19	Austagram UHC	23,709	5,000	14,993	4,450	48,152	1,675	502	1,695	561	4,433
20	Azmiriganj UHC	29,633	7,006	20,651	5,987	63,277	1,336	211	2,857	187	4,591
21	Babuganj UHC	10,141	4,141	5,078	3,404	22,764	684	72	544	45	1,345
22	Badalgachi UHC	27,918	4,573	15,835	3,374	51,700	1,782	307	1,498	348	3,935
23	Badarganj UHC	26,805	6,007	21,550	6,038	60,400	6,560	1,549	4,630	1,165	13,904

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
24	Bagatipara UHC	53,529	6,079	35,854	6,408	101,870	2,720	191	2,718	293	5,922
25	Bagerpara UHC	22,182	3,155	10,137	2,104	37,578	1,794	388	2,665	640	5,487
26	Bagha UHC	50,655	1,004	17,844	9,642	79,145	1,092	138	1,185	128	2,543
27	Baghaichhari UHC	10,035	1,794	7,025	1,778	20,632	298	39	318	54	709
28	Bagmara UHC	34,512	7,852	17,254	7,459	67,077	2,507	720	2,135	421	5,783
29	Bahubal UHC	25,242	17,331	27,147	15,928	85,648	1,637	366	2,299	662	4,964
30	Bajitpur UHC	46,812	8,240	26,825	10,240	92,117	1,675	224	3,443	396	5,738
31	Bakerganj UHC	32,088	4,478	28,877	4,669	70,112	645	526	777	607	2,555
32	Bakshiganj UHC	30,607	1,968	29,805	1,815	64,195	4,194	617	4,288	636	9,735
33	Balaganj UHC	29,493	709	18,311	612	49,125	4,107	198	5,050	205	9,560
34	Baliadangi UHC	1,813	7,812	1,627	6,623	17,875	180	609	1,600	435	2,824
35	Baliakandi UHC	22,944	3,591	16,543	1,942	45,020	2,091	156	1,755	248	4,250
36	Bamna UHC	13,056	1,929	12,189	1,940	29,114	1,059	90	1,077	192	2,418
37	Banaripara UHC	21,049	4,921	13,577	5,297	44,844	3,840	360	1,968	582	6,750
38	Bancharampur UHC	34,944	6,458	24,468	6,542	72,412	5,124	1,289	5,213	1,346	12,972
39	Bandar UHC	35,333	4,662	11,502	4,482	55,979	1,728	174	2,824	182	4,908
40	Baniachong UHC	32,860	12,351	26,704	11,963	83,878	3,466	1,924	4,184	1,632	11,206
41	Banshkhali UHC	33,245	4,912	20,770	3,688	62,615	7,521	1,867	8,286	2,915	20,589
42	Baraigram UHC	36,711	5,382	29,926	4,298	76,317	2,010	67	2,770	75	4,922
43	Barhatta UHC	37,697	7,802	22,072	7,318	74,889	2,143	818	2,386	949	6,296
44	Barkol UHC	3,388	112	3,802	167	7,469	177	4	20	7	208
45	Barlekha UHC	39,621	7,362	31,261	6,325	84,569	4,632	3,621	8,366	4,231	20,850
46	Barura UHC	33,714	7,108	16,552	3,473	60,847	638	72	1,294	92	2,096
47	Basail UHC	65,564	3,550	46,476	3,400	118,990	2,189	127	2,232	116	4,664
48	Batiaghata UHC	27,169	1,772	18,580	1,757	49,278	2,345	4	498	7	2,854
49	Bauphal UHC	19,902	3,136	18,837	3,038	44,913	1,712	450	1,736	630	4,528
50	Beanibazar UHC	44,673	6,812	27,920	5,572	84,977	12,591	1,999	14,778	2,126	31,494
51	Begumganj UHC	43,730	7,494	17,589	7,485	76,298	3,067	1,428	5,514	1,421	11,430
52	Belabo UHC	41,681	5,126	19,767	3,567	70,141	1,417	165	1,349	96	3,027
53	Belaichhari UHC	4,152	876	4,382	859	10,269	144	36	83	47	310
54	Belkuchi UHC	6,325	4,637	5,793	4,956	21,711	3,299	389	3,264	574	7,526
55	Bera UHC	27,348	5,746	22,634	5,678	61,406	11,127	2,785	11,167	3,663	28,742
56	Betagi UHC	8,120	1,029	8,890	1,160	19,199	320	10	407	10	747

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
57	Bhairab UHC	47,525	21,821	26,066	14,556	109,968	3,499	1,023	3,583	793	8,898
58	Bhaluka UHC	23,907	14,113	18,313	12,239	68,572	5,531	1,976	10,500	2,563	20,570
59	Bhandaria UHC	14,685	1,538	9,059	1,493	26,775	2,121	437	2,381	440	5,379
60	Bhanga UHC	23,233	8,020	10,409	10,056	51,718	4,262	830	4,399	1,380	10,871
61	Bhangura UHC	35,294	4,977	24,689	3,721	68,681	298	62	714	93	1,167
62	Bhedarganj UHC	18,922	3,911	12,719	2,753	38,305	2,745	1,320	1,590	1,680	7,335
63	Bheramara UHC	43,085	9,853	21,626	9,471	84,035	4,716	490	4,908	759	10,873
64	Bholahat UHC	23,851	7,157	19,816	6,565	57,389	4,291	557	2,583	899	8,330
65	Bhuapur UHC	12,712	5,781	12,187	5,102	35,782	7,821	1,385	8,525	1,405	19,136
66	Bhurungamari UHC	28,096	2,249	22,186	1,581	54,112	2,172	421	1,993	561	5,147
67	Birampur UHC	32,346	1,255	27,537	1,775	62,913	2,938	395	3,330	352	7,015
68	Birganj UHC	34,439	1,875	22,389	2,485	61,188	2,229	195	2,342	295	5,061
69	Birol UHC	16,407	3,520	16,702	3,426	40,055	2,078	276	2,842	263	5,459
70	Biswambarpur UHC	2,187	3,513	2,564	4,522	12,786	376	412	118	323	1,229
71	Biswanath UHC	1,634	34,591	1,425	17,426	55,076	157	1,547	254	1,862	3,820
72	Boalkhali UHC	16,378	37,265	15,236	20,145	89,024	5,392	6,965	3,629	8,162	24,148
73	Boalmari UHC	24,015	17,021	22,275	14,101	77,412	2,217	542	3,040	561	6,360
74	Bochaganj UHC	20,586	1,967	17,272	1,583	41,408	2,139	130	1,232	198	3,699
75	Boda UHC	30,527	8,919	20,489	8,720	68,655	1,059	184	841	156	2,240
76	Borhanuddin UHC	25,165	2,018	19,134	2,663	48,980	8,886	989	3,702	1,586	15,163
77	Brahmmanpara UHC	9,754	3,961	8,355	3,962	26,032	650	84	726	146	1,606
78	Burichong UHC	5,199	1,234	5,112	971	12,516	1,548	133	988	170	2,839
79	Chauddagram UHC	59,568	24,324	35,890	21,345	141,127	1,823	895	2,059	1,110	5,887
80	Chakaria UHC	29,292	8,349	21,976	10,544	70,161	3,820	3,459	4,509	4,469	16,257
81	Chandanaish UHC	23,645	4,511	16,843	6,523	51,522	3,732	565	3,342	801	8,440
82	Chandina UHC	21,523	5,455	12,424	6,499	45,901	4,421	797	4,226	1,245	10,689
83	Charbhadrason UHC	12,423	3,428	8,341	3,813	28,005	1,177	297	872	320	2,666
84	Char Fasson UHC	32,060	5,910	20,044	7,037	65,051	6,779	905	7,142	1,222	16,048
85	Charghat UHC	21,768	5,902	11,460	5,301	44,431	5,110	2,190	3,650	2,555	13,505
86	Chatkhil UHC	26,017	1,919	21,188	2,520	51,644	4,765	591	2,355	950	8,661
87	Chatmohar UHC	43,426	16,892	20,961	16,103	97,382	12,110	2,118	6,299	2,120	22,647
88	Chhagalnaya UHC	27,371	4,459	25,109	3,637	60,576	1,087	42	1,575	60	2,764
89	Chhatak UHC	25,009	2,900	13,054	3,813	44,776	1,311	85	3,013	143	4,552

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
90	Chilmari UHC	15,667	1,734	12,877	1,469	31,747	1,898	193	1,803	299	4,193
91	Chirirbandar UHC	39,897	12,766	37,856	9,788	100,307	1,632	482	1,566	395	4,075
92	Chitalmari UHC	33,004	5,591	11,001	3,161	52,757	480	69	152	83	784
93	Chowgacha UHC	41,911	11,007	25,935	11,200	90,053	3,676	1,073	3,458	1,432	9,639
94	Chowhali UHC	14,524	3,395	11,357	3,215	32,491	0	0	0	0	0
95	Chunarughat UHC	22,888	2,608	16,964	2,155	44,615	2,426	616	4,084	4,590	11,716
96	Comilla Sadar Daxin UHC	9,916	1,579	7,027	1,269	19,791	160	3	318	12	493
97	Companiganj UHC, Noakhali	35,357	12,674	29,508	11,245	88,784	4,597	296	2,006	284	7,183
98	Companyganj UHC, Sylhet	20,912	5,582	19,656	4,865	51,015	4,587	667	5,020	574	10,848
99	Dacope UHC	3,645	13,862	2,204	8,387	28,098	130	355	172	320	977
100	Daganbhuiya UHC	34,510	11,190	15,152	12,523	73,375	3,579	827	2,579	697	7,682
101	Dakhin Surma UHC	13,200	4,680	9,360	3,240	30,480	60	12	36	10	118
102	Damudya UHC	29,279	10,050	24,013	7,072	70,414	1,895	596	1,798	392	4,681
103	Damurhuda UHC	29,923	5,937	18,725	4,970	59,555	4,156	913	3,922	821	9,812
104	Dashmina UHC	15,630	1,939	10,517	2,349	30,435	222	10	438	24	694
105	Daudkandi UHC	53,559	12,638	27,945	15,431	109,573	8,656	463	7,490	622	17,231
106	Daulatkhan UHC	19,969	3,373	15,755	3,779	42,876	831	169	1,716	214	2,930
107	Daulatpur UHC, Manikganj	31,654	4,326	23,654	3,721	63,355	3,832	1,425	3,708	1,345	10,310
108	Daulatpur UHC, Kushtia	34,822	2,653	16,209	3,351	57,035	5,780	326	3,756	434	10,296
109	Daxin Sunamganj UHC	0	0	0	0	0	0	0	0	0	0
110	Debhata UHC	12,543	2,803	6,841	1,372	23,559	3,876	734	2,365	570	7,545
111	Debidwar UHC	13,697	39,735	8,378	25,980	87,790	1,569	3,184	1,671	4,562	10,986
112	Debiganj UHC	26,621	1,139	29,353	1,299	58,412	726	97	1,722	99	2,644
113	Delduar UHC	1,318	631	4,143	618	6,710	2,210	157	3,221	127	5,715
114	Derai UHC	14,925	1,057	9,950	12,380	38,312	650	920	700	1,000	3,270
115	Dewanganj UHC	10,103	3,925	9,035	3,926	26,989	2,835	772	3,004	726	7,337
116	Dhamairhat UHC	19,876	6,521	15,483	5,437	47,317	753	138	1,247	132	2,270
117	Dhamrai UHC	73,499	13,874	42,575	16,159	146,107	9,539	1,193	9,198	1,761	21,691
118	Dhanbari UHC	26,558	1,856	5,364	1,645	35,423	94	89	74	141	398
119	Dharmapasha UHC	30,882	4,003	34,909	3,419	73,213	3,987	590	4,685	667	9,929
120	Dhubaura UHC	19,995	2,553	11,931	2,601	37,080	2,177	366	1,980	631	5,154
121	Dhunat UHC	30,502	5,664	21,556	3,862	61,584	1,916	437	1,961	251	4,565
122	Dhupchachia UHC	34,551	7,621	15,246	6,826	64,244	7,605	1,490	12,700	1,893	23,688

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
123	Dighalia UHC	34,656	5,255	16,079	2,434	58,424	1,220	114	1,390	145	2,869
124	Dighinala UHC	14,825	3,632	13,762	2,145	34,364	2,142	230	1,872	415	4,659
125	Dimla UHC	15,571	3,374	13,599	3,025	35,569	4,597	853	3,911	711	10,072
126	Doarabazar UHC	2,901	22,747	3,277	17,199	46,124	503	1,502	602	2,301	4,908
127	Dohar UHC	30,948	13,027	19,759	12,600	76,334	4,902	613	4,282	881	10,678
128	Domar UHC	14,981	6,471	8,941	4,314	34,707	3,552	869	3,824	722	8,967
129	Dumki UHC	12,466	3,963	4,735	2,939	24,103	614	117	667	194	1,592
130	Dumuria UHC	4,266	26,571	5,025	12,806	48,668	216	888	351	1,251	2,706
131	Durgapur UHC, Netrakona	42,010	4,843	27,744	5,266	79,863	2,820	522	3,170	818	7,330
132	Durgapur UHC, Rajshahi	32,517	9,240	15,243	7,380	64,380	6,555	378	5,557	320	12,810
133	Fakirhat UHC	31,928	5,590	14,658	5,792	57,968	3,312	1,113	4,921	1,080	10,426
134	Faridganj UHC	7,347	3,112	3,241	3,817	17,517	3,051	1,186	3,059	787	8,083
135	Faridpur UHC, Pabna	20,100	7,089	19,355	9,785	56,329	4,138	1,067	4,526	1,074	10,805
136	Fatikchhari UHC	26,355	6,403	16,696	5,945	55,399	3,214	2,938	4,210	3,265	13,627
137	Fenchuganj UHC	18,609	1,210	14,471	1,050	35,340	1,544	274	1,688	309	3,815
138	Fulbari UHC, Dinajpur	39,865	2,718	28,735	2647	7,3965	4,811	346	4,001	534	9,692
139	Fulbari UHC, Kurigram	14,939	1,683	11,826	1,418	29,866	1,768	142	1,752	249	3,911
140	Fulbaria UHC	26,998	3,750	17,479	4,586	52,813	1,077	316	1,933	451	3,777
141	Fulchhari UHC	19,166	2,579	14,646	2,084	38,475	1,105	89	784	135	2,113
142	Fulgazi UHC	29,105	3,010	18,255	2,006	52,376	2,083	242	1,388	143	3,856
143	Fulpur UHC	37,209	16,204	28,066	14,956	96,435	7,372	916	7,233	1,125	16,646
144	Fultala UHC	28,198	1,930	15,177	2,819	48,124	399	69	486	71	1,025
145	Gabtali UHC	30,611	4,115	16,450	4,784	55,960	458	58	514	69	1,099
146	Galachipa UHC	12,224	2,230	8,038	1,947	24,439	791	24	1,525	38	2,378
147	Gangachara UHC	14,283	3,659	17,387	3,589	38,918	2,998	237	3,247	212	6,694
148	Gangni UHC	73,818	5,100	57,024	4,653	140,595	1,033	35	1,416	26	2,510
149	Gazaria UHC	41,360	13,055	25,314	7,054	86,783	5,367	309	4,707	295	10,678
150	Ghatail UHC	25,671	4,154	15,941	4,318	50,084	7,243	1,164	7,227	1,347	16,981
151	Ghior UHC	18,892	7,830	16,326	6,322	49,370	2,825	550	3,520	525	7,420
152	Ghoraghat UHC	33,042	3,649	31,002	3,409	71,102	1,847	120	2,638	140	4,745
153	Goalanda UHC	19,403	5,151	10,423	4,998	39,975	1,793	374	2,649	545	5,361
154	Gobindaganj UHC	31,502	3,850	11,905	3,014	50,271	276	250	733	365	1,624
155	Godagari UHC	11,405	1,278	5,231	1,474	19,388	2,512	327	2,297	286	5,422

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
156	Gofargaon UHC	7,411	6,280	5,000	4,220	22,911	832	401	784	389	2,406
157	Golapganj UHC	33,633	12,274	18,783	12,365	77,055	3,382	1,230	3,812	1,320	9,744
158	Gomastapur UHC	32,623	4,281	28,990	3,365	69,259	3,440	781	4,286	884	9,391
159	Gopalpur UHC	31,005	3,617	27,741	3,442	65,805	2,307	243	1,406	483	4,439
160	Goshairhat UHC	31,310	5,540	19,935	3,796	60,581	2,316	435	2,125	657	5,533
161	Gouripur UHC	58,074	16,131	29,475	13,446	117,126	6,397	2,037	9,122	2,311	19,867
162	Gournadi UHC	16,939	7,150	15,040	6,598	45,727	2,891	863	3,022	760	7,536
163	Gowainghat UHC	13,359	5,381	9,320	4,439	32,499	4,992	1,794	4,244	1,193	12,223
164	Gurudashpur UHC	47,537	5,908	31,354	6,113	90,912	4,385	376	4,133	254	9,148
165	Haimchar UHC	33,005	4,345	21,345	3,185	61,880	2,180	432	1,926	236	4,774
166	Hakimpur UHC	32,117	3,374	21,949	3,701	61,141	2,853	151	2,516	209	5,729
167	Haluaghat UHC	23,711	1,727	10,806	1,685	37,929	3,642	494	4,137	625	8,898
168	Harinakunda UHC	24,939	3,593	23,498	3,859	55,889	4,187	1,496	2,025	920	8,628
169	Haripur UHC	21,253	4,112	14,375	3,158	42,898	2,207	655	1,980	507	5,349
170	Harirampur UHC	32,277	6,056	18,646	5,200	62,179	1,324	300	1,115	200	2,939
171	Hathazari UHC	49,229	10,093	39,640	12,215	111,177	9,178	2,463	7,225	2,265	21,131
172	Hatibandha UHC	15,700	3,400	16,890	4,050	40,040	3,620	1,610	4,260	1,360	10,850
173	Hatiya UHC	18,270	2,781	13,380	2,893	37,324	2,932	850	3,088	761	7,631
174	Haziganj UHC	37,562	8,993	18,801	7,817	73,173	2,707	697	3,321	777	7,502
175	Hijla UHC	11,563	2,105	3,507	1,886	19,061	4,640	244	2,560	204	7,648
176	Homna UHC	31,964	5,519	18,316	6,855	62,654	299	31	290	18	638
177	Hossainpur UHC	5,952	29,256	7,876	18,402	61,486	593	6,570	1,287	7,325	15,775
178	Islampur UHC	44,709	4,441	20,768	3,670	73,588	5,445	807	6,931	951	14,134
179	Iswardi UHC	40,355	5,231	21,727	5,670	72,983	8,578	1,768	4,664	1,524	16,534
180	Iswarganj UHC	5,354	813	4,854	708	11,729	4,926	308	4,334	219	9,787
181	Itna UHC	42,910	5,036	30,727	4,412	83,085	446	6	430	7	889
182	Jagannathpur UHC	30,749	7,457	18,954	7,351	64,511	1,910	1,262	1,968	1,356	6,496
183	Jaldhaka UHC	19,213	10,342	16,452	8,868	54,875	3,248	2,591	2,629	2,228	10,696
184	Jamalganj UHC	46,945	8,230	39,421	6,962	101,558	7,786	674	4,702	830	13,992
185	Jhenaigati UHC	53,045	6,475	27,510	7,914	94,944	1,075	61	1,841	92	3,069
186	Jhikargacha UHC	25,035	8,778	15,261	6,245	55,319	9,383	220	8,850	166	18,619
187	Jibannagar UHC	33,928	9,425	26,231	6,791	76,375	4,410	1,223	2,523	911	9,067
188	Jointapur UHC	21,049	7,412	17,980	4,560	51,001	4,424	1,626	6,206	1,431	13,687

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		Female		Male			Female		Male		
189	Juraichhari UHC	2,407	410	2,575	488	5,880	111	15	394	15	535
190	Juri UHC	3,987	4,654	3,547	3,122	15,310	0	0	0	0	0
191	Kabirhat UHC	2,013	18,521	3,120	12,937	36,591	85	275	120	350	830
192	Kachua UHC, Bagerhat	30,417	7,242	12,890	10,862	61,411	2,456	102	1,827	116	4,501
193	Kachua UHC, Chandpur	17,308	2,546	10,343	2,490	32,687	1,156	100	1,946	92	3,294
194	Kahaloo UHC	24,929	6,710	25,152	7,536	64,327	5,645	1,325	2,576	1,251	10,797
195	Kaharol UHC	33,238	2,889	29,344	3,050	68,521	2,370	191	3,390	289	6,240
196	Kalai UHC	49,464	6,059	22,854	6,311	84,688	7,502	1,151	7,141	1,515	17,309
197	Kalapara UHC	20,420	2,865	12,593	3,427	39,305	371	20	916	27	1,334
198	Kalaroa UHC	26,050	5,659	13,257	5,072	50,038	810	169	661	155	1,795
199	Kalia UHC	37,969	3,873	19,386	4,506	65,734	1,291	188	2,432	304	4,215
200	Kaliakair UHC	34,985	7,882	26,911	7,184	76,962	5,422	315	5,710	502	11,949
201	Kaliganj UHC, Gazipur	52,912	8,354	29,363	15,413	106,042	3,903	552	5,158	713	10,326
202	Kaliganj UHC, Jhenaidah	44,964	4,852	23,495	5,619	78,930	1,418	279	2,542	455	4,694
203	Kaliganj UHC, Satkhira	24,373	2,070	12,254	1,967	40,664	24,373	310	1,117	185	3,511
204	Kaliganj UHC, Lalmonirhat	6,828	949	6,871	1,098	15,746	3,524	338	2,936	282	7,080
205	Kalihati UHC	24,520	4,547	13,185	4,687	46,939	5,924	1,152	6,789	1,183	15,048
206	Kalkini UHC	27,813	9,987	22,338	7,591	67,729	2,768	337	2,960	533	6,598
207	Kalmakanda UHC	11,257	2,535	7,150	1,795	22,737	1,584	383	3,303	883	6,153
208	Kalukhali UHC	0	0	0	0	0	0	0	0	0	0
209	Kamalganj UHC	24,840	5,141	19,533	4,325	53,839	3,861	1,250	3,578	1,292	9,981
210	Kamarkhanda UHC	47,100	3,858	44,038	3,638	98,634	760	83	957	71	1,871
211	Kamolnagar UHC	85,103	5,874	4,641	4,413	100,031	2,422	69	1,056	93	3,640
212	Kanaighat UHC	24,855	7,587	15,419	5,448	53,309	1,743	405	2,893	739	5,780
213	Kapasia UHC	50,319	9,880	38,562	8,605	107,366	2,192	500	3,087	768	6,547
214	Kaptai UHC	13,686	1,815	9,950	1,981	27,432	731	95	943	156	1,925
215	Karimganj UHC	34,340	11,914	19,320	12,220	77,794	8,424	1,762	11,583	1,780	23,549
216	Kashba UHC	6,494	4,237	7,414	4,321	22,466	3,578	1,306	3,666	1,299	9,849
217	Kashiani UHC	27,641	16,835	21,863	14,254	80,593	4,681	2,104	2,135	1,574	10,494
218	Kathalia UHC	34,572	2,706	18,516	1,356	57,150	1,254	78	1,038	169	2,539
219	Katiadi UHC	44,422	12,115	36,345	8,077	100,959	9,584	1,305	11,715	1,065	23,669
220	Kawkhali UHC, Pirojpur	21,986	2,419	13,867	2,657	40,929	304	23	631	45	1,003
221	Kawkhali UHC, Rangamati	11,026	1,548	10,073	1,486	24,133	78	3	170	3	254

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		Female		Male			Female		Male		
222	Kazipur UHC	37,608	6,853	33,743	5,931	84,135	649	25	1,459	28	2,161
223	Kendua UHC	12,205	2,941	11,904	2,714	29,764	2,523	230	2,735	567	6,055
224	Keraniganj UHC	55,526	17,034	18,655	16,821	108,036	1,983	758	2,221	787	5,749
225	Keshabpur UHC	25,803	8,766	20,175	7,998	62,742	293	186	469	301	1,249
226	Khaliajuri UHC	20,720	4,766	15,747	4,830	46,063	897	478	1,330	512	3,217
227	Khansama UHC	55,536	10,270	27,989	9,892	103,687	2,022	172	2,349	208	4,751
228	Khetlal UHC	35,363	4,552	20,707	4,207	64,829	489	29	701	55	1,274
229	Khoksha UHC	11,555	2,428	11,251	1,806	27,040	1,659	311	1,713	171	3,854
230	Kishoreganj UHC, Nilphamari	4,130	6,775	3,728	6,280	20,913	1,346	3,898	1,149	2,890	9,283
231	Kotchandpur UHC	27,565	4,654	17,072	5,491	54,782	1,205	206	2,488	307	4,206
232	Kotwalipara UHC	27,405	14,736	17,305	11,812	71,258	3,798	994	2,570	879	8,241
233	Kownia UHC	19,759	10,356	21,219	9,882	61,216	1,412	394	1,652	406	3,864
234	Koyra UHC	1,328	4,939	1,049	3,889	11,205	2	388	3	275	668
235	Kulaura UHC	28,303	5,381	15,202	5,621	54,507	7,512	1,748	7,853	1,712	18,825
236	Kuliarchar UHC	41,220	8,564	288,140	8,108	346,032	2,244	220	2,561	232	5,257
237	Kumarkhali UHC	20,578	7,757	9,585	6,186	44,106	1,789	31	2,411	44	4,275
238	Kutubdia UHC	18,443	6,938	2,890	6,825	35,096	181	150	272	143	746
239	Lakhai UHC	26,131	6,888	21,754	4,747	59,520	1,343	204	1,723	299	3,569
240	Laksham UHC	10,816	2,830	7,511	2,635	23,792	1,377	119	2,105	75	3,676
241	Lakshmichhari UHC	5,245	2,514	3,685	2,040	13,484	320	53	468	58	899
242	Lalmohan UHC	15,207	11,022	14,872	10,101	51,202	1,098	276	1,105	312	2,791
243	Lalpur UHC	37,312	5,159	19,188	5,661	67,320	4,629	323	3,536	447	8,935
244	Lama UHC	22,238	11,601	12,683	10,755	57,277	1,644	456	1,622	422	4,144
245	Langadu UHC	16,780	2,879	12,739	2,354	34,752	93	49	77	23	242
246	Lohagara UHC, Chittagong	34,904	10,551	23,904	11,385	80,744	3,842	1,650	3,285	1,744	10,521
247	Lohagara UHC, Narail	44,234	5,843	30,774	4,500	85,351	3,767	279	2,907	387	7,340
248	Louhajang UHC	22,028	4,601	12,622	4,461	43,712	3,397	1,521	2,770	1,454	9,142
249	Madan UHC	6,441	1,210	5,557	1,117	14,325	2,630	510	2,267	456	5,863
250	Madarganj UHC	19,140	4,203	14,247	3,188	40,778	2,031	447	1,974	445	4,897
251	Madhabpur UHC	18,678	4,740	14,288	4,623	42,329	2,149	499	2,299	577	5,524
252	Manda UHC	39,762	10,411	22,396	7,645	80,214	2,588	587	2,568	498	6,241
253	Manikchhari UHC	31,202	614	18,671	298	50,785	1,515	365	1,712	224	3,816
254	Manpura UHC	23,112	8,080	14,780	7,175	53,147	412	656	1,077	513	2,658

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255	Mathbaria UHC	8,907	3,707	5,406	3,490	21,510	2,985	2,504	3,560	2,090	11,139
256	Matiranga UHC	24,164	17,022	43,889	15,689	100,764	812	544	732	425	2,513
257	Matlab(daxin) UHC	21,925	8,780	9,733	6,716	47,154	3,325	1,172	3,948	1,070	9,515
258	Matlab(uttar) UHC	18,670	2,220	16,665	2,425	39,980	1,215	285	1,120	215	2,835
259	Meghna UHC	3,615	1,082	3,506	939	9,142	251	11	435	9	706
260	Mehendiganj UHC	15,586	7,724	10,052	6,845	40,207	1,460	893	1,867	1,095	5,315
261	Melandaha UHC	52,179	7,931	35,177	5,840	101,127	5,057	756	5,112	702	11,627
262	Mirarsarai UHC	25,633	11,203	19,674	7,619	64,129	18,699	4,564	13,478	3,456	40,197
263	Mirpur UHC, Rajshahi	19,900	2,738	14,127	2,765	39,530	3,935	395	4,595	653	9,578
264	Mirzaganj UHC	10,325	1,498	12,932	1,558	26,313	1,845	264	1,374	404	3,887
265	Mirzapur UHC	30,344	8,906	16,848	6,948	63,046	2,309	1,013	1,245	1,008	5,575
266	Mithamoin UHC	34,345	6,116	21,839	5,320	67,620	1,684	329	1,846	267	4,126
267	Mithapukur UHC	28,386	5,542	15,335	3,946	53,209	3,367	322	4,380	450	8,519
268	Modhukhali UHC	26,735	10,432	14,250	8,022	59,439	12,460	943	5,620	650	19,673
269	Madhupur UHC	37,795	6,059	33,097	6,231	83,182	8,179	963	8,098	1,615	18,855
270	Mohadevpur UHC	22,153	7,164	18,102	7,341	54,760	3,683	228	3,702	247	7,860
271	Mohalchhari UHC	15,452	3,776	8,494	3,275	30,997	110	8	126	15	259
272	Mohammadpur UHC, Magura	36,941	7,114	24,188	5,276	73,519	2,308	806	2,019	755	5,888
273	Mohanganj UHC	18,650	3,110	19,703	3,891	45,354	2,254	318	2,774	437	5,783
274	Mohanpur UHC	37,808	5,702	17,769	5,517	66,796	1,897	198	2,564	254	4,913
275	Moheshkhali UHC	25,765	5,908	12,465	4,709	48,847	839	514	846	508	2,707
276	Moheshpur UHC	32,092	3,944	23,251	4,303	63,590	3,565	367	3,270	512	7,714
277	Mollahat UHC	29,435	5,164	13,030	5,765	53,394	2,618	529	2,522	435	6,104
278	Mongla UHC	22,439	3,016	10,972	2,676	39,103	3,369	235	2,586	298	6,488
279	Monirampur UHC	22,547	7,951	7,966	5,355	43,819	1,398	287	1,966	326	3,977
280	Monohardi UHC	32,723	5,534	14,016	6,240	58,513	1,866	165	3,097	232	5,360
281	Monoharganj UHC	5,912	1,927	5,132	1,435	14,406	0	0	0	0	0
282	Morrelganj UHC	17,038	5,808	6,626	5,840	35,312	1,635	153	1,361	173	3,322
283	Mujibnagar UHC	50,292	4,046	30,072	4,373	88,783	2,068	222	2,526	243	5,059
284	Mukshedpur UHC	39,106	12,542	28,869	13,210	93,727	3,275	817	4,032	904	9,028
285	Muktagacha UHC	65,845	2,393	46,931	2,605	117,774	4,892	929	5,562	1,154	12,537
286	Muladi UHC	6,880	3,213	4,855	3,165	18,113	1,074	167	1,344	309	2,894
287	Muradnagar UHC	35,683	6,386	19,439	5,856	67,364	3,796	1,038	5,336	1,219	11,389

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288	Nabiganj UHC	8,105	3,122	6,105	2,224	19,556	2,214	432	7,479	610	10,735
289	Nabinagar UHC	5,252	26,212	2,537	20,154	54,155	526	2,710	256	1,755	5,247
290	Nachol UHC	3,983	18,029	3,356	23,560	48,928	214	1,087	210	1,320	2,831
291	Nagarkanda UHC	14,221	1,449	12,805	1,401	29,876	1,420	1,257	2,259	1,125	6,061
292	Nagarpur UHC	16,801	7,285	10,540	5,285	39,911	1,273	223	487	115	2,098
293	Nageswari UHC	50,779	3,621	45,472	3,263	103,135	3,993	442	5,121	528	10,084
294	Naikhongchhari UHC	19,810	10,003	7,623	5,689	43,125	238	101	511	68	918
295	Nakhla UHC	25,211	3,230	25,614	7,927	61,982	4,299	1,236	4,511	1,354	11,400
296	Nalchithi UHC	18,174	8,205	15,885	5,275	47,539	4,744	428	6,703	350	12,225
297	Nalitabari UHC	46,966	2,096	31,002	2,191	82,255	2,496	251	3,182	289	6,218
298	Nandail UHC	23,066	4,754	1,790	6,062	35,672	4,610	936	4,532	1,098	11,176
299	Nandigram UHC	29,224	4,354	21,716	3,771	59,065	2,527	377	2,115	341	5,360
300	Nangolkot UHC	35,252	7,989	34,711	4,363	82,315	475	137	750	152	1,514
301	Naniarchar UHC	6,736	1,726	3,005	1,279	12,746	233	109	137	102	581
302	Naria UHC	19,391	4,964	12,410	3,576	40,341	1,075	1,036	4,312	1,183	7,606
303	Nasirnagar UHC	24,632	5,074	19,706	4,550	53,962	2,635	1,518	2,298	1,282	7,733
304	Nawabganj UHC, Dhaka	52,134	12,929	36,726	10,954	112,743	596	335	1,248	610	2,789
305	Nawabganj UHC, Dinajpur	32,896	11,110	27,189	8,649	79,844	1,763	298	2,201	412	4,674
306	Nazirpur UHC	15,272	1,606	9,022	2,041	27,941	454	60	534	28	1,076
307	Nesarabad UHC	23,827	2,878	14,025	2,919	43,649	5,125	748	3,310	1,127	10,310
308	Niamatpur UHC	17,093	2,639	25,904	2,630	48,266	317	28	641	20	1,006
309	Nikli UHC	44,984	4,092	36,724	5,264	91,064	2,333	1,347	1,996	1,009	6,685
310	Paba UHC	65,499	5,679	49,876	4,321	125,375	721	147	948	103	1,919
311	Paikgacha UHC	12,010	4,001	8,805	3,010	27,826	211	28	377	33	649
312	Pakundia UHC	33,366	5,119	19,856	7,533	65,874	1,109	1,047	2,924	1,109	6,189
313	Palash UHC	31,670	5,336	12,805	5,074	54,885	1,608	430	1,508	581	4,127
314	Palashbari UHC	34,327	2,582	23,278	2,833	63,020	2,960	162	2,631	261	6,014
315	Panchhari UHC	18,708	3,214	8,538	3,307	33,767	879	257	893	234	2,263
316	Panchbibi UHC	21,755	2,463	13,077	2,460	39,755	378	72	1,029	76	1,555
317	Pangsha UHC	17,840	3,819	13,334	4,522	39,515	446	51	875	68	1,440
318	Parbatipur UHC	14,199	3,007	13,455	3,359	34,020	3,970	558	3,978	464	8,970
319	Parsuram UHC	22,046	7,269	16,644	6,112	52,071	343	22	1,006	59	1,430
320	Patgram UHC	15,297	4,098	14,850	3,312	37,557	4,766	1,083	4,850	977	11,676

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
321	Pathargatha UHC	11,159	1,727	8,051	2,043	22,980	395	162	936	190	1,683
322	Patiya UHC	21,528	7,150	20,215	7,753	56,646	10,893	3,122	14,141	3,520	31,676
323	Patnitala UHC	21,527	2,400	12,630	2,412	38,969	278	25	715	25	1,043
324	Pekua UHC	26,480	5,296	10,542	10,642	52,960	1,088	376	1,495	408	3,367
325	Pirgacha UHC	19,623	3,624	16,676	3,576	43,499	1,391	616	1,189	614	3,810
326	Pirganj UHC, Rangpur	48,052	27,721	32,354	21,321	129,448	10,225	5,422	6,996	5,040	27,683
327	Pirganj UHC, Thakurgaon	37,289	2,227	19,088	1,664	60,268	605	123	729	119	1,576
328	Porsha UHC	19,886	10,784	12,570	8,494	51,734	3,843	373	3,771	221	8,208
329	Purbadhala UHC	9,135	2,539	5,945	2,486	20,105	4,392	1,087	4,152	1,047	10,678
330	Puthia UHC	24,994	43,290	20,098	29,991	118,373	603	2,455	301	3,345	6,704
331	Raiganj UHC	28,597	1,737	23,303	1,589	55,226	1,382	327	1,343	287	3,339
332	Raipur UHC	48,790	11,946	2,739	8,043	71,518	886	63	1,600	84	2,633
333	Raipura UHC	13,345	817	14,876	8,024	37,062	4,007	530	3,687	458	8,682
334	Rajapur UHC	17,530	7,855	11,515	6,201	43,101	2,966	422	3,162	621	7,171
335	Rajarhat UHC	12,719	1,361	13,762	1,543	29,385	2,321	279	1,440	208	4,248
336	Rajibpur UHC	2,367	36,478	4,320	37,359	80,524	1,345	2,387	1,559	2,734	8,025
337	Rajnagar UHC	421,000	13,109	239,080	11,339	684,528	2,687	902	2,638	757	6,984
338	Rajoir UHC	24,980	5,585	17,394	6,657	54,616	4,426	1,109	4,112	988	10,635
339	Rajsthali UHC	6,078	916	6,032	1,114	14,140	237	34	394	60	725
340	Ramganj UHC	36,050	2,767	20,705	2,812	62,334	3,004	313	2,635	436	6,388
341	Ramgarh UHC	23,241	4,013	12,592	4,654	44,500	958	170	1,039	243	2,410
342	Ramgati UHC	28,035	3,664	19,909	3,793	55,401	1,544	789	1,518	1,280	5,131
343	Rampal UHC	6,839	10,167	4,212	5,475	26,693	532	3,371	319	2,384	6,606
344	Ramu UHC	26,824	14,191	15,607	9,048	65,670	4,576	717	3,773	1,187	10,253
345	Rangunia UHC	14,326	15,654	19,930	13,580	63,490	4,920	3,521	3,560	4,215	16,216
346	Raninagar UHC	24,177	8,762	15,728	11,893	60,560	4,938	629	3,045	504	9,116
347	Ranisankhail UHC	11,978	2,010	10,482	1,632	26,102	2,908	250	2,406	402	5,966
348	Roujan UHC	2,738	42,356	2,569	40,126	87,789	762	3,846	698	6,958	12,264
349	Rowangchhari UHC	4,468	590	5,217	724	10,999	86	13	229	10	338
350	Rowmari UHC	27,005	4,022	27,924	3,217	62,168	687	31	755	21	1,494
351	Ruma UHC	7,129	413	7,829	548	15,919	251	52	323	47	673
352	Rupganj UHC	18,370	5,905	18,370	5,100	47,745	2,010	101	2,820	89	5,020
353	Rupsha UHC	24,604	2,228	18,811	2,628	48,271	1,002	52	1,849	108	3,011

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
354	Sadarpur UHC	11,250	4,046	3,756	4,020	23,072	2,322	450	2,302	420	5,494
355	Sadullapur UHC	31,520	7,848	23,760	5,230	68,358	755	280	629	237	1,901
356	Saharasthi UHC	24,563	3,202	12,047	3,744	43,556	4,918	608	4,776	7,720	18,022
357	Sailkupa UHC	18,167	9,167	18,165	9,000	54,499	1,300	1,876	2,000	1,475	6,651
358	Sakhipur UHC	26,850	6,334	15,243	7,429	55,856	5,224	786	3,916	830	10,756
359	Sandwip UHC	8,965	20,368	8,322	17,425	55,080	596	1,969	572	3,024	6,161
360	Santhia UHC	75,290	6,556	24,996	8,924	115,766	5,511	474	6,222	663	12,870
361	Sapahar UHC	16,938	3,788	12,657	3,102	36,485	2,883	662	3,460	771	7,776
362	Sarail UHC	22,282	9,111	19,639	6,840	57,872	5,281	1,686	4,120	1,466	12,553
363	Sarankhola UHC	9,350	1,865	8,192	1,674	21,081	6,609	257	3,219	223	10,308
364	Sariakandi UHC	32,048	4,992	22,770	3,713	63,523	2,084	475	2,437	512	5,508
365	Sarishabari UHC	19,103	3,092	11,856	3,746	37,797	2,596	489	4,367	731	8,183
366	Sarsa UHC	39,879	9,828	13,488	8,025	71,220	2,711	366	4,495	504	8,076
367	Satkania UHC	15,007	6,010	12,056	5,520	38,593	4,044	476	3,015	410	7,945
368	Saturia UHC	35,194	6,658	20,069	4,252	66,173	1,888	293	2,987	348	5,516
369	Savar UHC	59,730	10,407	42,303	11,275	123,715	2,887	327	4,587	510	8,311
370	Senbag UHC	12,941	4,961	15,802	7,512	41,216	1,490	1,290	1,720	1,580	6,080
371	Serajdikhan UHC	61,163	3,056	28,098	2,998	95,315	5,075	1,806	4,891	1,707	13,479
372	Shaghata UHC	39,262	4,750	31,902	4,300	80,214	1,610	310	2,200	390	4,510
373	Shahzadpur UHC	74,982	3,537	26,891	4,513	109,923	2,939	288	1,825	272	5,324
374	Shailkupa UHC	18,167	9,167	18,165	9,000	54,499	1,300	1,876	2,000	1,475	6,651
375	Shajahanpur UHC	37,803	2,437	12,447	2,057	54,744	1,320	179	1,078	132	2,709
376	Shalikha UHC	20,190	2,901	13,250	2,717	39,058	2,436	340	1,828	328	4,932
377	Sherpur UHC, Bogra	55,635	9,296	50,848	7,297	123,076	6,873	1,513	7,886	1,884	18,156
378	Shibalaya UHC	32,921	4,647	16,007	3,573	57,148	3,363	236	2,969	326	6,894
379	Shibchar UHC	8,010	23,461	5,608	16,305	53,384	647	1,110	1,671	3,249	6,677
380	Shibganj UHC, Bogra	29,895	5,093	13,962	4,356	53,306	2,659	485	2,196	427	5,767
381	Shibganj UHC, Chapainowabganj	25,856	11,316	19,648	10,173	66,993	1,165	235	1,931	315	3,646
382	Shibpur UHC	28,124	2,052	11,232	2,780	44,188	3,682	420	4,877	706	9,685
383	Shyamnagar UHC	15,857	9,570	13,225	8,173	46,825	4,667	2,285	4,314	2,300	13,566
384	Singair UHC	25,726	7,825	21,047	12,219	66,817	1,409	491	4,016	261	6,177
385	Singra UHC	41,849	3,006	37,587	3,199	85,641	6,801	1,671	6,539	1,487	16,498
386	Sitakunda UHC	38,457	15,847	29,358	14,582	98,244	6,324	1,125	5,635	1,095	14,179
387	Sonagazi UHC	28,768	11,337	24,580	11,148	75,833	1,374	418	2,918	401	5,111

Sl.	Name	OPD visits					Emergency visits				
		>5 years	<5 years	>5 years	<5 years	Total	>5 years	<5 years	>5 years	<5 years	Total
		Female		Male			Female		Male		
388	Sonaimuri UHC	30,793	2,892	15,678	2,750	52,113	2,977	865	2,123	903	6,868
389	Sonargaon UHC	78,312	9,856	25,341	10,230	123,739	2,039	784	2,217	965	6,005
390	Sonatala UHC	15,265	10,352	10,428	7,112	43,157	2,338	862	2,151	494	5,845
391	Sreemangal UHC	38,640	3,626	26,559	3,618	72,443	8,072	1,240	12,821	1,120	23,253
392	Sreenagar UHC	27,811	10,509	15,305	10,001	63,626	4,181	1,024	4,882	1,701	11,788
393	Sreepur UHC, Gazipur	43,696	9,428	24,641	9,921	87,686	3,842	390	4,638	540	9,410
394	Sreepur UHC, Magura	20,146	2,658	14,258	2,638	39,700	863	217	980	229	2,289
395	Sribordi UHC	48,441	8,271	33,597	8,521	98,830	3,082	899	3,041	981	8,003
396	Subarnachar UHC	4,244	8,704	2,830	5,962	21,740	405	1,477	417	1,220	3,519
397	Sujanagar UHC	7,963	13,875	7,402	11,960	41,200	1,922	4,366	2,013	4,472	12,773
398	Sulla UHC	7,466	1,713	7,914	1,667	18,760	72	53	102	37	264
399	Sundarganj UHC	23,935	249	20,512	257	44,953	1,871	432	2,108	384	4,795
400	Taherpur UHC	52,578	14,008	34,543	13,208	114,337	3,112	98	3,008	120	6,338
401	Tajumuddin UHC	31,981	10,045	33,141	10,422	85,589	876	83	1,077	92	2,128
402	Tala UHC	16,394	2,341	16,210	2,315	37,260	2,323	331	2,209	315	5,178
403	Tanore UHC	43,278	11,439	27,353	7,314	89,384	1,326	214	678	167	2,385
404	Taraganj UHC	36,557	1,121	23,946	1,333	62,957	1,362	537	1,732	423	4,054
405	Tarail UHC	39,428	5,460	37,898	6,365	89,151	1,642	195	1,901	201	3,939
406	Tarash UHC	33,996	9,960	25,674	7,140	76,770	544	231	567	156	1,498
407	Teknaf UHC	29,278	6,901	14,488	7,476	58,143	4,871	1,534	4,674	2,203	13,282
408	Terakhada UHC	31,512	3,228	26,939	3,009	64,688	516	200	577	250	1,543
409	Tetulia UHC	17,921	7,068	19,007	6,108	50,104	1,967	134	3,234	221	5,556
410	Thanchi UHC	3,456	543	2,784	387	7,170	44	6	92	9	151
411	Titas UHC	2,658	22,524	3,254	18,452	46,888	1,416	2,876	1,984	1,698	7,974
412	Trisal UHC	42,875	8,872	31,145	7,225	90,117	9,738	832	10,345	895	21,810
413	Tungibari UHC	49,063	12,617	26,279	11,764	99,723	1,402	781	1,672	675	4,530
414	Tungipara UHC	25,332	4,856	21,031	3,562	54,781	2,568	985	2,015	896	6,464
415	Ukhyia UHC	55,452	14,047	38,440	11,212	119,151	6,014	2,024	4,963	2,637	15,638
416	Ullapara UHC	35,511	5,094	22,617	5,003	68,225	1,207	380	1,476	421	3,484
417	Ullipur UHC	8,995	24,978	7,687	23,780	65,440	7,890	530	6,560	450	15,430
418	Wazirpur UHC	10,681	2,402	6,431	3,115	22,629	1,809	203	1,841	234	4,087
419	Zakiganj UHC	18,294	13,652	11,823	13,396	57,165	6,559	2,029	7,309	1,988	17,885
420	Zanjira UHC	41,503	8,301	19,641	7,436	76,881	3,570	1,516	1,761	835	7,682
421	Zianagar UHC	7,812	737	5,737	687	14,973	293	51	231	67	642

2. Total bed, average length of stay (ALS), and bed-occupancy ratio (BOR) in hospitals under DGHS in 2015

A. Tertiary hospitals

Type	Name of facility	Total bed	ALS (Day)	BOR (%)
Hospitals of alternative medical colleges	Govt. Homeopathic Medical College Hospital, Dhaka	100	20.4	34.5
	Govt. Unani & Ayurvedic Medical College Hospital, Dhaka	100	18.4	44.4
Medical college hospitals	Chittagong Medical College Hospital, Chittagong	1,313	5.0	168.0
	Comilla Medical College Hospital, Comilla	500	2.9	149.0
	Dhaka Medical College Hospital, Dhaka	2,600	8.4	131.4
	Dinajpur Medical College Hospital, Dinajpur	500	4.6	102.7
	Faridpur Medical College Hospital, Faridpur	500	4.6	103.3
	Khulna Medical College Hospital, Khulna	500	4.4	129.3
	Mymensingh Medical College Hospital, Mymensingh	1,000	4.9	199.6
	Rajshahi Medical College Hospital, Rajshahi	1,200	4.0	137.5
	Rangpur Medical College Hospital, Rangpur	1,000	6.0	172.3
	Shaheed Suhrawardy Medical College Hospital, Dhaka	850	4.8	118.3
	Shahid Ziaur Rahman Medical College Hospital, Bogra	500	4.9	162.7
	Sher-e-Bangla Medical College Hospital, Barisal	1,000	5.7	144.5
	Sir Salimullah Medical College (Mitford) Hospital, Dhaka	600	4.9	131.6
	Sylhet MAG Osmani Medical College Hospital	900	4.6	190.2
Other tertiary hospitals	Bangladesh Institute of Tropical and Infectious Disease, Foujdarhat, Chittagong	120	2.2	29.6
	Dhaka Dental College Hospital, Dhaka	200	29.8	76.3
	Pabna Mental Hospital, Pabna	500	97.2	83.6
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	250	49.6	151.0
Specialty institute hospitals	Institute of Child and Mother Health, Matuail, Dhaka	-	-	-
	National Center For Control Of Rheumatic Fever & Heart Disease	100	-	-
	National Institute of Cancer Research and Hospital (NICR&H), Mohakhali, Dhaka	200	4.9	96.9
	National Institute of Cardiovascular Disease (NICVD), Sher-e-Bangla Nagar, Dhaka	300	11.1	74.1
	National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka	414	4.0	166.2
	National Institute of ENT, Dhaka	600	16.5	103.8
	National Institute of Kidney Disease and Urology (NIKDU), Sher-e-Bangla Nagar, Dhaka	150	8.6	90.7
	National Institute of Mental Health & Research (NIMHR), Sher-e-Bangla Nagar, Dhaka	200	19.6	82.9
	National Institute of Neurosciences and Hospital (NINH) , Dhaka	300	15.0	100.0
	National Institute of Ophthalmology (NIO), Sher-e-Bangla Nagar, Dhaka	250	5.5	88.9
	National Institute of Traumatology and Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka	500	9.5	96.9
TB hospitals	TB Hospital, Khulna	100	1.0	1.0
	TB Hospital, Rajshahi	150	57.0	40.6

B. Secondary (district-level) hospitals

Division	District	Name of facility	Total bed	ALS (Day)	BOR (%)
Barisal	Barguna	Barguna District Hospital	100	2.9	115.4
	Barisal	Barisal General Hospital	100	4.6	99.0
	Bhola	Bhola District Hospital	100	1.9	145.1
	Jhalokathi	Jhalokathi District Hospital	100	3.1	124.4
	Patuakhali	Patuakhali 250-bed Sadar Hospital	250	3.8	139.5
	Pirojpur	Pirojpur District Hospital	100	2.4	101.7
Chittagong	Bandarban	Bandarban District Hospital	100	3.2	59.8
	Brahmanbaria	Brahmanbaria 250-bed District Sadar Hospital	250	3.1	90.5
	Chandpur	Chandpur 250-bed General Hospital	250	2.9	103.5
	Chittagong	Chittagong General Hospital	250	5.4	70.0
	Comilla	Comilla General Hospital	100	3.7	80.6
	Cox's Bazar	Cox's Bazar 250-bed District Sadar Hospital	250	2.8	153.4
	Feni	Feni 250-bed District Sadar Hospital	250	1.7	58.0
	Khagrachhari	Khagrachhari District Hospital	100	2.8	89.3
	Lakshmipur	Lakshmipur District Hospital	100	3.6	173.4
	Noakhali	Noakhali 250-bed General Hospital	250	3.4	174.3
	Rangamati	Rangamati General Hospital	100	2.8	82.0
Dhaka	Dhaka	Kurmitola 500-bed General Hospital	500	3.4	48.6
		Mugda 500-bed Hospital	500	_	_
	Faridpur	Faridpur General Hospital	100	2.7	145.1
	Gazipur	Gazipur District Hospital	100	2.0	100.0
	Gopalganj	Gopalganj 250-bedded District Sadar Hospital	250	3.2	99.0
	Kishoreganj	Kishoreganj 250-bed District Sadar Hospital	250	2.4	157.7
	Madaripur	Madaripur District Hospital	100	2.5	145.1
	Manikganj	Manikganj District Hospital	100	2.5	157.8
	Munshiganj	Munshiganj District Hospital	100	2.6	111.0
	Narayanganj	Narayanganj 300-bedded Hospital	300	10.5	80.5
		Narayanganj General Hospital	100	2.5	121.3
	Narsingdi	Narsingdi 100-bed Zilla Hospital	100	4.9	145.1
		Sadar Hospital Narsingdi	100	3.1	73.5
	Rajbari	Rajbari District Hospital	100	2.4	131.5
	Shariatpur	Shariatpur District Hospital	100	1.0	116.4
	Tangail	Tangail 250-bed District Hospital	250	2.4	169.6

Division	District	Name of facility	Total bed	ALS (Day)	BOR (%)
Khulna	Bagerhat	Bagerhat District Hospital	100	3.2	138.0
	Chuadanga	Chuadanga District Hospital	100	7.2	593.2
	Jessore	Jessore 250-bed General Hospital	278	2.7	155.6
	Jhenaidah	Jhenaidah District Hospital	100	2.4	192.8
	Khulna	Khulna General Hospital	150	6.1	96.7
	Kushtia	Kushtia 250-bed General Hospital	250	3.0	181.8
	Magura	Magura District Hospital	100	3.3	264.9
	Meherpur	Meherpur District Hospital	100	2.4	184.3
	Narail	Narail District Hospital	100	2.9	154.9
	Satkhira	Satkhira District Hospital	100	3.4	220.3
Mymensingh	Jamalpur	Jamalpur 250-bed General Hospital	250	2.7	138.4
	Netrakona	Netrakona District Hospital	100	2.2	171.5
	Sherpur	Sherpur 100-bed District Sadar Hospital	100	2.7	214.5
Rajshahi	Bogra	Bogra 250-bed Mohammad Ali District Hospital	250	4.1	82.2
	Chapainowabganj	Chapainowabganj District Hospital	100	2.6	185.4
	Joypurhat	Joypurhat District Hospital	150	2.7	127.9
	Naogaon	Naogaon District Hospital	100	2.3	146.3
	Natore	Natore District Hospital	100	2.1	154.7
	Pabna	Pabna 250-bed General Hospital	250	2.2	176.6
	Sirajganj	Sirajganj General Hospital	250	1.0	93.7
Rangpur	Dinajpur	Dinajpur General Hospital	250	2.4	64.0
	Gaibandha	Gaibandha District Hospital	100	2.3	141.6
	Kurigram	Kurigram District Hospital	100	2.7	185.8
	Lalmonirhat	Lalmonirhat District Hospital	100	3.3	94.0
	Nilphamari	Nilphamari District Hospital	100	3.0	169.1
		Saidpur 100-bed Hospital	100	2.9	101.7
	Panchagarh	Panchagarh 100-bed District Sadar Hospital	100	2.8	144.5
	Thakurgaon	Thakurgaon District Hospital	100	2.7	278.3
Sylhet	Habiganj	Habiganj District Hospital	100	2.0	219.0
	Maulvibazar	Maulvibazar 250-bed District Sadar Hospital	250	2.3	98.0
	Sunamganj	Sunamganj 250-bed District Sadar Hospital	250	3.0	75.0
	Sylhet	Shahid Shamsuddin District Hospital	100	-	-

C. Upazila health complex

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Barisal	Barguna	Amtali Upazila Health Complex	50	2.4	66.8
		Bamna Upazila Health Complex	31	3.9	68.1
		Betagi Upazila Health Complex	50	2.43	80.47
		Pathargatha Upazila Health Complex	50	2.3	58.2
		Agailjhara Upazila Health Complex	50	3	60.8
		Babuganj Upazila Health Complex	31	5.4	57.4
		Bakerganj Upazila Health Complex	31	2.5	103.2
		Banaripara Upazila Health Complex	50	2.3	63.5
		Gournadi Upazila Health Complex	50	2.7	81.3
		Hijla Upazila Health Complex	31	3.5	70.5
		Mehendiganj Upazila Health Complex	31	2.3	103.2
		Muladi Upazila Health Complex	50	4	77.1
		Wazirpur Upazila Health Complex	50	4.1	90.1
	Bhola	Borhanuddin Upazila Health Complex	50	1.8	92.6
		Char Fasson Upazila Health Complex	50	2	146
		Daulatkhan Upazila Health Complex	50	2.2	56.1
		Lalmohan Upazila Health Complex	50	2.1	105.7
		Manpura Upazila Health Complex	31	3.3	74.1
		Tajumuddin Upazila Health Complex	31	4	101.3
	Jhalokathi	Kathalia Upazila Health Complex	31	5.3	116.8
		Nalchithi Upazila Health Complex	50	2.8	55.7
		Rajapur Upazila Health Complex	50	3.3	75.6
	Patuakhali	Bauphal Upazila Health Complex	50	4	95.6
		Dashmina Upazila Health Complex	31	2.4	114.1
		Dumki Upazila Health Complex	31	3.2	65.9
		Galachipa Upazila Health Complex	50	3.1	115.4
		Kalapara Upazila Health Complex	50	2.5	120.8
		Mirzaganj Upazila Health Complex	50	3.4	64.2
	Pirojpur	Bhandaria Upazila Health Complex	31	2.5	101.4
		Kawkhali Upazila Health Complex	31	3.5	57.4
		Mathbaria Upazila Health Complex	50	2.4	103.7
		Nazirpur Upazila Health Complex	50	4.1	57.4
		Nesarabad Upazila Health Complex	50	1.9	84.2
		Zianagar Upazila Health Complex	31	0	0
Chittagong	Bandarban	Alikadam Upazila Health Complex	31	1.9	64
		Lama Upazila Health Complex	31	2.7	100.3
		Naikhongchhari Upazila Health Complex	31	1	47.4
		Rowangchhari Upazila Health Complex	10	2.8	58.2
		Ruma Upazila Health Complex	10	2	65
		Thanchi Upazila Health Complex	31	2	77.5
	Brahman-baria	Akhaura Upazila Health Complex	31	1.9	79
		Ashuganj Upazila Health Complex	0	0	0
		Bancharampur Upazila Health Complex	31	2.2	67.7
		Kashba Upazila Health Complex	31	1.5	56.1
		Nabinagar Upazila Health Complex	31	1	84
		Nasirnagar Upazila Health Complex	50	2.6	89.1
		Sarail Upazila Health Complex	50	1.9	59.5

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Chittagong	Chandpur	Faridganj Upazila Health Complex	31	2.2	69.9
		Haimchar Upazila Health Complex	31	2.7	92.4
		Haziganj Upazila Health Complex	50	2.6	59.7
		Kachua Upazila Health Complex	50	2.1	61.2
		Matlab(daxin) Upazila Health Complex	50	2.4	82.8
		Matlab(uttar) Upazila Health Complex	31	3.5	82.9
		Saharasthi Upazila Health Complex	50	2.5	80
	Chittagong	Anwara Upazila Health Complex	50	1.7	94.2
		Banshkhali Upazila Health Complex	50	2	93.9
		Boalkhali Upazila Health Complex	50	1.9	62.3
		Chandanaish Upazila Health Complex	50	1.5	54.3
		Fatikchhari Upazila Health Complex	50	1.5	73.4
		Hathazari Upazila Health Complex	50	2	86.4
		Lohagara Upazila Health Complex	50	2.2	80.8
		Mirarsarai Upazila Health Complex	50	1.8	68.3
		Patiya Upazila Health Complex	50	1.8	100.9
		Rangunia Upazila Health Complex	50	1.9	72.7
		Roujan Upazila Health Complex	50	1	73.9
		Sandwip Upazila Health Complex	31	2	80.3
		Satkania Upazila Health Complex	31	2.6	99
		Sitakunda Upazila Health Complex	50	1.6	89.4
	Comilla	Barura Upazila Health Complex	31	2.7	88.9
		Brahmmanpara Upazila Health Complex	31	2.8	70
		Burichong Upazila Health Complex	31	1.9	80.7
		Chauddagram Upazila Health Complex	50	1.6	81.6
		Chandina Upazila Health Complex	31	1.6	123.9
		Comilla Sadar Daxin Upazila Health Complex	31	0	0
		Daudkandi Upazila Health Complex	31	1	59.7
		Debidwar Upazila Health Complex	50	1	85.4
		Homna Upazila Health Complex	50	1.7	65.4
		Laksham Upazila Health Complex	50	1.8	54.5
		Meghna Upazila Health Complex	31	6.4	34.9
		Monoharganj Upazila Health Complex	31	0	0
		Muradnagar Upazila Health Complex	50	2.3	87.2
		Nangolkot Upazila Health Complex	50	2.2	68.6
		Titas Upazila Health Complex	31	1.3	56.7
	Feni	Chhagalnaya Upazila Health Complex	50	3	93.6
		Daganbhuiya Upazila Health Complex	31	2.1	94.3
		Fulgazi Upazila Health Complex	31	1.9	76.1
		Parsuram Upazila Health Complex	50	2.2	76.1
		Sonagazi Upazila Health Complex	31	2.2	155.3
	Khagrach-hari	Dighinala Upazila Health Complex	10	1	150.1
		Lakshmichhari Upazila Health Complex	31	2.8	24.6
		Manikchhari Upazila Health Complex	10	2.5	206.7
		Matiranga Upazila Health Complex	31	4.6	69.7
		Mohalchhari Upazila Health Complex	31	2.1	31
		Panchhari Upazila Health Complex	10	1.8	91.5
		Ramgarh Upazila Health Complex	31	2.2	52.4

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Chittagong	Lakshmipur	Kamolnagar Upazila Health Complex	31	2	175.2
		Raipur Upazila Health Complex	50	2.8	87.1
		Ramganj Upazila Health Complex	31	2.2	97
		Ramgati Upazila Health Complex	31	2.2	83.8
	Noakhali	Begumganj Upazila Health Complex	31	4	72.8
		Chatkhil Upazila Health Complex	50	2.3	89.5
		Companiganj Upazila Health Complex	50	3	110.3
		Hatiya Upazila Health Complex	50	2.2	77.7
		Kabirhat Upazila Health Complex	50	0	0
		Senbag Upazila Health Complex	50	2.3	78.8
		Sonaimuri Upazila Health Complex	31	2.4	99.7
		Subarnachar Upazila Health Complex	31	2.6	103.1
	Rangamati	Baghaichhari Upazila Health Complex	31	2.1	32.9
		Barkol Upazila Health Complex	10	6.6	75.7
		Belaichhari Upazila Health Complex	10	1.8	19.7
		Juraichhari Upazila Health Complex	10	3.9	38.7
		Kaptai Upazila Health Complex	31	3.2	62.4
		Kawkhali Upazila Health Complex	10	2.9	80.9
		Langadu Upazila Health Complex	31	3.1	53.8
		Naniarchar Upazila Health Complex	10	3	54.1
		Rajsthali Upazila Health Complex	10	2.8	51.3
	Cox's Bazar	Chakaria Upazila Health Complex	50	1.6	141.7
		Kutubdia Upazila Health Complex	50	1	36.5
		Moheshkhali Upazila Health Complex	50	1	77.7
		Pekua Upazila Health Complex	31	1	49.4
		Ramu Upazila Health Complex	31	2	119.7
		Teknaf Upazila Health Complex	50	1.2	47.6
		Ukhyia Upazila Health Complex	50	1.5	66.6
Dhaka	Dhaka	Dhamrai Upazila Health Complex	50	2.4	85.4
		Dohar Upazila Health Complex	50	2	75
		Keraniganj Upazila Health Complex	31	3.6	93.1
		Nawabganj Upazila Health Complex	50	2.6	98.3
		Savar Upazila Health Complex	50	3.9	92.7
	Faridpur	Alfadanga Upazila Health Complex	50	2.3	64.5
		Bhanga Upazila Health Complex	50	2.4	82.2
		Boalmari Upazila Health Complex	50	1.8	83.4
		Charbhadrason Upazila Health Complex	31	2.9	57.2
		Modhukhali Upazila Health Complex	31	0	0
		Nagarkanda Upazila Health Complex	50	2.8	86.4
		Sadarpur Upazila Health Complex	50	2.6	51.5
	Gazipur	Kaliakair Upazila Health Complex	31	2.4	122.1
		Kaliganj Upazila Health Complex	50	2.3	77.3
		Kapasia Upazila Health Complex	50	2.5	82.3
		Sreepur Upazila Health Complex	50	1.9	65.8
	Gopalganj	Kashiani Upazila Health Complex	31	2.1	77.5
		Kotwalipara Upazila Health Complex	50	2.1	79.7
		Mukshedpur Upazila Health Complex	31	2.4	173.5
		Tungipara Upazila Health Complex	50	3.5	103.7

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Dhaka	Kishorganj	Austagram Upazila Health Complex	50	2.4	34.5
		Bajitpur Upazila Health Complex	31	2.5	95.2
		Bhairab Upazila Health Complex	50	2.3	86.9
		Hossainpur Upazila Health Complex	50	1.8	85
		Itna Upazila Health Complex	31	2.7	58.4
		Karimganj Upazila Health Complex	50	1.8	67.4
		Katiadi Upazila Health Complex	50	1.9	91.9
		Kuliarchar Upazila Health Complex	31	2.3	64.8
		Mithamoin Upazila Health Complex	31	2.6	46.7
		Nikli Upazila Health Complex	31	2.1	67.7
		Pakundia Upazila Health Complex	50	3.1	57.1
		Tarail Upazila Health Complex	50	2.7	82.6
	Madaripur	Kalkini Upazila Health Complex	50	2.8	61.8
		Shibchar Upazila Health Complex	50	3	83
		Upazila Health Complex, Rajoir, Madaripur.	50	2.2	91.2
	Manikganj	Daulatpur Upazila Health Complex	31	1.6	65.9
		Ghior Upazila Health Complex	31	3.1	77.8
		Harirampur Upazila Health Complex	31	1.8	43.3
		Saturia Upazila Health Complex	50	2.6	70
		Shibalaya Upazila Health Complex	31	1.8	92
		Singair Upazila Health Complex	50	1.1	39.3
	Munshiganj	Gazaria Upazila Health Complex	50	2.2	70
		Louhajang Upazila Health Complex	50	3.1	63.6
		Serajdikhan Upazila Health Complex	50	3.4	71.3
		Sreenagar Upazila Health Complex	50	2.2	50.2
		Tungibari Upazila Health Complex	50	3.4	75.6
	Narayanganj	Araihazar Upazila Health Complex	31	2.7	66.9
		Bandar Upazila Health Complex	31	8.2	62
		Rupganj Upazila Health Complex	50	4.8	65.4
		Sonargaon Upazila Health Complex	31	2.4	77.4
	Narsingdi	Belabo Upazila Health Complex	31	2.6	88.5
		Monohardi Upazila Health Complex	50	3.1	84.2
		Palash Upazila Health Complex	31	2.6	57.9
		Raipura Upazila Health Complex	31	1.8	64.4
		Shibpur Upazila Health Complex	31	2.8	59.6
	Rajbari	Baliakandi Upazila Health Complex	31	2.7	97.3
		Goalanda Upazila Health Complex	50	2.1	85.6
		Kalukhali Upazila Health Complex	0	0	0
		Pangsha Upazila Health Complex	50	2.8	100.7
	Shariatpur	Bhedarganj Upazila Health Complex	31	1.8	86.7
		Damudya Upazila Health Complex	31	2.1	85.6
		Goshairhat Upazila Health Complex	31	2.2	80.1
		Naria Upazila Health Complex	31	2.6	87.5
		Zanjira Upazila Health Complex, Shariatpur	31	2	94.9

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Dhaka	Tangail	Basail Upazila Health Complex,Tangail.	31	2.6	59
		Bhuapur Upazila Health Complex	50	2.4	88.8
		Delduar Upazila Health Complex	31	1	59.3
		Dhanbari Upazila Health Complex	0	0	0
		Ghatail Upazila Health Complex	50	2.3	77
		Gopalpur Upazila Health Complex	50	2.1	46.2
		Kalihati Upazila Health Complex	50	2.8	84.1
		Mirzapur Upazila Health Complex	31	3.5	71.4
		Madhupur Upazila Health Complex	50	2.1	99.4
		Nagarpur Upazila Health Complex	50	2.6	78.3
		Sakhipur Upazila Health Complex	50	2.3	115.6
Khulna	Bagerhat	Chitalmari Upazila Health Complex	31	2.5	86.6
		Fakirhat Upazila Health Complex	31	2.2	188.5
		Kachua Upazila Health Complex	50	4.6	93.9
		Mollahat Upazila Health Complex	31	2.3	100.5
		Morrelganj Upazila Health Complex	31	3.6	117.5
		Sarankhola Upazila Health Complex	31	2.6	110.9
		Upazila Health Complex, Rampal, Bagerhat	50	3.6	101.4
		Mongla Upazila Health Complex	50	3.1	91.4
	Chuadanga	Alamdanga Upazila Health Complex	31	2.6	161.7
		Damurhuda Upazila Health Complex	31	1.9	72.7
		Jibannagar Upazila Health Complex	31	1.6	123.1
	Jessore	Abhoynagar Upazila Health Complex	50	2.1	104.3
		Bagerpara Upazila Health Complex	50	2.6	75.9
		Chowgacha Upazila Health Complex	50	2.4	180
		Jhikargacha Upazila Health Complex	50	2.4	55
		Keshabpur Upazila Health Complex	50	2.4	89.1
		Monirampur Upazila Health Complex	50	2.3	83.2
		Sarsa Upazila Health Complex	31	1.5	80.8
	Jhenaidah	Harinakunda Upazila Health Complex	50	1.9	85.6
		Kaliganj Upazila Health Complex	50	1.8	91.4
		Kotchandpur Upazila Health Complex	50	1.4	76.8
		Moheshpur Upazila Health Complex	50	2.3	83.6
		Sailkupa Upazila Health Complex	50	2.3	88.8
	Khulna	Batiaghata Upazila Health Complex	31	5.8	112.9
		Dacope Upazila Health Complex	50	5.6	164.9
		Dighalia Upazila Health Complex	31	3.3	78.1
		Dumuria Upazila Health Complex	31	2	93.6
		Fultala Upazila Health Complex	50	2.9	109.8
		Koyra Upazila Health Complex	50	1	24.5
		Paikgacha Upazila Health Complex	50	3.1	120.4
		Rupsha Upazila Health Complex	31	3.4	119.4
		Terakhada Upazila Health Complex	31	2.5	114.6
	Kushtia	Bheramara Upazila Health Complex	50	1.7	67.1
		Daulatpur Upazila Health Complex	50	1.8	89.6
		Khoksha Upazila Health Complex	50	3	77.5
		Kumarkhali Upazila Health Complex	50	2.7	128.6
		Mirpur Upazila Health Complex	50	2	66.8
	Magura	Shalikha Upazila Health Complex	31	2.6	83.9
	Magura	Sreepur Upazila Health Complex	31	4.2	81.7
		Mohammadpur Upazila Health Complex, Magura.	31	2.5	117.7

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Khulna	Meherpur	Gangni Upazila Health Complex	31	2	88.5
		Mujibnagar Upazila Health Complex	31	2.8	93
	Narail	Kalia Upazila Health Complex	50	2.2	64.1
		Lohagara Upazila Health Complex	50	2.5	77.1
	Satkhira	Assasuni Upazila Health Complex	31	3.6	81.9
		Debhata Upazila Health Complex	50	4.9	86.3
		Kalaroa Upazila Health Complex	50	3.2	79.4
		Kaliganj Upazila Health Complex	50	6	89.8
		Shyamnagar Upazila Health Complex	50	3.2	194.5
		Tala Upazila Health Complex	50	9.8	232.5
Mymensingh	Jamalpur	Bakshiganj Upazila Health Complex	31	3.3	116.3
		Dewanganj Upazila Health Complex	50	3.6	73.3
		Islampur Upazila Health Complex	50	2.2	52.5
		Madarganj Upazila Health Complex	31	3.2	66.4
		Melandaha Upazila Health Complex	50	2.6	45.6
		Sarishabari Upazila Health Complex	50	2.1	103.3
	Mymensin-gh	Bhaluka Upazila Health Complex	50	2.8	109.4
		Dhubaura Upazila Health Complex	31	1.8	88
		Fulbaria Upazila Health Complex	31	2.5	92.7
		Fulpur Upazila Health Complex	50	1.7	87.1
		Gofargaon Upazila Health Complex	50	7.4	77.6
		Gouripur Upazila Health Complex	31	1.6	91
		Haluaghat Upazila Health Complex	50	1	90.3
		Iswarganj Upazila Health Complex	50	1.9	86
		Muktagacha Upazila Health Complex	31	1	71.8
		Nandail Upazila Health Complex	50	2.7	96.2
		Trisal Upazila Health Complex	50	2.7	70.3
	Netrakona	Atpara Upazila Health Complex	50		
		Barhatta Upazila Health Complex	31	1.6	41.9
		Durgapur Upazila Health Complex	50	2.3	71.2
		Kalmakanda Upazila Health Complex	50	2.7	74.6
		Kendua Upazila Health Complex	50	1.6	42.7
		Khaliajuri Upazila Health Complex	31	3.3	61.5
		Madan Upazila Health Complex	50	3.5	84.3
		Purbadhala Upazila Health Complex	50	3	127
	Sherpur	Jhenaigati Upazila Health Complex	31	2	58.4
		Nakhla Upazila Health Complex	50	2.3	72.5
		Nalitabari Upazila Health Complex	31	3.3	111.9
		Sribordi Upazila health Complex	31	4	81
Rajshahi	Bogra	Adamdighi Upazila Health Complex	50	2.2	55
		Dhunat Upazila Health Complex	50	3.6	79.7
		Dhupchachia Upazila Health Complex	50	1.9	87.6
		Gabtali Upazila Health Complex	50	3.3	74.7
		Kahaloo Upazila Health Complex	50	3.3	88.8
		Nandigram Upazila Health Complex	31	2.6	100.2
		Sariakandi Upazila Health Complex	50	4.1	104.6
		Shajahanpur Upazila Health Complex	31	5.1	77.5
		Sherpur Upazila Health Complex	31	1.6	87.9
		Shibganj Upazila Health Complex	50	2.6	80.1
		Sonatala Upazila Health Complex	50	3.3	74.3

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Rajshahi	Chapai-nowabganj	Bholahat Upazila Health Complex	31	2.5	87
		Gomastapur Upazila Health Complex	31	1.9	97.9
		Nachol Upazila Health Complex	31	2.7	99.8
		Shibganj Upazila Health Complex	50	1.7	72.7
	Joypurhat	Akkelpur Upazila Health Complex	50	3.1	59.3
		Kalai Upazila Health Complex	50	2.5	101.2
		Khetlal Upazila Health Complex	50	2.7	66.9
		Panchbibi Upazila Health Complex	50	2.6	58.9
	Naogaon	Atrai Upazila Health Complex	31	2.2	93.3
		Badalgachi Upazila Health Complex	50	2.4	46.3
		Dhamairhat Upazila Health Complex	50	3.1	53.6
		Manda Upazila Health Complex	50	2.3	70.9
		Mohadevpur Upazila Health Complex	50	1.4	51.8
		Niamatpur Upazila Health Complex	50	2.4	50.4
		Patnitala Upazila Health Complex	50	2.3	57.2
		Porsha Upazila Health Complex	31	3	76.8
		Raninagar Upazila Health Complex	31	3.1	97.1
		Sapahar Upazila Health Complex	50	2.4	70.3
	Natore	Bagatipara Upazila Health Complex	31	2.3	70
		Baraigram Upazila Health Complex	31	2.1	60.1
		Gurudashpur Upazila Health Complex	50	1.9	58.2
		Lalpur Upazila Health Complex	50	2	90.2
		Singra Upazila Health Complex	31	1.5	92.8
	Pabna	Atghoria Upazila Health Complex	31	2.4	89.8
		Bera Upazila Health Complex	50	1.1	66.7
		Bhangura Upazila Health Complex	31	2	81.7
		Chatmohar Upazila Health Complex	50	2	113.9
		Iswardi Upazila Health Complex	50	1.6	105.4
		Santhia Upazila Health Complex	50	2.3	84.5
		Sujanagar Upazila Health Complex	51	1.4	81.5
		Upazila Health Complex, Faridpur, Pabna	50	3.5	87
	Rajshahi	Bagha Upazila Health Complex	50	2.9	65.1
		Bagmara Upazila Health Complex	50	2.5	71.9
		Charghat Upazila Health Complex	50	1	40.3
		Durgapur Upazila Health Complex	50	1.7	62.3
		Godagari Upazila Health Complex	31	2	55.2
		Mohanpur Upazila Health Complex	50	1.8	44.6
		Paba Upazila Health Complex	31	1	66.6
		Puthia Upazila Health Complex	50	1.7	65.4
		Tanore Upazila Health Complex	50	2.8	70.2
	Sirajganj	Belkuchi Upazila Health Complex	31	1.1	68.7
		Chowhali Upazila Health Complex	31	0	0
		Kamarkhanda Upazila Health Complex	31	2.6	70.2
		Kazipur Upazila Health Complex	31	3.2	97.2
		Raiganj Upazila Health Complex	31	1	97.2
		Shahzadpur Upazila Health Complex	31	1.8	56.6
		Tarash Upazila Health Complex	31	1.5	60.4
		Ullapara Upazila Health Complex	31	3.1	95.5

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Rangpur	Dinajpur	Birampur Upazila Health Complex	31	1.5	69.9
		Birganj Upazila Health Complex	50	2.9	57.6
		Birol Upazila Health Complex	50	2.6	42.3
		Bochaganj Upazila Health Complex	50	2.3	54.3
		Chirirbandar Upazila Health Complex	31	1	98
		Fulbari Upazila Health Complex	31	1	101.5
		Ghoraghat Upazila Health Complex	31	2.8	78.5
		Hakimpur Upazila Health Complex	31	2	68.9
		Kaharol Upazila Health Complex	31	2.7	55.4
		Khansama Upazila Health Complex	31	2.2	108.1
		Nawabganj Upazila Health Complex	31	2.2	72.9
		Parbatipur Upazila Health Complex	50	2.9	98.4
	Gaibandha	Fulchhari Upazila Health Complex	31	4.1	73
		Gobindaganj Upazila Health Complex	50	1.5	97.4
		Palashbari Upazila Health Complex	31	1.8	79.3
		Sadullapur Upazila Health Complex	31	2.2	115.2
		Shaghata Upazila Health Complex	31	2.5	72.7
		Sundarganj Upazila Health Complex	31	1	85.4
	Kurigram	Bhurungamari Upazila Health Complex	31	2.2	91.3
		Chilmari Upazila Health Complex	50	2.4	51.5
		Fulbari Upazila Health Complex	31	3.8	98.8
		Nageswari Upazila Health Complex	31	3.4	124.5
		Rajarhat Upazila Health Complex	31	3.8	97.4
		Rajibpur Upazila Health Complex	31	1	38
		Rowmari Upazila Health Complex	31	1.4	84.7
		Ullipur Upazila Health Complex	50	2	85.5
	Lalmonirhat	Aditmari Upazila Health Complex	50	3.4	41.2
		Hatibandha Upazila Health Complex	50	1.5	68.9
		Kaliganj Upazila Health Complex	50	2.9	61.5
		Patgram Upazila Health Complex	31	2.8	101
	Nilphamari	Dimla Upazila Health Complex	50	2	90.4
		Domar Upazila Health Complex	50	1.7	79.4
		Jaldhaka Upazila Health Complex	50	1	116.3
		Kishoreganj Upazila Health Complex	50	1.5	86.8
		Saidpur Upazila Health Complex	0	0	0
	Panchagarh	Atwari Upazila Health Complex	50	2.2	74.2
		Boda Upazila Health Complex	50	2.9	78.2
		Debiganj Upazila Health Complex	50	2.2	71.4
		Tetulia Upazila Health Complex	50	3.2	71.4
	Rangpur	Badarganj Upazila Health Complex	31	1.9	130.9
		Gangachara Upazila Health Complex	50	3	87.4
		Kownia Upazila Health Complex	31	1.9	91
		Mithapukur Upazila Health Complex	50	1.8	99.3
		Pirgacha Upazila Health Complex	31	2.9	87.7
		Pirganj Upazila Health Complex	50	1	81
		Taraganj Upazila Health Complex	31	2.6	74.6
	Thakurgaon	Baliadangi Upazila Health Complex	50	2.4	80.4
		Haripur Upazila Health Complex	50	2.5	52.5
		Pirganj Upazila Health Complex	50	1.6	84.8
		Ranisankhail Upazila Health Complex	50	2.5	79

Division	District	Name	Total beds	ALS (Days)	BOR (%)
Sylhet	Habiganj	Azmiriganj Upazila Health Complex	31	1.1	40.4
		Bahubal Upazila Health Complex	31	1.9	114.3
		Baniachong Upazila Health Complex	31	2	87.2
		Chunarughat Upazila Health Complex	31	1.6	97.8
		Lakhai Upazila Health Complex	31	2.5	62.3
		Madhabpur Upazila Health Complex	50	1.7	67.1
		Nabiganj Upazila Health Complex	31	1.5	70.6
	Maulvibazar	Barlekha Upazila Health Complex	31	1.2	82.9
		Juri Upazila Health Complex	0	0	0
		Kamalganj Upazila Health Complex	31	1.3	82.7
		Kulaura Upazila Health Complex	50	2.45	80.51
		Rajnagar Upazila Health Complex	31	2.1	81.7
		Sreemangal Upazila Health Complex	50	1.9	72

ANNEX TO CHAPTER 7

Admissions in hospitals under DGHS in 2015

A. Tertiary hospitals

Type	Name of hospital	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		Female		Male		
Hospital of alternative medical college	Govt. Homeopathic Medical College Hospital	327	26	255	10	618
	Govt. Unani & Ayurvedic Medical College Hospital	415	36	390	40	881
Medical College hospitals	Chittagong Medical College Hospital, Chittagong	61,538	7,067	84,979	8,986	162,570
	Comilla Medical College Hospital, Comilla	38,768	5,795	42,364	8,007	94,934
	Dhaka Medical College Hospital, Dhaka	42,407	11,948	75,969	18,798	149,122
	Dinajpur Medical College Hospital, Dinajpur	18,103	2,756	17,578	2,609	41,046
	Faridpur Medical College Hospital, Faridpur	1,399	19,700	1,907	18,100	41,106
	Khulna Medical College Hospital, Khulna	25,540	2,492	23,718	1,702	53,452
	Mymensingh Medical College Hospital, Mymensingh	56,717	15,390	56,146	21,479	149,732
	Rajshahi Medical College Hospital, Rajshahi	52,254	23,950	49,968	22,810	148,982
	Rangpur Medical College Hospital, Rangpur	43,500	6,507	50,802	4,206	105,015
	Shaheed Suhrawardy Medical College Hospital, Dhaka	25,024	8,356	32,823	10,368	76,571
	Shahid Ziaur Rahman Medical College Hospital, Bogra	25,494	3,809	27,620	4,128	61,051
	Sher-e-Bangla Medical College Hospital, Barisal	38,621	2,965	47,638	3,370	92,594
	Sir Salimullah Medical College (Mitford) Hospital, Dhaka	27,512	1,794	26,850	2,131	58,287
	Sylhet MAG Osmani Medical College Hospital	52,239	10,302	59,182	13,520	135,243
Other tertiary hospitals	Bangladesh Institute of Tropical and Infectious Disease, Foujdarhat, Chittagong	2,824	73	2,965	124	5,986
	Dhaka Dental College Hospital, Dhaka	956	26	858	28	1,868
	Pabna Mental Hospital, Pabna	336	-	1,234	-	1,570
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	1,032	-	1,743	-	2,775

Type	Name of hospital	Age and sex				
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total
		Female		Male		
Specialty institute hospitals	Institute of Child and Mother Health, Matuail, Dhaka	6,933	3,028	694	3,852	14,507
	National Institute of Cancer Research and Hospital (NICR&H), Mohakhali, Dhaka	2,830	193	4,040	222	7,285
	National Institute of Cardiovascular Disease (NICVD), Sher-e-Bangla Nagar, Dhaka	18,694	432	43,598	666	63,390
	National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka	3,259	34	10,435	37	13,765
	National Institute of ENT, Dhaka	-	-	-	-	-
	National Institute of Kidney Disease and Urology (NIKDU), Sher-e-Bangla Nagar, Dhaka	2,202	48	3,411	83	5,744
	National Institute of Mental Health & Research (NIMHR), Sher-e-Bangla Nagar, Dhaka	1,103	-	1,982	-	3,085
	National Institute of Neurosciences and Hospital (NINH) , Dhaka	3,074	365	3,438	423	7,300
	National Institute of Ophthalmology (NIO), Sher-e-Bangla Nagar, Dhaka	6,765	321	7,125	557	14,768
	National Institute of Traumatology and Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka	6,102	197	11,893	518	18,710
TB Hospitals	TB Hospital, Khulna	131	-	225	-	356
	TB Hospital, Rajshahi	109	-	281	-	390

B. Secondary (district-level) hospital

Division	Name of hospital	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		Female		Male		
Barisal	Barguna District Hospital	7,258	896	5,456	1,145	14,755
	Barisal General Hospital	300	4,406	120	2,994	7,820
	Bhola District Hospital	10,860	3,752	9,525	3,143	27,280
	Jhalokathi District Hospital	7,686	586	5,687	874	14,833
	Patuakhali 250-bed Sadar Hospital	16,156	3,778	10,361	3,630	33,925
	Pirojpur District Hospital, Pirojpur	7,337	1,564	4,660	1,801	15,362
Chittagong	Bandarban District Hospital	2,655	796	2,390	973	6,814
	Brahmanbaria 250-bed District Sadar Hospital	10,954	2,026	10,021	3,289	26,290
	Chandpur 250-bed General Hospital	14,132	3,424	9,601	5,098	32,255
	Chittagong 250-bed General Hospital	1,576	4,502	1,444	4,375	11,897
	Comilla General Hospital	2,713	897	3,139	1,248	7,997
	Cox's Bazar 250-bed District Sadar Hospital	11,540	16,055	10,034	12,543	50,172
	Feni 250-bed District Sadar Hospital	11,940	4,980	9,730	4,865	31,515
	Khagrachhari District Hospital	5,906	678	3,982	1,233	11,799
	Lakshmipur District Hospital	7,745	1,148	6,659	1,878	17,430
	Noakhali 250-bed General Hospital	15,459	8,526	16,114	6,684	46,783
	Rangamati General Hospital	5,215	548	4,136	707	10,606
Dhaka	250-bed District Hospital, Manikganj	11,208	1,635	8,617	1,402	22,862
	Faridpur General Hospital	9,330	1,259	7,970	1,384	19,943
	Gazipur District Hospital	8,310	1,402	6,824	1,384	17,920
	Gopalganj 250-bedded District Hospital	11,386	1,874	12,843	2,183	28,286
	Kishoreganj 250-bed District Sadar Hospital	28,068	4,652	21,095	6,562	60,377
	Kurmitola 500-bed General Hospital	9,600	2,865	10,054	3,246	25,765
	Madaripur District Hospital	9,725	1,677	8,036	1,832	21,270
	Mugda 500-bed General Hospital	3,875	920	2,584	790	8,169
	Munshiganj District Hospital	7,845	1,376	5,538	970	15,729
	Narayanganj 300-bed Hospital	4,226	352	3,458	353	8,389
	Narayanganj General (Victoria) Hospital	7,270	1,646	7,075	1,395	17,386
	Narsingdi 100-bed Zilla Hospital	3,669	1,714	3,429	2,051	10,863
	Rajbari District Hospital	10,056	1,263	7,271	1,239	19,829
	Sadar Hospital Narsingdi	3,326	918	3,511	993	8,748
	Shariatpur District Hospital	23,329	3,403	13,200	2,560	42,492
	Tangail 250-bed District Hospital	5,483	27,776	5,145	25,490	63,894
Khulna	250-bedded General Hospital, Jessore	27,444	3,883	24,771	3,003	59,101
	Bagerhat District Hospital	7,847	1,016	5,510	1,611	15,984
	Chuadanga District Hospital	13,853	2,751	10,849	2,632	30,085
	Jhenaidah District Hospital	18,693	1,665	6,943	2,261	29,562
	Khulna 150-bed General Hospital	4,946	312	3,169	268	8,695
	Kushtia 250-bed General Hospital	23,344	3,653	22,046	5,395	54,438
	Magura District Hospital	13,085	2,243	10,389	3,831	29,548
	Meherpur 250-bed District Hospital	14,149	3,277	7,899	2,602	27,927
	Narail District Hospital	8,954	1,570	6,438	2,472	19,434
	Satkhira District Hospital	9,999	3,488	7,386	2,854	23,727
Mymensingh	Jamalpur 250-beded General Hospital	21,466	4,212	13,875	7,378	46,931
	Netrokona District Hospital	15,450	1,583	8,184	2,790	28,007
	Sherpur District Hospital	10,682	4,081	9,213	4,539	28,515

Division	Name of hospital	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		Female		Male		
Rajshahi	Bogra 250-bed Mohammad Ali District Hospital	8,477	1,083	6,721	1,827	18,108
	Chapainowabganj District Hospital	10,584	2,531	9,649	3,143	25,907
	Joypurhat District Hospital	13,229	952	10,131	1,320	25,632
	Naogaon District Hospital	11,448	2,329	7,933	1,581	23,291
	Natore District Hospital	10,197	3,612	10,409	3,321	27,539
	Pabna 250-bed General Hospital	30,533	6,530	27,819	9,837	74,719
	Sirajganj General Hospital	41,686	2,737	40,421	3,336	88,180
Rangpur	Dinajpur 250-bed General Hospital	8,263	1,702	12,336	1,932	24,233
	Gaibandha District Hospital	10,039	1,839	7,720	3,025	22,623
	Kurigram District Hospital	10,396	2,997	9,220	2,597	25,210
	Lalmonirhat District Hospital	3,969	1,021	4,064	1,287	10,341
	Nilphamari District Hospital	28,856	4,411	28,854	4,312	66,433
	Panchagarh District Hospital	8,781	1,541	6,540	1,732	18,594
	Saidpur 100-bed Hospital	7,074	889	3,798	880	12,641
	Thakurgaon District Hospital	9,084	6,408	10,899	11,681	38,072
Sylhet	Habiganj District Hospital	5,820	16,350	5,505	13,100	40,775
	Moulvibazar 250-bed District Sadar Hospital	17,686	3,077	12,467	4,914	38,144
	Sunamganj 250-bed District Sadar Hospital	10,377	1,765	9,175	1,685	23,002
	Sylhet Shahid Shamsuddin Ahmed District Hospital	1,443	-	905	-	2,348

C. Upazila health complex

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Barisal	Agailjhara Upazila Health Complex	1,620	240	1,475	315	3,650
	Amtali Upazila Health Complex	2,392	384	1,618	608	5,002
	Babuganj Upazila Health Complex	599	88	470	54	1,211
	Bakerganj Upazila Health Complex	2,212	242	1,925	212	4,591
	Bamna Upazila Health Complex	895	151	799	146	1,991
	Banaripara Upazila Health Complex	3,094	322	1,189	519	5,124
	Bauphal Upazila Health Complex	1,713	435	1,563	614	4,325
	Betagi Upazila Health Complex	1,474	144	1,088	218	2,924
	Bhandaria Upazila Health Complex	2,493	186	1,681	320	4,680
	Borhanuddin Upazila Health Complex	4,243	934	2,695	1,585	9,457
	Char Fasson Upazila Health Complex	6,541	1,532	3,915	1,064	13,052
	Dashmina Upazila Health Complex	2,543	406	1,744	656	5,349
	Daulatkhan Upazila Health Complex	2,005	571	1,325	775	4,676
	Dumki Upazila Health Complex	720	303	958	357	2,338
	Galachipa Upazila Health Complex	2,645	644	2,600	991	6,880
	Gournadi Upazila Health Complex	2,002	1,017	1,617	791	5,427
	Hijla Upazila Health Complex	1,042	83	1,027	139	2,291
	Kalapara Upazila Health Complex	4,605	562	2,843	885	8,895
	Kathalia Upazila Health Complex	1,102	277	905	227	2,511
	Kawkhali Upazila Health Complex	962	56	722	103	1,843
	Lalmohan Upazila Health Complex	4,458	703	3,040	1,133	9,334
	Manpura Upazila Health Complex	888	521	711	443	2,563
	Mathbaria Upazila Health Complex	3,024	1,187	2,638	1,008	7,857
	Mehendiganj Upazila Health Complex	1,866	923	1,386	902	5,077

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Barisal	Mirzaganj Upazila Health Complex	1,460	285	1,246	452	3,443
	Muladi Upazila Health Complex	1,719	170	1,472	125	3,486
	Nalchithi Upazila Health Complex	1,629	305	1,390	285	3,609
	Nazirpur Upazila Health Complex	1,554	63	907	49	2,573
	Nesarabad Upazila Health Complex	4,277	686	2,167	1,015	8,145
	Pathargatha Upazila Health Complex	2,219	340	1,550	437	4,546
	Rajapur Upazila Health Complex	1,986	304	1,463	471	4,224
	Tajumuddin Upazila Health Complex	907	383	1,011	549	2,850
	Wazirpur Upazila Health Complex	1,753	419	1,283	582	4,037
	Zianagar Upazila Health Complex	-	-	-	-	-
Chittagong	Akhaura Upazila Health Complex	2,140	198	2,224	227	4,789
	Alikadam Upazila Health Complex	1,000	1,053	1,007	750	3,810
	Anwara Upazila Health Complex	3,985	1,491	3,716	950	10,142
	Ashuganj Upazila Health Complex	-	-	-	-	-
	Baghaichhari Upazila Health Complex	745	141	708	161	1,755
	Bancharampur Upazila Health Complex	1,625	278	1,301	327	3,531
	Banshkhali Upazila Health Complex	2,627	1,310	2,495	2,071	8,503
	Barkol Upazila Health Complex	191	19	187	19	416
	Barura Upazila Health Complex	1,840	317	1,229	374	3,760
	Begumganj Upazila Health Complex	959	263	597	251	2,070
	Belaichhari Upazila Health Complex	115	45	179	56	395
	Boalkhali Upazila Health Complex	2,163	1,229	1,469	1,160	6,021
	Brahmmanpara Upazila Health Complex	1,152	301	964	401	2,818
	Burichong Upazila Health Complex	654	1,985	514	1,628	4,781
	Chauddagram Upazila Health Complex	3,500	1,979	2,405	1,210	9,094
	Chakaria Upazila Health Complex	3,820	3,248	4,509	4,447	16,024
	Chandanaish Upazila Health Complex	1,827	1,781	1,254	1,587	6,449
	Chandina Upazila Health Complex	3,972	780	2,717	1,294	8,763
	Chatkhil Upazila Health Complex	3,982	532	1,605	860	6,979
	Chhagalnaya Upazila Health Complex	2,687	680	1,475	929	5,771
	Comilla Sadar Daxin Upazila Health Complex	-	-	-	-	-
	Companiganj Upazila Health Complex	3,265	735	2,092	704	6,796
	Daganbhuiya Upazila Health Complex	2,384	462	1,721	451	5,018
	Daudkandi Upazila Health Complex	4,169	100	2,308	62	6,639
	Debidwar Upazila Health Complex	2,801	2,812	5,390	4,578	15,581
	Dighinala Upazila Health Complex	2,414	637	2,019	410	5,480
	Faridganj Upazila Health Complex	1,812	206	1,310	256	3,584
	Fatikchhari Upazila Health Complex	1,263	3,621	812	3,020	8,716
	Fulgazi Upazila Health Complex	2,378	289	1,584	192	4,443
	Haimchar Upazila Health Complex	1,746	619	1,113	410	3,888
	Hathazari Upazila Health Complex	3,867	800	2,685	606	7,958
	Hatiya Upazila Health Complex	2,167	955	1,720	1,460	6,302
	Haziganj Upazila Health Complex	1,802	474	1,570	403	4,249
	Homna Upazila Health Complex	3,416	398	2,685	656	7,155
	Juraichhari Upazila Health Complex	139	26	157	39	361
	Kabirhat Upazila Health Complex	-	-	-	-	-
	Kachua Upazila Health Complex	2,597	190	2,167	253	5,207
	Kamolnagar Upazila Health Complex	5,864	914	1,612	1,599	9,989
	Kaptai Upazila Health Complex	1,007	142	848	231	2,228

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Chittagong	Kashba Upazila Health Complex	1,741	428	1,351	583	4,103
	Kawkhali Upazila Health Complex	504	115	256	141	1,016
	Kutubdia Upazila Health Complex	2,468	845	2,503	853	6,669
	Laksham Upazila Health Complex	2,880	342	1,849	421	5,492
	Lakshmichhari Upazila Health Complex	367	91	474	65	997
	Lama Upazila Health Complex	1,727	360	1,766	318	4,171
	Langadu Upazila Health Complex	948	193	699	143	1,983
	Lohagara Upazila Health Complex	2,838	827	2,027	933	6,625
	Manikchhari Upazila Health Complex	1,530	335	838	298	3,001
	Matiranga Upazila Health Complex	459	438	511	320	1,728
	Matlab(daxin) Upazila Health Complex	3,077	902	1,637	735	6,351
	Matlab(uttar) Upazila Health Complex	1,172	265	1,056	185	2,678
	Meghna Upazila Health Complex	299	4	308	3	614
	Mirarsarai Upazila Health Complex	2,567	1,785	1,568	986	6,906
	Mohalchhari Upazila Health Complex	734	224	581	131	1,670
	Moheshkhali Upazila Health Complex	4,984	2,424	4,049	2,105	13,562
	Monoharganj Upazila Health Complex	-	-	-	-	-
	Muradnagar Upazila Health Complex	2,310	721	3,451	532	7,014
	Nabinagar Upazila Health Complex	2,195	3,722	1,096	2,497	9,510
	Naikhongchhari Upazila Health Complex	2,025	920	1,833	580	5,358
	Nangolkot Upazila Health Complex	2,492	432	1,931	761	5,616
	Naniarchar Upazila Health Complex	312	42	248	52	654
	Nasirnagar Upazila Health Complex	1,438	1,507	1,562	1,820	6,327
	Panchhari Upazila Health Complex	841	162	707	186	1,896
	Parsuram Upazila Health Complex	3,666	955	1,271	307	6,199
	Patiya Upazila Health Complex	5,470	1,178	2,090	1,384	10,122
	Pekua Upazila Health Complex	3,427	400	1,573	188	5,588
	Raipur Upazila Health Complex	3,249	240	1,772	401	5,662
	Rajsthali Upazila Health Complex	270	52	273	77	672
	Ramganj Upazila Health Complex	2,516	283	1,891	397	5,087
	Ramgarh Upazila Health Complex	1,222	219	872	353	2,666
	Ramgati Upazila Health Complex	1,300	780	1,024	1,284	4,388
	Ramu Upazila Health Complex	3,326	698	1,641	1,081	6,746
	Rangunia Upazila Health Complex	2,102	1,865	1,463	1,523	6,953
	Roujan Upazila Health Complex	1,230	6,157	1,536	4,632	13,555
	Rowangchhari Upazila Health Complex	334	62	285	67	748
	Ruma Upazila Health Complex	485	65	521	73	1,144
	Saharasthi Upazila Health Complex	2,925	541	1,649	688	5,803
	Sandwip Upazila Health Complex	743	3,263	450	2,452	6,908
	Sarail Upazila Health Complex	1,800	950	2,345	698	5,793
	Satkania Upazila Health Complex	923	1,511	784	1,113	4,331
	Senbag Upazila Health Complex	2,030	670	2,540	980	6,220
	Sitakunda Upazila Health Complex	3,859	1,528	3,295	1,462	10,144
	Sonagazi Upazila Health Complex	4,502	1,701	1,021	642	7,866
	Sonaimuri Upazila Health Complex	1,988	660	1,608	523	4,779
	Subarnachar Upazila Health Complex	449	2,325	800	1,000	4,574
	Teknaf Upazila Health Complex	2,646	1,247	1,317	2,272	7,482
	Thanchi Upazila Health Complex	65	16	53	12	146
	Titas Upazila Health Complex	978	1,428	856	1,659	4,921

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Chittagong	Ukhyia Upazila Health Complex	3,506	867	2,196	1,421	7,990
	Alfadanga Upazila Health Complex	2,542	365	1,900	220	5,027
	Araihazar Upazila Health Complex	10	1,658	15	1,093	2,776
	Atpara Upazila Health Complex	840	20	826	31	1,717
	Austagram Upazila Health Complex	1,142	156	1,082	262	2,642
	Bajitpur Upazila Health Complex	1,865	394	1,595	532	4,386
Dhaka and Mymensingh	Bakshiganj Upazila Health Complex	2,009	275	1,419	342	4,045
	Baliakandi Upazila Health Complex	2,100	147	1,658	229	4,134
	Bandar Upazila Health Complex	438	13	387	22	860
	Barhatta Upazila Health Complex	1,296	261	1,202	277	3,036
	Basail Upazila Health Complex,Tangail.	1,160	171	1,079	160	2,570
	Belabo Upazila Health Complex	2,199	90	1,389	154	3,832
	Bhairab Upazila Health Complex	3,467	754	1,390	1,152	6,763
	Bhaluka Upazila Health Complex	2,958	1,596	1,621	918	7,093
	Bhanga Upazila Health Complex	3,357	237	2,425	243	6,262
	Bhedarganj Upazila Health Complex	2,188	972	1,110	1,211	5,481
	Bhuapur Upazila Health Complex	3,378	768	2,001	736	6,883
	Boalmari Upazila Health Complex	2,649	2,156	2,115	1,629	8,549
	Charbhadrason Upazila Health Complex	923	238	836	230	2,227
	Damudya Upazila Health Complex	2,257	480	1,515	350	4,602
	Daulatpur Upazila Health Complex	1,787	607	1,784	518	4,696
	Delduar Upazila Health Complex	1,964	1,142	2,027	1,577	6,710
	Dewanganj Upazila Health Complex	1,718	256	1,421	358	3,753
	Dhamrai Upazila Health Complex	3,623	221	2,263	376	6,483
	Dhanbari Upazila Health Complex	-	-	-	-	-
	Dhubaura Upazila Health Complex	2,366	430	2,206	541	5,543
	Dohar Upazila Health Complex	3,662	504	2,274	683	7,123
	Durgapur Upazila Health Complex	2,585	493	1,863	679	5,620
	Fulbaria Upazila Health Complex	1,950	242	1,551	416	4,159
	Fulpur Upazila Health Complex	4,491	1,134	2,600	1,045	9,270
	Gazaria Upazila Health Complex	2,872	618	1,888	475	5,853
	Ghatail Upazila Health Complex	2,646	366	2,548	530	6,090
	Ghior Upazila Health Complex	1,145	231	1,260	225	2,861
	Goalanda Upazila Health Complex	3,509	441	2,610	741	7,301
	Gofargaon Upazila Health Complex	700	400	500	300	1,900
	Gopalpur Upazila Health Complex	2,170	213	1,294	385	4,062
	Goshairhat Upazila Health Complex	1,814	522	1,430	417	4,183
	Gouripur Upazila Health Complex	2,793	840	2,219	781	6,633
	Haluaghat Upazila Health Complex	7,269	900	6,517	1,471	16,157
	Harirampur Upazila Health Complex	1,778	129	691	90	2,688
	Hossainpur Upazila Health Complex	3,961	754	3,261	818	8,794
	Islampur Upazila Health Complex	2,086	302	1,670	391	4,449
	Iswarganj Upazila Health Complex	5,132	436	2,417	211	8,196
	Itna Upazila Health Complex	984	133	1,056	246	2,419
	Jhenaigati Upazila Health Complex	1,419	250	1,372	242	3,283
	Kaliakair Upazila Health Complex	3,205	89	2,304	203	5,801
	Kaliganj Upazila Health Complex	2,999	474	1,664	874	6,011
	Kalihati Upazila Health Complex	2,572	427	1,973	459	5,431
	Kalkini Upazila Health Complex	1,993	228	1,636	204	4,061

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Dhaka and Mymensingh	Kalmakanda Upazila Health Complex	2,073	371	1,928	625	4,997
	Kalukhali Upazila Health Complex	-	-	-	-	-
	Kapasia Upazila Health Complex	3,080	298	2,245	290	5,913
	Karimganj Upazila Health Complex	2,870	463	2,573	765	6,671
	Kashiani Upazila Health Complex	1,680	231	1,870	365	4,146
	Katiadi Upazila Health Complex	4,876	446	2,911	440	8,673
	Kendua Upazila Health Complex	2,320	550	1,464	507	4,841
	Keraniganj Upazila Health Complex	1,515	195	997	184	2,891
	Khaliajuri Upazila Health Complex	906	173	883	174	2,136
	Kotwalipara Upazila Health Complex	3,226	911	2,207	462	6,806
	Kuliarchar Upazila Health Complex	812	718	980	715	3,225
	Louhajang Upazila Health Complex	1,537	697	1,016	495	3,745
	Madan Upazila Health Complex	1,935	401	1,631	434	4,401
	Madarganj Upazila Health Complex	1,047	178	938	161	2,324
	Melandaha Upazila Health Complex	1,498	303	1,218	218	3,237
	Mirzapur Upazila Health Complex	1,010	254	900	117	2,281
	Mithamoin Upazila Health Complex	980	58	826	153	2,017
	Modhukhali Upazila Health Complex	2,173	196	2,450	316	5,135
	Madhupur Upazila Health Complex	4,740	462	2,886	748	8,836
	Mohanganj Upazila Health Complex	3,667	181	2,764	218	6,830
	Monohardi Upazila Health Complex	2,640	327	1,667	353	4,987
	Mukshedpur Upazila Health Complex	2,718	1,287	2,937	1,326	8,268
	Muktagacha Upazila Health Complex	5,164	261	1,987	336	7,748
	Nagarkanda Upazila Health Complex	2,432	853	1,815	562	5,662
	Nagarpur Upazila Health Complex	3,727	120	1,641	96	5,584
	Nakhla Upazila Health Complex	1,510	588	3,000	612	5,710
	Nalitabari Upazila Health Complex	1,577	198	1,829	214	3,818
	Nandail Upazila Health Complex	2,901	637	1,833	1,120	6,491
	Naria Upazila Health Complex	1,867	495	1,134	310	3,806
	Nawabganj Upazila Health Complex	3,325	409	2,556	519	6,809
	Nikli Upazila Health Complex	1,336	420	1,314	549	3,619
	Pakundia Upazila Health Complex	1,454	266	1,322	310	3,352
	Palash Upazila Health Complex	1,272	169	818	229	2,488
	Pangsha Upazila Health Complex	2,805	458	2,545	789	6,597
	Purbadhala Upazila Health Complex	3,509	923	2,422	824	7,678
	Raipura Upazila Health Complex	2,550	271	962	197	3,980
	Rajoir Upazila Health Complex	3,466	769	2,605	584	7,424
	Rupganj Upazila Health Complex	1,260	21	1,165	17	2,463
	Sadarpur Upazila Health Complex	1,842	134	1,477	101	3,554
	Sakhipur Upazila Health Complex	4,830	699	2,831	751	9,111
	Sarishabari Upazila Health Complex	4,252	1,069	2,303	1,174	8,798
	Saturia Upazila Health Complex	2,609	116	1,992	145	4,862
	Savar Upazila Health Complex	2,380	184	1,639	148	4,351
	Serajdikhan Upazila Health Complex	2,148	204	1,284	198	3,834
	Shibalaya Upazila Health Complex	2,846	198	2,333	249	5,626
	Shibchar Upazila Health Complex	1,857	1,275	1,281	680	5,093
	Shibpur Upazila Health Complex	1,182	84	970	143	2,379
	Singair Upazila Health Complex	3,478	768	1,872	569	6,687
	Sonargaon Upazila Health Complex	1,434	197	1,712	234	3,577

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Dhaka and Mymensingh	Sreenagar Upazila Health Complex	1,805	624	1,226	521	4,176
	Sreepur Upazila Health Complex	3,351	195	2,464	295	6,305
	Sribordi Upazila health Complex	935	146	1,045	165	2,291
	Tarail Upazila Health Complex	1,773	595	2,277	974	5,619
	Tejgaon Health Complex	-	-	-	-	-
	Trisal Upazila Health Complex	2,749	267	1,454	244	4,714
	Tungibari Upazila Health Complex	1,583	671	1,293	546	4,093
	Tungipara Upazila Health Complex	1,785	1,085	1,660	835	5,365
	Zanjira Upazila Health Complex	2,123	1,015	1,580	625	5,343
Khulna	Abhoynagar Upazila Health Complex	5,535	299	2,836	358	9,028
	Alamdanga Upazila Health Complex	3,773	316	2,479	417	6,985
	Assasuni Upazila Health Complex	1,517	109	865	103	2,594
	Bagerpara Upazila Health Complex	1,741	1,402	1,160	935	5,238
	Batiaghata Upazila Health Complex	1,226	54	873	50	2,203
	Bheramara Upazila Health Complex	3,614	379	2,669	585	7,247
	Chitalmari Upazila Health Complex	1,917	182	1,446	331	3,876
	Chowgacha Upazila Health Complex	8,418	1,022	2,723	1,558	13,721
	Dacope Upazila Health Complex	3,502	305	1,205	339	5,351
	Damurhuda Upazila Health Complex	1,949	543	1,433	487	4,412
	Daulatpur Upazila Health Complex	5,525	975	2,336	412	9,248
	Debhata Upazila Health Complex	2,002	131	955	107	3,195
	Dighalia Upazila Health Complex	1,544	25	1,067	35	2,671
	Dumuria Upazila Health Complex	792	2,445	652	1,521	5,410
	Fakirhat Upazila Health Complex	5,723	502	3,101	472	9,798
	Fultala Upazila Health Complex	3,351	226	3,150	221	6,948
	Gangni Upazila Health Complex	7,029	457	2,955	558	10,999
	Harinakunda Upazila Health Complex	4,186	1,416	1,774	879	8,255
	Jhikargacha Upazila Health Complex	2,426	395	1,135	249	4,205
	Jibannagar Upazila Health Complex	3,883	1,210	2,621	970	8,684
	Kachua Upazila Health Complex	2,032	90	1,453	135	3,710
	Kalaroa Upazila Health Complex	2,703	203	1,519	154	4,579
	Kalia Upazila Health Complex	2,963	298	1,517	499	5,277
	Kaliganj Upazila Health Complex	5,905	806	3,961	1,170	11,842
	Keshabpur Upazila Health Complex	3,481	234	2,771	337	6,823
	Khoksha Upazila Health Complex	2,602	561	1,020	459	4,642
	Kotchandpur Upazila Health Complex	4,976	635	3,442	741	9,794
	Koyra Upazila Health Complex	476	2,018	283	1,525	4,302
	Kumarkhali Upazila Health Complex	4,219	613	2,984	937	8,753
	Lohagara Upazila Health Complex	3,237	233	1,844	295	5,609
	Mirpur Upazila Health Complex	3,300	627	1,993	144	6,064
	Moheshpur Upazila Health Complex	2,942	262	3,163	402	6,769
	Mollahat Upazila Health Complex	2,461	278	1,907	381	5,027
	Mongla Upazila Health Complex	2,865	163	2,106	213	5,347
	Monirampur Upazila Health Complex	3,825	325	1,999	317	6,466
	Morrelganj Upazila Health Complex	2,066	387	880	362	3,695
	Mujibnagar Upazila Health Complex	2,025	44	1,641	57	3,767
	Paikgacha Upazila Health Complex	299	4,196	402	2,241	7,138
	Rampal Upazila Health Complex	345	2,986	183	1,680	5,194
	Rupsha Upazila Health Complex	2,364	119	1,364	167	4,014

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Khulna	Sailkupa Upazila Health Complex	1,950	1,630	1,550	1,870	7,000
	Sarankhola Upazila Health Complex	2,278	189	2,140	154	4,761
	Sarsa Upazila Health Complex	3,734	162	2,182	140	6,218
	Shalikha Upazila Health Complex	1,823	236	1,314	231	3,604
	Shyamnagar Upazila Health Complex	6,081	1,078	2,407	1,511	11,077
	Sreepur Upazila Health Complex	1,075	109	854	166	2,204
	Tala Upazila Health Complex	1,937	276	1,842	263	4,318
	Terakhada Upazila Health Complex	2,747	407	1,680	301	5,135
	Adamdighi Upazila Health Complex	2,355	174	1,691	250	4,470
Rajshahi	Akkelpur Upazila Health Complex	1,957	120	1,228	169	3,474
	Atghoria Upazila Health Complex	2,333	85	1,639	133	4,190
	Atrai Upazila Health Complex	3,254	210	1,107	227	4,798
	Badalgachi Upazila Health Complex	1,663	254	1,381	293	3,591
	Bagatipara Upazila Health Complex	1,881	114	1,337	154	3,486
	Bagha Upazila Health Complex	2,216	148	1,630	139	4,133
	Bagmara Upazila Health Complex	2,510	380	1,968	310	5,168
	Baraigram Upazila Health Complex	1,865	38	1,320	55	3,278
	Belkuchi Upazila Health Complex	3,299	277	3,264	277	7,117
	Bera Upazila Health Complex	5,322	690	3,833	898	10,743
	Bhangura Upazila Health Complex	2,885	220	1,071	484	4,660
	Bholahat Upazila Health Complex	2,174	140	1,434	246	3,994
	Charghat Upazila Health Complex	2,507	274	2,026	2,555	7,362
	Chatmohar Upazila Health Complex	4,966	1,239	3,230	980	10,415
	Chowhali Upazila Health Complex	-	-	-	-	-
	Dhamairhat Upazila Health Complex	1,430	253	1,329	195	3,207
	Dhunat Upazila Health Complex	1,651	479	1,482	378	3,990
	Dhupchachia Upazila Health Complex	4,603	579	2,695	672	8,549
	Durgapur Upazila Health Complex	3,777	263	2,281	250	6,571
	Gabtali Upazila Health Complex	1,972	208	1,549	364	4,093
	Godagari Upazila Health Complex	1,668	202	1,047	161	3,078
	Gomastapur Upazila Health Complex	2,808	429	1,908	543	5,688
	Gurudashpur Upazila Health Complex	2,437	488	2,174	421	5,520
	Iswardi Upazila Health Complex	7,920	304	3,240	298	11,762
	Kahaloo Upazila Health Complex	2,748	154	1,786	171	4,859
	Kalai Upazila Health Complex	4,243	281	2,474	407	7,405
	Kamarkhanda Upazila Health Complex	1,562	78	1,337	74	3,051
	Kazipur Upazila Health Complex	1,945	155	1,243	89	3,432
	Khetlal Upazila Health Complex	3,007	69	1,397	105	4,578
	Lalpur Upazila Health Complex	4,414	270	3,145	395	8,224
	Manda Upazila Health Complex	2,851	205	2,215	300	5,571
	Mohadevpur Upazila Health Complex	3,297	456	2,338	502	6,593
	Mohanpur Upazila Health Complex	2,190	568	1,326	432	4,516
	Nachol Upazila Health Complex	235	1,886	390	1,656	4,167
	Nandigram Upazila Health Complex	2,240	137	1,806	180	4,363
	Niamatpur Upazila Health Complex	1,768	354	1,384	320	3,826
	Paba Upazila Health Complex	3,213	15	4,323	34	7,585
	Panchbibi Upazila Health Complex	2,207	284	1,408	268	4,167
	Patnitala Upazila Health Complex	2,489	228	1,524	287	4,528
	Porsha Upazila Health Complex	1,363	388	847	254	2,852

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Rajshahi	Puthia Upazila Health Complex	371	3,071	354	3,405	7,201
	Raiganj Upazila Health Complex	4,388	904	4,502	1,207	11,001
	Raninagar Upazila Health Complex	1,597	266	1,277	398	3,538
	Santhia Upazila Health Complex	3,748	215	2,589	286	6,838
	Sapahar Upazila Health Complex	2,986	212	1,920	287	5,405
	Sariakandi Upazila Health Complex	2,567	79	1,803	171	4,620
	Shahzadpur Upazila Health Complex	1,920	121	1,345	197	3,583
	Shajahanpur Upazila Health Complex	911	105	638	76	1,730
	Sherpur Upazila Health Complex	2,887	457	2,408	601	6,353
	Shibganj Upazila Health Complex	8,204	707	3,538	835	13,284
	Singra Upazila Health Complex	3,712	461	2,648	404	7,225
	Sonatala Upazila Health Complex	1,635	602	1,521	399	4,157
	Sujanagar Upazila Health Complex	2,135	3,840	2,203	2,992	11,170
	Tanore Upazila Health Complex	2,534	428	1,244	317	4,523
	Tarash Upazila Health Complex	2,081	713	1,057	691	4,542
	Ullapara Upazila Health Complex	1,535	421	1,111	443	3,510
	Upazila Health Complex, Faridpur, Pabna	2,198	315	1,529	431	4,473
Rangpur	Aditmari Upazila Health Complex	1,069	298	642	175	2,184
	Atwari Upazila Health Complex	2,768	574	2,007	688	6,037
	Badarganj Upazila Health Complex	4,325	547	2,605	507	7,984
	Baliadangi Upazila Health Complex	560	3,932	3,210	2,443	10,145
	Bhurungamari Upazila Health Complex	1,967	407	1,706	571	4,651
	Birampur Upazila Health Complex	3,041	151	1,893	205	5,290
	Birganj Upazila Health Complex	1,814	173	1,464	225	3,676
	Birol Upazila Health Complex	1,626	57	1,205	40	2,928
	Bochaganj Upazila Health Complex	2,550	143	1,488	166	4,347
	Boda Upazila Health Complex	1,554	1,128	1,236	1,016	4,934
	Chilmari Upazila Health Complex	1,773	258	1,495	357	3,883
	Chirirbandar Upazila Health Complex	3,673	1,985	3,721	1,712	11,091
	Debiganj Upazila Health Complex	4,094	131	1,400	243	5,868
	Dimla Upazila Health Complex	3,811	722	3,012	629	8,174
	Domar Upazila Health Complex	4,620	303	3,462	228	8,613
	Fulbari Upazila Health Complex	7,231	527	5,918	779	14,455
	Fulchhari Upazila Health Complex	1,062	83	761	115	2,021
	Gangachara Upazila Health Complex	3,508	286	1,253	251	5,298
	Ghoraghat Upazila Health Complex	1,463	96	1,446	113	3,118
	Gobindaganj Upazila Health Complex	6,025	1,308	3,504	1,233	12,070
	Hakimpur Upazila Health Complex	2,157	97	1,526	195	3,975
	Haripur Upazila Health Complex	2,055	289	1,295	235	3,874
	Hatibandha Upazila Health Complex	3,650	1,057	2,693	910	8,310
	Jaldhaka Upazila Health Complex	7,775	4,233	5,387	3,826	21,221
	Kaharol Upazila Health Complex	1,261	48	981	53	2,343
	Kaliganj Upazila Health Complex	1,949	232	1,388	265	3,834
	Khansama Upazila Health Complex	3,702	217	1,364	182	5,465
	Kishoreganj Upazila Health Complex	1,698	3,990	1,980	3,020	10,688
	Kownia Upazila Health Complex	3,491	279	1,270	357	5,397
	Mithapukur Upazila Health Complex	5,847	432	2,997	562	9,838
	Nageswari Upazila Health Complex	1,768	288	1,635	512	4,203
	Nawabganj Upazila Health Complex	1,756	405	1,136	526	3,823

Division	Name of UHC	Age and sex				Total
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	
		F		M		
Rangpur	Palashbari Upazila Health Complex	2,536	177	2,080	186	4,979
	Parbatipur Upazila Health Complex	3,264	301	2,256	458	6,279
	Patgram Upazila Health Complex	1,998	415	1,334	397	4,144
	Pirgacha Upazila Health Complex	1,256	501	1,199	441	3,397
	Pirganj Upazila Health Complex	11,566	2,419	7,973	2,397	24,355
	Rajarhat Upazila Health Complex	1,708	154	933	130	2,925
	Rajibpur Upazila Health Complex	1,612	409	1,720	555	4,296
	Ranisankhail Upazila Health Complex	2,860	237	2,360	391	5,848
	Rowmari Upazila Health Complex	2,526	1,008	2,272	1,193	6,999
	Sadullapur Upazila Health Complex	2,966	466	2,126	402	5,960
	Saidpur Upazila Health Complex	-	-	-	-	-
	Shaghata Upazila Health Complex	1,500	278	1,310	250	3,338
	Sundarganj Upazila Health Complex	5,567	155	3,807	132	9,661
	Taraganj Upazila Health Complex	1,412	452	1,097	327	3,288
	Tetulia Upazila Health Complex	2,601	117	1,164	185	4,067
	Ullipur Upazila Health Complex	1,990	2,230	1,560	2,009	7,789
Sylhet	Azmiriganj Upazila Health Complex	2,341	548	953	507	4,349
	Bahubal Upazila Health Complex	2,472	882	1,983	1,438	6,775
	Balaganj Upazila Health Complex	1,056	261	681	243	2,241
	Baniachong Upazila Health Complex	1,989	826	1,441	630	4,886
	Barlekha Upazila Health Complex	2,727	2,125	1,587	1,234	7,673
	Beanibazar Upazila Health Complex	5,150	937	779	1,381	8,247
	Biswambarpur Upazila Health Complex	523	598	423	987	2,531
	Biswanath Upazila Health Complex	775	118	410	176	1,479
	Chhatak Upazila Health Complex	2,825	478	1,849	822	5,974
	Chunarughat Upazila Health Complex	3,512	152	2,921	133	6,718
	Companyganj Upazila Health Complex	624	728	532	879	2,763
	Dakhin Surma Upazila Health Complex	-	-	-	-	-
	Daxin Sunamganj Upazila Health Complex	-	-	-	-	-
	Derai Upazila Health Complex	5,397	1,197	3,093	1,478	11,165
	Dharmapasha Upazila Health Complex	2,940	1,087	2,221	891	7,139
	Doarabazar Upazila Health Complex	451	837	584	482	2,354
	Fenchuganj Upazila Health Complex	2,428	161	1,484	301	4,374
	Golapganj Upazila Health Complex	1,867	692	852	686	4,097
	Gowainghat Upazila Health Complex	3,474	2,013	2,613	1,604	9,704
	Jagannathpur Upazila Health Complex	2,182	1,127	1,389	1,115	5,813
	Jamalganj Upazila Health Complex	2,525	446	2,105	373	5,449
	Jointapur Upazila Health Complex	2,996	727	1,783	598	6,104
	Juri Upazila Health Complex	-	-	-	-	-
	Kamalganj Upazila Health Complex	3,198	740	2,596	708	7,242
	Kanaighat Upazila Health Complex	2,195	590	1,968	644	5,397
	Kulaura Upazila Health Complex	3,905	1,632	3,026	1,657	10,220
	Lakhai Upazila Health Complex	1,393	185	916	304	2,798
	Madhabpur Upazila Health Complex	3,328	289	3,453	323	7,393
	Nabiganj Upazila Health Complex	2,329	1,005	1,137	880	5,351
	Rajnagar Upazila Health Complex	1,967	551	1,343	552	4,413
	Sreemangal Upazila Health Complex	3,545	362	2,540	340	6,787
	Sulla Upazila Health Complex	1,138	356	864	316	2,674
	Taherpur Upazila Health Complex	1,360	140	1,715	120	3,335
	Zakiganj Upazila Health Complex	3,202	1,245	1,459	1,231	7,137

ANNEX TO CHAPTER 8

Number of death and death rate (%) in hospitals under DGHS in 2015

A. Tertiary hospitals

Type	Name of hospital	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		Female		Male			
Hospital of alternative medical college	Govt. Homeopathic Medical College Hospital	-	-	1	-	1	0.2
	Govt. Unani & Ayurvedic Medical College Hospital	-	-	-	-	-	-
Medical College hospitals	Chittagong Medical College Hospital, Chittagong	2,490	806	4,159	1,397	8,852	5.45
	Comilla Medical College Hospital, Comilla	411	270	594	393	1,668	1.76
	Dhaka Medical College Hospital, Dhaka	5,811	180	7,516	358	13,865	9.30
	Dinajpur Medical College Hospital, Dinajpur	497	181	763	242	1,683	4.10
	Faridpur Medical College Hospital, Faridpur	307	918	285	810	2,320	5.64
	Khulna Medical College Hospital, Khulna	1,210	132	1,312	180	2,834	5.30
	Mymensingh Medical College Hospital, Mymensingh	2,119	1,234	2,282	1,412	7,047	4.71
	Rajshahi Medical College Hospital, Rajshahi	1,995	622	3,071	1,246	6,934	4.65
	Rangpur Medical College Hospital, Rangpur	1,886	484	2,275	525	5,170	4.92
	Shaheed Suhrawardy Medical College Hospital, Dhaka	414	95	503	156	1,168	1.53
	Shahid Ziaur Rahman Medical College Hospital, Bogra	955	411	1,626	446	3,438	5.63
	Sher-e-Bangla Medical College Hospital, Barisal	1,389	608	1,446	613	4,056	4.38
	Sir Salimullah Medical College (Mitford) Hospital, Dhaka	709	67	919	108	1,803	3.09
	Sylhet MAG Osmani Medical College Hospital	1,782	367	2,941	462	5,552	4.11
Other tertiary hospitals	Bangladesh Institute of Tropical and Infectious Disease, Foujdarhat, Chittagong	5	1	23	1	30	0.50
	Dhaka Dental College Hospital, Dhaka	1	-	1	-	2	0.1
	Pabna Mental Hospital, Pabna	6	-	8	-	14	0.9
	Shaheed Sheikh Abu Naser Specialized Hospital, Khulna	107	-	125	-	232	8.4
Specialty institute hospitals	Institute of Child and Mother Health, Matuail, Dhaka	17	179	14	202	412	2.8
	National Institute of Cancer Research and Hospital (NICR&H), Mohakhali, Dhaka	66	2	96	4	168	2.3
	National Institute of Cardiovascular Disease (NICVD), Sher-e-Bangla Nagar, Dhaka	999	51	2,889	79	4,018	6.3
	National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka	215	-	757	-	972	7.1
	National Institute of ENT, Dhaka	-	-	-	-	-	-
	National Institute of Kidney Disease and Urology (NIKDU), Sher-e-Bangla Nagar, Dhaka	71	-	114	4	189	3.3
	National Institute of Mental Health & Research (NIMHR), Sher-e-Bangla Nagar, Dhaka	1	-	3	-	4	0.1
	National Institute of Neurosciences and Hospital (NINH) , Dhaka	311	13	349	23	696	9.5
	National Institute of Ophthalmology (NIO), Sher-e-Bangla Nagar, Dhaka	-	-	-	-	-	-
	National Institute of Traumatology and Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka	23	-	121	-	144	0.8
TB Hospitals	TB Hospital, Khulna	1	-	5	-	6	1.7
	TB Hospital, Rajshahi	6	-	18	-	24	6.2

B. Secondary (district-level) hospital

Division	Name of hospital	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		Female		Male			
Barisal	Barguna District Hospital	-	3	-	13	16	0.2
	Barisal General Hospital	120	120	196	98	534	2.0
	Bhola District Hospital	33	3	25	3	64	0.4
	Jhalokathi District Hospital	135	63	185	94	477	1.4
	Patuakhali 250-bed Sadar Hospital	38	20	77	23	158	1.0
	Pirojpur District Hospital, Pirojpur	24	13	1	19	57	0.8
Chittagong	Bandarban District Hospital	169	44	199	44	456	1.7
	Brahmanbaria 250-bed District Sadar Hospital	84	44	104	55	287	0.9
	Chandpur 250-bed General Hospital	14	-	24	-	38	0.3
	Chittagong 250-bed General Hospital	14	3	17	2	36	0.5
	Comilla General Hospital	395	280	364	226	1,265	2.5
	Cox's Bazar 250-bed District Sadar Hospital	123	61	147	57	388	1.2
	Feni 250-bed District Sadar Hospital	51	44	85	71	251	2.1
	Khagrachhari District Hospital	64	9	106	23	202	1.2
	Lakshmipur District Hospital	315	118	378	174	985	2.1
	Noakhali 250-bed General Hospital	62	28	86	33	209	2.0
	Rangamati General Hospital	-	3	-	13	16	0.2
Dhaka	250-bed District Hospital, Manikganj	122	53	179	51	405	1.8
	Faridpur General Hospital	37	78	44	72	231	1.2
	Gazipur District Hospital	31	15	39	21	106	0.6
	Gopalganj 250-bedded District Hospital	179	67	192	87	525	1.9
	Kishoreganj 250-bed District Sadar Hospital	136	154	274	177	741	1.2
	Kurmitola 500-bed General Hospital	35	-	55	1	91	0.4
	Madaripur District Hospital	51	14	71	13	149	0.7
	Mugda 500-bed General Hospital	14	3	12	5	34	0.4
	Munshiganj District Hospital	25	6	48	8	87	0.6
	Narayanganj 300-bed Hospital	12	-	18	-	30	0.4
	Narayanganj General (Victoria) Hospital	13	-	21	-	34	0.2
	Narsingdi 100-bed Zilla Hospital	60	52	89	54	255	2.3
	Rajbari District Hospital	54	11	73	9	147	0.7
	Sadar Hospital Narsingdi	38	50	46	41	175	2.0
	Shariatpur District Hospital	71	23	86	22	202	0.5
	Tangail 250-bed District Hospital	408	170	479	336	1,393	2.2

Division	Name of hospital	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		Female		Male			
Khulna	250-bedded General Hospital, Jessore	662	150	1,101	130	2,043	3.5
	Bagerhat District Hospital	85	38	100	40	263	1.6
	Chuadanga District Hospital	200	36	255	34	525	1.7
	Jhenaidah District Hospital	158	48	142	37	385	1.3
	Khulna 150-bed General Hospital	34	-	60	-	94	1.1
	Kushtia 250-bed General Hospital	527	13	788	17	1,345	2.5
	Magura District Hospital	160	36	243	51	490	1.7
	Meherpur 250-bed District Hospital	75	44	167	43	329	1.2
	Narail District Hospital	59	30	101	23	213	1.1
	Satkhira District Hospital	275	176	382	144	977	4.1
Mymensingh	Jamalpur 250-beded General Hospital	113	132	157	233	635	1.4
	Netrokona District Hospital	55	41	75	56	227	0.8
	Sherpur District Hospital	74	21	127	33	255	0.9
Rajshahi	Bogra 250-bed Mohammad Ali District Hospital	17	3	44	12	76	0.4
	Chapainowabganj District Hospital	49	67	74	122	312	1.2
	Joypurhat District Hospital	106	40	212	29	387	1.5
	Naogaon District Hospital	241	17	212	11	481	2.1
	Natore District Hospital	80	17	141	22	260	0.9
	Pabna 250-bed General Hospital	361	166	488	233	1,248	1.7
	Sirajganj General Hospital	103	119	134	244	600	0.7
Rangpur	Dinajpur 250-bed General Hospital	29	8	30	12	79	0.3
	Gaibandha District Hospital	107	41	102	72	322	1.4
	Kurigram District Hospital	101	116	130	138	485	1.9
	Lalmonirhat District Hospital	21	39	33	31	124	1.2
	Nilphamari District Hospital	-	40	54	30	124	0.2
	Panchagarh District Hospital	119	52	165	59	395	2.1
	Saidpur 100-bed Hospital	27	3	38	5	73	0.6
	Thakurgaon District Hospital	75	135	161	168	539	1.4
Sylhet	Habiganj District Hospital	371	140	290	120	921	2.3
	Moulvibazar 250-bed District Sadar Hospital	116	48	140	53	357	0.9
	Sunamganj 250-bed District Sadar Hospital	70	84	61	75	290	1.3
	Sylhet Shahid Shamsuddin Ahmed District Hospital	1	-	2	-	3	0.1

C. Upazila health complex

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Barisal	Agailjhara Upazila Health Complex	12	1	10	-	23	0.6
	Amtali Upazila Health Complex	9	2	7	-	18	0.4
	Babuganj Upazila Health Complex	-	-	1	-	1	0.1
	Bakerganj Upazila Health Complex	4	-	8	2	14	0.3
	Bamna Upazila Health Complex	4	2	9	1	16	0.8
	Banaripara Upazila Health Complex	6	-	8	-	14	0.3
	Bauphal Upazila Health Complex	4	1	5	2	12	0.3
	Betagi Upazila Health Complex	10	2	7	2	21	0.7
	Bhandaria Upazila Health Complex	8	-	9	-	17	0.4
	Borhanuddin Upazila Health Complex	10	2	16	2	30	0.3
	Char Fasson Upazila Health Complex	21	31	30	4	86	0.7
	Dashmina Upazila Health Complex	9	1	12	1	23	0.4
	Daulatkhan Upazila Health Complex	2	2	2	3	9	0.2
	Dumki Upazila Health Complex	2	-	4	-	6	0.3
	Galachipa Upazila Health Complex	11	1	16	2	30	0.4
	Gournadi Upazila Health Complex	6	-	9	1	16	0.3
	Hijla Upazila Health Complex	2	1	6	2	11	0.5
	Kalapara Upazila Health Complex	17	2	23	3	45	0.5
	Kathalia Upazila Health Complex	7	-	4	-	11	0.4
	Kawkhali Upazila Health Complex	5	-	6	-	11	0.6
	Lalmohan Upazila Health Complex	10	5	15	4	34	0.4
	Manpura Upazila Health Complex	4	4	1	3	12	0.5
	Mathbaria Upazila Health Complex	19	12	20	14	65	0.8
	Mehendiganj Upazila Health Complex	5	4	3	3	15	0.3
	Mirzaganj Upazila Health Complex	6	-	7	1	14	0.4
	Muladi Upazila Health Complex	12	3	8	4	27	0.8
	Nalchithi Upazila Health Complex	4	1	4	-	9	0.2
	Nazirpur Upazila Health Complex	5	-	4	-	9	0.3
	Nesarabad Upazila Health Complex	19	2	27	7	55	0.7
	Pathargatha Upazila Health Complex	9	5	5	4	23	0.5
	Rajapur Upazila Health Complex	2	-	10	-	12	0.3
	Tajumuddin Upazila Health Complex	2	1	4	1	8	0.3
	Wazirpur Upazila Health Complex	5	1	2	-	8	0.2
	Zianagar Upazila Health Complex	-	-	-	-	-	-
	Akhaura Upazila Health Complex	5	1	3	1	10	0.2

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Chittagong	Alikadam Upazila Health Complex	7	2	4	6	19	0.5
	Anwara Upazila Health Complex	1	-	3	-	4	0.0
	Ashuganj Upazila Health Complex	-	-	-	-	-	-
	Baghaichhari Upazila Health Complex	7	3	7	2	19	1.1
	Bancharampur Upazila Health Complex	3	1	4	1	9	0.3
	Banshkhali Upazila Health Complex	8	3	9	6	26	0.3
	Barkol Upazila Health Complex	-	-	-	1	1	0.2
	Barura Upazila Health Complex	4	4	5	2	15	0.4
	Begumganj Upazila Health Complex	1	-	-	-	1	0.0
	Belaichhari Upazila Health Complex	1	-	1	-	2	0.5
	Boalkhali Upazila Health Complex	1	5	1	3	10	0.2
	Brahmmanpara Upazila Health Complex	-	-	1	1	2	0.1
	Burichong Upazila Health Complex	5	1	8	2	16	0.3
	Chauddagram Upazila Health Complex	2	1	1	2	6	0.1
	Chakaria Upazila Health Complex	2	1	2	3	8	0.0
	Chandanaish Upazila Health Complex	3	1	5	-	9	0.1
	Chandina Upazila Health Complex	9	3	15	2	29	0.3
	Chatkhil Upazila Health Complex	4	1	8	1	14	0.2
	Chhagalnaya Upazila Health Complex	2	-	2	-	4	0.1
	Comilla Sadar Daxin Upazila Health Complex	-	-	-	-	-	-
	Companiganj Upazila Health Complex	3	3	5	2	13	0.2
	Daganbhuiya Upazila Health Complex	2	-	2	-	4	0.1
	Daudkandi Upazila Health Complex	72	42	120	60	294	4.4
	Debidwar Upazila Health Complex	5	5	9	4	23	0.1
	Dighinala Upazila Health Complex	-	-	7	1	8	0.1
	Faridganj Upazila Health Complex	1	-	2	-	3	0.1
	Fatikchhari Upazila Health Complex	-	-	-	-	-	-
	Fulgazi Upazila Health Complex	7	-	3	-	10	0.2
	Haimchar Upazila Health Complex	-	-	1	-	1	0.0
	Hathazari Upazila Health Complex	1	3	8	1	13	0.2
	Hatiya Upazila Health Complex	24	31	42	55	152	2.4
	Haziganj Upazila Health Complex	3	-	9	2	14	0.3
	Homna Upazila Health Complex	11	2	20	1	34	0.5
	Juraichhari Upazila Health Complex	2	1	1	1	5	1.4
	Kabirhat Upazila Health Complex	-	-	-	-	-	-

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Chittagong	Kachua Upazila Health Complex	5	1	9	-	15	0.3
	Kamolnagar Upazila Health Complex	1	-	-	-	1	0.0
	Kaptai Upazila Health Complex	1	1	1	-	3	0.1
	Kashba Upazila Health Complex	2	-	3	-	5	0.1
	Kawkhali Upazila Health Complex	2	-	-	-	2	0.2
	Kutubdia Upazila Health Complex	4	4	4	2	14	0.2
	Laksham Upazila Health Complex	2	2	4	1	9	0.2
	Lakshmichhari Upazila Health Complex	3	-	2	1	6	0.6
	Lama Upazila Health Complex	12	5	9	2	28	0.7
	Langadu Upazila Health Complex	6	-	11	-	17	0.9
	Lohagara Upazila Health Complex	3	-	1	-	4	0.1
	Manikchhari Upazila Health Complex	2	2	8	-	12	0.4
	Matiranga Upazila Health Complex	6	-	2	3	11	0.6
	Matlab(daxin) Upazila Health Complex	3	1	7	-	11	0.2
	Matlab(uttar) Upazila Health Complex	-	-	1	-	1	0.0
	Meghna Upazila Health Complex	-	-	-	-	-	-
	Mirarsarai Upazila Health Complex	4	-	5	1	10	0.1
	Mohalchhari Upazila Health Complex	-	-	6	4	10	0.6
	Moheshkhali Upazila Health Complex	9	6	5	3	23	0.2
	Monoharganj Upazila Health Complex	-	-	-	-	-	-
	Muradnagar Upazila Health Complex	9	6	15	3	33	0.5
	Nabinagar Upazila Health Complex	4	12	3	8	27	0.3
	Naikhongchhari Upazila Health Complex	2	2	3	2	9	0.2
	Nangolkot Upazila Health Complex	3	1	8	2	14	0.2
	Naniarchar Upazila Health Complex	4	-	4	-	8	1.2
	Nasirnagar Upazila Health Complex	4	3	6	5	18	0.3
	Panchhari Upazila Health Complex	1	-	5	-	6	0.3
	Parsuram Upazila Health Complex	6	-	10	-	16	0.3
	Patiya Upazila Health Complex	8	3	10	3	24	0.2
	Pekua Upazila Health Complex	-	-	-	1	1	0.0
	Raipur Upazila Health Complex	6	4	3	1	14	0.2
	Rajsthali Upazila Health Complex	2	-	1	-	3	0.4
	Ramganj Upazila Health Complex	5	1	12	1	19	0.4
	Ramgarh Upazila Health Complex	10	3	10	4	27	1.0
	Ramgati Upazila Health Complex	2	-	4	-	6	0.1
	Ramu Upazila Health Complex	5	3	3	2	13	0.2

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Chittagong	Rangunia Upazila Health Complex	7	4	6	3	20	0.3
	Roujan Upazila Health Complex	7	8	9	10	34	0.3
	Rowangchhari Upazila Health Complex	-	1	1	2	4	0.5
	Ruma Upazila Health Complex	2	1	-	1	4	0.3
	Saharasthi Upazila Health Complex	23	5	14	3	45	0.8
	Sandwip Upazila Health Complex	1	12	2	10	25	0.4
	Sarail Upazila Health Complex	5	-	4	-	9	0.2
	Satkania Upazila Health Complex	2	3	1	3	9	0.2
	Senbag Upazila Health Complex	3	-	3	-	6	0.1
	Sitakunda Upazila Health Complex	9	1	6	2	18	0.2
	Sonagazi Upazila Health Complex	6	2	12	-	20	0.3
	Sonaimuri Upazila Health Complex	1	-	2	-	3	0.1
	Subarnachar Upazila Health Complex	2	1	6	1	10	0.2
	Teknaf Upazila Health Complex	-	3	1	4	8	0.1
	Thanchi Upazila Health Complex	-	-	1	-	1	0.7
	Titas Upazila Health Complex	1	1	2	-	4	0.1
	Ukhyia Upazila Health Complex	5	1	2	4	12	0.2
Dhaka and Mymensingh	Alfadanga Upazila Health Complex	6	-	9	-	15	0.3
	Araihazar Upazila Health Complex	-	-	-	2	2	0.1
	Atpara Upazila Health Complex	3	-	5	-	8	0.5
	Austagram Upazila Health Complex	3	5	9	4	21	0.8
	Bajitpur Upazila Health Complex	5	-	6	2	13	0.3
	Bakshiganj Upazila Health Complex	2	-	7	-	9	0.2
	Baliakandi Upazila Health Complex	1	1	-	-	2	0.0
	Bandar Upazila Health Complex	-	-	3	-	3	0.3
	Barhatta Upazila Health Complex	1	1	10	1	13	0.4
	Basail Upazila Health Complex,Tangail.	1	-	-	-	1	0.0
	Belabo Upazila Health Complex	3	1	5	-	9	0.2
	Bhairab Upazila Health Complex	9	4	23	3	39	0.6
	Bhaluka Upazila Health Complex	7	-	3	-	10	0.1
	Bhanga Upazila Health Complex	8	-	1	-	9	0.1
	Bhedarganj Upazila Health Complex	6	2	2	4	14	0.3
	Bhuapur Upazila Health Complex	6	-	13	-	19	0.3
	Boalmari Upazila Health Complex	17	5	21	21	64	0.7
	Charbhadrason Upazila Health Complex	-	-	3	-	3	0.1
	Damudya Upazila Health Complex	10	5	8	4	27	0.6

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Dhaka and Mymensingh	Daulatpur Upazila Health Complex	7	1	7	1	16	0.3
	Delduar Upazila Health Complex	-	-	1	-	1	0.0
	Dewanganj Upazila Health Complex	5	3	9	4	21	0.6
	Dhamrai Upazila Health Complex	5	-	7	-	12	0.2
	Dhanbari Upazila Health Complex	-	-	-	-	-	-
	Dhubaura Upazila Health Complex	6	7	13	6	32	0.6
	Dohar Upazila Health Complex	6	3	13	-	22	0.3
	Durgapur Upazila Health Complex	14	13	15	6	48	0.9
	Fulbaria Upazila Health Complex	3	3	3	-	9	0.2
	Fulpur Upazila Health Complex	1	1	12	4	18	0.2
	Gazaria Upazila Health Complex	3	1	9	1	14	0.2
	Ghatail Upazila Health Complex	4	1	10	-	15	0.2
	Ghior Upazila Health Complex	-	-	4	1	5	0.2
	Goalanda Upazila Health Complex	2	-	4	1	7	0.1
	Gofargaon Upazila Health Complex	6	2	10	1	19	1.0
	Gopalpur Upazila Health Complex	3	-	13	-	16	0.4
	Goshairhat Upazila Health Complex	5	6	13	12	36	0.9
	Gouripur Upazila Health Complex	1	2	13	1	17	0.3
	Haluaghat Upazila Health Complex	4	2	6	2	14	0.1
	Harirampur Upazila Health Complex	4	-	5	-	9	0.3
	Hossainpur Upazila Health Complex	4	-	6	-	10	0.1
	Islampur Upazila Health Complex	6	1	6	1	14	0.3
	Iswarganj Upazila Health Complex	5	1	2	-	8	0.1
	Itna Upazila Health Complex	4	2	1	1	8	0.3
	Jhenaigati Upazila Health Complex	-	-	1	-	1	0.0
	Kaliakair Upazila Health Complex	4	1	11	4	20	0.3
	Kaliganj Upazila Health Complex	9	1	14	-	24	0.4
	Kalihati Upazila Health Complex	5	-	12	-	17	0.3
	Kalkini Upazila Health Complex	7	-	3	-	10	0.2
	Kalmakanda Upazila Health Complex	15	3	12	4	34	0.7
	Kalukhali Upazila Health Complex	-	-	-	-	-	-
	Kapasia Upazila Health Complex	-	-	6	1	7	0.1
	Karimganj Upazila Health Complex	6	-	7	-	13	0.2
	Kashiani Upazila Health Complex	6	-	9	-	15	0.4
	Katiadi Upazila Health Complex	3	-	4	1	8	0.1
	Kendua Upazila Health Complex	3	2	14	9	28	0.6

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Dhaka and Mymensingh	Keraniganj Upazila Health Complex	1	-	4	-	5	0.2
	Khaliajuri Upazila Health Complex	3	4	7	2	16	0.7
	Kotwalipara Upazila Health Complex	19	3	16	2	40	0.6
	Kuliarchar Upazila Health Complex	1	1	9	-	11	0.3
	Louhajang Upazila Health Complex	3	1	2	1	7	0.2
	Madan Upazila Health Complex	3	1	6	3	13	0.3
	Madarganj Upazila Health Complex	1	-	1	-	2	0.1
	Melandaha Upazila Health Complex	1	-	2	-	3	0.1
	Mirzapur Upazila Health Complex	1	-	1	-	2	0.1
	Mithamoin Upazila Health Complex	8	-	17	-	25	1.2
	Modhukhali Upazila Health Complex	7	-	9	-	16	0.3
	Madhupur Upazila Health Complex	8	1	8	2	19	0.2
	Mohanganj Upazila Health Complex	56	12	78	14	160	2.3
	Monohardi Upazila Health Complex	3	-	6	-	9	0.2
	Mukshedpur Upazila Health Complex	12	23	18	28	81	1.0
	Muktagacha Upazila Health Complex	3	-	3	-	6	0.1
	Nagarkanda Upazila Health Complex	-	-	2	-	2	0.0
	Nagarpur Upazila Health Complex	-	-	8	-	8	0.1
	Nakhla Upazila Health Complex	4	1	7	4	16	0.3
	Nalitabari Upazila Health Complex	6	2	7	2	17	0.4
	Nandail Upazila Health Complex	4	4	5	5	18	0.3
	Naria Upazila Health Complex	2	1	3	1	7	0.2
	Nawabganj Upazila Health Complex	11	1	35	1	48	0.7
	Nikli Upazila Health Complex	2	4	7	2	15	0.4
	Pakundia Upazila Health Complex	-	-	-	-	-	-
	Palash Upazila Health Complex	7	-	3	1	11	0.4
	Pangsha Upazila Health Complex	16	7	18	7	48	0.7
	Purbadhala Upazila Health Complex	2	1	12	3	18	0.2
	Raipura Upazila Health Complex	-	-	1	-	1	0.0
	Rajoir Upazila Health Complex	12	3	21	2	38	1.5
	Rupganj Upazila Health Complex	3	-	6	-	9	0.3
	Sadarpur Upazila Health Complex	3	3	8	1	15	0.2
	Sakhipur Upazila Health Complex	8	1	13	3	25	0.3
	Sarishabari Upazila Health Complex	2	-	8	-	10	0.2
	Saturia Upazila Health Complex	1	1	3	-	5	0.1
	Savar Upazila Health Complex	7	-	8	-	15	0.4

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Dhaka and Mymensingh	Serajdikhan Upazila Health Complex	3	-	8	-	11	0.2
	Shibalaya Upazila Health Complex	2	1	4	3	10	0.2
	Shibchar Upazila Health Complex	1	-	1	-	2	0.1
	Shibpur Upazila Health Complex	8	-	14	-	22	0.3
	Singair Upazila Health Complex	3	1	5	2	11	0.3
	Sonargaon Upazila Health Complex	2	3	4	2	11	0.3
	Sreenagar Upazila Health Complex	7	-	7	-	14	0.2
	Sreepur Upazila Health Complex	-	-	4	1	5	0.2
	Sribordi Upazila health Complex	8	3	14	4	29	0.5
	Tarail Upazila Health Complex	-	-	-	-	-	-
	Tejgaon Health Complex	-	-	-	1	1	0.0
	Trisal Upazila Health Complex	1	-	8	-	9	0.2
	Tungibari Upazila Health Complex	3	2	7	-	12	0.2
	Tungipara Upazila Health Complex	10	-	13	1	24	0.3
	Zanjira Upazila Health Complex	11	1	18	2	32	0.6
Khulna	Abhoynagar Upazila Health Complex	21	-	25	2	48	0.9
	Alamdanga Upazila Health Complex	23	1	22	1	47	0.5
	Assasuni Upazila Health Complex	7	-	12	-	19	0.3
	Bagerpara Upazila Health Complex	3	-	2	-	5	0.2
	Batiaghata Upazila Health Complex	6	1	6	2	15	0.3
	Bheramara Upazila Health Complex	3	-	1	-	4	0.2
	Chitalmari Upazila Health Complex	3	-	9	2	14	0.2
	Chowgacha Upazila Health Complex	9	2	18	1	30	0.8
	Dacope Upazila Health Complex	6	1	6	2	15	0.1
	Damurhuda Upazila Health Complex	11	3	24	8	46	0.9
	Daulatpur Upazila Health Complex	-	-	4	-	4	0.1
	Debhata Upazila Health Complex	5	-	7	-	12	0.1
	Dighalia Upazila Health Complex	5	-	6	1	12	0.4
	Dumuria Upazila Health Complex	4	-	7	-	11	0.4
	Fakirhat Upazila Health Complex	2	12	3	20	37	0.7
	Fultala Upazila Health Complex	13	-	18	-	31	0.3
	Gangni Upazila Health Complex	35	-	48	-	83	1.2
	Harinakunda Upazila Health Complex	6	-	6	-	12	0.1
	Jhikargacha Upazila Health Complex	22	1	12	3	38	0.5
	Jibannagar Upazila Health Complex	1	-	1	-	2	0.0
	Kachua Upazila Health Complex	10	-	26	-	36	0.4

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Khulna	Kalaroa Upazila Health Complex	7	-	5	-	12	0.3
	Kalia Upazila Health Complex	11	-	12	-	23	0.5
	Kaliganj Upazila Health Complex	3	2	4	-	9	0.2
	Keshabpur Upazila Health Complex	26	8	34	3	71	0.6
	Khoksha Upazila Health Complex	16	2	39	1	58	0.9
	Kotchandpur Upazila Health Complex	13	5	10	4	32	0.7
	Koyra Upazila Health Complex	14	-	36	1	51	0.5
	Kumarkhali Upazila Health Complex	1	12	2	17	32	0.7
	Lohagara Upazila Health Complex	5	1	19	1	26	0.3
	Mirpur Upazila Health Complex	7	-	14	1	22	0.4
	Moheshpur Upazila Health Complex	5	-	6	1	12	0.2
	Mollahat Upazila Health Complex	19	-	13	1	33	0.5
	Mongla Upazila Health Complex	13	2	14	1	30	0.6
	Monirampur Upazila Health Complex	6	-	11	-	17	0.3
	Morrelganj Upazila Health Complex	8	-	15	-	23	0.4
	Mujibnagar Upazila Health Complex	-	-	-	-	-	-
	Paikgacha Upazila Health Complex	2	-	3	-	5	0.1
	Rampal Upazila Health Complex	3	-	7	-	10	0.2
	Rupsha Upazila Health Complex	12	2	35	3	52	0.7
	Sailkupa Upazila Health Complex	5	-	4	-	9	0.2
	Sarankhola Upazila Health Complex	3	-	-	-	3	0.0
	Sarsa Upazila Health Complex	11	4	14	5	34	0.7
	Shalikha Upazila Health Complex	5	-	7	-	12	0.2
	Shyamnagar Upazila Health Complex	5	-	4	-	9	0.2
	Sreepur Upazila Health Complex	38	8	56	10	112	1.0
	Tala Upazila Health Complex	1	1	7	-	9	0.4
	Terakhada Upazila Health Complex	24	25	25	29	103	2.4
Rajshahi	Adamdighi Upazila Health Complex	-	10	-	13	23	0.4
	Akkelpur Upazila Health Complex	-	-	5	-	5	0.1
	Atghoria Upazila Health Complex	5	-	8	1	14	0.4
	Atrai Upazila Health Complex	1	-	6	-	7	0.2
	Badalgachi Upazila Health Complex	3	-	4	-	7	0.1
	Bagatipara Upazila Health Complex	1	-	1	-	2	0.1
	Bagha Upazila Health Complex	4	-	3	-	7	0.2
	Bagmara Upazila Health Complex	1	-	2	-	3	0.1
	Baraigram Upazila Health Complex	4	1	5	-	10	0.2

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Rajshahi	Belkuchi Upazila Health Complex	3	-	-	-	3	0.1
	Bera Upazila Health Complex	1	1	2	-	4	0.1
	Bhangura Upazila Health Complex	8	1	10	3	22	0.2
	Bholahat Upazila Health Complex	7	-	9	-	16	0.3
	Charghat Upazila Health Complex	4	-	8	1	13	0.3
	Chatmohar Upazila Health Complex	2	-	2	-	4	0.1
	Chowhali Upazila Health Complex	11	7	20	3	41	0.4
	Dhamairhat Upazila Health Complex	-	-	-	-	-	-
	Dhunat Upazila Health Complex	4	-	8	-	12	0.4
	Dhupchachia Upazila Health Complex	1	-	3	2	6	0.2
	Durgapur Upazila Health Complex	5	-	9	-	14	0.2
	Gabtali Upazila Health Complex	3	-	3	-	6	0.1
	Godagari Upazila Health Complex	-	-	2	-	2	0.0
	Gomastapur Upazila Health Complex	6	-	4	-	10	0.3
	Gurudashpur Upazila Health Complex	5	2	10	1	18	0.3
	Iswardi Upazila Health Complex	9	1	14	-	24	0.4
	Kahaloo Upazila Health Complex	22	-	32	1	55	0.5
	Kalai Upazila Health Complex	3	-	3	-	6	0.1
	Kamarkhanda Upazila Health Complex	8	-	9	-	17	0.2
	Kazipur Upazila Health Complex	1	2	4	2	9	0.3
	Khetlal Upazila Health Complex	4	-	5	-	9	0.3
	Lalpur Upazila Health Complex	4	-	3	-	7	0.2
	Manda Upazila Health Complex	10	-	12	-	22	0.3
	Mohadevpur Upazila Health Complex	5	1	14	-	20	0.4
	Mohanpur Upazila Health Complex	19	6	45	3	73	1.1
	Nachol Upazila Health Complex	3	-	-	-	3	0.1
	Nandigram Upazila Health Complex	1	3	4	4	12	0.3
	Niamatpur Upazila Health Complex	-	-	3	-	3	0.1
	Paba Upazila Health Complex	7	-	8	2	17	0.4
	Panchbibi Upazila Health Complex	1	-	1	-	2	0.0
	Patnitala Upazila Health Complex	3	1	1	1	6	0.1
	Porsha Upazila Health Complex	17	2	17	1	37	0.8
	Puthia Upazila Health Complex	5	4	10	2	21	0.7
	Raiganj Upazila Health Complex	2	3	1	2	8	0.1
	Raninagar Upazila Health Complex	1	-	3	1	5	0.0
	Santhia Upazila Health Complex	2	-	7	-	9	0.3

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Rajshahi	Sapahar Upazila Health Complex	14	-	7	-	21	0.3
	Sariakandi Upazila Health Complex	10	2	15	1	28	0.5
	Shahzadpur Upazila Health Complex	2	-	4	-	6	0.1
	Shajahanpur Upazila Health Complex	1	-	5	-	6	0.2
	Sherpur Upazila Health Complex	-	-	1	-	1	0.1
	Shibganj Upazila Health Complex	4	-	5	1	10	0.2
	Singra Upazila Health Complex	5	1	7	1	14	0.1
	Sonatala Upazila Health Complex	12	2	13	5	32	0.4
	Sujanagar Upazila Health Complex	1	2	2	2	7	0.2
	Tanore Upazila Health Complex	3	-	2	-	5	0.0
	Tarash Upazila Health Complex	4	-	3	1	8	0.2
	Ullapara Upazila Health Complex	-	1	2	1	4	0.1
	Upazila Health Complex, Faridpur, Pabna	2	-	10	5	17	0.5
Rangpur	Aditmari Upazila Health Complex	6	3	8	2	19	0.4
	Atwari Upazila Health Complex	1	-	2	-	3	0.1
	Badarganj Upazila Health Complex	4	1	1	-	6	0.1
	Baliadangi Upazila Health Complex	8	-	11	2	21	0.3
	Bhurungamari Upazila Health Complex	1	11	1	10	23	0.2
	Birampur Upazila Health Complex	3	1	4	2	10	0.2
	Birganj Upazila Health Complex	5	3	10	2	20	0.4
	Birol Upazila Health Complex	4	-	1	-	5	0.1
	Bochaganj Upazila Health Complex	4	-	-	-	4	0.1
	Boda Upazila Health Complex	12	-	8	-	20	0.5
	Chilmari Upazila Health Complex	6	-	5	-	11	0.2
	Chirirbandar Upazila Health Complex	3	2	4	3	12	0.3
	Debiganj Upazila Health Complex	-	2	-	-	2	0.0
	Dimla Upazila Health Complex	10	4	16	3	33	0.6
	Domar Upazila Health Complex	23	4	16	3	46	0.6
	Fulbari Upazila Health Complex	20	6	13	3	42	0.5
	Fulchhari Upazila Health Complex	9	-	8	1	18	0.1
	Gangachara Upazila Health Complex	1	-	1	-	2	0.1
	Ghoraghat Upazila Health Complex	2	1	2	-	5	0.1
	Gobindaganj Upazila Health Complex	-	-	4	-	4	0.1
	Hakimpur Upazila Health Complex	7	2	6	-	15	0.1
	Haripur Upazila Health Complex	4	1	6	1	12	0.3
	Hatibandha Upazila Health Complex	7	-	4	-	11	0.3

Division	Name of UHC	Age and sex				Total	Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs		
		F		M			
Rangpur	Jaldhaka Upazila Health Complex	10	5	14	6	35	0.4
	Kaharol Upazila Health Complex	8	3	15	3	29	0.1
	Kaliganj Upazila Health Complex	-	-	2	-	2	0.1
	Khansama Upazila Health Complex	10	1	13	2	26	0.7
	Kishoreganj Upazila Health Complex	-	-	3	-	3	0.1
	Kownia Upazila Health Complex	2	4	2	8	16	0.1
	Mithapukur Upazila Health Complex	2	2	5	4	13	0.2
	Nageswari Upazila Health Complex	7	1	3	-	11	0.1
	Nawabganj Upazila Health Complex	5	-	7	-	12	0.3
	Palashbari Upazila Health Complex	9	1	4	1	15	0.4
	Parbatipur Upazila Health Complex	-	1	1	2	4	0.1
	Patgram Upazila Health Complex	1	-	2	-	3	0.0
	Pirgacha Upazila Health Complex	2	3	-	1	6	0.1
	Pirganj Upazila Health Complex	1	-	6	-	7	0.2
	Rajarhat Upazila Health Complex	27	2	39	1	69	0.3
	Rajibpur Upazila Health Complex	1	1	3	-	5	0.2
	Ranisankhail Upazila Health Complex	5	2	3	1	11	0.3
	Rowmari Upazila Health Complex	6	-	10	-	16	0.3
	Sadullapur Upazila Health Complex	8	8	13	22	51	0.7
	Saidpur Upazila Health Complex	3	1	12	1	17	0.3
	Shaghata Upazila Health Complex	-	-	-	-	-	-
	Sundarganj Upazila Health Complex	2	-	1	-	3	0.1
	Taraganj Upazila Health Complex	9	1	12	2	24	0.2
	Tetulia Upazila Health Complex	2	-	2	-	4	0.1
	Ullipur Upazila Health Complex	12	1	7	-	20	0.5
Sylhet	Azmiriganj Upazila Health Complex	2	4	2	3	11	0.1
	Bahubal Upazila Health Complex	7	13	6	7	33	0.8
	Balaganj Upazila Health Complex	1	-	1	1	3	0.0
	Baniachong Upazila Health Complex	1	-	-	1	2	0.1
	Barlekha Upazila Health Complex	4	-	3	1	8	0.2
	Beanibazar Upazila Health Complex	11	6	4	5	26	0.3
	Biswambarpur Upazila Health Complex	5	14	3	8	30	0.4
	Biswanath Upazila Health Complex	4	4	5	5	18	0.7
	Chhatak Upazila Health Complex	-	-	-	-	-	-
	Chunarughat Upazila Health Complex	3	1	5	-	9	0.2
	Companyganj Upazila Health Complex	9	5	9	1	24	0.4

Division	Name of UHC	Age and sex					Hospital death rate (%)
		>5 yrs	≤5 yrs	>5 yrs	≤5 yrs	Total	
		F		M			
Sylhet	Dakhin Surma Upazila Health Complex	1	1	-	1	3	0.1
	Daxin Sunamganj Upazila Health Complex	-	-	-	-	-	-
	Derai Upazila Health Complex	-	-	-	-	-	-
	Dharmapasha Upazila Health Complex	10	18	2	15	45	0.4
	Doarabazar Upazila Health Complex	11	7	8	9	35	0.5
	Fenchuganj Upazila Health Complex	10	-	10	1	21	0.9
	Golapganj Upazila Health Complex	-	3	3	1	7	0.2
	Gowainghat Upazila Health Complex	2	2	-	-	4	0.1
	Jagannathpur Upazila Health Complex	2	1	2	1	6	0.1
	Jamalganj Upazila Health Complex	4	8	9	12	33	0.6
	Jointapur Upazila Health Complex	6	1	6	3	16	0.3
	Juri Upazila Health Complex	3	3	2	2	10	0.2
	Kamalganj Upazila Health Complex	-	-	-	-	-	-
	Kanaighat Upazila Health Complex	1	4	3	2	10	0.1
	Kulaura Upazila Health Complex	2	1	4	6	13	0.2
	Lakhai Upazila Health Complex	7	3	3	1	14	0.1
	Madhabpur Upazila Health Complex	1	2	3	1	7	0.3
	Nabiganj Upazila Health Complex	8	3	9	2	22	0.3
	Rajnagar Upazila Health Complex	2	-	4	1	7	0.1
	Sreemangal Upazila Health Complex	-	-	-	-	-	-
	Sulla Upazila Health Complex	3	-	7	1	11	0.2
	Taherpur Upazila Health Complex	7	6	8	5	26	1.0
	Zakiganj Upazila Health Complex	7	7	5	5	24	0.7

ANNEX TO CHAPTER 16

Division-wise distribution of sanctioned, filled-up and vacant posts under the DGHS (May 2015)

Division	Class		Sanctioned	Filled-up				Vacant	
				Male	Female	Total	Filled-up as % of sanctioned posts	No.	Vacant as % of sanctioned posts
Barisal	Class I	Doctors	1543	995	324	1319	85	224	15
		Non-doctors	25	6	1	7	28	18	72
	Class II		1614	76	1441	1517	94	97	6
	Class III		4043	2288	1167	3455	85	628	15
	Class IV		1912	1136	381	1517	79	395	21
	Total		**9177**	**4501**	**3314**	**7815**	**85**	**1362**	**15**
Chittagong	Class I	Doctors	3911	2550	1110	3660	94	251	6
		Non-doctors	61	12	0	12	20	49	80
	Class II		3128	197	2546	2543	81	585	19
	Class III		10092	5790	2084	7874	78	2218	22
	Class IV		4515	2613	841	3454	77	1061	23
	Total		**21707**	**11162**	**6381**	**17543**	**81**	**4164**	**19**
Dhaka	Class I	Doctors	9435	6163	2944	9107	97	328	3
		Non-doctors	280	93	32	125	45	155	55
	Class II		8316	644	6773	7417	89	899	11
	Class III		16658	10066	4138	14204	85	2454	15
	Class IV		11733	6456	2395	8851	75	2882	25
	Total		46422	23422	16282	39704	86	6718	14
Khulna	Class I	Doctors	2333	1479	542	2021	87	312	13
		Non-doctors	46	12	5	17	37	29	63
	Class II		1937	68	1703	1771	91	166	9
	Class III		5945	3185	1357	4542	76	1403	24
	Class IV		2629	1408	586	1994	76	635	24
	Total		**12890**	**4193**	**3941**	**10345**	**80**	**2545**	**20**
Rajshahi	Class I	Doctors	2731	1789	667	2456	90	275	10
		Non-doctors	54	13	6	19	35	35	65
	Class II		2703	169	2235	2404	89	299	11
	Class III		6770	4623	1297	5920	87	850	13
	Class IV		3762	2157	791	2948	78	814	22
	Total		**16020**	**8751**	**4996**	**13747**	**86**	**2273**	**14**
Rangpur	Class I	Doctors	2270	1466	558	2024	89	246	11
		Non-doctors	37	3	2	5	14	32	86
	Class II		1922	99	1482	1581	82	341	18
	Class III		5584	3741	1065	4797	86	787	14
	Class IV		2568	1511	520	2031	79	537	21
	Total		**12381**	**6820**	**3618**	**10438**	**84**	**1943**	**16**

Division	Class		Sanctioned	Filled-up				Vacant	
				Male	Female	Total	Filled-up as % of sanctioned posts	No.	Vacant as % of sanctioned posts
Sylhet	Class I	Doctors	1413	945	308	1253	89	160	11
		Non-doctors	22	3	0	3	14	19	86
	Class II		1263	76	906	982	78	281	22
	Class III		3623	2183	674	2857	79	766	21
	Class IV		1809	1055	420	1475	82	334	18
	Total		**8130**	**4262**	**2308**	**6570**	**81**	**1560**	**19**
Grand total			**126727**	**65070**	**41092**	**106162**	**84**	**20565**	**16**
All divisions	Class I	Doctors	22632	15387	6453	21440	92	1796	8
		Non-doctors	525	142	46	188	36	337	64
	Class II		20883	1329	16886	18215	87	2668	13
	Class III		52755	31876	11773	43649	83	9106	17
	Class IV		28928	16336	5934	22270	77	6658	23
	Total		**126727**	**65070**	**41092**	**106162**	**84**	**20565**	**16**

Institutions offering postgraduate medical courses and titles of courses, with the number of seats in each course (December 2015)

Name of institution	MS	MD	M. Phil	Diploma	MPH	MTM	MMED	Total
Autonomous (No. of institutions: 1)								
Bangabandhu Sheikh Mujib Medical University, Dhaka	140	150	70	106	0	10	0	476
Total	**140**	**150**	**70**	**106**	**0**	**10**	**0**	**476**
Government (No. of institutions: 22)								
Centre for Medical Education (CME), Dhaka	0	0	0	0	0	0	15	15
Chittagong Medical College	37	48	29	48	03	0	0	165
Dhaka Dental College	22	0	0	0	0	0	0	22
Dhaka Medical College	70	110	86	82	06	0	0	354
Institute of Child & Mother Health (ICMH), Dhaka	10	10	0	30	0	0	0	50
Institute of Nuclear Medicine and Ultrasound, Dhaka	0	0	0	10	0	0	0	10
Mymensingh Medical College	22	40	33	59	0	0	0	154
National Institute of Cancer Research and Hospital Dhaka	06	12	0	0	0	0	0	18
National Institute of Cardiovascular Diseases (NICVD), Dhaka	20	20	0	14	0	0	0	54
National Institute of Chest Diseases and Hospital (NIDCH), Dhaka	06	15	0	20	0	0	0	41
National Institute of Child Health, Dhaka	10	15	0	15	0	0	0	40
National Institute of Kidney Diseases and Urology, Dhaka	06	09	0	0	0	0	0	15
National Institute of Mental Health, Dhaka	0	06	0	0	0	0	0	06
National Institute of Ophthalmology, Dhaka	10	0	0	10	0	0	0	20
National Institute of Preventive and Social Medicine, Dhaka	0	0	07	0	166	0	0	173
National Institute of Traumatology and Orthopedic Rehabilitation, Dhaka	30	0	0	15	0	0	0	45
Rajshahi Medical College	10	19	25	41	05	0	0	100
Rangpur Medical College	08	08	08	22	0	0	0	46
Shaheed Ziaur Rahman Medical College, Bogra	0	0	0	10	0	0	0	10
Sher-e-Bangla Medical College, Barisal	04	0	08	22	0	0	0	34
Sir Salimullah Medical College, Dhaka	21	36	18	40	05	0	0	120
MAG Osmani Medical College, Sylhet	20	12	28	40	0	0	0	100
Total	**312**	**360**	**242**	**478**	**185**	**0**	**15**	**1592**
Private (No. of institutions: 10)								
Bangladesh College of Physicians and Surgeons, Mohakhali, Dhaka*	-	-	-	-	-	-	-	-
Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), Shahbag, Dhaka	10	22	15	14	0	0	0	61
Chittagong Maa O Shishu & General Hospital. Agrabad, Chittagong	0	0	0	06	0	0	0	06
Institute of Child Health and Shishu (Children) Hospital, ShishuShasthya Foundation, Bangladesh , Mirpur 2, Dhaka	0	0	0	06	0	0	0	06
Institute of Community Ophthalmology, Chittagong	0	0	0	08	0	0	0	08
Institute of Health Sciences (under USTC), Foy's Lake, Chittagong	0	05	0	45	0	0	0	50
Lions Eye Institute and Hospital, Lions Bhaban, Rokeya Sarani, Agargaon, Dhaka	0	0	0	06	0	0	0	06
Mirza Ahmed Ispahani Institute of Ophthalmology and Islamia Hospital, Sher-e-Bangla Nagar, Dhaka	0	0	0	10	0	0	0	10
National Heart Foundation, Mirpur 2, Dhaka	05	05	0	0	0	0	0	10
United Hospital Ltd. Gulshan 2, Dhaka	06	06	0	0	0	0	0	12
Total	**21**	**38**	**15**	**95**	**0**	**0**	**0**	**169**
Grand total (No. of institutions: 33)								
Grand total (no. of seats)	**473**	**548**	**327**	**679**	**185**	**25**		**2,237**
*Offers FCPS and MCPS courses. Number of seats are not fixed and not included in this count								

Number of fellowships and memberships offered by Bangladesh College of Physicians and Surgeons in various disciplines fromJuly 2015 to July 2016

Discipline	FCPS	MCPS
Anesthesiology	16	7
Biochemistry	0	0
Cardiology	4	0
Clinical Pathology	0	16
Conservative Dentistry	6	0
Dental Surgery	0	5
Dermatology & Venereology	14	10
Family Medicine	0	2
Forensic Medicine	0	5
Gastroenterology	1	0
Hematology	5	0
Histopathology	1	0
Medicine	117	31
Microbiology	1	0
Neonatology	0	0
Obstetrics & Gynecology	168	21
Ophthalmology	33	13
Oral & Maxilla-Facial Surgery	16	0
Orthodontics & dentofacial Orthopedic	12	0
Otolaryngology	24	7
Pediatric Surgery	0	0
Pediatrics	108	3
Physical Medicine & Rehabilitation	10	0
Prosthodontics	6	0
Psychiatry	4	5
Pulmonology	0	0
Radiology & Imaging	11	11
Radiotherapy	10	3
Surgery	84	10
Thoracic Surgery	1	0
Urology	3	0
Plastic and Reconstructive Surgery	6	0
Gynaecological Oncology	1	0
Nephrology	0	0
Pediatric Nephrology	1	0
Neurology	0	0
Neuro-surgery	3	0
Orthopedic Suegery	2	0
Rheumatology	1	0
Family Medicine	0	0
Insfectious Disease and Tropical Medicine	0	0
Cardiovascular Surgery	4	0
Peaditric Haematology & Oncology	1	0
Endocrinology and Metbolism	1	0
Feoto-maternal Medicine	1	0
Paediatric Neurology & Development	1	0
Transfusion Medicie	0	0
Hepatology	0	0
Paediatric Gastroentology and Nutrition	0	0
Reproductive Endocrinology and Infertility	0	0
Total	677	149

Government institutions offering MBBS degree, with number of seats (December 2015)

Serial no	Name of college	Year of establishment	No. of seats as of 2015
1	Dhaka Medical College, Dhaka	1948	197
2	Mymensingh Medical College, Mymensingh	1962	197
3	Chittagong Medical College, Chittagong	1962	197
4	Rajshahi Medical College, Rajshahi	1962	197
5	MAG Osmani Medical College, Sylhet	1966	197
6	Sher-e-Bangla Medical College, Barisal	1968	197
7	Rangpur Medical College, Rangpur	1972	197
8	Sir Salimullah Medical College, Mitford, Dhaka	1972	197
9	Comilla Medical College, Comilla	1992	113
10	Khulna Medical College, Khulna	1992	141
11	Shaheed Ziaur Rahman Medical College, Bogra	1992	141
12	Faridpur Medical College, Faridpur	1992	113
13	Dinajpur Medical College, Dinajpur	1992	142
14	Shaheed Suhrawardy Medical College, Sher-e-Bangla Nagar, Dhaka	2005	142
15	Pabna Medical College, Pabna	2008	57
16	Abdul Malek Ukil Medical College, Noakhali	2008	57
17	Cox's Bazar Medical College, Cox's Bazar	2008	57
18	Jessore Medical College, Jessore	2010	57
19.	Satkhira Medical College, Satkhira	2011	52
20	Shaheed Syed Nazrul Islam Medical College Kishoreganj	2011	52
21	Kushtia Medical College. Kushtia	2011	52
22	Sheikh Shahera Khatun Medical College. Gopalganj	2011	52
23	Shaheed Taj Uddin Ahmed Medical College. Gazipur	2013	52
24	Tangail Medical College. Tangail	2014	51
25	Shaheed M Monsur Ali Medical College, Shirgajganj.	2014	51
26	Manikganj Medical College, Manikganj	2014	51
27	Jamalpur Medical College, Jamalpur	2014	51
28	Patuakhali Medical College, Patuakhali	2014	51
29	Rangamati Medical College, Rangamati	2014	51
30	Mugda Medical College, Dhaka	2015	50
31	Armed Forces Medical College, Dhaka	1999	100
32	Army Medical College, Chittagong	2014	100
33	Army Medical College, Jessore	2014	100
34	Army Medical College, Comilla	2014	100
35	Army Medical College, Rangpur	2014	100
36	Army Medical College, Bogra	2014	100
Total			**3812**

Private institutions offering MBBS degree, with the number of seats (December 2015)

Sl. no.	Code no.	Name of college	No. of seats	Year of establishment
01	41	Bangladesh Medical College, Road # 14/A, Dhanmondi, Dhaka	120	1985
02	42	SamajVittic Medical College, Mirza Nagar, Via Savar Cant., Dhaka	150	1989
03	43	Institute of Applied Health Sciences, Foy's lake, Chittagong	75	1990
04	44	Jahurul Islam Medical College, Bajitpur, Kishoreganj	100	1992
05	45	Medical College for Women and Hospital, Rd # 8-9 Set-1, Uttara Model Town, Dhaka	90	1992
06	46	Z.H Sikder, Women Medical College, Monica Estate, Western Dhanmondi, Dhaka	100	1992
07	47	Dhaka National Medical College, 53/1 Jonson Road, Dhaka	125	1995
08	48	Community-based Medical College, 161 K.B. Ismail Road, Mymensingh	125	1995
09	49	Jalalabad Ragib-Rabeya Medical College, Pathantola, Sylhet	175	1996

Sl. no.	Code no.	Name of college	No. of seats	Year of establishment
10	50	Shaheed Monsur Ali Medical College, Plot # 26, Rd# 10, St-11, Uttara, Dhaka	130	1998
11	51	North East Medical College, South Surma, Sylhet	120	1998
12	52	Holy Family Red Crescent Medical College, 1 Eskaton Garden Road, Dhaka	130	2000
13	53	International Medical College, Sataish Bazar, Gushuli,Tongi, Gazipur	120	2000
14	54	North Bengal Medical College, JC Road, Dhanbandi, Sirajganj	85	2000
15	55	East West Medical College, Aichi Nagar, JBCS Sarani, Horirampur, Turag, Dhaka	120	2000
16	56	Kumudini Medical College, Mirzapur, Tangail	110	2001
17	57	Tairunnessa Medical College, Targas, Kunia, Board Bazar, Gazipur	100	2001
18	58	Ibrahim Medical College, Ibrahim Sarani, Segun Bagicha, Dhaka	110	2002
19	59	BGC Trust Medical College, Kanchannagar, Chandanaish, Chittagong	75	2002
20	60	Shahabuddin Medical College, Rd # 113/A, Plot # 12,Gulshan Model Town, Dhaka	90	2003
21	61	Enam Medical College, Parbatinagar, Thana Road, Savar, Dhaka	145	2003
22	62	Islami Bank Medical College, Nowdapara, Safura, Airport Road, Rajshahi	85	2004
23	63	IBN Sina Medical College, H # 48, Rd # 9/A, Satmoshjid Rd, Dhanmondi, Dhaka	50	2005
24	64	Central Medical College, Comilla Tower, Laksham Road, Comilla	75	2005
25	65	Eastern Medical College, Race Course, Comilla	105	2005
26	66	Khawja Eunus Medical College, Enayetpur, Sirajganj	100	2005
27	67	Chottogram Ma O Shishu Medical College, Agrabad, Chittagong 4100	100	2006
28	68	Sylhet Women Medical College, Mirbox Tolla, Sylhet	100	2006
29	69	Nightingale Medical College, Ashulia, Sarker Market, Dhaka	85	2006
30	70	Southern Medical College, Mozaffor Ahmed Chy Rd., East Nasirabad, Chittagong	95	2006
31	71	Northern International Medical College, House # 81, Rd # 7, Dhanmondi, Dhaka	75	2006
32	72	Uttara Adhunik Medical College, Uttara, Dhaka	90	2007
33	73	Delta Medical College, Mirpur, Dhaka	90	2008
34	74	Ad-Din Women Medical College, 2 Boro Mogbazar, Dhaka	90	2008
35	75	Dhaka Community Medical College, 190 Boro Mogbazar, Dhaka	100	2008
36	76	TMSS Medical College. Bogra	130	2008
37	77	Anwer Khan Modern Medical College, Dhanmondi, Dhaka	120	2008
38	78	Prime Medical College, Pirjabad, Rangpur	125	2008
39	79	Rangpur Community Hospital Medical College, Medical East Gate, Rangpur	125	2008
40	80	Northern Private Medical College, Dhap, Chiklibata Burirhat Road, Rangpur	70	2006
41	81	Faridpur Diabetic Association Medical College, Jhiltuli, Faridpur	90	2010
42	82	Green Life Medical College, Dhanmondi, Dhaka	110	2010
43	83	Popular Medical College, Road # 02, House # 25, Dhanmondi, Dhaka	100	2010
44	84	MH Shamarita Medical College, 13/A and 89/1 PanthaPath, Dhaka 1215	110	2011
45	85	Moonno Medical College, Manikganj	80	2011
46	86	Central International Medical College, 2/1 Ring Road, Shyamoli, Dhaka	90	2011
47	87	Dr. Sirajul Islam Medical College, Mogbazar, Dhaka	95	2011
48	88	Marks Medical College, Mirpur, Dhaka	70	2011
49	89	Mainamoti Medical College, Baro Para, Comilla	100	2012
50	90	Ad-Din-Sakina Medical College, 15, Rail Road, Jessore	65	2012
51	91	Gazi Medical College, Sonadanga, Khulna	100	2012
52	92	Barind Medical College, Shershah Road, Laksmipur, Rajshahi	90	2012
53	93	City Medical College, Eta Hata, Block-B, Tangail Road, Gazipur	80	2012
54	94	Ashiyan Medical College, Unicon Plaza (4-6th Floor) 4212 North Avenue, Gulshan 2	50	2013
55	95	Aichi Medical College, Plot-35 and 37, Sector 8, Abdullahpur, Uttara, Dhaka	50	2013
56	96	Bashundhara Ad-Din Medical College, Karaniganj	50	2013
57	97	Abdul Hamid Medical College & Hospital, Kishoreganj	60	2014-15
58	98	Bikrampur Bhuiyan's Medical College & Hospital, Srinagar, Munshiganj	50	2014-15
59	99	Universal Medical College, 74G/75 Peacock Square, New Airport Road, Dhaka	50	2014-15
60	100	Care Medical College, 2/1-A Iqbal Road, Mohammadpur, Dhaka	50	2014-15

Sl. no.	Code no.	Name of college	No. of seats	Year of establishment
61	101	Brahmanbaria Medical College, Ghatura, Brahmanbaria	50	2014-15
62	102	Parkview Medical College & Hospital, Taltola, Telirhat, VIP Road, Sylhet	50	2014-15
63	103	Marine City Medical College & Hospital, Chittagong	50	2014-15
64	104	Shah Makhdum Medical College, Boalia, Rajshahi	50	2014-15
65	105	US Bangla Medical College, Rupganj, Narayanganj	50	2014-15
66	106	Chattagram International Medical College, Chittagong	50	2015
67	107	Ad-Din Akij Medical College, Khulna	50	2015
68	108	Monowara Medical College, Patuakhali	50	2015
Total			**6145**	

Government institutions offering BDS degree, with the number of seats (Jun 2016)

Sl. no.	Name of college	Established in	Seats
01	Dhaka Dental College, Mirpur 14, Dhaka	1960	97
02	Chittagong Medical College Dental Unit, Chittagong	1990	60
03	Rajshahi Medical College Dental Unit, Rajshahi	1989	59
05	Shahid Suhrawardy Medical College Dental Unit, Dhaka	2012	56
04	Sir Salimullah Medical College Dental Unit, Dhaka	2012	52
06	Mymensingh Medical College Dental Unit, Mymensingh	2012	52
07	MAG Osmani Medical College Dental Unit, Sylhet	2012	52
08	Sher-e-Bangla Medical College Dental Unit, Barisal	2012	52
09	Rangpur Medical College Dental Unit, Rangpur	2012	52
Total			**532**

Private institutions offering BDS degree, with the number of seats (May 2016)

Sl. no.	Code no.	Name of college	Seats	Established in
01	21	Pioneer Dental College, 111 Malibag, D I T Road, Dhaka	100	1995
02	22	City Dental College, 1085/1 Malibag Chowdhury Para, Dhaka	75	1998
03	23	University Dental College, 120 Siddeswari Outer Circular Road, Century Arcade, Mogbazar, Dhaka	100	1996
04	24	Bangladesh Dental College, Road # 14/A, Dhanmondi, Dhaka	70	1997
05	25	Sapporo Dental College, Plot 12, Road 1/B, Sector 9, Uttara Model Town, Dhaka	90	2000
06	26	Rangpur Dental College, Medical East Gate, Rangpur	100	2008
07	27	Chittagong International Dental College, 206/1 Hazi Chandmia Road, Samsherpara, Chandgaon, Chittagong	65	2005
08	28	SamajVittik Dental College, Miza Nagar, Via Savar Cant., Dhaka	50	1997
09	29	Marks Dental College, A/3 Main Road, Section 14, Mirpur, Dhaka	50	2008
10	30	Update Dental College, 162 Atish Dipankar Road, West Mugdha, Dhaka	90	2008
11	31	Udayan Dental College, Rajshahi	50	2008
12	32	Shaphena Dental College, Boro Mogbazar, Dhaka	95	2010
13	33	Mandi Dental College, 295/Jha/14 Sikdar Real Estate, Dhanmondi (West), P.S: Hazaribag, Dhaka 1209	65	2010
14	34	MH Shamarita Medical College Dental Unit. 13/A and 89/1 PanthaPath, Dhaka 1215	45	2010
15	35	Kumudini Medical College Dental Unit, Mirzapur, Tangail	40	2011
16	36	Holy Family Red Crescent Medical College, 1 Eskaton Garden Road, Dhaka	30	2012
17	36	TMSS-Bogra Medical College Dental Unit, Bogra	50	2011
18	37	Community Medical College Dental Unit, 190 Boro Mogbazar, Dhaka	30	2012
19	38	Green Life Medical College Dental Unit, Dhanmondi, Dhaka	30	2013
20	39	Community-based Medical College Dental Unit, Mymensingh	30	2014
21	40	Dhaka National Medical College Dental Unit, 53/1 Jonson Road, Dhaka	20	2014
22	41	Delta Medical College Dental Unit, Mirpur, Dhaka	25	2014
23	42	Islami Bank Medical College Dental Unit, Rajshahi	20	2014
24	43	Al-Amin Dental College, Sylhet	40	2015
25	44	Ibrahim Medical College, Dental Unit, Dhaka	25	2016
Total			**1385**	

Government nursing colleges offering four-year Basic BSc Nursing course (December 2014)

Division	Name of nursing college	Degree	No. of seats
Under the Ministry of Health and Family Welfare			
Chittagong	College of Nursing, Chittagong Medical College, Chittagong	BSc Nursing	100
Dhaka	College of Nursing, Dhaka Medical College, Dhaka	BSc	100
	College of Nursing, Mymensingh Medical College, Mymensingh	BSc	100
Rajshahi	College of Nursing, Rajshahi Medical College, Rajshahi	BSc	100
Rangpur	College of Nursing, Rangpur Medical College, Rangpur	BSc	100
Sylhet	College of Nursing, MAG Osmani Medical College, Sylhet	BSc	100
Barisal	College of Nursing, Sher-e-Bangla Medical College, Barisal	BSc	100
Total no. of nursing colleges under MOHFW=7		**Total seats**	**700**
Dhaka	Armed Forces Medical Institute, Dhaka Cantonment, Dhaka	BSc	60
	Faculty of Nursing, BSMMU, Dhaka	BSc	25
Rangpur	Army Nursing College, Rangpur Cantonment, Rangpur	BSc	50
Chittagong	Army Nursing College, Chittagong Cantonment, Chittagong	BSc	50
	Army Nursing College Comilla Cantonment, Comilla	BSc	50
	Army Nursing College, Jessore Cantonment, Jessore	BSc	50
	Army Nursing College, Bogra Cantonment, Bogra	BSc	50
Total no. of nursing colleges under the Ministry of Defense=6; under BSMMU=1		**Total seats**	**60**
Total no. of nursing colleges in the government sector=14 (including autonomous BSMMU)		**Grand total**	**1035**

Government nursing colleges offering Post-basic BSc courses (December 2015)

Division	Name of institution	Degree	No. of seats
Under the Ministry of Health and Family Welfare			
Dhaka	Nursing College, Mohakhali, Dhaka	Post- basic BSc	125
Chittagong	Foujderhat Nursing College, Chittagong	Post- basic BSc	125
Rajshahi	Bogra Nursing College, Bogra	Post- basic BSc	125
Khulna	Khulna Nursing College, Khulna	Post-basic BSc	125
Total no. of nursing colleges offering Post-basic BSc =4		**Total seats**	**500**
Under the Ministry of Defence			
Armed Forces Medical Institute, Dhaka Cantonment, Dhaka		Post- basic BSc	25
Total no. of nursing colleges offering Post-basic BSc courses=4+1=5		**Total seats**	**525**

Private nursing colleges offering Post-basic BSc Nursing degree (December 2015)

Division	Name of nursing college	Post-basic (no. of seats)
Dhaka	East West Nursing College, Turag, Dhaka	50
	Kumudini Nursing College, Kumudini Hospital, Tangail	25
	State College of Health Sciences, Dhanmondi, Dhaka	30
	International Nursing College, Tongi, Gazipur	30
	Anwer Khan Modern Nursing College, Dhanmondi, Dhaka	30
	United College of Nursing, Gulshan, Dhaka	20
	BIRDEM Nursing College, 122 Kazi Nazrul Islam Avenue, Shahbag, Dhaka	50
	TMMC Nursing College, Targas, Board Bazar, Gazipur	30
	Sheikh Fazilatunnesa Mujib Memorial KPJ Specialized Hospital and Nursing College, Gazipur	40
	Prime Bank Nursing College, Kuril Bishwa Road, Dhaka	20
	Grameen Caledonian College of Nursing, Dhaka	30
	Dhaka Central International Nursing College & Institute, Shyamoli, Dhaka	30
	Dhaka Community Nursing College, Wireless Gate, Mogbazar, Dhaka	30
	Green life Nursing College, Green Road, Dhaka	30
Rajshahi	TMSS Nursing College, Thengamara, Bogra	30
	Khaza Younus Ali Nursing College, Enaetpur, Sirajganj	30
Sylhet	North East Nursing College, Telihaor, Sylhet	60
	Begum Rabeya Khatun Chowdhury Nursing College, Sylhet	50
Rangpur	Prime Nursing College, Rangpur	70
	Rangpur Community Nursing College, Rangpur	30
	College of Nursing Science, Zia-HFH Upashohor, Dinajpur	30
Total no. of colleges=19	**Total seats**	**745**

Private nursing colleges offering Basic BSc Nursing degree (December 2015)

Division	Name of nursing college	Basic BSc (no. of seats)
Dhaka	East West Nursing College, Turag, Dhaka	50
	Kumudini Nursing College, Kumudini Hospital, Tangail	25
	Square Nursing College, Square Hospital, Dhaka	50
	State College of Health Sciences, Dhanmondi, Dhaka	20
	International Nursing College, Tongi, Gazipur	40
	Anwer Khan Modern Nursing College, Dhanmondi, Dhaka	40
	United College of Nursing, Gulshan, Dhaka	40
	BIRDEM Nursing College, 122 Kazi Nazrul Islam Avenue, Shahbag, Dhaka	50
	TMMC Nursing College, Targas, Board Bazar, Gazipur	25
	Sheikh Fazilatunnesa Mujib Memorial KPJ Specialized Hospital and Nursing College, Gazipur	50
	CRP Nursing College, Savar, Dhaka	40
	Prime Bank Nursing College, Kuril Bishwa Road, Dhaka	30
	Grameen Caledonian College of Nursing, Dhaka	50
	Dhaka Central International Nursing College & Institute, Shyamoli, Dhaka	50
	IUBAT, Uttara, Dhaka	125
	Jahurul Islam Nursing College, Bajitpur, Kishoreganj	30
	Dhaka Community Nursing College, Wireless Gate, Mogbazar, Dhaka	40
	Green Life Nursing College, Green Road, Dhaka	40
Rajshahi	TMSS Nursing College, Thengamara, Bogra	25
	Khaza Younus Ali Nursing College, Enaetpur, Sirajganj	0
Sylhet	North East Nursing College, Telihaor, Sylhet	70
	Begum Rabeya Khatun Chowdhury Nursing College, Sylhet	60
Rangpur	Prime Nursing College, Rangpur	50
	Rangpur Community Nursing College, Rangpur	30
	College of Nursing Science, Zia-HFH Upashohor, Dinajpur	30
Total no. of colleges=24	**Total seats**	**1060**

Private institutions offering specialized nursing courses (December 2014)

Division	Name of institution	No. of seats
Dhaka	Diploma-in-Cardiac Nursing, National Heart Foundation Hospital & Research Institute, Mirpur, Dhaka	20
	Diploma-in-Cardiac Nursing, Ibrahim Cardiac Hospital, Shahbag, Dhaka	20
	Pediatric Nursing, Dhaka Shishu Hospital, Dhaka	20
Rangpur	Diploma-in-Cardiac Nursing, Institute of Nursing Science, Dinajpur (Zia Heart Foundation)	20
Total no. of institutions in the private sector offering specialized nursing courses =4	**Total seats**	**80**

Government nursing institutions, with number of seats (December 2014)

Division	Name of institution	No. of seats
Nursing institutions attached with medical college hospitals		
Chittagong	Nursing institutions attached with Comilla Medical College Hospital, Comilla	80
	Nursing institutions attached with Noakhali Medical College Hospital	80
Dhaka	Nursing institutions attached with Faridpur Medical College Hospital, Faridpur	80
	Nursing institutions attached with SSMC Hospital, Mitford, Dhaka	80
Khulna	Nursing institutions attached with Khulna Medical College	80
Rangpur	Nursing institutions attached with Dinajpur Medical College	80
Total		**480**
Nursing institutions attached with general hospitals		
Barisal	Nursing institutions attached with Patuakhali General Hospital	80
Chittagong	Nursing institutions attached with Rangamati General Hospital	80
Dhaka	Nursing institutions attached with Tangail General Hospital	80
Khulna	Nursing institutions attached with Jessore General Hospital	80
	Nursing institutions attached with Kushtia General Hospital	80
Rajshahi	Nursing institutions attached with Mohammad Ali Hospital, Bogra	80
	Nursing Institutions attached with Pabna General Hospital	80
	Nursing institutions attached with Sirajganj General Hospital	50
Total		**610**
Nursing institutions attached with district hospitals		
Barisal	Nursing institutions attached with Bhola District Hospital	50
	Nursing institutions attached with Pirojpuri District Hospital	50
	Nursing institutions attached with Barguna District Hospital	50
Chittagong	Nursing institutions attached with Brahmanbaria District Hospital	70
	Nursing institutions attached with Cox's Bazar District Hospital	50
	Nursing institutions attached with Feni District Hospital	50
	Nursing institutions attached with Chandpur District Hospital	50
Dhaka	Nursing institutions attached with Munshiganj District Hospital	50
	Nursing institutions attached with Netrakona District Hospital	50
	Nursing institutions attached with Rajbari District Hospital	50
	Nursing institutions attached with Gopalganj District Hospital	50
	Nursing institutions attached with Madaripur District Hospital	50
	Nursing institutions attached with Jamalpur District Hospital	50
	Nursing institutions attached with Kishoreganj District Hospital	50
	Nursing institutions attached with Sherpur District Hospital	50
Khulna	Nursing institutions attached with Bagerhat District Hospital	50
	Nursing institutions attached with Chuadanga District Hospital	50
	Nursing institutions attached with Magura District Hospital	50
	Nursing institutions attached with Satkhira District Hospital	50
	Nursing institutions attached with Jhenaidah District Hospital	50

Division	Name of institution	No. of seats
Rajshahi	Nursing institutions attached with Chapainowabganj District Hospital	50
	Nursing institutions attached with Joypurhat District Hospital	50
	Nursing institutions attached with Naogaon District Hospital	50
Sylhet	Nursing institutions attached with Maulvibazar District Hospital	50
	Nursing institutions attached with Habiganj District Hospital	50
Rangpur	Nursing institutions attached with Kurigram District Hospital	50
	Nursing institutions attached with Thakurgaon District Hospital	50
	Nursing institutions attached with Nilphamari District Hospital	50
	Nursing institutions attached with Panchagarh District Hospital	50
Total		**1470**
Grand total		**2560**

Government-run junior midwifery institutions, with the number of seats in each (December 2015)

Division	Name of institution	No. of seats
Junior midwifery institutions attached with medical college hospitals		
Chittagong	Nursing institutions attached with Comilla Medical College Hospital, Comilla	25
	Nursing institutions attached with Noakhali Medical College Hospital	25
	Chittagong Nursing College, Chittagong Medical College Hospital	25
Dhaka	Nursing institutions attached with Faridpur Medical College Hospital, Faridpur	25
	Dhaka Nursing College, Dhaka Medical College Hospital, Dhaka	50
	Mymensingh Nursing College, Mymensingh Medical College Hospital	25
	Nursing institutions attached with SSMC Hospital, Mitford, Dhaka	25
Khulna	Nursing institutions attached with Khulna Medical College	25
Rangpur	Nursing institutions attached with Dinajpur Medical College	25
	Rangpur Nursing College, Rangpur Medical College Hospital	25
Barisal	Barisal Nursing College, Barisal Sher-e-Bangla Medical College Hospital	25
Sylhet	Sylhet Nursing College, MAG Osmani Medical College Hospital, Sylhet	25
Rajshahi	Rajshahi Nursing College, Rajshahi Medical College Hospital	25
	Bogra Nursing College, Shaheed Ziaur Rahman Medical College Hospital	25
Total		**375**
Junior midwifery institutions attached with general hospitals		
Dhaka	Nursing institutions attached with Tangail General Hospital	25
Khulna	Nursing institutions attached with Jessore General Hospital	25
	Nursing institutions attached with Kushtia General Hospital	25
Rajshahi	Nursing institutions attached with Mohammad Ali Hospital, Bogra	25
	Nursing Institutions attached with Pabna General Hospital	25
	Nursing institutions attached with Sirajganj General Hospital	25
Total		**150**
Junior midwifery institutions attached with district hospitals		
Chittagong	Nursing institutions attached with Brahmanbaria District Hospital	25
	Foujderhat Nursing College, Chittagong	25
Dhaka	Nursing institutions attached with Munshiganj District Hospital	25
	Nursing institutions attached with Rajbari District Hospital	25
	Nursing Institute, Manikganj	25
	Nursing institutions attached with Gopalganj District Hospital	25
	Nursing institutions attached with Kishoreganj District Hospital	25
Khulna	Nursing institutions attached with Satkhira District Hospital	25
	Nursing institutions attached with Jhenaidah District Hospital	25
Sylhet	Nursing institutions attached with Habiganj District Hospital	25
Rajshahi	Nursing institutions attached with Joypurhat District Hospital	25
Total		**275**
Grand total		**800**

Private nursing institutions, with the number of seats (December 2015)

Division	Name of nursing institution	No. of seats
Chittagong	Nursing Institute, Christian Hospital, Chandroghona, Chittagong	30
	Jemison Red Crescent Nursing Institute, 395 Andorkillah, Chittagong	50
	Comilla Diabetic Hospital Nursing Institute, Comilla	40
	Mahbubur Rahman Memorial Hospital & Nursing Institute, Bancharampur, Brahmanbaria	40
	Begum Osman Ara College of Nursing, (BGC Trust), Chandanaish, Chittagong	50
	Chittagong Ma O Shishu Hospital Nursing Institute, Agrabad, Chittagong	25
Dhaka	Fatima Nursing Institute, Ad-Din Hospital, Mogbazar, Dhaka	50
	Kumudini Nursing School, Mirzapur, Tangail	50
	Christian Health Project Nursing Institute, Joyramkura, Haluaghat, Mymensingh	30
	CRP Nursing Institute, Savar, Dhaka	50
	Diabetic Association Nursing Institute, Jhiltuli, Faridpur	40
	BA Siddiqui Nursing Institute, Holy Family Red Crescent Medical College Hospital, Mogbazar, Dhaka	50
	AL Helal Nursing Institute, Mirpur, Dhaka	30
	Jahurul Islam Nursing Institute, Bajitpur, Kishoreganj	60
	Munnu Nursing Institute, Manikganj	40
	Prime Bank Nursing Institute, Kuril Bishwa Road, Dhaka	50
	Japan-Bangladesh Friendship Nursing Institute, Mirpur, Dhaka	60
	Central Hospital Nursing Institute, Green Road, Dhanmondi, Dhaka	50
	Nursing Institute, ShishuShasthya Foundation Hospital, Mirpur, Dhaka	20
	Nursing Institute, Medical College for Women and Hospital, Uttara, Dhaka	25
	TMMC Nursing Institute, Targas, Board Bazar, Gazipur	50
	Green Life Nursing College, Dhanmondi, Dhaka	40
	NIMDT Nursing Institute, Mohammadpur, Dhaka	30
	Shaheed Monsur Ali Nursing Institute, Uttara, Dhaka	40
	Dhaka Community Nursing Institute, Wireless Gate, Mogbazar, Dhaka	30
	Community-based Nursing Institute, Mymensingh	50
	East West Nursing Institute, Turag, Dhaka	50
	MH Shamarita Nursing Institute, Tejgaon, Dhaka	40
	Grameen Caledonian College of Nursing, Dhaka	70
	IBN Sina Nursing Institute , Kallyanpur, Dhaka	70
	Anower Khan Modrern College, Road 8, Dhanmondi, Dhaka	50
	Universal Nursing Institute, Mohakhali, Dhaka	50
	Kalihati Nursing Institute, Kalihati, Tangail	50
	Hamida Nursing Institute, Mirpur, Dhaka	30
	Scholars Nursing Institute, Mymensingh	30
	Dhaka Central International Nursing College & Institute , Shyamoli, Dhaka	50
	Pollobi Nursing Institute, Mirpur, Dhaka	50
	Skabo Nursing Institute, Mymensingh	40
Khulna	Ad-Din Nursing Institute, Jessore	30
	GMR Nursing Institute, Sonadanga, Khulna	70
	Safina Nursing Institute, Kushtia	30
	Impact Nursing Institute, Amihupi, Meherpur	20

Division	Name of nursing institution	No. of seats
Rajshahi	Nursing Institute attached with KhajaYunus Ali Medical College Hospital, Enayetpur, Sirajganj	50
	Nursing Institute, Christian Mission Hospital	50
	Pabna Community Nursing Institute, Sathia, Pabna	40
	Islami Bank Medical College Hospital Nursing Institute, Rajshahi	100
	Shah Makhdum Nursing Institute, Boalia, Rajshahi	30
	TMSS Nursing College, Thengamara, Bogra	100
	Mojibur Rahman Foundation Nursing Institute, Joypurhat	40
	Diabetic Association Nursing Institute, Rajshahi	60
	Uttarbango Nursing Institute, Bogra	30
	Ideal Nursing Institute, Sherpur Road, Bogra	50
	Safa-Macca Nursing Institute, Sirajganj	40
	BADS Nursing Institute, Naruli, Bogra	40
	Udayon Nursing College, Rajshahi	50
Sylhet	North East Nursing Institute, Sylhet	120
	Sylhet Red Crescent Nursing Institute, Sylhet	40
	Begum Rabeya Khatun Chowdhury Nursing Institute, Sylhet	70
Rangpur	Rangpur Community Nursing Institute, Rangpur	50
	Prime Nursing College, Rangpur	60
	Lamb Nursing Institute, Parbotipur, Dinajpur	50
	Saint Vincent Nursing Institute, Dinajpur	40
	College of Nursing Science, Zia-HFH Upashohor, Dinajpur	60
	Northern Institute of Nursing Science, Dhap, Rangpur	40
	Anwara Nursing Institute, Dinajpur	30
	The Green Life Nursing Institute, Dinajpur	40
Barisal	DWF Nursing Institute, Barisal	30
	Gazi M. Rahman Nursing Institute, Patuakhali	40
Total		**3169**

Privately-run junior midwifery institutions, with the number of seats in each (December 2015)

Division	Name of junior midwifery institution	No. of seats
Chittagong	Junior Midwifery Institute, Red Crescent Matrisadan Hospital, Chandpur	20
	Jemison Red Crescent Midwifery Institute, Agrabad, Chittagong	50
	Christian Hospital, Chandroghona, Rangamati	20
	Junior Midwifery Institute, Memon Hospital, City Corporation, Chittagong	30
Dhaka	Junior Midwifery Institute, Holy Family Red Crescent Hospital, Dhaka	60
	Junior Midwifery Institute, Shaheed Moyez Uddin Memorial Red Crescent Matrisadan Hospital, Bangla Bazar, Dhaka	20
	Junior Midwifery Institute, Kumudini Hospital, Mirzapur, Tangail	20
	Central Hospital Nursing Institute, Green Road, Dhanmondi, Dhaka	20
Khulna	Junior Midwifery Institute Ad-Din Matrisadan Hospital, Jessore	20
	Junior Midwifery Institute, Fatema Hospital, Jessore	20
Rajshahi	Junior Midwifery Institute, Christian Hospital, Bogra	20
Rangpur	Prime Nursing College, Rangpur	20
Total		**320**

Government Medical Assistant Training Schools (MATS), with the number of seats (June 2015)

Division	Name of MATS	No. of seats
Chittagong	Medical Assistant Training School, Comilla	52
	Medical Assistant Training School, Noakhali	102
Dhaka	Medical Assistant Training School, Faridpur	52
	Medical Assistant Training School, Tangail	102
Khulna	Medical Assistant Training School, Bagerhat	152
	Medical Assistant Training School, Kushtia	102
	Medical Assistant Training School, Jhenaidah	52
Rajshahi	Medical Assistant Training School, Sirajganj	102
Total		**716**

Private Medical Assistant Training Schools (MATS), with the number of seats (May 2015)

Division	Name of institution	Year of establishment	No. of seats
Chittagong	Comilla Institute of Technology and MATS, Thakurpara, Comilla	2008	75
	Chittagong Institute of Medical Technology, Chittagong	2011	50
	Moinamoti Medical Assistant Training School, Comilla	2011	50
	Noakhali Paramedical Centre (NPCMATS)	2011	50
	Brahmanbaria Medical Assistant Training School, Brahmanbaria	2011	50
	Chandpur Medical Assistant Training School, Chandpur	2011	50
Dhaka	AR Medical Assistant Training School, Mohammadpur, Dhaka	2008	75
	Advance Medical Assistant Training School, Green Road, Dhaka	2010	100
	Bangladesh Medical Assistant Training School, Uttara, Dhaka	2009	50
	Dhaka Medical Assistant Training School, Mirpur, Dhaka	2009	100
	New Pilot Medical Assistant Training School, Tangail Sadar	2008	50
	Rabeya Medical Assistant Training School, Savar, Dhaka	2009	75
	Rampura Medical Assistant Training School, Rampura, Dhaka	2008	80
	Rumdo Medical Assistant Training School, Mymensingh	2008	75
	SAIC Institute of Medical Assistant, Mirpur, Dhaka	2008	80
	SIMT Medical Assistant Training School, Kalabagan, Dhaka	2008	100
	Spark SIMT Medical Assistant Training Academy, Mirpur, Dhaka	2008	60
	SPKS Medical Assistant Training School, Mirpur, Dhaka	2008	100
	Sumona Medical Assistant Training School, Sadarghat, Dhaka	2008	60
	The Medical Assistant Training School, Mirpur, Dhaka	2007	175
	Trauma Medical Assistant Training School, Mohammadpur, Dhaka	2008	200
	Institute of Medical Assistants, Faridpur	2010	50
	Eden Medical Assistant Training School, Mirpur, Dhaka	2010	50
	Tangail Medical Assistant Training School, Sabalia, Tangail	2010	180
	Shyamoli Medical Assistant Training School, Mohammadpur, Dhaka	2010	200
	Taleb Ali Medical Assistant Training School, Natun Bazar, Mymensingh	2010	50
	Rajbari Community Medical Assistant Training School, Rajbari	2010	100
	National Institute of Medical and Dental Technologist & MATS, Mohammadpur, Dhaka	2010	50
	Prince Medical Assistant Training School, Savar, Dhaka	2010	75
	Khondoker Abdul Mannan Medical Institute (MATS), Kishoreganj	2010	50
	Reliable Medical Assistant Training School, Mirpur, Dhaka	2011	50
	Dr. Halima Khatun Medical Assistant Training School, Mymensingh	2011	50
	Jashimuddin Medical Assistant Training School, New College Road, Jamalpur	2011	50
	Shahid SA Memorial Medical Institute, Uttara, Dhaka	2011	50
	Paramedical Institute & MATS, Chandona, Gazipur	2011	50
	Institute of Medical Technology & MATS, Jalkuri, Siddirganj, Narayanganj	2011	50

Division	Name of institution	Year of establishment	No. of seats
Dhaka	Fortune Institute of Medical Technology, Kamarpara Road, Turag Thana, Dhaka	2011	50
	New Turag General Hospital Private Limited, Station Road, Tongi, Gazipur	2011	50
	Rajdhani Medical Assistant Training School (Rajdhani MATS), Mirpur, Dhaka	2011	100
	Dhaka Microlab Institute of Medical Technology (IST, MATS)	2011	50
	Nidasa Medical Assistant Training School, 20/24 North South Road, Siddik Bazar, Dhaka	2011	50
	Bibartan Medical Assistant Training School, Mirpur, Dhaka	2011	30
	Matri Sheba Medical Training School (MATS), Kona Bari, Gazipur	2012	25
	Ideal Medical Training Institute & Health Technology, Mymensingh Road, Sabalia, Tangail	2012	50
	Jefri Institute of Health Science & Technology & MATS Dhanmondi, Rayer Bazar, Dhaka.	2013	50
	JMATS & Medical Institute, College Road, Jamalpur	2013	50
	D-Medical Assistant Training School, Mirpur Bus Stand, Dhaka	2013	50
	Atik Medical Assistant Training School, Brammondi, Narsingdi	2013	50
	Ma Medical Assistant Training School, Itahat, Gazipur	2013	50
	Mawna Medical Assistant Training School, Mawna Chourasta, Gazipur	2013	50
	Shyamoli Ideal Medical Assistant Training School, Mohammadpur, Dhaka	2014	75
	The Radium MATS & Technology Institute, Ghiur, Manikganj	2014	50
	Jonoseba Medical Assistant Training School, Arambag, Chapainowabganj	2014	50
	Uttara Adhunik Medical Institute MATS, Abdullahpur, Uttara, Dhaka	2014	50
	Dhaka City Medical Assistant Training School, Swamibag, Dhaka	2014	50
	Bangladesh Cancer Society Medical Assistant Training School, Darussalam, Mirpur, Dhaka	2014	50
	Momotaj Medical Assistant Training School, Dhanshiri, Dhamrai, Dhaka	2014	50
	Byte Medical Assistant Training School & Health Technology Institute, Uthuli, Shibaloy, Manikganj	2014	50
	Central Institute of Health Science & MATS , Mirpur 14, Dhaka	2015	50
	Eastern Medical Assistant Training School, Tikatuli, Dhaka	2015	50
	Ekhlas Uddin Khan Medical Assistant Training School, Ghiur, Manikganj	2015	50
	Gurukul Medical Assistant Training School, Dhokhin Bhabanipur, Rajbari	2015	50
	Tongi Medical Assistant Training School, Road No 10, Uttara, Dhaka	2015	50
	Dr. Rubi Medical Assistant Training School, Shyamoli, Dhaka	2011	50
	Scholar Medical Assistant Training School (MATS), Maskanda, Mymensingh	2011	50
	AITAM Welfare Organization, Mohammadpur, Dhaka	2012	50
	Firoza Medical Assistant Training School, Sholakia, Kishoreganj	2012	50
	Jamuna Medical Assistant Training School, Tangail Sadar	2012	75
	Gazipur Pharmaceutical Institute, Chandra, Gazipur Sadar	2011	50
Rajshahi	Rajshahi Medical Assistant Training School, Rajshahi	2008	100
	Health Ways Medical Assistant Training School, Santahar, Bogra	2013	60
	SIMT Medical Assistant Training School, Nishindho, Bogra	2011	30
	TMSS Medical Assistant Training School, Thengamara, Bogra	2008	150
	Udayan Medical Assistant Training School, Rajshahi	2008	180
	Medical Assistant Training School, Joypurhat	2008	50
	Ideal Medical Technology, Sherpur Road Colony, Bogra	2008	80
	People's International Medical Assistant Training School, Airport Sarak, Sapura, Rajshahi	2008	50
	Galaxy Medical Assistant Training School, Sapura, Rajshahi	2010	100
	Pabna Community Medical Assistant Training School, Bishnupur, Sathia, Pabna	2011	50
	Bangladesh Institute of Medical Technology, Hatem Kha, Boalia, Rajshahi	2011	50
	PIMT Medical Assistant Training School, (MATS), Bogra	2011	100
	Natore Medical Assistant Training School , Natore	2011	50
	ASI Medical Assistant Training School, (MATS), Sirajganj	2011	50
	NDC Medical Assistant Training School, (NDC MATS), Paharpur Road, Joypurhat	2011	75
	Pabna Medical Assistant Training School, Mujib Palace, PP Road, Singa, Pabna	2011	50
	Joypurhat Medical Assistant Training School, Joypurhat		50

Division	Name of institution	Year of establishment	No. of seats
Rajshahi	RadiumMedical Training School, Talainari, Boalia, Rajshahi	2012	50
	Sirajganj Modern Medical Training School, Coddarmore, Sirajganj	2011	25
	Anwara Medical Assistant Training School, Dinajpur	2011	75
	TS Medical Assistant Training School, New Bagura Road, Sirajganj	2011	80
	Morning Glory Medical Assistant Training School, Shibtola, Chapainowabganj	2012	80
	SDDL Medical Assistant Training School (MATS), Bogra	2012	80
	Prime Medical Assistant Training School, Talaimari, Rajshahi	2011	100
	State Medical Assistant Training Academy, Mill Gate Sarak, Kaliganj, Jhenaidah	2011	50
	Ideal Medical Assistant Training School (MATS), Poura College Para, Chuadanga	2012	25
	Uttar Banga Medical Assistant Training School, Uttar Banga MATS	2011	50
	Mohasthan Medical Assistant Training School, Gokul, Bogra	2013	100
	Rubi Medical Assistant Training School, Naogoan	2013	50
	Doctor's Medical Assistant Training school, Rajpara, Rajshahi	2013	50
	DAF Bangladesh Medical Training School, Rajshahi	2013	50
	Mahi Sawar Medical Assistant Training School, Bogra	2013	50
	Afford Medical Assistant Training School, Boalia, Rajshahi	2013	75
	Bright Nation Medical Assistant Training School, Pabna Sadar, Pabna	2013	50
	Padma Medical Assistant Training School, Kashiadanga, Rajshahi	2013	50
	BIMT Medical Assistant Training School, Shajahanpur, Bogra	2013	75
	Combined Medical Assistant Training School, Bogra	2013	50
	Peerless Medical Assistant Training School, Puthia, Rajshahi	2013	50
	Amena Medical Assistant Training School, Talaimari Bazar, Rajshahi	2013	50
	NIAK Medical Assistant Training School, College Road, Shibbari, Bogra	2014	75
	Royal Medical Assistant Training School, Sherpur Road, Bogra	2014	50
	Jonoseba Medical Assistant Training School, Arambag, Chapainowabganj	2014	50
	SM Institute of Medical Technology & MATS, Sirajganj	2014	50
	Saleha Medical Assistant Training School, Boro Bonogram, Rajshahi	2014	50
	Labcare Medical Assistant Training School, Munshi Meherullah Sorok, Sirajganj	2014	50
	Al Amana Medical Assistant Training School, Loskorpur, Pabna	2014	50
	The Green Medical Assistant Training School, Dhaka Bypass Road, Pabna	2015	50
	Pabna Ideal Medical Assistant Training School, Salgaria, Pabna	2015	50
	Asian Medical Assistant Training School, Sreerampur, Sherpur, Bogra	2015	50
	Neuron Medical Assistant Training School, Boalia, Rajshahi	2015	50
	Ullapara Medical Assistant Training School, Ullaoara, Sirajganj	2012	25
Khulna	State Medical Assistant Training Academy, Mill Gate Sarak, Kaliganj, Jhenaidah	2011	50
	Ideal Medical Assistant Training School (MATS),Poura College Para, Chuadanga	2012	50
	Khulna Medical Assistant Training School (MATS), Khulna	2011	60
	Dr. Liza Raton Medical Assistant Training School, 42/1 NS Road, Kushtia	2011	75
	Alo Medical Assistant Training School, Alobhaban, NS Road, Kushtia	2011	80
	Chuadanga Ideal Medical Assistant Training School (MATS), Alamdanga Road, Poura College Para, Chuadanga	2012	25
	Unilab Medical Assistant Training School, Magura	2011	100
	Brick Medical Assistant Training School, Daulatpur, Kushtia	2014	50
	Dr. Taher, Dr. Lina Medical Assistant Training School, College Road, Meherpur	2014	50
	Rupsha Medical Assistant Training School, Fulbari Gate, Khulna	2014	50
	Oxford Medical Assistant Training School, Stadium More, Magura	2014	50
	Bushra Medical Assistant Training School, Khulna Road More, Satkhira	2014	50
	Lalonshah Medical Assistant Training, School & Medical Technology Institute, Kumarkhali, Kushtia	2014	50
	Muktijudda Tofazzal Hossen Medical College, Hamdaha, Jhenaidah	2015	50
	Dr. Mezbah-ur-Rahman Medical Assistant Training School, Jessore	2015	50
	Padma Gorai Medical Assistant Training School, Kushtia Sadar, Kushtia	2015	50
	Specialised Medical Assistant Training School, Hospital Road, Kushtia	2015	50

Division	Name of institution	Year of establishment	No. of seats
Barisal	Morning Sun Assistant Training School (MATS), Nobogram Road, Barisal	2012	25
	Disable Welfare Foundation Medical Assistant Training School, Sabujbagh, Patuakhali	2012	50
	Jomjom Medical Assistant Training School, Kazipara, C&B Road, Barisal	2012	100
	DWF Medical Assistant Training School, Himel Cottage, C&B Road, Barisal	2014	50
	Advance Institute of Medical & Dental Technology with MATS, Chandmari, Barisal	2014	50
	Progressive Medical Assistant Training School, Bauphol, Patuakhali	2014	50
Rangpur	Rangpur Medical Assistant Training School, Islambag, RK Road, Rangpur	2010	105
	Anwara Medical Assistant Training School, Mirzapur, Suihari, Dinajpur	2011	100
	Renin Medical Assistant Training School, Lalmonirhat	2011	50
	Central Medical Assistant Training School (MATS), Rangpur	2011	50
	Green International Medical Assistant Training School, Rangpur		150
	Prime Medical Assistant Training School, Rangpur	2012	80
	Rangpur CT MATS, Kelabond C O Bazar, Rangpur	2012	80
	Birampur Medical Assistant Training School, Birampur, Dinajpur	2012	50
	Janata Medical Assistant Training School, Nageshwori, Kurigram	2011	50
	Creative Medical Assistant Training School, Hospital Road, Nilphamari	2012	50
	North Bengal Medical Assistant Training School, College Road, Gaibandha	2013	50
	Oriental Medical Assistant Training School, Gobindanagar, Thakurgoan	2013	50
	Institute of Health Technology, MATS, Paharpur, Dinajpur	2013	50
	Green Life Medical Assistant Training School, New Town, Dinajpur	2014	50
	M.A. Medical Assistant Training School, Halpara, Thakurgoan	2015	50
	Abul Hossain Medical Assistant Training School, Suihari, Dinajpur	2015	50
	Panchagarh Medical Assistant Training School, Tetulia, Panchagarh	2015	50
	Rangpur Delta Medical Assistant Training School, RK Road, Rangpur	2015	50
Sylhet	Jalalabad Medical Assistant Training School, Sylhet	2011	50
	Maulvibazar Medical Assistant Training School, Kushumbag, Maulvibazar	2011	80
	Sylhet Medical Assistant Training School, South Surma, Sylhet	2012	70
	RTM International Medical Assistant Training School, Sylhet Sadar	2013	100
	Symantik Medical Assistant Training School, Shahjalal Upashohor, Sylhet	2013	100
	National Life Care Medical Assistant Training School, Upashohor Road, Sonarpar, Sylhet	2013	50
	Asha Medical Assistant Training School, Chunarughat, Habiganj	2013	50
Total			**12335**

List of government institutes of health technology, with number of seats by discipline (June 2015)

Division	Name of institute with location	Estd.	Discipline with number of seats							Quota for FF&TR	Total
			LAB	RDL	PTY	SI	DENT	PHAR	RTY		
Dhaka	Institute of Health Technology, Mohakhali, Dhaka	1962	50	50	50	50	50	50	20	5+2	327
Rajshahi	Institute of Health Technology, Rajshahi	1976	50	50	50	50	50	50	20	5+1	327
	Institute of Health Technology, Bogra	2006	65	55	50	50	55	55	20	5+2	357
Chittagong	Institute of Health Technology, Chittagong	2011	50	50	50	50	50	50	20	5+2	327
Barisal	Institute of Health Technology, Barisal	2011	50	50	50	50	50	50	20	5+2	327
Rangpur	Institute of Health Technology, Rangpur	2011	50	50	50	50	50	50	20	5+2	327
Khulna	Institute of Health Technology, Jhenaidah	2011	50	50	50	50	50	50	20	5+2	327
Sylhet	Institute of Health Technology, Sylhet	2011	50	50	20	50	50	50	0	5+2	277
Total institutes=8		**Total seats**	**415**	**405**	**370**	**400**	**405**	**405**	**140**	**56**	**2596**

LAB= Laboratory; RDL=Radiology; PTY=Physiotherapy; SI=Sanitary inspection; DENT=Dentistry; PHAR=Pharmacy; RTY=Radiotherapy; FF&TR=Children of freedom fighters and tribal students

List of private institutes of health technology, with the number of seats by discipline (December 2015)

Division	Name of institute with location	Estd.	Discipline							Total
			LAB	RDL/ RDT	PTY	DENT	PHAR	Other1	Other2	
Chittagong	CSCR Institute of Medical Technology, Golpahar, Chittagong	2008	35	0	25	25	30	0	0	115
	Chittagong Institute of Medical Technology Halishahar, Chittagong	2005	50	0	0	50	50	0	0	150
	Comilla Institute of Medical Technology, Thakurpara, Comilla	2007	25	50	0	25	50	0	0	150
	Ilah College of Medical Technology, Nahar Kutir, Comilla	2005	25	0	0	0	25	0	0	50
	Institute of Health Technology, 180 Firingibazar, City Corporation, Chittagong	2003	25	25	0	25	0	0	0	75
	Cox's Bazar Institute of Medical Technology, Cox's Bazar	2011	30	30	0	30	0	0	0	90
	Maizdi Institute of Health Technology, Noakhali	2013	30	0	0	0	30	0	0	60
	United Care Institute of Medical Technology, Madhyapara, Brahmanbaria	2010	25	0	0	15	0	0	0	40
	Compact Medical Institute, Hazari Road, Feni	2011	25	0	0	50	25	0	0	100
Sylhet	SRB Diploma in Health Technology, Zindabazar, Sylhet	2013	25	0	0	0	0	25	0	50
	North East Institute of Health Technology South Surma, Sylhet	2014	25	25	0	0	0	0	0	50
Dhaka	AR Institute of Medical Technology, Mohammadpur, Dhaka	2008	50	25	50	50	50	0	0	225
	Ahsania Mission Institute of Health Technology, Mirpur, Dhaka	2008	25	25	25	0	0	0	0	75
	Armed Forces Institute of Medical Technology, Dhaka	2010	25	25+25	25	25	25	10 (OTA)	15 (ICA)	175
	Bangladesh Health Profession Institute, Mirpur, Dhaka	1996	50	50	50	0	0	50 (Occupational)		200
	Bangladesh Institute of Medical & Dental Technology, Iqbal Road, Mohammadpur, Dhaka	1997	85	20	20	25	0	25 (BSc in Lab)	25 (BSc in Dentistry)	200
	Bangladesh Medical College, Dhaka		0	0	25	0	0	0	0	25
	Center for Rehabilitation of the Paralyzed, Savar, Dhaka	1999	50	50	50	0	0	0	Occupational 50	200
	Dhaka Institute of Health Technology, Humayun Road, College Gate, Mohammadpur, Dhaka	2008	50	0	25	30	40	0	0	145
	Fortune Institute of Medical Technology, Jasimuddin Road, Uttara, Dhaka	2007	50	25	0	50	50	0	0	175
	GonoShasthya Institute of Health Sciences, Tengra, Sreepur, Gazipur	2006	50	0	25	50	0	0	0	150
	Green View Institute of Health Technology, Green Road, Dhanmondi, Dhaka	2002	50	0	0	40	25	50 (BSc in Lab)	0	165
	Institute of Medical Technology, Rajbari	2010	50	0	0	0	50	0	0	100
	Institute of British Colombia Medical Technology, Uttara, Dhaka	2008	40	0	25	25	35	0	0	125
	Institute of Community Health Bangladesh, Mogbazar, Dhaka	2005	50	0	25	25	25	0	0	125
	Institute of Medical Technology, Mirpur, Dhaka	2000	100	0	0	50	50	0	0	200
	Institute of Medical & Dental Technology, Tangail	2007	50	25	0	25	50	0	0	150
	International Institute of Health Sciences, Shewrapara, Mirpur, Dhaka	2006	70	25	25	50	40	0	0	210
	Institute of Medical Technology, Tamizuddin Road, Jhiltuli, Faridpur	2005	50	0	0	50	25	0	0	125
	Jefri Institute of Health Sciences & Technology, Dhanmondi, Dhaka	2009	50	50	50	50	50	0	0	250
	Marks Institute of Medical Technology, Mirpur, Dhaka	2002	50	25	0	50	50	0	0	175
	Millennium Institute of Medical Technology, Bacharam Dewry, Dhaka	2007	25	25	0	25	0	0	0	75
	National Institute of Medical & Dental Technology, Mohammadpur, Dhaka	2005	34	0	0	0	31	0	0	65

Division	Name of institute with location	Estd.	Discipline							Total
			LAB	RDL/ RDT	PTY	DENT	PHAR	Other1	Other2	
Dhaka	National Institute of Medical Technology, Uttara Model Town, Dhaka	2003	50	0	0	50	50	0	0	150
	New Lab Institute of Medical Tech, Asad Gate, Mohammadpur, Dhaka	2005	70	0	0	30	30	0	0	130
	Prince Institute of Medical Technology, Savar, Dhaka	2008	45	0	0	30	40	0	0	115
	Prof. Suhrabuddin Institute of Medical Technology, Sabalia, Tangail	2007	75 (BSc In Lab 50)	0	25+25 (BSc in PTY)	45 (BSc In Lab 25)	70	50 (BSc in Lab)	25 (BSc in Dent)	315
	Radiant College of Medical Technology Green Road, Dhaka	2003	40	0	0	40	0	0	0	80
	Rumdo Institute of Medical Technology, Boundary Road, Mymensingh	2007	60	0	0	0	25	0	0	85
	SAIC Institute of Medical Technology Mirpur, Dhaka	2005& 2008	70	10	25	40	40	0	0	185
	Shahid SA Memorial Institute of Medical Technology, Uttara, Dhaka	2007	40	0	0	25	25	0	0	90
	Shyamoli Ideal Institute of Medical Technology, Dhaka	2010	50	0	50	50	50	0	0	200
	State University of Bangladesh, Iqbal Road, Mohammadpur, Dhaka	2008	0	0	0	0	0	0	50 (Optometry)	50
	Sumona Institute of Medical Technology, Sadarghat, Dhaka	2007	50	0	0	30	50	0	0	130
	Trauma Institute of Medical Technology, Shyamoli, Dhaka	2008	75	50	0	25	50	75	50	325
	Christian Institute of Medical Technology, West Tejturi Bazar, Tejgaon, Dhaka	2010	30	0	0	0	30	0	0	60
	Rampura Institute of Medical Technology, Rampura, Dhaka	2010	60	0	0	0	50	0	0	110
	Central Institute of Health Science (Diploma Course), Mirpur, Dhaka	2012	25	25	0	0	0	25 (B.Sc. in Lab)	25 (B. Sc. In PTY)	100
	Dhaka Microlab Institute of Medical Technology, Shahjadpur, Gulshan, Dhaka	2010	30	0	0	15	30	40 (B.Sc. in Lab)	30 (B.Sc. in Lab)	145
	National Heart Foundation Hospital & Research Institute, Mirpur, Dhaka	2013	0	0	0	0	0	MT (Cardiology) 5	MT(OTA) 5	10
	J-MATS & Medical Institute, College Road, Jamalpur	2013	40	0	25	25	0	0	0	90
	Ghurukul Medical Institute, Dokhhin Bhabanipur, Rajbari	2014	25	0	25	25	0	0	0	75
	East West Institute of Medical Technology, Turag, Dhaka	2014	50	50	25	25	50	0	0	150
	Fulpur Institute of Medical Technology, Fulpur, Mymensingh	2014	30	0	0	30	30	0	0	90
	Akonda Institute of Medical Technology, Chorpara, Mymensingh	2014	25	0	25	25	0	0	0	75
	Army Medical Core Center & School, Ghatail, Tangail	2013								1500
	Rabeya MATS Technology, Savar, Dhaka	2014	25	0	0	25	0	0	0	50
	Ghatail Medical Assistant Training School, Tangail	2013	75	0	0	0	75	0	0	150
	International Institute of Medical Technology, Sataish Tongi, Gazipur	2013	0	0	0	0	0	BSc (MT LAB) 40	0	40
	Lake View Institute of Medical Technology, Faridpur	2013	30	0	0	30	30	0	0	90
	Institute of Medical Technology, Jalkuri, Narayanganj	2010	25	0	0	15	25	0	0	65
	Bangladesh Health Professional Institute, CRP, Chapain, Savar, Dhaka	2013	0	0	0	0	0	Diploma in prosthetics & Orthopadics 10	0	10
	Bhairab Institute of Medical Technology, Kishoreganj	2010	25	0	0	15	25	0	0	65
	Uttara Crescent Institute of Medical Technology, Dhaka	2011	25	25	25	25	25	0	0	125
	Dialab Institute of Medical Technology, Lalbag, Dhaka	2011	25	25	25	0	25	0	0	100

Division	Name of institute with location	Estd.	Discipline							Total
			LAB	RDL/ RDT	PTY	DENT	PHAR	Other1	Other2	
Dhaka	Mymensingh BNSB Institute of Community Ophthalmology, Mymensingh	2011	0	0	0	0	0	MLOP Asstt.20	0	20
	SPKS Medical Assistant Training School, Mirpur, Dhaka	2011	25	0	0	0	25	0	0	50
	Florence Institute of Medical Technology, Maskanda, Mymensingh	2012	40	0	0	40	0	0	0	80
	Genemi Institute of Health Technology, Paik Kandi, Gopalganj	2012	30	30+30	0	0	0	0	0	90
Khulna	Ad-Din Women's Institute of Health Technology, Jessore	2007	25	25	0	25	25	0	0	100
	Specialised Medical Institute, 3 MU Bhuiya Sorok, Hospital Road, Kushtia	2015	25	0	25	25	0	0	0	75
	SAIC Institute of Medical Technology, Khulna	2010	50	0	30	50	50	0	0	180
Barisal	Advance Institute of Medical & Dental Technology, Barisal	2010	50	25	25	25	50	0	0	175
	Disable Welfare Foundation Science and MT Institute, Sabujbag, Patuakhali	2012	25	0	0	25	0	0	0	50
	Progressive Institute of Dental Technology, College Road, Bauphol, Patuakhali	2014	25	0	0	25	0	0	0	50
	Jamjam Institute of Health Technology, Kajipara, C&B Road, Barisal	2012	25	25	0	25	0	0	0	75
Rajshahi	Bangladesh Institute of Medical Technology Haji Mohsin Road, Dilalpur, Pabna	2007	30	0	30	30	30	25 BSc in (Lab)	0	145
	Health Ways Institute of Medical Technology, Bogra	2002	100	0	0	31	50	0	0	181
	Islami Bank Institute of Medical Technology, Rajshahi	2007	50	25	0	25	50	0	0	150
	Janata Institute of Medical Technology, Bogra	2002	50	40	0	40	25	0	0	155
	Joypurhat Institute of Medical Technology, Joypurhat	2010	50	0	0	0	50	0	0	100
	Prime Institute of Medical Technology, 213/A Talaimari, Rajshahi	2006	100	0	0	50	50	0	0	200
	B-Baria Institute of Medical Technology, Baharampur, Rajshahi	2010	25	0	0	0	25	0	0	50
	Naogaon Institute of Medical Science & Technology, Kazirmoor, Naogaon	2011	25	0	0	25	25	0	0	75
	Rajshahi Institute of Medical Technology, Laxmipur, Rajshahi	2002	50	0	0	50	70	0	0	170
	Shah Makhdum Institute of Medical Technology, Boalia, Rajshahi	2011	30			20	20			70
	SAIC Institute of Medical Technology, Bogra	2008	50	0	0	25	50	0	0	125
	TMSS Institute of Medical Technology, Thengamara, Bogra	2007	100	40	0	30	50	0	0	220
	City Institute of Medical Technology, Rajshahi	2010	25	0	0	0	25	0	0	50
	Bangladesh Institute of Medical Technology, Boalia, Rajshahi	2010	25	0	0	0	25	0	0	50
	NDC Institute of Medical Technology, Joypurhat	2010	50	0	0	0	50	0	0	100
	Sirajganj Institute of Medical Technology, Sirajganj	2010	25	0	0	15	25	0	0	65
	Birampur Institute of Medical Technology, (IHT), Birampur, Rajshahi	2012	50	0	0	0	50	0	0	100
	SM Institute of Medical Technology & MATS, Ullapara, Sirajganj	2014	50	0	0	0	50	0	0	100
	Saleha Medical Assistant Training Institute, Boro Bonogram, Rajshahi	2014	50	0	50	0	50	0	0	150
	Pabna Ideal Institute of Medical Technology	2014	25	0	0	0	25	0	0	50
	Ideal Institute of Health Technology, Chakfaridpur Colony, Bogra	2013	40	0	20	20	0	0	0	80
	Bright Nation Health & Technology Institute, Pabna	2013	50	25	0	25	0	0	0	100
	Sailor Institute of Medical Technology Sapura, Boalia, Rajshahi	2013	30	0	0	0	0	0	0	30

Division	Name of institute with location	Estd.	Discipline							Total
			LAB	RDL/ RDT	PTY	DENT	PHAR	Other1	Other2	
Rajshahi	Morning Glory Medical Assistant Training School, Shibtola, Chapainowabganj	2011	25	0	0	0	25	0	0	50
	Prime Institute of Science & Medical Technology, Rangpur	2007	100	0	0	25	50	0	0	175
	DAD Institute of Medical Technology, Dinajpur	2010	50	50	0	0	0	0	0	100
	Birampur Institute of Medical Technology, Shimultoly, Dinajpur	2012	50	0	0	50	0	0	0	100
	Rangpur CT IMT, Kelabond CO Bazar, Rangpur	2012	40	0	0	30	40 (Diploma in Lab)		0	95
	Rangpur CT Institute of Medical Technology. Rangpur	2011	40	30	25	25	25	0	0	145
Total no. of institutions=104		**Total seats**								**13266**
LAB= Laboratory; RDL=Radiology; PTY=Physiotherapy; SI=Sanitary inspection; DENT=Dentistry; PHAR=Pharmacy; RTY=Radiotherapy										

List of government and private institutions offering certificate courses in medical technology, with number of seats by discipline (June 2015)

Division	Name of institution with location	Estd.	Optometrist	Refraction	Ophthalmic assistant	Ophthalmic nursing assistant	Cath-lab tech.	Total
Chittagong	Bangladesh Jatiyo Andho Kallyan Samity, Comilla	2008	25	0	25	0	0	50
Dhaka	Bangladesh Islamia Eye Hospital, Dhaka	2008	25	25	25	25	0	100
	Fashion Eye Hospital Limited, Fashion Tower, 98/60A Boro Mogbazar, Dhaka	2008	0	10	10	0	0	20
	NICVD&H	2010	0	0	0	0	10	10
Total no. of institutions=4		**Total seats**	**50**	**35**	**60**	**25**	**10**	**180**

Government institutions offering BSc courses in Medical Technology, with name of discipline and the number of seats (June 2015)

Division	Name of institution with location	Estd.	RDL	Physiotherapy	Laboratory Medicine	Dental	Total
Dhaka	NITOR, Sher-e-Bangla Nagar, Dhaka	1993	0	25	0	0	25
	Institute of Health Technology, Mohakhali, Dhaka	2007	40	55	55	60	210
Rajshahi	Institute of Health Technology, Rajshahi	2007	0	30	30	60	120
No. of institutions=3		Total seats	0	85	60	120	265

Private institutions offering BSc and MSc courses in Medical Technology (June 2015)

Division	Name of institution with location	Estd.	Physio-therapy	Lab Medicine	Denti-stry	Occu-pational therapy	Others	Total
Dhaka	Bangladesh Health Professionals Institute, Savar, Dhaka (BSc)	2007	20	0	0	10	15 (Speech therapy)	45
	Bangladesh Medical College, Dhanmondi, Dhaka (BSc)	2008	0	0	0	0	0	0
	Bangladesh ShishuShasthya Institute, Sher-e-Bangla Nagar, Dhaka (BSc)	2008	0	25	0	0	0	25
	GonoShasthya University, Savar, Dhaka (BSc)	2005	20	0	0	0	0	20
	Institute of Medical Technology, Mirpur, Dhaka (BSc)	2007	0	30	30	0	0	60
	International Institute of Health Science, Shewrapara, Dhaka (BSc)	2010	30	30	30	0	0	90
	Mark's Institute of Medical Technology, Mirpur, Dhaka (BSc)	2008	0	50	50	0	0	100
	New Lab Institute of Medical Technology, Iqbal Road, Mohammadpur, Dhaka (BSc)	2010	0	30	30	0	0	60
	SAIC Institute of Medical Technology, Dhaka (BSc)	2007	50	50	50	0	0	150
	State University, Mohammadpur, Dhaka (BSc)	2006	50	30	30	0	50 (Optometry)	160
	The People's University, Dhanmondi, Dhaka (BSc)	2007	25	0	0	0	0	25
	GonoSyastha University, Savar, Dhaka (MSc)	2005	60	0	0	0	0	60
	Bangladesh Health Professionals Institute, Savar, Dhaka (MSc)	2007	15	0	0	0	0	15
Chittagong	Chittagong Institute of Medical Technology, Halishahar, Chittagong	2008	0	50	50	0	50 (Ph)	150
Rangpur	Prime Institute of Science & Technology, Islambag, Rangpur		75	0	0	0	0	75
Rajshahi	Institute of Health Technology, Tuni Bhaban, Rajshahi	2007	0	25	0	0	0	25
	Prime Institute of Health Technology, Talaimari, Rajshahi	2007	50	0	50	0	0	100
	Prime Institute of Science & Technology, Rangpur	2008	0	75	0	0	0	75
Total no. of institutions=18		Total seats	320	395	320	10	115	1235

Training/workshop/seminar (FY 2014-2015)

Topic/subject of the training/workshop/seminar	Duration	No. of batches	No. of participants
Local Training			
Short-term			
Essential Service Delivery (ESD)			
ESD Basic Training for Field Service Providers	21 days	24	600
ESD RefresherTraining for Field Service Providers	6 days	50	1250
Training on Nutrition for Field Service Providers	6 days	47	1175
Training on Emergency Medical and Surgical Care for Doctors	7 days	18	450
Training on Medical and Surgical Emergency Management for Support Staff	7 days	28	700
Training on Primary Management of Burn for Nurses and Paramedics	14 days	7	175
Training on Primary Management & Prevention of Kidney & Urological Diseases for Physicians	6 days	08	200
Training on Kidney & Urological Diseases for Nurses	6 days	15	375
Orientation Training on Kidney & Urological Diseases for Health Workers	3 days	50	1250
Training Program for Doctors on Mental Health	6 days	18	450
Training Program for Health Workers on Mental Health	14 days	17	425
Training on Cancer Awareness, Screening and Primary Detection for Doctors	5 days	11	275
Orientation on Early Detection of Breast and Cervical Cancer for Doctors and Nurses	2 days	17	425
Orientation on Cervical and Breast Cancer Awareness for Opinion Leaders	1 day	14	350
Training on Primary Eye Care for Doctors	6 days	16	400
Training on Primary Eye Care for Nurses and Paramedics	6 days	18	450
Training for Doctors on Violence against Women and Girls	6 days	13	325
Orientation for Awareness-building on Violence against Women for Health Workers (HA, AHI, HI, SI, etc.)	1 day	12	300

Topic/subject of the training/workshop/seminar	Duration	No. of batches	No. of participants
Training on Asthma Prevention and Management for Doctors	5 days	14	350
Training for Healthcare Providers (Doctors and Nurses) on Youth-friendly Health Services	3 days	18	450
Training on Basic Dental Healthcare for Primary Healthcare Providers	5 days	13	325
Training on Recent Advances in Dentistry for Dental Surgeons	6 days	06	150
Orientation on Autism Awareness for Health Personnel and Opinion Leaders at Upazila Level	1 day	115	2875
Basic Training (Management & Clinical) for Medical Assistants	6 days	19	475
Training for Doctors on Rational Use of Antimicrobials	3 days	10	250
Orientation for Awareness-building on Fistula Prevention and Care for Field Service Providers and Social Representatives	1 day	25	625
Training on Primary Management of Burn for Nurses and Paramedics	14 days	7	175
Training on Cancer Awareness, Screening and Primary Detection for Doctors	5 days	11	275
Workshop on Medical Biotechnology	2 days	32	640
Training on Rational/Proper Use of Blood and Blood Product Transfusion for Doctors and Technologists	2 days	8	184
Training of Doctors on Rational Use of Antimicrobials	3 days	10	250
Training on Food Adulteration for UHFPO, RMO, MO, SI, HI, DHI etc.	5 days	14	350
Orientation for Awareness-building on Fistula Prevention and Care for Field Service Providers and Social Representatives	1 day	25	625
Total for Essential Service Delivery (ESD) Training		710	17574
Management Training			
Basic Service Management Training for Newly-recruited Doctors	7 days	23	483
Management Training on Cardiac Emergency for Health Personnel at Division, District and UZ Levels	7 days	13	325
Training on Improved Financial Management for Personnel Working at Division, District, Upazila Levels, and Specialized Institutions, TTU, and Others	6 days	13	325
Training on Office Management for Office Staff	5 days	18	450
Laboratory Management Training for Laboratory Technicians	7 days	13	312
English Language Course for Nurses	28 days	28	420
Arabic Language Course (Training) for Nurses	28 days	27	405
Basic Computer Training for Health Personnel	28 days	15	255
Refresher Computer Training on Operating System, Installation, Internet, etc. for the Personnel of MOHFW, DGHS, and Autonomous Institutions	14 days	25	435
Training on Epidemiology, Clinical Management and Prevention of Diarrheal Diseases and Malnutrition for Doctors and Paramedics	5 days	14	350
Training for SSN, SNs, ASN, MTs, and others on Proper Use and Preventive Maintenance of Medical Equipment	3 days	20	560
Training on Standard Operating Procedures (SOPs) regarding IPD, OPD, OT, Emergency, House-keeping, Record-keeping, Nursing Services, Diagnostic Services, etc. for Service Providers of Primary, Secondary and Tertiary Hospitals	5 days	17	425
Basic Training on Hospital Waste Management for Support Staff	3 days	20	500
Training on Store Management for Store-keepers	5 days	06	150
Training on Gender Issue for Field Staff (HA, AHI, HI, SI, etc.)	3 days	49	1225
Orientation on Joint Simulation Exercise with BDRCS at the Most Cyclone-prone Districts (Multi-sectoral Approach) on Emergency Preparedness and Response)	2 days	17	425
Training for MOs and Field Staff on Disaster Mitigation/Post-disaster Hazards	2 days	20	500
Training Course on Mass Casualty Management for Hospital-level Staff	2 days	17	425
Basic Training on Patient-care and Hospital Management for Nurses, MTs	15 days	11	253
Training on Health Statistics for Statistical Personnel Working at Different Levels of Health Services	7 days	6	144
Training for Medical Technologists (Radiology) on CT MR and CR	14 days	10	250
Total of management training sessions		382	8617
Orientation for the Members of DTCC and DUTT	1 day	41	1025
Development and Review of Curriculum and Training Policy	3 days	6	120
Upgrading Training Management Information System (TMIS)	1	5	5
Total:		52	1150
(a) Sub-total of local training sessions		1144	27341
Subject-wise Specialized Training to be Implemented by ICMH, IPH, NIPSOM, IEDCR, BCPS, CME			

Topic/subject of the training/workshop/seminar	Duration	No. of batches	No. of participants
TOT for Doctors on Advanced ESD Clinical Skills Training Course on Reproductive Health under HPNSDP	6 days	1	14
TOT for Doctors on Advanced ESD Clinical Skills Training Course on Reproductive Child Healthcare under HPNSDP	6 days	1	18
Research Methodology under HPNSDP		2	38
TOT on Nutrition Program, Planning & Management under HPNSDP	6 days	2	39
Training on Complementary Feeding under HPNSDP	6 days	3	59
Breastfeeding Counseling Training for the Healthcare Providers	6 days	4	76
Refresher Course on Computer Training	6 days	2	30
Training on HIV/AIDS	6 days	1	15
Training on GLP and Lab Management for Health Personnel	10/5	27	520
Training on Occupational Safety	6 days	1	30
Training on Research Methodology	6 days	1	33
Nutritional Anthropometrical Study	6 days	1	30
Epidemiological Survey of Health Status	6 days	1	30
Faculty Development		2	63
Seminar on Emerging Issues	1 days	8	224
Certificate Course on Clinical Epidemiology	3 month	1	12
Training on Disease Surveillance	3 days	2	44
Training on Outbreak Investigation	3 days	4	63
Training on Communication Skill Development and IT	5 days	4	64
Orientation Training on Basic Surgical Skill Development	3 days	12	224
Training of Teachers of Postgraduate Medical Institutes, Medical Colleges, Nursing Colleges, Paramedical Institutes, and MATS	3-7 days	2	44
Training on Educational Management	3-7 days	2	38
Total		**84**	**1708**
Overseas Training			
Different Clinical Specialties			
Short-term (4 weeks or less) Clinical Training for Health Service Providers	1- 4 weeks	4	35
Short-term (4 weeks or less) Training for Basic Science and Para-clinical Medical Teachers	1- 4 weeks	2	14
Different Management and Public Health Specialties			
Short-term (4 weeks or less) Training on Training and Teaching Technology, Hospital Management, Personnel Management, Waste Management, Exposure Visit of Teachers for Curriculum Development	1-4 weeks	2	32
Specialized Overseas Training			
Short-term (4 weeks or less) Hands-on Clinical Training for Health Service Providers in Local Institutions (Resource persons from abroad)	1- 4 weeks	8	19
Sub-total of Overseas Training		30	100
Grand total		**1158**	**29149**

Percent distribution of new male and female medical and dental doctors produced from various medical and dental colleges during the 5-year period from 2011 to 2015

Name of medical or dental college	2011		2012		2013		2014		2015	
	M	F	M	F	M	F	M	F	M	F
Dhaka Medical College	47.19	52.81	59.90	40.09	54.87	45.13	59.64	40.36	44.83	55.17
Sir Salimullah Medical College	57.06	42.94	61.07	38.92	53.18	46.82	60.71	39.29	40.24	59.76
Rajshahi Medical College	56.1	43.9	63.9	36.09	54.81	45.19	52.32	47.68	47.13	52.87
Rangpur Medical College	52.17	47.83	55.6	44.39	40.46	59.54	4531	54.69	47.57	52.43
Mymensingh Medical College	51.61	48.39	61.35	38.64	53.77	46.23	52.72	47.28	49.41	50.59
Chittagong Medical College	54.42	45.58	60.00	40.00	45.98	54.02	45.81	54.19	38.29	61.71
MAG Osmani Medical College, Sylhet	54.19	45.81	57.14	42.85	57.14	42.86	49.24	50.76	48.45	51.71
Sher-e-Bangla Medical College, Barisal	48.17	51.83	63.15	36.84	61.19	38.81	55.62	44.38	56.91	43.09
Faridpur Medical College	53.33	46.67	49.57	50.42	43.52	56.48	50.25	49.75	58.33	41.67
SZR Medical College, Bogra	43.01	56.99	52.3	47.69	45.45	54.55	52.92	47.08	49.62	50.38
Dinajpur Medical College	48	52	52.94	47.06	56.60	43.37	52.73	47.27	46.51	53.49
Khulna Medical College	52.5	47.5	69.82	30.17	51.26	48.74	46.43	53.57	58.73	41.27
Comilla Medical College	42.86	57.14	36.05	63.94	51.30	48.70	46.45	53.55	41.18	58.82
Shaheed Suhrawardy Medical College, Dhaka							53.05	46.95	62.41	37.59
Pabna Medical College,Pabna							34.62	65.38	58.82	41.18
Noakhali Medical College							34.62	65.38	36.84	63.16
Cox's Bazar Medical College							33.33	66.67	32.35	67.65
Dhaka Dental College	46.51	53.49	41.67	53.84	33.33	66.67	42.11	57.89	36.25	63.75
Chittagong Dental College	28.81	71.19	44.18	55.82	44.74	55.22	32.50	67.50	35.56	64.44
Rajshahi Dental College	30.77	69.23	57.47	42.56	39.13	60.87	34.09	65.91	42.55	57.45
Jessore Medical College									30.77	69.23
Overall	**50.18**	**49.82**	**55.68**	**44.32**	**52.89**	**47.11**	**50.61**	**49.39**	**47.86**	**52.14**

ANNEX TO CHAPTER 18

OP/DPP-wise Statement of Allocation, Fund Release and Expenditure of FY 2015-2016

Upto Nov-2016

All Amount is In Lac Taka

SL#	Name of Project/OP	Allocation					Released					Expenditure					Exp%
		GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	Allocation Release
OP																	
DGHS																	
1	Maternal, Neonatal, Child and Adolescent Health (RADP-1)	5,343.00	27,650.00 0.00	24,795.00	52,445.00	57,788.00	5,335.25	24,541.94 0.00	19,656.95	44,198.89	49,534.14	5,056.27	23,431.97 0.00	19,656.95	43,088.92	48,145.19	83.31 97.20
2	Essential Services Delivery (RADP-1)	3,500.00	8,000.00 0.00	0.00	8,000.00	11,500.00	2,380.64	2,988.75 0.00	0.00	2,988.75	5,369.39	2,160.32	2,349.68 0.00	0.00	2,349.68	4,510.00	39.22 83.99
3	Community Based Health Care (RADP-1)	25,918.00	0.00 0.00	0.00	0.00	25,918.00	32,514.00	9,931.50 2,868.50	393.79	13,193.79	45,707.79	30,167.19	11,820.13 0.00	393.79	12,213.92	42,381.11	163.52 92.72
4	TB and Leprosy Control (ADP)	450.00	3,500.00 0.00	9,300.00	12,800.00	13,250.00	300.00	3,500.00 0.00	8,615.40	12,115.40	12,415.40	205.99	393.50 0.00	8,643.26	9,036.76	9,242.75	69.76 74.45
5	National AIDS/STD Program (ADP)	150.00	3,800.00 0.00	0.00	3,800.00	3,950.00	75.00	3,085.00 0.00	0.00	3,085.00	3,160.00	36.83	2,512.51 0.00	0.00	2,512.51	2,549.34	64.54 80.68
6	Communicable Diseases Control (ADP)	3,300.00	4,550.00 50.00	6,100.00	10,700.00	14,000.00	3,300.00	4,600.00 0.00	6,100.00	10,700.00	14,000.00	3,280.00	3,294.64 0.00	6,099.63	9,394.27	12,674.27	90.53 90.53
7	Non-Communicable Diseases (RADP-2)	1,423.00	2,700.00 0.00	50.00	2,750.00	4,173.00	2,000.00	2,250.00 0.00	37.00	2,287.00	4,287.00	1,595.74	1,081.75 0.00	36.73	1,118.48	2,714.22	65.04 63.31
8	National Eye Care (RADP-1)	160.00	272.00 0.00	0.00	272.00	432.00	160.00	213.00 0.00	0.00	213.00	373.00	142.13	191.05 0.00	0.00	191.05	333.18	77.12 89.32
9	Hospital Services Management & Safe Blood Transfusion (RADP-1)	13,000.00	37,785.00 415.00	500.00	38,700.00	51,700.00	13,000.00	37,785.00 415.00	500.00	38,700.00	51,700.00	10,858.78	35,154.89 0.67	381.34	35,536.90	46,395.68	89.74 89.74
10	Alternate Medical Care (RADP-1)	3,100.00	400.00 0.00	0.00	400.00	3,500.00	3,100.00	400.00 0.00	0.00	400.00	3,500.00	3,040.00	92.56 0.00	0.00	92.56	3,132.56	89.50 89.50
11	In-Service Training (ADP)	700.00	2,400.00 0.00	0.00	2,400.00	3,100.00	682.50	2,400.00 0.00	0.00	2,400.00	3,082.50	633.92	1,779.76 0.00	0.00	1,779.76	2,413.68	77.86 78.30
12	Pre-Service Education (RADP-1)	5,500.00	12,000.00 0.00	0.00	12,000.00	17,500.00	5,500.00	12,000.00 0.00	0.00	12,000.00	17,500.00	5,240.09	11,975.61 0.00	0.00	11,975.61	17,215.70	98.38 98.38
13	Planning, Monitoring and Research (Health) (ADP)	200.00	175.00 0.00	25.00	200.00	400.00	200.00	175.00 0.00	25.00	200.00	400.00	192.18	175.00 0.00	25.00	200.00	392.18	98.04 98.04
14	Health Information System & e-Health (RADP-1)	4,500.00	2,000.00 0.00	100.00	2,100.00	6,600.00	4,500.00	2,000.00 0.00	142.00	2,142.00	6,642.00	4,499.98	1,909.77 0.00	142.00	2,051.77	6,551.75	99.27 98.64

SL#	Name of Project/OP	Allocation					Released					Expenditure					Exp%
		GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	Allocation Release
15	Health Education and Promotion (RADP-1)	852.50	869.00 0.00	300.00	1,169.00	2,021.50	1,250.00	1,447.40 0.00	300.00	1,747.40	2,997.40	1,212.15	720.13 0.00	300.00	1,020.13	2,232.28	110.43 74.47
16	Procurement, Logistics & Supplies Management (RADP-1)	11,597.00	1,000.00 0.00	0.00	1,000.00	12,597.00	11,597.00	750.00 0.00	0.00	750.00	12,347.00	11,577.15	63.69 0.00	0.00	63.69	11,640.84	92.41 94.28
17	National Nutrition Services (ADP)	900.00	7,500.00 0.00	500.00	8,000.00	8,900.00	822.00	5,100.00 0.00	499.82	5,599.82	6,421.82	648.32	3,296.64 0.00	499.82	3,796.46	4,444.78	49.94 69.21
1025	Test ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
	Total of DGHS OP	**80,593.50**	**114,601.00** **465.00**	**41,670.00**	**156,736.00**	**237,329.50**	**86,716.39**	**113,167.59** **3,283.50**	**36,269.96**	**152,721.05**	**239,437.44**	**80,547.03**	**100,243.28** **0.67**	**36,179.00**	**136,422.00**	**216,969.00**	**91.42** **90.62**
	DGFP																
18	Maternal, Child, Reproductive & Adolescent Health (FP) (RADP-2)	3,200.00	9,000.00 100.00	1,200.00	10,300.00	13,500.00	3,200.00	7,250.00 97.50	1,165.00	8,512.50	11,712.50	3,090.79	6,776.69 94.36	1,165.00	8,036.05	11,126.84	82.42 95.00
19	Clinical Contraception Services Delivery (RADP-1)	9,000.00	6,570.00 0.00	880.00	7,450.00	16,450.00	9,000.00	2,107.00 0.00	595.59	2,702.59	11,702.59	8,824.72	1,915.26 0.00	595.59	2,510.85	11,335.57	68.91 96.86
20	Family Planning Field Services Delivery Program (RADP-1)	3,800.00	8,000.00 0.00	200.00	8,200.00	12,000.00	3,800.00	4,560.00 0.00	192.21	4,752.21	8,552.21	3,676.66	0.00 0.00	192.21	192.21	3,868.87	32.24 45.24
21	Planning, Monitoring and Evaluation of Family Planning (RADP-1)	110.00	230.00 0.00	0.00	230.00	340.00	110.01	150.00 0.00	0.00	150.00	260.01	102.97	148.47 0.00	0.00	148.47	251.44	73.95 96.70
22	Management Information Systems (FP) (RADP-1)	230.00	850.00 0.00	0.00	850.00	1,080.00	186.00	310.00 0.00	0.00	310.00	496.00	108.59	250.93 0.00	0.00	250.93	359.52	33.29 72.48
23	Information, Education and Communication (FP) (RADP-1)	1,100.00	1,640.00 0.00	100.00	1,740.00	2,840.00	1,100.00	1,109.00 301.00	100.00	1,510.00	2,610.00	948.04	1,403.45 0.00	100.00	1,503.45	2,451.49	86.32 93.93
24	Procurement, Storage and Supplies Management (RADP-1)	2,170.00	100.00 0.00	0.00	100.00	2,270.00	1,900.00	50.00 0.00	0.00	50.00	1,950.00	1,644.62	27.20 0.00	0.00	27.20	1,671.82	73.65 85.73
	Total of DGFP OP	**19,610.00**	**26,390.00** **100.00**	**2,380.00**	**28,870.00**	**48,480.00**	**19,296.01**	**15,536.00** **398.50**	**2,052.80**	**17,987.30**	**37,283.31**	**18,396.39**	**10,522.00** **94.36**	**2,053.00**	**12,669.00**	**31,066.00**	**64.08** **83.32**
	MOHFW																
28	Physical Facilities Development (ADP)	93,310.00	0.00 0.00	0.00	0.00	93,310.00	18,900.00	5,500.00 0.00	0.00	5,500.00	24,400.00	13,597.00	0.00 2,309.00	0.00	2,309.00	15,906.00	17.05 65.19
29	Human Resources Management (RADP-1)	150.00	175.00 0.00	5.00	180.00	330.00	150.00	400.00 0.00	0.00	400.00	550.00	118.60	102.18 0.00	0.00	102.18	220.78	66.90 40.14
30	Sector-Wide Program Management and Monitoring (ADP)	40.00	250.00 0.00	200.00	450.00	490.00	30.00	125.00 0.00	72.00	197.00	227.00	10.32	13.80 0.00	61.70	75.50	85.82	17.51 37.81
31	Improved Financial Management (RADP-1)	120.00	420.00 0.00	0.00	420.00	540.00	92.00	380.00 0.00	0.00	380.00	472.00	81.04	372.70 0.00	0.00	372.70	453.74	84.03 96.13
32	Health Economics and Financing (ADP)	0.00	0.00 0.00	0.00	0.00	0.00	325.00	829.43 20.57	103.78	953.78	1,278.78	116.55	332.94 0.00	91.35	424.29	540.84	0.00 42.29

SL#	Name of Project/OP	Allocation					Released					Expenditure					Exp%
		GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	Allocation Release
	Total of MOHFW OP	**93,620.00**	**845.00** **0.00**	**205.00**	**1,050.00**	**94,670.00**	**19,497.00**	**7,234.43** **20.57**	**175.78**	**7,430.78**	**26,927.78**	**13,923.51**	**821.62** **2,309.00**	**153.00**	**3,284.00**	**17,207.00**	**18.18** **63.90**
	NIPORT																
25	Training, Research and Development (NIPORT) (RADP-1)	380.00	1,990.00 0.00	10.00	2,000.00	2,380.00	176.50	961.33 0.00	0.00	961.33	1,137.83	103.08	818.29 0.00	0.00	818.29	921.37	38.71 80.98
	Total of NIPORT OP	**380.00**	**1,990.00** **0.00**	**10.00**	**2,000.00**	**2,380.00**	**176.50**	**961.33** **0.00**	**0**	**961.33**	**1,137.83**	**103.08**	**818.29** **0.00**	**0.00**	**818.00**	**921.00**	**38.71** **80.98**
	DNS																
26	Nursing Education and Services (RADP-1)	124.50	2,400.00 0.00	700.00	3,100.00	3,224.50	1,000.00	2,100.00 0.00	2,000.00	4,100.00	5,100.00	877.48	1,165.42 0.00	2,000.00	3,165.42	4,042.90	125.38 79.27
	Total of DNS OP	**124.50**	**2,400.00** **0.00**	**700.00**	**3,100.00**	**3,224.50**	**1,000.00**	**2,100.00** **0.00**	**2,000.00**	**4,100.00**	**5,100.00**	**877.48**	**1,165.42** **0.00**	**2,000.00**	**3,165.00**	**4,043.00**	**125.38** **79.27**
	DGDA																
27	Strengthening of Drug Administration and Management (RADP-1)	264.00	550.00 0.00	0.00	550.00	814.00	150.00	351.00 0.00	0.00	351.00	501.00	23.60	128.09 0.00	0.00	128.09	151.69	18.64 30.28
	Total of DGDA OP	**264.00**	**550.00** **0.00**	**0.00**	**550.00**	**814.00**	**150.00**	**351.00** **0.00**	**0**	**351.00**	**501.00**	**23.60**	**128.09** **0.00**	**0.00**	**128.00**	**152.00**	**18.64** **30.28**
	Sub Total of OP	**194,592.00**	**146,776** **565**	**44,965.00**	**192,306.00**	**386,898.00**	**126,835.90**	**139,350** **3,703**	**40,498.54**	**183,551.46**	**310,387.36**	**113,871.09**	**113,698.70** **2,404**	**40,384.37**	**156,487.10**	**270,358.19**	**69.88** **87.10**
	Projects																
1123	Sheikh Hasina National Institue of Burn and Plastic Surgery, Dhaka (RADP-1)	200.00	0.00 0.00	0.00	0.00	200.00	200.00	0.00 0.00	0.00	0.00	200.00	102.84	0.00 0.00	0.00	0.00	102.84	51.42 51.42
1124	Establishment of Tangail Medical College & Extension of 250 bedded General Hospital into 500 Beded Medical College Hospital Tangail ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
	Total of DGHS Projects	**200.00**	**0.00** **0.00**	**0.00**	**0**	**200.00**	**200.00**	**0.00** **0.00**	**0**	**0**	**200.00**	**102.84**	**0.00** **0.00**	**0.00**	**0.00**	**103.00**	**51.42** **51.42**
1	Est. of 250 beded National Ophthalmology Inst. and Hospital (1st Phase: 250 beds) (RADP-1)	20.00	0.00 0.00	0.00	0.00	20.00	15.00	0.00 0.00	0.00	0.00	15.00	6.76	0.00 0.00	0.00	0.00	6.76	33.79 45.06
2	Upgradation of National Institute of Cancer Research and Hospital from 50 bed to 300 beds (RADP-1)	250.00	0.00 0.00	500.00	500.00	750.00	250.00	0.00 0.00	253.54	253.54	503.54	232.45	0.00 0.00	253.54	253.54	485.99	64.80 96.51
3	Establishment of National Institute of Laboratory Medicine and Refferal Centre (RADP-1)	4,885.00	0.00 0.00	0.00	0.00	4,885.00	4,885.00	0.00 0.00	0.00	0.00	4,885.00	3,576.53	0.00 0.00	0.00	0.00	3,576.53	73.21 73.21

SL#	Name of Project/OP	Allocation					Released					Expenditure					Exp%
		GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	Allocation Release
4	Extension of Dhaka Shisu(Children) Hospital Project ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
5	Establishment of Essential Drugs Company Limited, 3rd Plant, Gopalganj (RADP-2)	11,615.00	0.00 0.00	0.00	0.00	11,615.00	7,317.32	0.00 0.00	0.00	0.00	7,317.32	5,929.72	0.00 0.00	0.00	0.00	5,929.72	51.05 81.04
6	Expansion and Quality Improvement of Nursing Education (ADP)	2,405.00	0.00 0.00	0.00	0.00	2,405.00	2,405.00	0.00 0.00	0.00	0.00	2,405.00	1,314.64	0.00 0.00	0.00	0.00	1,314.64	54.66 54.66
7	Revitalization of Community Health care initiatives in Bangladesh ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
8	Conversion of BSMMU to a center of excellence project (ADP)	6,862.00	0.00 0.00	0.00	0.00	6,862.00	6,862.00	0.00 0.00	0.00	0.00	6,862.00	6,191.65	0.00 0.00	0.00	0.00	6,191.65	90.23 90.23
9	Establishment of Sheikh Fajilatunnesa Mujib Eye Hospital and Training Institute, Gopalganj. ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
10	Establishment of National Centre for Cervical and Breast Cancer Screening and Training at BSMMU (RADP-1)	210.00	0.00 0.00	0.00	0.00	210.00	210.00	0.00 0.00	0.00	0.00	210.00	206.58	0.00 0.00	0.00	0.00	206.58	98.37 98.37
11	Establishment Sheikh Sayera Khatun Medical College and Hospital and Nursing Institute, Gopalganj. (RADP-1)	4,800.00	0.00 0.00	0.00	0.00	4,800.00	4,800.00	0.00 0.00	0.00	0.00	4,800.00	4,796.71	0.00 0.00	0.00	0.00	4,796.71	99.93 99.93
12	Establisment of Shatkhira Medical College & Hospital (RADP-1)	3,446.00	0.00 0.00	0.00	0.00	3,446.00	3,446.00	0.00 0.00	0.00	0.00	3,446.00	3,208.32	0.00 0.00	0.00	0.00	3,208.32	93.10 93.10
13	Establishment of Faridpur Medical College & Hospital (ADP)	9,200.00	0.00 0.00	0.00	0.00	9,200.00	2,300.00	0.00 0.00	0.00	0.00	2,300.00	158,796.96	0.00 0.00	0.00	0.00	158,796.96	1,726.05 6,904.22
14	National Institute of Digestive Diseases Research & Hospital (RADP-1)	100.00	0.00 0.00	0.00	0.00	100.00	2,000.00	0.00 0.00	0.00	0.00	2,000.00	1,907.53	0.00 0.00	0.00	0.00	1,907.53	1,907.53 95.38
15	Establishment of Kushtia Medical College and Hospital Project (RADP-1)	6,003.00	0.00 0.00	0.00	0.00	6,003.00	6,003.00	0.00 0.00	0.00	0.00	6,003.00	5,148.05	0.00 0.00	0.00	0.00	5,148.05	85.76 85.76
16	Establishment of Shaheed Sayed Nazrul Islam Medical college , Kishorgong (RADP-2)	12,277.00	0.00 0.00	0.00	0.00	12,277.00	24,562.00	0.00 0.00	0.00	0.00	24,562.00	10,581.00	0.00 0.00	0.00	0.00	10,581.00	86.19 43.08
17	Extention of Shaheed Sheikh Abu Naser Specialized Hospital, Khulna (ADP)	1,990.00	0.00 0.00	0.00	0.00	1,990.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
18	Establishment of Trauma centre at Gopalgong (ADP)	735.00	0.00 0.00	0.00	0.00	735.00	506.14	0.00 0.00	0.00	0.00	506.14	1,337.40	0.00 0.00	0.00	0.00	1,337.40	181.96 264.24

SL#	Name of Project/OP	Allocation					Released					Expenditure					Exp%
		GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	GOB	RPA-GOB RPA-Other	DPA	PA-Total	Total	Allocation Release
19	Sustaining Influenza Surveillance Networks and Response to Seasonal and Pandemic Influenza In Bangladesh (ADP)	5.00	0.00 0.00	129.90	129.90	134.90	0.00	0.00 0.00	129.90	129.90	129.90	0.00	0.00 0.00	223.00	223.00	223.00	165.31 171.67
20	Provision for equipment and professional training for Ahsania Mission Cancer Hospital (ADP)	2,000.00	0.00 0.00	0.00	0.00	2,000.00	2,000.00	0.00 0.00	0.00	0.00	2,000.00	2,000.00	0.00 0.00	0.00	0.00	2,000.00	100.00 100.00
21	Extention of National Institute of Orthopadic Hospital and Rehabilitation center (NITOR) (RADP-1)	4,857.50	0.00 0.00	0.00	0.00	4,857.50	5,000.00	0.00 0.00	0.00	0.00	5,000.00	4,457.88	0.00 0.00	0.00	0.00	4,457.88	91.77 89.16
22	Establishment of Nursing Institute of Pabna (ADP)	100.00	0.00 0.00	0.00	0.00	100.00	607.00	0.00 0.00	0.00	0.00	607.00	606.73	0.00 0.00	0.00	0.00	606.73	606.73 99.96
23	Establishment of National Institute of Advanced Practice Nurses in Bangladesh (ADP)	50.00	700.00 0.00	0.00	700.00	750.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
24	Establishment of Sheikh Lutfar Rahman Dental College (ADP)	187.58	0.00 0.00	0.00	0.00	187.58	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
1118	Establishment of Institute for Pediatric Neuro-disorder and Autism in BSMMU (ADP)	425.00	0.00 0.00	0.00	0.00	425.00	582.29	0.00 0.00	0.00	0.00	582.29	151.80	0.00 0.00	0.00	0.00	151.80	35.72 26.07
1119	One Health Fellowships – Integrating Education and Action for One Health in Bangladesh (ADP)	0.00	0.00 0.00	100.46	100.46	100.46	0.00	0.00 0.00	100.71	100.71	100.71	0.00	0.00 0.00	65.73	65.73	65.73	65.43 65.27
1120	Establishment of a Medical College and 250 Bedded Hospital, Manikganj (ADP)	4,000.00	0.00 0.00	0.00	0.00	4,000.00	4,000.00	0.00 0.00	0.00	0.00	4,000.00	14,528.76	5.73 0.00	0.00	5.73	14,534.48	363.36 363.36
1121	Establishment of a Medical College and 250 Bedded Hospital, Manikganj ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
1122	Shaheed M.Monsur Ali Medical College and 500 Bed Medical College at Sirajganj ()	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00
	Total of MOHFW Projects	76,423.08	700.00 0.00	730.00	1,430.36	77,853.44	77,750.75	0.00 0.00	484.15	484.15	78,234.90	224,979.48	5.73 0.00	542.00	548.00	225,527.00	289.68 288.27
	Sub Total of Projects	76,623.08	700 0.00	730.36	1,430.36	78,053.44	77,950.75	0.00 0.00	484.15	484.15	78,434.90	225,082.32	5.73 0.00	542.27	548.00	225,630.31	289.07 287.67
	Grand Total :	271,215.08	147,476.00 565.00	45,695.36	193,736.36	464,951.44	204,786.65	139,350.35 3,702.57	40,982.69	184,035.61	388,822.26	338,953.41	113,704.42 2,404.03	40,926.64	157,035.09	495,988.50	106.68 127.56