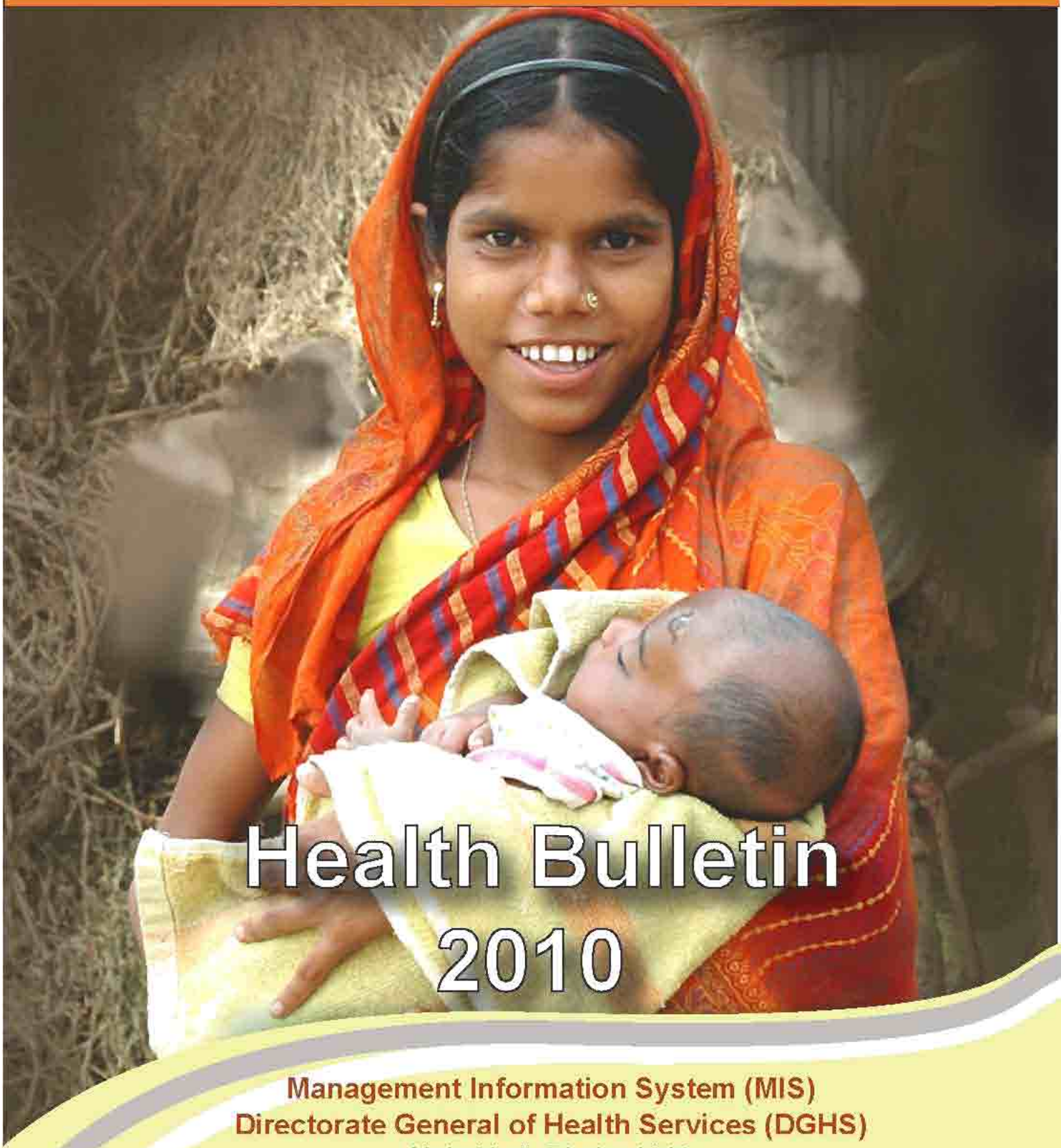
Government of the People's Republic of Bangladesh
Ministry of Health & Family welfare



Health Bulletin 2010

Management Information System (MIS)
Directorate General of Health Services (DGHS)
Mohakhali, Dhaka-1212
www.dghs.gov.bd

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Editorial Board

Acknowledgement

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Honorable Minister for Health & Family Welfare

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Honorable Adviser to the Prime Minister for Health, Family Planing & Social Welfare

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Honorable State Minister for Health & Family Welfare

MD Humayun Kabir
Secretary, Ministry of Health & Family Welfare

بسم الله الرحمن الرحيم

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

Message

It is indeed my immense satisfaction to see that the "Health Bulletin 2010" of MIS, DGHS is going to be published. I am also delighted to learn that MIS, DGHS is being able to make publication of this Health Bulletin as a yearly routine. I believe that information contained in the pages of this book will be of much help to understand the health situation and needs of the country and then make plans for health improvement.

The Ministry of Health and Family Welfare has also tuned itself in the wave through initiative of implementing digital culture in its systems and processes. The ultimate aim of such exercises is to create an environment for evidence based decision making. The MIS, DGHS is in the forefront and leadership role in this effort. The information collection and processing systems have been much improved in last year's concrete digital-transformation effort we have made; but we will have to build on this success. I can assure that our Government is always in the position of helping any dynamic and positive approach to achieve health for all.
I am hopeful that "Health Bulletin 2010" will fulfill the information needs of our health planners. I thank Professor Dr Abul Kalam Azad, Director of MIS, DGHS and his team to publish this book.

Joy Bangla, Joy Bangabandhu.

Professor A.F.M. Ruhal Haque (FRCS), MP

بسم الله الرحمن الرحيم

Adviser to the Honorable Prime Minister
for Health, Family Planning and Social Welfare Affairs
Of the Government of the People's Republic of Bangladesh

Message

I am very delighted to learn that the Management Information System (MIS) of the Directorate General of Health Services (DGHS) is going to publish its "Health Bulletin 2010". This publication has now become a necessary source of information containing statistical information on different aspects of health sector.

Our nation is on the verge of entering into the era of technology and this is possible due to efforts of our present Government under the visionary leadership of Prime Minister Sheikh Hasina, and we are on the fast track of implementing the Digital Bangladesh to harness a tech savvy society for better economic and social development.

Since our Government took charge, the MIS of DGHS has made remarkable progress in terms of extending communication technology. Now they are progressing to establish tele-medicine even at the grass-root level where we will not be able to give qualified doctors due to shortage of human resources. I firmly believe that their progress will be further expanded and strengthened in future.

I have been informed that Health Bulletin 2010 is improved than the previous publications and wish that the Health Bulletin 2010 will be appreciated and better utilized by the readers.

Professor Dr Syed Modasser Ali

بسم الله الرحمن الرحيم

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

Message

I am highly pleased to learn that the Health Bulletin 2010 containing information on different type of health statistics is being published.

Our Government is firmly committed to ensure the fundamental rights of our people and thus accomplish the goals of achieving health of the people. We need to specify our strengths and weaknesses and for this we need to learn statistics on our health systems. And as far as I am concerned, MIS, DGHS is tirelessly taking their steps to gather concrete information on our health profile and health service delivery mechanism. And our Government is firmly committed to ensure open and adequate access to information and best utilization of it. We are also committed to give whole hearted support to any positive change in health care system.

We should maximize the use of electronic medium but at the same time we should keep it in mind that the use must be directed in line of providing health care to all at all level of our country. I hope that through our Government's principle of expansion of ICT in all tiers; will help us to bring in the change and enable us to reach our vision of 2021 and soon it will be possible to make advancement towards better health of the people.

I extend my sincere appreciation to the Management Information Systems for Health (MIS-Health), Department of the Directorate General of Health Services for the publication of Health Bulletin 2010. I hope this endeavor of MIS- health, DGHS will be of use to all concerned and in future it will be published in more informative manner.

Dr. Captain (Retd.) Mozibur Rahman Fakir

بسم الله الرحمن الرحيم

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

Message

I am very pleased to learn that MIS, DGHS is going to publish the Health Bulletin 2010, which is a yearly publication of DGHS and provides us with updated statistics on health situation in the country.

We are fully aware that our limitations in data scarcity due to absence of culture in keeping records are still prevailing. We are constantly working to overcome our limitations and relentlessly giving efforts in timely generation of updated data. For this, the recent achievements of ICT and digital communication systems in public health sectors of Bangladesh can play effective role in removing such barriers. And I hope the future publications will definitely show the benefits and will encompass data more extensively.

I extend my sincere appreciation to the Director and his team members at MIS-Health, DGHS for taking initiatives for publishing this Health Bulletin.

Md. Humayun Kabir

بسم الله الرحمن الرحيم

Director General of Health Services
Government of the People's Republic of Bangladesh

Message

I am highly pleased to hear that, the Management Information System of DGHS is going to publish their regular endeavor of publishing the yearly Health Bulletin.

I have learnt that Health Bulletin 2010 furnishes better and more information and this has been possible due to recent development of digital systems across our health care network which improved our data communication systems in terms of availability, quicker transmission and processing. We are very hopeful to implement our government's vision of 2021 and we are very keen to develop our health system in a manner that will use e-health more efficiently for delivering health care to people.

I always believe that there is enough scope for perfection in the future Health Bulletins. With this I would like to appreciate Professor Dr Abul Kalam Azad, Director of MIS, DGHS, and his team who nurtured the difficult process of publication of "Health Bulletin. My gratitude are also for the editorial board members, and concerned officers and staffs who were associated with this publication.

Professor (Dr.) Shah Monir Hossain

بسم الله الرحمن الرحيم

Director, Management Information System
Directorate General of Health Services
Government of the People's Republic of Bangladesh

Message

It gives me immense pleasure to finally come to a stage of presenting Health Bulletin 2010 to our valued readers. We made very sincere efforts to improve the quality of the contents of Health Bulletin 2010 over those in the previous issues. The readers, we believe, would certainly feel the taste of this improvement. The readers will also see that we avoided fancy colors in the pages like in the previous issues. We deliberately made this change to control costs and rather to concentrate on quality of the contents. I hope that the readers will accept our decision.

It is not an easy task to gather data from plenty of sources across the country. Our health managers, officers and health staffs both at the head offices as well as in all the health facilities and offices across the country helped us to make the data available for analysis and preparing reports. I am indebted to all of them. I also appreciate that a number of private health care providers have made their health service data available to us. More data from variety of sources enriched this publication. One of the important tasks relating to data management was to clean the data, merge them and make them suitable for analysis. Our staffs at the head office made relentless efforts to satisfactorily do these jobs. I thank all of them. We have learnt lot of things from the experience of publishing this Health Bulletin 2010. We have identified the areas where we need to focus our attention for further improvement of data quality, analytical methods and readability. We have also learnt about the ways of speeding up the data collection. In the time to come, we will implement the learning in real life situation. The readers will obviously benefit from our endeavors.

I express my sincere thanks to Professor AFM Ruhal Haque, MP, Honorable Minister for Health and Family Welfare for inspiring us for continuous development. I show my respect to Professor Syed Modasser Ali, Honorable Adviser to the Prime Minister for Health, Family Planning and Social Welfare issues. I also show respect to Captain (Retd) Dr Mujibur Rahman Fakir, MP, Honorable State Minister for Health and Family Welfare. This respect came from their whole hearted support to us. Md. Humayun Kabir, Honorable Secretary of the Ministry of Health and Family Welfare, was new to our ministry during this publication. However, he made efforts, as far as possible, to help us. I am grateful to him. I acknowledge my Director General Professor Dr Shah Monir Hossain to provide the leadership role so that we can best perform in our responsibility. I wish that we would continue to get similar roles from him always. Finally, I acknowledge deeply the contributions of my associates who worked hard and closely with me to publish this Health Bulletin 2010.

Professor Dr Abul Kalam Azad

ACRONYMS

ADB	Asian Development Bank
ADP	Annual Development Programme
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immunodeficiency Syndrome
ALS	Average Length of Stay
ANC	Ante-natal Care
APR	Annual Program Review
ARC	American Red Crescent
ARI	Acute Respiratory Infection
BBS	Bangladesh Bureau of Statistics
BCC	Behavior Change Communication
BCG	Bacillus Calmette Guerin
BCS	Bangladesh Civil Service
BDHS	Bangladesh Demographic and Health Survey
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
BMA	Bangladesh Medical Association
BMI	Body Mass Index
BMMS	Bangladesh Maternal Mortality Survey
BMRC	Bangladesh Medical Research Council
BNHA-2	Bangladesh National Health Accounts,1999-2001
BOR	Bed Occupancy Rate
BRAC	Bangladesh Rural Advancement Committee
BSA	Bangladesh Society of Anesthesiologists
BSMMU	Bangabandhu Sheikh Mujib Medical University
CABG	Coronary Artery Bypass Grafting
CBN	Cost of Basic-Needs (method)
CC	Community Clinic
CDC	Communicable Disease Control
CDD	Control of Diarrheal Diseases
CFP	Conceptual Framework Paper
CGA	Comptroller General of Accounts
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
CPR	Contraceptive Prevalence Rate
CRF	Chronic Renal Failure
CS	Civil Surgeon
C-section	Cesarean Section
CSO	Community Support Organization
DAB	Diabetic Association of Bangladesh
DBRH	Demand Based Reproductive Health
DCA	Development Credit Agreement
DDA	Directorate of Drug Administration
DDC&H	Dhaka Dental College & Hospital
DF	Dengue Fever
DFID	Department for International Development (UK)
DG	Director General
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DGIS	Directoral General for International Co-operation
DH	District Hospital
DHF	Dengue Hemorrhagic Fever
DMC	Dhaka Medical College
DMCH	Dhaka Medical College Hospital
DNS	Directorate of Nursing Services
DOTS	Directly Observed Treatment-Short Course
DP	Development Partner
DPA	Direct Project Aid
DPHE	Department of Public Health Engineering
DSF	Demand Side Financing
ECNEC	Executive Committee of National Economic Council
EDPT	Early Diagnosis and Prompt Treatment
EmOC	Emergency Obstetric Care
EPI	Expanded Program on Immunization
ERD	Economic Relation Division

ESD	Essential Service Delivery
ESP	Essential Service Packages
ETT	Exercise Tolerance Test
EU	European Union
FEP	Filariasis Elimination Program
FMAU	Financial Management and Audit Unit
FMRP	Financial Management Reforms Project
FP	Family Planning
FWA	Family Welfare Assistant
FY	Financial Year
GAVI	Global Alliance for Vaccine and Immunization
GDP	Gross Domestic Product
GFTAM	Global Fund To Fight AIDS, Tuberculosis & Malaria
GHDCH	Government. Homeopathic Degree College Hospital
GO	Government Order
GOB	Government of Bangladesh
GTC	Government Tibbia College
GUADCH	Governmentt. Unani & Ayurved 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
HIES	Household Income and Expenditure Survey
HIU	Health Information Unit
HIV	Human Immuno-deficiency Virus
HIV	Human Immunodeficiency virus/ Acquired Immunodeficiency Syndrome
HKI	Helen Keller International
HLIC	High Level Inter-ministerial Committee
HMPD	Health Manpower Development
HNP	Health, Nutrition and Population
HNPSP	Health, Nutrition & Population Sector Program
HOSP	Hospital
HPSP	Health and Population Sector Program
HR	Human Resource
IAPB	International Association for Prevention of Blindness
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 & Research
IHSM	Improved Hospital Services Management
IHT	Institute of Health Technology
IMCI	Integrated Management of Childhood Illness
IMED	Implementation, Monitoring & Evaluation Division
IMF	International Monetary Fund
IMHR	Institute of Mental Health and Research
IMR	Infant Mortality Rate
IOL	Intraocular Lens
IPGMR	Institute of Post-Graduate Medicine and Research
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
IST	In-Service Training
IT	Information Technology
ITHC	Integrated Thana Health Complex
ITMN	Insecticide Treated Mosquito Net
IUD/IUCD	Intra-Uterin (Contraceptive) Device
IVM	Integrated Vector Management
IYCF	Infant and Young Child Feeding
JICA	Japan International Co-operation Agency
KMCH	Khulna Medical College Hospital
LAN	Local Area Network
LBW	Low Birth Weight
LD	Line Director
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	Maternal and Child Health
MCH	Medical College Hospital
MCWC	Maternal and Child Welfare Center
MDA	Mass Drug Administration
MDGs	Millennium Development Goals
MDG	Millennium Development Goal
MIS	Management Information System
MMR	Maternal Mortality Ratio
MNC	Maternal, Neonatal and Child
MNH	Maternal and Neonatal Health
MNHC	Maternal and Neonatal Health Care
MO	Medical Officer
MOHFW	Ministry of Health & Family Welfare
MOLGRDC	Ministry of Local Government Rural Development & Co-operatives
MOU	Memorandum of Understanding
MP	Member of Parliament
MSA	Management Support Agency
MSD	Medical Sub Depot
MTR	Mid Term Review
MWM	Medical Waste Management
NCD	Non-communicable Diseases
NEMEW	National Equipment Maintenance and Engineering Workshop
NGO	Non-government Organization
NICRH	National Institute of Cancer Research and Hospital
NICVD	National Institute of Cardiovascular Diseases
NID	National Immunization Day
NIDCH	National Institute of Diseases of Chest and Hospital
NIKDU	National Institute of Kidney Diseases and Urology
NIMHR	National Institute of Mental Health and Research
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
NNP	National Nutrition Program
OP	Operational Plan
OPD	Outpatient Department
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
OT	Operation Theater
PH	Public Health
PMIS	Personnel Management Information System
PRSP	Poverty Reduction Strategy Paper
PSM	Preventive and Social Medicine
RDU	Research and Development Unit
RHC	Rural Health Center
SBTP	Safe Blood Transfusion Program
SEARO	South East Asian Regional Office
SVRS	Sample Vital Registration System
TB	Tuberculosis
TT	Tetanus Toxoid
TTU	Technical Training Unit
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UHFWC	Union Health and Family Welfare Center
UNICEF	United Nations Children's Educational Fund
USC	Union Sub Center
USI	Universal Salt Iodization
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
WAZ	Weight of Age Z score
WCBA	Women of Child Bearing Age
WHO	World Health Organization

Contents

Bangladesh – a snap shot

History

Bangladesh was emerged as an independent and sovereign country in 1971. Formerly it was one of the provinces of Pakistan and was known as East Pakistan. The people of Bangladesh had to fight a nine-month war of liberation under the leadership of Father of the Nation Bangabandhu Sheikh Muzibur Rahman against the Pakistan army to establish its independent status. Before the Pakistan era (1947-1971), the country was ruled by the British (1757-1947) as a part of Bengal and Assam provinces of the British ruled Indian sub-continent. The continent then was divided into Pakistan and India. Before the rule of India, the present territory of Bangladesh was part of greater Bengal constituted by East and West Bengal (now under India), and the Bengal, Bihar and Orissha (the latter two are now part of India) were ruled by a sovereign rural named Nawab Sirajuddowla who lost his empire by a battle with British army in Palassey on 23 June 1757.

Geographical location

The country is one of the largest deltas of the world. The total land area is 147,570 square kilometers (56,977 square miles). It is a low-lying country, which stretches latitudinally between $20^0$34' and $26^0$38' north and longitudinally between $88^0$01' and $92^0$41' east. On three sides, the country has borders with India by West Bengal, Tripura, Assam and Meghalaya. Only a small strip in the southeast is bordered by Myanmar. The Bay of Bengal lies on the south. The country is covered with a network of rivers and canals forming a maze of interconnecting channels. Bangladesh is located in high altitude with an overall plain area but with hills at the eastern parts. The northern part is in the Himalayan basin and the southern part in the coast of Bay of Bengal. It is alleged that Bangladesh is the worst victim of global climate change effect without being responsible for it having all the direct and indirect effects of climate change, such as, global warming, sea level rise and melting of mountain glaciers. The human health also has to bear enumerable costs as a result.

Climate

Bangladesh is a tropical country with a hot and rainy summer and a dry winter. January is the coolest month with temperatures averaging near 26^0C (78^0F) and April is the warmest with temperatures from 33^0 to 36^0C (91^0 to 96^0F). Most places receive more than 1,525 millimeters of rain a year, and areas near the hills receive 5,080 millimeters) mostly during the monsoon (June-September) and little in winter (November-February). The humidity varies from 73% to 86%, the highest in the monsoon and the lowest in the winter.

Religion and Culture

The majority (about 89.35%) of the people are Muslim followed by Hindu (9.64%), Buddhist (0.57%), Christian (0.27%) and others (0.17%). Over 98% of the people speak in Bangla. The English, however, is widely spoken by the literate communities. Bangladesh is heir to a rich cultural legacy of about two thousand or more years. The cultural traditions can be viewed in innumerable tangible and intangible heritages in archaeological sites, in sculptures, in stones and terracotta, in architectures, museums, archives, libraries, classical music, songs and dance, paintings, dramas, folk arts, festivals, games as well as in ethnic cultural activities. The very simple and friendly people of Bangladesh are examples of showing beautiful communal harmony among different religions years after years.

Population and Demography

The last census in Bangladesh was done in 2001. The next census is planned in 2011. The Bangladesh Bureau of Statistics (BBS) makes the national population estimates for the country. The BBS (2008) estimated a projected population as of 01 July 2008 to be 144.66 million and as of 01 July 2011 to be 151.41 million. Bangladesh is the country with the highest population density living per square kilometer of land area and as of 2008 estimates this will be 980 per square kilometer. Three quarters of the population (74.6%) live in the rural area and rest in the urban area (25.4%). The current national population growth rate is 1.39% and rural to urban migration rate is 17.29%. The male : female ratio is 105 : 100. The average household size is 4.72. The 15-49 year age group constitutes the largest segment of the population by 52.78% followed by <14 year age group (33.73%). The age groups 50-59 years and 60+ years comprise 6.98% and 6.51% respectively. Adult (15+ years) literacy rate is 59.07% (2008) with net school enrollment rate of 80.79% (80.29% for boy and 81.32% for girl children). The life expectancy at birth is 66.78 years (65.61 years for males and 67.96 years for females).

Governance

Bangladesh is a unitary state with no state or province. For purposes of smooth running of the government programs, the country is divided into 6 Divisions. Recently one new Division has been announced which will increase the number of Divisions to 7. There are several Districts under a Division. There are altogether 64 Districts in the country. Each District is again divided into several Upazilas (Sub-districts). There are 483 Upazilas in the country. The Upazilas are then divided into Unions and each Union is divided into 9 wards. There are 4,498 unions and 40,482 wards in the country. The urban areas have 6 City Corporations and 308 Municipalities. The country is governed by the Parliamentary Democracy and it has a unitary National Parliament, named Bangladesh Jatiya Sangsad. There are 40 Ministries and 12 Divisions. The Ministry of Health & Family Welfare is one of largest ministries in the country.

Economy

Bangladesh has an agrarian economy, although the share of agriculture to GDP has been decreasing over the last few years. Yet it dominates the economy accommodating major rural labor force. The principal industries of the country include readymade garments, textiles, chemical fertilizers, pharmaceuticals, tea processing, sugar, leather goods, etc. The principal mineral includes natural gas, coal, white clay, glass sand, etc. From marketing point of view, Bangladesh has been following a mixed economy that operates on free market principles. The current per capita income and annual growth rate of per capita income in Bangladesh (as of December 2009) are estimated at US$ 621 and US$ 62 respectively (BBS 2009).

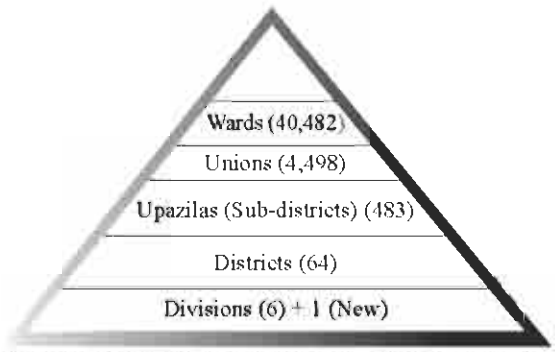


Figure-1.1 For smooth governance, the country is divided into above geographic hierarchies

Source of information: The Statistical Pocket Book of Bangladesh 2008 (published January 2009) and Key indicators on Report of Sample Vital Registration System 2008 (published 2009) by the Bangladesh Bureau of Statistics

Basic Information & Indicators

Field of Indicator	Name		Source
GEOGRAPHY			
Location	Between 20°34' and 26° 38' north latitude and Between 80°01' and 92° 41' east longitude		BBS 2008
Boundary	North and West: India; South: Bay of Bengal; East: India & Myanmar		
Area (sq.km.)	147,570 s q. km.(56,977 s q.miles)		
Territorial Water	12 Nautical miles		
Standard Time	GMT+6 hrs		
Rainfall	203 mm/month		
ADMINISTRATION			
Division	6+1 (new) = 7		BBS 2008
City Corporation	6+1 (new)= 7		
Metropolitan City	4		
Municipality	308		
District	64		
Upazila	483		
Union	4,498		
Wards	40,482		
Village (approximately)	87,310		
Household	25,490, 822		
Average size of h ousehold	4.72		SVRS 2008, BBS
EDUCATION and ECONOMY			
Per Capita GDP (in U.S.$) 2008-09(p)	621		BBS 2008
Per Capita Income (in US$) 2008-09(p)	690		BBS 2006
Per capita public health expenditure on H&FP (BDT)	281		BBS 2008
Adult Literacy Rate (Pop.15+), (Both sexes)	56.3		SVRS 2008, BBS
DEMOGRAPHY			
Population (in millions) (2001 Census)	Total	124.35	BBS 2008
	Male	64.10	
	Female	60.26	

Population estimated July 2008 (in millions)	Total	144.5	SVRS 2008, BBS
	Male	74.0	
	Female	70.5	
Population Projected July 2011 (in millions)	Total	151.41	BBS 2008
	Male	77.85	
	Female	73.56	
	Sex ratio: (males per 100 females)	106.00	
Sex Ratio (Males per 100 Female s)		105.0	SVRS 2008, BBS
Under 5 Population (in %)		11.7	
Population Density per sq.km.		980	
Crude Birth Rate (per 1,000 pop.)		20.54	
Crude Death Rate (p er 1,000 pop.)		6.02	
Population Growth Rate (%)		1. 40	
Total Fertility Rate (birth per women 1549 yrs)		2.40	
Gross Reproduction R ate (GRR)		1.10	
Net Reproduction Rate (NRR)		1.09	
Urban Population (in millions)		36.31	
Rural Population (in millions)		108.35	
Life Expectancy at Birth (In years)	Both sexes	66.78	
	Male	65.61	
	Female	67.96	
Mean Age at First Marriage (In years)	Male	25.91	
	Female	20.31	
HEALTH STATUS			
Neonatal Mortality Rate (per 1,000 live births)		30.95	SVRS, 2008, BBS
Infant Mortality Rate (per 1000 live birth)		41.26	
Under 5 Mortality Rate (per 1,000 live births)		53.84	
Maternal Mortality Ratio (per 1,000 live births)		2.9	MTR 2009
% of population using safe drinking water (Tap & Tubewell)		98.23	SVRS, 2008, BBS
% of population using sanitary latrines		62.23	
Prevalence of night blindness among pre school children		0.04	IPHN, DGHS 2005
% of births attended by skilled personnel		24.4	MICS, BBS and UNICEF2009
% of women received at least one antenatal care		51.7	BDHS, 2007
% of mother received PNC from a trained provider within 42 days of delivery		21.3	

Malaria slide positivity rate (positive per hundred slide examined)		6.35	DGHS, 2009
Malaria incidence rate per 1000 population		0.63	
TB incidence rate per 100000 population		100	NTP 2009
% of smear-positive pulmonary TB cases detected under DOTS		74%	
% of smear -positive pulmonary TB cases cured under DOTS		92%	
% of <5 children with diarrhea treated with ORT (ORS or home-made solution)		81. 2	BDHS, 2007
% of <5 children with symptoms of ARI seeking care from trained provider		28.13	
EPI & Vit-A Coverage			
% of Full Vaccination Coverage (Valid by 1 year of Age)- BCG, DPT-3, HepB 3, OPV-3 and Measles		75.2	Bangladesh EPI Coverage Evaluation Survey 2009
% of BCG Vaccination (valid by 1 year of age)		99	
% of OPV 3 Vaccination (valid by 1 year of age)		92.5	
% of DPT 3 Vaccination (valid by 1 year of age)		85.5	
% of HepB 3 Vaccination (valid by 1 year of age)		85.5	
% of Measles Vaccination (valid by 1 year of age)		82.8	
Number of district with MCV 1 Coverage >90%		44	
% of Vitamin A coverage (0-59 months)		97	
Non Polio AFP rate per 100 thousand		2.57	AFP surveillance report 2009
HEALTH SERVICES PROVISION			
No. of Non-Government. Hospitals (Registered by DGHS)		2,501	DGHS 2010 (March)
No. of Beds in Health Sector (Govt)	Functioning	39,341	MIS-Health 2010 (June)
No. of Beds in Private Sector (Registeredb by DGHS)		42,237	DGHS (Hospital) 2010
No. of Registered Physicians (March 2010)		51,993	BMDC 2010
No. of Registered Dental Surgeon (March -2010)		3,913	BMDC 2010
No. of Government Medical Colleges		18	DGHS 2010

No. of Private Medical Colleges		44	DGHS 2010
No. of Govt. Institutes of Health Technology		56	DGHS 2010
No. of Private Institutes of Health Technology		52	MIS-Health 2009
No. of Govt. Dental Colleges		3	DGHS 2010
No. of Private Dental Colleges		12	
No. of Personnel under DGHS	Existing	86,085	DGHS 2010 (June)
No. of Doctors under Health Services	Existing	12,359	
No. of Registered Nurses (March 2010)		25,018	BNS 2010 (March)
No. of Nurses in Public Sector	Existing	14,338	BNS 2010 (June)
No. of Govt. Nursing Institutes		23	DGHS 2010 (June)
No. of Private Nursing Institution		29	
No. of Registered Mid-wives		23,472	BNS 2010 (March)
No. of trained Skilled Birth Attendants		5,179	DGFP 2010 (June)
Population per Physicians		2,785	DGHS 2010
Physician to Nurse Ratio		2.07:1	
Population per Bed (Beds of Health Sector + Regd. Private Hospital)		1860	
Population per Nurse		5782	

N.B.: For abbreviation, please see acronyms

Health Care Network of Bangladesh under the Ministry of Health & Family Welfare

Hierarchies in Ministry of Health & Family Welfare

The Ministry of Health & Family Welfare (MOHFW) is one of largest ministries under the Government of Bangladesh. It is responsible for national level policy, planning and decision making at macro level, which are then implemented by different executing and regulatory authorities. The ministry is headed by the Honorable Minister for Health & Family Welfare, who is assisted by the Honorable State Minister for Health & Family Welfare. The principal executing staff of the ministry is the Secretary who works with a set of bureaucrats under him, viz. Additional Secretary, Joint Secretaries/Joint Chiefs, Deputy Secretaries/Deputy Chiefs, Senior Assistant Secretaries/Senior Assistant Chiefs, etc.

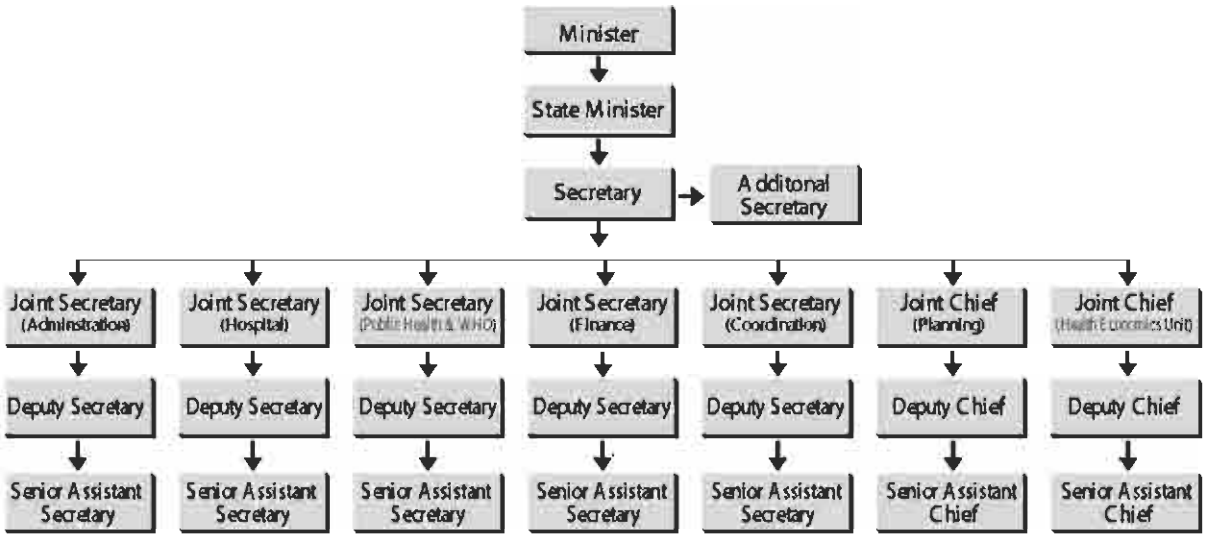


Figure-2.1. Hierarchy of Ministry of Health & Family Welfare

Executing authorities under the Ministry of Health & Family Welfare

Under the MOHFW, there are several executing authorities and regulatory bodies. The executing authorities are Directorate General of Health Services (DGHS), Directorate General of Family Planning (DGFP), Directorate General of Drug Administration (DGDA), Directorate of Nursing Services (DNS), Health Engineering Departmeant (HED) , National Nutrition Prograin (NNP), Transport & Equipment Maintenance Organization (TEMO), National Electro-medical & Engineering Workshop (NEMEW) and Essential Drugs Company Limited (EDCL).

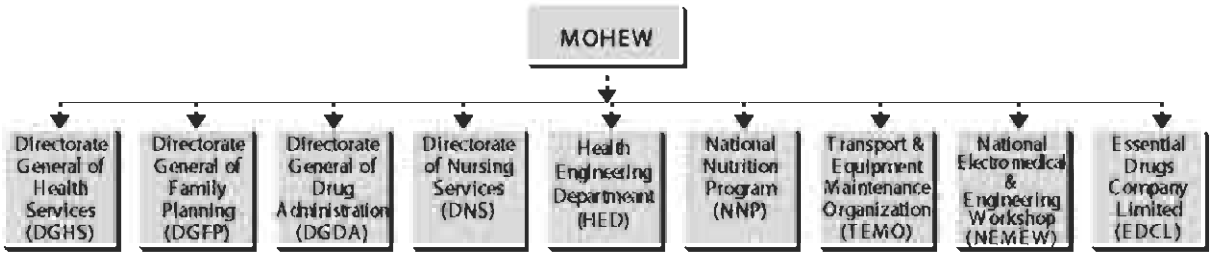


Figure-2.2. Executing authorities under the Ministry of Health & Family Welfare

Regulatory bodies under the Ministry of Health & Family Welfare

The Regulatory bodies are Bangladesh Medical & Dental Council (BMDC), Bangladesh Nursing Council (BNC), State Medical Faculty (SMF), Homeo, Unani & Ayurvedic Board & Bangladesh Pharmacy Council (BPC).

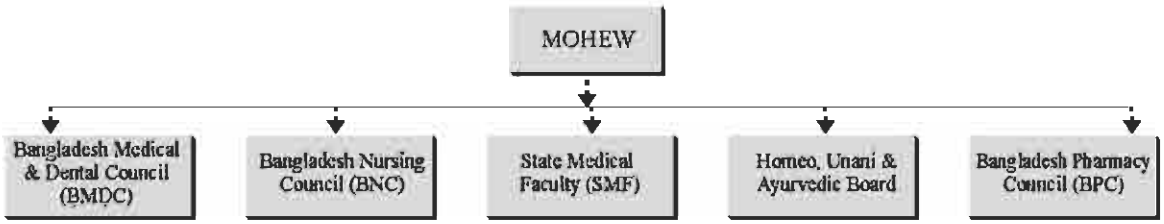


Figure-2.3. Regulatory bodies under MOHFW

Directorate General of Health Services (DGHS)

The Directorate General of Health Services (DGHS) is the largest executing authority under the Ministry of Health & Family Welfare. Having over one hundred thousand officers and staffs, it operates the health care delivery system for the ministry all over the country extending as low as up to village level. DGHS also provides technical guidance to the ministry. The activities of the DGHS are implemented both through the regular revenue set ups as well as under the development programs. The MOHFW undertakes sector-wide multi-year approach to draw the development programs. The sector-wide multi-year development program is popularly known as Health, Nutrition and Population Sector Program (HNPSP), which has been begun in 2003 and will be completed in June 2011. The ministry is now planning the new sector program to be started from July 2011.

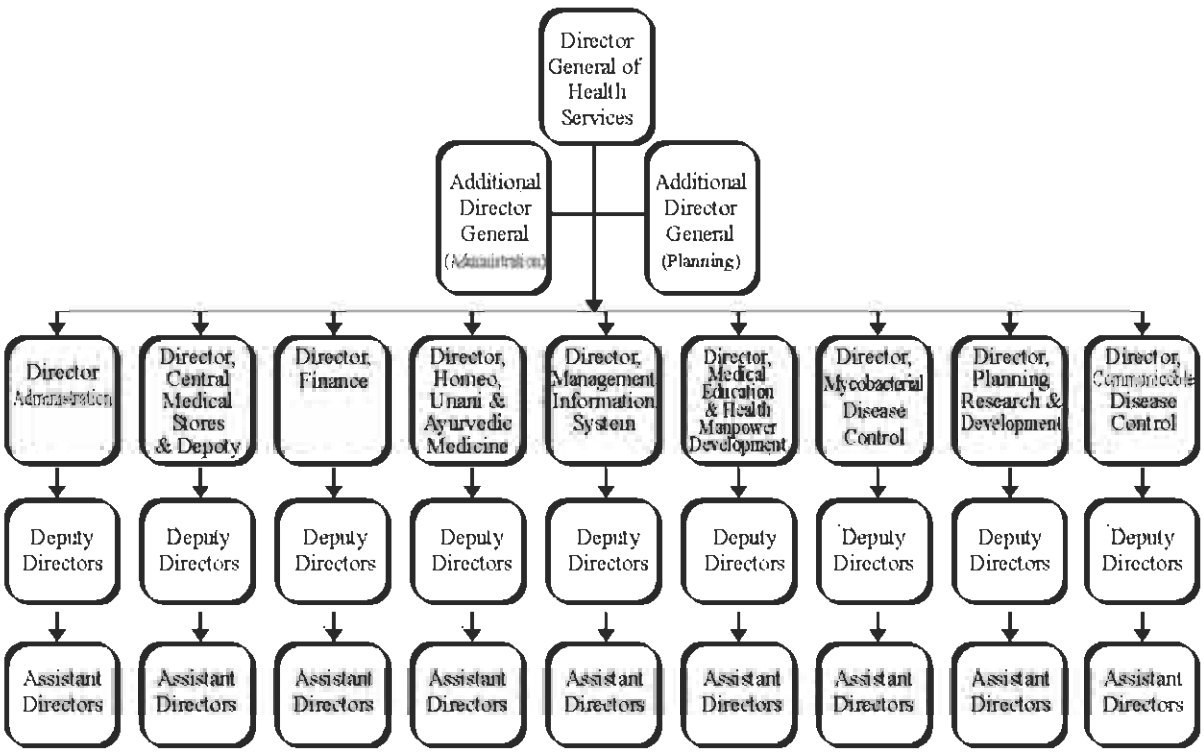


Figure-2.4. Administrative set up of DGHS

Health, Nutrition & Population Sector Program (HNPSP 2003-2011)

The development programs of the Ministry of Health & Family Welfare have been implemented under a sector-wide program called Health, Nutrition & Population Sector Program (HNPSP). The ongoing HNPSP has been launched in July 2003 and is expected to be completed in June 2011, when a new sector-wide program will take the course. Currently the MOHFW is preparing the next sector-wide program. Under HNPSP (2003-2011), there are 38 Operational Plans (OPs), of which the DGHS implements 19 OPs. The remaining 19 OPs are implemented by MOHFW itself (5 OPs), Directorate General of Family Planning (9 OPs), Directorate General of Drug Administration (1 OP), Construction Management & Maintenance Unit (CMMU) (1 OP), Directorate of Nursing Services (1 OP), National Nutrition Program (1 OP) and National Institute of Population, Research & Training (NIPORT) (1 OP). The chief executive officer responsible for implementation of each OP is called Line Director. Line Directors are brought on deputation or given additional responsibility beyond their regular tasks. Under each Line Director, there are few to several Program Managers and Deputy Program Managers depending upon the number of programs under specific OPs. Like the Line Directors, the Program Managers and Deputy Program Managers are also brought on deputation or given additional responsibility. The list of the Operational Plans under DGHS is given below:

List of Operational Plans (OPs) under DGHS

1. Alternative Medical Care (AMC)
2. Communicable Disease Control (CDC)
3. Essential Service Delivery (ESD)
4. Health Education and Promotion (HEP)
5. Human Resource Management (HRM)
6. Improved Financial Management (IFM)
7. Improved Hospital Services Management (IHSM)
8. In-Service Training (IST)
9. Management Information System (MIS)
10. Micronutrient Supplementation (MS)
11. Mycobacterial Disease (Tuberculosis & Leprosy) Control
12. National AIDS/STD Program (NASP) and Safe Blood Transfusion Program (SBTP)
13. National Eye Care (NEC)
14. Non-communicable Diseases and Other Public Health Interventions (NCD&PHI)
15. Pre-service Education (PSE)
16. Procurement, Logistics & Supplies Management (CMSD)
17. Quality Assurance (QA)
18. Research & Development (Health)
19. Sector-wise Program Management (SWPM)

Management structure and type of health facilities beyond DGHS

The distribution of health infrastructures under the DGHS can be divided into different tiers, viz, national, divisional, district, upazila (sub-district), union, ward and village levels. At the national level, there are institutes, both for public health functions as well as for postgraduate medical teaching/training and specialized treatment for patients. In each division, there is one divisional director for health and under him/her are deputy directors and assistant directors. In each divisional head quarter, there is one infectious disease hospital and one or

more medical college(s). Each medical college has an attached medical college hospital. Some divisional head quarters also possess general hospital and institutes of health technologies. The district health manager is called civil surgeon (CS). In each district, there is a district hospital. Some district hospitals have superintendent to look after the hospital management. In others, civil surgeons look after the district hospitals. Some of the district head quarters have medical colleges and attached medical college hospitals. There are also medical assistant training schools and nursing training institutes in some districts. In the upazila, upazila health & family planning officer (UHFPO) is the health manager. He manages all public health programs in the upazila and also looks after the upazila hospital (31- to 50-bed). In the union level, one or other of the three kinds of health facilities may exist, viz. rural health center, union sub-center or union health & family welfare center (UHFWC). In a union health facility, there is a post of medical doctor. All union facilities possess medical assistants to provide health service to the people. In the ward level, community clinics (CC), one for every 6,000 population, are being established. So far 9,722 independent community clinics have been established as of May 2010. The existing union and upazila facilities (4,500) also provide community clinic services. Therefore, about 14,000 community clinics are already in operation. The Government estimates that 18,000 community clinics will be required to cover all the rural population. The remaining community clinics will be constructed and added in next 2 to 3 years. In the ward or village levels, there are domiciliary workers, one for every 5 to 6 thousand population. There are 26,416 sanctioned posts of domiciliary workers under DGHS, of which 20,819 are for health assistants (HA), 4,198 for assistant health inspectors (AHI) and 1,399 for health inspectors (HI). The Directorate General of Family Planning (DGFP) also has domiciliary family planning staffs to work in the village levels. Currently, the domiciliary staffs both from DGHS and DGFP share the responsibility of running the independent community clinics. However, the ministry will soon recruit 13,500 full time community health care providers (CHCP) to run the community clinics.

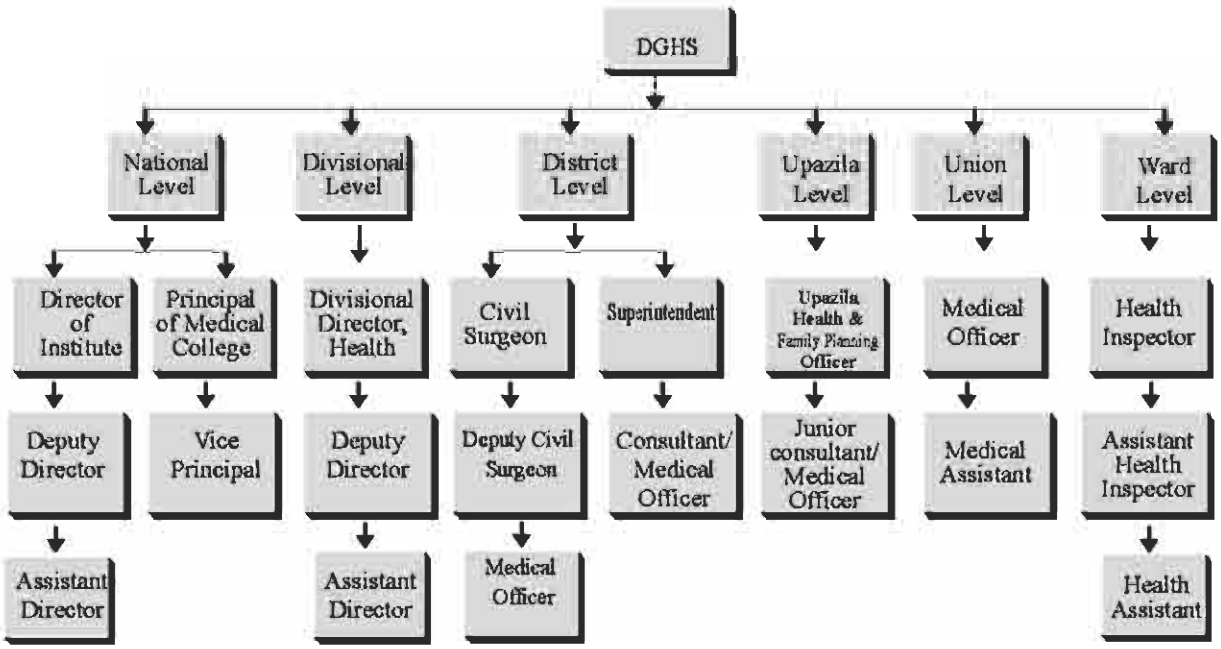


Figure-2.5. Managerial hierarchies from national to the lowest level under DGHS

Table-2.1. Type of health facilities under DGHS in different administrative tiers

National	Divisional	District	Upazila	Union	Ward
▸ Public Health Institute	▸ Medical College & Hospital with nursing institute	▸ District Hospital with nursing institute	▸ Upazila Health Complex	▸ Rural Health Center (in some)	▸ Community Clinic (in some)
▸ Postgraduate Medical Institute & Hospital with nursing institute	▸ General hospital with nursing institute	▸ General Hospital with nursing Institute (in some) ▸ Medical College & Hospital with nursing institute (in some)	▸ TB Clinic (in some)	▸ Union sub-center (in some) ▸ Union Health & Family Welfare Center (in some)	
▸ Specialized Health Center	▸ Infectious Disease Hospital	▸ Chest Clinic (in some)			
	▸ Institute of Health Technology	▸ Leprosy Hospital (in some)			
		▸ Medical Assistantso Training School			

Managerial structure and health facilities under Directorate General of Family Planning (DGFP)

The primary intention of Health Bulletin 2010 is to capture the health information pertaining to Directorate General of Health Services. However, to give the readers an impression of the family planning services under the public sector, a brief mention about the latter is pertinent. The DGFP also has more or less similar type of managerial structure from the national down to ward levels, viz. director general, directors, deputy directors and assistant directors at the head office, divisional director, deputy director and assistant director at the division, district family planning officer (DFPO) at the district and upazila family planning officer (UFPO) at the upazila. DGFP has limited number of medical doctors, viz. one medical officer for maternal and child health (MO, MCH) in each upazila and one sub-assistant medical officer (SACMO, a medical assistant by background) in union health facility. For performing family planning procedures, DGFP also has FWV (family welfare visitor) in the upazila and union facility. The domiciliary staffs of DGFP to work in the ward level are called Family Planning Inspector (FPI), Assistant Family Planning Inspector (AFPI) and Family Welfare Assistant (FWA). The DGFP runS union facility which is equivalent to that of union health & family welfare center of DGHS is also called health and family welfare center (HFWC). There are 3,719 HFWCs at the union level. Besides, DGFP operates 97 MCWCs (maternal and child welfare centers: 24 in union level, 12 in upazila level and 61 in district level), 471 MCH-FP clinics (407 in upazila level and 64 in district level) and 8 model clinics (2 at national level and 6 at regional levels). DGFP organizes 30,000 makeshift satellite clinics each month. It also supports operation of 179 NGO clinics (27 in union level, 86 in upazila level, 44 in district level and 22 in national level).

Source of information: DGHS and DGFP (2010)

The Millennium Development Goals: Where Bangladesh Stands?

When only 5 years are ahead to reach the dateline of year 2015 for meeting the targets of MDGs, assessment is ongoing throughout the world to find the answer whether or not the countries crossed sufficient road. The answer, in general, is no, although progress has been made in some areas. The same is true also for Bangladesh. A report has been published by the secretariat of the World Health Organization for the 63rd World Health Assembly held in May 2010 (WHA document A63/7). The report summarizes the current global status of the health-related MDGs.

MDG 4: Child survival

The report reveals that the global child mortality rate overall has shown declining trend; but uneven between countries; and the target may not be achieved in all countries. However, the interesting well-known fact is: about 40% of the under-5 child deaths occur in the first month of the newborns' life and most in the first week. The rest 60% of under-5 deaths occur due to malnutrition, HIV, vaccine preventable and other communicable diseases including pneumonia, diarrhea, and other causes.

MDG 5: Maternal health

The maternal health is the area which shows the poorest performance globally. In some countries of Africa the maternal mortality rate is about 900 per 100,000 live births, whereas the lowest figure in the world is 27 per 100,000 live births. It is evident that half of all maternal deaths occurred in the African Region and another third in the South-East Asia Region. Reports consistently show that most of the maternal deaths can be prevented if skilled care during pregnancy, child birth and postpartum period; and emergency obstetric care is ensured. In both the African Region and South-East Asia Region, less than 50% of women receive skilled care during childbirth. Maternal care during postpartum period also creates opportunity to look after newborn. Therefore, a comprehensive pregnancy care package can improve both maternal and child health situation.

MDG 6: Combat HIV/AIDS, malaria and other diseases

The global progress, as the report shows, in cases of malaria, tuberculosis, HIV/AIDS, neglected tropical diseases, sanitation, safe drinking water supply, and in non-communicable diseases are noteworthy and promising. The report on malaria shows that the 9 African countries and 29 countries outside Africa, where the malaria burdens are the highest, are on course to meet the MDG target by 2010. Globally, the estimated case-detection rate for new smear-positive cases of tuberculosis increased from 40% in 2000 to 62% in 2008. Data on treatment-success rates for new smear-positive cases indicate steady improvements, with the global rate rising from 69% in 2000 to 86% in 2007. However, multidrug-resistant tuberculosis and HIV associated tuberculosis pose considerable challenges. New HIV infections were declined by 16% globally between 2000 and 2008, owing, at least in part, to successful HIV prevention efforts. It is estimated that by the end of 2008 more than four million people in low- and middle-income countries had access to antiretroviral therapy, a 10-fold expansion in five years, with the greatest growth in sub-Saharan Africa. More than 1000 million people are affected by neglected tropical diseases. In 2008, 496 million people were treated for lymphatic

filariasis out of the 695 million targeted. At the beginning of 2009, 213,036 cases of leprosy were reported, compared with 5.2 million in 1985.

The percentage of the world's population using "improved" drinking-water sources increased from 77% to 87% between 1990 and 2008. This rate of improvement is sufficient to achieve the relevant Millennium Development Goal target globally. In 2008, 2600 million people were not using "improved" sanitation facilities, and of these 1100 million were defecating in the open, resulting in high levels of environmental contamination and exposure to the risks of helminthes infestations (such as schistosomiasis) and microbial infections (such as trachoma, hepatitis and cholera).

Health related in MDGs in Bangladesh

Table-3.1 summarizes the target, benchmark and the latest information on the achievement of health related MDGs in Bangladesh. Due to paucity of information available close to the year 2010, we used the latest available sources to show the achievements on MDG. However, disagreements exist on some indicators between values reported by different sources. To allow the readers make their judgment on which reference they will accept, we quoted all the sources. However, we caution the readers with one important message that virtually in almost all areas there were considerable improvements after the reference period. The National Institute of Population Training and Research (NIPORT) is undertaking a survey to measure the maternal mortality ratio. The result, when available, will reveal the actual current situation.

Table-3.1. The MDG targets and indicators

Global goal, target and indicator			Bangladesh target, benchmark and current situation		
Goal	Target	Indicator	Target (Year)	Benchmark (Year)	Achievement (Reference)
Goal 1: Eradicate extreme poverty and hunger	Reduce by half the proportion of people who suffer from hunger	Prevalence of UW children <5 yrs of age			41.0 (BDHS 2007) 41.0 (UNICEF 2008)
		Population below minimum level of dietary energy consumption (%)			
Goal 4: Reduce child mortality	Reduce by two thirds the mortality rate among children under five	<5 year mortality rate/ 1,000 live births	48.0 (2015)	144.0 (1990)	67.0 (MICS 2009) 53.84 (SVRS 2008) 65.0 (BDHS 2007)
		Infant mortality rate/ 1,000 live births	31.3 (2015)	94.0 (1990)	45.0 (MICS 2009) 41.26 (SVRS 2008)
		1 year old children immunized against measles (%)		52 (1991)	52.0 (BDHS 2007) 82.8 (BECES 2009) 83.1 (BDHS 2007)

Table-3.1. The MDG targets and indicators (continued)

Global goal, target and indicator			Bangladesh target, benchmark and current situation		
Goal	Target	Indicator	Target (Year)	Benchmark (Year)	Achievement (Reference)
	Reduce by three quarters the maternal mortality ratio	Maternal mortality ratio/ 100,000 live births	143.5 (2015)	574.0 (1990)	290.0 (MTR 2008)
		Births attended by skilled health personnel (%)	50.0 (2010)	7.0 (1990)	24.4 (MICS 2009)
Goal 5: Improve maternal health	Achieve, by 2015, universal access to reproductive health	Contraceptive prevalence rate (%)		39.9 (1991)	18.0 (BDHS 2007) 55.8 (BDHS 2007)
		Adolescent birth rate			33.0 (BDHS 2007)
		Antenatal care coverage (at least one visit) (%)		48.7 (2004)	52.0 (BDHS 2007)
		Antenatal care coverage (at least four visits) (%)			20.4 (BDHS 2007)
		Unmet need for family planning (%)			17.1 (BDHS 2007)
	Halt & begin to reverse the spread of HIV/AIDS	HIV prevalence among population aged 15-24 yrs (%)	Halt (2015)		<0.1 (HSS 2006)
	Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need	Population with advanced HIV infection with access to ARV drugs (%)	100.0 (2015)		100.0 (NASP 2009)
Goal 6: Combat HIV/AIDS, malaria and other diseases	Halt & begin to reverse the incidence of malaria & other major diseases	Malaria incidence rate 1,000 population			0.63 (DGHS 2009)
		Malaria death rate (%) Children U-5 sleeping		0.053 (2003)	0.032 (2007)
		under insecticide-treated bed nets (%)			
		Children U-5 with fever treated with appropriate anti-malarial drugs (%)			
		TB incidence rate/ 100,000 population			100.0 (WHO 2009)
		TB prevalence rate%			79.0 (2010)
		TB death rate (Per 10,000 Population)			45 (WHO 2009)
		TB case detection rate (%)	75.0 (2010) >70.0 (MDG)	38.4 (2003)	74.0 (NTP 2009)
		TB cure rate (%) with DOTS	93.0 (2010) >85.0 (MDG)	83.7 (2003)	92.0 (NTP 2009)
Goal 7: Ensure environmental sustainability	Reduce by half the % of people without sustainable access to safe drinking water % basic sanitation	Population using improved drinking water source (%)	100.0 (2015)	97.6 (2006)	97.8 (MICS 2009) 98.23 (SVRS 2008) 97.0 (BDHS 2007)
		Population using improved sanitation facility (%)	100.0 (2015)	39.2 (2006)	80.4 (MICS 2009)

Note: BDHS 2007 (Bangladesh Demographic and Health Survey 2007); MICS 2009 (Multiple Indicators Cluster Survey 2009 done by Bangladesh Bureau of Statistics; SVRS 2008 (Sample Vital Registration Survey 2008 done by Bangladesh Bureau of Statistics; BECES 2009 (Bangladesh EPI Coverage Evaluation Survey 2009); MTR 2008 (Mid Term Review 2008 by Independent International team of Health, Nutrition and Population Sector Program 2003-11; HSS 2006 (HIV Sero-surveillance 2006); NASP 2009 (National AIDS Surveillance Program 2009); DGHS 2009 (Directorate General of Health Service 2009); NTP 2009 (National Tuberculosis Control Program 2009).

The readers should consider that due to difference in time, place, method and sampling, there can be variation in the survey results, which we mentioned as reference. To help understand the methodology used in the three major surveys referenced here, a brief description of each is given below:

Bangladesh Demographic and Health Survey 2007 (BDHS 2007)

BDHS is undertaken under supervision of the National Institute of Population Research and Training (NIPORT). BDHS 2007 used Enumeration Areas (EAs) followed in 2001 census. EAs from the census were used as the Primary Sampling Units (PSUs) for the survey, because they could be easily located with correct geographical boundaries and sketch maps were available for each one. An EA, which consists of about 100 households, on average, is equivalent to a mauza in rural areas and to a mohallah in urban areas. The survey was based on a two-stage stratified sample of households. At the first stage of sampling, 361 PSUs were selected. The 361 PSUs selected in the first stage of sampling included 227 rural PSUs and 134 urban PSUs. A household listing operation was carried out in all selected PSUs from January to March 2007. The resulting lists of households were used as the sampling frame for the selection of households in the second stage of sampling. On average, 30 households were selected from each PSU, using an equal probability systematic sampling technique. In this way, 10,819 households were selected for the sample. However, some of the PSUs were large and contained more than 300 households. Large PSUs were segmented, and only one segment was selected for the survey, with probability proportional to segment size. Households in the selected segments were then listed prior to their selection. Thus, a 2007 BDHS sample cluster was either an EA or a segment of an EA. The survey was designed to obtain 11,485 completed interviews with ever-married women age 10-49. According to the sample design, 4,360 interviews were allocated to urban areas and 7,125 to rural areas. All ever-married women age 10-49 in selected households were eligible respondents for the women's questionnaire. In addition, ever-married men age 15-54 in every second household were eligible to be interviewed.

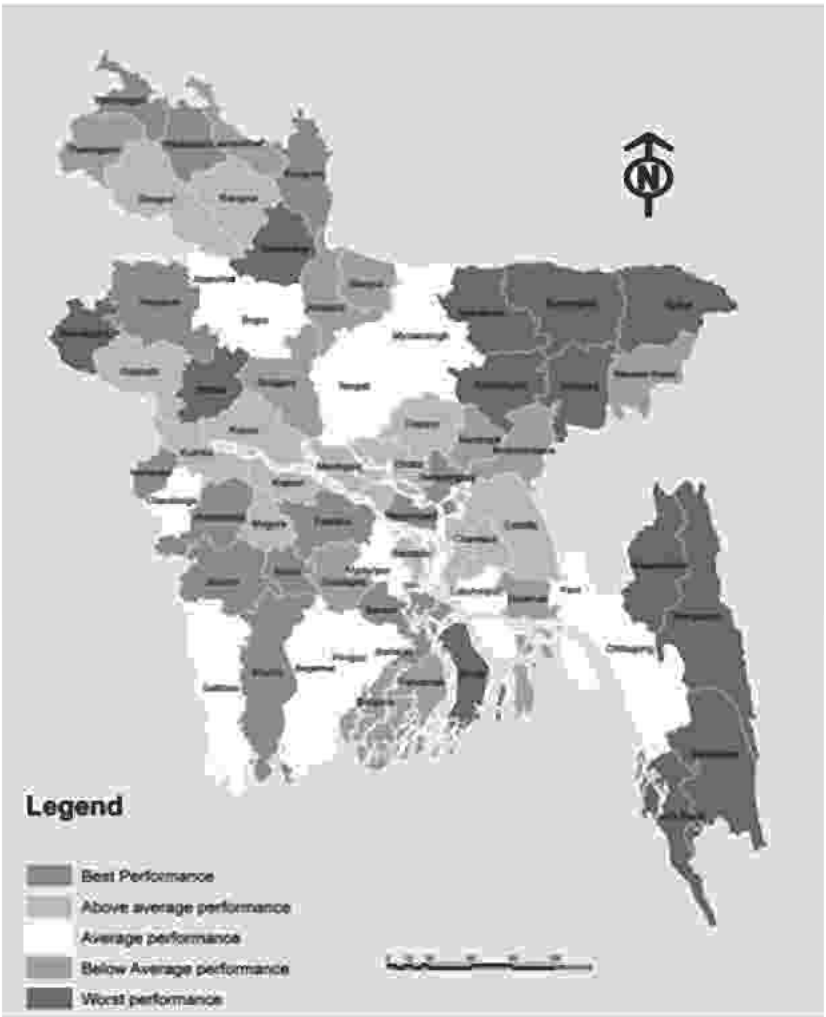
Multiple Indicators Cluster Survey 2009 (MICS 2009)

MICS is done by the Bangladesh Bureau of Statistics. The sample for MICS 2009 was designed to provide estimates on a few indicators on the situation of children and women for urban and rural areas, at the national, district and upazila levels. Upazilas were identified as the main sampling domains and the sample was selected in two stages. Within each upazila, at least 26 census enumeration areas (EA) were selected with probability proportional to size. A segment with 20 households was randomly drawn in each selected EA. The sample was stratified by upazila and is not self-weighting. For reporting national and district level results,

sample weights were used. Data collection was done from 28 April to 31 May 2009. Number of households selected was 300,000 of which 299,842 were successfully interviewed for a household response rate of 99.9 per cent. In the interviewed households, 336, 286 women (age 15-49) were identified. Of these, 333,195 were successfully interviewed, yielding a response rate of 99.1 per cent. In addition, 140,860 children under age five were listed in the household questionnaire. Questionnaires were completed for 139,580 children corresponding to a response rate of 99.1 per cent. An overall response rate of 99.0 percent was obtained for both the women and for children aged under-five.

Sample Vital Registration Survey 2008 (SVRS 2008)

The SVRS is done by Bangladesh Bureau of Statistics (BBS). The decennial Population and Housing Censuses produce bench-mark data about the population, its composition and spatial distribution. However, census covers only basic information at every ten years. The detailed changes of vital events during the inter-census period are not known from census data. To have a picture of the changes of the vital events during inter-census period, BBS conducts a surveillance system called "Sample Vital Registration System" (SVRS) since 1980 to provide data on key life cycle or vital events. Its coverage is 1000 Primary Sampling Units (PSUs) each comprising of about 250 compact households. The data are collected by the local registrars and the quality of the data checked by the supervisors. Filled-in schedules are then sent to headquarters on monthly basis. Rechecking is done by Regional Statistical Officers and other officers and staff members. Internal Validation and close supervision of data collection is done to improve the quality of data. The surveys are conducted throughout the year. Dissemination is done every 2-3 years.



Districts by MDG performance

The report on the Multiple Indicators Cluster Survey 2009 (MICS 2009) categorized the districts of

Bangladesh in five groups based on their MDG performance measured on a scale of MDG composite index. The index comprised of nine indicators, viz. (i) net attendance rate in primary education; (ii) proportion of pupils reached grade five from grade one; (iii) ratio of girls to boys in primary school; (iv) ratio of girls to boys in secondary school; (v) under-5 mortality rate; (vi) proportion of births attended by skilled health personnel; (vii) proportion of women aged 15-24 years with comprehensive correct knowledge of HIV/AIDS; (viii) proportion of population using drinking water; and (ix) proportion of population using an improved sanitation facility. The national average for each indicator was used as the standard and a deviation, on either side, was considered as negative or positive values. Each districtÕs score was calculated from sum of each of the 9 indicators.

Community Ownership of Government Settings for Integrated Health Development The Chougacha & Narsingdi Models

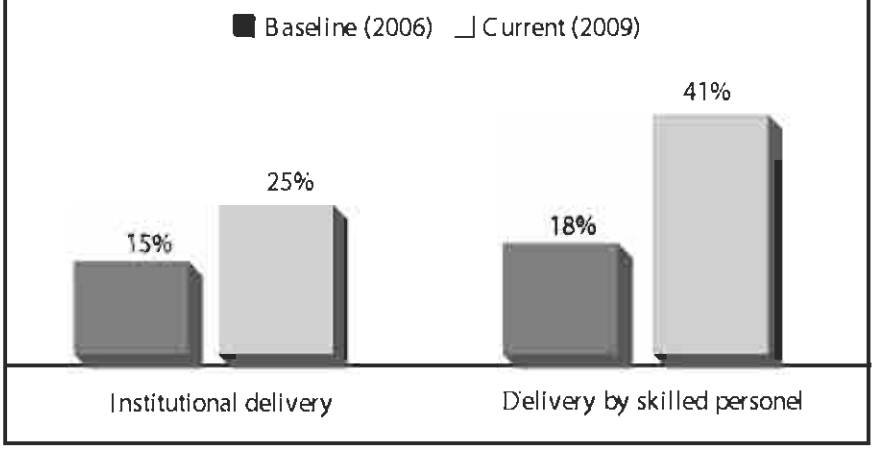
The Ministry of Health and Family Welfare of Bangladesh is emphasizing on community ownership for accelerating the achievement of health related MDGs and other health development goals. Two models are very frequently spoken of. These are Chougacha Model and Narsingdi Model.

Chougacha is a upazila (sub-district) under Jessore district of Bangladesh. The government owned upazila hospital of this area has been successful in mobilizing active community participation in operating the hospital and community health programs. Local elites and people participate in funding additional human resources, equipment, reagent, tracing vulnerable clients and health campaigns. Begun in 1996 by the local hospital manager, achievement with the national reference data the initiative has shown remarkable successes with respect to National & International health goals. Later Ministry's HNP Sector Program, UNICEF and JICA took part in further improvement of the services. The Chougacha model made improvement in almost all the health indicators in the area. Table-3.2 compares its achievement with the national reference data.

Table-3.2. Achievements of Chougacha model compared to national reference

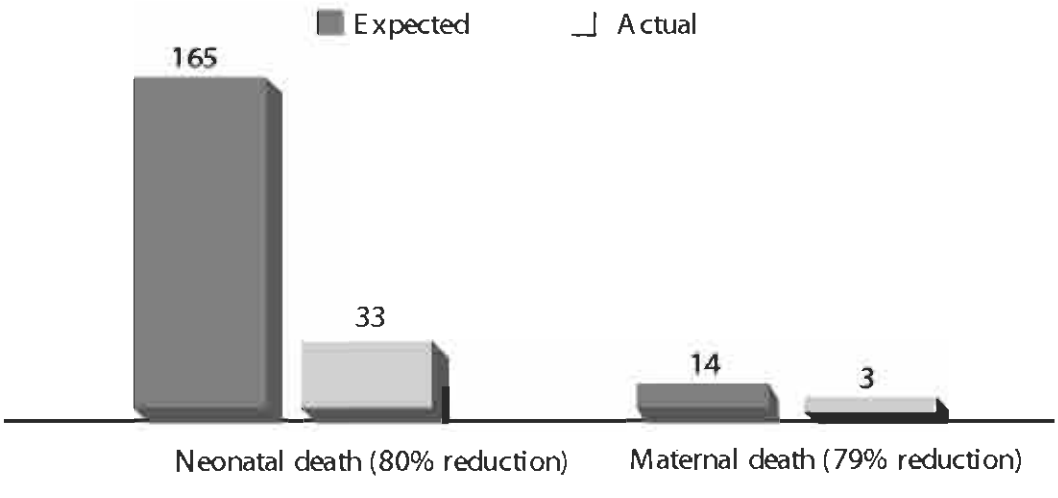
Indicator	National	MDG target 2015	Chougacha
Hospital delivery	18%	100%	72%
MMR per 100,000 live births	290	120	42
NMR per 1000 live births	30.9	-	19.3
IMR per 1000 live births	41.3	31.3	23.9
Under-5 MR	53.8	48.0	25.8
Total fertility rate	2.3	-	2.1
Contraceptive prevalence rate	55.8%	-	67%
TB case detection rate	74.0%	70%	83%

Figure-3.1. Increase of institutional delivery and delivery by skilled health personnel in Narsingdi model area



The Narsingdi Model is in fact a Safe Motherhood Promotion Project (SMPP), begun as a pilot by Ministry of Health & Family Welfare in July 2006 aiming with support from JICA to improve health status of women and neonates in the target district of Narsingdi through strengthening safe delivery service and supporting women and neonates to utilize obstetric and neonatal care. It has developed a community support system for pregnant women and newborn during obstetric emergencies organized by the community people. Regular meetings, engagement of private community birth attendants, pregnancy registration and mapping, transportation for emergency referral, funding support for poor pregnant women are, amongst others, the key elements of the activities. Local union parishads are active partners of the project. This is a successful model of Maternal and Neonatal Health built in the cultural and economic context of Bangladesh for achieving MDG 4 and 5. The figures show that the Narsingdi model could improve the percentage of institutional deliveries and also the deliveries attended by skilled birth attendants in the project area.

Figure-3.2. Number of neonatal and maternal deaths reduced in narsingdi district



Primary Health Care

Community clinics

The delivery of primary health care in Bangladesh has been taking a remarkably new shape through establishment of 18,000 community clinics, one for every 6,000 rural populations. Since the taking of oath of the current government on January 06, 2009, the Ministry of Health and Family Welfare initiated steps to start the community clinics, of which operation was closed by the previous government. Re-opening of the community clinics was one of the election promises of the ruling party in the 2008 National Election. Of the 18,000 planned community clinics, 9,722 have already been started as of June 2010. The existing union and upazila level health facilities will also provide community clinic service. Therefore, the government will have to build the additional community clinics to fulfill the 18,000 targets. The government has approved a 5-year long new project called "Revitalization of Community Health Care Initiatives in Bangladesh" to further develop the community clinics and strengthen their operations. The estimated budget of the project is 26,774.90 million taka. From the project source of Community Clinics, it has been learnt that beginning from 2009 until June 2010, the community clinics provided services to about 15 million patients. Table-4.1 summarizes the report.

Table-4.1. Information on community clinics (as of June 2010)

Community clinics started	9,722 Nos.
Community clinics repaired before starting	4,150 Nos.
Medicines supplied worth	3,313 Lakh Taka
Medicines in pipeline worth	2,019 Lakh Taka
Patients took health service	15 Million
New posts for community health care providers created	13,500 Nos.

It has been planned to install solar panels in the community clinics where there is no provision of electricity supply from the national grid. In 24 community clinics in the districts of Gopalganj and Satkhira, work for installation of solar panel will be completed soon. The government has also planned to provide mini laptops to the community clinics to initiate telemedicine service. It is aimed that the community clinics will play the central role in delivering the primary health care through effective community participation. A 9 to 11 member community group constituted from local people has been given responsibility to operate each community clinic. The government is providing staffs and medicines. Over nine thousand community groups have been formed already and the members of the community groups have been given orientation training. The government has decided to allocate at least 65% of the health development budget for essential health services. The government health service gives priority to the poor and marginal community as well as to the people living in the hard to reach areas.

The upward referral linkage of primary health care: upazila hospitals and union facilities

The community clinics have upward referral linkages at the union, and upazila levels. Table-4.2 summarizes the health facilities available at the upazila and downward level. There are 433 government hospitals at the upazila level, which altogether provide 16,101 hospital beds. The number and bed capacity of each type of hospitals have been shown in Table-4.2. Some of the unions also have hospital ranging from 10- to 20-beds. There are 27 union level hospitals with total bed capacity of 410. At the union level, there are 1362 union sub-centers and 87 union health and family welfare centers. This later group of health facilities provides only outdoor services. The Directorate General of Family Planning (DGFP) also has 3,719 union health and family welfare centers (not mentioned in Table-4.2). Further below the union level, there are 9,722 community clinics at the ward level. There is on average one community clinic for every 6,000 populations.

Table-4.2. Primary health care centers run by DGHS at upazila and below (Year 2010)

Upazila level		Union level		Ward level	
Facility type	No.	Facility type	No.	Facility type	No.
Upazila health complex (50-bed)	156	Rural health center (10-bed)	10	Community clinics (OPD only)	9,722
Upazila health complex (31-bed)	257	10-bed hospital	3		
Upazila health complex (10-bed)	11	20-bed hospital	14		
Total upazila health complex=	424	Total hospital=	27		
31-bed hospital	4	Union sub-center (OPD only)	1,362		
		Union health & family			
Trauma center (20-bed)	5	welfare center (OPD only)	87		
Total =	433	Total =	1,476	Total =	9,722
Total beds =	16,101	Total beds =	410	Total beds =	0

Domiciliary service

In the ward or village levels, there are domiciliary workers, one for every 5 to 6 thousand population. There are 26,416 sanctioned posts of domiciliary workers under DGHS, of which 20,819 are for health assistants (HA), 4,198 for assistant health inspectors (AHI) and 1,399 for health inspectors (HI).

Urban health

The urban primary health care in Bangladesh is virtually provided by the Ministry of Local Government, Rural Development and Cooperatives (MoLGRD) through the City Corporations and Municipalities. These local bodies run number of small to medium hospitals and outdoor facilities. Beside, two large scale primary health care projects, viz. Urban Primary Health Care Project (UPHCP) and Smiling Sun Franchise Program are run by the NGOs in collaboration with the City Corporations and with the financial assistance from

donors. The clients in these later projects also share a part of the cost through service charge. The Ministry of Health & Family Welfare contributes to urban primary health care through the 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. Under Health, Nutrition and Population Sector Program (HNPSP 2003-11), there is a program for Urban Health to compliments the urban primary health care services provided by the MoLGRD.

Emergency Obstetric Care (EOC) Program

To improve the maternal health situation targeting to achieve the Millennium Development Goal 5, the Government of Bangladesh in collaboration with UNICEF is conducting facility based Emergency Obstetric Care (EOC) Program in all the districts of Bangladesh. All the government medical college hospitals, district hospitals, upazila hospitals, and maternal and child welfare centers take part in providing EOC. A number of private clinics or hospitals and NGO providers also participate in the program. The service is provided in two forms, viz. Comprehensive Emergency Obstetric Care (CEmOC) and Basic Emergency Obstetric Care (BEOC). Currently all medical college hospitals, 2 district hospitals and 269 upazila health complexes provide CEmOC and 59 district hospitals and 132 upazila health complexes provide BEOC. NGO and private providers from a number of districts also provide similar services. Under a program jointly operated by Management Information Systems (MIS) of DGHS and UNICEF, data are collected from the EOC facilities. These data are then translated into a format called United Nations Process Indicators. Table-4.3 summarizes the source of EOC data we received for the year 2009.

Table-4.3. Number of hospitals and non-state providers which sent emergency obstetric care data to MIS-Health in 2009

Type of hospital	No.	Percentage
Medical college hospitals	13	2.3
District and general hospitals	61	10.8
Upazila health complexes	401	70.7
Districts from where NGO providers sent data	30	5.3
Districts from where private providers sent data	62	10.9
Total =	567	100.0

Data show that there were 448,564 reported deliveries in the country's EOC facilities in 2009 and there were 434,502 live births. The number of newborn deaths in these EOC facilities was 2,385 and that of maternal deaths was 1,307. Table-4.4 also shows the division-wise distribution.

Table-4.2. No. of total deliveries, live births, newborn deaths and maternal deaths in the emergency obstetric care facilities of Bangladesh by Division (Year 2009)

UN Process Indictor	National	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet
Total delivery (N)	448,564	20,165	65,791	150,201	60,372	128,292	23,743
Live birth (N)	434,502	19,310	63,224	146,237	59,052	124,651	22,028
Newborn death (N)	2,385	426	458	563	126	520	292
Maternal death (N)	1,307	115	179	365	112	402	134

Figure-4.4 shows the rates of newborn and maternal deaths as percentage of total live births and total deliveries respectively in 2009. These death rates are only at the EOC facilities and should not be drawn as reflections of the whole community. Nationally the newborn death rate as percentage of total live births was 0.5%, which was 2.2% and 1.3% in the Barisal and Sylhet divisions respectively; but varied between 0.2% and 0.7% in other four divisions (Khulna, Dhaka, Rajshahi and Chittagong) of Bangladesh. The maternal death rate at facilities as percentage of total deliveries was 0.3% nationally. The rate was 0.6% in each of Barisal and Sylhet divisions. The rate varied between 0.2% and 0.3% in other four divisions (Khulna, Dhaka, Rajshahi and Chittagong).

Figure-4.1.Rates of newborn and maternal deaths in emergency obstetric care facilities by division (Year 2009)

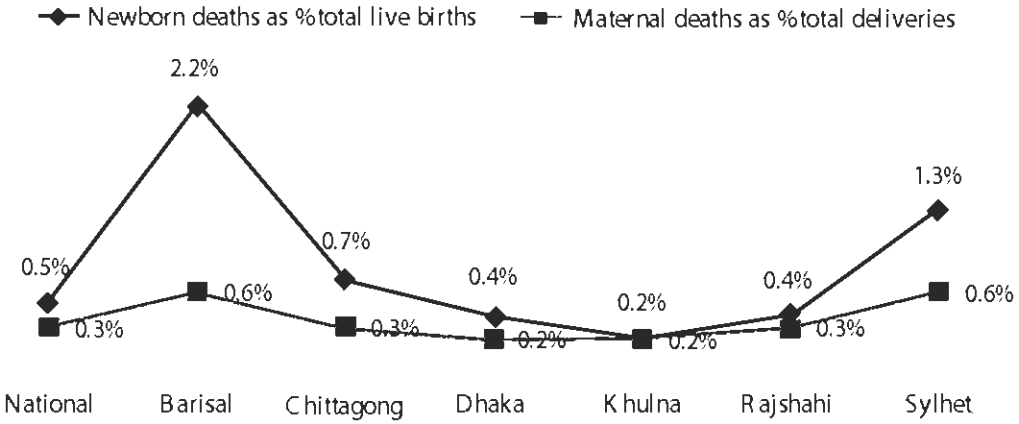


Table-4.5 shows the detail figures of the process indicators summarized for each division. The reported institutional delivery rates varied between 10.3% and 17.7% with average for the whole country being 15.0%. The met need for emergency obstetric care varied between 37.5% and 59.3% (average: 47.2%). Cesarean section rate was between 4.1% and 8.4% (average: 6.4%). The case fatality rate was between 0.4% and 0.9% (average: 0.6%).

Table-4.5. Division wise summary of data received from the emergency obstetric care facilities in 2009 and translated into UN process indicators

UN Process Indictor	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Country
Expected birth (N)	196,600	581,727	940,306	352,246	725,691	190,456	2,987,086
Expected complication (N)	29,499	87,259	141,046	52,837	108,854	28,568	448,063
ANC service (N)	34,089	133,524	406,735	160,536	217,590	46,053	998,527
Admission (N)	31,636	87,405	202,558	83,972	171,368	36,558	613,497
Complication treated (N)	12,706	32,709	77,945	25,336	46,025	16,930	211,651
Normal delivery (N)	9,844	38,812	68,863	33,392	82,545	14,881	248,337
Forceps delivery (N)	49	863	1,195	336	1,333	579	4,355
Vaginal breech delivery (N)	56	971	836	239	942	398	3,442
Cesarean section (N)	10,216	25,145	79,307	26,405	43,472	7,885	192,430
Total delivery (N)	20,165	65,791	150,201	60,372	128,292	23,743	448,564
Live birth (N)	19,310	63,224	146,237	59,052	124,651	22,028	434,502
Still birth (N)	1,087	3,097	4,589	1,546	4,552	1,812	16,683
Other operation (N)	669	4,477	6,569	2,048	5,231	2,624	21,618
Referred out (N)	1,811	4,133	8,447	2,906	9,702	2,302	29,301
PNC service (N)	12,490	49,921	185,218	57,036	90,173	18,689	413,527
Maternal death (N)	115	179	365	112	402	134	1,307
Newborn death (N)	426	458	563	126	520	292	2,385
Proportion (%) of all births in EOC facilities	10.3	11.3	16.0	17.1	17.7	12.5	15.0
Met need of EOC (%)	43.1	37.5	55.3	48.0	42.3	59.3	47.2
Cesarean section as % of all births	5.2	4.3	8.4	7.5	6.0	4.1	6.4
Case fatality rate (%)	0.9	0.5	0.5	0.4	0.9	0.8	0.6

Table-4.6 shows the distribution of EOC services provided by the medical college hospitals, district hospitals, upazila health complexes, NGO facilities and the private clinics/hospitals. Out of the 448,564 reported deliveries, 67,999 took place in medical college hospitals, 71,958 in district hospitals, 135,185 in upazila hospitals, 17,543 in NGO facilities and 155,879 in private clinics/hospitals. It stands at 275,142 (61.3%) deliveries in public facilities and 173,422 (38.7%) deliveries in NGO and private facilities. Of the total public facility deliveries, 24.7% took place in medical college hospitals, 26.2% in district hospitals and the largest proportion (49.1%) took place in upazila health complexes. Of the total deliveries in NGO and private facilities, 10.1% were done by NGO facilities and 89.9% were done by private clinics/hospitals. Table-4.4 reveals that there were 192,430 cesarean sections in 2009, of which public hospitals performed 80,561 (41.9%) and NGO and private facilities performed 111,869 (58.1%) cesarean sections. Of the total public facility cesarean sections (n=80,561), 43.4% were done in medical college hospitals (n=34,960), 32.5% in district hospitals (n=26,181) and 24.1% in upazila health complexes (n=19,420). Of the total cesarean sections done by NGO and private facilities (n=111,869), 5.8% were done by NGO facilities and 94.2% were done by private clinics and hospitals.

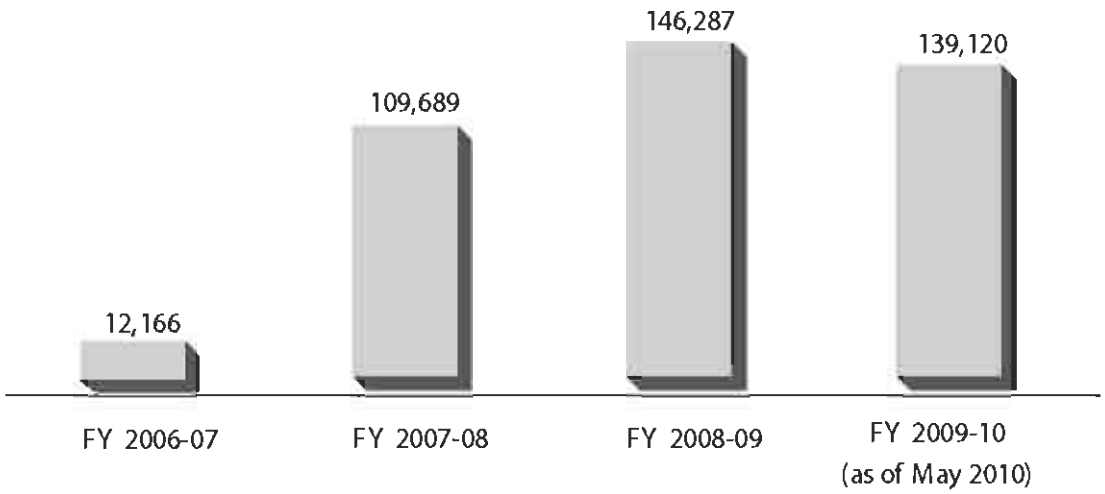
Table-4.6. Summary of data received from the emergency obstetric care facilities in 2009 and translated into process indicators

UN Process Indictor	Medical College Hospitals (n=13)	District Hospitals (n=61)	Upazila Health Complexes (n=401)	NGO facilities (n=30)	Private clinics/ hospitals (n=62)	Total (n=567)
ANC services (N)	94,426	104,104	431,637	95,910	272,450	998,527
Admission (N)	100,252	129,359	192,866	19,752	171,268	613,497
Complications treated (N)	41,232	55,427	52,655	2,553	59,784	211,651
Normal delivery (N)	31,314	44,751	113,342	10,403	48,527	248,337
Forceps delivery (N)	984	327	1,789	290	965	4,355
Vaginal breech delivery (N)	741	699	634	335	1,033	3,442
Cesarean section (N)	34,960	26,181	19,420	6,515	105,354	192,430
Total delivery (N)	67,999	71,958	135,185	17,543	155,879	448,564
Live births (N)	63,617	68,144	131,402	17,258	154,081	434,502
Still births (N)	4,836	4,481	4,709	341	2,316	16,683
Other operations (N)	4,473	9,216	5,755	86	2,088	21,618
Referred out (N)	614	4,080	21,417	770	2,420	29,301
PNC services (N)	32,255	59,499	168,829	25,412	127,532	413,527
Maternal death (N)	716	400	87	11	93	1,307
Newborn deaths (N)	1,428	193	285	112	367	2,385
Case fatality rate (%)	1.7	0.7	0.2	0.4	0.2	0.6

Demand side financing (DSF) through maternal health voucher scheme

The Ministry of Health and Family Welfare conducts an innovative program to encourage the pregnant women seek antenatal, intra-natal and postnatal cares from the skilled medical personnel. This program is popularly known as Demand Side Financing (DSF). Introduced in 2006 and continuing until now, the program provides a pregnant mother a reimbursable maternal health voucher, if she takes any or other form of pregnancy related health care from skilled medical personnel or health facilities in the program area. The maternal health care includes a package of three antenatal check-ups, safe delivery, a postnatal care within 6 weeks of delivery, and services for obstetric complications. The woman receives a financial benefit worth Tk. 750 for normal delivery. The breakdown of this Tk. 750 is as follows: registration fee: Tk. 10 + lab tests for 3 ANCs for 2 blood tests and 2 urine tests: Tk. 140 + consultation fee for 3 ANCs and 1 PNC: Tk. 200 + safe delivery: Tk. 300 + medicine: 100. If there is a complication, such as, forceps delivery, manual removal of placenta, dilatation and curettage, or vacuum extraction of baby, she receives another amount of Tk. 1,000. For management of eclampsia, there is provision for Tk. 1,000. For a case requiring cesarean section, an amount worth up to Tk. 6,000 is given. She may get Tk. 500 to bear costs for travel to the health facility, and another amount of Tk. 500 for referral to the district hospital. A cash amount worth Tk. 2,000 is given as incentives for institutional delivery. After the baby is born in the health facility, the mother receives hygienic toiletries and the newborn toys. In 2009, DSF covered 33 upazilas of Bangladesh, which has been expanded to 53 upazilas.

Figure -4.2. Number of beneficiary pregnant mothers who received Maternal Health Vouchers in different years (Total = 407,262) under Demand Side Financing Program



Maternal and neonatal health (MNH) program

With the assistance of UNFPA, UNICEF and WHO and funded by EC and DFID, the Director of Primary Health Care of the Directorate General of Health Services started to implement a Maternal and Newborn Health Program in four districts of Bangladesh. The districts are Thakurgaon, Jamalpur, Narail and Moulavi bazar. All the upazilas under these four districts are included in the program. 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 Local Level Planning (LLP) and decentralization. The offices of the Civil Surgeon and the Deputy Director of Family Planning serve as the two focal locations for the project. The three UN agencies help ensuring inclusion of the three "added values", viz. participation of civil society organization, direct disbursement of funds to agreed cost centers, and reaching the difficult-to-reach populations. National level authorities deal with major procurement, training, partnership arrangements with NGOs and national communication campaigns. The project plans to allocate a fixed ceiling of fund to each district based on needs, defined by its poverty level, population and number of upazilas. The fund is in addition to ministry's routine allocation. It is proposed that over the lifetime of the project at least 30% of resources at the district level must be devoted to demand side interventions and involving both state and non-state agencies. There is a coordination mechanism to ensure that local level planning fits to the national MNH policies, strategies and guidelines. The project is designed for implementation for five years in two phases. The first phase is a start-up phase covering a period of 18 months and includes four districts. After 18 months of operation, a review will be conducted. If this is satisfactory, agreement will be reached for expansion and covering an additional 16 districts (implementation for 42 months). If after review it is decided not to move to scale-up, then this project will remain only in 4 districts and end after a further 18 months. The project has a number of "novel and

innovative" approaches, based on global best practices, to accelerate progress towards achievement of MDGs 4 and 5, having the following elements: (i) a district-focused approach with direct resource allocation to identified cost centers and the application of WHO problem-solving techniques to develop, monitor and implement the plans; (ii) continuum of care that links the mother and newborn and addresses the three delays model; (iii) rights-based equitable approach in planning, monitoring, implementation and supervision through involvement of consumer groups and public health watch groups to ensure accountability to women, families and communities; (iv) piloting initiatives such as contracting of private practitioners to provide specialized services, in an attempt to improve human resources for MNH at the district and upazila levels; (v) pilot testing of demand-side financing schemes (vouchers and other means) targeting the vulnerable and marginalized households to address equity; (vi) pilot testing of ARH community-based and clinic-based "youth-friendly" services and Voluntary Confidential Counselling and Testing (VCCT) centres in selected districts with high risks of HIV and STIs.

Training of manpower for improving maternal health

One of the major barriers to improve the maternal health is the shortage of skilled manpower in the remote areas to extend obstetric care. To tackle the problem, the Ministry of Health and Family Welfare undertook a short term measure to produce trained manpower with a view to fulfill the gap in the interim period. Young medical doctors were given 6 monthsÕ training on obstetric and anesthesiology. Number of doctors receiving training in the former discipline was 160 and in the later discipline was 155. Training on operation theater management and nursing care was given to family welfare visitors (49,522 participants in different times). The family welfare visitors (1,475 Nos.) received training on midwifery. The family welfare assistants and female health assistants (5,179 Nos.) received Community Skilled Birth Attendant (CSBA) training.

Cervical and breast cancer screening program

Cervical and breast cancers are important causes of mortality and morbidity of women in Bangladesh. Early detection may significantly reduce the morbidity and mortality related to these two diseases. The Government of Bangladesh has taken the initiatives to develop a cervical and breast cancer screening program. VIA (Visual Inspection of Cervix with Acetic Acid) test through application of 5% acetic acid identifies the existence of the precancerous condition of the cervix and early cancer. A pilot program assessed the feasibility of this method for cervical cancer screening within the existing government infrastructure of 16 out of 64 districts with the support of UNFPA and Bangabandhu Sheikh Mujib Medical University (BSMMU). After completion of the pilot program, the cervical cancer screening program was introduced in all the districts. The government also conducted a pilot program on breast cancer screening in 2007 in the same 16 districts. Currently both cervical and breast cancer training and services are in operation under a combined program. BSMMU is playing important role by providing technical assistance for training, developing referral centers, quality control and management of positive cases. Table-4.7 shows the distribution of health personnel who have been given training on VIA test by the project.

Table-4.7. Distribution of health personnel who have been given training from 2004 to 2010 on VIA (Visual Inspection of Cervix with Acetic Acid) Test

Year	Designation	Medical college hospital/ District hospital /Upazila health complex	Maternal and child welfare center	Union health and family welfare center	Total in each category	Total
Pilot Program (2004-2005)	Doctor	31	17	0	48	113
	Nurse/ FWV	21	32	12	65	
2006	Doctor	13	10	0	23	100
	Nurse/ FWV	21	12	20	53	
2007	Doctor	20	13	0	33	134
	Nurse/ FWV	47	30	0	77	
2008	Doctor	24	14	0	38	154
	Nurse/ FWV	59	27	0	86	
2009	Doctor	11	08	0	19	153
	Nurse/ FWV	66	38	0	104	
2010 (Till June)	Doctor	03	05	0	8	28
	Nurse/ FWV	10	05	5	20	
	Total =	326	211	37	574	574

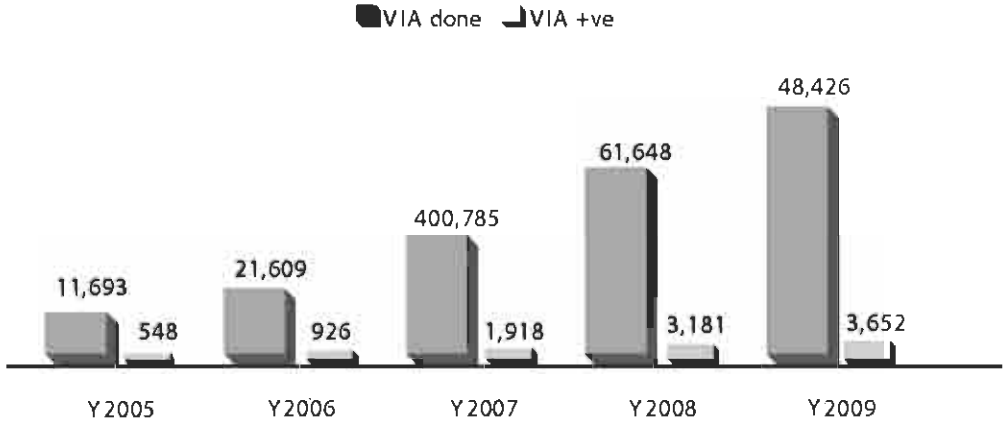
At present this program is continuing in all the 64 districts and screening positive women are referred to the referral hospitals for colposcopic evaluation and management. To serve in the referral hospitals, 79 postgraduate gynecologists from various medical colleges and institutes have been given training on colposcopy. Table-4.8 shows the referral hospitals with number of trained personnel.

Table-4.8. Referral hospitals for colposcopy with number of trained health personnel (2006-2010)

Name of referral hospital	No. of Colposcopists
Bangabandhu Sheikh Mujib Medical University (BSMMU)	23
Dhaka Medical College Hospital (DMCH)	5
Sir Salimullah Medical College & Mitford Hospital (SSMC & MH)	4
Khulna Medical College Hospital (KMCH)	6
Rajshahi Medical College Hospital (RajMCH)	6
Chittagong Medical College Hospital (CMCH)	7
MAG Osmani Medical College Hospital (SMAGOMCH), Sylhet	3
Rangpur Medical College Hospital (RpMCH)	6
Mymensingh Medical College Hospital (MMCH)	6
Comilla Medical College Hospital (CoMCH)	5
Faridpur Medical College Hospital (FMCH)	3
Bogra Medical College Hospital (SZMCH)	2
Dinajpur Medical College Hospital (DinajMCH)	1
Sher-E-Bangla Medical College Hospital (SBMCH), Barisal	1
Institute of Mother and Child Health (ICMH), Matuail, Dhaka	1
Total =	79

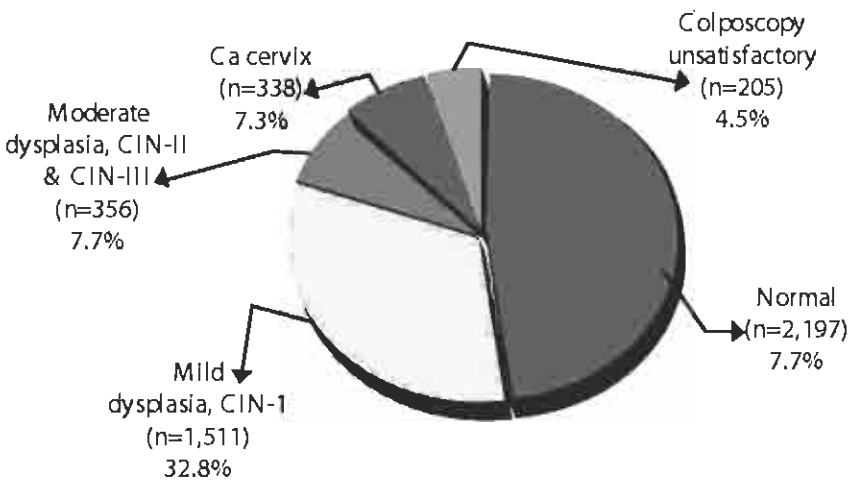
From January 2005 to December 2009, VIA test was done in 220,161 women in 56 districts of which 10,224 (4.64%) women were found VIA+ve (Figure-4.3). About half of the VIA+ve cases (n=4,607; 45.06%) attended the referral center of BSMMU and rest to other medical college hospitals. However, 12% of the positive women did not attend for colposcopy.

Figure- 4.3. Yearwise distribution of number of VIA tests done and VIA+ve cases found



The condition of the cervix of the referred VIA+ve cases which have been examined by colposcopy at BSMMU is shown in (Figure-4.4). In each referral hospital, the women with precancerous condition of the cervix received treatment (LEEP or Cryotherapy) and the women with cervical cancer received treatment.

Figure-4.4. Distribution of VIA+ve referred cases by colposcopic examination



From January 2007 to December 2009, 146,871 women had Clinical Breast Examination (CBE) tests at the service points of 56 districts. Among them, 3,432 (2.33%) were CBE+ve, who were referred to the referral centers. As of now most of the districts of Bangladesh have at least two centers for cervical and breast cancer screening. It is opined that awareness creation, utilization of facilities, and further scaling up will have noticeable impact on improvement of women's health and prevention of cancer.

Universal Child Immunization

The Ministry of Health and Family Welfare continues to improve the child health through various measures, the most notable of which is the high coverage of child immunization. Report of the EPI Coverage Evaluation Survey 2009 is now available, which shows that percentage of fully vaccinated under two children is 80% which was 79% in 2007. Hepatitis B and Hib vaccines are also included now in the routine immunization. The picture of universal child immunization program in Bangladesh has been shown in figures 4.5 through 4.9.

Figure-4.5 Valid vaccination coverage among <23 & <12 months children in Bangladesh (EPI CES 2009)

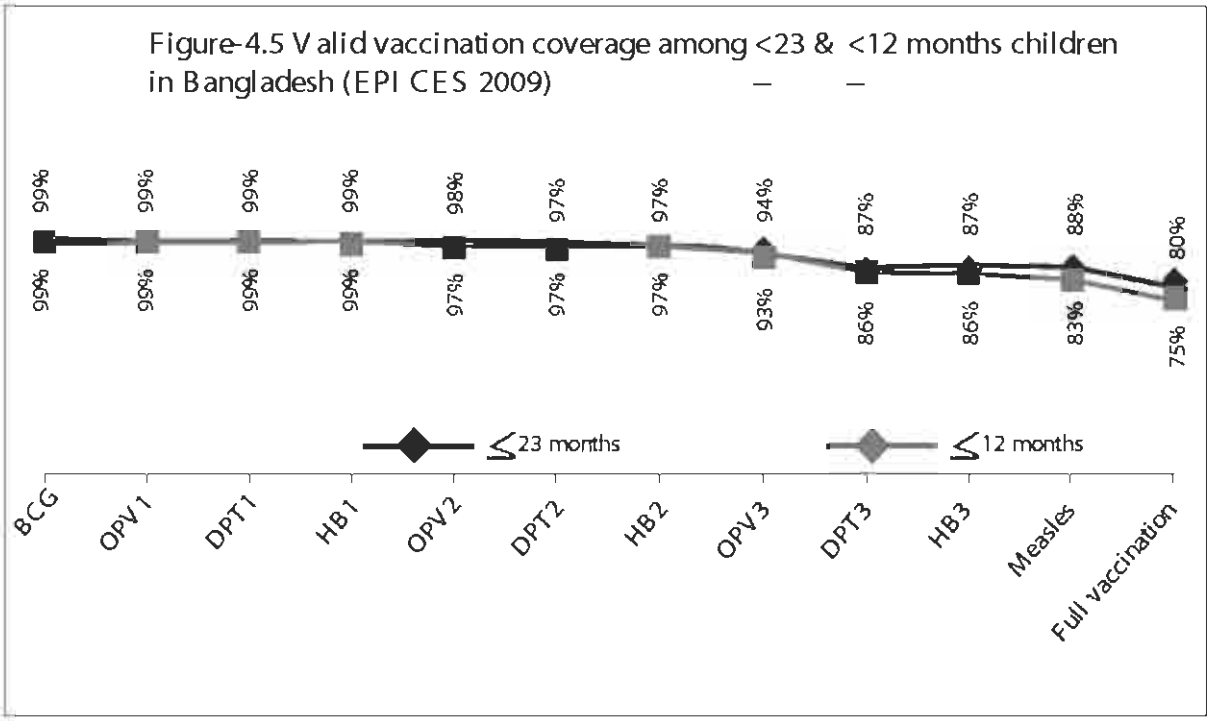


Figure-4.6. Valid Vaccination coverage among <12 months and <23 months old children between rural and urban areas (EPI CES 2009)

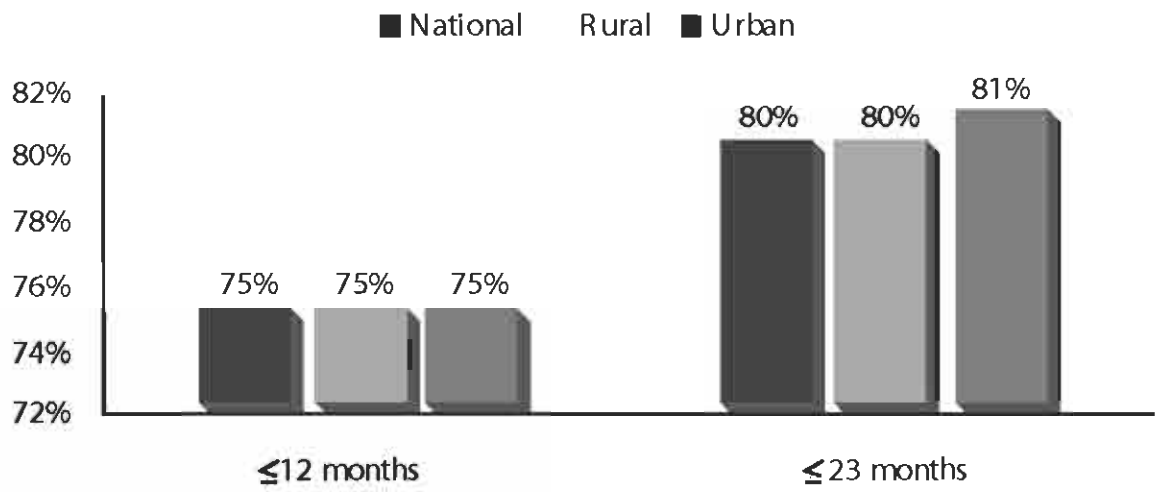


Figure-4.7. National valid full vaccination coverge between boys and girls (CES 2009)

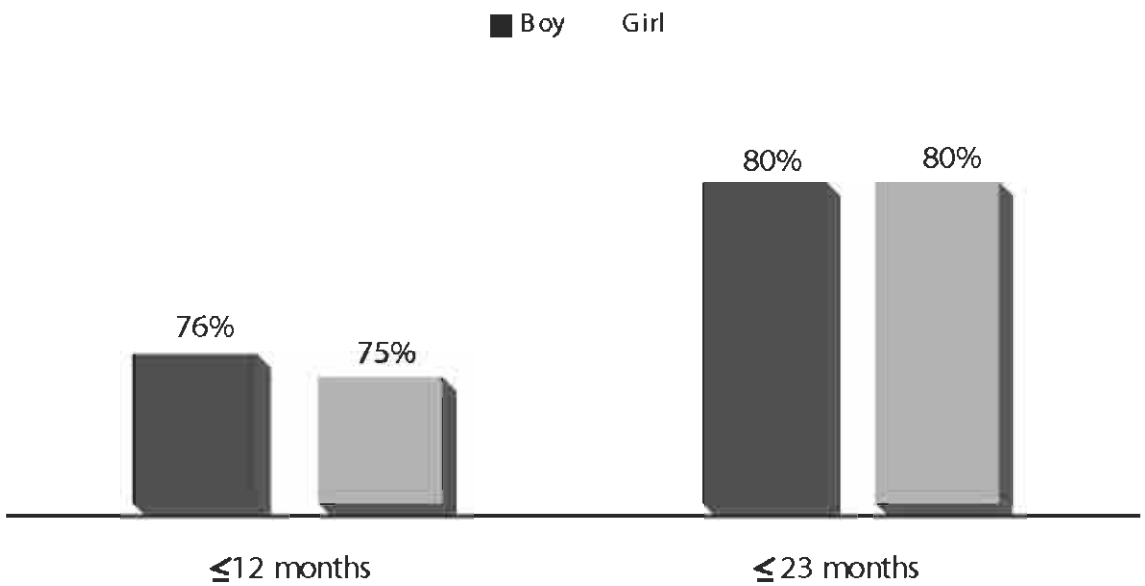


Figure-4.8. Division wise valid full vaccination coverage (EPI CES 2009)

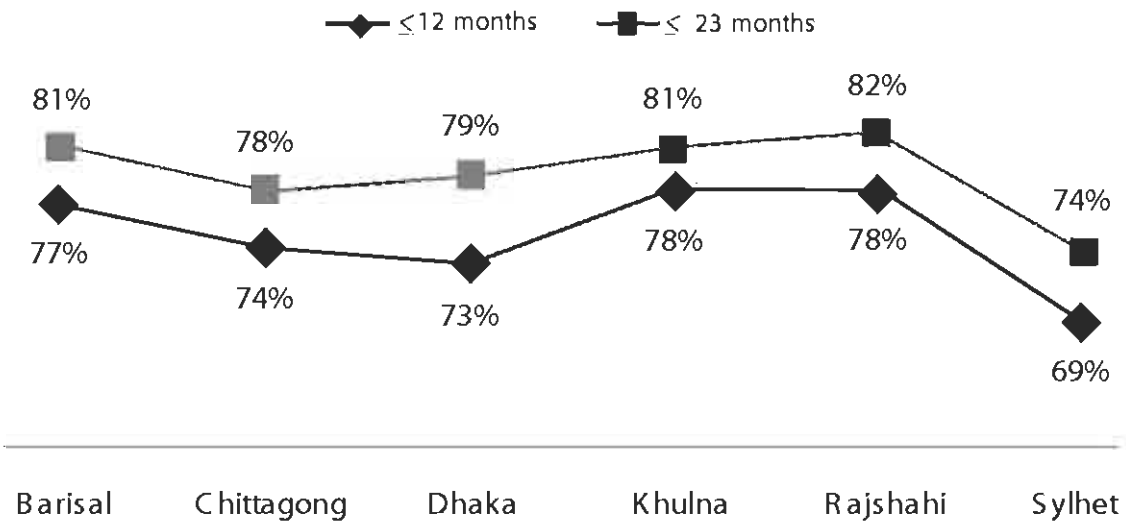
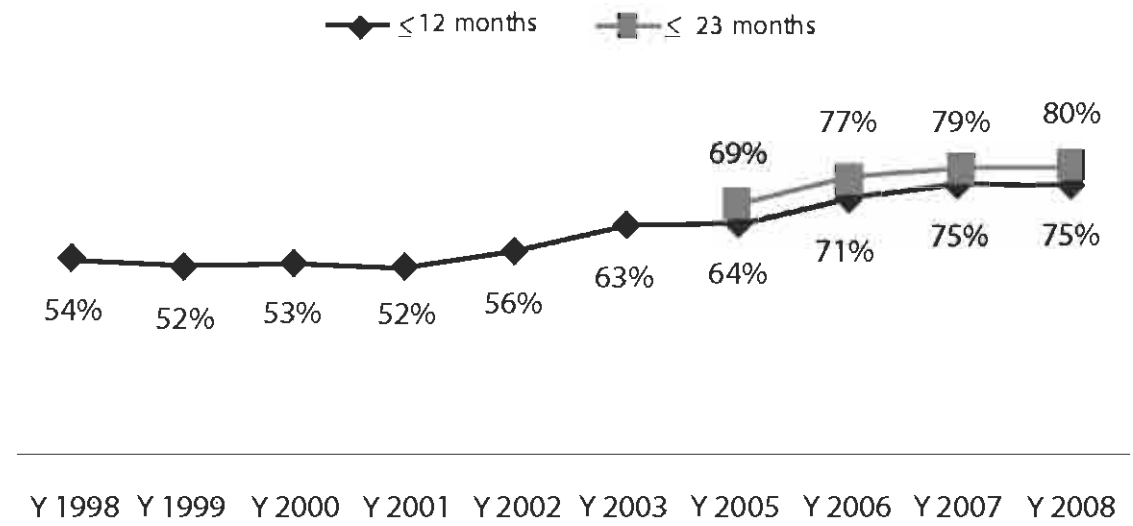


Figure-4.9. Annual National trend of valid full vaccination coverage (EPI CES 1998-2009)



Bangladesh has requested for providing GAVI assistance to include pneumococcal and Rota virus vaccines in the EPI program. Discussions are ongoing to introduce also typhoid fever and oral cholera vaccines. Bangladesh is fortunate to have no polio cases from virtually year 2001, except in a window period in 2006. In 2006, 18 wild polio cases were imported in the country from the bordering districts of India. To keep the country polio free, Bangladesh conducts nationwide National Immunization Day (NID). Conduction of NID has to be continued until India becomes polio free. India is also trying to be polio free. There is a global vision for 90% reduction of measles related child deaths by 2013. Bangladesh already achieved this target. The measles vaccination rate is now 96%. In 2010, a measles follow up campaign was conducted, when 22 million 1-5 year children were given measles vaccines. In addition, oral polio vaccines, high potency vitamin A and anti-helminthes albendazole (for 2-5 year children) were included (Table-4.9).

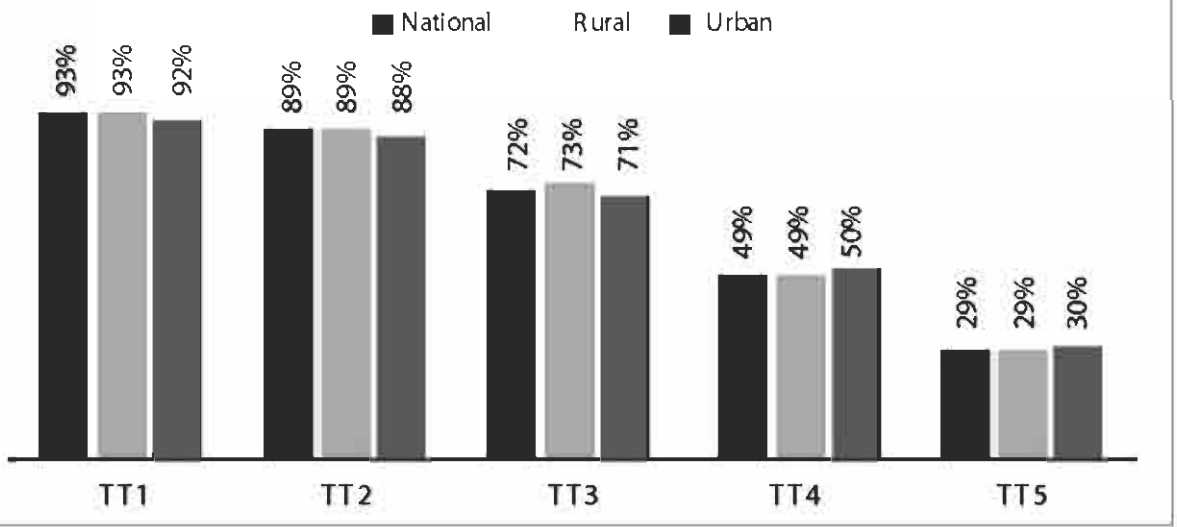
Table-4.9. Coverage of oral polio vaccine, vitamin A capsules and anti-helminthes among children (EPI CES 2009)

Location	Oral Polio Vaccine (first round) (0-59 months)	Oral Polio vaccine (second round) (0-59 months)	Vitamin A capsule (12-59 months)	Anti-helminthes (24-59 months)
National	98%	96%	97%	87%
Rural	98%	96%	96%	86%
Urban	99%	97%	97%	91%

Tetanus toxoid (TT) for women of child bearing age

Bangladesh is maintaining maternal and neonatal tetanus free status since 2008. EPI Bangladesh aims to immunize the women of child bearing age with tetanus toxoid vaccine (TT) before the age of 18. A period of 2 years and 7 months is required to complete all the 5 doses of TT vaccines. If a woman starts it at the age of 15, and maintains the exact interval, she would be able to complete all the doses before she reaches the age of marriage - a protection for her entire reproductive life. Figure-4.10 shows the TT valid vaccination status of the country. Although the crude TT vaccination coverage (TT vaccination doses without maintaining exact interval) is relatively higher, it is assumed that coverage of TT4 and TT5 doses goes down in the country. Attention is needed to improve the situation particularly in this regard.

Figure-4.10. Valid tetanus toxoid vaccination coverage among women aged 15-49 years (EPI CES 2009)



Integrated Management of Childhood Illness (IMCI)

The program "Integrated Management of Childhood Illness (IMCI)" was introduced in Bangladesh in 2002 with assistance from UNICEF, WHO and other development partners. Before integration, there were separate vertical child health programs, viz. Control of Diarrheal Diseases (CDD) and Acute Respiratory Infections (ARI). IMCI addresses morbidities which are responsible for almost 75% of under-5 deaths. To simplify case management in the primary health care settings by the health workers and paramedics, the childhood diseases covered by IMCI program in Bangladesh have been classified into 13 broad categories, viz. (i) very severe disease, (ii) pneumonia, (iii) cough and cold-not pneumonia, (iv) diarrhea, (v) dysentery, (vi) fever-malaria, (vii) fever-not malaria, (viii) measles, (ix) ear problem, (x) PEM (protein energy malnutrition), (xi) drowning, (xii) injury other than drowning and (xiii) others. IMCI is provided through facility-based treatment as well as through home care. The later is called Community IMCI Program. Currently facility IMCI is running in 325 upazilas and community IMCI in 15 upazilas. UNICEF and WHO provide technical and financial assistance to the Ministry of Health and Family Welfare for implementing the IMCI program. Various other development partners and NGOs also collaborate with the government.

The Management Information System (MIS) of DGHS tries to capture the data from IMCI services provided in different IMCI facilities. Community IMCI Program has recently been introduced and system for data collection from the later is yet to be established. Facility based IMCI is being delivered in 41 districts. The name of the districts are as follows: Barisal division: Barisal, Bhola, Patuakhali; Chittagong division: Brahminbaria, Bandarban, Chandpur, Chittagong, Comilla, CoxÕs Bazar and Laximpur; Dhaka division: Dhaka, Gazipur, Gopalganj, Jamalpur, Kishoreganj, Lalmonirhat, Madaripur, Mymensingh, Narsingdi, Netrokona, Shariatpur, and Sherpur; Khulna division: Jessore, and Khulna; Rajshahi division: Bogra, Chapainawabganj, Dinajpur, Ghaibandha, Joypurhat, Kurigram, Naogaon, Natore, Nilphamari, Panchgar, Rangpur, Serajgonj, and Thakurgaon; and Sylhet division: Hobiganj, Maulavibazar, Sunamgonj, and Sylhet.

Data on 2,210,985 patients from the IMCI facilities of the 41 districts have been received by MIS-Health. The patients were aged 1 day to 5 years. The distribution of the patients by divisions is shown in Figure 4-11.

Figure-4.11. Distribution of patients in the IMCI facilities by division (n=2,210,985)

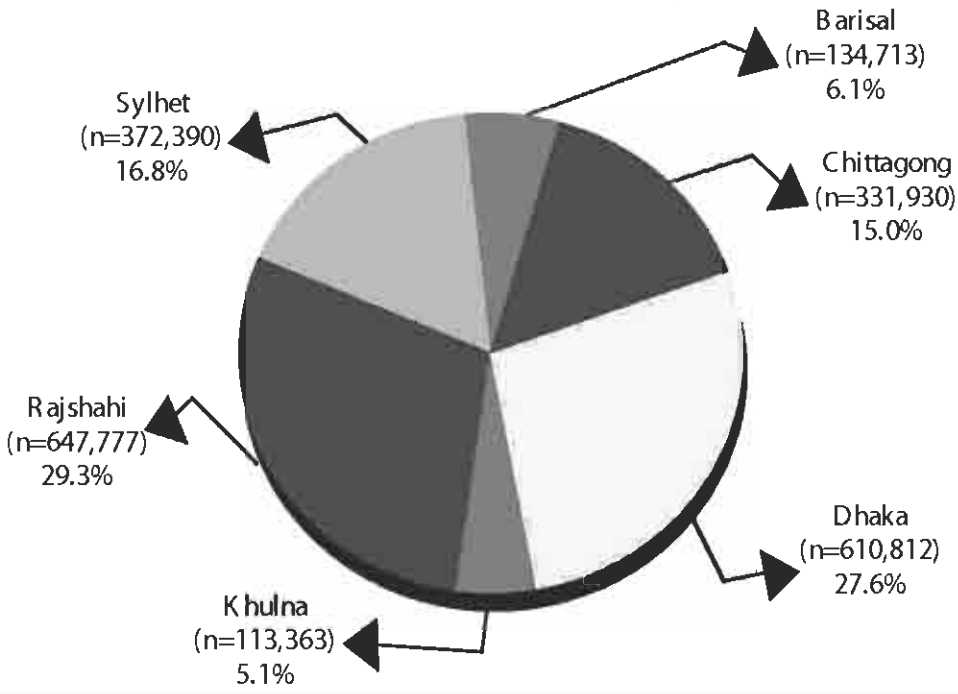


Figure-4.12 shows the age distribution of the children. It is seen that children from 1 to 5 years age group constituted the largest IMCI service recipients (59%) followed by 2 to 12 months age group (30%). Of the total under-5 children, 4% were at the neonatal age. In the neonatal age, 1% of the children were of age group 1 to 7 days and 3% were of age group 8 to 28 days. Age group 29 to 59 days comprised 7% of the total children receiving services from the IMCI facilities.

Figure-4.12. Distribution of Patients in the IMCI facilities by division (n=2,210,985)

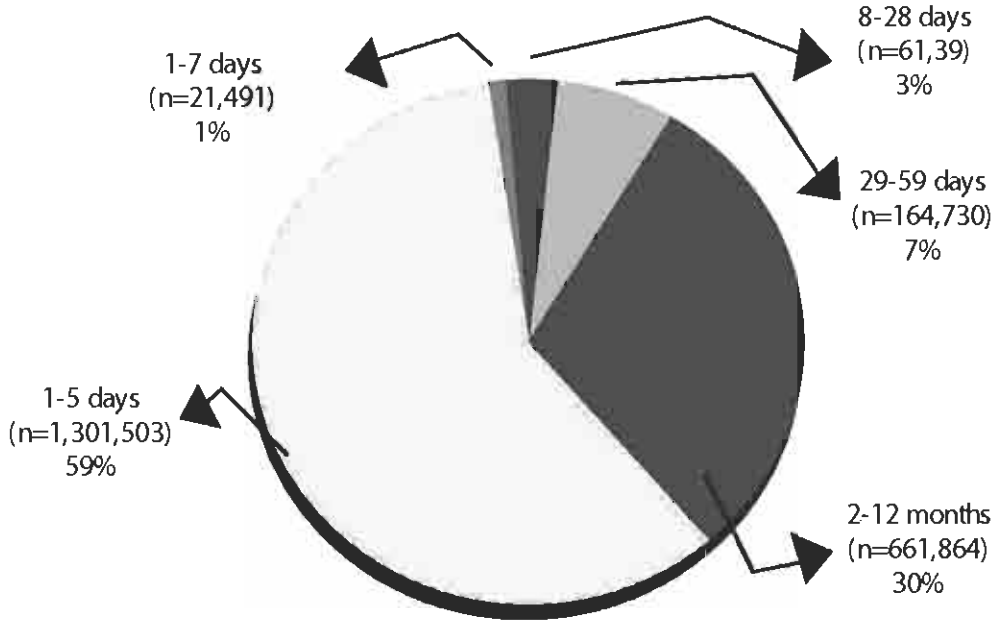


Table-4.10 shows the distribution of the IMCI diseases among the children aged 1 day to 5 years between age groups, viz. 1-7 days, 8-28 days, 29-59 days, 2-12 months, and 1-5 years. In case of all diseases, number and percentage of patients increased with age. Caution is needed to interpret this situation. This trend should be related to more attendance of the older children in the IMCI facilities than the younger ones.

Table-4.10 Distribution of IMCI diseases between age groups (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease		1-7 days	8-28 days	29-59 days	2-12 months	1-5 years	Total
Very severe disease	No.	1,090	2,289	4,421	9,492	11,767	29,059
	%	3.8	7.9	15.2	32.7	40.5	100.0
Pneumonia	No.	1,756	5,850	17,288	84,665	126,606	236,165
	%	0.7	2.5	7.3	35.8	53.6	100.0
Cough & cold - not pneumonia	No.	4,870	15,150	41,846	166,920	293,336	522,122
	%	0.9	2.9	8.0	32.0	56.2	100.0
Diarrhea	No.	1,676	5,739	17,718	81,086	164,937	271,156
	%	0.6	2.1	6.5	29.9	60.8	100.0
Dysentery	No.	561	2,959	10,623	37,073	83,137	134,353
	%	0.4	2.2	7.9	27.6	61.9	100.0
Fever - malaria	No.	68	153	594	2,698	5,478	8,991
	%	0.8	1.7	6.6	30.0	60.9	100.0
Fever - not malaria	No.	1,578	5,619	15,204	86,077	182,380	290,858
	%	0.5	1.9	5.2	29.6	62.7	100.0
Measles	No.	44	98	313	1,201	2,660	4,316
	%	1.0	2.3	7.3	27.8	61.6	100.0
Ear problem	No.	350	1,296	5,001	24,191	49,149	79,987
	%	0.4	1.6	6.3	30.2	61.4	100.0
PEM	No.	1,549	3,503	10,138	26,952	52,661	94,803
	%	1.6	3.7	10.7	28.4	55.5	100.0
Drowning	No.	21	68	197	575	1,833	2,694
	%	0.8	2.5	7.3	21.3	68.0	100.0
Injury other than drowning	No.	1,889	2,570	4,639	17,986	41,500	68,584
	%	2.8	3.7	6.8	26.2	60.5	100.0
Other	No.	6,039	16,103	36,748	122,948	286,059	467,897
	%	1.3	3.4	7.9	26.3	61.1	100.0
Total	No.	21,491	61,397	164,730	661,864	1,301,503	2,210,985
	%	1.0	2.8	7.5	29.9	58.9	100.0

Table-4.11 presents the distribution of the IMCI diseases within each group. Among all children respiratory tract infection was the leading cause of morbidity (cough and cold: 23.7%; pneumonia: 10.7%).

Table-4.11. Distribution of IMCI diseases within each age group of children of both sex (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease	1-7 days	8-28 days	29-59 days	2-12 months	1-5 years	Total
No. of cases	21,491	61,397	164,730	661,864	1,301,503	2,210,985
Very severe disease	5.1%	3.7%	2.7%	1.4%	0.9%	1.3%
Pneumonia	8.2%	9.5%	10.5%	12.8%	9.7%	10.7%
Cough & cold - not pneumonia	22.7%	24.7%	25.4%	25.2%	22.5%	23.7%
Diarrhea	7.8%	9.3%	10.8%	12.3%	12.7%	12.3%
Dysentery	2.6%	4.8%	6.4%	5.6%	6.4%	6.1%
Fever - malaria	0.3%	0.2%	0.4%	0.4%	0.4%	0.4%
Fever - not malaria	7.3%	9.2%	9.2%	13.0%	14.0%	13.2%
Measles	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Ear problem	1.6%	2.1%	3.0%	3.7%	3.8%	3.4%
PEM	7.2%	5.7%	6.2%	4.1%	4.0%	4.1%
Drowning	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Injury other than drowning	8.8%	4.2%	2.8%	2.7%	3.2%	3.0%
Other	28.1%	26.2%	22.3%	18.6%	22.0%	21.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fever and diarrhea were the morbidities of 13.2% and 12.3% of the children respectively. Similar pattern of morbidities was also observed among children of all age groups. However, injury and protein energy malnutrition were also prevalent during the early neonatal period (1-7 days) affecting 8.8% and 7.2% of the newborns aged 1-7 days.

When the distribution of IMCI diseases was examined for boys and girls separately between each age group, pattern of distribution was similar (Tables-4.12 and 4.13).

Table-4.12. Distribution of IMCI diseases among boys between age groups (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease	01-7 days	8-28 days	29-59 days	2-12 months	1-5 years	Total
No. of cases	10,265	28,665	78,377	331,821	664,208	1,113,336
Very severe disease	6.0%	4.4%	3.0%	1.6%	0.9%	1.4%
Pneumonia	7.0%	10.1%	10.6%	13.3%	10.1%	11.1%
Cough & cold - not pneumonia	22.5%	24.6%	25.6%	25.2%	22.4%	23.6%
Diarrhea	7.7%	9.3%	10.9%	12.2%	12.8%	12.4%
Dysentery	2.5%	4.9%	6.2%	5.5%	6.2%	6.0%
Fever - malaria	0.4%	0.3%	0.4%	0.4%	0.4%	0.4%
Fever - not malaria	7.6%	8.9%	8.9%	13.0%	14.1%	13.3%
Measles	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Ear problem	1.4%	2.1%	2.9%	3.6%	3.7%	3.4%
PEM	7.6%	5.7%	6.2%	3.9%	3.9%	4.0%
Drowning	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
Injury other than drowning	8.8%	4.0%	2.9%	2.7%	3.2%	3.0%
Other	28.3%	25.5%	22.1%	18.4%	21.9%	21.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table-4.13. Distribution of IMCI diseases among girls between age groups (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease	1-7 days	8-28 days	29-59 days	2-12 months	1-5 years	Total
No. of cases	11,226	32,732	86,353	330,043	637,295	1,097,649
Very severe disease	4.3%	3.2%	2.4%	1.3%	0.9%	1.2%
Pneumonia	9.3%	9.0%	10.4%	12.3%	9.4%	10.3%
Cough & cold - not pneumonia	22.8%	24.7%	25.2%	25.2%	22.7%	23.8%
Diarrhea	7.8%	9.4%	10.7%	12.3%	12.5%	12.2%
Dysentery	2.7%	4.7%	6.6%	5.7%	6.6%	6.2%
Fever - malaria	0.3%	0.2%	0.4%	0.4%	0.4%	0.4%
Fever - not malaria	7.1%	9.4%	9.5%	13.0%	13.9%	13.1%
Measles	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%
Ear problem	1.8%	2.1%	3.2%	3.8%	3.8%	3.7%
PEM	6.8%	5.7%	6.1%	4.2%	4.2%	4.3%
Drowning	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Injury other than drowning	8.8%	4.4%	2.7%	2.7%	3.2%	3.0%
Other	27.9%	26.9%	22.5%	18.7%	22.1%	21.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table-4.14 shows the sex distribution of the sick children attending the IMCI facilities for each IMCI disease. The difference, in distribution between each sex, does not necessarily states that this was due to difference in prevalence. The difference in the attendance of boy or girl children perhaps was the main reason.

Table-4.14. Distribution of IMCI diseases among children aged 1 day to 5 years by sex (summary of data received from IMCI facilities in 41 districts in year 2009)

Age 1 - 7 days						
Disease	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	611	56.1	479	43.9	1,090	100.0
Pneumonia	715	40.7	1,041	59.3	1,756	100.0
Cough & cold - not pneumonia	2,308	47.4	2,562	52.6	4,870	100.0
Diarrhea	795	47.4	881	52.6	1,676	100.0
Dysentery	258	46.0	303	54.0	561	100.0
Fever - malaria	38	55.9	30	44.1	68	100.0
Fever - not malaria	777	49.2	801	50.8	1,578	100.0
Measles	19	43.2	25	56.8	44	100.0
Ear problem	146	41.7	204	58.3	350	100.0
PEM	781	50.4	768	49.6	1,549	100.0
Drowning	9	42.9	12	57.1	21	100.0
Injury other than drowning	903	47.8	986	52.2	1,889	100.0
Other	2,905	48.1	3,134	51.9	6,039	100.0
Total	10,265	47.8	11,226	52.2	21,491	100.0

Table-4.14. Continued

Age 8 - 28 days						
Disease	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	1,257	54.9	1,032	45.1	2,289	100.0
Pneumonia	2,894	49.5	2,956	50.5	5,850	100.0
Cough & cold - not pneumonia	7,060	46.6	8,090	53.4	15,150	100.0
Diarrhea	2,656	46.3	3,083	53.7	5,739	100.0
Dysentery	1,412	47.7	1,547	52.3	2,959	100.0
Fever - malaria	72	47.1	81	52.9	153	100.0
Fever - not malaria	2,549	45.4	3,070	54.6	5,619	100.0
Measles	50	51.0	48	49.0	98	100.0
Ear problem	605	46.7	691	53.3	1,296	100.0
PEM	1,642	46.9	1,861	53.1	3,503	100.0
Drowning	22	32.4	46	67.6	68	100.0
Injury other than drowning	1,136	44.2	1,434	55.8	2,570	100.0
Other	7,310	45.4	8,793	54.6	16,103	100.0
Total	28,665	46.7	32,732	53.3	61,397	100.0

Table-4.14. Continued

Age 29 - 59 days						
Disease	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	2,343	53.0	2,078	47.0	4,421	100.0
Pneumonia	8,278	47.9	9,010	52.1	17,288	100.0
Cough & cold - not pneumonia	20,085	48.0	21,761	52.0	41,846	100.0
Diarrhea	8,520	48.1	9,198	51.9	17,718	100.0
Dysentery	4,885	46.0	5,738	54.0	10,623	100.0
Fever - malaria	291	49.0	303	51.0	594	100.0
Fever - not malaria	6,996	46.0	8,208	54.0	15,204	100.0
Measles	150	47.9	163	52.1	313	100.0
Ear problem	2,267	45.3	2,734	54.7	5,001	100.0
PEM	4,847	47.8	5,291	52.2	10,138	100.0
Drowning	100	50.8	97	49.2	197	100.0
Injury other than drowning	2,274	49.0	2,365	51.0	4,639	100.0
Other	17,341	47.2	19,407	52.8	36,748	100.0
Total	78,377	47.6	86,353	52.4	164,730	100.0

Table-4.14. Continued

Age 2 - 12 months						
Disease	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	5,149	54.2	4,343	45.8	9,492	100.0
Pneumonia	44,114	52.1	40,551	47.9	84,665	100.0
Cough & cold - not pneumonia	83,610	50.1	83,310	49.9	166,920	100.0
Diarrhea	40,360	49.8	40,726	50.2	81,086	100.0
Dysentery	18,389	49.6	18,684	50.4	37,073	100.0
Fever - malaria	1,295	48.0	1,403	52.0	2,698	100.0
Fever - not malaria	43,166	50.1	42,911	49.9	86,077	100.0
Measles	569	47.4	632	52.6	1,201	100.0
Ear problem	11,809	48.8	12,382	51.2	24,191	100.0
PEM	12,967	48.1	13,985	51.9	26,952	100.0
Drowning	260	45.2	315	54.8	575	100.0
Injury other than drowning	9,043	50.3	8,943	49.7	17,986	100.0
Other	61,090	49.7	61,858	50.3	122,948	100.0
Total	331,821	50.1	330,043	49.9	661,864	100.0

Table-4.14. Continued

Age 1 - 5 years						
Disease	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	6,256	53.2	5,511	46.8	11,767	100.0
Pneumonia	66,984	52.9	59,622	47.1	126,606	100.0
Cough & cold - not pneumonia	148,605	50.7	144,731	49.3	293,336	100.0
Diarrhea	85,030	51.6	79,907	48.4	164,937	100.0
Dysentery	41,345	49.7	41,792	50.3	83,137	100.0
Fever - malaria	2,749	50.2	2,729	49.8	5,478	100.0
Fever - not malaria	93,933	51.5	88,447	48.5	182,380	100.0
Measles	1,323	49.7	1,337	50.3	2,660	100.0
Ear problem	24,743	50.3	24,406	49.7	49,149	100.0
PEM	25,602	48.6	27,059	51.4	52,661	100.0
Drowning	1,038	56.6	795	43.4	1,833	100.0
Injury other than drowning	21,164	51.0	20,336	49.0	41,500	100.0
Other	145,436	50.8	140,623	49.2	286,059	100.0
Total	664,208	51.0	637,295	49.0	1,301,503	100.0

Table-4.14. Continued

Disease	Age 1 day - 5 years					
	Boy		Girl		Both sex	
	No.	%	No.	%	No.	%
Very severe disease	15,616	53.7	13,443	46.3	29,059	100.0
Pneumonia	122,985	52.1	113,180	47.9	236,165	100.0
Cough & cold - not pneumonia	261,668	50.1	260,454	49.9	522,122	100.0
Diarrhea	137,361	50.7	133,795	49.3	271,156	100.0
Dysentery	66,289	49.3	68,064	50.7	134,353	100.0
Fever - malaria	4,445	49.4	4,546	50.6	8,991	100.0
Fever - not malaria	147,421	50.7	143,437	49.3	290,858	100.0
Measles	2,111	48.9	2,205	51.1	4,316	100.0
Ear problem	37,695	48.3	40,417	51.7	78,112	100.0
PEM	45,839	48.4	46,964	51.6	94,803	100.0
Drowning	1,429	53.0	1,265	47.0	2,694	100.0
Injury other than drowning	34,520	50.6	34,064	49.4	68,584	100.0
Other	234,082	50.0	233,815	50.0	467,897	100.0
Total	1,113,336	50.3	1,097,649	49.7	2,210,985	100.0

Table-4.15 shows the burden of each of the IMCI diseases (based on number and percentage of children visiting IMCI facilities) shared by the IMCI facilities in different divisions. The estimates are not representative of prevalence of these diseases. The variation in the number of patients between divisions may also be due to variation in the number of IMCI facilities between the divisions. The distribution of children according to IMCI diseases in each division is shown in Table-4.16.

Table-4.15. Distribution of children aged 1 day to 5 years according to IMCI diseases between divisions (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease		Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
Very severe disease	No.	747	7,048	8,870	723	6,143	5,528	29,059
	%	2.6	24.3	30.5	2.5	21.1	19.0	100.0
Pneumonia	No.	8,660	48,124	62,323	8,263	71,427	37,368	236,165
	%	3.7	20.4	26.4	3.5	30.2	15.8	100.0
Cough & cold - not pneumonia	No.	32,819	75,879	152,441	30,301	164,140	66,542	522,122
	%	6.3	14.5	29.2	5.8	31.4	12.7	100.0
Diarrhea	No.	13,377	46,531	73,054	15,849	72,555	49,790	271,156
	%	4.9	17.2	26.9	5.8	26.8	18.4	100.0
Dysentery	No.	6,524	12,875	32,962	5,827	53,476	22,689	134,353
	%	4.9	9.6	24.5	4.3	39.8	16.9	100.0
Fever-malaria	No.	24	2,740	971	99	46	5,111	8,991
	%	0.3	30.5	10.8	1.1	0.5	56.8	100.0

Table-4.15. Distribution of children aged 1 day to 5 years according to IMCI diseases between divisions (summary of data received from IMCI facilities in 41 districts in year 2009)(Continued)

Fever-not malaria	No.	17,705	38,338	99,911	19,023	86,378	29,503	290,858
	%	6.1	13.2	34.4	6.5	29.7	10.1	100.0
Measles	No.	37	1,018	1,043	255	380	1,583	4,316
	%	0.9	23.6	24.2	5.9	8.8	36.7	100.0
Ear problem	No.	3,350	10,861	23,411	3,709	24,025	14,631	79,987
	%	4.2	13.6	29.3	4.6	30.0	18.3	100.0
PEM	No.	8,612	10,586	25,856	1,909	29,324	18,156	94,803
	%	9.1	11.2	27.3	2.0	30.9	19.2	100.0
Drowning	No.	86	397	840	279	87	1005	2694
	%	3.2	14.7	31.2	10.4	3.2	37.3	100.0
Injury other than drowning	No.	5,261	5,750	19,573	1,817	15,292	20,891	68,584
	%	7.7	8.4	28.5	2.6	22.3	30.5	100.0
Other	No.	37,511	71,783	109,557	25,309	124,504	99,233	467,897
	%	8.0	15.3	23.4	5.4	26.6	21.2	100.0
Total	No.	134,713	331,930	610,812	113,363	647,777	372,390	2,210,985
	%	6.1	15.0	27.6	5.1	29.3	16.8	100.0

Table-4.16. Distribution of children (%) aged 1 day to 5 years according to IMCI diseases within each division (summary of data received from IMCI facilities in 41 districts in year 2009)

Disease	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
No. of cases	134,713	331,930	610,812	113,363	647,777	372,030	2,210,985
Very severe disease	0.6	2.1	1.5	0.6	0.9	1.5	1.3
Pneumonia	6.4	14.5	10.2	7.3	11.0	10.0	10.7
Cough & cold - not pneumonia	24.4	22.9	25.0	26.7	25.3	17.9	23.6
Diarrhea	9.9	14.0	12.0	14.0	11.2	13.4	12.3
Dysentery	4.8	3.9	5.4	5.1	8.3	6.1	6.1
Fever-malaria	0.0	0.8	0.2	0.1	0.0	1.4	0.4
Fever-not malaria	13.1	11.6	16.4	16.8	13.3	7.9	13.2
Measles	0.0	0.3	0.2	0.2	0.1	0.4	0.2
Ear problem	2.5	3.3	3.8	3.3	3.7	3.9	3.6
PEM	6.4	3.2	4.2	1.7	4.5	4.9	4.3
Drowning	0.1	0.1	0.1	0.2	0.0	0.3	0.1
Injury other than drowning	3.9	1.7	3.2	1.6	2.4	5.6	3.1
Other	27.8	21.6	17.9	22.3	19.2	26.7	21.2
Total =	100.0	100.0	100.0	100.0	100.0	100.00	100.0

Nutrition for the community

The Ministry of Health and Family Welfare has a National Nutrition Program (NNP) included under Health, Nutrition and Population Sector Program (HNPSP 2003-11). Currently available in 172 upazilas, the program is aimed at extension to 232 upazilas by 2011 and to all upazilas of Bangladesh by 2021. In the program area, there is a Community Nutrition Worker for every 1,200 population. She holds nutrition clinic 6 days per week in her community. NNP provides following nutrition care: (i) children (birth registration plus malnourished under-2 children); (ii) mothers (pregnant and lactating mothers); (iii) newly married couples; (iv) adolescents; (v) father and mother in law forum; (vi) husbands of pregnant women forum; (vii) monitoring body weights of children and pregnant women; (viii) supplementary nutrition (supply of specially prepared local nutritious food); (ix) training; (x) behavior change communication; (xi) food security (homestead gardens, poultry farming, vulnerable group feeding, etc.). To implement the nutrition program at the field level, there are 36,764 community nutrition workers, 3,732 community nutrition organizers, 960 field supervisors, and 172 upazila managers under NNP. The beneficiaries of NNP include 9.1 million households covering 45 million people. The registered population for nutrition care includes 1.94 million under-2 children, 0.5 million pregnant women, 0.42 million lactating mothers, 2.1 million adolescent girls and 0.24 million newly married women.

Medical waste management at upazila level

Medical wastes are products of health care activities and if not handled and disposed properly, these can transmit diseases by direct contact or by contaminating soil, air and water. In uncontrolled environment, service providers, other individuals, community and the environment remain at risk. Under HNPSP, medical waste management has been included as one of the important components of health facility management. The waste management function for the health facilities at upazila and below level has been entrusted with the operational plan of essential services delivery (ESD). The components of the program are: (i) construction of pits (for infectious, sharps, general and recyclable waste) in the upazila health complexes; (ii) procurement and regular supply of logistics for collection and transportation of waste and the safety materials for the waste handlers; (iii) training and orientation of the health personnel on proper waste management; and (iv) community awareness on medical waste, its management and individual responsibility. In FY 2007-08, 131 pits were constructed to deposit medical wastes. The Construction Management and Maintenance Unit (CMMU) of the Ministry of Health and Family Welfare undertook a project to construct pits in 76 upazilas. Officials of 34 districts and 108 upazilas received training as trainer to orient other health personnel and workers on medical waste management. IEC materials were developed for the upazila hospitals and logistics were supplied to the respective upazila health complexes in FY 2008-09.

Secondary and Tertiary Health Care

In Chapter 4, an overview of the primary health care centers in the country has been given. The hospitals and health facilities which are located in the upazila level and below are in general termed as primary health care centers. However, many of the upazila health complexes have clinical specialists who provide specialty care to the visiting patients. The district hospitals are usually termed secondary hospitals as these have fewer specialty cares unlike many present in the medical college hospitals. There are also different types of special care centers, such as, infectious disease hospitals, tuberculosis hospitals, leprosy hospitals, which fall under secondary care health facilities. The medical college hospitals are located in the regional level, one for several districts, which are affiliated with medical colleges, and provide specialty care in many disciplines. These hospitals are called tertiary hospitals. Tertiary hospitals also include the national level super specialty hospitals or centers which provide high end medical care services for only one field. Bangladesh has built over the past decades a good network for primary, secondary and tertiary care hospitals and health centers to cater primary and referral health care to its citizens. This chapter will make an overview of this existing health care network.

Although an overview of primary care hospitals and health centers located at the upazila level and below was given in Chapter 4, to help recap the information, a summary is presented in Table-5.1.

Table-5.1. Primary health care hospitals and health centers (Year 2010)

Type of Hospitals / Health Centers	No. of facilities	No. of functional beds
Upazila Health Complexes (run by DGHS)		
Upazila Health Complex (50 bed)	156	7,800
Upazila Health Complex (31 bed)	250	7,750
Upazila Health Complex (new 31 bed)	7	217
Upazila Health Complex (10-bed)	11	110
Total Upazila Health Complexes =	424	15,877
Other Hospitals at Upazila level (run by DGHS)		
10-bed Hospital (Rural Health Center)	10	100
10-bed Hospital (new)	3	30
31-bed Hospital	4	124
20-bed Hospital	14	280
20-bed Trauma Center	5	100
Total Other Hospitals at Upazila level =	36	634
Total Hospitals at Upazila level =	460	16,511
Outdoor Health Facilities at Union level (run by DGHS)		
Union Sub-center	1,362	
Union Health & Family Welfare Center	87	
Total Outdoor Facilities at Union level =	1,449	
Outdoor Health Facilities at Ward level (run by Community Clinic Project)		
Community clinics (functional)	9,722	
Total Community Clinics =	9,722	

Under the Health, Nutrition and Population Sector Program (HNPSP 2003-11) of the Ministry of Health and Family Welfare, management and supervision of the hospitals and health facilities at the upazila level and below have been entrusted with the Director of Primary Health Care of the Directorate General of Health Services, as the Director of Primary Health Care is the Line Director for the Operational Plan of Essential Service Delivery. There is a program component in the Operational Plan called "Support Services" to cover financial and technical assistance to these primary health care hospitals and centers. The establishment of community clinics is one of the top priority programs of the present government and there is plan to gradually establish 18,000 community clinics in the rural area with one community clinic for every 6,000 people. As of now, 9,722 community clinics are in operation. Considering the need for rapid establishment of all community clinics and institutionalizing those with active community participation, the government has set up a new project called "Revitalization of Community Health Care Initiatives in Bangladesh". However, the project is well known as community clinics project. An independent project office directly under the MOHFW and headed by a Project Director look after the implementation of the community clinics project.

Secondary and tertiary hospitals under DGHS

The hospitals other than those designated as primary health care hospitals under the DGHS are looked after by the Director of Hospital. The Director of Hospital is also the Line Director of the Operational Plan called "Improved Hospital Services Management" under HNPSP 2003-11. All these hospitals and health care centers belong to the category of secondary and tertiary health care. Table-5.2 summarizes the number and bed capacity of different types of these hospitals and health care centers. Further detail including list and bed capacity of each type of hospitals is provided in annexure.

Table-5.2. Secondary and tertiary hospitals/health centers under DGHS (Year 2010)

Type of Hospitals	No.	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Specialized Hospitals affiliated with Postgraduate Teaching Institutes	7	2,114	1,550	564	2,214	100
Medical College Hospitals/ Dental College Hospitals/ Hospitals affiliated with Colleges for Alternative Medicine (some colleges have postgraduate teaching facilities)	17	10,005	8,855	1150	11,640	1,655
Specialized Centers	3	150	0	150	300	150
Specialized Hospitals	2	500	400	350	750	0
Infectious Disease Hospitals	5	180	180	0	180	0
District Hospitals	53	7,650	5,670	1,980	8,450	800
General Hospitals	9	1,250	1,150	100	1,300	50
Chest Diseases /TB Hospitals	12	546	546	0	796	250
Leprosy Hospitals	3	130	130	0	130	0
Other Hospitals	6	305	250	55	355	50
Currently functional =	117	22,830	18,731	4,349	26,115	3,055
Proposed New Hospitals	4	0	0	0	1,600	1,600
Total =	121	22,830	18,731	4,349	27,715	4,655

Bangabandhu Sheikh Mujib Medical University

The Ministry of Health and Family Welfare provide financial assistance to Bangabandhu Sheikh Mujib Medical University (BSMMU) and its affiliated Hospital. BSMMU is the only Medical University and similarly BSMMU Hospital is the only Medical University Hospital of Bangladesh. Both the university and the hospital are autonomous. BSMMU hospital has 1,212 beds, of which 452 are free beds. The BSMMU hospital has 48 clinical departments, 105 cabins and 18 operation theaters.

Distribution of hospitals and hospital beds by divisions

Table-5.3 shows the distribution of the secondary and tertiary hospitals between divisions. Dhaka division has the highest number of 40 secondary and tertiary hospitals followed by Rajshahi division with 26 such hospitals. The lowest number of hospitals is in the Barisal division (n=8). Of the total 17 medical colleges, 8 are in Dhaka division (47.1%) followed by 4 in Rajshahi division (23.5%) and 2 in Chittagong division (11.8%). Barisal, Khulna and Sylhet divisions, each has one medical college hospital (5.9%). There is no infectious disease hospital in Barisal division; but each of the other 5 divisions has one infectious disease hospital. Rajshahi division has the highest number of chest hospitals (4 out of 12 in the country). Each of Chittagong, Khulna and Sylhet divisions has 2 chest hospitals. Barisal and Dhaka divisions each has one chest hospital.

Table-5.3. Distribution of secondary and tertiary public hospitals under DGHS between divisions (Year 2010)

Type of hospitals		Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
All Secondary & Tertiary Hospitals	No.	8	17	40	16	26	10	117
	%	6.8	14.5	34.2	13.7	22.2	8.5	100.0
Medical College Hospitals	No.	1	2	8	1	4	1	17
	%	5.9	11.8	47.1	5.9	23.5	5.9	100.0
Infectious Disease Hospitals	No.	0	1	1	1	1	1	5
	%	0.0	20.0	20.0	20.0	20.0	20.0	100.0
Chest Hospitals	No.	1	2	1	2	4	2	12
	%	8.3	16.7	8.3	16.7	33.3	16.7	100.0

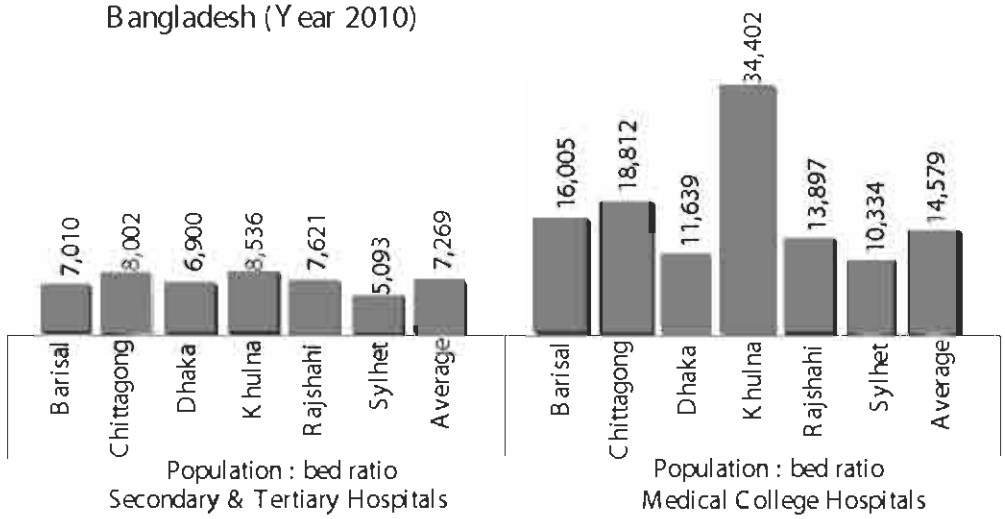
Available number of beds for the population in the catchments is one of the good proxies for measuring the strength of health care infrastructures. Table-5.4 shows the distribution of secondary and tertiary care hospitals and medical college hospitals with total bed capacity in each division.

Table-5.4. Distribution of secondary and tertiary public hospitals and beds under DGHS between divisions (Year 2010)

Type of hospitals	Indicator	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet	Total
Secondary & Tertiary Hospitals	No.	8	16	31	15	25	10	105
	No. of beds	1,370	3,550	6,655	2,015	4,650	1,826	20,066
Medical College Hospitals	No.	1	2	8	1	4	1	17
	No. of beds	600	1,510	3,945	500	2,550	900	10,005

Figure-5.1 shows the population: bed ratio for both secondary and tertiary care hospitals and medical college hospitals in different divisions. It is revealed from the figure that Khulna division has the paucity of medical college hospital beds compared to other divisions having only one medical college hospital bed for 34,402 population compared to national referance of one medical college hospital bed per 14,579 population. The number of population per medical college hospital bed in other divisions varies between 10,334 (Sylhet) and 18,812 (Chittagong).

Figure-5.1. Number of population per bed in different divisions of Bangladesh (Year 2010)



Private Hospitals

There are 7,623 registered hospitals, clinics, and diagnostic centers in the private sector. Of them, 2,501 are hospitals and clinics and 5,122 are diagnostic centers. The total bed capacity in the registered private hospitals and clinics amounts to 42,237 beds (Table: 5.5).

Table-5.5. No of registered hospitals / clinics and diagnostic centers and hospital beds in private sector.

Registered hospitals and clinics	Diagnostic centers	Total	Total beds
2,501	5,122	7,623	42,237

The MIS-Health received information on the number of sanctioned beds, free beds, departments, wards, cabins and operation theaters of some of the private and non-profit hospitals. Table-5.6 summarizes the information.

Table-5.6. Number of sanctioned beds, free beds, departments, wards, cabins and operation theaters in some private hospitals arranged in alphabetical order (Year 2010)

Name of private Hospital	Sanctioned bed (N)	Free bed (N)	Department (N)	Ward (N)	Cabin (N)	Operation Theater (N)
Ad-din Medical College Hospital	500	290	23	15	98	07
Apollo Hospital, Dhaka	304	0	31	15	49	08
Aisha Memorial Specialized Hospital (Pvt. Ltd.), Dhaka	50	0	6	24	40	3
BIRDEM, Dhaka	596	118	0	27	117	11
Christian Hospital Chondroghona, Dhaka	125	0	10	10	10	03
Delta Medical College Hospital, Dhaka	250	15	03	200	50	02
Dhaka Community Hospital	250	75	14	03	20	02
East West Medical College Hospital, Dhaka	400	80	14	14	29	6
Fashion Eye Hospital, Dhaka	20	05	01	05	05	02
ICDDR,B Hospital, Dhaka	300	300	2	15	29	13
Islami Bank Hospital, Dhaka	160	0	09	08	76	05
Jalalabad Ragib Rabeya Hospital, Sylhet	890	9	14	18	120	10
Lions Eye Institute & Hospital, Dhaka	84	10	06	06	10	04
Meditech General Hospital, Dhaka	10	0	10	2	6	1
Metropolitan Medical Centers Ltd., Dhaka	70	0	8	40	30	05
Monowara Hospital, Dhaka	74	04	06	26	48	03
North Bengal Medical College Hospital, Rangpur	250	25	10	0	0	0
Pan Pacific Hospital, Dhaka	62	0	10	20	42	3
Rushmono General Hospital, Dhaka	200	05	12	76	75	04
Samarita Hospital Ltd., Dhaka	200	05	12	76	75	04
Shahid Mansur Ali Medical College Hospital, Dhaka	500	200	19	13	20	6
Uttara Adhunik Medical College Hospital, Dhaka	500	0	12	12	0	11
Z.H. Sikder Women's Medical College Hospital, Dhaka	100	0	0	2	17	2
Total =	7,107	1,593	280	675	1,071	133

Utilization of Health Facilities

The public hospitals and health centers are increasingly participating in sending patients related data to the MIS-Health. For the year 2009 (January to December), we received data from quite a good number of hospitals and health centers. In these health facilities, reportedly 54,713,781 patients took health care from the outpatient departments. The number of children (both sex) was 13,279,580. The number of male adults was 18,455,707 and number of female adult patients was 22,978,494. The number of reported admission was 2,938,865, of which 1,360,908 were males and 1,577,957 were females. The number of hospital deaths was 57,404 of which males were 31,740 and females were 25,664. The average hospital death rate was 1.95%. The detail information for each hospital is given in the annexure.

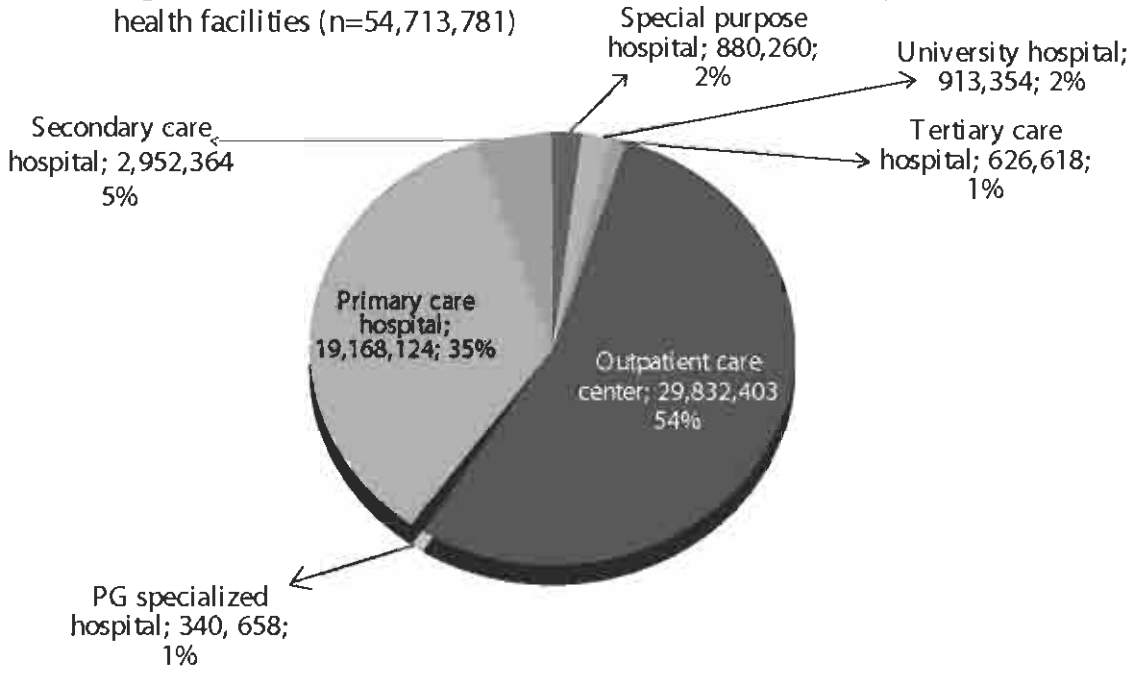
Table-6.1. Number of admissions, deaths and out-patient visits in different types of health facilities (Jan-Dec 2009)

Facility type	Data from number of facilities	No. of admissions			No. of hospital deaths			No. of OPD visits			
		Male	Female	Total	Male	Female	Total	Child	Male	Female	Total
University Hospital	1	14,589	24,986	39,575	680	492	1,172	-	474,481	438,873	913,354
Postgraduate Teaching & Specialized Hospital	6	66,390	24,032	90,422	2,936	1,158	4,094	75,634	101,810	163,214	340,658
Medical College Hospital	14	317,278	300,262	617,540	14,404	11,618	26,022	146,684	202,557	277,377	626,618
District & General Hospital	62	349,448	479,197	828,645	8,809	8,362	17,171	738,624	939,788	1,272,902	2,952,364
Upazila Health Complex	421	600,729	739,018	1,339,747	4,597	3,928	8,525	4,511,583	6,049,463	8,057,874	18,618,920
31-bed Health Complex	2	1,716	2,036	3,752	12	6	18	27,161	91,344	46,364	164,869
Infectious Disease Hospital	5	2,540	1,850	4,390	184	48	232	51,072	66,436	72,714	190,222
Labor Hospital	5	3,206	3,377	6,583	24	12	36	87,960	86,974	135,852	310,786
Drug Addiction Treatment Center	2	-	-	-	-	-	-	10,398	32,040	43,998	86,436
Leprosy Hospital	3	520	104	624	-	-	-	1,206	3,180	2,332	6,718
TB Hospital	12	2,366	921	3,287	74 26	100	56,242	85,292	93,872	23	5,406
Government Employees' Hospital	1	-	-	-	-	-	-	1,326	5,104	2,996	9,426
Mental Hospital	1	592	154	746	2	2	4	6,398 1	1,302	23,566	41,266
TB Center	1	-	-	-	-	-	-	23,358	12,812	20,700	56,870
TB Clinic	43	-	-	-	-	-	-	428,087	607,698	724,340	1,760,125
Union Sub-center	-	-	-	-	-	-	-	6,708,759	9,171,809	10,899,083	26,779,651
Urban Dispensary	12	-	-	-	-	-	-	120,288	136,102	237,496	493,886
Rural Health Center	14	1,534	2,020	3,554	18	12	30	111,609	131,182	141,544	384,335
School Health Clinic	19	-	-	-	-	-	-	149,999	216,479	288,581	655,059
Secretariat Clinic	1	-	-	-	-	-	-	23,142	29,854	33,816	86,812
	Total=	1,360,908	1,577,957	2,938,865	31,740	25,664	57,404	13,279,580	18,455,707	22,978,494	54,713,781

Figure-6.1 shows the distribution of the OPD patients between type of health facilities. Of the total 54,713,781 patients reported being seen in the outpatient departments, 54% were seen in the health facilities having only outpatient services (union sub-center, health and family welfare center, TB clinic, etc.). In the primary care hospitals (upazila health complex, rural

health centers, 10- or 20-bed hospitals), 35% patients were seen. In the secondary care hospitals (district or general hospitals), 5% patients were seen. The tertiary care hospitals (medical college hospitals) and the postgraduate teaching hospitals served 1% of the outdoor patients each. There were some special purpose hospitals, such as, TB hospitals, leprosy hospitals, infectious disease hospitals, labor hospitals, government emeployees' hospitals, etc. These special purpose hospitals provided service to 2% of the total outdoor patients served by the public hospitals in 2009. The Bangabadhu Sheikh Mujib Medical University Hospital served 2% of the total reported outdoor patients. A profile of the patient visits to community clinics has been given in Chapter 4.

Figure-6.1. Distribution of OPD patients between different type of health facilities (n=54,713,781)



MIS-Health had report on admissions for the primary, secondary and tertiary care, postgraduate specialized teaching and special purpose hospitals. We received report on 2,938,865 admissions from these hospitals in 2009. Figure-6.2 shows the distribution of the admitted patients. Of the total admitted patients, the primary care hospitals had 46%; the secondary care hospitals had 28%; the tertiary care hospitals and the postgraduate teaching hospitals had 21% and 3% admissions respectively. The special purpose hospitals had 1% of the total admissions. Bangabadhu Sheikh Mujib Medical University Hospital had 1% of the admissions for year 2009.

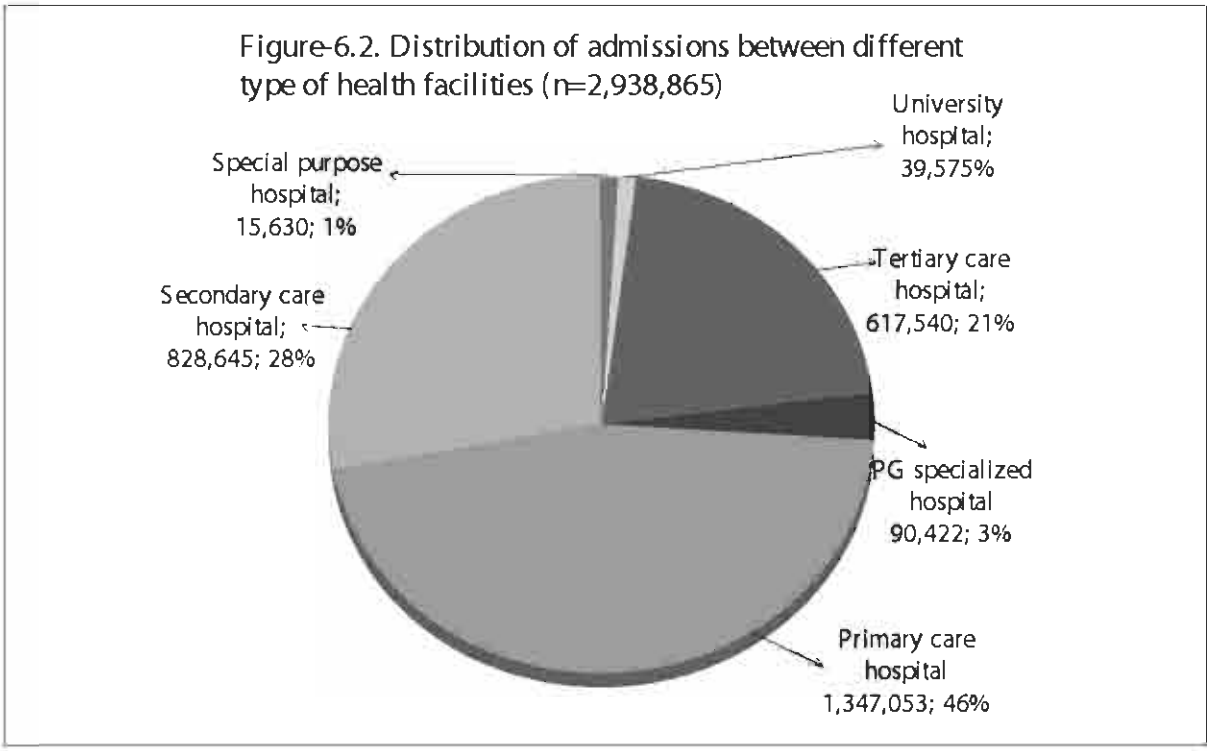


Table-6.2. Shows the average length of stay, bed occupancy rate, hospital death rate, average daily admissions and average daily OPD patients in different type of hospitals. Detail information, on hospital by hospital basis, is given in the annexure.

Table-6.2. Average length of stay, bed occupancy rate, hospital death rate, average daily admissions and average daily OPD patients in different type of hospitals (Year 2009)

Type of health facility	Average Length of Stay (day)	Bed Occupancy Rate (%)	Hospital Death Rate (%)	Average Daily Admission (N)	Average Daily OPD Patients (N)
Specialized Postgraduate Teaching Hospitals	9	96.04	5.18	33	232
Medical College Hospitals	5	86.3	4.44	158	1179
District Hospitals	3	112.63	2.24	49	366
Infectious Disease Hospitals	18	109.14	5.76	2	35
Chest Clinics/Hospitals	48	63.96	3.52	1	
TB Segregation Hospitals	42	76.53	3.25	-	-
Leprosy Hospitals	41	53.64	0	1	14

Figure-6.3. Shows the distribution of the upazila health complexes by bed occupancy rates. MIS-Health received data to calculate bed occupancy rates for 408 upazila health complexes. It is revealed that in over 60% upazila health complexes, the bed occupancy rate variel

between 60% to 100%. The bed occupancy rates were seen to vary from below 40% to 140%. Table-6.3 shows a time series from year 2005 up to year 2009 of the bed occupancy rates for each of the upazila health complexes.

Figure-6.3. Distribution (%) of 408 upazila health complexes by bed occupancy rates (Year 2009)

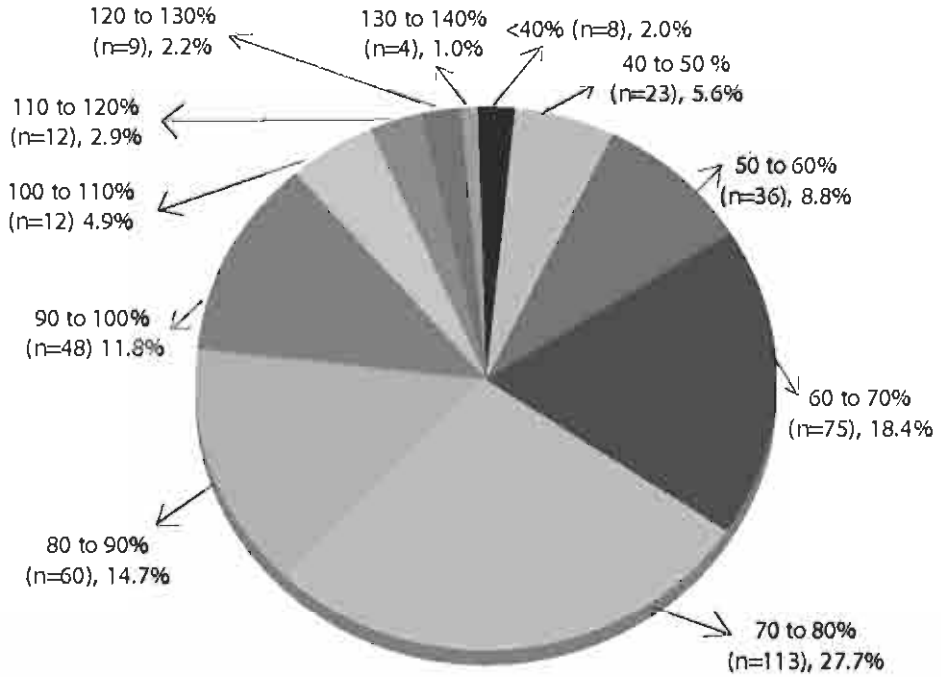


Table-6.3. Distribution of the Upazila Health Complexes by % of Bed Occupancy Rates in Different Years

Level of Bed Occupancy%	Y 2005		Y 2006		Y 2007		Y 2008		Y 2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Below 40.00%	8	2.33	14	3.92	11	3.05	10	2.48	8	1.96
40.01 - 50.00	9	2.62	20	5.60	14	3.88	42	10.40	23	5.64
50.01 - 60.00	17	4.96	26	7.28	27	7.48	59	14.60	36	8.82
60.01 - 70.00	45	13.12	36	10.08	48	13.30	74	18.32	75	18.38
70.01 - 80.00	58	16.91	62	17.37	80	22.16	76	18.81	113	27.70
80.01 - 90.00	97	28.28	75	21.01	69	19.11	61	15.10	60	14.71
90.01 - 100.00	73	21.28	70	19.61	67	18.56	48	11.88	48	11.76
100.01 -110.00	27	7.87	36	10.08	37	10.25	16	3.96	20	4.90
110.01 - 120.00	22	6.41	15	4.20	7	1.94	16	3.96	12	2.94
120.01 - 130.00	3	0.87	2	0.56	1	0.28	0	0.00	9	2.21
130.01 - 140.00	1	0.29	1	0.28	0	0.00	0	0.00	4	0.98
Above 140%	0	0.00	0	0.00	0	0.00	2	0.50	0	0.00
Total Upazila Health Complexes =	343	100.00	357	100.00	361	100.00	404	100.00	408	100.00

It is welcoming that MIS-Health received data on admissions, hospital deaths and outdoor visits from some private health facilities. Table-6.4 summarizes the data.

Table-6.4. Number of admissions, hospital deaths and outdoor visits in some private health facilities (Year 2009) (hospital names are in alphabetic order)

Name of health facility	NO. of beds	Admission (N)			Death (N)			Outdoor Visit (N)			
		Male	Famale	Total	Male	Famale	Total	Male	Famale	Child	Total
Ad-din Medical College Hospital, Dhaka	500			116000			12				771462
Apollo Hospital, Dhaka	304	6393	5354	11747	224	126	350	100415	99068	0	199483
Ayesha Memorial Specialized Hospital, Dhaka	50	3576	2914	6690	60	35	95	7567	5619	0	13186
Bangladesh Medical College Hospital, Dhaka	358			16093			356				146509
Christian Hospital, Chandraghona	125	1849	2753	4602	61	42	103	5355	88112	0	93467
Delta Medical college, Dhaka	250	3429	2419	5848	74	33	107	10739	7211	0	17950
Dhaka Community Medical College Hospital, Dhaka	250	1595	2070	3665	25	12	37	65589	61913		127502
East west Medical College Hospital, Dhaka	250	9946	15140	25086	8	6	14	29726	43712	0	73438
Fashion Eye Hospital, Dhaka	20	2088	1298	3386	0	0	32	29191	20202	0	49393
Holy family Red Crescent Medical College Hospital, Dhaka	528	8472	10962	19434	192	169	361	37286	48216	0	85502
Ibrahim Memorial Hospital (BIRDEM Hospital), Dhaka	596	10614	11610	22224	367	241	608	150739	136415	0	287154
ICDDR'B, Dhaka	300	61432	47335	108767	121	83	204	55674	40396	0	96070
Islami Bank Central Hospital, Dhaka	160			0			163				271631
Jalalabad Ragib Rabeya Hospital, Sylhet	890	9705	14699	24404	334	253	587	88840	78328	0	167168
Jalchatra Hospital, Modhupur, Tangail	80	675	257	932	21	11	32				0
Kumudini Hospital, Tangail	750	15473	20082	35555	301	368	669	91967	114222	34227	240416
Lions Eye Institute & Hospital, Dhaka	85	1911	1798	3709	0	0	0	43794	39358	0	83152
Medical College for Women & Hospital, Uttara, Dhaka	350	37869	23426	61295	24	15	39	77781	44318		122099
Metropolitan Medical Center, Dhaka	70	3637	3177	6814	135	99	234		0	0	0
Monowara Hospital, Dhaka	74	1076	3698	4774	21	20	41	1050	1214	893	3157
North Bengal Medical College Hospital, Serajgonj	250	6870	6440	13310	27	15	42	22617	21529	0	44146
Rushmono General Hospital, Dhaka	117	1169	1100	2269	6	2	8	771	517		1288
Samorita Hospital Ltd., Dhaka	150	4356	3561	7917	41	34	75	9137	7507	0	16644
United Hospital, Dhaka	350			8933			209				115629
Z. H. Sikder Medical College Hospital, Dhaka	100	1047	690	1737	29	13	42	1973	2509	-	4482
Total =	6957			515191				4420			3030928

Table-6.4 summarizes the data on bed occupancy rates, hospital death rates, average daily admissions and average daily outdoor visits of the private hospitals providing data.

Table-6.5. Average length of stay, bed occupancy rate, hospital death rate, average daily admission and average daily outpatient visit in some private hospitals (Year 2009) (Hospital names are in alphabetic order)

Facility	No. of beds	Bed Occupency Rate (%)	Hospital Deaily Rate(%)	Average Daily Admission (N)	Average Daily OPD Visit (N)
Ad-din Medical College Hospital, Dhaka	500	63.00	0.03	318	2114
Apollo Hospital, Dhaka	304	62.26	2.99	32	547
Ayesha Memorial Specialized Hospital, Dhaka	50	0.00	1.44	18	36
Bangladesh Medical College Hospital, Dhaka	358	0.00	2.28	44	401
Christian Hospital, Chandraghona	125	58.73	2.26	13	256
Delta Medical college, Dhaka	250	74.65	1.77	16	49
Dhaka Community Medical College Hospital, Dhaka	250	83.44	16.70	10	349
Eastwest Medical College Hospital, Dhaka	250	69.00	0.14	69	201
Fashion Eye Hospital, Dhaka	20	56.79	0.00	9	135
Holy family Red Crescent Medical College Hospital, Dhaka	528	583.74	0.49	53	234
Ibrahim Memorial Hospital (BIRDEM Hospital), Dhaka	596	0.00	1.67	61	787
ICDDR'B, Dhaka	300	119.81	0.15	298	263
Islami Bank Central Hospital, Dhaka	60	0.00	6.25	0	744
Jalalabad Ragib Rabeya Hospital, Sylhet	890	1.39	3.11	67	458
Jalchatra Hospital, Modhupur, Tangail	80	101.09	3.42	3	0
Kumudini Hospital, Tangail	750	67.45	0.09	97	659
Lions Eye Institute & Hospital, Dhaka	85	24.60	0.00	10	228
Medical College for Women & Hospital, Uttara, Dhaka	350	0.00	0.27	168	335
Metropolitan Medical Center, Dhaka	70	66.36	0.56	10	0
Monowara Hospital, Dhaka	74	0.00	3.72	13	9
North Bengal Medical College Hospital, Serajgonj	250	0.00	2.49	36	121
Rushmono General Hospital, Dhaka	117	0.00	1.81	6	4
Samorita Hospital Ltd., Dhaka	150	0.50	0.95	22	46
United Hospital, Dhaka	350	0.00	2.63	24	317
Z. H. Sikder Medical College Hospital, Dhaka	100	0.00	2.30	5	12

Smiling Sun Franchise Program (SSFP)

The Smiling Sun Franchise Program is a project funded by the United States Agency for International Development (USAID). It is intended to complement the wide network of health and family planning facilities of the Government of Bangladesh resorting to an innovative approach to health care franchising. To achieve relevant health outcomes, SSFP jointly works with partnering NGOs to convert the existing network into a viable social health franchise. The project uses a build-operate-transfer (BOT) methodology to set a plan for developing the Franchise Manager Organization into an operational entity so that it can fully assume franchise operations by the end of the project. Currently 28 NGOs are providing health care services to women, children and youth through 320 static and 8,500 satellite clinics in 61

districts of Bangladesh; 34 clinics of this network are providing Emergency Obstetric Care (EmOC) services. This network will continue to expand the volume and types of quality health care under ESD provided to the able-to-pay customers as well as underserved and poor clients. During the first and second year of the project, SSFP worked with local implementing partners and increased their ability to cover operation expenses from 25% to 31%, and currently sustainability is approximately 41%. By the fourth year of this project, SSFP aims to generate sufficient income to support approximately 70% of the operational cost while maintaining access to those who cannot afford to pay for services.

During 2009, three hundred twenty (320) smiling sun clinics treated 22,155,955 outdoor patients while 15,354 patients were admitted and discharged in 34 EmOC (ultra) clinics. As in previous years, no patient died in smiling sun clinics during 2009. In 34 ultra clinics, patients stayed on an average 3 days while their bed occupancy rate was 47%, which is 12 percent-point higher than the previous year. In 34 EmOC clinics on an average 41 patients were admitted per day while SSFP network treated on an average 73,853 outdoor patients per day. During 2009, twenty comprehensive EmOC clinics conducted 5,466 major surgeries (C-section) which is 53% higher than that of the previous year.

Table-6.6. Number of patients served by Smiling Sun Franchise Program (SSFP) partners in 2009

Month	Total (N)	Admission (N)	Death (N)	ALS (day)	BOR%	Hospital death rate%	Average daily admission (N)	Average daily OPD visits (N)	Cesarean-swctions
January	1,776,959	904	0	3	32	0	29	71,078	298
February	1,773,580	810	0	3	32	0	29	73,899	288
March	1,817,569	1,062	0	3	38	0	34	72,703	366
April	1,845,493	1,117	0	3	41	0	37	73,820	395
May	1,813,225	1,061	0	3	38	0	34	69,739	383
June	1,810,690	1,126	0	3	42	0	38	69,642	404
July	1,835,036	1,237	0	3	44	0	40	70,578	468
August	1,864,324	1,552	0	3	56	0	50	71,705	556
September	1,823,934	1,567	0	3	58	0	52	82,906	534
October	1,923,663	1,722	0	3	62	0	56	73,987	642
November	1,926,645	1,522	0	3	56	0	51	77,066	556
December	1,944,837	1,674	0	3	60	0	54	77,793	576
Total=	22,155,955	15,354	–	3	47	–	41	73,853	5,466

*Only females; SSFP operates Emergency Obstetric Care facilities with 270 sanctioned beds; The admissions are of these facilities.

Morbidity Profiles

For preparing morbidity profile of the admitted patients in the government hospitals, the Management Information Systems (MIS)-Health used a static form based on Microsoft Excel Worksheet. The worksheet was uniform irrespective of hospitals and contained a list of 155 diseases and plus another category called "other" (a list is provided in the annexure). For the year 2009 beginning from January and ending in December, the MIS-Health received data on indoor morbidity profile from 356 upazila health complexes (out of 418), 57 district and general hospitals (out of 62), 6 medical college hospitals (out of 17) and 4 postgraduate institute hospitals (out of 7). In addition, the only medical university hospital, the Bangabandhu Sheikh Mujib Medical University provided the morbidity reports (Table-7.1).

Table-7.1. Type of government hospital from which indoor morbidity data were received (Year 2009)

Hospital type	No.	No.& % of hospital which provided indoor morbidity data	
		No.	%
Upazila health complex	418	356	85.2
District & general hospital	62	57	92.0
Medical college hospital	17	6	35.3
Postgraduate teaching institute hospital	7	4	57.1
	504	423	84.0

Limitations

Number of limitations has been observed while analyzing the data. The hospitals provided compiled disease profile reports for the whole year. It was uncertain whether all hospitals included in their compilation, data for all months of the year and for all days of each month. For the large hospitals, like medical college hospitals, or postgraduate institute hospitals, it was also uncertain, whether data of all wards of the hospitals were included in the compilation for each month and each day. As the dateline for publishing the health bulletin was knocking at the door, there was no time to recheck the data quality with so many hospitals. It is also needed to consider that precision of diagnosis may not be equally sound between types of hospitals, as we used the diagnoses made in the hospitals by their own clinicians entirely for clinical purposes. In the upazila and district hospitals, diagnoses mainly depend upon clinical judgment with little help from laboratory investigations. On the other hand, academic institution hospitals, like medical college hospitals and postgraduate institute hospitals, possess more qualified consultants, availability of wider range of laboratory investigations and patients remain relatively longer in this type of hospitals. Therefore, precision of diagnosis is better in these hospitals.

Use of same data collection format irrespective of type of hospital appeared as another limitation. For some type of hospitals, particularly of the specialized hospitals, many of the diagnoses, constituting large percentage of the disease burden, fell under "other" category. As there was no specific mention about what the "other" was, it was not possible to find out from

the report which diagnoses were under the "other" category.

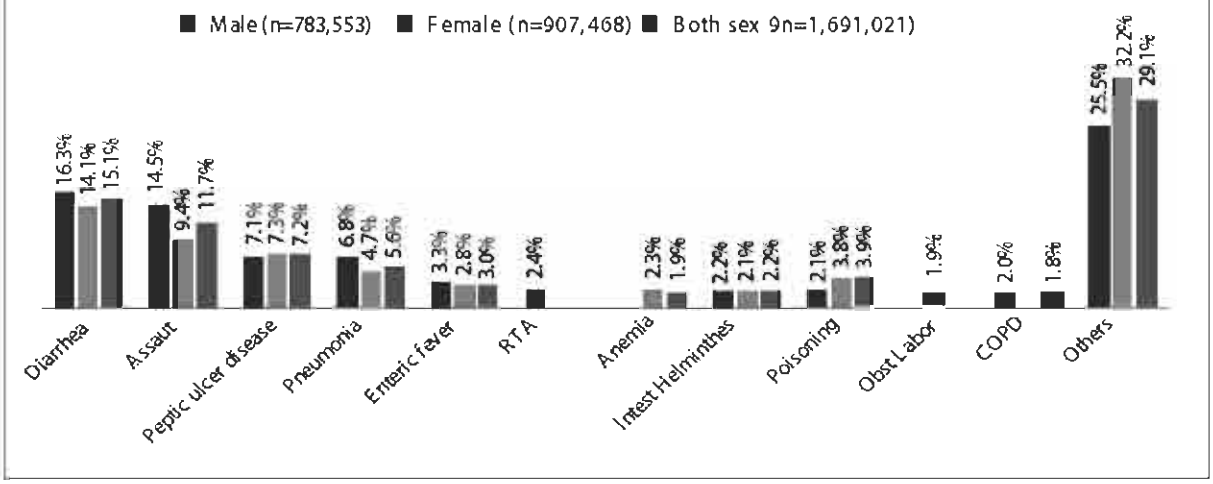
MIS-Health has understood that the data collection format has to be changed. It has also understood that a systematic approach would be needed in terms of training, motivation, software development, connectivity, and monitoring and supervision, both at local, as well as, at national level, to improve the data quality. MIS-health is committed to make such changes in the years to come. However, it is believed that the available data may partially fulfill the working need of hospital morbidity data. Therefore, the data received have been summarized to estimate the top 10 or 20 diseases for each category of hospitals. The summaries are presented in the annexure.

It has been found that patients make their own choice in selecting hospital according to their type of illness. Therefore, proportion of different types of morbidities varies between types of hospitals. It has been explained above that precision of diagnosis also varies between levels of hospitals, lower level hospitals having lower precision. Based on this consideration, summaries have been made separately for upazila hospitals, district hospitals, and medical college hospitals. As the postgraduate institute hospitals are specialized in nature, and one treats only one specialized discipline of diseases, summary for each specialized hospital has been made individually. The summaries contain details in age and sex disaggregation, which are presented in the annexure.

Morbidity profile of upazila hospitals

Figure-7.1 shows the morbidity profiles of the top 10 diseases among the patients admitted in the upazila hospitals. We received data from 356 upazila hospitals out of 418. Total number of patients included in the analysis was 1,691,021 of which 783,553 were males and 907,468 were females.

Figure-7.1. Top 10 diseases among the indoor patients of upazila hospitals (Total hospitals=356)

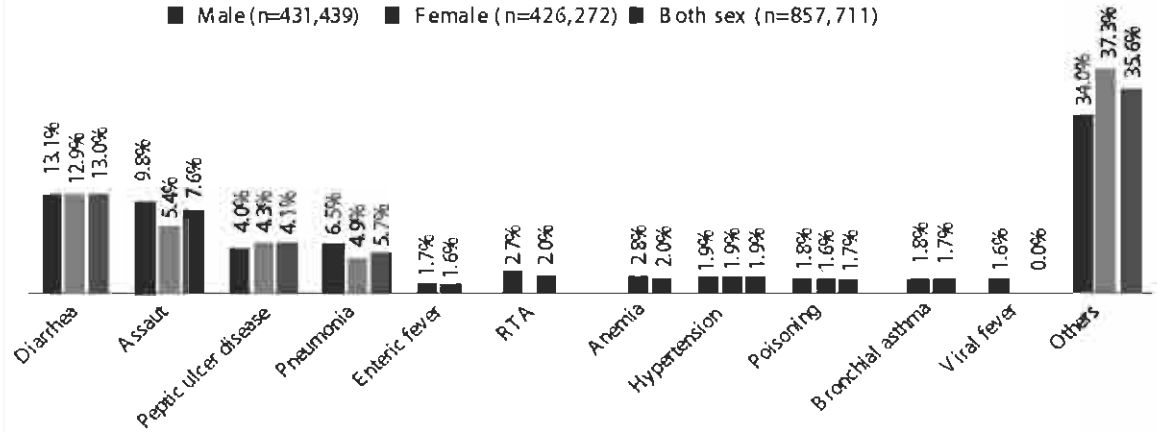


Females were 54% of the total patients. Diarrhea (15.1%) was the commonest cause for which the patients were admitted followed by assault (11.7%). The other three most common diseases were peptic ulcer diseases (7.2%), pneumonia (5.6%) and enteric fever (3.0%). A detail breakdown of the age and sex distribution of the diseases among the admitted patients in upazila hospitals will be found in the annexure.

Morbidity profile of district and general hospitals

Figure-7.2 shows the morbidity profiles of the top 10 diseases among the indoor patients in the district and general hospitals. We received data from 57 district and general hospitals out of 62. Total number of patients included in the analysis was 857,711 of which 431,439 were males and 426,272 were females. Females were almost half (49.7%) of the total patients. Like in the upazila hospitals, diarrhea (13.0%) was also the commonest cause for which the patients were admitted, which was followed by assault (7.6%). The next three diseases in order of frequencies were pneumonia (5.7%), peptic ulcer diseases (4.1% and anemia (2.0%). A detail breakdown of the age and sex distribution of the diseases among the admitted patients in district and general hospitals will be found in the annexure.

Figure- 7.2. Top 10 diseases among the indoor patients of patients of district and general hospitals (Total hospitals=57)

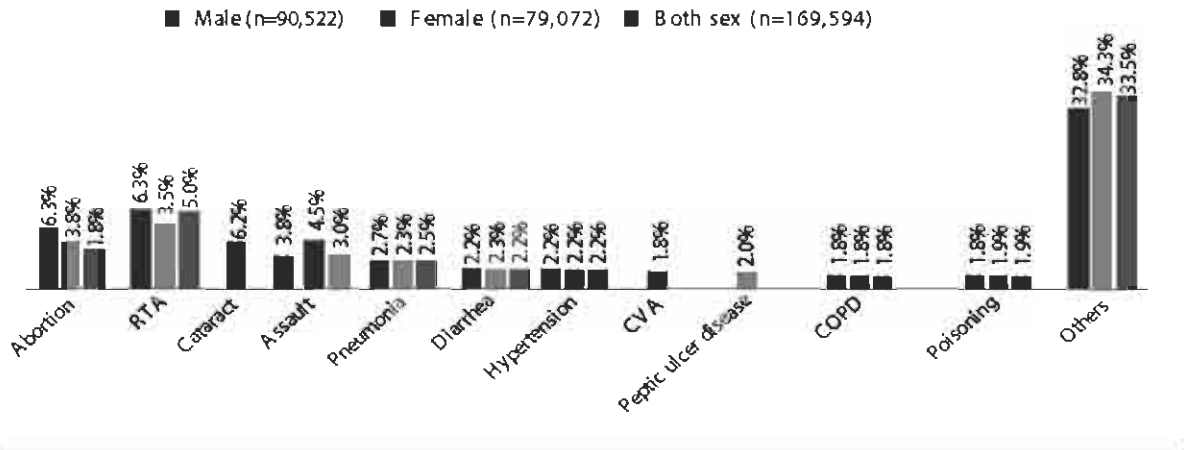


Morbidity profile in medical college hospitals

Figure-7.3. shows the morbidity profiles of the top 10 diseases among the patients admitted in the medical college hospitals. At the time of analysis, we received data from only 6 medical college hospitals out of 17. Total number of patients included in the analysis was 169,594 of which 90,522 were males and 79,072 were females. Females constituted 47% of the total patients. The medical college hospitals from which data were available at the time of analysis were Sir Salimullah Medical College and Mitford Hospital, Dhaka; Shahid Shuhrowardi Medical College Hospital, Dhaka; Rangpur Medical College Hospital; MAG Osmani Medical College Hospital, Sylhet; Dinajpur Medical College Hospital; and Bogra Medical College Hospital.

The most frequent cause for admission among both sexes was Road Traffic Accident (RTA) (5.0%) followed by cataract (3.8%), pneumonia (2.5%) and diarrhea (2.2%). Distribution of diseases varied between sexes. A detail breakdown of the age and sex distribution of the diseases among the admitted patients in these six medical college hospitals may be found in the annexure.

Figure-7.3. Top 10 diseases among the indoor patients of patients of medical college hospitals (Total hospitals=6)



Morbidity profile in Bangabandhu Sheikh Mujib Medical University Hospital

Bangabandhu Sheikh Mujib Medical University (BSMMU) Hospital is the only multi-disciplinary hospital in the country, which is affiliated with the country's only medical university. It catters the full range of mult-specialty medical services for ordinary as well as complicated and advanced medical conditions in variety of disciplines. We received a disease profile for 10,604 admitted patients for the year 2009. As of writing this report, we had a figure of 59,552 patients who received service from the hospital's outpatient departments in 2009. Table-7.2 shows top 19 diseases. Among the males, fracture toped the diseases (14.3%). The next five diseases were myocardial infarction (9.3%), anal fistula (9.2%), cerebrovascular accidents (5.7%), arthritis (5.5%) and congenital heart diseases (5.0%). Among the females, pelvic inflammatory disease was at the top of the disease list (9.3%). The next five diseases were arthritis (6.8%), fracture (6.8%), congenital heart disease (5.9%), anal fistula (5.5%) and ovarian tunor (4.9%). Among both sexes, fracture positioned it at the top (10.3%) followed by anal fistula (7.2%), myocardial infarction (6.8%), arthritis (6.2%), congenital heart disease (5.5%) and pelvic inflammatory disease (4.9%). In the annexure, a detail breakdown of the age and sex distribution of the diseaSes among the indoor patients of BSMMU has been given.

Table-7.2. Percent distribution of indoor patients in Bangabandhu Sheikh Mujib Medical Universory (BSMMU) in 2009 (all ages)

Male		Female		Both sex	
Diagnosis	%	Diagnosis	%	Diagnosis	%
Fracture	14.3	Pelvic inflammatory disease	9.3	Fracture	10.3
Myocardial infarction	9.3	Arthritis	6.8	Anal fistula	7.2
Anal fistula	9.2	Fracture	6.8	Myocardial infarction	6.8
CVA	5.7	Congenital heart disease	5.9	Arthritis	6.2
Arthritis	5.5	Anal fistula	5.5	Congenital heart disease	5.5
Congenital heart disease	5.0	Ovarian tumor	4.9	Pelvic inflammatory disease	4.9
Head Injury	3.0	Fibroid	4.7	CVA	4.0
TB (extra-pulmonary)	2.7	Myocardial infarction	4.5	Cholelithiasis	3.4
Cholelithiasis	2.6	Cholelithiasis	4.1	Head Injury	2.8
Retinal Problem	2.5	Ca- Cervix	3.7	Ovarian tumor	2.6
Meningitis	2.1	Hypertension	2.7	Fibroid	2.5
Ca-prostate	1.9	CVA	2.6	TB (extra-pulmonary)	2.2
Urinary tract infection	1.9	Head injury	2.6	Hypertension	2.1
Bacillary dysentery	1.8	Bacillary dysentery	2.3	Bacillary dysentery	2.1
Valvular heart disease	1.6	Diabetes mellitus	1.9	Ca cervix	2.0
Nasal Polyp	1.5	TB (extra-pulmonary)	1.7	Valvular heart disease	1.6
Hypertension	1.4	Valvular Heart Disease	1.7	Meningitis	1.5
Osteomyelitis	1.3	Ca breast	1.7	Urinary tract infection	1.3
Prolapsed disc	1.3	Abortion	1.5	Prolapsed disc	1.3
Total patients=4,968		Total patients=5,636		Total patients=10,604	

Morbidity profile in postgraduate institute hospitals

Data were available for analysis on morbidity profiles of indoor patients from four postgraduate teaching hospitals, namely National Institute of Traumatology, Orthopedics and Rehabilitation (NITOR), National Institute of Kidney Diseases and Urology (NIKDU), National Institute of Diseases of Chest and Hospital (NIDCH) and National Institute of Ophthalmology (NIO). As each of these institutes treat only cases from one specialized discipline, morbidity profiles for these institutes have been shown separately. Table-7.3 summarizes the morbidity profile of the indoor patients from National Institute of Traumatology, Orthopedics and Rehabilitation (NITOR). A detail age and sex breakdown of the morbidity profile has been given in the annexure. The table shows that among the 21,780 patients, 16,253 were males and 5,527 were females (only 25.4%). Road traffic accident was the leading cause for admission (32.9%) followed by fracture (12.9%) among both sexes. Assault and burn were responsible for 5.0% and 1.9% of admissions respectively.

Table-7.3. Percent distribution of indoor patients in National Institute of Traumatology (NITRO) in 2009 (all ages)

Male	%	Female	%	Both sex	
Road Traffic Accident	34.7	Road Traffic Accident	27.7	Road Traffic Accident	32.9
Fracture	11.9	Fracture	16.0	Fracture	12.9
Assault	5.0	Assault	4.8	Assault 5.0	
Burn	1.9	Burn	2.0	Burn	1.9
Spinal Cord Injury	1.0	Spinal Cord Injury	1.7	Spinal Cord Injury	1.2
Gangrene	0.8	Gangrene	0.9	Gangrene	0.8
Rickets	0.4	Osteomyelitis	0.7	Prolapsed disc	0.3
Prolapsed disc	0.3	Prolapsed disc	0.4	Osteomyelitis	0.3
Osteomyelitis	0.2	Bone tumor	0.4	Rickets	0.3
Bone tumor	0.2	Rickets	0.3	Bone tumor	0.2
Osteosarcoma	0.2	Osteosarcoma	0.2	Osteosarcoma	0.2
TB (Extra-Pulmonary)	0.1	TB (Extra-Pulmonary)	0.2	TB (Extra-Pulmonary)	0.1
Poliomyelitis	0.1	Poliomyelitis	0.1	Poliomyelitis	0.1
Total patients=	16253	Total patients=	5527	Total patients=	21780

Table-7.4 summarizes the morbidity profile of the indoor patients from National Institute of Kidney Diseases and Urology (NIKDU). A detail age and sex breakdown of the morbidity profile has been given in the annexure. The table shows that among the 4,849 patients, 3,087 were males and 1,762 were females (36.3%). Renal failure was the leading cause for admission (42.3%) followed by renal stone (10.8%) among both sexes. Glomerulonephritis and nephritic syndrome were responsible for 6.6% and 3.8% of admissions respectively.

Table-7.4. Morbidity profile of the indoor patients of National Institute of Kidney Diseases and Urology (NIKDU) (all ages) (Year 2009)

Male		Female		Both sex	
Renal failure	41.9	Renal failure	43.1	Renal failure	42.3
Renal Stone	12.2	Glomerulonephritis	11.0	Renal Stone	10.8
Glomerulonephritis	4.1	Renal Stone	8.5	Glomerulonephritis	6.6
Nephrotic Syndrome	3.1	Nephrotic Syndrome	4.9	Nephrotic Syndrome	3.8
Hypertrophied Prostate	2.7		4.3	Hypertrophied Prostate	3.3
Urinary Tract Infection	2.2	Urinary Tract Infection	3.5	Urinary Tract Infection	2.7
Ca-prostate	1.4	Urinary Stone Disease	2.2	Urinary Stone Disease	1.7
Urinary Stone Disease	1.4	Ca-Kidney	1.9	Ca-prostate	1.4
Prostatic Tumor	1.1		1.4	Ca-Kidney	1.4
Ca-Kidney	1.1		0.7	Prostatic Tumor	1.0
Total patients=	3087	Total patients=	1762	Total patients=	4849

Table-7.5 summarizes the morbidity profile of the indoor patients from National Institute of Diseases of Chest and Hospital (NIDCH). A detail age and sex breakdown of the morbidity profile has been given in the annexure. The table shows that among the 9,372 patients, 5,525 were males and 3,847 were females (41.0%). Bronchial asthma was the leading cause for admission (18.9%) followed by congenital heart disease (16.1%) among both sexes. Pulmonary tuberculosis and extra pulmonary tuberculosis were responsible for 15.7% and 15.4% of the admissions respectively.

Table-7.5. Morbidity profile of the indoor patients of National Institute of Diseases of Chest and Hospital (NIDCH) (all ages) (Year 2009)

Male	%	Female	%	Both sex	%
TB (Extra-Pulmonary)	17.8	Bronchial Asthma	20.9	Bronchial Asthma	18.9
Bronchial Asthma	17.6	Tuberculosis (Pulmonary)	17.8	Congenital Heart Disease	16.1
Congenital Heart Disease	17.5	Congenital Heart Disease	14.2	Tuberculosis (Pulmonary)	15.7
Tuberculosis (Pulmonary)	14.3	TB (Extra-Pulmonary)	12.0	TB (Extra-Pulmonary)	15.4
Pleural effusion	10.2	Pleural effusion	9.1	Pleural effusion	9.8
Bronchiolitis	7.2	Ca-esophagus	9.0	Ca-esophagus	6.8
Bronchiectasis	5.3	Bronchiectasis	6.0	Bronchiolitis 6.6	
Ca-Oesophagus	5.2	Bronchiolitis	5.8	Bronchiectasis	5.6
Ca-lungs	3.9	Ca-lungs	4.7	Ca-lungs	4.2
Pneumothorax	0.7	Pulmonary fibrosis	0.4	Pneumothorax	0.5
Pulmonary fibrosis	0.3	Pneumothorax	0.3	Pulmonary fibrosis	0.3
Total patients=5525		Total patients=3847		Total patients=9372	

We analyzed the data on procedures and morbidity profiles of the patients visiting the National Institute of Ophthalmology (NIO) in the month of May 2010. Table-7.6 summarizes the results. The table shows that among the 2,252 patients, 1,227 were males and 1,025 were females (45.5%). The table shows a detail break down of the age and sex distribution of the patients by type of services they received.

Table-7.6. Procedures and morbidity profiles of the patients visiting the National Institute of Ophthalmology (NIO) (all ages) in May 2010

Male			Female			Both sex		
Service	**Discipline**	**%**	**Service**	**Discipline**	**%**	**Service**	**Discipline**	**%**
ECG	Medicine	24.0	ECG	Medicine	29.5	ECG	Medicine	26.5
Biometry	Biometry	19.5	Biometry	Biometry	18.0	Biometry	Biometry	18.8
SICS	Surgery	10.4	Hypertension	Medicine	10.3	Hypertension	Medicine	9.6
Hypertension	Medicine	9.0	SICS	Surgery	8.0	SICS	Surgery	9.3
Phaco	Surgery	7.4	Phaco	Surgery	6.6	Phaco	Surgery	7.1
Occuloplasty	Surgery	5.2	DCR	Surgery	5.1	Occuloplasty	Surgery	4.6
Other surgery	Surgery	4.5	Viral Fever	Medicine	4.1	Other Surgery	Surgery	4.2
Viral Fever	Medicine	3.9	Occuloplasty	Surgery	3.8	Viral Fever	Medicine	4.0
Injury	Surgery	3.5	Others	Surgery	3.8	DCR	Surgery	3.3
ENT	ENT	2.9	ENT	ENT	3.1	ENT	ENT	3.0
Laser capsulectomy	Laser	2.5	Laser capsulectomy	Laser	2.1	Injury	Surgery	2.5
DCR	Surgery	1.8	Injury	Surgery	1.4	Laser capsulectomy	Laser	2.4
Dental	Dental	1.4	Dental	Dental	1.3	Dental	Dental	1.3
Cornea	Surgery	1.1	Cornea	Surgery	1.1	Cornea	Surgery	1.1
TRAB	Surgery	0.9	TRAB	Surgery	0.4	TRAB	Surgery	0.7
Laser pI	Laser	0.5	Laser pI	Laser	0.4	Laser pI	Laser	0.4
RD Surgery	Surgery	0.3	RD Surgery	Surgery	0.2	RD Surgery	Surgery	0.3
Total RD Surgery	Surgery	0.3	Dropped Lens	Surgery	0.2	Dropped Lens	Surgery	0.2
Laser Screen	Laser	0.3	Enteric Fever	Medicine	0.2	RD Surgery	Surgery	0.2
Dropped Lens	Surgery	0.2	Vitrectomy OT others	Surgery	0.2	Laser Screen	Laser	0.2
Vitiage	Surgery	0.2	Vitiage	Surgery	0.1	Enteric Fever	Medicine	0.1
Removal of Silicon	Surgery	0.1	Dropped Nucleus	Surgery	0.1	Vitiage	Surgery	0.1
Dropped Nucleus	Surgery	0.1	RD Surgery	Surgery	0.0	Vitrectomy OT others	Surgery	0.1
Enteric Fever	Medicine	0.1	Laser Screen	Laser	0.0	Dropped Nucleus	Surgery	0.1
Total patients=	1227	100.0	Total patients=	1025	100.0	Total patients=	2252	100.0

Mortality Profiles

Data on mortality for the year 2009 were received from 418 government health facilities on a total of 39,573 in-patient deaths. The distribution of the type of health facilities and the in-patient death cases is summarized in Table-8.1.

Table-8.1. Distribution of the type of government health facilities and reported deaths cases for preparing mortality profiles (Year 2009)

Type of health facility	Facility		Deaths	
	No	%	No	%
Upazila Health Complexes	342	81.8	6,673	16.8
District Hospitals	52	12.4	14,905	37.5
General Hospitals (Narayanganj, Narsingdi)	2	0.5	156	0.4
Medical College Hospitals [Comilla, Dinajpur, Faridpur, Khulna, Rajshahi, Rangpur, Shahid Sharwardi (Dhaka), SZR (Bogra), Sher-e-Bangla (Barisal), Sir Salimullah (Dhaka), and MAG Osmani (Sylhet)]	11	2.6	13,902	35.0
Infectious Disease Hospitals (Dhaka and Rajshahi)	2	0.5	139	0.3
Chest Hospitals (Bogra, Rajshahi and Rangpur)	3	0.7	25	0.1
Postgraduate specialized teaching hospitals (NICVD, NIDCH, NIKDU, NIRCH, NITOR and NIMHR)	6	1.4	3,953	9.9
Total=	**418**	**100.0**	**39,753**	**100.0**

Mortality by cause related to involvement of body system

The Upazila Health Complex, District Hospital, General Hospital and Medical College Hospital treat patients with diseases involving any body system. Therefore, an attempt was made to see the top 10 causes of mortality in these hospitals by involved body system or major causes of mortality. Table-8.2 summarizes the results.

Table-8.2. Top 10 causes of mortality by body system or major causes in upazila health complex, district hospital, general hospital and medical college hospital of Bangladesh (Year 2009

System	Upazila Health Complex (n=342)		District Hospital (n=52)		General Hospital (n=2)		Medical College Hospital (n=11)	
	No.	%	No.	%	No.	%	No.	%
Cardiovascular system	1,179	17.7	3,394	22.8	25	16.0	2,925	21.0
Newborn related problem	288	4.3	2,189	14.7	4	2.6	1,647	11.8
Nervous system	365	5.5	908	6.1	13	8.3	1,646	11.8
Injury	723	10.8	1,324	8.9	15	9.6	1,459	10.5
Cardio-respiratory failure	549	8.2	1,319	8.8	6	3.8	1,360	9.8
Respiratory system	950	14.2	1,435	9.6	44	28.2	655	4.7
Gastro-intestinal System	386	5.8	576	3.9	9	5.8	639	4.6
Acute infections	896	13.4	1,192	8.0	8	5.1	616	4.4
Infective condition	-	-	553	3.7	-	-	596	4.3
Nutritional problem	-	-	267	1.8	9	5.8	-	-
IMCI disease*	298	4.5	-	-	-	-	-	-
Malignant condition	-	-	-	-	6	3.8	-	-
Total deaths reported =	**6,673**	**100.0**	**14,905**	**100.0**	**156**	**100.0**	**13902**	**100.0**
*Some are included in newborn related problem								

Causes of mortality in upazila hospital

Figure-8.1 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the upazila health complexes for the year 2009. The report includes 6,673 deaths from 342 upazila health complexes. Pneumonia (8.92%) was found as the leading cause of deaths followed by cardio-respiratory failure (8.23%), bronchial asthma (7.43%) and cardiovascular disease (6.79%). Table-8.3 shows the sex distribution of the top 10 causes of mortality in the upazila health complexes. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.1. Percent distribution of top 10 causes of mortality (all ages and both sexes) in upazila health complexes (342 facilities; 6,673 deaths)in 2009

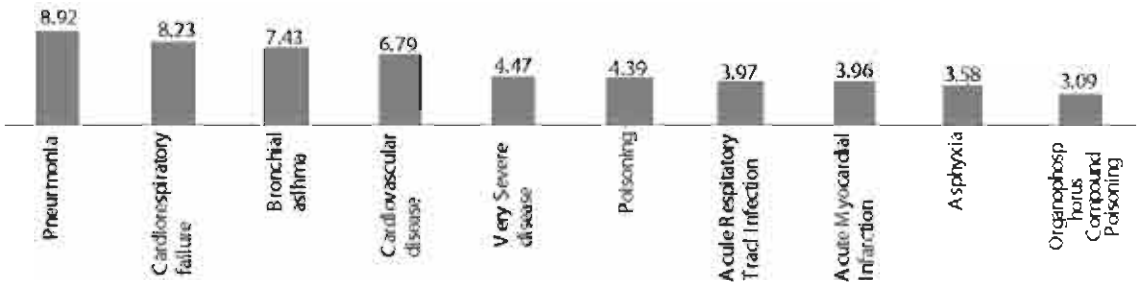


Table-8.3. Percent distribution of top 10 causes of mortality (all ages) in upazila health complexes (n=342) (Year 2009)

Male	%	Female	%	Both sex	%
Bronchial asthma	9.14	Pneumonia	9.70	Pneumonia	8.92
Cardio-respiratory failure	8.31	Cardio-respiratory failure	8.32	Cardio-respiratory failure	8.23
Pneumonia	8.23	Cardiovascular Disease	6.98	Bronchial Asthma	7.43
Cardiovascular disease	6.58	Poisoning	6.31	Cardiovascular disease	6.79
AMI	4.97	Bronchial asthma	5.22	Severe disease	4.47
Severe disease	4.28	Severe disease	4.51	Poisoning	4.39
Chronic obstructive pulmonary disease	3.93	Organo-phosphorus compound poisoning	4.44	Acute respiratory tract infection	3.97
Asphyxia	3.90	Acute respiratory tract infection	3.91	AMI	3.96
Acute respiratory tract infection	3.88	Septicemia	3.39	Asphyxia	3.58
Poisoning	2.97	Asphyxia	3.28	Organo-phosphorus compound poisoning	3.09
Total deaths=	3,741	Total deaths=	2,836	Total deaths=	6,673

Causes of mortality in district hospital

Figure-8.2 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the district hospitals for the year 2009. The report includes 14,905 deaths sent from 52 district hospitals. Asphyxia (11.32%) was found as the leading cause of deaths followed by cardio-vascular disease (10.45%), cardio-respiratory failure (8.79%), pneumonia (5.76%) and acute myocardial infarction (4.61%). Table-8.4 shows the sex distribution of the top 10 causes of mortality in the district hospitals. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.2. Percent distribytion of top 10 causes of mortality (all ages and both sexes) in district hospitals (52 facilities; 14,905 deaths) in 2009

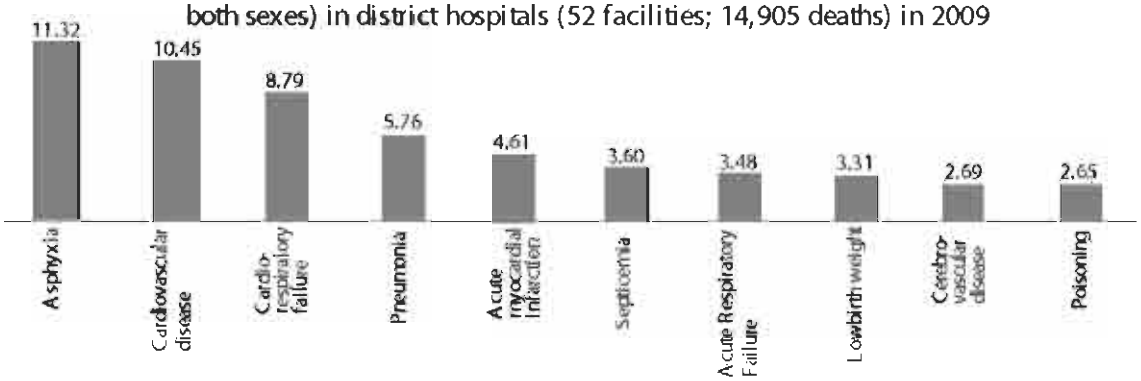


Table-8.4. Percent distribution of top 10 causes of mortality (all ages) in district hospitals (n=52) (Year 2009)

Male	%	Female	%	Both sex	%
Asphyxia	11.31	Cardiovascular disease	11.83	Asphyxia	11.32
Cardiovascular disease	9.79	Asphyxia	10.72	Cardiovascular disease	10.45
Cardio-respiratory failure	8.07	Cardio-respiratory failure	9.89	Cardio-respiratory failure	8.79
Ami	5.82	Pneumonia	5.91	Pneumonia	5.76
Pneumonia	5.77	Respiratory failure	3.94	Acute myocardial infarction	4.61
Septicemia	3.65	Low birth weight	3.47	Septicemia	3.60
Respiratory failure	3.43	Septicemia	3.33	Respiratory failure	3.48
Low birth weight	3.15	Poisoning	3.07	Low birth weight	3.31
Road traffic accident	2.92	Cerebro-vascular accident	2.76	Cerebro-vascular accident	2.69
Chronic obstructive pulmonary disease	2.62	Organo-phosphorus compound poisoning	2.53	Poisoning	2.65
Total deaths=	8,282	Total deaths=	5,766	Total deaths=	14,905

Causes of mortality in general hospital

Figure-8.3 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the general hospitals for the year 2009. The report includes 156 deaths from 2 general hospitals. Respiratory failure (10.26%) was found as the leading cause of deaths followed by

cerebrovascular accident (6.41%), cor pulmonale (5.77%), cardiovascular disease (4.49%), left ventricular failure (4.49%), organo-phosphorus poisoning (4.49%) and pneumonia (4.49%). Table-8.5 shows the sex distribution of the top 10 causes of mortality in the general hospitals. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.3. Percent distribytion of top 10 causes of mortality (all ages and both sexes) in general hospitals (2 facilities; 156 death)in 2009

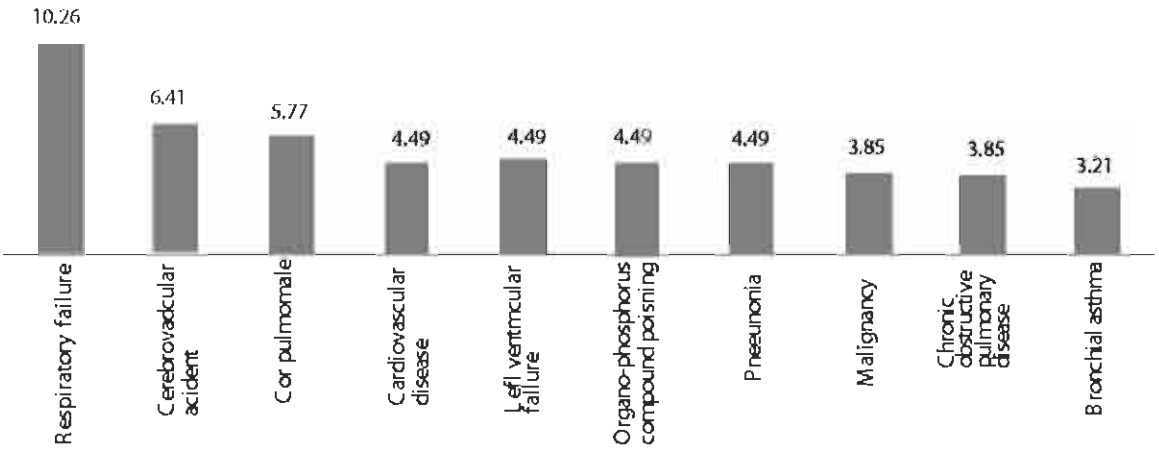


Table-8.5. Percent distribution of top 10 causes of mortality (all ages) in general hospitals (n=2) (Year 2009)

Male	%	Female	%	Both sex	%
Respiratory failure	10.10	Respiratory failure	10.71	Respiratory failure	10.26
Left ventricular failure	6.06	Cerebro-vascular accident	8.93	Cerebro-vascular accident	6.41
Carcinoma	5.05	Cor pulmonale	7.14	Cor pulmonale	5.77
Chronic obstructive pulmonary disease	5.05	Organo-phosphorus compound poisoning	7.14	Cardiovascular disease	4.49
Cor pulmonale	5.05	Anemia	5.36	Left ventricular failure	4.49
Cerebro-vascular accident	5.05	Malnutrition	5.36	Organo-phosphorus compound poisoning	4.49
Chronic obstructive Cardiovascular disease	5.05	pulmonary disease	3.57	Pneumonia	4.49
Pneumonia	5.05	Cardiogenic shock	3.57	Malignancy	3.85
Bronchial asthma	4.04	CCF	3.57	Chronic obstructive pulmonary disease	3.85
Cardio-respiratory failure	4.04	Cardiovascular disease	3.57	Bronchial asthma	3.21
Total deaths=	99	Total deaths=	56	Total deaths=	156

Causes of mortality in medical college hospital

Figure-8.4 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the medical college hospitals for the year 2009. The report includes 13,092 deaths from 11 medical college hospitals. Cardio-respiratory failure (9.74%) was found as the leading cause of deaths followed by cerebro-vascular accident (7.34%), cardio-vascular disease (6.81%), acute myocardial infarction (6.18%) and low birth weight (6.07%). Table-8.6 shows the sex distribution of the top 10 causes of mortality in the medical college hospitals. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.4. Percent distribution of top 10 causes of mortality (all ages and both sexes) in medical college hospitals (11 facilities; 13,902 deaths) in 2009

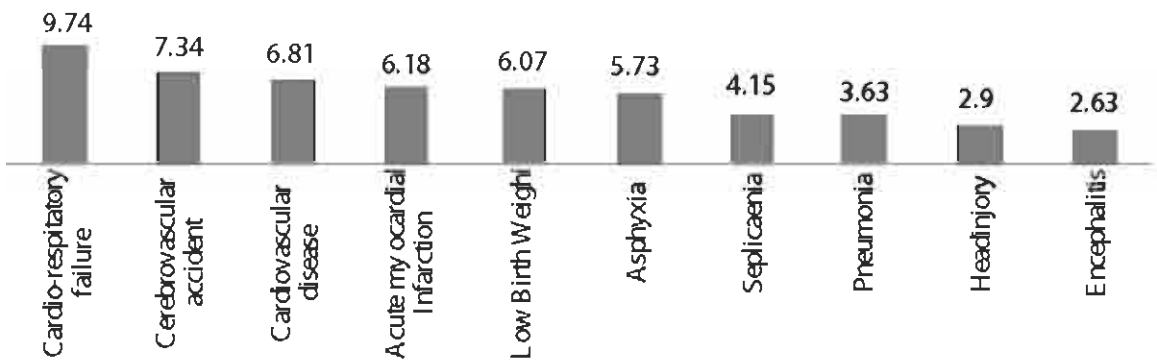


Table-8.6. Percent distribution of top 10 causes of mortality (all ages) in medical college hospitals (n=11) (Year 2009)

Male	%	Female	%	Both sex	%
Cardio-respiratory failure	9.61	Cardio-respiratory failure	10.05	Cardio-Respiratory Failure	9.74
Acute myocardial infarction	7.55	Cerebro-vascular accident	7.40	Cerebro-Vascular Accident	7.34
Cerebro-vascular accident	7.37	Cardiovascular disease	7.31	Cardiovascular Disease	6.81
Cardiovascular disease	6.57	Asphyxia	6.89	Acute Myocardial Infarction	6.18
Low birth weight	5.54	Low birth weight	6.72	Low Birth Weight	6.07
Asphyxia	4.94	Septicemia	4.71	Asphyxia	5.73
Septicemia	3.78	Acute Myocardial Infarction	4.02	Septicemia	4.15
Head injury	3.49	Pneumonia	4.00	Pneumonia	3.63
Pneumonia Compound Poisoning	3.14	Organo-Phosphorus	3.10	Head Injury	2.90
Road traffic accident	2.86	Encephalitis	2.72	Encephalitis	2.63
Total deaths=	8,498	Total deaths=	5,325	Total deaths=	13,902

Causes of mortality in infectious disease hospital

Figure-8.5 shows the percent distribution of the top causes of mortality among all ages and both sexes in the infectious disease hospitals for the year 2009. The report includes 139 deaths sent from 2 infectious disease hospitals. Tetanus (76.26%) was the most frequent cause of deaths followed by chicken pox (5.04%), HIV (4.32), rabies (3.60%), anti-retroviral reaction (0.72%) and diphtheria (0.72%). Table-8.7 shows the sex distribution of the top causes of mortality in the infectious disease hospitals. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.5 Percent distribution of top causes of mortality (all ages and both sexes) in infections disease hospitals (2 facilities; 139 deaths) in 2009

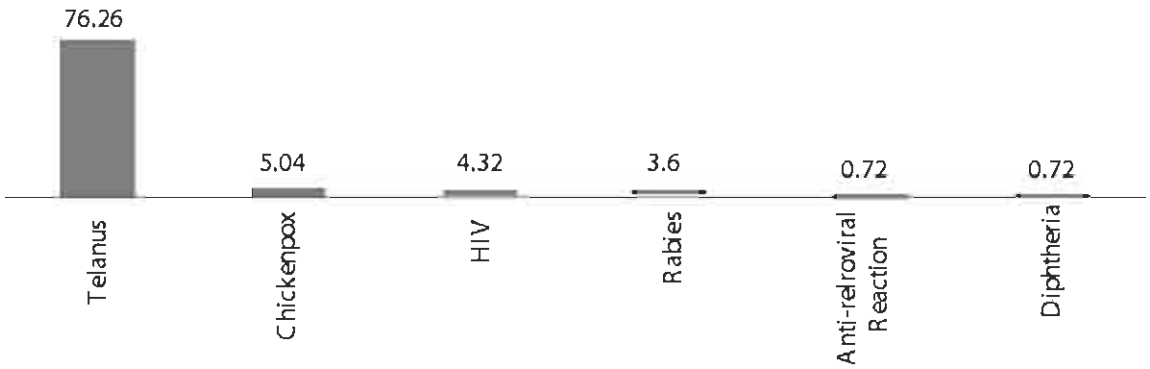


Table-8.7. Percent distribution of top causes of mortality (all ages) in infectious disease hospitals (n=2) (Year 2009)

Male	%	Female	%	Both sex	%
Tetanus	76.92	Tetanus	72.73	Tetanus	76.26
Chicken pox	5.98	HIV	9.09	Chicken pox	5.04
HIV	3.42	Diphtheria	4.55	HIV	4.32
Rabies	3.42	Rabies	4.55	Rabies	3.60
Anti-retroviral Reaction	0.85	Anti-retroviral Reaction	0.72	Diphtheria	0.72
Total deaths=	117	Total deaths=	22	Total deaths=	139

Causes of mortality in chest hospital

Figure-8.6 shows the percent distribution of the top causes of mortality among all ages and both sexes in the chest disease hospitals for the year 2009. The report includes 25 deaths from 3 chest hospitals. Tuberculosis (32%) was the leading cause of deaths followed by cardio-respiratory failure (28%), low birth weight (20%), bronchiectasis (8%), bronchial asthma (4%), pneumonia (4%) and pulmonary lesion (4%). Table-8.8 shows the sex distribution of the top causes of mortality in the chest hospitals. Detail age and sex distribution of the mortality has been given in the annexure.

Figure - 8.6. Percent distribution of top causes of mortality (all ages and both sexes) in chest hospitals (3 facilities; 25 deaths) in 2009

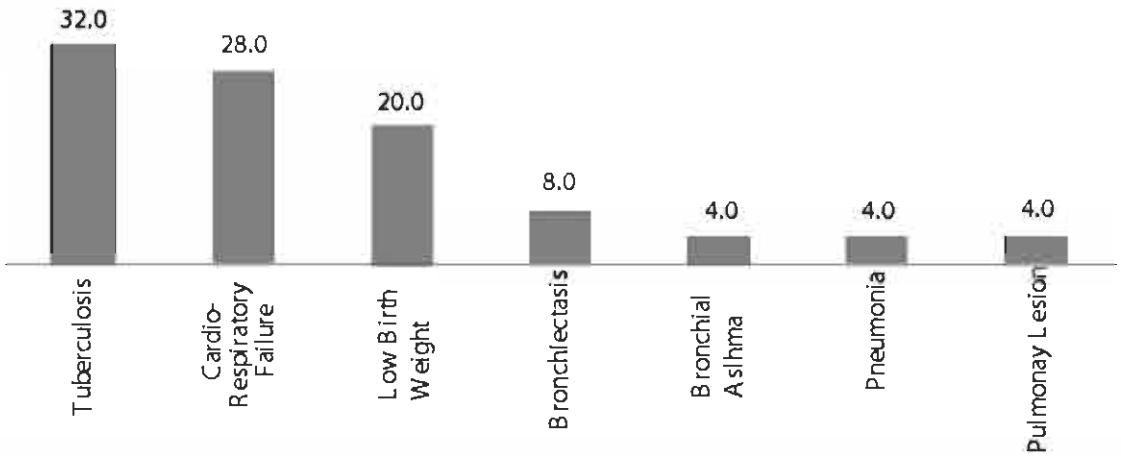


Table-8.8. Percent distribution of top causes of mortality (all ages) in chest hospitals (n=3) (Year 2009)

Male	%	Female	%	Both sex	%
Tuberculosis	35.00	Bronchiectasis	20.00	Tuberculosis	32.00
Cardio-respiratory failure	30.00	Cardio-respiratory failure	20.00	Cardio-respiratory failure	28.00
Low birth weight	20.00	Low birth weight	20.00	Low birth weight	20.00
Bronchial asthma	5.00	Pneumonia	20.00	Bronchiectasis	8.00
Bronchiectasis	5.00	Tuberculosis	20.00	Bronchial Asthma	4.00
Pulmonary lesion	5.00			Pneumonia	4.00
				Pulmonary Lesion	4.00
Total deaths=	20	Total deaths=	5	Total deaths=	25

Causes of mortality in the National Institute of Cardiovascular Diseases and Hospital

Figure-8.7 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the National Institute of Cardiovascular Diseases and Hospital for the year 2009. The report includes 2,823 deaths from the hospital. Acute myocardial infarction (38.72%) was the leading cause of deaths followed by unstable angina (10.77%), left ventricular failure (7.08%), old myocardial infarction (6.80%), non-ST elevation myocardial infarction (5.03%), ischemic cardiomyopathy (3.97%) and ischemic heart disease (2.20%). Table-8.9 shows the sex distribution of the top causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.7. Percent distribution of top 10 causes of mortality (all ages and both sexes) in the National institute of cardlovasucular Disease and Hospitals (2,823 deaths) in 2009

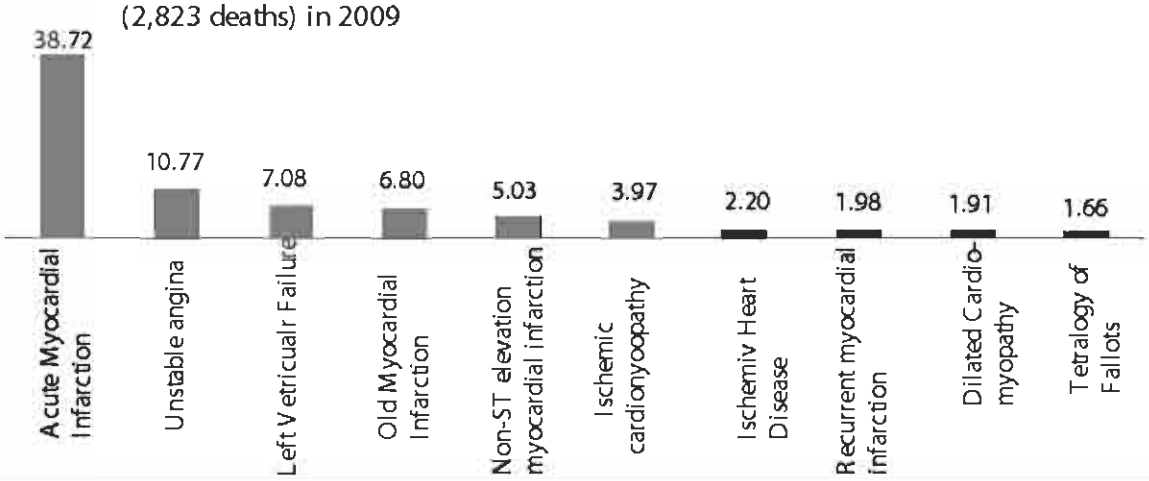


Table-8.9. Percent distribution of top 10 causes of mortality (all ages) in the National Institute of Cardiovascular Disease and Hospital (Year 2009)

Male	%	Female	%	Both sex	%
Acute myocardial infarction	40.44	Acute myocardial infarction	34.77	Acute myocardial infarction	38.72
Unstable angina	10.73	Unstable angina	10.85	Unstable angina	10.77
Old myocardial infarction	7.22	Left ventricular failure	7.35	Left ventricular failure	7.08
Left ventricular failure	6.97	Old myocardial infarction	5.83	Old myocardial infarction	6.80
Non-ST elevation myocardial infarction	5.04	Non-ST elevation myocardial infarction	5.02	Non-ST elevation myocardial infarction	5.03
Ischemic Cardio-myopathy	4.88	Chronic Rheumatic Heart Disease	3.15	Ischemic Cardio-myopathy	3.97
Recurrent myocardial infarction	2.34	Ischemic Heart Disease	2.80	Ischemic Heart Disease	2.20
Ischemic heart disease	1.93	Atrial septal defect infarction	2.68	Recurrent myocardial	1.98
Tetralogy of Fallots	1.68	Dilated Cardio-Myopathy	2.68	Dilated Cardio-Myopathy	1.91
Dilated cardio-myopathy	1.58	Rheumatic heart disease	2.45	Tetralogy of fallots	1.66
Total deaths=	1,966	Total deaths=	857	Total deaths=	2,823

Causes of mortality in the National Institute of Diseases of Chest and Hospital

Figure-8.8 shows the percent distribution of the top causes of mortality among all ages and both sexes in the National Institute of Diseases of Chest and Hospital for the year 2009. The report includes 626 deaths from the hospital. Cardio-respiratory failure (18.85%) was the leading cause of deaths followed by chronic obstructive pulmonary disease (16.77%), respiratory failure (9.74%), tuberculosis (9.11%), carcinoma (6.39%), pleural effusion (4.79%) and pneumothorax (3.35%). Table-8.10 shows the sex distribution of the top causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.8. Percent distribution of top causes of mortality (all ages and botn sexes) in the National Institute of Diseases of Chest and Hospital (626 deaths) in 2009

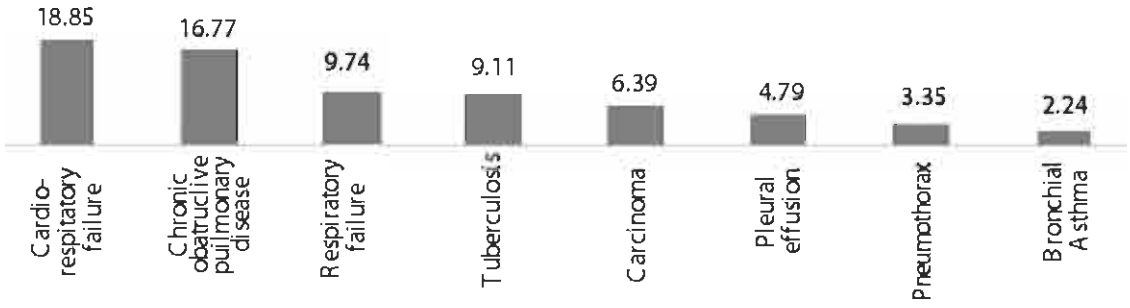


Table-8.10. Percent distribution of top causes of mortality (all ages) in the National Institute of Diseases of Chest and Hospita

Male	%	Female	%	Both sex	%
Chronic obstructive pulmonary disease	18.97	Cardio-respiratory failure	17.99	Cardio-respiratory failure	18.85
Cardio-respiratory failure	18.97	Chronic obstructive pulmonary disease	9.35	Chronic obstructive pulmonary disease	16.77
Respiratory failure	10.10	Respiratory failure	8.63	Respiratory failure	9.74
Tuberculosis	9.28	Tuberculosis	8.63	Tuberculosis	9.11
Carcinoma	7.22	Bronchial Asthma	7.19	Carcinoma	6.39
Pleural effusion	4.33	Pleural effusion	6.47	Pleural effusion	4.79
Pneumothorax	3.51	Pneumonia	5.04	Pneumothorax	3.35
Insterstitial lung disease	1.24	Carcinoma	3.60	Bronchial Asthma	2.24
—	—	Pneumothorax	2.88	—	—
Total deaths=	485	Total deaths=	139	Total deaths=	626

Causes of mortality in the National Institute of Kidney Diseases and Urology and Hospital

Figure-8.9 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the National Institute of Kidney Diseases and Urology Hospital for the year 2009. The report includes 249 deaths sent from the hospital. Chronic kidney disease (27.71%) was the leading cause of deaths followed by cardio-respiratory failure (26.10%), renal failure (7.23%), respiratory failure (6.02%), glomerulo-nephritis (4.82%), end stage renal disease (3.21%), left ventricular failure (2.41%), pneumonia (2.01%) and acute myocardial infarction (1.61%). Table-8.11 shows the sex distribution of the top 10 causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.9. Percent distribution of top 10 causes of mortality (all ages and botn sexes) in the National Institute of Kidney Diseases and Urology and Hospital (249 deaths) in 2009

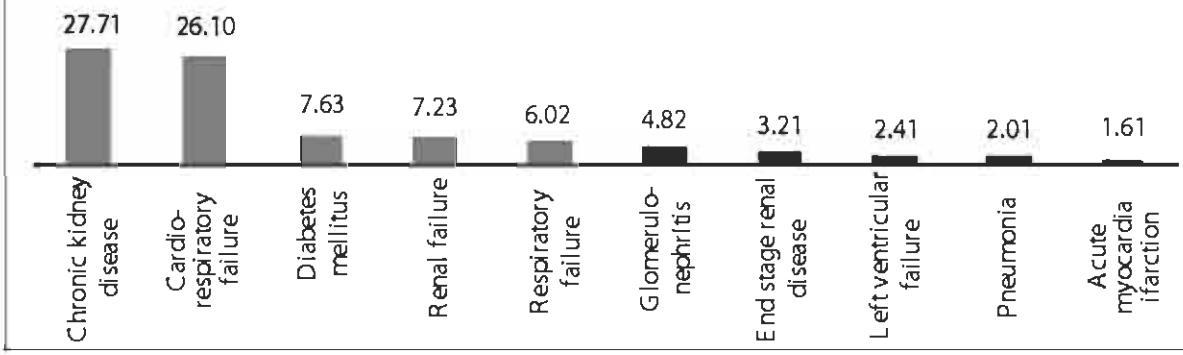


Table-8.11. Percent distribution of top 10 causes of mortality (all ages) in the National Institute of Kidney Diseases and Urology Hospital (Year 2009)

Male	%	Female	%	Both sex	%
Chronic kidney disease	26.62	Chronic kidney disease	31.00	Chronic kidney disease	27.71
Cardio-respiratory failure	25.90	Cardio-respiratory failure	27.00	Cardio-respiratory failure	26.10
Diabetes mellitus	9.35	Renal Failure	8.00	Diabetes mellitus	7.63
Renal failure	7.19	Glomerulo-nephritis	7.00	Renal failure	7.23
Respiratory failure	5.04	Diabetes mellitus	6.00	Respiratory failure	6.02
End stage renal disease	3.60	Respiratory failure	4.00	Glomerulo-nephritis	4.82
Glomerulo-nephritis	3.60	End stage renal disease	3.00	End stage renal disease	3.21
Pneumonia	2.88	Hypertension	3.00	Left ventricular failure	2.41
Acute myocardial infarction	2.16	Left ventricular failure	3.00	Pneumonia	2.01
Left ventricular failure	2.16	Acute myocardial infarction	1.00	Acute myocardial infarction	1.61
Total deaths=	139	Total deaths=	100	Total deaths=	249

Causes of mortality in the National Institute of Cancer Research and Hospital

Figure-8.10 shows the percent distribution of the top causes of mortality among all ages and both sexes in the National Institute of Cancer Research and Hospital for the year 2009. The report includes 72 deaths from the hospital. Carcinoma of various organs (83.33%) was the leading cause of deaths followed by acute lymphatic leukemia (5.56%), osteo-sarcoma (2.78%), acute myeloid leukemia (1.39%), glioblastoma (1.39%), hepatocellualr carcinoma (1.39%), other leukemia (1.39%), lung abscess (1.39%) and Non-Hodgkin's lymphoma (1.39%). Figure-8.11 shows the distribution of the prevalent organ carcinoma. Table-8.12 shows the sex distribution of the top causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

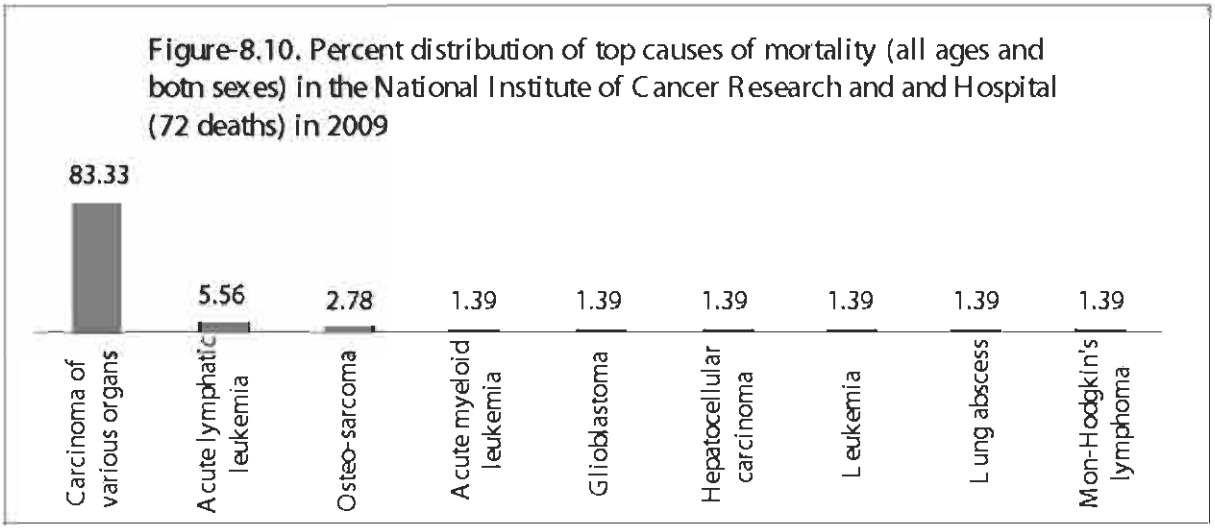
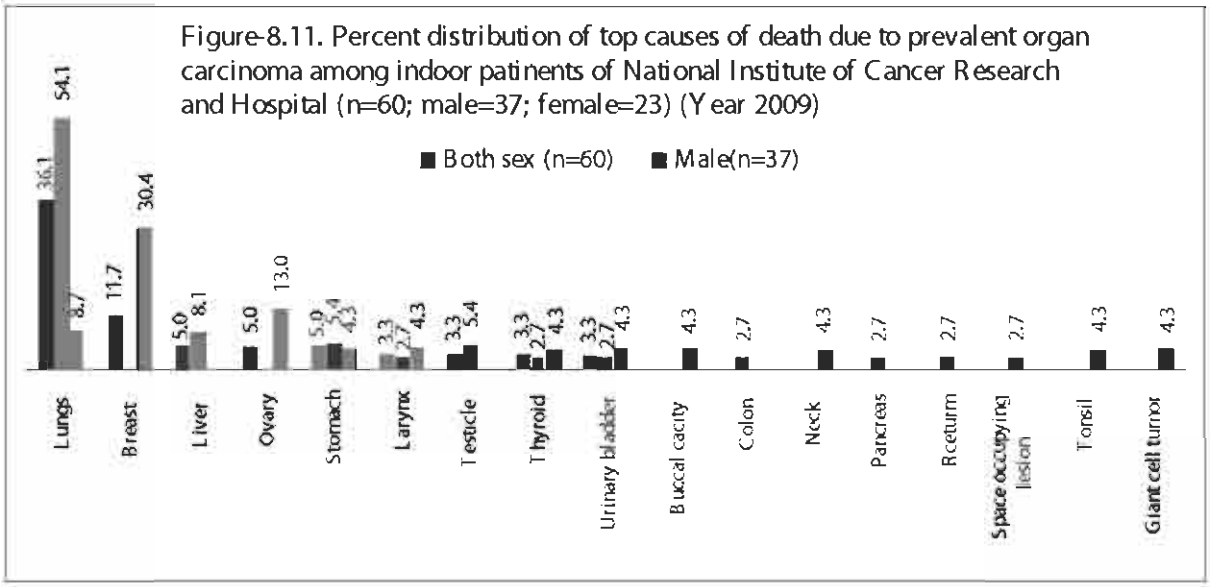


Table-8.12. Percent distribution of top causes of mortality (all ages) in the National Institute of Cancer Research and Hospital (Year 2009)

Male	%	Female	%	Both sex	%
Carcinoma of various organs*	77.08	Carcinoma of various organs*	95.83	Carcinoma of various organs*	83.33
Acute lymphatic leukemia	6.25	Acute lymphatic leukemia	4.17	Acute lymphatic leukemia	5.56
Osteo-sarcoma	4.17	—	—	Osteo-sarcoma	2.78
Acute myeloid leukemia	2.08			Acute myeloid leukemia	1.39
Glioblastoma	2.08	—	—	Glioblastoma	1.39
Hepatocellular carcinoma	2.08	—	—	Hepatocellular carcinoma	1.39
Leukemia	2.08	—	—	Leukemia	1.39
Lung abscess	2.08	—	—	Lung abscess	1.39
Non-HodgkinÕs lymphoma	2.08	—	—	Non-HodgkinÕs lymphoma	1.39
Total deaths=	48	Total deaths=	24	Total deaths=	72

*Figure-8.11 shows distribution



Causes of mortality in the National Institute of Traumatology, Orthopedics and Rehabilitation

Figure-8.12 shows the percent distribution of the top 10 causes of mortality among all ages and both sexes in the National Institute of Traumatology, Orthopedics and Rehabilitation for the year 2009. The report includes 178 deaths from the hospital. Cardio-respiratory failure (41.01%) was the leading cause of deaths followed by cervical injury (14.04%), road traffic accident (11.80%), head injury (8.43%), injury (others) (5.06%), septicemia (2.81%), limb fracture (2.25%), spinal injury (2.25%) and bomb injury (1.12%). Table-8.13 shows the sex distribution of the top causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.12. Percent distribution of top 10 causes of mortality (all ages and botn sexes) in the National Institute of Traumatology, Orthopedics and Redhbilitation (178 deaths) in 2009

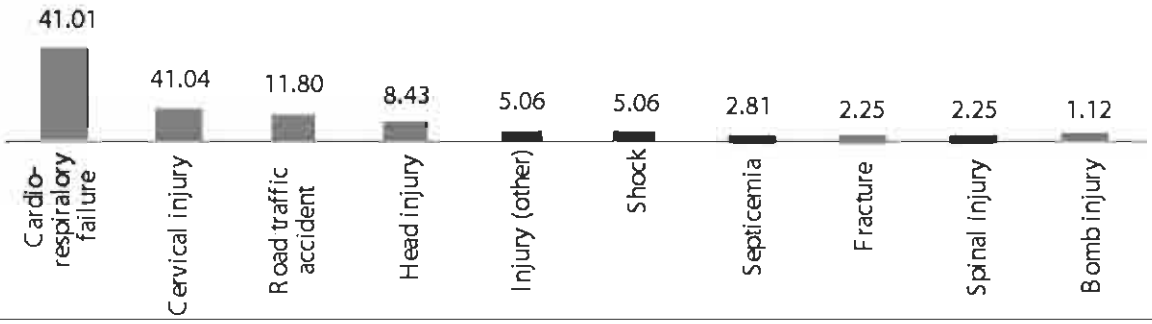


Table-8.13. Percent distribution of top causes of mortality (all ages) in the National Institute of Traumatology, Orthopedics and Rehabilitation (Year 2009)

Male	%	Female	%	Both sex	%
Cardio-respiratory failure	36.30	Cardio-respiratory failure	62.50	Cardio-respiratory failure	41.01
Cervical injury	15.75	Road traffic accident	12.50	Cervical injury	14.04
Road traffic accident	11.64	Cervical injury	6.25	Road traffic accident	11.80
Head injury	9.59	Acute myocardial infarction	3.13	Head injury	8.43
Injury (other)	5.48	Head Injury	3.13	Injury (other)	5.06
Shock	5.48	Injury (other)	3.13	Shock	5.06
Fracture	2.74	Postoperative Complication	3.13	Septicemia	2.81
Septicemia	2.74	Septicemia	3.13	Fracture	2.25
Spinal injury	2.74	Shock	3.13	Spinal injury	2.25
Bomb injury	1.37	—		Bomb injury	1.12
Total deaths=	146	Total deaths=	32	Total deaths=	178

Causes of mortality in the National Institute of Mental Health and Research

Figure-8.13 shows the percent distribution of the top causes of mortality among all ages and both sexes in the National Institute of Mental Health and Research for the year 2009. The report includes 178 deaths from the hospital. Cardio-respiratory failure (40.0%) was the leading cause of deaths followed by encephalitis (20.0%) and meningitis (20.0%). Table-8.14 shows the sex distribution of the top causes of mortality in the hospital. Detail age and sex distribution of the mortality has been given in the annexure.

Figure-8.13. Percent distribution of top causes of mortality (all ages and botn sexes) in the National Institute of Mentar Health and Research (5 deaths) in 2009

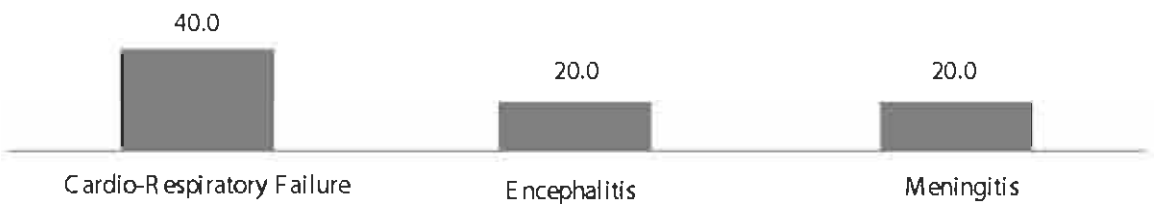


Table-8.14. Percent distribution of top causes of mortality (all ages) in the National Institute of Mental Health and Research (Year 2009)

Male	%	Female	%	Both sex	%
Cardio-Respiratory Failure	50.00	Meningitis	100.00	Cardio-Respiratory Failure	40.00
Encephalitis	25.00			Encephalitis	20.00
Suicide	25.00			Meningitis	20.00
Total deaths=	4	Total deaths=	1	Total deaths=	5

Communicable Diseases

Communicable diseases are disease caused by different types of transmissible infectious agents including bacteria, virus, parasite and fungus. Every year new infectious diseases are included as emerging diseases and also some diseases eradicated or controlled earlier may start to reappear as re-emerging disease. The list of emerging and reemerging diseases includes pandemic influenza, avian influenza, nipah virus infection, HIV/AIDS, viral hepatitis, poliomyelitis, Dengue, Kala azar, enteric fever, anthrax, leptospirosis, diarrhea, ARI, etc. One human case of avian influenza was detected in Bangladesh in 2008 with no death. In late 2009 and early 2010, there was a great panic due to global pandemic of swine flu. A few positive cases were also detected. However, there were only two recorded deaths in Bangladesh. In this chapter is given an overview of the communicable diseases situation of Bangladesh.

Malaria

Malaria is now a localized disease of Bangladesh endemic in 13 districts of eastern and northern parts of the country. During the last decade, the annual average of positive cases of malaria in Bangladesh was 57,365 cases. The percentage of Plasmodium falciparum malaria varied from 72% to 89%. The rests were Plasmodium vivax malaria. Few cases were mixed of Plasmodium falciparum and Plasmodium vivax. Reported prevalence is 0.06% in the country; but 0.34% in the high endemic area. Estimated prevalence in the country is 0.24% but 1.34% in the high endemic area. Over 26 million people of Bangladesh are at high risk of malaria. Most vulnerable groups are <5 year children and pregnant women. About 0.08% annual deaths in Bangladesh is attributed to malaria. Table-9.1 summarizes malaria epidemiological data from the endemic districts.

Table-9.1. Malaraia epidemiological data (2000-2010) from the endemic districts

Year	Clinical case	Positive case	P. falciparum	P. vivax	P. falciparum%	Death
2000	294,358	54,223	39,272	14,951	72	478
2001	276,901	54,216	39,274	14,942	72	490
2002	305,738	62,269	46,418	15,851	75	588
2003	279,439	54,654	41,356	13,298	76	577
2004	224,003	58,894	46,402	12,492	79	535
2005	242,247	48,121	37,679	10,442	78	501
2006	313,794	32,857	24,828	8,029	76	307
2007	458,775	59,857	46,791	13,066	78	228
2008	526,478	84,690	70,281	14,409	83	154
2009	553,787	63,873	56,912	6,853	89	47
Average/year	347,552	57,365	44,921	12,433	78	391

Figure-9.1 gives an idea about the share of total malaria burdens by the different endemic districts. Table-9.2 shows the actual case loads by the districts.

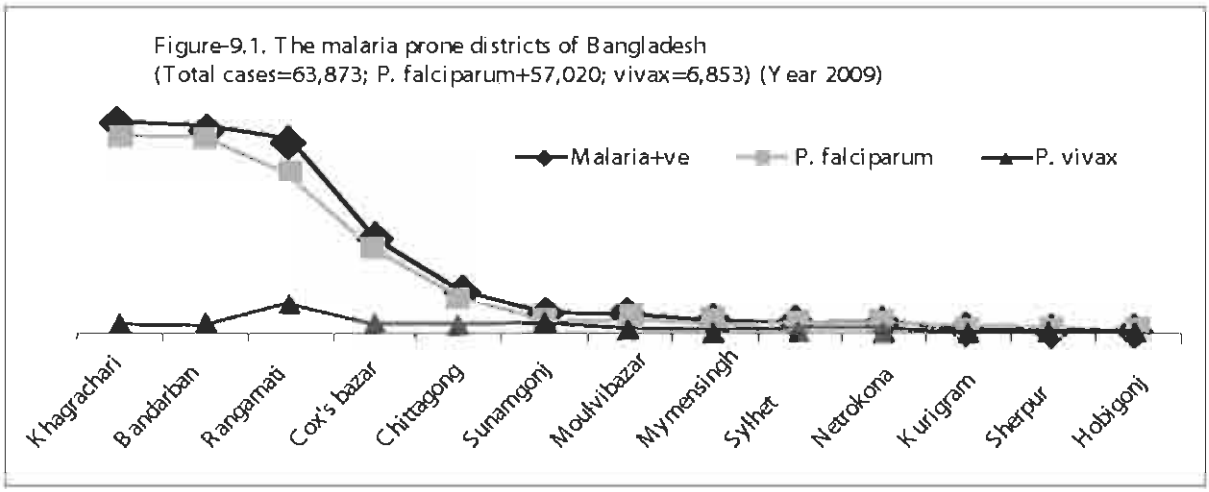
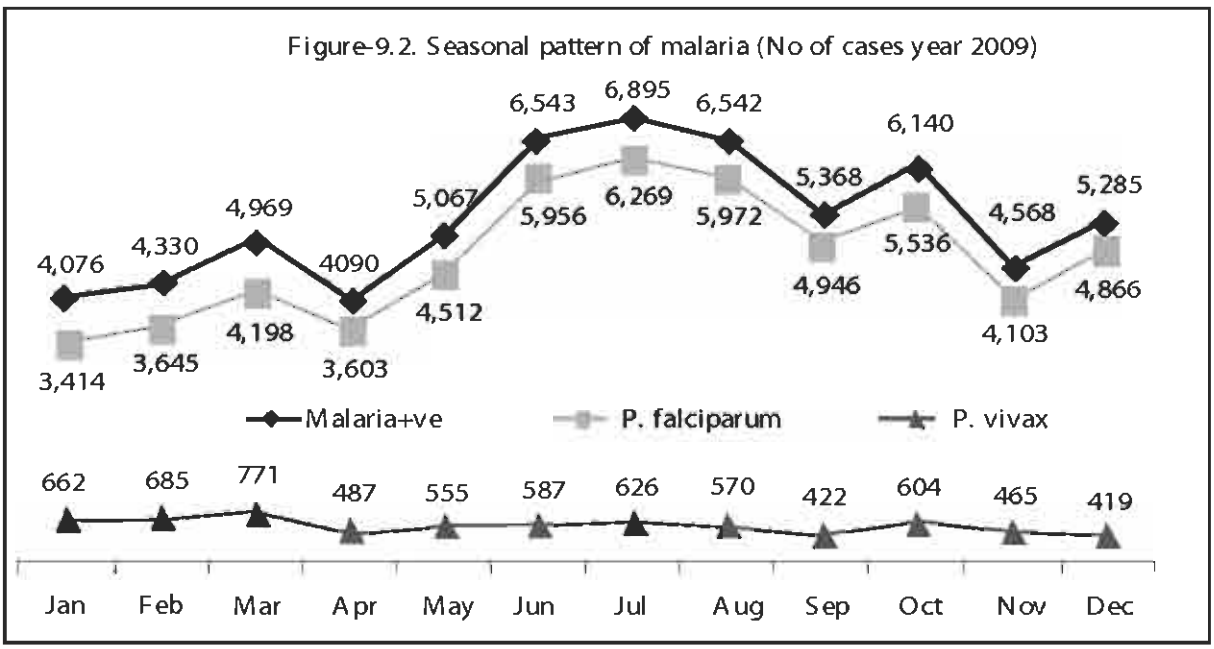


Table-9.2. Malaraia case loads and deaths in different endemic districts (Year 2009)

District	Malaria+ve cases (N)	P. falciparum (N)	P. vivax (N)	Death (N)
Sherpur	470	276	194	1
Mymensingh	1,081	1,041	40	6
Netrokona	838	806	32	6
Kurigram	566	231	335	1
Sylhet	950	803	147	-
Hobigonj	291	265	26	-
Sunamgonj	1,651	851	800	-
Moulvibazar	1,615	1,236	379	-
Chittagong	3,233	2,609	624	1
Khagrachari	15,811	15,106	705	12
Rangamati	14,582	12,420	2,162	12
Bandarban	15,734	14,931	803	4
Cox'sbazar	7,051	6,445	606	4
Total	63,873	57,020	6,853	47



Kala-azar

Kala-azar has been prevailing in Bangladesh for centuries as an endemic disease with epidemic outburst in around 20 years. With use of DDT as a control measure for malaria, prevalence of Kala-azar was reduced remarkably. However, re-emergence of the disease was noticed since 1994-95. From 1999 to 2009, a total of 67,758 cases and 225 deaths were reported from 34 districts of Bangladesh (Figures-9.3 and 9.4).

Figure-9.3. Year-wise reported number of kala azar cases (n=67,758)

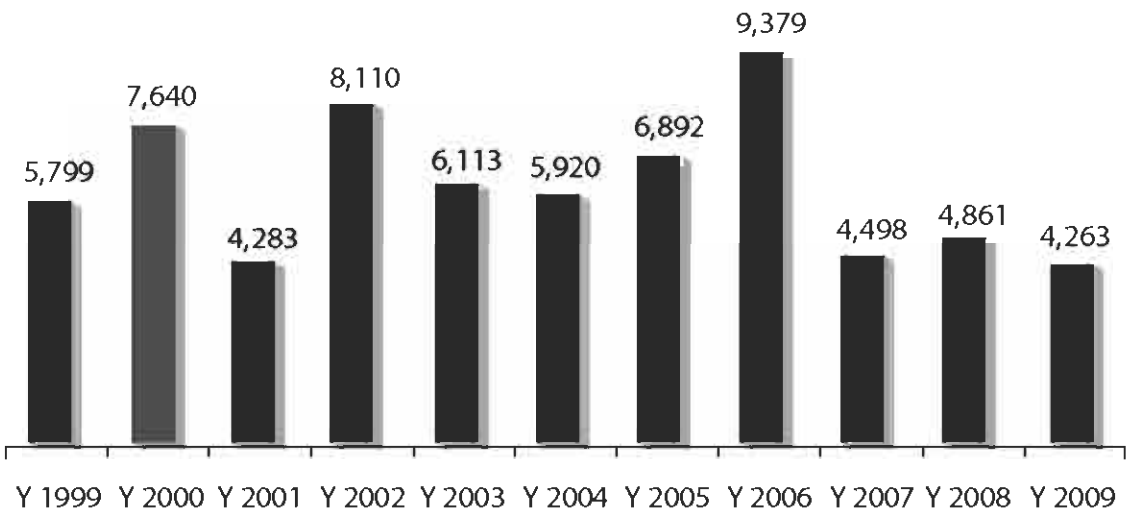


Figure-9.4. Year-wise reported number of kala azar deaths (n=225)

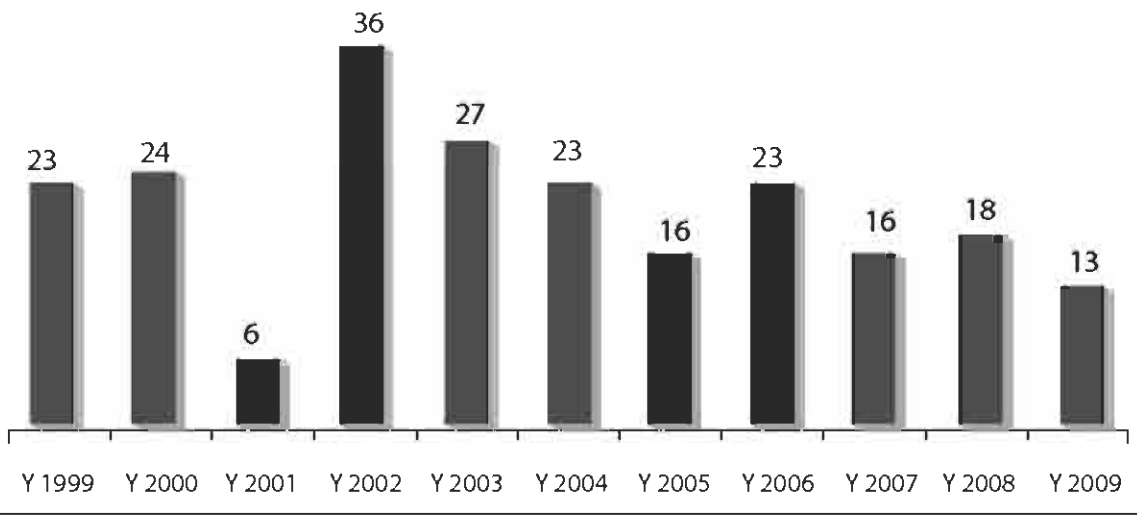


Table-9.3 shows that only eight upazilas of the country, seven under Dhaka division and one under Rajshahi division are hyper-endemic (>2.5 cases per 10,000 population) with respect to Kala azar. Of the seven upazilas under Dhaka division, five are under Mymensingh district, one is under Gazipur district and one is under Jamalpur district. The only upazila under Rajshahi division is under Rajshahi district.

Table-9.3. Hyper-endemic areas of Kala azar (≥2.5cases/10,000 population) (Year 2009)

Division	Dhaka							Rajshahi
District	Mymensingh					Gazipur	Jamalpur	Rajshahi
Upazila	Trishal	Fulbaria	Gafargaon	Valuka	Muktagacha	Gazipur Sadar	Madarganj	Godagari
Prevalence /10,000 population	27.8	15.5	7.0	7.3	7.1	6.3	3.3	2.9

Dengue

The reported Dengue cases and Dengue deaths from year 2003 to 2009 are shown in Table-9.4. The medical communities of Bangladesh were fairly unfamiliar about the presence of Dengue in Bangladesh before 2000. The outbreak started in summar of 2000 and since then every year some cases are being reported (Table-9.4). However, case fatality rate has been decreased.

Table-9.4. Division-wise reported Dengue victims and deaths

Division	Year 2003		Year 2004		Year 2005		Year 2006		Year 2007		Year 2008		Year 2009	
	Case	Death	Case	Death	Case	Death	Case	Death	Case	Death	Case	Death	Case	Death
Barisal	0	0	8	0	0	0	1	0	0	0	0	0	0	0
Chittagong	21	1	9	0	2	0	0	0	0	0	0	0	0	0
Dhaka	450	9	3875	13	1033	4	2144	11	465	0	1151	0	472	0
Khulna	15	0	41	0	11	0	53	0	1	0	2	0	2	0
Rajshahi	0	0	1	0	2	0	2	0	0	0	0	0	0	0
Sylhet	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	486	10	3934	13	1048	4	2200	11	466	0	1153	0	474	0

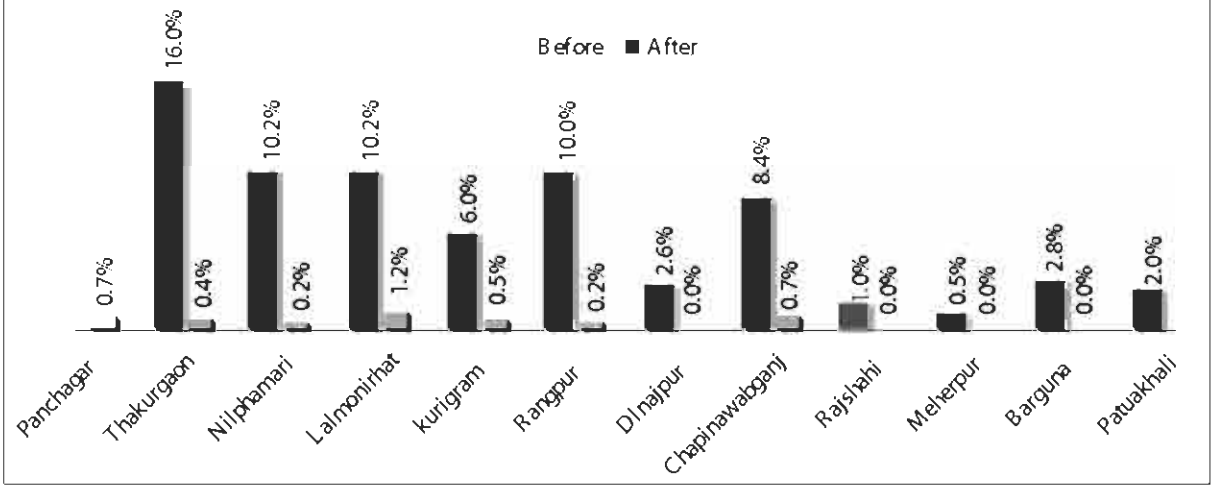
leptospirosis

Though leptospirosis was not recognized in Bangladesh, in 2001 it was detected among 18% of the dengue suspected patients. [Morshed MG et al. 1994; E&I. 112(3), LaRocque RC et al. EID: Volume 11, Number 5, May 2005].

Filariasis

Filariasis is a mosquito borne parasitic disease causing swelling of the limbs, urogenital organs, breasts, etc. with long term disability. In Bangladesh, the disease is prevalent all over the country with the highest endemicity in northern part of the country. The exact figures of filariasis in Bangladesh are not known. It is reported that the disease is endemic in 34 out of 64 districts of the country. There is high endemicity filariasis districts are Nilphamari, Thakurgaon, Dinajpur, Rangpur, Panchagar, Kurigram, Gaibandha, Chapai Nowabgonj, Rajshahi and Lalmonirhat. It is estimated that about 70 million are at risk of infection , while 10 million people are with various forms of clinical deformity and another 10 million people are microfilaremics.

Figure-9.5. Prevalence of microfilaria before and after mass drug administration in some districts of Bangladesh (Year 2008-2009)



Diarrhea

Diarrhea is a highly prevalent communicable disease in Bangladesh. Table-9.5 shows the year-wise reported numbers of diarrhea cases and deaths from different divisions of Bangladesh.

Table-9.5. Year-wise reported diarrhea cases and deaths by Division

Division	Year 2003		Year 2004		Year 2005		Year 2006		Year 2007		Year 2008		Year 2009	
	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death
Barisal	14412	11	17986	19	15078	12	29072	5	31695	5	42584	12	47118	6
Chittagong	379276	265	432829	277	405446	162	363710	84	446965	148	410195	123	366092	79
Dhaka	610181	221	606782	172	606302	165	654172	46	710972	180	808390	160	1064279	214
Khulna	455683	82	401339	98	428502	81	413268	32	445631	37	476231	26	585667	27
Rajshahi	528211	285	474848	382	441132	247	349203	49	661969	88	372203	38	355095	26
Sylhet	209156	168	198650	119	144467	27	152425	23	178094	79	185376	34	2618598	360
Total	2196919	1032	2132434	1067	2040927	694	1961850	239	2335326	537	2294979	393	5036849	712

Source: Director, Disease Control, DGHS, Mohakhali, Dhaka

Table-9.6 shows the year-wise case fatality rates calculated based on the reported numbers of cases and deaths from different divisions of Bangladesh.

Table-9.6. Year-wise diarrhea case fatality rate by Division

Division	Y 2001	Y 2002	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Barisal	0.13	0.10	0.08	0.11	0.08	0.02	0.02	0.03	0.01
Chittagong	0.05	0.06	0.07	0.06	0.04	0.02	0.03	0.03	0.02
Dhaka	0.02	0.02	0.04	0.03	0.03	0.01	0.02	0.02	0.02
Khulna	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.005
Rajshahi	0.02	0.02	0.05	0.08	0.06	0.01	0.02	0.01	0.01
Sylhet	0.05	0.04	0.08	0.06	0.02	0.02	0.04	0.02	0.01
Average	0.03	0.03	0.05	0.05	0.03	0.01	0.02	0.02	0.01

Source: Director, Disease Control, DGHS, Mohakhali, Dhaka

The Dhaka hospital of the International Center for Diarrheal Disease Research, Bangladesh (ICDDR,B) provides service to large number of diarrhea patients each year. The center has a diarrhea surveillance system which draws 2% systematic random sample of all patients regardless of their severity of illness. The demographic, aetiologic, clinical and therapeutic aspects of these patients are studied in detail. In 2009, stool samples were drawn from 2,697 patients of which 1,545 (57.3%) were males and 1,152 (42.7%), were females. According to age group, 1,228 (45.5%) patients belonged to <5 years and 1469 (54.5%) to 5+ years. Within the <5 year group, 745 (60.7%) were boys and 483 (39.3%) were girls. Within the 5+ years group, 800 (54.4%) were males and 669 (45.5%) were females. Out of the 2,697 stool samples 1,053 (39.0%) had no pathogen, 1,250 (46.3%) had single pathogen and 394 (14.6%) had mixed pathogens (Table-9.7)

Table-9.7. Distribution of the diarrhea stool samples from ICDDR,B Dhaka hospital (Year 2009) by presence or absence of pathogen

Presence of pathogen	All ages		<5 year		5+ year	
	No	%	No.	%	No.	%
No pathogen	1,053	39.0	417	34.0	636	43.3
Single pathogen	1,250	46.3	644	52.4	606	41.3
Mixed pathogen	394	14.6	167	13.6	227	15.5
Total	2,697	99.9	1,228	100.0	1,469	100.1
Source: ICDDR,B Dhaka hospital 2009						

Table-9.8 shows the distribution of the samples by presence of type of pathogens.

Table-9.8. Distribution of the diarrhea stool samples from ICDDR,B Dhaka hospital (Year 2009) by type of pathogen

Causative organism	All ages (n=2,697)		<5 year (n=1,228)		5+ year (n=1,469)	
	No.	%	No.	%	No.	%
Vibrio cholera 01	600	22.2	125	10.2	475	32.3
Shigella	82	3.0	42	3.4	40	2.7
Salmonella	39	1.4	8	0.7	31	2.1
Campylobacter	230	8.5	107	8.7	123	8.4
ETEC	276	10.2	110	9.0	166	11.3
Rota virus	627	23.2	538	43.8	89	6.1
E. histolytica	25	0.9	1	0.1	24	1.6
Giardia lamblia	46	1.7	14	1.1	32	2.2
No pathogen	1,053	39.0	417	34.0	636	43.3
Source: ICDDR,B Dhaka hospital 2009						

HIV/AIDS

The first case of HIV/AIDS in Bangladesh was detected in 1989. Since then 1,745 HIV+ve cases have been identified as of December 2009, among whom, 619 developed AIDS (Figure-9.6). Out of the total AIDS cases, 204 deaths have been reported (as of December 2008). Although HIV prevalence among the general population as well as among the most at risk population remains at a very low level (<0.01% and <1.0% respectively), the UNAIDS/WHO (2008) estimates that there can be about 12,000 (ranging between 7,700 and

19,000) persons living with HIV as of year 2007. The worrying fact about Bangladesh is that the prevalence of HIV is much higher among the injecting drug users (IDUs), which is over 10% in some part of Dhaka city. MIS-health has information on sex distribution of AIDS cases detected from 1989 to 2000. During this period, a total 157 AIDS cases were identified. Among them, 127 (80.9%) were males and 30 (19.1%) were females.

Figure-9.6. Cummulative number of HIV+cases, AIDS cases and AIDS deaths form 2003 to 2009

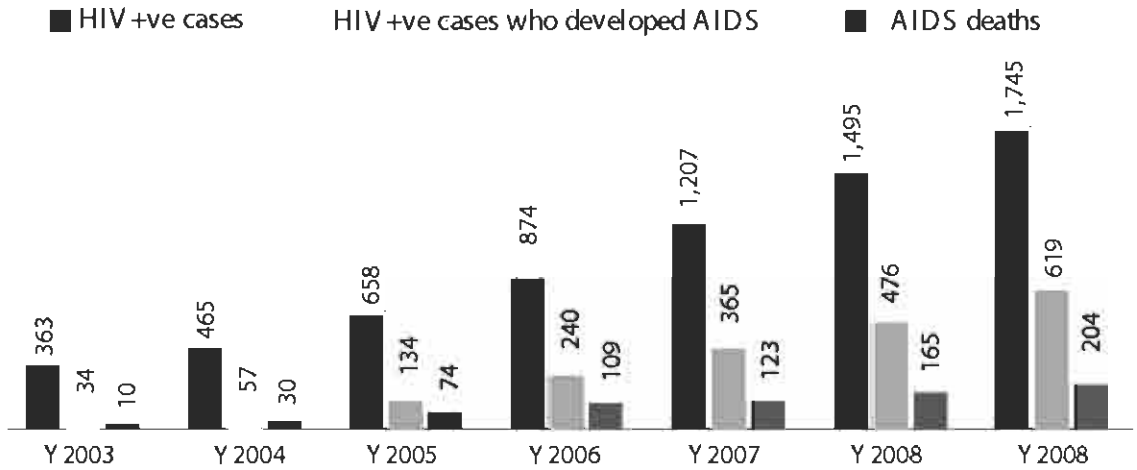
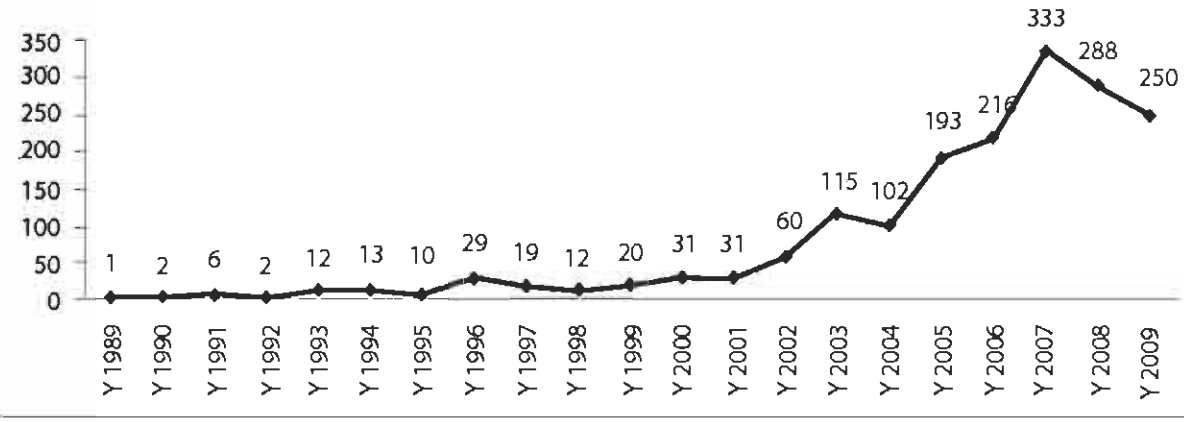
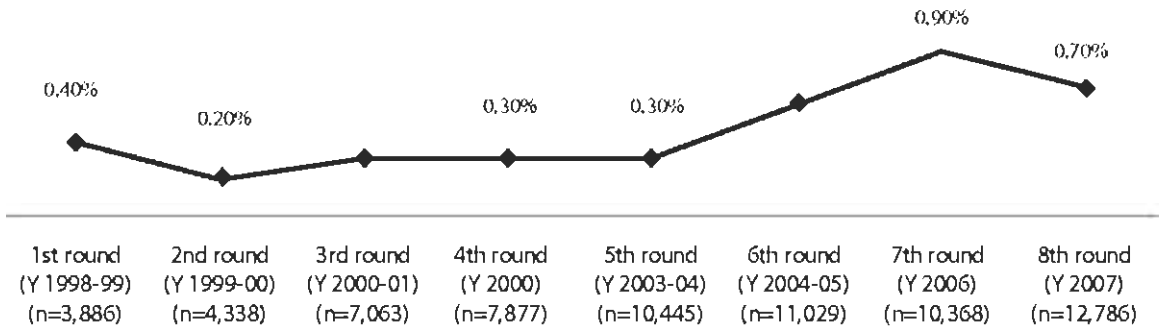


Figure-9.7. Year-wise number of new AIDS cases in Bangladesh (Total=1,745)



The National AIDS/STD Program introduced a surveillance system from 1998-1999 based on facilities of HIV-AIDS and STD service providers. The most at risk population (MARP) which includes female and male sex workers FSW and MSW), men who have sex with men (MSM), transgendered individuals (Hijras), injecting drugs users, etc. and other bridging population of risk behaviors are covered through the surveillance. Figure-9.8 summarizes the HIV prevalence rates as found in different HIV sero-surveillance.

Figure-9.8. HIV+ve prevalence rate in Bangladesh as found during different HIV sero-surveillance carried out mostly among the at risk population

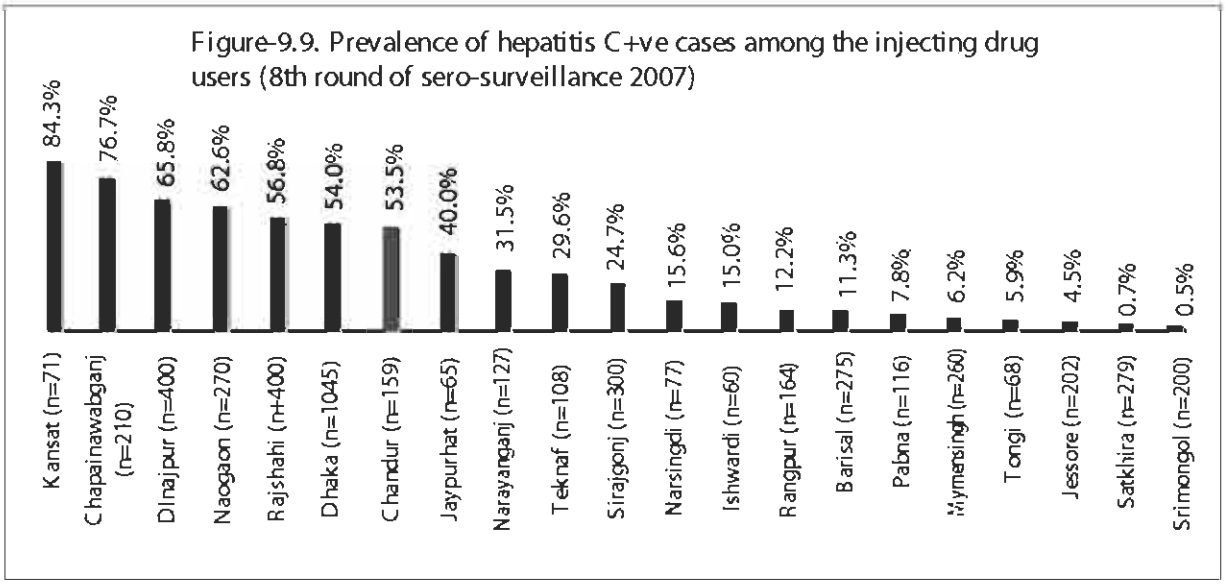


In the 8th round of HIV sero-surveillance, 6,508 drugs users were included from 26 cities of Bangladesh. HIV+ve cases were detected only in drugs users of five cities, viz. Dhaka, Narayanganj, Chandpur, Ishawrdi, Teknaf. Four cities among these five other than Dhaka showed the prevalence of HIV+ve cases among the drugs users between 0.0% and 1.7%. In Dhaka city, there was a prevalence of 7.0% HIV+ve cases among the injecting drug users. Among the heroin smokers of Dhaka city this prevalence was 0.2%. Table-9.9 shows the round-wise prevalence of HIV+ve cases among the injecting drug users of Dhaka city.

Table-9.9. Prevalence of HIV+ve cases among the injecting drug users of Dhaka (this area shows the highest prevalence among this risk group in the country)

2nd round (Y 1999-00)	3rd round (Y 2000-01)	4th round (Y 2000)	5th round (Y 2003-04)	6th round (Y 2004-05)	7th round (Y 2006)	8th round (Y 2007)
1.4%	1.7%	4.0%	4.0%	4.9%	7.0%	7.0%

A numbur of studies (Mathers, et al 2008, National AIDS Committee 2006, Hoque and Kelly 2008) has estimated that there can be between 20,000 and 40,000 injecting drug users in Bangladesh with the largest concentration in Dhaka city (~7,400). The injecting drugs also carry the Hepatitis C virus. Figure-9.9 shows the prevalence of Hepatitis C-positive cases among the injecting drugs users in different cities and towns of Bangladesh as found in 8th round of the HIV sero-surveillance (2007).



Female sex workers are the potential sources of HIV infections. Data show that there is a declining trend in brothel based sex trade. It is known that in 1998-99, there were 18 brothels which were reduced to 14 by 2007. Figure-9.10 shows the number of brothel based sex workers recorded under HIV sero-surveillance during different rounds.

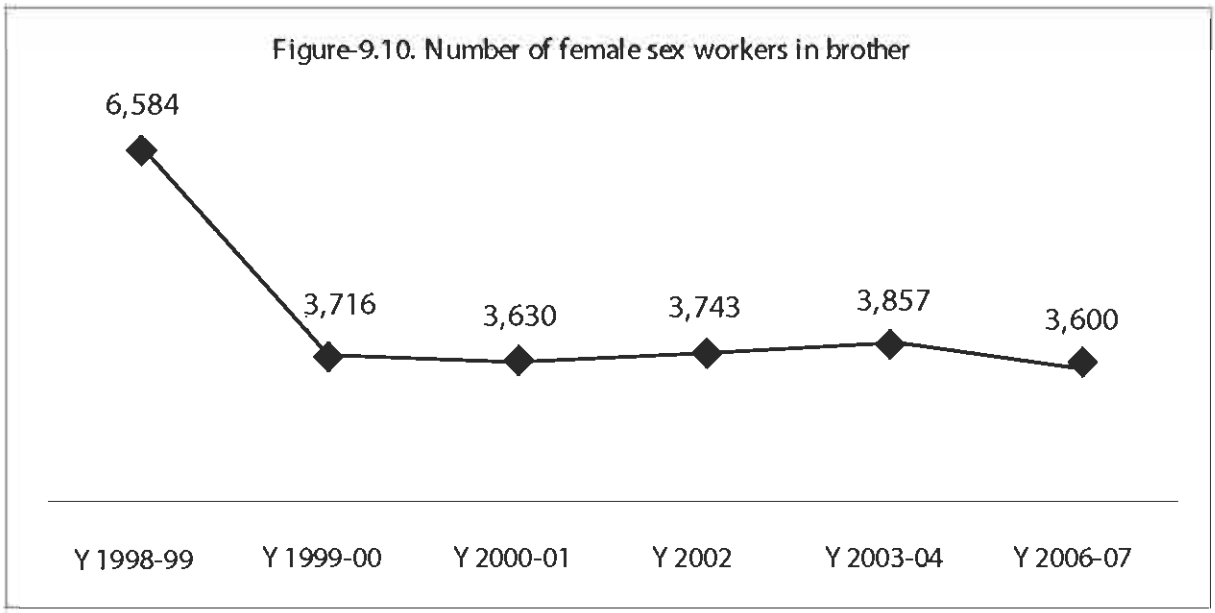


Table-9.10 shows the HIV prevalence among the female sex workers (FSW) as found during the 2007 HIV sero-surveillance. The behavior component of HIV surveillance (2007) shows percentage of female sex workers who complained of sexually transmitted infections (STI) during the last year of the survey. The results are shown in Table-9.11.

Table-9.10. HIV prevalence among the female sex workers in 2007 HIV sero-surveillance

Type of sex workers	Dhaka	Chittagong	Khulna	Rangpur	Sylhet	Hill	Barisal	Narayanganj	Tangail	Jessore
Stree	0.2%	0.0%	0.4%	0.4%	-	-	-	-	-	-
Hotel	0.0%	0.0%	-	-	0.6%	-	-	-	-	-
Casua	-	-	-	-	-	2.7%	0.3%	-	-	-
Residence +Hotel	-	-	-	-	-	-	-	0.4%	0.0	0.5%

Table-9.11. Percentage of female sex workers complaining sexually transmitted infection during last year (2007 HIV behavior surveillance

Type of sex workers	Year	National	Dhaka	Chittagong	Khulna	Sylhet
Brothel	2002	69.6%				
	2003-04	54.3%				
	2006-07	63.1%				
Street	2002		85.6%	79.6%	89.4%	
	2003-04		76.2%	84.3%	67.2%	
	2006-07		43.7%	19.4%		
Hotel	2002		84.3%			
	2003-04		85.8%	86.5%		
	2006-07		78.5%	80.6%		68.2%

Youth friendly health services

"Prevention of HIV/AIDS among Young High-Risk Population and Vulnerable Young People in Bangladesh" is a collaborative project between National AIDS/STD Programme (NASP), Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MOHFW) and Save the Children-USA. The project was started in 2004. Currently, there are thirteen packages under this project. "Provision of HIV/AIDS Orientation, Training and Services to Young People through Scale-Up Youth Friendly Health Services (YFHS) and Life Skill Education (LSE) including Support to Access to Condom (ACY) (Package 902)" is one of them being implemented all over Bangladesh by HASAB Consortium. The HASAB consortium consists of 4 partners, namely, HASAB, Ad-din, Young Power in Social Action (YPSA) and Association for Community Development (ACD). Youth Friendly Health Services (YFHS) is one of the major components of the package. Other components are Life Skill Education (LSE) and Accessing Condom for Young (ACY). HASAB is the lead organization and is also responsible for implementing the program in Dhaka and Sylhet division. Ad-din Welfare Center is the lead for YFHS planning, management, monitoring, quality assurance and reporting and for implementing program in Khulna and Barisal division. ACD is responsible for implementing the program in Rajshahi Division, and

YPSA in Chittagong division. Youth Friendly Health Services intends to resolve the health related issues (physical, mental, psycho-social and sexual) encountered by the 15-24 year old population of Bangladesh, in a friendly manner, through the existing government, NGO and private Health Service Delivery Points (HSDPs). Since 2004, YFHS is being implemented in selected 224 HSDPs of 41 districts. For mainstreaming and institutionalization of this service, a separate age-segregated line has been introduced in the relevant MIS forms of DGHS. MIS officials from the government and private facilities have received orientation on the required record keeping and reporting procedures. Complete reports kept coming from October 2008. The number of 15-24 year old patients receiving services from HSDPs under YFHS from January 2009 to December 2009 is presented in Table-9.12.

Table-9.12. Number of youth patients (age 15 to 24 years) receiving service from Health Service Delivery Points (HSDPs) (total 224 centers) under under Youth Friendly Health Services (YFHS) in 2009

Month	Male	Female	Total
January	42,934	64,032	106,966
February	33,164	52,926	86,090
March	40,236	64,501	104,737
April	45,430	70,190	115,620
May	53,733	66,809	120,542
June	65,275	85,187	150,462
July	70,125	93,545	163,670
August	71,815	95,777	167,592
September	70,066	91,002	161,068
October	71,017	93,665	164,682
November	52,455	81,193	133,648
December	41,142	52,797	93,939
Total	657392	911624	1569016

Nipah virus infection

Nipah virus infection has becoming endemic in Bangladesh as cases are continued to be detected since 2001. Figure-9.11 shows year-wise distribution of number of cases and deaths. This disease is a highly fatal one and average case fatality rate was found to be 73.6% (Figure-9.12). Figure-9.12 also shows the year-wise case fatality rates of Nipah virus infections.

Figure-9.11. Year-wise number of cases and deaths due to Nipah virus infections

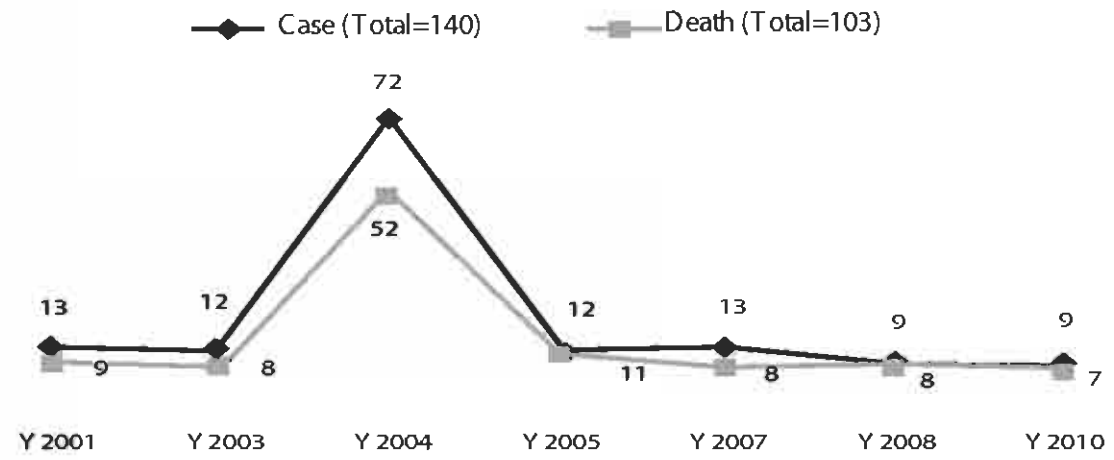
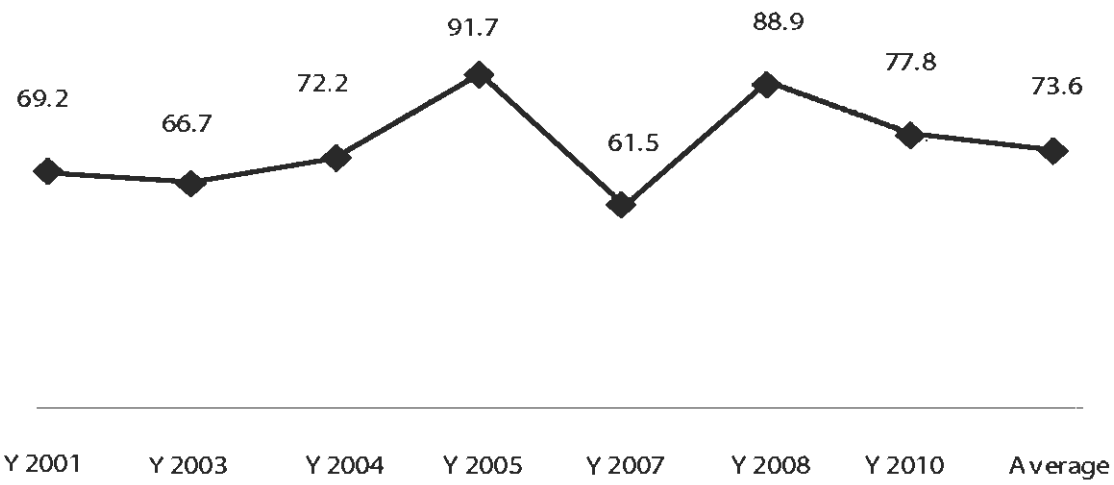


Figure-9.12. Year-wise case fatality rates (%) of Nipah virus infections



Human anthrax

Human anthrax was not reported earlier in the country except report of 19 cases of cutaneous anthrax in a study among 624 tannery workers of Dhaka city in 1997 (Report: IEDCR). In 2009, three outbreaks of human anthrax were reported from northern part of Bangladesh with 55 infections [Ahmed B et al. JOPSOM 2001; 20(2): 45-50].

Influenza Pandemic 2009

The world experienced the first Influenza pandemic of the 21st century caused by Influenza A (H1N1) 2009. The novel virus started to infect human in Mexico and the USA from April 2009. It started to rapidly spread to countries across the world and eventually WHO declared pandemic on June 11, 2009. In Bangladesh, the first case was detected on June 18, 2009. There were hundreds (819) of laboratory confirmed cases and thousands of probable cases with 6 deaths (Update as of January 03, 2010). The disease started to enter into the country through travellers coming from affected countries. At the earlier stage, the disease was concentrated in the capital and then started to spread to different parts of the country. The country took steps on containment measures initially and then gradually shifted to mitigation measures keeping containment measures in operation. The number of cases started to decline in last part of the previous year and presently almost no case is being reported. Bangladesh started to take preparation following outbreaks of avian influenza in Korea and Vietnam during 2003-04. Though the activities were aimed towards avian influenza initially but subsequently those were applied for pandemic influenza. Bangladesh started containment measures early following spreading of the disease from Mexico, the USA and Canada through initiation of screening at the international airport in Dhaka and other points of entry.

Tuberculosis

Tuberculosis (TB) has been a major public health problem and one of the leading causes of adult mortality in Bangladesh. World Health Organization ranks Bangladesh 6th among the world's 22 high-burden TB countries. Translating the estimates of 2007 by WHO on estimated population of 2009 it is found that every year about 66,437 people die due to tuberculosis in Bangladesh. National Tuberculosis Control Program (NTP) under Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MoHFW) performs tuberculosis control activities and provides service through 800 DOTS centers, 1000 microscopy centers and 35 external quality assurance centers all over the country.

The World Health Organization estimated that in 2007 there were approximately 387 TB cases per 100,000 populations of which 223 per 100,000 population new cases were occurring each year in Bangladesh. Of these, approximately 100 per 100,000 were infectious cases, i.e., they were able to transmit TB in the community. It is further estimated that about 45 persons per 100,000 people die of TB every year. Although the HIV prevalence is still low, HIV poses a threat to TB control. The HIV prevalence in adult TB patients was about 0.1% as revealed in three limited surveys conducted in 1999, 2001 and 2006-07. The multi-drug resistant tuberculosis (MDR-TB) rate among the new cases of TB was estimated to be 3.5%. This rate among the re-treatment cases was estimated at 20%.

Table-9.13 summarizes the tuberculosis situation in Bangladesh. Table-9.14 shows the year-wise tuberculosis case finding situation.

Table-9.13. Tuberculosis situation in Bangladesh

Country ranking among the 22 high burden countries	6th
Estimated incidence of all forms of TB per 100,000 population per year)	223
New smear-positive cases per 100,000 population per year)	100
Estimated mortality from all forms of TB per 100,000 population per year)	45
Estimated prevalence of all forms of TB cases per 100,000 population	387
Proportion of MDR-TB among new cases	3.5%
Proportion of MDR-TB among re-treatment cases	20%
DOTS population coverage	100%
Case detection rate- New smear-positive cases	74 %
Treatment success rate for new smear-positive cases	92 %

Source: Bangladesh Bureau of Statistics and Global Tuberculosis Control WHO Report 2009

Table-9.14. Year-wise tuberculosis case finding

Year	Area	Smear+ve	Smear-ive	Extra-pulmonary		Total
		New	Relapse	New	New	
2006	Rural/Upazila	89704	2645	16717	9707	118773
	Urban/Metro	9255	1279	5409	3499	19442
	CDC	2806	287	2375	1155	6623
	Total	101765	4211	24501	14361	144838
2007	Rural/Upazila	91606	2517	15852	10861	120836
	Urban/Metro	10264	1049	5449	4164	20926
	CDC	2437	222	1934	1093	5686
	Total	104307	3788	23235	16118	147448
2008	Rural/Upazila	93659	2753	15069	12825	124306
	Urban/Metro	10289	1165	5660	4486	21600
	CDC	2425	20	1463	1048	5156
	Total	106373	4138	22192	18359	151062
2009	Rural/Upazila	96,333	2,692	17,759	15,768	132,552
	Metro	10,390	1,136	5,829	4,872	22,227
	CDC	2,171	150	1,548	1,225	5,094
	Total	108,894	3,978	25,136	21,865	159,873

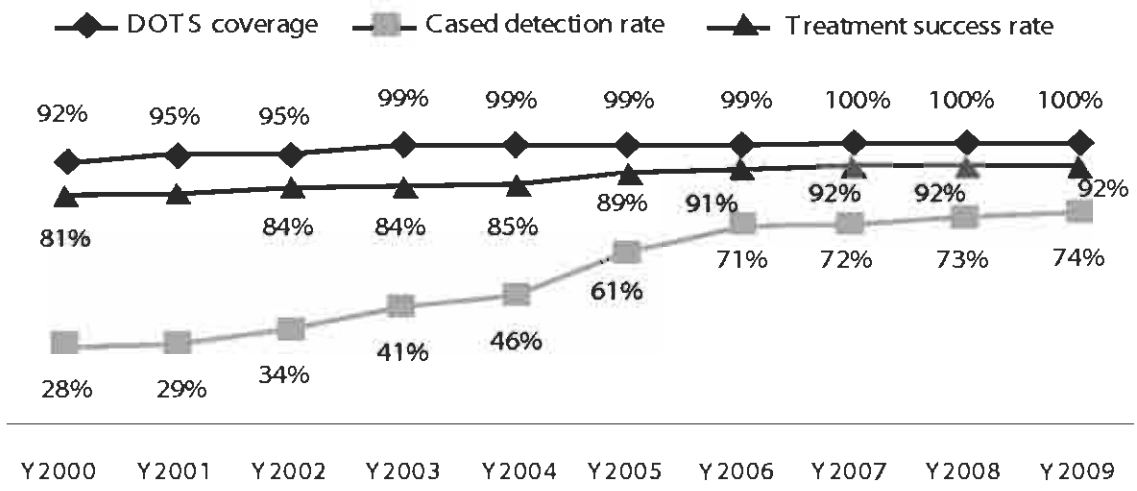
Table-9.15 shows the estimated number of new smear+ve cases, detected number of new smear+positive cases and estimated incidence of new smear+ve cases per 100,000 populations in Bangladesh.

Table-9.15. Estimated number of new smear+ve TB cases, detected number of new smear+ve TB cases, TB case detection rate and estimated incidence of new smear+ve TB cases per 100,000 population

Year	Estimated number of new smear+ve TB cases	Detected number of new smear +ve TB cases	Estimated incidence of new smear+ve cases per 100,000 population
2006	143,514	101,765	102
2007	144,390	104,307	101
2008	145,280	106,373	100
2009	147,640	108,894	100

To quickly understand the progress of Bangladesh on DOTS coverage, tuberculosis case detection rate and tuberculosis treatment success rate, Figure-9.13 can be seen. The progress is quite impressive as global achievement for case detection and treatment success is 62% and 86% respectively (as of 2007).

Figure-9.13. Tuberculosis DOTS coverage, case detection rate and Treatment success rate by year



Multi Drug Resistant Tuberculosis (MDR-TB) in Bangladesh

The emergence of resistance to anti-TB drugs, particularly the Multi-Drug-Resistant Tuberculosis (MDR-TB) has become a significant public health threat globally against effective TB control. WHO reported that there is a half million of new MDR-TB cases emerging throughout the world in 2008 among which approximately 2/3rd of the cases exists in the South East Asia Region. As it is primarily a man-made phenomenon, the threat can be halted through efficient implementation of STOP TB STRATEGY by the National TB Control Programs throughout the world. There are no nationally representative data on drug resistance available in Bangladesh. According to WHO Report 2009 on Global Tuberculosis Control, there were 14,506 number of estimated MDR-TB cases in Bangladesh in 2007 among which 7,694 were smear positive. Recognizing this burden of MDR-TB, Bangladesh Government

adopted 5 year DOTS-Plus Pilot project approved by the Green Light Committee (GLC) in 2006 for implementation of programmatic Management of MDR-TB cases. Patient enrolment started since August 2008 and total 286 cases have been registered and are being managed by external quality assured Second Line Drugs (SLD) till end of 2009. To coordinate the overall MDR-TB control activities, the National TB Control Program of Bangladesh formed a DOTS-Plus Coordination Committee. A National Guideline has also been developed to manage all registered patients under DOTS-Plus Project through approved standardized regimen. On the other hand, to diagnose and follow-up of cases a National TB Reference Laboratory has been established and functionalized in the National Institute of Diseases of Chest and Hospital (NIDCH). Based on this set up, NTP is going to launch Drug Resistant Survey (DRS) in 2010 to estimate the current resistant burden.

Public Private Mix (PPM) for TB Control in Bangladesh

Public-Private Mix is a strategy, which aims to link the resources of public and private health care providers to achieve national TB control targets. The PPM approaches for TB control in Bangladesh are Public with Private (for example: NTP collaborating with NGOs and private sector), Public with Public (for example: NTP collaborating with Defense, Police Health Services, etc.) and Private with Private health care providers (for example: NGOs working with Private Practitioners). Private providers of TB services have important and strategic roles in reaching groups of the population, particularly those who bypass the public health care delivery system. Private practitioners both graduates and non graduates, pharmacists, NGOs and private health facilities and other non-NTP public health institutions are widely accessible to patients and are often perceived to provide better quality services. Patients trust private doctors and usually come to them for initial consultation. Consequently, private doctors and pharmacies are best posed to initiate first-level screening for effective case detection, an essential element in TB control. From 2002, NTP expanded its collaboration with other public and private health care providers. The DOTS strategy was rolled out to all metropolitan cities in collaboration with different NGOs. Administrative DOTS coverage is considered universal in the country. NTP has already developed effective collaboration with city corporation health authorities and started of mobilize the staffs of the city corporation in six metropolitan areas in TB control program. NTP has signed memorandum of understanding with the largest association Bangladesh Garments Manufacturing and Exporters Association (BGMEA) and started TB control program in garments industries throughout Bangladesh. At present, NTP established DOT centers in other public and private health facilities such as all Public Medical College Hospitals, 12 Private Medical College Hospitals, All Sadar (District) Hospitals, all Chest Disease Hospitals, two Specialized Institutes/University Hospitals, two NGO Hospitals, two City Corporation Hospitals, Armed Forces Hospital, BDR Hospital and Prison Hospitals.

Advocacy Communication and Social Mobilization (ACSM)

As an important component of stop TB strategy, NTP has developed a national strategic plan for advocacy communication and social mobilization (ACSM) in collaboration with partners to conduct ACSM activities countrywide. It includes distribution of leaflets, pamphlets, flipcharts and flash cards to the community, display of billboards, and cinema slides, airing of TV and Radio spots, etc. In addition a significant number of street drama, talk show and concert has been arranged to raise public awareness and sensitize the people against

Table-9.16 shows the profile of the newly detected leprosy cases in each division of Bangladesh in 2008 and 2009.

Table-9.16. Detected new cases of Leprosy (in 2008 and as of September 2009)

Division	Year	Population (N)	MB (N)	PB (N)	Total (N)	Prevalence/10,000 populations
Barisal	2008	9,087,073	13	-	13	0.01
	2009*	9,170,109	15	1	16	0.01
Chittagong	2008	28,424,321	378	197	575	0.2
	2009*	28,901,453	260	208	468	0.2
Dhaka	2008	46,919,988	522	525	1,047	0.22
	2009*	47,845,021	477	693	1,170	0.26
Khulna	2008	16,920,166	83	15	98	0.06
	2009*	17,163,458	39	14	53	0.04
Rajshahi	2008	34,720,511	978	820	1,798	0.52
	2009*	35,208,052	747	1,176	1,923	0.56
Sylhet	2008	9,207,106	294	103	397	0.43
	2009*	9,350,784	179	125	304	0.5
Total	2008	145,279,165	2,268	1,660	3,928	0.27
	2009*	147,638,877	1,717	2,217	3,934	0.29

*January to September 2009

Table-9.17 shows the status of completed MDT treatment in 2008 and 2009 as of September.

Table-9.17. Completed MDT (in 2008 and 2009)

Division	MB (>5 lesions)		PB (2 to 5 lesions)		Single lesion		Total	
	Y 2008	Y 2009*	Y 2008	Y 2009*	Y 2008	Y 2009*	Y 2008	Y 2009*
Dhaka	736	450	845	606	3	5	1,584	1,061
Barisal	15	8	-	-	-	-	15	8
Chittagong	377	282	380	223	-	1	757	506
Sylhet	209	130	129	73	-	-	338	203
Khulna	86	50	21	14	-	-	107	64
Rajshahi	889	722	1,333	966	133	63	2,355	1,751
Total	2,312	1,642	2,708	1,882	136	69	5,156	3,593
%	44.8	45.7	52.5	52.4	2.6	1.9	100.0	100.0

*January to September 2009

Figure-9.15. Cummulative namber of new leprosy cases detected and cummulative completed MDT (cured)

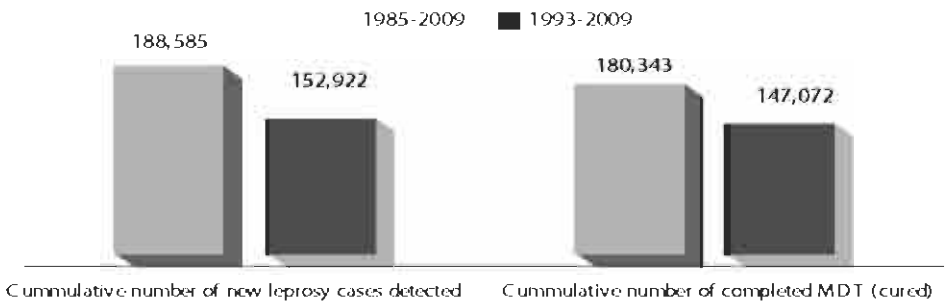


Figure-9.15 shows the cummulative number of new leprosy cases detected and cummulative number of completed multi-drug treatment (MDT) given to the leprosy patients between two time periods (1985-2009 and 1993-2009).

Emergency Preparedness and Response (EPR)

"The Emergency Preparedness and Response (EPR) Program" works under the Director, Communicable Disease Control of the DGHS. Emergency Humanitarian Action (EHA) program of WHO stands beside to support all these activities of the program. The BAN-EHA of the WHO provides technical and logistic support to this program. The program components are strengthening disease surveillance, supplying emergency drugs for replenishing buffer stock, medical supplies, lab reagents and other supplies for proper investigation and better case management. Preparedness and response activities on disaster management are strengthened through regular capacity building, trainings and simulation exercises, thereby averting deaths and disabilities in a large scale across the country. EPR maintains good coordination prevailing among the Directorate General of Health Services (DGHS), Disaster Management Bureau (DMB), Armed Forces, UN agencies, development partners and selected NGOs to response during and following emergencies. EPR holds training program of the health personnel and staffs to build and/or improve capacity of emergency management. Table-10.1 shows the training program held in 2009.

Table-10.1. Training program on emergency preparedness held in 2009

Activity	Source	No. of batches trained	No. of persons trained
TOT on Emergency Preparedness	HPNSP/WHO	6	175
Vulnerability & Capacity Assessment	HPNSP/WHO	164	4886
Preparedness & Response in Emergency	HNPSP/WHO	167	4842
Emergency Health Care in EPR	EPR WHO	14	422
Emergency Health Info. System Mgt.	WHO	21	415
Mass Casualty Management	HNPSP/WHO	11	316
Psychosocial Support	WHO	8	210
Search, rescue, evacuation and first aid	WHO	4	120
Risk Communication	WHO	2	65
Multidisciplinary coordinated response	WHO	2	58
SEARO EHA Benchmarks	WHO	1	35
Disaster Preparedness & Response Management	WHO	13	400
Media personnel	WHO	2	70
Procurement of Emergency Medicine	HNPSP	Tk. 19,70,000	-
Procurement of Emergency Medicine	WHO USD	10,000	-

Response to cyclone Aila 2009

Cyclone Aila hit the southern coastal belt (Barisal and Khulna divisions) of Bangladesh on 25 May 2009. Some upazilas, viz., Ashasuni and Shaymnagar Upazila of Satkhira district, Koira and Dacope Upazila of Khulna district, Sarankhola and Morrelganj Upazila of Bagerhat district were badly affected. According to the Disaster Management Bureau (DMB), the number of families affected was 948,621 victimizing 3,928,238 people. The number of homes damaged was 613,778. Crops of 323,454 acres were also damaged. Official record stated 190 deaths and 7,103 injuries. The health related information of Cyclone Aila is summarized in Table-10.2. The EPR program conducted a rapid needs assessment during 29 May to 2 June 2009 with the technical support of the WHO. Based on

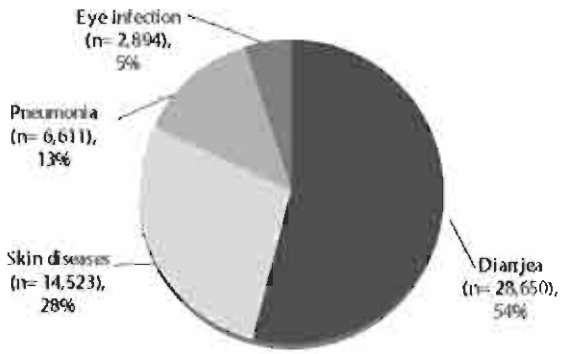
the findings, plans were made for proper intervention and support during immediate, midterm and recovery phases. The "WHO-BAN" led the UN DER (Disaster Emergency and Response) Health Cluster Group and organized meetings regularly in central level under the leadership of Ministry of Health and Family Welfare and the WHO, where the representatives from various UN organizations and NGOs participated for joint health action plans and implementation.

Table-10.2. Summary of health related information of Cyclone Aila 2009

Affected districts (N)	11
Affected upazilas (N)	64 (out of 78)
Shelters made (N)	202
Medical teams worked (N)	551
Patients managed (N)	52,678
Deaths recorded (N)	12 (diarrhea:3; snake bites: 3; drowning: 6)

Five hundred and fifty one medical teams were deployed in the 11 affected districts for management of health problems of the affected people. Figure-10.1 shows the distribution of patients who received medical advice from the medical teams between 4 and 23 June 2009 in the affected 11 Aila districts.

Figure-10.1. Disribution of patients (seen between 4 and 23 June 2009) by morbidity given medical service by the medical teams deployed in 11 districts for management of Post-Aila health problems (total patients = 52,678)



A total of 52,678 patients were seen by the medical teams. Over half of them were diarrhea (54%) followed by skin diseases (28%), pneumonia (13% and eye infections (5%). As seen from Table-10.2, there were 12 deaths due to diarrhea (3 deaths), snake bites (3 deaths) and drowning (6 deaths).

The EPR program had a sustainable buffer stock of emergency drugs, such as, antibiotics, intravenous fluids and sets, antipyretics and analgesics, topical ointments and drops, nebulizer, anti-snake venom injections, etc. These helpED to extend immediate response to the emergencies at the district and upazila levels.

Non-communicable Diseases (NCD)

The causes of mortality data available from the public hospitals of Bangladesh published in this Health Bulletin 2010 reveals that non-communicable diseases occupy a major share of the reasons leading to mortality. This indicates that many more people are living with non-communicable diseases. The middle age population group, i.e., the economically productive workforce bears the brunt of these diseases. Number of factors is responsible. To name a few, these include changing dietary habits, life style change, rapid infusion of urban culture, growth of commuting, tobacco use, uncontrolled growth of processed food and beverage industries, indoor air pollution, road traffic injuries, and widespread lack of awareness about healthy behavior patterns. This chapter of Health Bulletin 2010 summarizes data from several hospitals that deal with patients suffering from various kinds of non-communicable diseases.

National Institute of Cardiovascular Diseases (NICVD)

Table-11.1 shows that over the years beginning from year 2002 through year 2009, number of both admissions and outdoor visits have been increased in NICVD. The hospital efficiency in terms of average length of stay has been found to improve. However, the bed occupancy rate was at peak in year 2006. Thereafter a decreasing trend is seen in bed occupancy rate. The improvement of day care services may be one of the reasons for this decreasing trend in bed occupancy rate.

Table-11.1. Number of admissions, outdoor visits, average length of stay, and bed occupancy rate in NICVD (Year 2002-2009)

Year	Admission		Outdoor visits					Average length of stay (d)	Bed occupancy rate (%)
	Total	Daily average	Male	Female	Child	Total	Daily average		
2002	1708	47	52740	29532	4674	86944	238	6.91	129.63
2003	20083	55	54550	31939	5150	91639	251	7.07	157.76
2004	21522	59	56482	31250	4857	92589	253	6.90	164.03
2005	22419	62	59950	34608	5497	100055	274	6.46	160.39
2006	24376	67	61565	34861	6060	102486	281	6.47	175.80
2007	29147	80	76732	41792	7417	125941	345	5.48	174.80
2008	33946	93	91147	47889	8534	147570	403	5.21	147.70
2009	41554	114	99102	51539	9367	160008	438	5.16	141.83

Figure-11.1. Number ETT performed in NICVD (2001-2009)

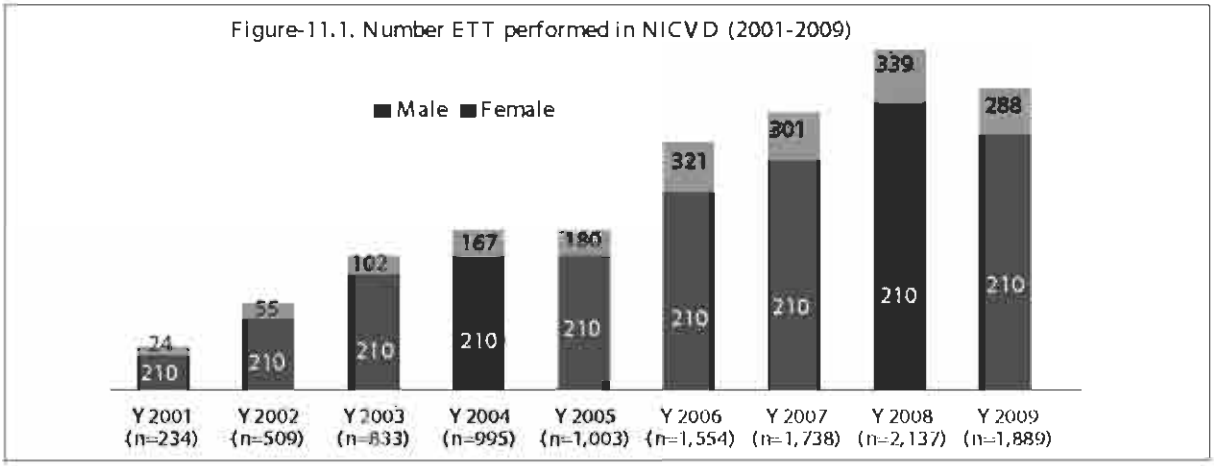


Figure-11.1 shows the number of ETT performed in NICVD from the year 2001 to 2009. The proportion of female patients appears much lower compared to the male patients.

Table-11.2 gives a summary of the number of cath lab procedures performed in NICVD from year 2001 to 2009.

Table-11.2. Number of cath lab procedures done in NICVD (Year 2001-2009)

Procedure		Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Total
CABG		2,827	3,210	2,780	3,105	3,266	3,980	4,437	23,605
Cath	Pediatric	144	55	62					261
	Adult	164	170	155					489
	Total	308	225	217	229	295	380	340	1,994
Angio-gram	Renal	13	69	6				1	89
	Peripheral	42	93	85	106	87	112	112	637
	Total	55	162	91	106	87	112	113	726
Angio-plasty	Renal							9	9
	Peripheral				7	43	23	3	76
	Total	-	-	-	7	43	23	12	85
Other Interven-tions	PCI	371	599	488	584	574	889	1,149	4,654
	PTMC	189	273	295	280	20	130	154	1,341
	TPM				675	850	741	950	3,216
	PPM				321	359	414	487	1,581
	EPS				161	204	113	177	655
	Device closure				1				1
	Other	12	13	11	4		18	40	98
	Total	572	885	794	2,026	2,007	2,305	2,957	11,546

Table-11.3 shows the number of heart and vascular surgeries performed in NICVD from the year 2001 and 2009.

Table-11.3. Heart and vascular surgeries performed in NICVD (Year 2001-2009)

Year	Open Heart Surgery					Closed Heart Surgery	Vascular Surgery	Total
	CABG	Valve	Congenital	Other	Total			
2001	60	134	133	3	330	157	293	780
2002	112	89	210	4	415	151	346	912
2003	170	142	162	22	496	140	222	858
2004	180	159	205	17	561	95	300	956
2005	267	102	237	20	626	93	296	1,015
2006	226	113	255	28	622	70	500	1,192
2007	188	165	256	46	655	58	568	1,281
2008	233	182	327	21	763	64	992	1,819
2009	215	264	364	11	854	70	1,220	2,144
Total	1,651	1,350	2,149	172	5,322	898	4,737	10,957

National Center for Control of Rheumatic Fever and Heart Diseases (NCCRFHD)

The National Center for Control of Rheumatic Fever and Heart Diseases (NCCRFHD) cares the patients suffering from rheumatic heart diseases. The center source informs that there were 41,361 outdoor attendances in 2009 of which 15,751 were new patients and 25,610 were old patients. Figure-11.2 shows the month-wise distribution of the patients.

Figure-11.2. Monthwise distribution of outdoor patients attnding NCCRHFD in 2009

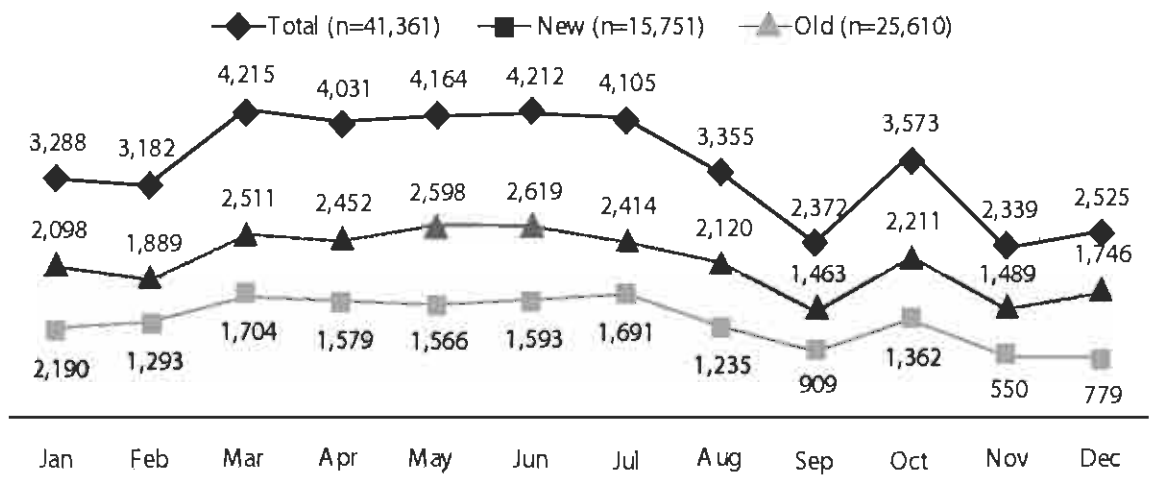
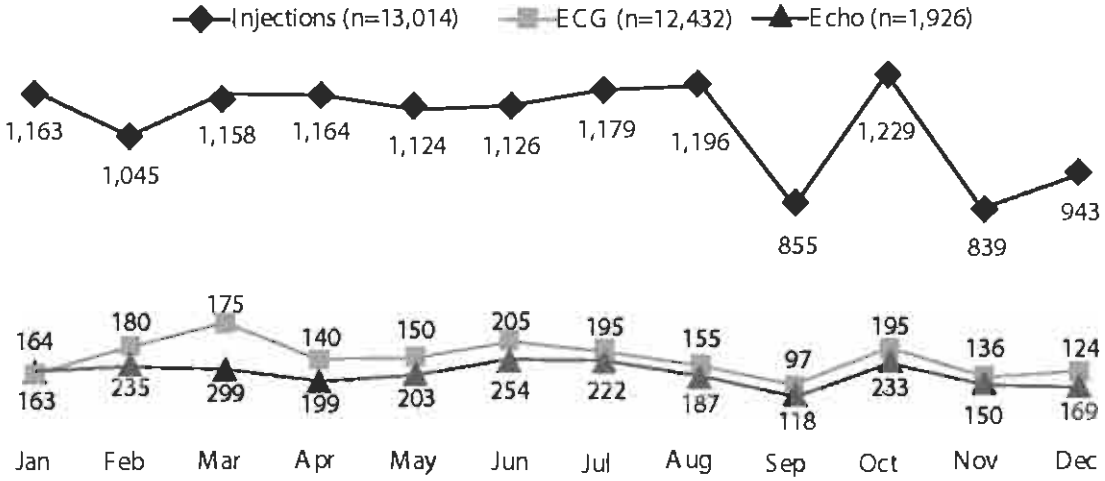


Table-11.4 shows the age and sex distribution of patients attending the outdoors of NCCRHFD in different months of 2009. Figure-11.3 shows the number of patients given prophylactic antibiotic injections and also number of ECGs and echocardiograms done in different months of 2009.

Table-11.4. Age and sex distribution of the patients attending the outdoors of NCCRHFD in different months of 2009

Month	1-4 year			5-14 year			15-49 year			50+ year			Grand Total		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Jan	7	29	36	415	551	966	735	1,419	2,154	68	64	132	1,225	2,063	3,288
Feb	44	37	81	334	582	916	675	1,266	1,941	115	129	244	1,168	2,014	3,182
Mar	40	76	116	423	716	1,139	973	1,722	2,695	134	131	265	1,570	2,645	4,215
Apr	69	32	101	453	624	1,077	862	1,692	2,554	169	130	299	1,553	2,478	4,031
May	21	49	70	515	852	1,367	859	1,714	2,573	101	53	154	1,496	2,668	4,164
Jun	6	18	34	593	825	1,418	892	1,820	2,712	27	21	48	1,528	2,684	4,212
Jul	39	47	86	552	632	1,184	895	1,730	2,625	110	100	210	1,596	2,509	4,105
Aug	4	14	18	440	615	1,055	902	1,243	2,145	78	59	137	1,424	1,931	3,355
Sep	3	-	3	273	407	680	557	948	1,505	76	108	184	909	1,463	2,372
Oct	19	45	64	531	618	1,149	603	1,618	2,221	53	86	139	1,206	2,367	3,573
Nov	24	19	43	128	400	528	700	1,006	1,706	7	55	62	859	1,480	2,339
Dec	-	-	-	299	371	670	640	1,085	1,725	4	126	130	943	1,582	2,525
Total	286	366	652	4,956	7,193	12,149	9,293	17,263	26,556	942	1,062	2,004	15,477	25,884	41,361

Figure-11.3. Number of patients given prophylaetic antiobiotic injections and number of ECGs and Echocardigrams done in NCCRHFD in different months of 2009



National Institute of Kidney Diseases and Urology (NIKDU)

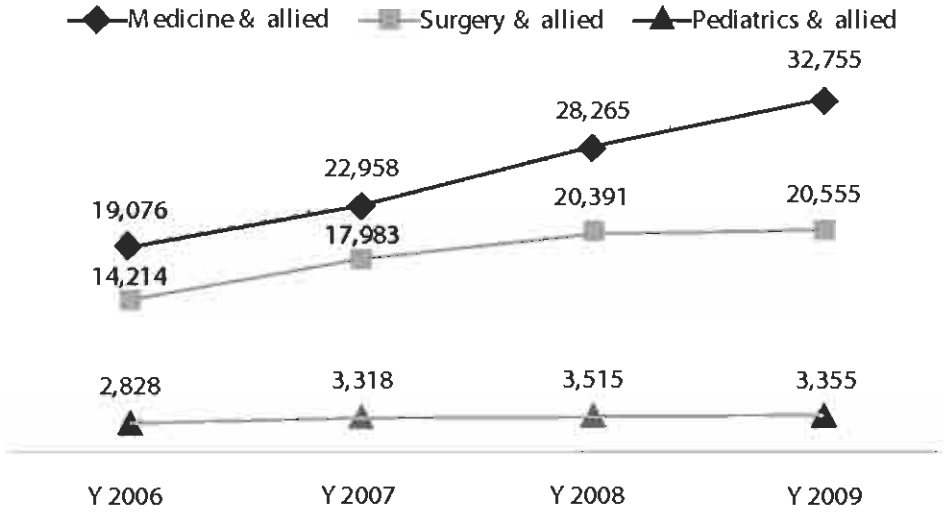
Table-11.5 shows the number of outdoor and indoor patients between 2006 and 2009 at the National Institute of Kidney Diseases and Urology.

Table-11.5. Number of OPD and Indoor patients in NIKDU (Year 2006-2009)

Patient	Y 2006			Y 2007			Y 2008			Y 2009			
Type	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Child	Total
OPD (new)	14,876	7,745	22,621	18,951	9,107	28,058	22,445	11,091	33,536	23,160	12,240	3,584	38,984
Old (old)	5,125	2,750	7,875	6,382	3,169	9,551	7,748	3,830	11,578	7,777	3,961	495	12,233
Indoor	2,314	1,219	3,533	2,479	1,343	3,822	1,610	1,583	3,193	2,497	1,462	520	4,479

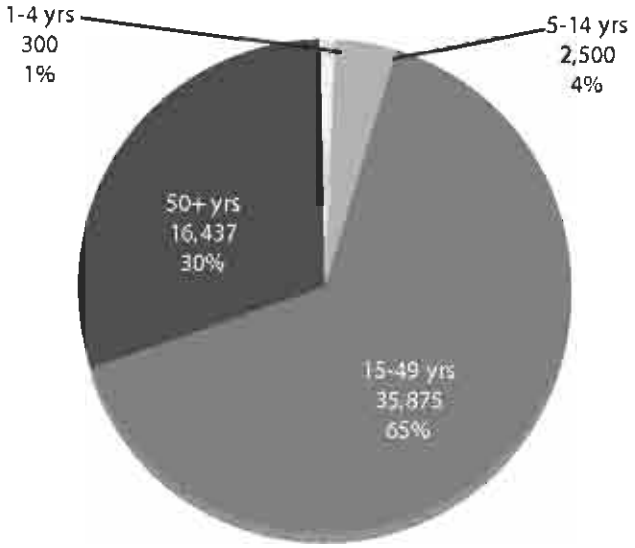
Figure-11.4 shows the number of patients seen in different disciplines of outdoors of NIKDU from year 2006 to 2009. Patients belonging to medicine and allied disciplines are higher compared to surgery and allied or pediatrics and allied disciplines. In all disciplines, the hospital provided services to increasingly more patients year by year.

Figure-11.4. Number of patients seen in different outdoor disciplines of NIKDU (Year 2006-2009)



In 2009, NIKDU served 55,112 outdoor patients, 65% of whom belonged to age group 15 to 49 years (n=35,875) (Figure-11.5). Age group 50+ years constituted 30% of the outdoor patients (n=16,437), age group 5-14 years made 4% (n=2,500) and the rest of the patients (1%) belonged to age group 1 to 4 years (n=300).

Figure-11.5. Distribution of the outdoor patients of NIKDU by age group (n=55,112) (Year 2009)



It is known from NIKDU sources that in 2009, there were 1,600 IPDs, 150 CAPDs, 800 renal biopsies, 1,000 femoral catheterizations, 100 subclavian vein procedures and 800 jugular vein procedures in the institute hospital. In its urology department, there were 3,000 different procedures of which 1,500 were open surgeries, 500 were endoscopic procedures, 300 were ESWL, and 700 were other procedures. The type of open surgeries that were taken place included pyeloplasty, pyelolithotomy, nephrolithotomy, anatrophic nephrolithotomy, nephrostome (radical and simple: nephrostomy, ureteroneocystostomy), cystectomy with diversion (radical and simple: urethoplasty, urethral dilation, penectomy, cystolithotomy, SPC, meatoplasty, and hypospadias repair. The endoscopic procedures included upper endourology (URS + ICPL, PCNL, ICPL, stenting) and lower endourology (TURP, TURBT, OIU, cystoscopy, cystolitholapexy). The laparoscopic urology included nephrectomy, pyeloplasty, ureterolithotomy, varicocole and renal cystectomy (urethrocystoscopy, biopsy, optical internal urethrotomy, stent removal, circumcision, cystolitholapexy and stenting). In 2009, there were 13 renal transplants in NIKDU. The institute has several high tech facilities such as PCNL, laparoscopic surgery, reconstructive surgery, endourology surgery, ESWL and ICPL. There are regular special outdoors such as Stone Clinic (two days in a week), Female Urology Clinic (two days in a week) and pediatric urology (two days in a week). Surgeries like A-V fistulas are done as day care surgery.

National Institute of Cancer Research and Hospital (NICRH)

The National Cancer Research and Hospital (NICRH) is the national focal point and referral center for cancer treatment in Bangladesh. In 2009, the institute hospital provided services to 24,012 outdoor patients and 1,640 indoor patients.

Figure-11.6. Number of outdoor and admitted patients in NICRH in 2009

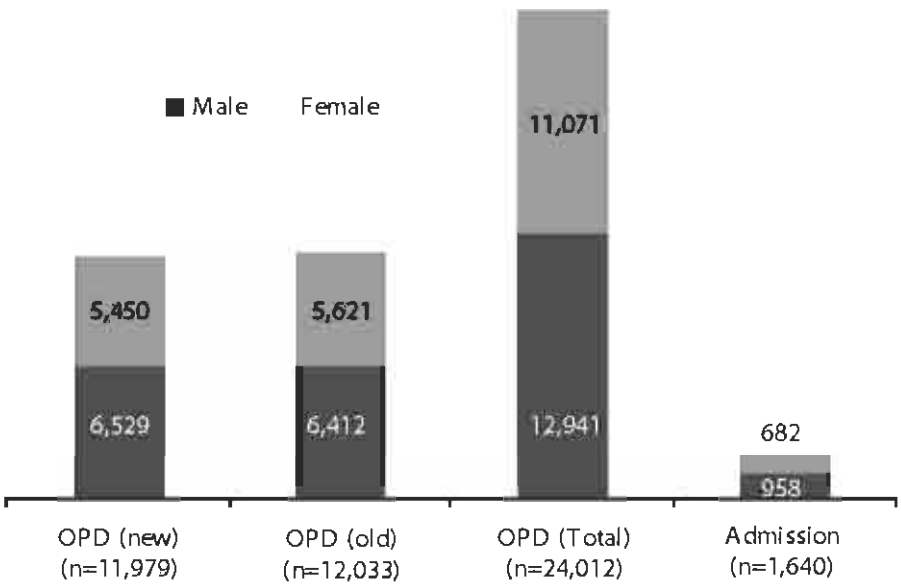


Figure-11.7 shows the outdoor patients of NICRH (year 2009) by discipline. It reveals that of the total outdoor visits (n=11,843), majority belonged to radiotherapy (37%) followed by medical oncology (28%), surgical oncology (18%) and gynecological oncology (17%).

Figure-11.7. Distribution of NICRH outdoor patients by discipline (Year 2009) (n=11,843)

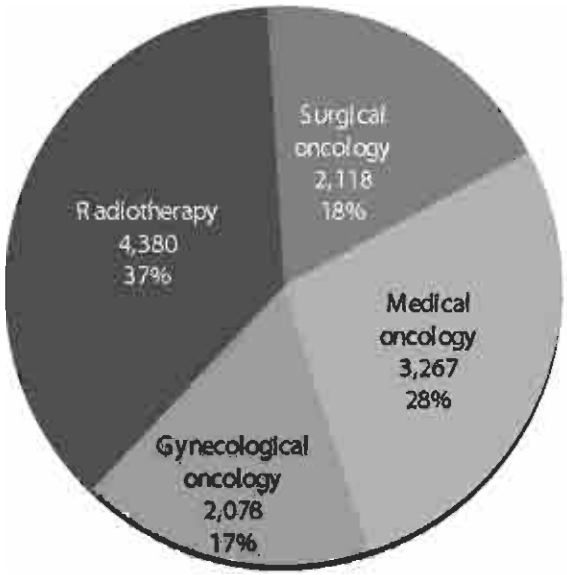


Table-11.6 shows the distribtion of the NICRH outdoor patients (year 2009) by age group. About half (47.1%) of the total patients (n=11,843) was from 45 to 64 years age group followed by 25 to 44 years age group (27.5%) and ≥65 years age group (18.4%). The ≤14 years and 15-24 years age groups comprised 2.9% and 4.1% respectively.

Table-11.6. Distribution of NICRH outdoor patients by age group (Year 2009)

Age	≤14 yr	15-24yr	25-44 yr	45-64 yr	≥65 yr	Total
No. of patients	343	486	3,257	5,578	2,179	11,843
%	2.9	4.1	27.5	47.1	18.4	100.00

Table-11.7 shows the distribtion of the NICRH outdoor patients (year 2009) by top 10 cancer affected organs. Lungs, breasts and cervix are the most frequently affected organs by cancer (15.9%, 12.2% and 10.1% respectively). The next frequently affected cancers in both sex were lymph node and lymphatics cancer (5.6%), esophagsus cancer (4.8%), stomach cancer (3.8%) and laryngeal cancer (3.1%). Among the males, 25.7% were affected with lung cancers followed by lymph node and lymphatic cancers (7.3%), esophagus cancers (6.1%), larynx cancers (5.3%) and stomach cancers (4.9%). Among the females, 25.9% were affected with breast cancers followed by cervical cancers (21.6%). Lung cancers affected 5.8% of the female patients. The females affected with lymph node, esophagus and stomach cancers comprised 4.0%, 3.5% and 2.7% respectively.

Table-11.7. Distribution of NICRH OPD patients by top 10 cancer affected organs (Year 2009)

Cancer affected organ No. (%)	Male No. (%)	Female No. (%)	Total No. (%)
Lung	1,561(25.7)	320 (5.8)	1,881 (15.9)
Breast	11 (0.2)	1,428 (25.9)	1,439 (12.2)
Cervix	-	1,191 (21.6)	1,191 (10.1)
Lymph node and lymphatic	443 (7.3)	221 (4.0)	664 (5.6)
Esophagus	370 (6.1)	193 (3.5)	563 (4.8)
Stomach	298 (4.9)	149 (2.7)	447 (3.8)
Larynx	322 (5.3)	50 (0.9)	372 (3.1)
Liver	188 (3.1)	83 (1.5)	271 (2.3)
Tongue	164 (2.7)	88 (1.6)	252 (2.1)
Ovary	-	160 (2.9)	160 (1.4)
Unknown Primary	340 (5.6)	143 (2.6)	483 (4.1)

National Institute of Mental Health and Research (NIMHR)

Table-11.8 shows the number of new patients visiting the outdoor of the NIMHR and also number of admissions in 2006 through 2009. It reveals from the table that both outdoor attendance and admissions of patients suffering from mental diseases are increasing each year from the previous year.

Table-11.8. Number of new patients visiting outdoor and number of admissions in NIMRH in 2009

Patients	Y 2006			Y 2007			Y 2008			Y 2009		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
OPD(new patients)	8,001	4,646	12,647	8,959	5,175	14,134	12,692	9,209	21,901	12,427	9,478	21,905
Indoor Patients	655	350	1,005	671	349	1,020	749	427	1,176	876	527	1,403

Figure-11.8 shows the distribution of the outdoor patients of NIMHR in 2009. Of the total 21,905 outdoor patients, majority of the patients belonged to age group 15 to 49 years (72%) followed by 50+ years age group (15%) and 5-14 years age group (13%).

Figure-11.8. Distribution of NIMHR outdoor patients by age group (n=21,905) (Year 2009)

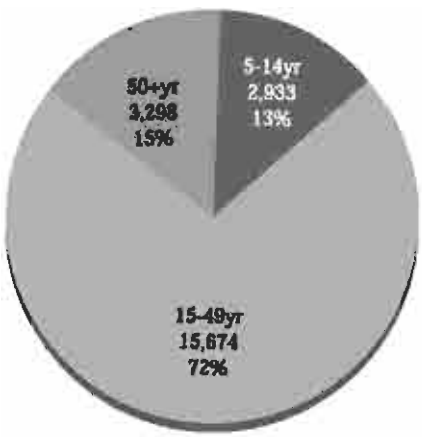


Figure-11.9 shows the number of outdoor patients in NIMHR by top 10 mental disorders both in 2008 and 2009. Although the general pattern of distribution appears similar in both the years, number of patients with schizophrenia almost doubled in 2009 than in 2008 (12,332 in 2009 from 6,258 in 2008).

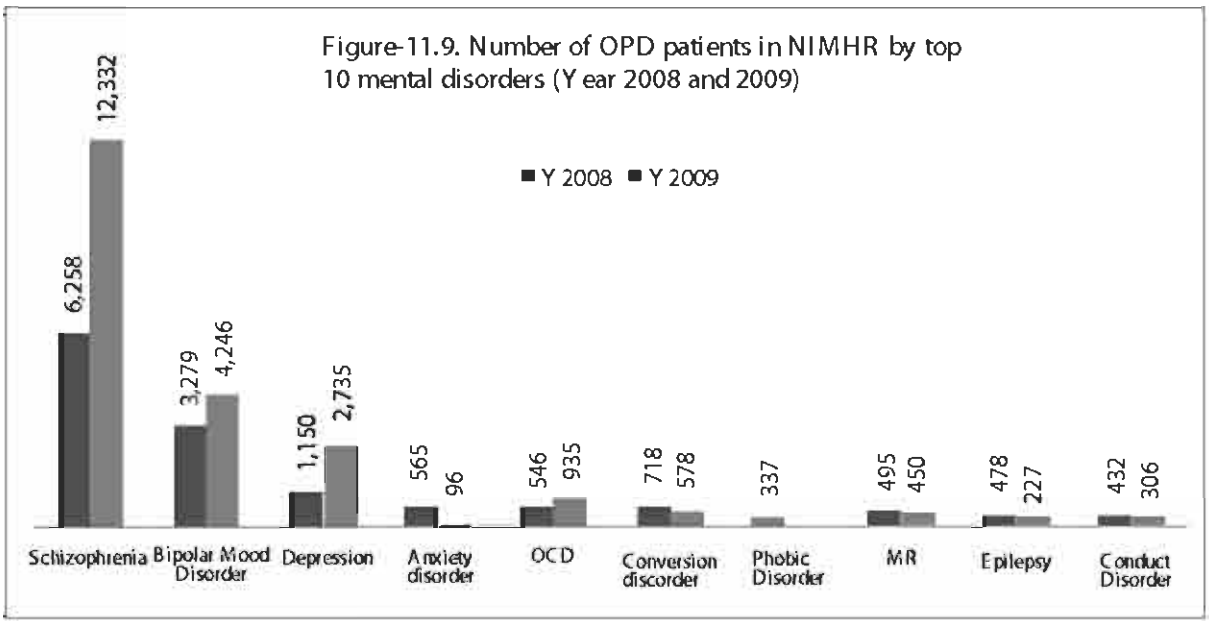
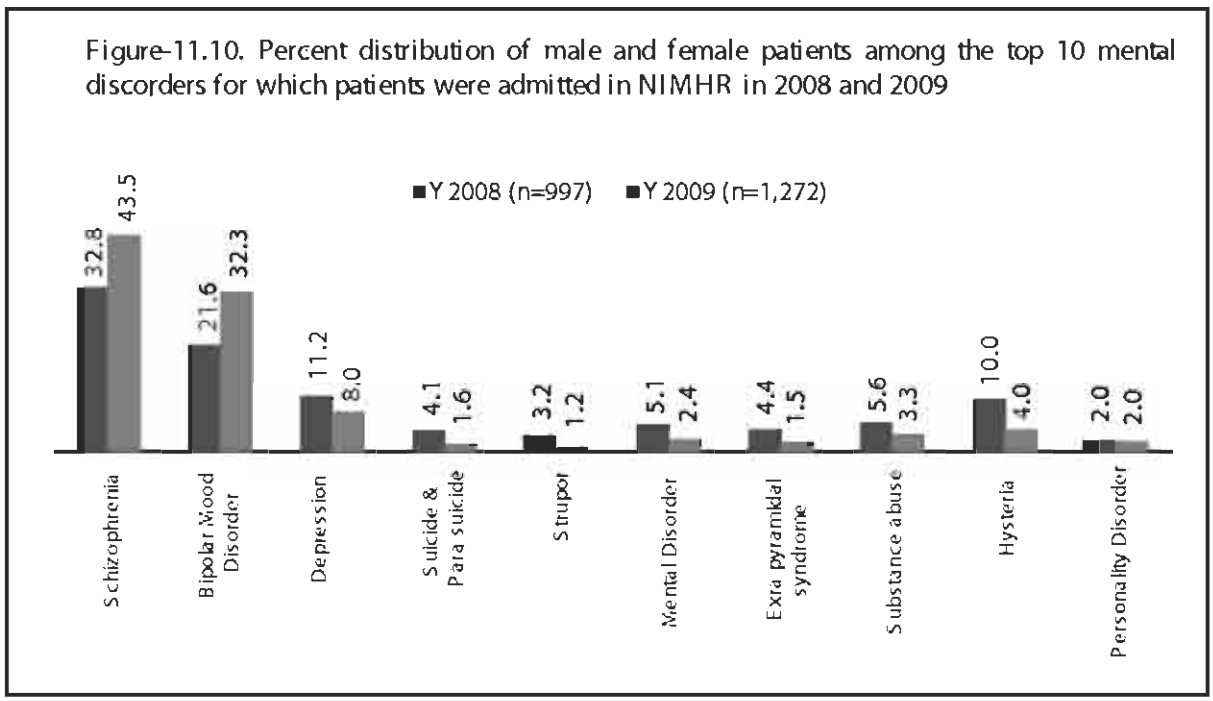


Figure-11.10 shows the sex distribution of the NIMHR outdoor patients in 2008 and 2009 for the top 10 mental disorders. Except in case of epilepsy in 2009, percentage of male patients always dominated over female patients.



Injury Summary of surveillance data from Center for Injury Prevention and Research, Bangladesh (CIPRB) surveillance project

The Centre for Injury Prevention and Research, Bangladesh (CIPRB) in collaboration with the Directorate General of Health Services (DGHS), UNICEF-Bangladesh and The Alliance of Safe Children (TASC) has been conducting a community-based comprehensive child injury prevention programme titled the Prevention of Child Injuries through Social-Intervention and Education (PRECISE) since 2006. The surveillance area comprises of three upazilas, namely, Raiganj, Sherpur sadar and Manohardi. In each area, about 200,000 of the population has been covered. Surveillance data from 2006 to 2009 on injury mortality have been summarized and presented below.

Injury occurs in all ages. However, children and young adults are the most vulnerable groups. The proportional mortality of injury was 27.4, 28.2, 27.6 and 25.4 percent in the 1-4 years, 5-9 years, 10-14 years and 15-19 years age groups respectively (Figure-11.11). As the age increases, the proportion of injury mortality declines. Among the whole population the proportion of injury mortality is over 6.5 percent.

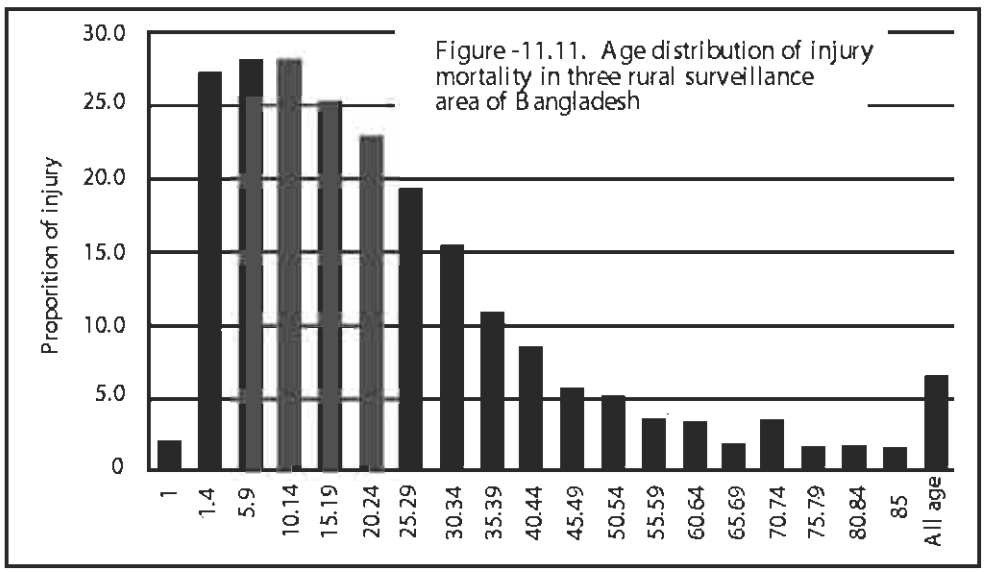


Figure-11.11. Age distribution of injury mortality in three rural surveillance area of Bangladesh

Two peaks of injury death rates were observed among all ages. One at 1-4 year age group (about 68.3 per 100,000 populations) and the other among the elderly 60+ years age group (about 70.0 per 100,000 populations). In the other age groups, the rate varied between 19 and 35 per 100,000.

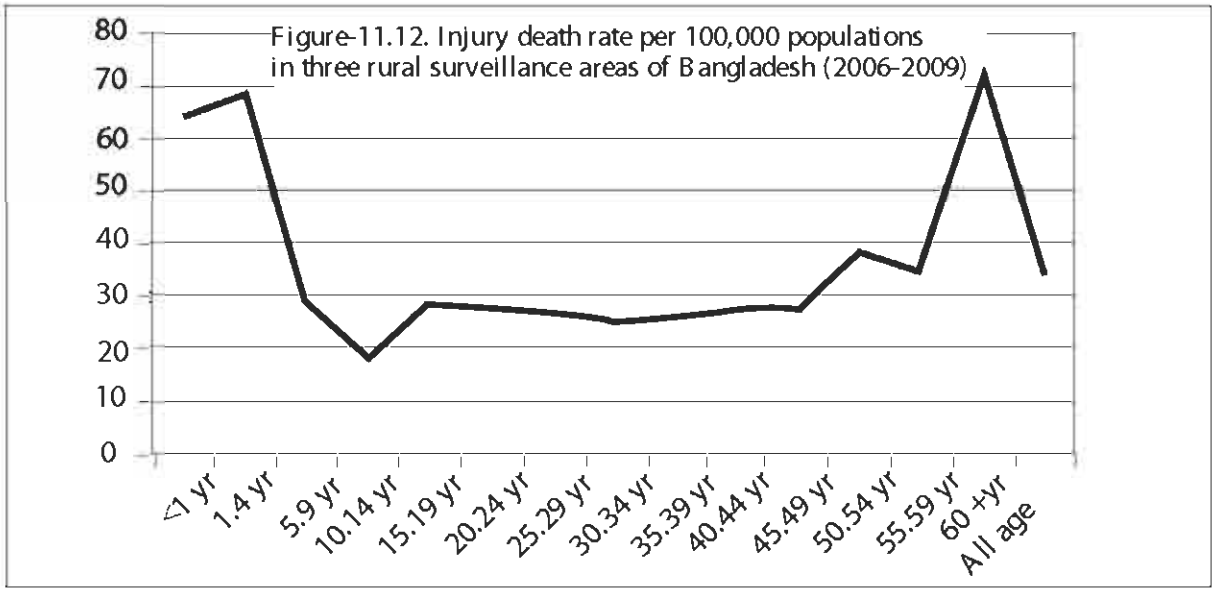


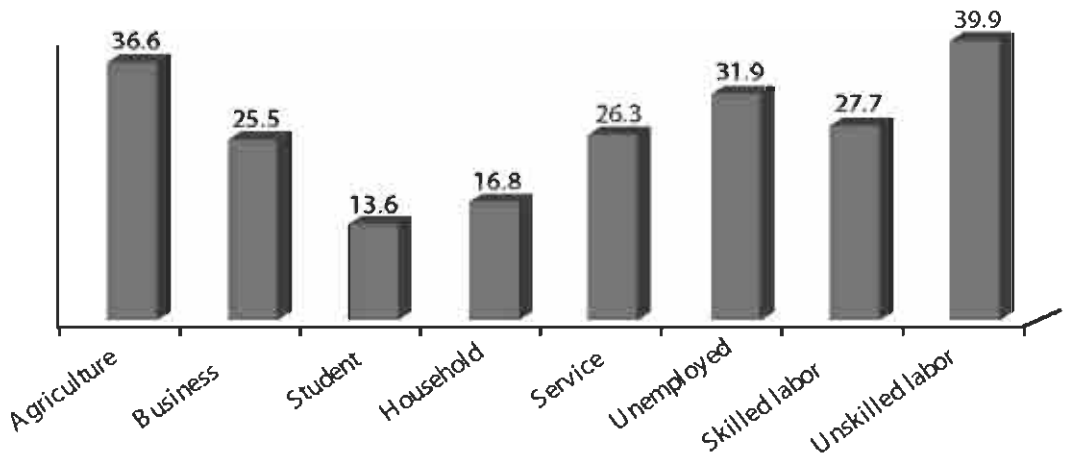
Table-11.9 shows the distribution of the injury deaths among different age group found in the three rural injury surveillance area of Bangladesh based on the data collected between 2006 and 2009. Drowning was the major cause of injury deaths among the under 5 and 5 to 9 years age children (76% and 55% respectively). Road traffic accident (25%) and suicide (23%) were leading causes of injury deaths among the 10 to 17 years age group. Suicide deaths were quite high among the 18 to 29 years age group (45%) followed by road traffic accident (26%). Road traffic accidents death rates were also high in 30+ years age group (32%) followed by suicide (16%).

Table-11.9. Distribution of injury deaths in each age group by type found in the three rural injury surveillance area of Bangladesh (2006-2009)

Type of injury	Under-5 yrs	5-9 yrs	10-17 yrs	18-29 yrs	30+ yrs
Drowning	76%	55%	14%	7%	9%
Road traffic injury	5%	21%	25%	26%	32%
Suffocation	4%				
Burn	4%	3%			10%
Violence	3%			12%	8%
Fall	2%		10%		9%
Animal injury		9%	4%		6%
Electrocaution		4%	13%	7%	4%
Suicide			23%	45%	16%
Other	6%	8%	11%	5%	6%

Figure-11.13 shows the distribution of the injury death rates per 100,000 populations among the different occupational groups. The unskilled laborers (39.9 per 100,000 populations), agriculture workers (36.6 per 100,000 populations) and the unemployed individuals (31.9 per 100,000 populations) showed the higher injury death rates compared to other occupation groups viz; who were engaged in business, study, household work, service, skilled labor.

Figure -11.13. Perceal distribution of injury deaths per 100,000 populations among different occupational groups (2006-2009)



It has been reported from the One Stop Crisis Centers located in different Medical College Hospitals that these centers registered 2,057 cases of assaults and burns in 2009 (Januray-December). The assualts totaled 2,019 included 1,478 physical assaults and 541 sexual assaults. The number of burn cases registered was 38. The distribution between centers is shown in Table-11.10.

Table-11.10. Number of assault and burn cases as reported from the One Stop Crisis Centers located in different Medical College Hospitals (Y 2009)

One Stop Crisis Center	Assault		Burn	Total
	Physical	Sexual		
Dhaka Medical College Hospital	297	188	14	499
Rajshahi Medical College Hospital	443	62	3	508
Chittagong Medical College Hospital	153	72	3	228
Sylhet Medical College Hospital	187	136	5	328
Khulna Medical College Hospital	248	47	8	303
Barisal Medical College Hospital	150	36	5	191
Total	1,478	541	38	2,057

Arsenic in ground water - Mitigation program by DGHS

Presence of arsenic in harmful level unsuitable for human consumption was first detected in 1993 by the Department of Public Health Engineering (DPHE) in 4 tube wells of Chamagram village of Chapainawabganj sadar upazila. According to a report published by Natioanl Arsenic Mitigation Center in 2003, water out of 4.95 million tube wells tested for presence of arsenic, 1.44 million (29.1%) showed presence of arsenic contamination. The DPHE (2006) reports that arsenic contamination in tube well water is present in 62 districts of Bangladesh out of the country's 64 districts. The first detection of human cases due to drinking of arsenic contaminated water was recorded in 1994 by the Department of Occupational and Environmental Health (OEH) of the National Institute of Preventive and Social Medicine (NIPSOM). The number of identified cases was 8. The National Arsenic

Program of the DGHS is carrying out detection of arsenic patients with the Department of OEH of NIPSOM and the cummulative numbers of arsenic patients as stood year by year were 23 in 1996, 42 in 1997, 86 in 1998, 24,389 in 2008 and 38,320 in 2009 (Figure-11.14).

Figure-11.14. Cummulative number of arsenic patients in Bangladesh year by year detected under the Arsenic Program of DGHS

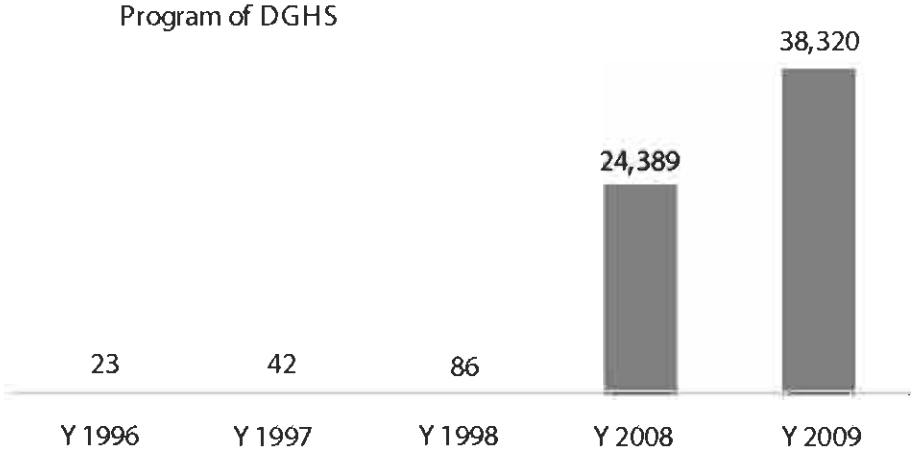
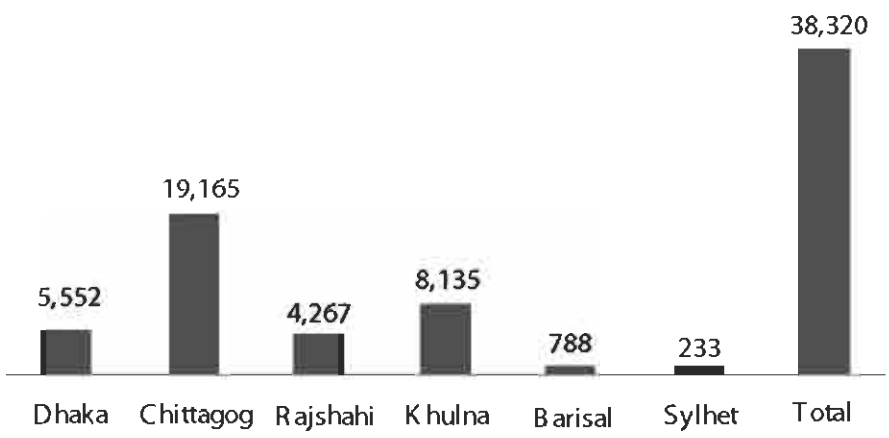


Figure-11.15 shows the distribution of arsenic patients between different divisions of Bangladesh. Chittagong division shows the highest number of identified patients (n=19,165) followed by Khulna (n=8,315), Dhaka (n=5,552) and Rajshahi (n=4,267) divisions. The Barisal and Sylhet divisions have 788 and 233 detected arsenic patients respectively.

Figure-11.15. Distribution of arsenic patients by Division of Bangladesh.



The Arsenic Program of the Directorate General of Health Services conducts several key activities which include: Community awareness raising; Capacity building on arsenic mitigation; Arsenicosis patient searching; Identification and management of arsenicosis patients; Awareness raising about alternative source of water; Research and development; and coordination with Government and Nnon-Government Organizations.

Safe Blood Transfusion

Blood transfusion service in Bangladesh was started in 1950 in Dhaka Medical College Hospital. To ensure blood screening, Safe Blood Transfusion Program (SBTP) was launched in 2000 with the assistance of UNDP under HPSP (Health and Population Sector Program). Through this program, blood screening facilities were developed in 99 Blood Transfusion Centers. The assistance of UNDP continued up to 2003. In 2004 the activities of Safe Blood Transfusion Program received financial support from the World Bank and DFID through IDA credit and a Memorandum of Understanding (MoU) was signed between MOHFW and WHO under HIV/AIDS Prevention Project (HAPP) with the technical assistance from the later. This continued till 2007. Since then the activities have been implementing under HNPSP (Health, Nutrition Population Sector Program 2003-2010).

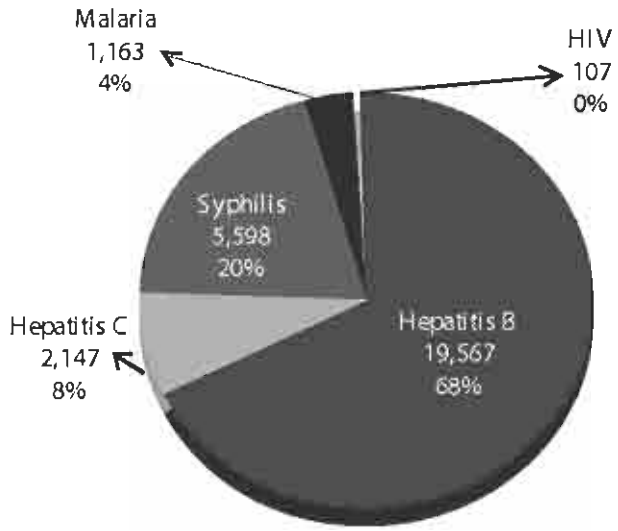
The Safe Blood Transfusion Program made good progress over the past years through reduction in the number of paid donors from 70% to 9%, capacity building for blood screening in 99 Blood Transfusion Centers for HIV, hepatitis B and C, syphilis and malaria, and expansion of activities up to upazila health complex. Currently 146 blood transfusion centers are functional under the program and 56 more centers are going to be functional by the end of 2010 through capacity building. Blood component separation facilities have been developed in 17 in Blood Transfusion Centers. Six centers have been equipped with modern mobile blood collection vans for outdoor blood collection. The profile of the SBTP is summarized in Table-12.1.

Table-12.1. Profile of Safe Blood Transfusion Program (SBTP)

Established	Year 2000
Collection of blood in the centers from paid donors in 2000	70%
Collection of blood in the centers from paid donors in 2009	9%
Blood transfusion centers supported currently by SBTP	146
New blood transfusion centers to be supported by SBTP by end 2010	56
Blood component separation facilities exist in number of centers	17
Mobile vans for blood collection with well equipped facilities exist in number of centers	6

During 2001 to 2009, a total 1,866,420 units of blood were tested in 146 centers, out of which 28,582 units were rejected (1.5%) due to presence of evidence of transfusion related infective agents. Of the rejected units, 19,567 units were for hepatitis B; 2,147 units for hepatitis C; 5,598 units for syphilis, and 1,163 units for malarial parasites and 107 units for HIV. During this period, a total of 63,469 units of blood components were used (Figure-12.1).

Figure-12.1. Distribution of blood units rejected due to presence of evidence of infective agens (n=28,582) (Year 2001-09)



Under the "Safe Blood Transfusion Act 2002", rules and regulations were published in 2008 for implementation of required activities in the public and private sector. There is a reference laboratory for blood transfusion at the new annex building of Dhaka Medical College Hospital. The functions of the laboratory are to support different organizations of training and monitoring. The reference laboratory is also testing the referred samples and validation of kits. The professionals engaged in safe blood transfusion program deeply feel that to further streamline the stewardship role and coordination functions for the current fragmented blood transfusion services operating throughout the country, a National Blood Center should be established as soon as possible.

Figure-12.2. Year-wise growth (number) of SBTP supported blood centers

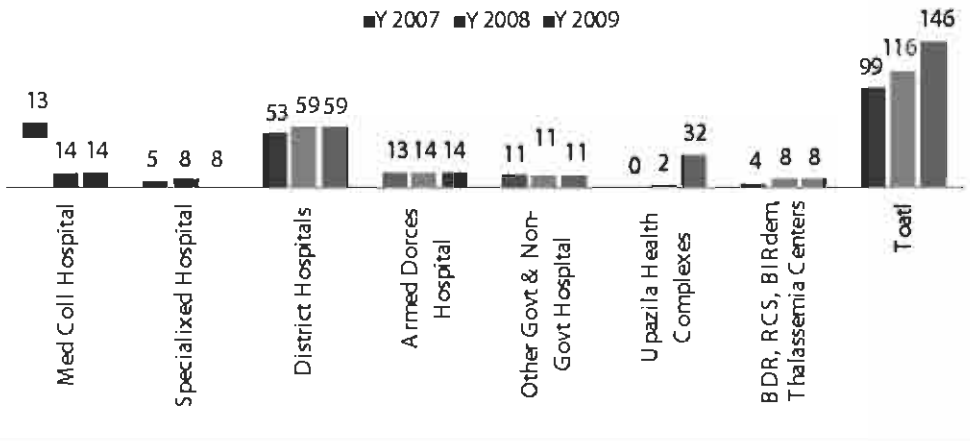
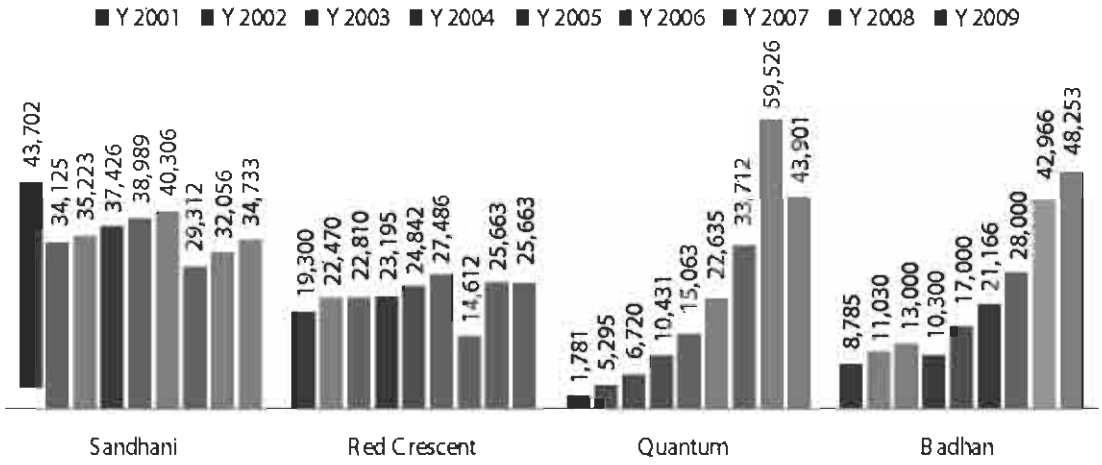


Figure-12.2. Shows the year wise growth (number) of blood centers supported by the safe Blood Transfusion program

Figure -12.3. year wise collection of units of blood by different voluntary blood donation organizations



A number of voluntary or non-profit organizations contrinbute to encourage healthy donors for donating blood voluntarily. Some of these organizations have their own set up for collecting, testing, storing and distributing blood or blood products. Figure-12.3 shows the year-wise collection of number of units of human blood by these organizations.

Nutrition

The public health nutrition program under the Ministry of Health and Family Welfare of Bangladesh is operated through Institute of Public Health Nutrition (IPHN) and two major programs under the Health, Nutrition and Population Sector Program (HNPSP). These two programs are Micronutrient Supplementation (MS) and National Nutrition Program (NNP).

The IPHN and MS work under the Directorate General of Health Services (DGHS) and the NNP works directly under the ministry.

Conventionally the director of IPHN works as the line director of MS, and nutrition programs of both IPHN and MS are carried out under one platform. The programs include: (a) Control of micro-nutrient deficiencies focusing nutritional blindness of vitamin A; (b) Control of Protein Energy Malnutrition (PEM); (c) Control and prevention of iron deficiency and other nutritional anemia; (d) Control of iodine deficiency disorders and other micronutrient problems; (e) School health nutrition education program targeting school children; and (f) Revitalization of existing baby friendly hospitals. The programs of IPHN and MS cover the entire country.

The coverage of NNP, on the other hand, is in 172 upazilas, which will be scaled to 232 upazilas by 2011 and to all 483 upazilas by 2021. In NNP program area, satellite community nutrition center is operated 6 days a week, one per 1,200 people. One lady community nutrition worker runs the nutrition center. There are 36,764 community nutrition workers for the 172 upazilas and 3,732 community nutrition organizers, 960 field supervisors and 172 upazila managers. The target populations of NNP's nutrition programs are: (a) under-2 children; (b) pregnant and lactating mothers; (c) newly married couples; (d) adolescents boys and girls; and (e) in-laws and (f) husbands of pregnant women. The latter two target groups are for advocacy. The services include nutrition supplementation of malnourished children and all pregnant and lactating women; monitoring weight of under-2 children and pregnancy weight gain; training; behavior change communication; and food security interventions through vulnerable group feeding as well as through encouraging people for homestead gardening and poultry farming.

The IPHN and MS sources say that following contributions have been made by the institution and program:

Vitamin A program

Every year two rounds of vitamin A capsules supplementation to children aged 12 to 59 months are done. Around 20 million of children are covered. The current coverage rate is about 98% to 99%. Along with the vitamin A supplementation, anti-helminthes tablet, albendazole (400 mg) are also administered to children aged 24 to 59 months. About 86% of the children who receive vitamin A fall into this age group, who received albendazole in the past rounds. The coverage was 98% to 99%. Coverage of vitamin A to under-1 year children has been continuing to improve. The last available data shows a coverage rate of 94% in 2008 from a figure of 85% in 2007. It is stated that coverage of postpartum mothers with vitamin A was 35% in 2007.

Protein Energy Malnutrition (PEM)

IPHN undertook efforts for creating awareness for the improvement of protein energy malnutrition situation in the country through using the data and resources, such as, Child Nutrition Surveys (CNU) 1995 and 2000, Child and Mother Nutrition Survey (CMNS) 2005, UNICEF 2008 (State of the World Children 2008) and WHO. The organization also claimed to work with the National Nutrition Program (NNP) to improve nutritional status of pregnant and lactating women, malnourished children and adolescent girls to improve PEM situation. Figure-13.1 shows the rate (%) of underweight under-5 children of Bangladesh from 1980 to 2008.

Figure-13.1. Percentage of underweight <5 year childeren from 1980 to 2008 in Bangladesh

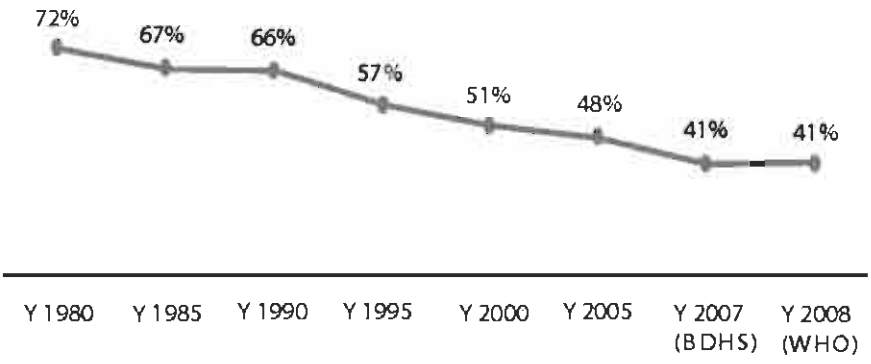


Table-13.1 shows the trend of prevalence of underweight, stunting and wasting among the under-5 children over the years. Data from the Bangladesh's own sources also show urban and rural trend in the prevalence.

Table-13.1. Prevalence of malnutrition among the under <5 children (Year 2000 to Year 2008)

Source and Year	Location	Underweight%	Stunted%	Wasted%
Child Nutrition Survey 2000	Urban	41.8	37.5	10.9
	Rural	52.6	50.2	12.2
	National	51.0	48.3	12.0
Child & Maternal Nutrition Survey 2005	Urban	38.5	32.5	10.8
	Rural	50.0	44.9	13.1
	National	47.8	42.4	12.7
UNICEF 2000-2006	National	48.0	43.0	13.0
Bangladesh Demographic & Health Survey 2007	Urban	33.4	14.4	36.4
	Rural	43.0	18.2	45.0
	National	41.0	43.0	17.0
WHO 2008	National	41.0	43.0	17.0

Control and prevention of iron deficiency and other nutritional anemia

Control and prevention of iron deficiency and other nutritional anemia is broadly operated through country's entire health service delivery network and National Nutrition Program with key components of distribution of iron-folate supplementation to the target, vulnerable and anemic groups. Intestinal parasite control through distribution of albendazole tablets is done along with vitamin A capsules distribution programs. IPHN continued advocacy for

food fortification. The National Nutrition Program undertook dietary improvement and production of micronutrient-rich foods.

Control of iodine deficiency disorders and other micronutrient problems

IPHN provided training to 2,197 doctors and health staffs on control of iodine deficiency disorders. In the laboratory of IPHN, 165 salt samples were analyzed to check iodine content. To further contribute to the quality control of iodization salt, training was given to managers, chemists and others of salt factories of three zones of (Chittagong, Potia, Cox's bazar) in collaboration with Bangladesh Small and Cottage Industries Corporation (BSCIC). IPHN also developed and distributed different IEC materials on control of iodine deficiency disorders. Current data on iodine nutritional status are not available. However, Table-13.2 summarizes the iodine nutritional situation based on the available data.

Table-13.2. Iodine nutritional status based on available national data

Indicator	Reference Point		Measurement Point	
Rate of household salt consumption	Year	Rate	Year	Rate
	1995	44%	2006	84%
Biochemical iodine deficiency among children (<100 µg/L)	2004-05	33.8%	1993	71%
Biochemical iodine deficiency among general population (<100 µg/L)	2005	38.6%	1993	70.2%
Prevalence of goiter among children (6-12 years)	1993	49.8%	2004-05	6.2%
Prevalence of goiter among women (15-44 years)	1993	55.6%	2004-05	11.7%

Child nutrition program

IPHN has a school health nutrition education program targeting school children. It also has an "Infant and Young Child Feeding (IYCF)" program. For the latter program, the institute developed a strategy paper and trained 2,197 doctors, senior staff nurses, sanitary inspectors, health inspectors and other officers on Breast Milk Substitutes Codes (BMS codes) for Baby Food (Sweet Baby II). The institute also performs the regulatory function on BMS codes, under which, registration was denied to several breast milk marketing companies due to lack of necessary papers. Legal cases were also filed against 11 companies for having melamine contents in their baby food products. The institute has also undertaken a revitalization of existing baby friendly hospital program. Under this program, the child nutrition units (CNUs), one at IPHN and 19 in upazila health hospitals of 19 districts are being continued. More functional supports are being provided to these units as part of revitalization program. Data show that the child nutrition units provided services to 2,020 malnourished mothers and children in the first six months of 2008-2009. Among the treated children, 900 were moderately malnourished and 12 were severely malnourished.

Figures-13.2 to 13.5 show the coverage of services by the National Nutrition Program (NNP) in the 109 upazilas from the year 2004 to 2009. Figure-13.2 summarizes the coverage for pregnancy care services. It is revealed that pregnancy weight gain was measured for 98% of the pregnant women. Antenatal care to pregnant women steadily increased to 97% in 2009 from a baseline figure of 52.8% in 2004. Whereas 43.4% of the pregnant women received iron tablets in 2004, the figures rose to 98% in 2009. Pregnant women requiring supplementary feeding decreased from 21% in 2004 to 9.1% in 2009.

Figure-13.2. Coverage of pregnancy care services in 109 National Nutrition Porgram upazilas (Years 2004 to 2009)

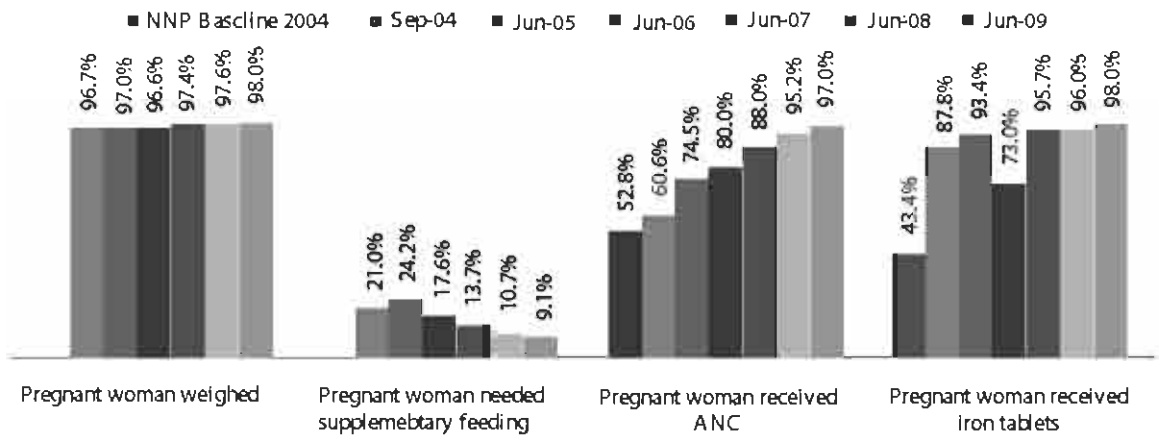


Figure-13.3 quantifies the services given to lactating mothers in the 109 NNP upazilas. In 2004, only 8.1% of the lactating mothers received vitamin A capsules. In 2009, 99% of them were receiving the vitamin A capsules, although the coverage was 100% in 2007. In 2004, 45% of the lactating mothers were recorded to receive iron tablets. This figure rose to 100% in 2006 and maintained also in 2007. In 2008, it was 98%, which was seen to rise to 99% in 2009.

Figure-13.3. Coverage of lactating mothers with iron tablets and vitamin A capsules in 109 National Nutrition Program upazilas (Years 2004 to 2009)

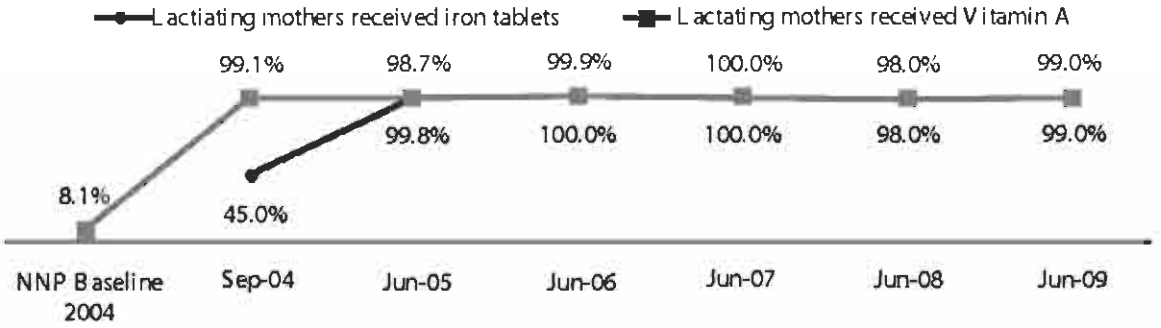


Figure-13.4 shows the coverage of Newborns and young children service provided by NNP in 109 upazilas. As of 2009, 96.3% of the newborns were taken birth weight. In 2009, 8% of the newborns in the program area were found to be low birth weight, which was dropped by 12.7% from a figure of 20.7% in 2004. In 2009, all newborns were reported to feed colostrum which was 93.3% in 2004. Exclusive breastfeeding rate was markedly increased from 9.9% in 2004 to 95% in 2009.

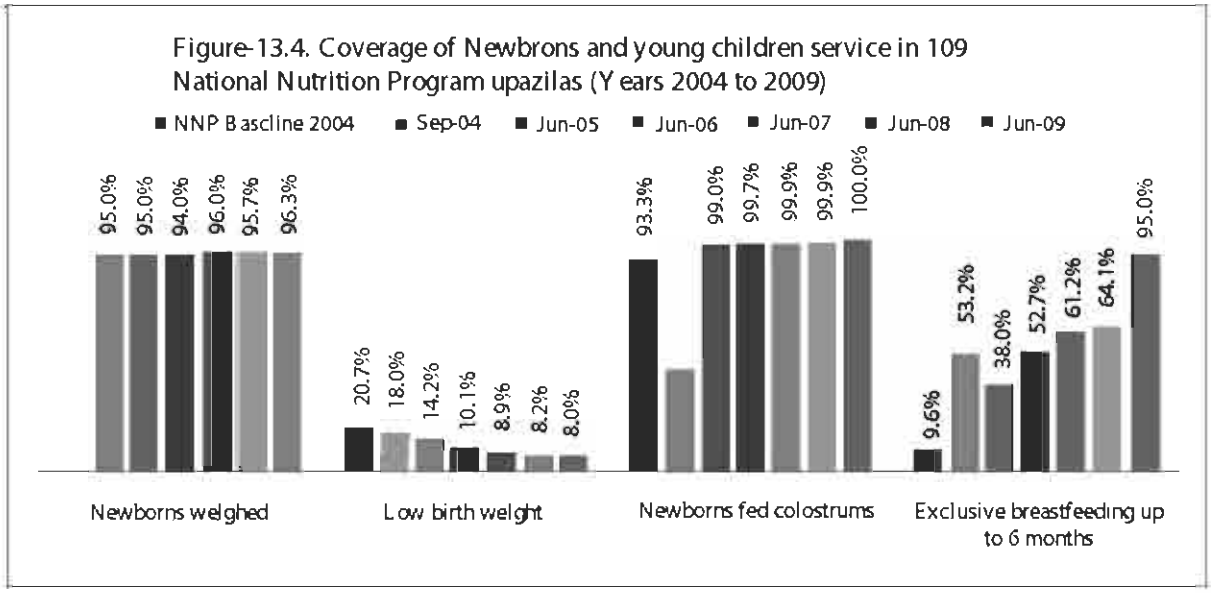
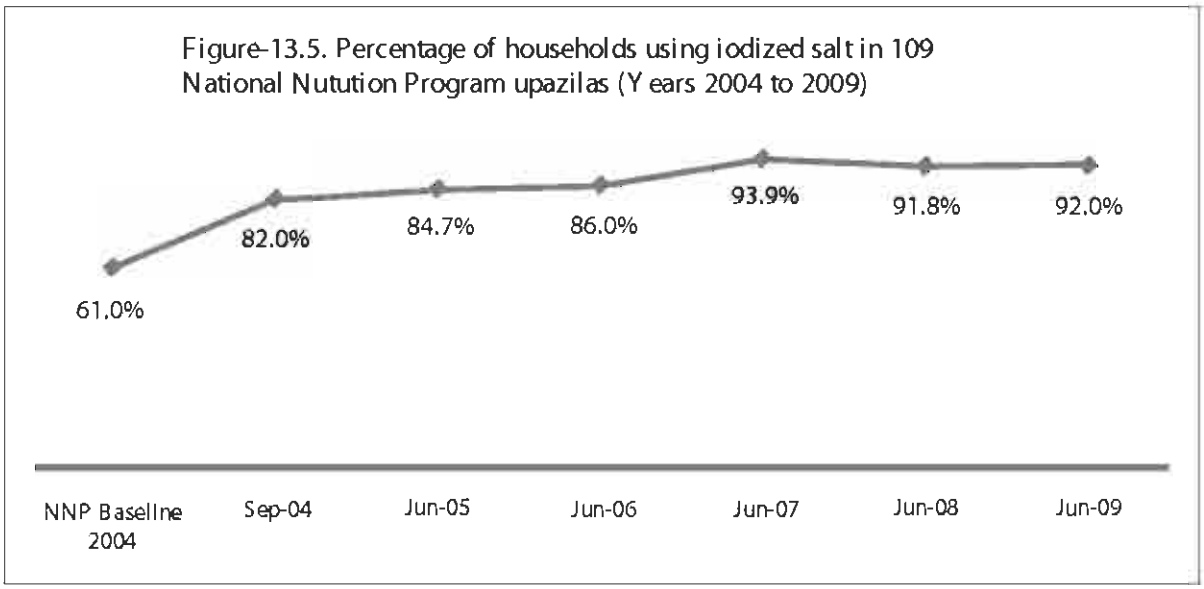


Figure-13.5 shows the trend in household iodized salt use in the 109 program upazilas of NNP. As of 2009, 92% of the households are consuming iodized salt which was 61% in 2004. A sharp increase in household iodized salt consumption was noticed in latter part of 2004 to 82% and thereafter a steady increasing rate was maintained.



Public Health Interventions by Selected Institutions

Institute of Epidemiology, Disease Control and Research (IEDCR) and Institute of Public Health (IPH) are two national institutes with significant public health interventions. Health Bulletins published by MIS-Health conventionally report the activities carried out by these two institutions. Please look into the following sections to get through the performances of IEDCR and IPH.

Institute of Epidemiology, Disease Control and Research (IEDCR)

Established in 1976, the IEDCR is the national institute for conducting disease surveillance and outbreak investigation. IEDCR is also the National Influenza Centre (NIC) of Bangladesh designated by the WHO in 2007. Staffed with 115 employees, IEDCR is made up of eight departments, viz., biostatistics, epidemiology, medical entomology, medical social science, microbiology, parasitology, virology, and zoonoses. The principal objectives are disease surveillance, outbreak investigation and response, and research and training.

The institute established a biosafety level 3 (BSL-3) laboratory. The other laboratories of the institute are medical entomology, microbiology, parasitology, virology, zoonosis, BSL-2 lab and RT-PCR lab. The laboratories have wide range of diagnostic facilities for parasitic and fungal diseases (visceral leishmaniasis (Kala-azar, PKDL), malaria, intestinal parasites, dermatophytes, candida, etc.), viral diseases (Nipah; hepatitis HAV, HBV, HCV, and HEV), HIV, influenza, Dengue, chikungunya, etc.), bacterial diseases (enteric fever, brucellosis, rickettsial diseases, other aerobic and anaerobic bacterial infections) and biochemical tests. IEDCR also performs biological efficacy of insecticides regularly.

IEDCR is the government mandated institute for conducting outbreak investigation of public health emergency of international concern (PHEIC) in the country. Number of outbreak investigations carried out in 2007 and 2008 was 17 and 5 respectively and several in 2009. The outbreak investigations in 2007 are notable for Nipah outbreak, mass psychogenic illness in 18 districts and toxic (Ghagra shak) outbreak in Sylhet. The 2008 outbreak investigations are notable for Nipah, puffer fish poisoning, mass psychogenic Illness, first human case of Avian influenza, and chikungunya. The 2009 outbreak investigations are notable for Pandemic Influenza A H1N1 (Swine Flu), chikungunya, cutaneous anthrax, pesticide poisoning, and mass psychogenic illness.

In 2009, following researches have been carried out:

- Phase IV clinical trial of oral Miltefosine for treatment of Kala-azar (2006-09)
- Efficacy and Safety of Liposomal Amphotericin B in Bangladeshi patients with Visceral Leishmaniasis: A phase III clinical trial
- Sero-prevalence of HIV among pregnant women (10,470 HIV testing done in IEDCR Lab)
- Epidemiology of Influenza in Bangladesh (May 2008-09) in collaboration with ICDDR,B
- Oseltamavir Drug trial (May 2008-09)
- Sero-prevalence of Dengue Infections and its Entomological Attributes

- Assessment of Knowledge, Attitude, Practice and Behavioral Pattern Regarding Avian and Pandemic Influenza among Community Volunteers and Household Members
- Core capacity assessment for Implementation of IHR 2005 in health facilities and ports in Bangladesh

IEDCR routinely conducts training programs specially focusing on epidemiology, surveillance, outbreak investigation, laboratory investigations, information technology, etc. IEDCR also conducted certificate courses, viz., Three months certificate course on clinical epidemiology and Three months certificate course on Medical Entomology.

Special training that were carried out in 2009 included:

- Guidelines and standard operating procedure (SOP) for Influenza Isolation Unit Management
- Containment and Mitigation of Influenza Pandemic for Members of District and Upazila Rapid Response Team (RRT) members
- Rapid containment for District and Upazila Rapid Response Team (RRT) members
- Emergency Health Information System for district level Health Professionals
- SOP on Pandemic Influenza (H1N1) 2009 (Swine Flu) for Health Personnel and all UHFPOs
- Orientation on Pandemic (H1N1) 2009 [Swine Flu] for Health Personnel of Dhaka City Corporation and urban primary health care personnel
- Use of Rapid Diagnostic Kits and transportation of Infectious Materials of medical technologistS of Peripheral Labs
- Web based disease surveillance data management system for statistical assistants at all levels
- Training of laboratory staff in bio-safety practices
- Orientation training of Immigration Officials at Hazrat Shah Jalal International Airport on Influenza A (H1N1) [Swine Flu]
- Orientation on Influenza A H1N1 (Swine Flu) of the Professors and Doctors of Medical Colleges of Dhaka City
- Rapid Containment of Pandemic Influenza of National RRT
- Training of port health officers of all the 16 Points of Entries on Influenza A H1N1 (Swine Influenza)
- Training of UHFPOs on Disease Surveillance and Outbreak Investigation
- Training on Avian Influenza Surveillance among live bird handlers for NGOs working with Dhaka City Corporation area
- Outbreak investigation of District RRT members

IEDCR have some routine as well as disease specific surveillances.

The routine surveillances are:

- Priority Communicable Diseases Surveillance
- Sentinel Surveillance
- Institutional Disease Surveillance

The disease specific surveillances are:

- Community based Avian/Human influenza Surveillance among poultry workers in H5 infected poultry farms
- High risk group surveillance in Wet Markets in Dhaka City Corporation
- Nipah Surveillance in collaboration with ICDDR,B
- Acute Meningo Encephalitis Surveillance (AMES) including Japanese B Encephalitis in collaboration with IPH, ICDDR,B with technical assistance from WHO
- Hospital based Influenza surveillance in collaboration with ICDDR,B
- Surveillance for hospital acquired respiratory infections in patients and health care workers in three tertiary care facilities in collaboration with ICDDR,B
- Salmonella surveillance funded by IANPHI (2009-2010)

Other regular activities done by IEDCR include:

- Avian Influenza Pandemic Preparedness Plan (2009-2011)
- Development of Standard Operating Procedures (SOPs) for Avian Influenza (11 SOPs); Public Health Emergency of International Concern (PHEIC); and Outbreak Investigation
- International Health Regulation (IHR): National Strategy and Guideline
- Training Manuals Development
- Multi-sectoral Orientation on Avian and Pandemic Influenza in 64 districts
- Biological efficacy of insecticides
- DAT and ICT test on Kala-azar

Web based disease surveillance

IEDCR recently completed e-connection with 64 districts through wireless connectivity and established web based disease surveillance covering whole of Bangladesh. IEDCR is also planning to extend web based disease surveillance up to upazila level.

Avian and Pandemic Influenza Activities

IEDCR has been declared as the National Influenza Centre (NIC) of Bangladesh in 2007 by the WHO. The institute is involved in regular and emergency activities for preparedness, prevention and control of Avian and Pandemic influenza. IEDCR conducted community awareness programs on Avian/Pandemic influenza encompassing a population of 28,000,000. It has also conducted table-top exercises at national and divisional level; Orientation on Avian and Pandemic Influenza of 64 districts Multi-sectoral Coordination Committee in 2008 was accomplished. Continuous training activities are being conducted on Avian Influenza since 2007. IEDCR trained different tiers of health personnel including national RRT on Rapid Containment of Pandemic Influenza, 64 District RRTs, 471 Upazila RRTs, 3,700 medical personnel and 226,100 community volunteers on Avian Influenza. IEDCR routinely conducts influenza surveillance in 12 hospitals and going to extend it to another 18 hospitals. High risk group surveillance in wet market of Dhaka City Corporation and surveillance among infected poultry workers and cullers. Some research on Influenza, viz., Oseltamivir drug trial and epidemiology of influenza in Bangladesh are also undergoing.

Institute of Public Health (IPH)

Established in 1953 in Dhaka, the Institute of Public Health is engaged in quality control of drugs, and food and water; production of vaccines, intravenous fluids, anti-sera and diagnostic reagents; diagnosis of infectious diseases; and related research facilities. The activities are performed in different units of five major sections.

Table-14.1 shows the quantity of different types of intravenous fluids produced by IPH from 2002 to 2009.

Table-14.1. Production of intravenous fluids by IPH (Y 2002 to Y 2009)

Item	Pack Size (ml)	Y 2002	Y 2003	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Glucose Saline	1,000	66,780	39,735	80,904	81,238	81,238	6,754	13,242	130,799	107,724
	500	3,497	243,610	241,043	221,026	221,026	285,145	217,758	110,179	180,489
Glucose Aqua	1,000	56,055	42,569	84,455	72,429	72,429	7,823	11,325	134,416	86,243
	500	333,213	248,265	233,086	211,607	211,607	277,329	204,345	110,006	154,894
Normal Saline	1,000	9,291	17,662	9,783	17,930	17,930	5,029	_	5	0,978
	500	77,319	68,492	50,536	52,518	52,518	58,338	67,831	54,379	91,854
Cholera Saline	1,000	118,519	129,986	192,907	10,409	10,409	1,627	25,304	108,521	80,665
	500	308,536	246,718	472,545	280,402	280,402	182,789	240,473	69,401	135,443
P.D. fluid	1,000	93,384	57,657	68,421	53,666	53,666	61,391	38,109	52,481	46,085
	500	20,278	_	_	_	_	_	10,291	3,640	-
3% Normal Saline	1,000	_	_	_	_	_	_	_	_	_
	500	5,022	5,107	4,578	6,888	6,888	6,939	8,456	7,700	10,674
Baby saline	1,000	_	_	_	_	_	11,000	12,600		
	500	6,717	4,689	14,307	8,245	8,245	500	_		26,120
Hemodialysis Fluid	1,000	33,510	14,200	21,100	20,650	20,650	1,000	_	10,500	12,600
	_	_	_	_	_	500	8,700	18,680		
Hartman's Solution	1,000	_	_	_	_	_	1,000	_		
	500	31,694	42,710	47,520	70,676	70,676	500	21,014	97,752	144,943

Table-14.2 Shows the quantity of blood bags and related accessories produced by IPH from 2002 to 2009.

Table-14.2. Production of blood bags and accessories by IPH (Y 2002 to Y 2009)

Item	Pack type	Y 2002	Y 2003	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
CPD Blood Bag	Single	101,844	107,437	87,586	59,827	59,827	65,936	74,435	55,060	85,800
Baby Bag	150 ml	-	150	-	-	-	-	-	-	-
Transfusion Set	-	37,060	15,650	51,775	34,775	34,775	31,860	24,060	7,925	-
Infusion Set	-	130,200	107,350	190,300	188,750	188,750	86,710	42,200	30,400	-

Table-14.3 shows the quantity of anti-rabies vaccines produced by IPH from 2006 to 2009.

Table-14.3. Production of anti-rabies vaccine by IPH (Y 2002 to Y 2009)

Year	For human (5 ml)			For animal (10 ml)		
	ml	Ampoule	Course	ml	Ampoule	Course
2006	2,730,400	546,080	39,005	418,600	41,860	996
2007	2,446,900	489,380	34,955	483,750	48,375	1,166
2008	3,017,125	2,848,440	83,793	619,620	51,990	15,570
2009	2,895,500	579,100	41,365	543,800	54,380	1,295

Table-14.4 shows the quantity of different types of diagnostic reagents produced by IPH from 2001 to 2009.

Table-14.4. Production of diagnostic reagents by IPH (Y 2002 to Y 2009)

Item	Y 2001	Y 2002	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Benedict's Solution (L)	420	600	555	470	460	294	480	560	457
ESR Fluid (L)	60	160	160	150	160	110	237	380	155
20% Sulphuric Acid Solution (L)	40	40	95	95	30	-	20	40	-
N/10 Hydrochloric Acid Solution (L)	70	60	90	10	60	70	80	190	60
Acetone alcohol (L)	Nil	Nil	55	20	10	-	10	-	25
5% Acetic Acid Solution (L)	60	60	80	100	60	20	70	170	80
WBC Fluid (L)	60	50	80	40	60	20	40	100	70
RBC Fluid (L)	20	50	80	70	30	-	20	80	-
30% Suplhosalicylic Acid (L)	10	Nil	Nil	10	11.6	-	10	07	-
20% Sodium Hydroxide Solution (L)	Nil	Nil	Nil	20	Nil	-	-	-	-
20% Potassium Hydroxide Solution (L)	Nil	02	11.5	Nil	Nil				
Semen Analysis Fluid (L)	20	Nil	36.5	20	10	-	05	-	-
Normal Saline (L)	60	100	90	70	40	30	80	60	90
Methylene Blue (L)	20	35	57	30	10	10	05	25	20
Crystal Violet (L)	15	15	30	10	10	-	-	05	27
Basic Fuchsin (L)	05	10	33	10	05	32	-	22	5
Carbol Fuchsin (L)	22	22	66	44	11	10	-	-	22
Gram Iodine (L)	10.5	05	35	10	05	05	10	-	20
Lugol's Iodine (L)	15.5	20	40	15	15	15	16	40	50
Leishman Stain (L)	44	96	69	47	62	29	65.1	104	61.8
Giemsa Stain (L)	29	48	39.5	Nil	36	16	51.8	60	71.9
Glucose Kits	100	47	78	100	48	98	-	100	100
Bilirubin Kits	62	6	152	97	Nil	99	44	151	96
Creatinine Kits	Nil	Nil	54	51	Nil	-	-	69	47
Uric Acid Kits	Nil	Nil	27	60	Nil	-	-	-	-
EDTA Vials	Nil	Nil	Nil	Nil	Nil	500	-	-	511

Figure -14.1. Shows the quantity of oral rehydration salt (ORS) produced and distributed by IPH from 2001 to 2009

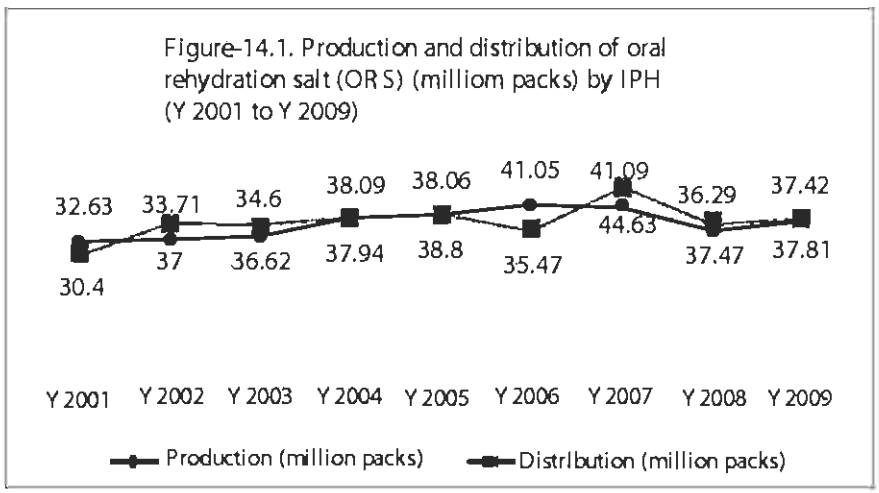


Table-14.5 shows the number of food samples tested by IPH from 2001 to 2009. The table also shows the distribution of the genuine and adulterated samples out of the total samples tested each year.

Table-14.5. Food Sample Tested by Year

Year	Total samples	Genuine		Adulterated	
		No.	%	No.	%
2001	3,280	1,692	51.6%	1,588	48.4%
2002	4,300	2,110	49.0%	2,190	51.0%
2003	5,120	2,515	49.1%	2,605	50.9%
2004	4,413	2,214	52.0%	2,119	48.0%
2005	6,337	3,200	50.5%	3,137	49.5%
2006	2,779	1,405	50.6%	1,374	49.4%
2007	5,992	3,488	58.2%	2,504	41.8%
2008	8,734	5,066	58.0%	3,668	42.0%
2009	6,338	3,356	52.9%	2,982	47.1%

Figure-14.2 shows the number of water samples tested by chamical means by IPH in each year from 2001 to 2009 (parentheses of figure show total number of samples tested) and distribution of satisfactory and unsatisfactory samples in each year.

Figure-14.2. Number of water samples tested chemically by IPH from 2001 and 2009 and distribution of satisgfactory and unsatisfactory tests in each year

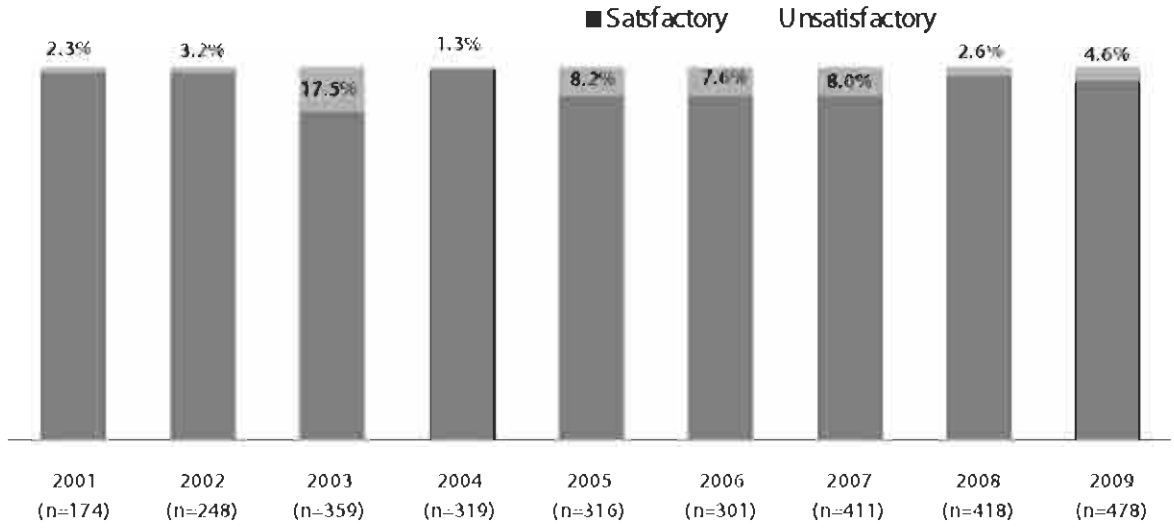


Figure-14.3 shows the number of water samples performed bacteriological test by IPH in each year from 2001 to 2009 (parentheses of figure show total number of samples tested) and distribution of satisfactory and unsatisfactory samples in each year.

Figure-14.3. Number of water samples performed bacteriological test by IPH from 2001 to 2009 and distrubtion of satisafctory and unsatisfactory samples

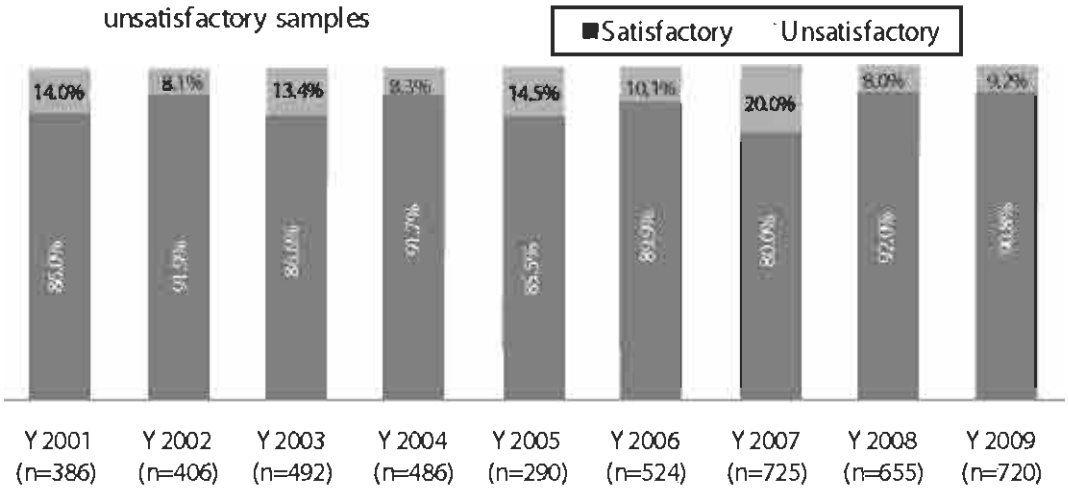


Table-14.6 shows the number of drug samples received by IPH and their test results from 2001 to 2009.

Table-14.6. Number of drug samples tested by IPH and their results (Y 2001 to Y 2009)

Year	Samples received (N)	Satisfactory (N)	Unsatisfactory (N)	Not analyzed	Feedback given to senders
2001	3625	3533	30	0	62
2002	3159	3017	26	0	113
2003	3842	3763	28	0	51
2004	3719	3641	45	0	33
2005	3472	3056	89	127	200
2006	2708	2664	44	-	-
2007	3097	2978	119	-	-
2008	4589	3639	100	-	-
2009	3145	3078	67	-	-

The National Polio Laboratory of IPH is a WHO accredited laboratory established to assist the eradication of wild polio virus from the country. It is a partner of SEARO-WHO Polio Network. Table-14.7 shows the number of stool samples tested by IPH for polio virus from 2001 to 2009 and the results of the tests.

Table-14.7. Number of stool samples tested by IPH for polio virus from 2001 to 2009 and their results

Item	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007	Y2008	Y2009
AFP Cases (N)	1,287	1,365	1,128	1,301	1,458	1,619	1,844	1,809	1,522
Samples (N)	2,728	2,931	2,388	2,631	2,910	3,185	3,611	4,356	3,483
Polio Virus Isolates (N)	74	93	91	118	59	253	181	80	56
Wild Polio Viruses (N)	-	-	-	-	-	18	-	-	-
Vaccine (Sabin) Viruses (N)	74	93	91	118	59	187	193	76	56
NPEV (Non-polio Entero Viruses) (N)	804	815	565	517	574	473	553	1,012	684
Negative Samples (N)	1,850	2,023	1,732	1,996	2,277	2,492	2,910	3,264	2,743
Total (N)	6,817	7,320	5,995	6,681	7,337	8,227	9,292	10,597	8,544

The Measles Laboratory of IPH is involved with the serological study of measles and rubella to support measles control program of the country. Table-14.8 shows the numbers of measles+ve, rubella+ve and negative blood samples tested by the Measles Laboratory of the institute from 2003 to 2009.

Table-14.8. Numbers of measles+ve, rubella+ve (IgM anti-body) and total negative blood samples (both measles and rubella) tested by the Measles Laboratory of IPH from 2003 to 2009.

Item	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Measles+ve	59	404	769	170	6	16	35
Rubella+ive	-	55	609	164	432	243	1,133
Total-ive	12	157	453	77	149	529	769
Total samples	71	616	1,831	411	587	788	1,937

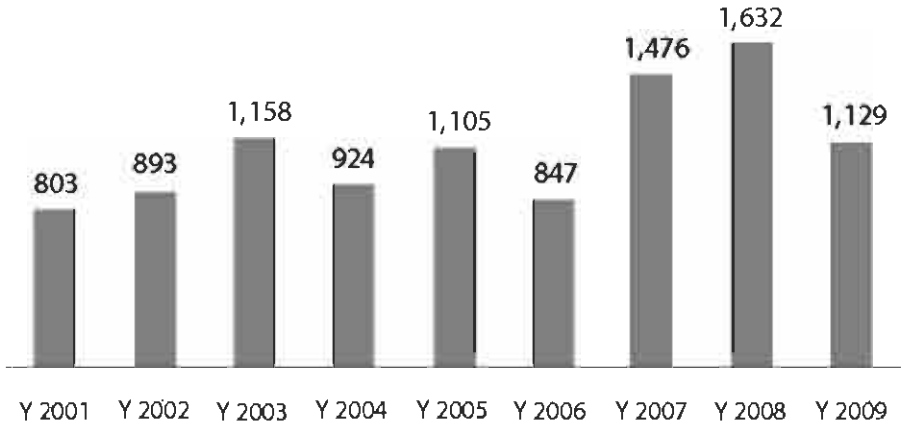
IPH also performs routine tests on blood, serum, stool, urine, sputum, throat swab, ear swab, etc. Table-14.9 shows a summary of the tests done by the institute from 2001 to 2009.

Table-14.9. Numbers of routine tests done by IPH from 2003 to 2009.

Test	Y 2001	Y 2002	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Biochemical (blood)	189	182	176	45	-	-	-	-	-
Serological -	70	19	871	3,333	923	2051	3,293	-	
Routine examination (Stool, Blood-CP, Urine, Sputum)	970	840	395	456	341	192	133	123	82
Culture & Sensitivity (Stool, Blood, Urine, Sputum, Throat Swab, Ear Swab)	222	231	381	146	121	161	108	98	78

IPH is a designated field visit site for the medical students of the country. Undergraduate medical and dental students from almost all medical colleges of the country come to see the activties of IPH for learning. Figure-14.4 shows the number of medical/dental students who visited IPH in different years (2001 to 2009).

Figure-14.4. Number medical and dental students visited IPH for field visit (2001 to 2009)



IPH also provides training to human resources. Table-14.10 shows a snap shot of the training programs and number of participants of different training programs organized during 2007 to 2009.

Table-14.10. Training of human resources provided by IPH (2007 to 2009)

Training name	Duration (days)	Y 2007 Class				Y 2008 Class				Y 2009 Class			
		I	II	III	IV	I	II	III	IV	I	II	III	IV
Computer (Basic)	28	6	2	13	_	40	55	220	_	11	5	19	-
Computer (Refresher)	14	6	2	13	_	_	25	50	_	27	19	161	-
Computer (Advanced)	28	-	-	-	-	-	-	-	-	-	3	29	-
Good Laboratory Practice	10	_	4	110	100	_	50	140	_	-	-	-	-
Good Laboratory Practice	25	_	_	_	_	_	_	_	_	-	-	-	-
Good Laboratory Practice	20	_	_	_	_	_	_	_	_	-	-	-	-
Good Laboratory Practice	14	_	_	_	_	_	_	_	_	-	-	-	-
Good Laboratory Practice	5	_	20	60	40	_	_	_	240	-	-	-	-
Security Management	5	_	_	_	_	_	_	_	30	-	-	-	-
English Language	28	_	_	_	_	40	51	_	_	21	-	-	-

Research and Development

For the year 2009, MIS-Health received information on research from the National Institute of Preventive and Social Medicine (NIPSOM) done by the students as part of their academic requirements. We also received information on research done by the Institute of Mother and Child Health (ICMH). In this chapter, a list of the research is provided.

Research of NIPSOM students (2009)

Research by M. Phil (Preventive and Social Medicine) students

- Health related quality of life in patients with Diabetes Mellitus.
- Factors affecting maternal mortality in selected rural area of Bangladesh.
- Factors associated with infant mortality in selected rural area of Bangladesh
- Selected indoor Air Pollutants and Respiratory Problems among Dhaka city dwellers.

Research by MPH (Nutrition) students

- Life style and food habit of the over weight children attending a health centre of Dhaka city.
- Nutritional status of under five (<5) children in a rural community.
- Nutritional status of the infertile patients attending the Infertility outdoor of a tertiary care hospital.
- Assessment of nutritional status and related behavioral risk factors among government high official.
- Maternal nutrition and nutritional status of breast fed children attending in a selected health centre.
- Nutritional status of street adolescents in some selected shelter homes in Dhaka city.

Research by MPH (Maternal and Child Health) students

- Blood transfusion status among emergency obstetric patients in comprehensive EMOC centre.
- Risk factors for bacterial vaginosis during first trimester of pregnancy in a selected union of Bangladesh.
- Tetanus-toxoid immunization status among unmarried female college students in rural area of Bangladesh.
- Knowledge about HIV/AIDS among female floating sex workers in Dhaka city.
- Gender role on contraceptive use among affluent and poor society.
- Knowledge on NSB among the copies attending a selected MCH-HP center.
- Reasons of relapse of drug dependency among the drug dependent individuals of rehabilitation centers.
- Teachers and student views regarding the reproductive and child health related contents in Community Medicine at undergraduate medical level in Bangladesh.
- Reasons for repeated menstrual regulation (MR) among the clients attending NGO clinics.
- Patterns of climacteric symptoms and its severity among the rural menopausal women
- Awareness of the community stakeholders towards the barriers to access to safe delivery care in a selected rural area.

- Maternal anemia and pregnancy out come in a maternity hospital.
- Cost of maternal care among the mothers attending a non-government selected MCH-FP center.
- Mother awareness on tuberculosis (TB) of under-5 children.
- Reasons of drop out of tetanus-toxoid vaccination in a selected urban area.
- Pattern of accidents among the under five children and working status of their mothers.

Research by MPH (Health promotion and Health education) students

- Educational intervention on dental caries among the primary school children.
- Health care cost of patients attending Out Patient Department of public hospital and private chamber.
- Food habit and dental caries among secondary school students.
- Effects of community intervention program on HIV/AIDS prevention in Nigeria.
- Knowledge about inhaler use among the chronic asthma patients in a selected hospital.
- Health Education intervention on hand washing after defecation in a selected slum area.
- Oral health status among 10 years old school children
- Status of anemia among under five children in anemia reduction program in a Rohinga refugee camp.
- Knowledge and practice of senior staff nurses about post operative infection control.
- Maternal characteristics and birth weight of the newborn.
- Oral hygiene practice of school children exposed and non exposed to pepsodent oral hygiene awareness program.
- Periodontal status among gestational diabetic women.
- Nutritional status and dietary pattern of non-primary school going children.
- Knowledge regarding Human Immunodeficiency Virus Infection among secondary school students.
- Nutritional status of pulmonary TB patient attending Shaymoli TB clinic, Dhaka.
- Knowledge of Senior Staff Nurses regarding bedsores and its preventions.
- Pattern of tobacco consumption among household members in a selected upazilla.
- Smoking habit among secondary school students.
- Oral health condition among tobacco users and non-users.
- Food habit and oral hygiene Status among under five children.
- Knowledge and practice of physical exercise among Diabetes Mellitus patients.
- Obesity status among the Diabetes mellitus patients.
- Nutritional knowledge among lactating mothers exposed and non-exposed to nutrition education.
- Educational Intervention on sexually transmitted infections among secondary school students.
- Tetanus toxoid vaccine coverage among girls students in a rural college.
- Educational intervention about importance of dental check-up during pregnancy.
- Knowledge on oral cancer among medical internee doctors.
- Oral health status and practice among the pregnant women.
- Knowledge on adverse effect of tobacco among the user in a community.

Research by MPH (Hospital Management) students

- Management of neuro-surgical emergencies in Bangabandhu Shekikh Mujib Medical University
- Factors of tooth extraction among adult patients attending in endodontics department 0f Dhaka Dental College & Hospital
- Oral health status of the street children of Dhaka Metropolitan City.
- Management of patients in surgical in-patient department at Rangpur Medical College Hospital.
- Satisfactions of indoor patients in a selected secondary level government hospital.
- Hospital preparedness for emergency in a selected hospital in Dhaka City.
- Infection Control Practices of Dental Surgeons in Some Selected Dental Clinics of Dhaka City,
- Job Satisfaction of Dental Surgeons Working in Some Selected Upazila Health Complexes of Bangladesh.
- Practices of Patients Safety Care in Dhaka Dental College and Hospital.
- Oral Hygiene Practices among the Students of Selected Secondary School in Dhaka City.
- Management Status of Radiological Services in Combined Military Hospital (CMH), Dhaka
- Level of Satisfaction of patients attending some selected private dental clinics in Dhaka City.
- Low Back Pain (LBP), its Management and patients satisfaction at the OPD of (BSSMU).

Research by MPH (Occupation and Environmental Health) students

- Leptospirosis among sewage cleaners in Dhaka city Corporation
- Effluents from selected industries and surface water quality.
- Occupational health problems among the brickfield workers.
- Respiratory problems among the shout based cotton industry workers.
- Awareness, practice and toxicity symptoms associated with pesticide use among farmer in a selected area of Bangladesh.
- Health problems of Jhum cultivators in a selected area of Chittagong Hill Tracts.
- Work related health problem & personal protective equipment use among the workers of a glass industry
- Occupational Health problems among foundry workers
- Voice problems in primary school teachers of some selected school in Bangladesh.
- Occupational health problem among the workers in silk industries
- Clinico-histopathological characteristics of skin lesions among arsenicosis patients.
- State of arsenicosis patients in an arsenic endemic area.
- Water use and sanitation status among the tribal in Chittagong Hill tracts.
- Occupational health problems and salary measures among the workers of poultry
- Health problems among the urea fertilizer factory workers.
- Health problems among handloom workers.

Research by MPH (Public Health Administration) students

- Preference of contraceptive methods among women attending the family planning services in selected hospital in Dhaka.
- Occupational health problems and safety measures among female garment workers.
- Body mass index and menopause related quality of life among the menopausal women.

- A study on clinical status & socio demographic pattern of beta thalassemia in Bangladesh.
- Nutritional status and life style of old hypertensive patients (60 years and above)
- The role of public health in mental health promotion.
- Barrier to adherence of tuberculosis treatment at selected DOTS center in Dhaka city.
- Perceptions of adolescents on health and gender issues.
- Lipid profile of gestational diabetic mellitus patients.
- Key factors determining the motivation and retention of intern doctors in rural area.
- Knowledge and attitude about maintenance of personal hygiene among the cleaners of some clinics in Dhaka city.
- Nutritional status of chronic arsenic exposed women in a selected area of Bangladesh.
- Gender discrimination and care seeking behavior of tuberculosis patients attending the selected DOTS center.
- Perception of university students regarding smoking in public place.
- Tobacco use and body mass index among rural population.

Research of ICMH (Year 2009; Research completed: 119)

Major areas of basic research

- Lead and Pregnancy
- Zinc and Pregnancy
- Serum level of measles IgG in infants
- Glucose sensors and diabetes mellitus

Major areas of clinical research

- Asthma
- Arsenic
- Bronchiolitis
- Complementary Feeding
- Rickets
- Nutrition
- Measles
- Neurodisability

Major areas of health system research

- Maternal and Perinatal Morbidity and Mortality
- Emergency Obstetric Care
- Physical abuse and Pregnancy
- Menopausal women
- School Health
- Health Seeking Behavior of Patients with Injury
- Behavior Change Communication

Human Resource

This chapter of the Health Bulletin 2010 describes the human resource status with respect to sanctioned posts, filled up posts and vacancies under the Directorate General of Health Services (DGHS) and also picturing the said status in allied departments (viz. Directorate General of Family Planning, Directorate General of Drug Administration and Directorate of Nursing Services). The profile of the medical teaching/training institutions is also presented. A profile of the training given under the operational plan of in-service training under Health, Nutrition and Population Sector Program (HNPSP 2003-10) is also added.

Sanctioned, filled up and vacant posts

The status of sanctioned posts of human resources, filled up posts and vacancies has been prepared in June 2010. Human resource deployment and redeployment are ongoing processes, and retirement, placement, transfer of manpower are constantly occurring. Therefore, the picture may not remain same during the time of reading of this Health Bulletin 2010. However, the readers will get a closely approximate assumption through reading this chapter. Table-16.1 shows the human resource status of the DGHS. Table-16.2 shows the division-wise distribution of the human resource under DGHS.

Table-16.1. Number of sanctioned, filled up and vacant posts under DGHS (June 2010)

Class		Sanctioned	Filled up				Vacant	
			Male	Female	Total	Sanctioned%	No.	Sanctioned%
Class I	Doctor	20,234	8,921	2,379	11,300	56%	8,934	44%
	Non-doctor	466	168	50	218	47%	248	53%
Class II		1,611	406	719	1,125	70%	486	30%
Class III		65,079	32,936	20,549	53,485	82%	11,594	18%
Class IV		24,912	14,603	5,354	19,957	80%	4,955	20%
Total		112,302	57,034	29,051	86,085	77%	26,217	23%

Table-16.2. Division-wise number of sanctioned, filled up and vacant posts under DGHS (June 2010)

Division	Class		Sanctnd	Filled up				Vacant	
				Male	Female	Total	Sanctd%	No.	Sanctd%
Barisal	Class I	Doctor	1,423	436	64	500	35%	923	65%
		Non-doctor	25	3	-	3	12%	22	88%
	Class II		109	11	67	78	72%	31	28%
	Class III		5,056	2,316	1,897	4,213	83%	843	17%
	Class IV		1,761	1,059	317	1,376	78%	385	22%
	Total		8,374	3,825	2,345	6,170	74%	2,204	26%
Chittagong	Class I	Doctor	3,361	1,341	316	1,657	49%	1,704	51%
		Non-doctor	55	13	-	13	24%	42	76%
	Class II		216	36	102	138	64%	78	36%
	Class III		11,990	5,986	3,237	9,223	77%	2,767	23%
	Class IV		4,016	2,260	684	2,944	73%	1,072	27%
	Total		19,638	9,636	4,339	13,975	71%	5,663	29%
Dhaka	Class I	Doctor	7,654	4,219	1,492	5,711	75%	1,943	25%
		Non-doctor	226	105	39	144	64%	82	36%
	Class II		699	239	299	538	77%	161	23%
	Class III		20,941	10,222	7,664	17,886	85%	3,055	15%
	Class IV		9,240	5,396	2,189	7,585	82%	1,655	18%
	Total		38,760	20,181	11,683	31,864	82%	6,896	18%
Khulna	Class I	Doctor	2,037	727	124	851	42%	1,186	58%
		Non-doctor	44	19	5	24	55%	20	45%
	Class II		158	30	83	113	72%	45	28%
	Class III		7,268	3,476	2,523	5,999	83%	1,269	17%
	Class IV		2,292	1,264	494	1,758	77%	534	23%
	Total		11,799	5,516	3,229	8,745	74%	3,054	26%
Rajshahi	Class I	Doctor	4,442	1,703	282	1,985	45%	2,457	55%
		Non-doctor	93	26	6	32	34%	61	66%
	Class II		323	78	142	220	68%	103	32%
	Class III		15,324	8,459	4,165	12,624	82%	2,700	18%
	Class IV		5,962	3,530	1,266	4,796	80%	1,166	20%
	Total		26,144	13,796	5,861	19,657	75%	6,487	25%
Sylhet	Class I	Doctor	1,317	495	101	596	45%	721	55%
		Non-doctor	23	2	-	2	9%	21	91%
	Class II		106	12	26	38	36%	68	64%
	Class III		4,500	2,477	1,063	3,540	79%	960	21%
	Class IV		1,641	1,094	404	1,498	91%	143	9%
	Total		7,587	4,080	1,594	5,674	75%	1,913	25%
	Grand Total		**112,302**	**57,034**	**29,051**	**86,085**	**77%**	**26,217**	**23%**

Table-16.3 shows the number of sanctioned, filled up and vacant posts at managerial, teaching and certain clinical positions.

Table-16.3. Number of sanctioned, filled up and vacant posts at managerial, teaching and certain clinical

Post	Sanctioned	Filled up		Vacant	
		No.	Sanctioned%	No.	Sanctioned%
Director/ Principal/ equivalent	70	66	94%	4	6%
Deputy director/equivalent	102	79	77%	23 2	3%
Assistant Director/Civil surgeon/equivalent	193	157	81%	36	19%
Deputy civil surgeon/UHFPO	505	436	86%	69	14%
Vice principal	15	12	80%	3	20%
Professor	463	284	61%	179	39%
Associate professor	671	390	58%	281	42%
Assistant Professor	917	740	81%	177	19%
Senior consultant	425	213	50%	212	50%
Senior lecture	8	8	100%	0	0%
Junior lecturer	32	27	84%	5	16%
Junior consultant/ equivalent	3,422	1,425	42%	1,997	58%
Assistant surgeon/ equivalent	13,514	7,497	55%	6,017	45%
Total=	20,337	11,334	56%	9,003	44%

Table-16.4 shows the number of sanctioned, filled up and vacant posts of the medical technologists as of June 2010.

Table-16.4. Number of sanctioned, filled up and vacant posts of medical technologists by discipline (June 2010)

	Pharmacy	Laboratory	Radiography	Radiotherapy	Physiotherapy	Dental	Total
Sanctioned	2,881	1,776	713	56	199	525	6,150
Filled up	2,115	1,349	634	31	33	496	4,658
Filled up as % of sanctioned	73%	76%	89%	55%	17%	94%	76%
Vacant	766	427	79	25	166	29	1,492
Vacant as % of sanctioned	27%	24%	11%	45%	83%	6%	24%

Table-16.5 shows the number of sanctioned, filled up and vacant posts of Medical Assistants and of the domiciliary staffs, viz., Health inspectors, Assistant Health Inspectors and Health Assistants under DGHS as of June 2010.

Table-16.5. Number of sanctioned, filled up and vacant posts of Medical Assistants and domiciliary staffs (Health Inspectors, Assistant Health Inspectors and Health Assistants) (June 2010)

Status	Medical Assistant	Domiciliary staff			
		Health Inspector	Assistant Health Inspector	Health Assistant	Total
Sanctioned	5,411	1,399	4,198	20,819	26,416
Filled up	3,694	1,124	3,444	18,717	23,285
Filled up as % of sanctioned	68%	80%	82%	90%	88%
Vacant	1,717	275	754	2,102	3,131
Vacant as % of sanctioned	32%	20%	18%	10%	12%

Table-16.6 shows the number of sanctioned, filled up and vacant posts of the alternative medicine under DGHS as of June 2010.

Table-16.6. Number of sanctioned, filled up and vacant posts of the alternative medicine (June 2010)

Name of post	Sanctioned	Filled up of sanctioned	Filled up as %	Vacant	Vacant as % of sanctioned
Medical officers for unani medicine	**66**	**20**	**30%**	**46**	**70%**
Medical officers for ayurvedic medicine	**66**	**22**	**33%**	**44**	**67%**
Medical officers for homeopathic medicine	**66**	**16**	**24%**	**50**	**76%**
Compounders for alternative medicine	**64**	**48**	**755**	**16**	**25%**
Herbal assistants for herbal gardens	**467**	**425**	**91%**	**42**	**9%**
Total=	**729**	**531**	**73%**	**198**	**27%**

Table-16.7 shows the number of sanctioned, filled up and vacant posts under the Directorate General of Family Planning (DGFP) as of June 2010.

Table-16.7. Number of sanctioned, filled up and vacant posts under Directorate General of Family Planning (June 2010)

Class	Sanctioned	Filled up	Filled up as % of sanctioned	Vacant	Vacant as % of sanctioned
Class I	**1,925**	**1,242**	**2.4**	**683**	**1.3**
Class II	**1,023**	**446**	**0.9**	**577**	**1.1**
Class III	**40,430**	**38,906**	**74.3**	**1,524**	**2.9**
Class IV	**8,959**	**8,044**	**15.4**	**915**	**1.7**
Total=	**52,337**	**48,638**	**92.9**	**3,699**	**7.1**

Table-16.8 shows the number of sanctioned, filled up and vacant posts under the Directorate General of Drug Administration (DGDA) as of June 2010.

Table-16.8. Number of sanctioned, filled up and vacant posts under Directorate General of Drug Administration (June 2010)

Class	Sanctioned	Filled up	Filled up as % of sanctioned	Vacant	Vacant as % of sanctioned
Class I	118	28	7.6	90	24.3
Class II	25	7	1.9	18	4.9
Class III	115	58	15.7	57	15.4
Class IV	112	39	10.5	73	19.7
Total=	370	132	35.7	238	64.3

Table-16.9 shows the number of sanctioned, filled up and vacant posts under the Directorate of Nursing Services (DNS) as of June 2010.

Table-16.9. Number of sanctioned, filled up and vacant posts under Directorate of Nursing Services (June 2010)

Class	Category	Sanctioned	Filled up	Filled up as % of sanctioned	Vacant	Vacant as % ofsanctioned
Class I	Nursing	161	6	3.73%	155	96.27%
	Non-nursing	1	0	0	1	100.00%
Class II	Nursing	463	150	32.04%	313	67.96%
	Non-nursing	20	8	40.00%	12	60.00%
Class III	Nursing	16,559	13,327	80.48%	3,232	19.52%
	Non-nursing	353	214	60.62%	139	39.38%
Class IV	Non-nursing	704	633	89.91%	71	10.09
	Total=	18,261	14,338	78.51%	3,923	21.49%

Institutions offering postgraduate medical degrees

Table-16.10a shows the list of institutions both in government and private sector with postgraduate medical courses. The table also shows name of the courses offered by each institution along with number of seats in each course. This report is based on information provided by Director, Medical Education on 4 March 2010. For the Fellowship and membership courses offered by the Bangladesh College of Physicians and Surgeons (BCPS), there is no fixed annual intake. The college offers FCPS (Fellow of the College of Physicians and Surgeons) and MCPS (Member of the College of Physicians and Surgeons) degree to the candidates. Any eligible candidate can sit for examination, and result depends on candidate's competence shown in the examination. Table-16.10b summarizes the outputs of BCPS from 2006 to 2009.

Table-16.10a. Institutions offering postgraduate medical courses and name of courses with number of seats in each course (March 2010)

Name of institute	MS	MD	M. Phil	Diploma	MPH	MTM	MMED	Total
Government (autonomous) (No. of institution: 1)								
Bangabhandu Sheik Mujib Medical University Shahbag, Dhaka	140	150	70	106	0	10	0	476
Total=	140	150	70	106	0	10	0	476
Government (No. of institutions: 22) Center for Medical Education (CME), Mohakhali, Dhaka	0	0	0	0	0	0	15	15
Chittagong Medical College, Chittagong	37	48	29	48	03	0	0	165
Dhaka Dental College, Mirpur-14, Dhaka	22	0	0	0	0	0	0	22
Dhaka Medical College, Dhaka.	70	110	86	82	06	0	0	354
Institute of Child & Mother Health (ICMH), Matuail, Dhaka	10	10	0	30	0	0	0	50
Institute of Nuclear Medicine and Ultrasound, 7th floor, Block D, BSMMU Campus, Shahbag, Dhaka-1000	0	0	0	10	0	0	0	10
Mymensingh Medical College, Mymensingh	22	40	33	59	0	0	0	154
National Institute of Cancer Research and Hospital, Mohakhali, Dhaka	06	12	0	0	0	0	0	18
National Institute of Cardio-Vascular Diseases (NICVD), Sher-e-Bangla Nagar, Dhaka	20	20	0	14	0	0	0	54
National Institute of Chest Diseases and Hospital (NIDCH), Mohakhali, Dhaka	06	15	0	20	0	0	0	41
National Institute of Child Health, Shere-Bangla Nagar, Dhaka	10	15	0	15	0	0	0	40
National Institute of Kidney Diseases and Urology (NIKDU), Shere-Bangla Nagar, Dhaka	06	09	0	0	0	0	0	15
National Institute of Mental Health, Shere-Bangla Nagar, Dhaka	0	06	0	0	0	0	0	06
National Institute of Ophtahalmology, Shere-Bangla Nagar, Dhaka	10	0	0	10	0	0	0	20
National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka	0	0	07	0	166	0	0	173
National Institute of Traumatology and Orthopedic Rehabilitation (NITOR) Shere-Bangla Nagar, Dhaka	20	0	0	10	0	0	0	30
Rajshahi Medical College, Rajshahi	10	19	25	41	05	0	0	100
Rangpur Medical College, Rangpur	08	08	08	22	0	0	0	46
Shahid Ziaur Rahman Medical college, Bogra	0	0	0	10	0	0	0	10
Sher-E-Bangla Medical College, Barishal	04	0	08	22	0	0	0	34
Sir Salimullah Medical College, Dhaka	21	36	18	40	05	0	0	120

Table-16.10a. Institutions offering postgraduate medical courses and name of courses with number of seats in each course (March 2010) (Continued)

Name of Institute	MS	MD	M. Phil	Diploma	MPH	MTM	MMED	Total
Sylhet M.A.G Osmani Medical College, Sylhet	20	12	28	40	0	0	0	100
Total=	302	360	242	473	185	0	15	1577
Private (No. of institutions: 10)								
Bangladesh College of Physicians and Surgeons, Mohakhali, Dhaka*	0	0	0	0	0	0	0	0
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, Shishu Shasthya Foundation, Bangladesh 6/2 Barabagh, 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), FoyÕs 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, Shere-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. Plot-15, Road-71, 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 =	463	548	327	674	185	25		2,222
*Offers FCPS and MCPS courses. Number of seats are not fixed and not included in this count								

Table-16.10b. Number of fellowships and memberships offered by Bangladesh College of Physicians and Surgeons in different disciplines from 2006 to 2009

Subject	MCPS					FCPS				
	Y 2006	Y 2007	Y 2008	Y 2009	Total	Y 2006	Y 2007	Y 008	Y 2009	Total
Anesthesiology	5	9	6	7	27	9	7	10	10	36
Biochemistry	1	1	0	0	2					0
Cardiology	0	2	1	0	3					0
Clinical Pathology					0	6	5	3	4	18
Conservative Dentistry	0	0	0	0	0					0
Dental surgery					0	2	4	5	2	13
Dermatology & Venereology	8	3	6	3	20	2	2	4	10	18
Family Medicine	0	0	0	1	1	4	2	1	1	8
Forensic medicine					0	2	0	1	1	4
Gastroenterology	0	0	1	0	1					0
Hematology	5	1	3	3	12					0
Histopathology	0	1	1	1	3					0
Medicine	30	13	57	57	157	5	3	12	19	39
Microbiology	2	1	2	1	6					0
Neonatology	0	1	0	1	2					0
Obstetrics & Gynecology	43	52	46	67	208	33	40	32	40	145
Ophthalmology	15	23	11	15	64	2	4	7	14	27
Oral & Maxillo-Facial Surgery	0	3	0	3	6					0
Orthodontics & Dentofacial Orthopedic	0	1	2	3	6					0
Otolaryngology	4	9	14	11	38	4	2	1	3	10
Pediatric Surgery	0	0	1	0	1					0
Pediatrics	18	16	33	26	93	1	1	5	6	13
Physical Medicine & Rehabilitation	4	1	2	4	11					0
Prosthodontics	0	0	1	0	1					0
Psychiatry	2	3	1	3	9	2	4	2	1	9
Pulmonology	0	0	0	0	0					0
Radiology & Imaging	6	4	4	9	23	2	1	6	2	11
Radiotherapy	3	3	0	0	6	0	0	0	0	0
Surgery	18	25	23	22	88	2	4	4	12	22
Thoracic Surgery	0	0	0	1	1					0
Urology	0	0	1	1	2					0
Total=	164	172	216	239	791	76	79	93	125	373

Institutions offering undergraduate medical degrees

Table-16.11 shows the list of institutions in government sector which offer undergraduate MBBS medical degrees with number of seats in each institution. This report is based on information provided by Director, Medical Education on 4 March 2010.

Table-16.11. Government institutions offering undergraduate MBBS medical degrees with number of seats (March 2010)

Division	Name of Medical College	Year establishe	No. of seats
Under Ministry of Health and Family Welfare			
Barisal	Shere-Bangla Medical College, Barisal	1968	178
Chittagong	Chittagong Medical College, Chittagong	1962	178
	Comilla Medical College, Comilla	1992	107
	CoxÕs Bazar Medical College, CoxÕs Bazar	2008	50
	Noakhali Medical College, Noakhali	2008	50
Dhaka	Dhaka Medical College, Dhaka	1948	178
	Mymensingh Medical College, Mymensingh	1962	178
	Sir Salimullah Medical College, Mitford, Dhaka	1972	178
	Faridpur Medical College, Faridpur	1992	107
	Shahid Shuhrawardhy Medical College, Shere-Bangla nagar, Dhaka	2005	126
Khulna	Khulna Medical College, Khulna	1992	132
Rajshahi	Rajshahi Medical College, Rajshahi	1962	178
	Rangpur Medical College, Rangpur	1972	178
	Dinajpur Medical College, Dinajpur.	1992	132
	Shaihid Ziaur Rahman Medical College, Bogra	1992	132
	Pabna Medical College, Pabna	2008	50
Sylhet	M. A. G. Osmani Medical College, Sylhet	1966	178
	Total Medical Colleges = 17	Total seats=	2,310*
*includes 40 seats for children of freedom fighters and 20 seats for tribal students			
Under Ministry of Defense			
Dhaka	Armed Forces Medical Colleges		100
	Total Medical College = 1	Total seats=	100
Additional seats reserved for foreign students			
All divisions	Seats for foreign students		99
		Total seats=	99
	No. of institutions: 18	Grand Total (No. of seats)=	2,509

Table-16.12 shows the list of institutions in private sector which offer undergraduate MBBS medical degrees with number of seats in each institution. This report is based on information provided by Director, Medical Education on 4 March 2010. The readers should read the note of Table-16.12 to know the status of the private medical colleges.

Table-16.12. Private institutions offering undergraduate MBBS medical degrees with number of seats (March 2010)

Division	Name of College	Estd	No. of seats
Chittagong	BGC Trust Medical College, Kanchan nagar, Chandanaish, Chittagong	2002	100
	Central Medical College, Bishaw Road, Dhaka-Chittagong High way, Comilla	2005	50
	Chottagram, Ma O Shishu Hospital Medical College, Agrabad, Chittagong	2006	75
	Eastern Medical College,Kabila, Dhaka-Chittagong High way, Comilla	2005	50
	Institute of Applied Health Sciences, FoyÕs lake, Chittagong	1990	200
	Southern Medical College, Mozaffor Ahmed Chy. Road,East Nasirabad, Chittagong	2006	50
Dhaka	Ad-din Womens Medical College, 2 Boro Mogbazar, Dhaka	2008	50
	Anwar Khan Modern Medical College, Road # 8, Dhanmondi, Dhaka	2008	75
	Bangladesh Medical College, Road # 14/A, Dhanmondi, Dhaka	1985	130
	Community Medical College, 190/1Boro Mogbazar, Wireless rail gate, Dhaka	2008	50
	Dhaka National Medical College, 53/1 Jonson Road, Dhaka	1995	125
	East West Medical College, Aichi Nagar,JBCS Sarani, Horirampur Turag, Dhaka	2000	75
	Enam Medical College, Parbatinagar, Thana Road, Savar, Dhaka	2003	100
	Faridpur diabetic Association Medical college, Ziltuli, Faridpur	2010	50
	Green Life Medical College, Dhanmondi, Dhaka	2010	50
	Holy Family Red Creasent Medical College, 1 Iskhaton garden Road, Dhaka	2000	110
	IBN Sina Medical College, Kollanpur, Dhaka	2005	50
	Jahurul Islam Medical College, Bajitpur, Kishoreganj	1992	100
	Kumudini Medical College, Mirjapur, Tangail	2001	100
	Lab Aid Medical College, Dhanmondi, Dhaka	2010	50
	Medical College for Women and Hospital, Road # 8-9, Sector-1, Uttara, Dhaka	1992	100
	Shahid Monsur Ali Medical College, Plot # 26, Road# 10, Sector-11, Uttara, Dhaka	1998	75
	Shahabuddin Medical College, Road # 113/A, Plot # 12, Gulshan Model Town, Dhaka	2003	75
	Tairunnessa Medical College,Targas, Board Bazar, Gazipur	2001	50
	Uttara Adhunik Medical College, Uttara, Dhaka	2007	75
	Z.H Sikder, Women Medical College, Monica Estate, West Dhanmondi, Dhaka	1992	110
	Community Based Medical College, 161 K. B. Ismail Road, Mymensingh	1995	100
	Delta Medical College, 26/2 Darus Salam Road, Mirpur-1, Dhaka	2008	50
	Ibrahim Medical College, Ibrahim Sarani, Segun Bagicha, Dhaka	2002	100
	International Medical College, Satalsh Bazar, Gushulia,Tongi, Gazipur	2000	90
	Nightingale Medical College, Ashulia, Sarker Market, Dhaka	2006	0
	Northern International Medical College, House # 81, Road # 7, Dhanmondi, Dhaka	2006	50

Table-16.12. Private institutions offering undergraduate MBBS medical degrees with number of seats (March 2010) (Continued)

Division	Name of College	Estd	No. of seats
	Samaj Vittic Medical College,Miza Nagar, Via - Savar Cant. Dhaka.	1989	100
Rajshahi	Islami Bank Medical College, Rajshahi	2004	50
	North Bengal Medical College, JC Road, Dhanbandi, Sirajganj	2000	50
	Prime Medical College, Pirjabad, Rangpur	2008	75
	Rangpur Community Hospital Medical College, Medical East Gate, Rangpur	2008	75
	TMSS Medical College, Thengamara, Gokul, Bogra	2008	50
	Northern Medical College, Dhap, Chiklibata, Burirhat Road, Rangpur	2006	30
	Khawja Eunus Ali Medical College, Enayet pur, Sirajganj	2005	60
Sylhet	Jalalabad Ragib Rabeya Medical College, Pathan tola, Sylhet	1996	160
	North East Medical College, South Surma, Sylhet	1998	105
	Sylhet Women Medical College, Mirbox Tola, Sylhet	2006	75
	Durra Samad Rahman Red Creasent WomenÕs Medical College, Sylhet	2006	0
Total medical colleges complying MOHFWÕs guidelines = 33; Running by order of High Court = 8; Running under private university =2; Closed = 1; Total = 44		**Total seats=**	**3,345**

Institutions offering undergraduate dental degrees

Table-16.13 shows the list of institutions in government sector which offer undergraduate BDS dental degrees with number of seats in each institution. This report is based on information provided by Director, Medical Education on 4 March 2010.

Table-16.13. Government institutions offering undergraduate BDS dental degrees with number of seats (March 2010)

Division	Name of Dental College	Year established	No. of seats
Under Ministry of Health and Family Welfare			
Chittagong	Chittagong Medical College Dental Unit, Chittagong		50
Dhaka	Dhaka Dental College, Dhaka		110
Rajshahi	Rajshahi Medical College Dental Unit, Rajshahi		50
	Total Dental Colleges = 3	Total seats=	210*
*includes 10 seats for children of freedom fighters and 5 seats for tribal students			

Table-16.14 shows the list of institutions in private sector which offer undergraduate BDS dental degrees with number of seats in each institution. This report is based on information provided by Director, Medical Education on 4 March 2010.

Table-16.14. Private institutions offering undergraduate BDS dental degrees with number of seats (March 2010)

Division	Name of College	Year established	No. of seats
Chittagong	Chittagong International Dental College, 206/1, Hazi Chandmia Road, Samsherpara, Chandgaon, Chittagong	2005	50
Dhaka	Pioneer Dental College, 111, Malibag, D I T Road, Dhaka	1995	100
	University Dental College, 120 Siddeshwari Outer Circular Road, Century Arced, Mogbazar, Dhaka	1996	85
	Bangladesh Dental College, Road # 14/A Dhanmondi, Dhaka	1997	50
	Samaj Vittik Medical College, Miza Nagar, Via Savar Cantonment, Dhaka	1997	50
	City Dental College, 1085/1, Malibag Chowdury Para, Dhaka	1998	75
	Sapporo Dental College, Plot-12, Road-1/B, Sector-9, Uttara Model Town, Dhaka	2000	70
	Marks Dental College, A/3, Main Road, Section-14, Mirpur, Dhaka	2008	50
	Update Dental College, 162, Atish Dipankar Road, West Mugda, Dhaka	2008	50
	Saphena Women's Dental college, Baromogbazar, Dhaka	2010	40
Rajshahi	Rangpur Dental College, Medical East gate, Rangpur	2008	100
	Udayan Dental College, Rajshahi	2008	50
Total Dental Colleges = 12		**Total seats=**	**770**

Table-16.15 shows the list of academic institutions both in government and private sector which offer undergraduate degrees and diplomas in alternative medicine with number of seats.

Table-16.15. Academic institutions for teaching and training of alternative medicines in Bangladesh

Name of the AMC Institute	No			Duration of course	Duration of internship	Degree offered	No. of seats
	Total	Government	Private				
Government Unani & Ayurvedic Degree College	1	1	0	5 years	1 year	BUMS Bachelor of Unani Medicine & Surgery); BAMS (Bachelor of Ayurvedic Medicine & Surgery)	50
Homeopathic Degree College	1	1	0	5 years	1 year	BHMS (Bachelor of Homeopathic Medicine & Surgery)	50
Unani diploma college	11	1	10	4 years	6 months	DUMS (Diploma in Unani Medicine & Surgery)	25*
Ayurvedic diploma college	7	0	7	4 years	6 months	DAMS (Diploma in Ayurvedic Medicine & Surgery)	
Homeopathic diploma college	38	0	38	4 years	6 months	DHMS (Diploma in Homeopathic Medicine & Surgery)	
*No. of seats in government owned Tibbia College in Sylhet							

Institutions offering nursing degrees

Table-16.16 shows the list of Colleges of Nursing under government sector which offer diploma or post-diploma nursing degrees with number of seats in each institution.

Table-16.16. Government Nursing Colleges offering Nursing Diploma or Post-Diploma degrees (March 2010)

Division	Name of Nursing College	Degree	No. of seats
Under Ministry of Health and Family Welfare			
Chittagong	College of Nursing, Chittagong Medical College, Chittagong	Diploma	50
Dhaka	College of Nursing, Mohakhali, Dhaka (5 reserved seats for foreign students)	Post-Diploma	125
	College of Nursing, Dhaka Medical College Hospital, Dhaka	Diploma	100
	College of Nursing, Mymensingh Medical College, Mymensingh	Diploma	50
Rajshahi	College of Nursing, Rajshahi Medical College, Rajshahi	Diploma	50
Total Nursing Colleges under MOHFW = 5		Total seats=	375
Under Ministry of Defense			
Dhaka	Armed Forces Medical Institute, Dhaka Cantonment, Dhaka	Diploma	25
	Total Nursing College under Ministry of Defense = 1	Total seats=	25
	Total Nursing Colleges in Government Sector = 6	Grand Total=	400

Table-16.17 lists of Colleges of Nursing under private sector, which offer diploma or post-diploma nursing degrees with number of seats in each institution.

Table-16.17. Private Nursing Colleges offering Nursing Diploma or Post-Diploma degrees (March 2010)

			No. of seats	
Division	**Name of Nursing College**		**Diploma**	**Post-Diploma**
Dhaka	**International Medical College, Tongi, Gazipur**		**20**	**0**
	Kumudini Nursing College, Kumudini Hospital, Mirzapur, Tangail		**30**	**30**
	State College of Health Sciences, Dhanmondi, Dhaka		**20**	**20**
	Shahid Monsur Ali Nursing College, Uttara, Dhaka		**25**	**0**
Rajshahi	**TMSS Nursing College, Bogra**		**0**	**30**
Sylhet	**Jalalabad Ragib-Rabeya Nursing College, Pathantula, Sylhet**		**20**	**0**
	North East Nursing College, S. Surma, Sylhet		**20**	**0**
	Total Nursing Colleges under private sector = 7	**Total seats=**	**135**	**80**
		Grand Total=	**215**	

Two private institutions run specialized nursing diploma courses on cardiac nursing and rehabilitation nursing. Table-16.18 lists of those institutions with number of seats in each institution.

Table-16.18. Private institutions conducting specialized nursing diploma courses (March 2010)

		No. of seats	
Division	**Name of Private Institution**	**Diploma**	**Post-Diploma**
Dhaka	**National Heart Foundation, Mirpur, Dhaka (Cardiac Nursing: ICU, CCU, Cath lab)**	**20**	**0**
	Bangladesh Health Professionals Instituion (CRP), Chapain, Savar, Dhaka (Rehabilitation Nursing)	**20**	**0**
Total Private Institutions under private			

Beside the Colleges of Nursing and two private institutions offering specialized nursing diploma, there are 34 nursing institutes in government sector (seats 1,250) and 20 in private sector (seats 530). Tables-16.19 and 16.20 summarize the lists.

Table-16.19. Government nursing institutes with their number of seats

Division	Name of nursing institute	No. of seats
Barisal	Nursing institutes attached with medical college hospitals	
	1. Nursing Institute attached with Shere Bangla Medical College Hospital, Barisal	50
Chittagong	2. Nursing Institute attached with Comilla Medical College Hospital, Comilla	50
Dhaka	3. Nursing Institute attached with Faridpur Medical College Hospital, Faridpur	50
	4. Nursing Institute attached with SSMC Mitford Hospital, Dhaka 50	
Rajshahi	5. Nursing Institute attached with Rangpur Medical College Hospital, Rangpur	50
Sylhet	6. Nursing Institute attached with MAG Osmani Medical College Hospital, Sylhet	50
	Total=	300
	Nursing institutes attached with general hospitals	
Barisal	1. Nursing Institute attached with Patuakhali General Hospital	40
Chittagong	2. Nursing Institute attached with Noakhali General Hospital	40
	3. Nursing Institute attached with Rangamati General Hospital	40
Dhaka	4. Nursing Institute attached with Tangail General Hospital	40
Khulna	5. Nursing Institute attached with Jessore General Hospital	40
	6. Nursing Institute attached with Khulna	50
	7. Nursing Institute attached with Kustia General Hospital	40
Rajshahi	8. Nursing Institute attached with Bogra General Hospital	40
	9. Nursing Institute attached with Dinajpur General Hospital	40
	10. Nursing Institute attached with Pabna General Hospital	40
	11. Nursing Institute attached with Sirajganj General Hospital	30
	Total=	440
	Nursing institutes attached with district hospitals	
Barisal	1. Nursing Institute attached with Bhola District Hospital	30
Chittagong	2. Nursing Institute attached with Brahamonbaria District Hospital	30
	3. Nursing Institute attached with CoxÕs Bazar District Hospital	30
	4. Nursing Institute attached with Feni	30
Dhaka	5. Nursing Institute attached with Munshiganj District Hospital	30
	6. Nursing Institute attached with Netrokona District Hospital	30
	7. Nursing Institute attached with Rajbari District Hospital	30
Khulna	8. Nursing Institute attached with Bagerhat District Hospital	30
	9. Nursing Institute attached with Chuadanga District Hospital	30
	10. Nursing Institute attached with Magura District Hospital	30
	11. Nursing Institute attached with Satkhira District Hospital	30
Rajshahi	12. Nursing Institute attached with Chapai Nawabganj District Hospital	30
	13. Nursing Institute attached with Joyprhat District Hospital	30
	14. Nursing Institute attached with Kurigram District Hospital	30
	15. Nursing Institute attached with Sherpur District Hospital	30
	16. Nursing Institute attached with Thakurgaon District Hospital	30
Sylhet	17. Nursing Institute attached with Moulvi Bazar District Hospital	30
	Total=	510
	Grand Total=	1,250

Table-16.20. Private nursing institutes with their number of seats

Division	Name of nursing institute	No. of seats
Chittagong	1. Nursing Institute attached with Chandraghona Missionary hospital	30
	2. Nursing Institute, Chottogram Ma O Shishu Hospital, Agrabad, Chittagong	25
Dhaka	3. Fatima Nursing Institute, Moghbazar, Dhaka	20
	4. Kumudini Nursing School, Mirzapur, Tangail	50
	5. Moulana Bhashani Nursing Institute, Uttara, Dhaka	20
	6. Nursing Institute attached with BHPI, CRP, Savar, Dhaka	20
	7. Nursing Institute attached with Diabetic Hospital, Faridpur	25
	8. Nursing Institute attached with Holy Family Red Crescent Hospital, Dhaka	40
	9. Nursing Institute attached with Zahurul Islam Medical College Hospital, Bajitpur	20
	10. Nursing Institute, Central Hospital, Dhaka	20
	11. Nursing Institute, Christian Health Project, Joy ramkura, Haluaght, Mymensingh	20
	12. Nursing Institute, Shishu Shayastha Foundation Hospital, Mirpur, Dhaka	20
	13. Nursing Institute, Uttara Women Medical College Hospital, Dhaka	25
	14. TMMC Nursing Institute, Targas, Boardbazar, Gazipur	20
Khulna	15. Ad-Din Nursing Institute, Jessore	20
	16. Safina Nursing Institute, Kustia	20
Rajshahi	17. Nursing Institute attached with KY Ali Medical College Hospital, Enayetpur, Sirajganj	50
	18. Nursing Institute attached with Rajshahi Missionary hospital	20
	19. Nursing Institute, Islami Bank Medical College Hospital, Rajshahi	40
Sylhet	20. North East Nursing Institute, Sylhet	25
	Total=	530

Private sector institutions to poduce midwives

There are also eight junior midwifery institutes in the private sector with total seat capacity of 140 to produce mid wife professionals. Table-16.21 shows the list.

Table-16.21. Junior midwifery institutes with number of seats in each

Division	Name of junior midwifery institute	No. of seats
Chittagong	1. CR Maternity Hospital, Chandpur	20
	2. Mamon Hospital, City Corporation, Chittagong	25
Dhaka	3. Junior Midwifery Institute, Holy Family Red Crescent Hospital, Dhaka	25
	4. Kumudini Hospital, Mirzapur, Tangail	10
	5. SMUR Maternity Hospital, Bangla Bazar, Dhaka	20
Khulna	6. Ad-din maternity Hospital, Jessore	20
	7. Fatema Hospital, Jessore	10
Rajshahi	8. Christian Hospital, Bogra	10
	Total=	140

Training facilities for production of community based skilled birth attendants

To facilitate attendance of child births by skilled health personnel, the Ministry of Health and Family Welfare has a program to produce community based skilled birth attendants. There are 41 facilities, 39 in government sector and 2 in private sector, to provide training in this regard. Table-16.22 shows the location of the training facilities.

Table-16.22. Training institutes for production of community based skilled birth attendants

Ownership	Type of facility	Location	No. of facilities
Government	CSBA Institute run civil surgeon and attached with General Hospital / District Hospital	Narayangonj (WHO), Manikgonj, Kishoregonj, Jamalpur, Habigonj, Gopalgonj, Narsingdi, Natore, Nilphamari, Naogaon, Kurigram, Panchagarh, Gaibandha, Jhinaidah, Bagerhat, Rajbari, Madaripur, Munshigonj, Chandpur	19
	Family Welfare Visitor Training Institute	Tangail (WHO), Barisal, Faridpur, Comilla (WHO), Kushtia, Khulna (WHO)	6
	CSBA Institute attached with Nursing Institute	Noakhali, Jessore, Satkhira, Thakurgaon, Feni, Joypurhat, Pabna, Brahminbaria, Netrokona, Chuadanga, CoxÕs Bazar, Patuakhali, Chapai-Nowabgonj, Sirajgonj	14
Private	CSBA-Institute	Kumudini Hospital, Mirzapur, Tangail; Lamb Hospital, Parbatipur, Dinajpur	2
		Total=	41

Training schools for production of medical assistants

Medical assistants work as the assistants to the medical doctors posted at the upazila health complexes as well as at union sub-centers. Medical assistants are produced by Medical Assistant Training School (MATS) through a three years' academic course comprised of theory and practical classes. Currently there are 7 MATS under government sector and 25 under private sector. Total annual production capacity is 2,505 of which 650 by government MATS and 1,855 by private MATS. Tables-16.23 and 16.24 show the list of MATS.

Table-16.23. Government Medical Assistant Training School (MATS) and number of seats (March 2010)

Chittagong	Medical Assistant Training School, Comilla (non-functioning)	50
	Medical Assistant Training School, Noakhali	100
Dhaka	Medical Assistant Training School, Faridpur	50
	Medical Assistant Training School, Tangail	100
Khulna	Medical Assistant Training School, Bagerhat	150
	Medical Assistant Training School, Kushtia	100
Rajshahi	Medical Assistant Training School, Sirajganj	100
Note: A new MATS is being constructed in Jenidah district	**Total=**	650

Table-16.24. Private Medical Assistant Training School (MATS) and number of seats (March 2010)

Division	Name of institute	Year established	No. of seats
Chittagong	Thakur Para Medical Assistant Training School, Thakur Para, Comilla	2008	50
Dhaka	Advance Medical Assistant Training School, Green Road, Dhaka	2008	100
	AR Medical Assistant Training School, Mohammadpur, Dhaka	2009	75
	Bangladesh Medical Assistant Training School, Uttara, Dhaka	2009	50
	Dhaka Medical Assistant Training School, Mirpur, Dhaka	2008	80
	New Pilot Medical Assistant Training School, Tangail Sadar	2009	50
	Rabeya Medical Assistant Training School, Savar, Dhaka	2008	50
	Rampura Medical Assistant Training School, Rampura, Dhaka	2008	70
	Rumdo Medical Assistant Training School, Mymensingh	2008	60
	SAIC Institute of Medical Assistant, Mirpur-6, Road # 2, Block # B, Dhaka	2008	40
	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, Sadargat, Dhaka	2007	60
Rajshahi	The Medical Assistant Training School, Mirpur, Dhaka	2008	100
	Green International Medical Assistant Training School, Rangpur	2008	150
	Health Ways Medical Assistant Training School, Bogra	2008	50
	Prime Medical Assistant Training School, Rangpur	2008	80
	Rajshahi Medical Assistant Training School, Rajshahi	2008	80
	SIMT Medical Assistant Training School, Nishindhora, Bogra	2008	20
	TMSS Medical Assistant Training School, Bogra	2008	100
	Udayan Medical Assistant Training School, Rajshahi	2008	160
Sylhet	Jalalabad Medical Assistant Training School, Sylhet	2008	50
	Moulobibazar Medical Assistant Training School, Kushumbag, Moulavibazar	2008	80
	Sylhet Medical Assistant Training School, Sylhet	2008	40
	No. of private MATS = 25	Total=	1,855

Institutes of Health Technology (IHT) for production of medical technologists

Medical technologists are laboratory technologists or staffs responsible for technical jobs under supervision of medical experts. There was an acute shortage of medical technologists in the country. However, a steady growth of private institutes has been noticed and as of today there are 56 private institutes of medical technology against only 3 in the government sector. Tables-16.25 shows the list of government IHTs and Table-16.26 shows the list of private IHTs.

Table-16.25. List of government Institutes of Health Technology with number of seats by discipline

Division	Name of institute with location	Estd.	Bottom of table shows full word of abbreviation								Total
			LAB	RDL	PTY	SI	DENT	PHAR	RTY	FF & TR	
Dhaka	Institute of Health Technology, Mohakhali, Dhaka	1963	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	326
	Institute of Health Technology, Bogra	2006	65	55	50	50	55	55	20	5+2	357
	Total institutes = 3	Total	165	155	150	150	155	155	60	20	1,010

LAB: Laboratory; RDL: Radiology; PTY: Physiotherapy; SI: Sanitary Inspection; DENT: Dentistry; PHAR: Pharmacy; RTY: Radiotherapy; FF&TR: Children of freedom fighters and tribal students

Table-16.26. List of private Institutes of Health Technology with number of seats by discipline

Division	Name of institute with location	Estd.	Bottom of table shows full word of abbreviation							Total
			LAB	RDL	PTY	DENT	PHAR	Other1	Other2	
Chittagong	C.S.C.R. Institute of Medical Technology, 1675/A O.R. Nijam Road, 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, Laksham Road, Commilla	2007	25	25	0	25	25	0	0	100
	Comilla Institute of Medical Technology, Thakurpara, Comilla	2007	25	25	0	0	25	0	0	75
	Ilah College of Medical Technology, Nahar Kutir, East Bank of Ranir Digi, Comilla	2005	25	0	0	0	25	0	0	50
	Institute of Medical Technology, 180 Feringibazar, City Corporation, Chittagong	2003	50	50	0	50	0	0	0	150
Dhaka	A.R. Institute of Medical Technology, Nabodoy Housing Society, Mohammadpur, Dhaka	2008	50	25	50	50	50	0	0	225
	Ahsania Mission Institute of Medical Technology, Mirpur, Dhaka	2008	25	25	25	0	0	0	0	75
	Armed Forces Institute of Medical Technology, Dhaka cantonment	2010	25	25	25	25	25	10 (OTA)	15 (OCA)	150
	Bangladesh Institute of Medical & Dental Technology, 23/10, Khiljee road, Mohammadpur, Dhaka	1996	85	20	20	25	0	0	0	150
	Bangladesh Medical College, Dhaka		0	0	25	0	0	0	0	25
	Center for Rehabilitation of the Paralysed, Savar, Dhaka	1999	50	50	50	0	0	0	Occu-50	200
	Dhaka Institute of Medical Technology, House 1/20, Humayun Road, College Gate, Mohammadpur, Dhaka	2008	50	0	25	30	40	0	0	145
	Fortune Institute of Medical Technology, House -13, Sector-01, Jasim uddin Road, Uttara, Dhaka	2007	50	25	0	45	45	0	0	165
	Ganashaystha Institute of Health Sciences, Tengra, Shrepur, Gajipur	2006	50	0	0	50	0	0	0	100

Table-16.26. List of private Institutes of Health Technology with number of seats by discipline (continued)

Division	Name of institute with location	Estd.	Bottom of table shows full word of abbreviation							Total
			LAB	RDL	PTY	DENT	PHAR	Other1	Other2	
Dhaka	Green view IHT, 25/3, Road No. 7, Green Road, Dhanmondi, Dhaka	2002	40	0	0	40	25	0	0	105
	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, 190/1, Baro Magbazar, Dhaka	2005	25	0	0	25	25	0	0	75
	Institute of Health Technology, House 68, Road No-4, Block B, Section -12, Dhaka	2000	100	0	0	50	50	0	0	200
	Institute of Medical & Dental Technology, Tangail	2007	30	25	0	25	25	0	0	105
	International Institute of Health Sciences, House 71/1, Road 15/A, Shankar Bus stand, Dhaka	2006	70	0	0	50	40	0	0	160
	Institute of Medical Technology, Tamizuddin road, Jhiltuli, Faridpur	2005	50	0	0	25	25	0	0	100
	Jefri Institute of Health Sciences & Technology, 5 Sikder Real State, Dhanmondi, Dhaka	2009	50	50	50	50	50	0	0	250
	Marks Institute of Medical Technology, A/3, Section-14, Mirpur, Dhaka	2002	50	0	0	50	50	0	0	150
	Millennium Institute of Medical Technology, 61, Bacharam Dewry, Dhaka	2007	25	0	0	25	25	0	0	75
	National Institute of Medical & Dental Technology, 19/10 Babar road, Mohammadpur, Dhaka	2005	34	0	0	0	31	0	0	65
	National Institute of Medical Technology, Garib-newaz Avenue, sector-13,Uttara Model Town	2003	50	0	0	50	50	0	0	150
	Newlab Institute of Medical Tech, Asad Gate road, Mohammadpur, Dhaka	2005	50	0	0	30	30	0	0	110
	rince Institute of Medical Technology, B-4, Talbag Thana Road, Savar, Dhaka	2008	45	0	0	30	40	0	0	115
	Prof. Shuhrabuddin Institute of Medical Technology, Sabalia, Tangail	2007	75	0	25	45	45	0	0	190
	Radiant Institute of Medical Technology 69/E, Ara Plaza, 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

Some private institutes are running certificate courses on medical technology. Table-16.27 lists those institutes.

Table-16.27. List of private institutes running certificate courses in medical technology with number of seats by discipline

Division	Name of Institution with address	Estd.	Optometry	Refraction	Ophthalmic Assistant	Ophthalmic Nursing Assistant	Total
Chittagong	Bangladesh Jatiyo Andho Kallyan Samity, Comilla	2008	25	0	25	0	50
Dhaka	Bangladesh Islamia Eye Hospital, Dhaka	2008	25	25	25	25	100
	Fashion Eye Hospital Limited Fashion Tower, 98/6-A, Elephant Road, Bara Maghbazar,Dhaka	2008	0	10	10	0	20
	Total institutes = 3	**Total=**	**50**	**35**	**60**	**25**	**170**

There are initiatives also to start bachelor's degree courses for medical technology. Three government institutions and 15 private institutions started Bachelor of Science (B.Sc.) course in medical technology. Table-16.28 lists the government and Table 16.29 the private B.Sc. medical technology institutions.

Table-16.28. Government institutions running B.Sc. course in medical technology

Division	Name of institution with location	Estd.	Physiotherapy	Laboratory Medicine	Total
Dhaka	NITOR, Sher-e Bangla Nagar, Dhaka	1993	25	0	25
	Institute of Health Technology, Mohakhali, Dhaka	2007	30	30	60
Rajshahi	Institute of Health Technology, Rajshahi	2007	30	30	60
	No. of institutions = 3	Total=	85	60	145

Table-16.29. Private institutions running B.Sc. course in medical technology

Division	Name of institution with location	Estd.	Physio-therapy	Lab	Dentis	Occu-pational therapy	Other	Total
Dhaka	Bangladesh Health Professionals Institute, Savar, Dhaka	2007	20	0	0	10	15 (Speech therapy)	45
	Bangladesh Medical College, Dhanmondi, Dhaka	2008	50	75	50	0	0	175
	Bangladesh Shishu Shaystha Institute, Sher-e-Bangla Nagar, Dhaka	2008	0	25	0	0	0	25
	Gono Shaystho University, Savar, Dhaka	2005	40	0	0	0	0	40
	Institute of Medical Technology, Mirpur, Dhaka	2007	0	30	30	0	0	60
	International Institute of Health Science, Shewrapara, Dhaka	2010	30	30	30	0	0	90
	MarkÕs Institute of Medical Technology, Mirpur, Dhaka	2008	0	50	50	0	0	100
	New Lab Institute of Medical Technology, Iqbal Road, Mohammadpur, Dhaka	2010	0	30	30	0	0	60
	SIAC Institute of Medical Technology, Dhaka	2007	50	50	50	0	0	150
	State University, Mohammadpur, Dhaka	2006	50	50	30	0	Opt-50 (Opto-metry)	180
	The PeopleÕs University, Dhanmondi, Dhaka	2007	25	0	0	0	0	25
Khulna	Chittagong institute of medical Technology, Halishahar, Khulna	2008	0	50	50	0	50 (Ph)	150
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	50	0	0	0	50
	Total institutions = 15	**Total**	**315**	**465**	**370**	**10**	**115**	**1275**

On the job training provided under the operational plan of In-service Training (IST)

Under the operation plan of In-service Training, large of number of health personnel and staffs receive on the job training each year. A summary of the type of training programs and number of participants of these training programs is given in Table-16.30. The detail information on these training is given in the annexure.

Table-16.30. Type of training given under operational plan of In-service Training Service in 2009 and number of participants of these training programs

Location of Training	Name of Training	No. of participants
Within country	Clinical Training	543
	Computer /IT Training	2,514
	Management training	13,058
	Six MonthsÕ Training for Doctors on Anesthesiology (EmOC)	116
	Six Months' Training for Doctors on Obstetrics & Gynecology (EmOC)	104
	Training Complimentary to Essential Service Package (ESP)	2,134
	Training on Essential Service Package (ESP)	5,419
Overseas	Overseas Training	83
Total=		23,970

Yearly output from medical and dental colleges of Bangladesh

Table-16.31 shows the year-wise number of new doctors produced from different medical and dental colleges of Bangladesh.

Table-16.31. Number of new doctors produced from different medical and dental colleges of Bangladesh by year

Name of Medical or Dental College	Y 2004	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Total
Dhaka Medical College	108	158	132	170	207	147	922
Sir Salimullah Medical College	197	148	174	142	153	155	969
Rajshahi Medical College	284	176	160	130	147	139	1,056
Rangpur Medical College	246	192	151	158	83	-	997
Mymensingh Medical College	197	181	150	149	124	162	963
Chittagong Medical College	208	279	198	174	125	142	1,126
MAG Osmani Medical College	148	165	296	197	127	161	1,094
Shere Bangla Medical College	253	188	170	149	136	143	1,039
Faridpur Medical College	68	38	78	40	42	59	325
SZR Medical College	68	67	59	78	46	-	318
Dinajpur Medical College	47	39	49	62	41	50	288
Khulna Medical College	61	54	48	43	47	61	314
Comilla Medical College	68	52	57	54	40	52	323
Dhaka Dental College	81	307	309	326	69	79	1,171
Chittagong Dental College	13	9	-	-	-	18	40
Rajshahi Dental College	13	15	-	-	-	37	65
Total=	2,060	2,068	2,031	1,872	1,387	1,405	10,990

Figure-16.1 shows the percent distribution of medical and dental doctors produced from different medical and dental colleges in 2009. Table-16.32 shows the year-wise percent distribution of male and female doctors produced from different medical and dental colleges from 2004 to 2009.

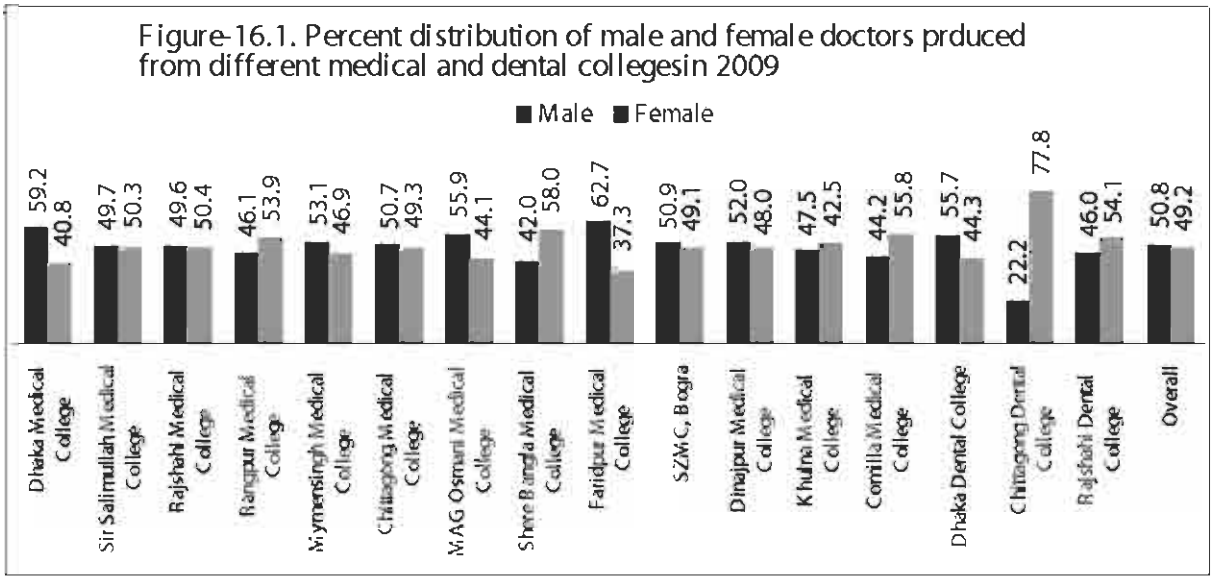


Table-16.32. Number of new doctors produced from different medical and dental colleges of Bangladesh by year

Name of Medical or Dental College	Y2004		Y2005		Y2006		Y2007		Y2008		2009	
	M	F	M	F	M	F	M	F	M	F	M	F
Dhaka Medical College	53.7	46.3	47.5	52.5	52.3	47.7	57.6	42.4	69.6	30.4	59.2	40.8
Sir Salimullah Medical College	55.3	44.7	48.6	51.4	58.6	41.4	48.6	51.4	61.4	38.6	49.7	50.3
Rajshahi Medical College	63.7	36.3	55.1	44.9	63.8	36.3	70	45.4	61.2	38.8	49.6	50.4
Rangpur Medical College	71.5	28.5	59.9	40.1	47.7	52.3	51.9	48.1	38.6	61.4	46.1	53.9
Mymensingh Medical College	51.8	48.2	56.4	43.6	58.7	41.3	47.7	52.3	50.8	49.2	53.1	46.9
Chittagong Medical College	67.3	32.7	61.3	38.7	58.6	41.4	57.5	42.5	52	48	50.7	49.3
MAG Osmani Medical College	53.4	46.6	53.3	46.7	45.9	54.1	56.9	43.1	48.8	51.2	55.9	44.1
Shere Bangla Medical College	62.1	37.9	59.6	40.4	56.5	43.5	47.7	52.3	54.4	45.6	42.0	58.0
Faridpur Medical College	54.4	45.6	57.9	42.1	50	50	47.5	52.5	50	50	62.7	37.3
SZMC, Bogra	50.0	50	52.2	47.8	35.6	64.4	50	50	50	50	50.9	49.1
Dinajpur Medical College	48.9	51.1	53.8	46.2	46.9	53.1	56.5	43.5	51.2	48.8	52.0	48.0
Khulna Medical College	57.4	42.6	53.7	46.3	64.6	35.4	55.8	44.2	51.1	48.9	47.5	52.5
Comilla Medical College	45.6	54.4	30.8	69.2	42.1	57.9	51.9	48.1	27.5	72.5	44.2	55.8
Dhaka Dental College	61.7	38.3	51.1	48.9	51.1	48.9	49.1	50.9	49.3	50.7	55.7	44.3
Chittagong Dental College	92.3	7.7	66.7	33.3	-	-	-	-	-	-	22.2	77.8
Rajshahi Dental College	69.2	30.8	60	40	-	-	-	-	-	-	46.0	54.1
Overall	59.9	40.1	54.5	45.5	53	47	53.4	47.7	54.7	45.3	50.8	49.2

Health Information System & e-Health

The Management Information System (MIS) of the Directorate General of Health Services (DGHS) made further progress in its effort to expand and improve the services including quality. The lack of skilled human resources continued and even increased. But, that could not slow down the progress, although more could be done if skilled human resources persisted. During 4 to 6 March 2010, MIS-health participated in the Digital Innovation Fair 2009 organized by the Access to Information (A2I) Program of the Prime Minister's Office. While many audiences visited and appreciated the e-Health services of MIS, the most fascinating thing was the appreciation by the Honorable Prime Minister Sheikh Hasina for the achievements of MIS-Health in building Digital Bangladesh. On March 2 and 3, 2010, the MIS-Health demonstrated its video conferencing, mobile phone health service and rural telemedicine system to the visiting ITU (International Telecommunication Union) Secretary General Dr Hamadoun Ibrahim Toure. The impressed ITU Secretary General has expressed that the innovative, cheap and low bandwidth solution of ICT-based remote health care solution of Bangladesh provided by MIS-Health can be one of the best learning opportunities for many other countries in the world. On 9 August 2010, MIS-Health received the e-Governance ICT and e-Content Award from a national contest jointly organized by D.Net and Ministry of Science and Information Communication Technology. The Honorable Finance Minister Mr Abul Mal Abdul Muhit formally handed over the award in a ceremony held in Dhaka. The MIS-Health made progress both in Health Information System (HIS) as well as in e-Health.

Picture-17.1. Professor Dr Abul Kalam Azad is describing the different HIS and e-Health services of MIS-Health to the Honorable Prime Minister of Bangladesh Sheikh Hasina on 4 March 2010 at the Digital Innovation Fair 2010 organized by the Access to Information Program of Prime Minister's Office. The Honorable Minister for Health and Family Welfare Professor AFM Ruhal Haque was present at that time.

Health Information System (HIS)

The activities of MIS-Health related to health information system include collection of data from various health sources and cleaning, analyzing and summarizing the data to generate and distribute reports through routine administrative report, web site, year book, health bulletin, newsletter, etc. The existing data flow system is comprised of wireless Internet network covering all health facilities and health administrative points from national to upazila levels. Data from the health facilities below the upazila levels are sent to upazila health offices by paper-based reports where it is processed electronically. Several online databases have been created and also customized excel forms are being used for collecting data. However, efforts are undergoing to rapidly transform all data inputs through online databases. Expansion of Internet backbone downward of upazila level is also being considered. A new addition in the health information system of MIS-Health is the GIS (Geographical Information System). GIS device called Global Positioning System (GPS) has been provided, one to each of the 6 divisional and 64 district health offices of the DGHS. Using these devices, GIS-based HIS data resources will gradually be built.

Health facility information

As of writing this report there are 9,722 independently running community clinics, 1,909 primary health care facilities at upazila and union level (460 hospitals and 1,449 outdoor facilities) and 117 secondary and tertiary care hospitals under the Directorate General of Health Services. The MIS-Health created a web-searchable database of the health facilities accessible to the public at its website: www.dghs.gov.bd. All health facilities other than the community clinics have been included. The list of the community clinics is being gathered to add to the database. Name, location, address, facility type and number of beds, if any, of each facility have been provided. The facilities can be sorted division, district and upazila-wise and automated summary can be prepared. In Chapter 5, more information is provided on the distribution of public health facilities between divisions. Chapter 5 also shows information on some private health facilities.

Health facility utilization

MIS-health could collect health facility utilization data from more government health facilities than in the previous year. Data were available from 549 hospitals of different types (Bangabadnhu Sheikh Mujib Medical University; postgraduate teaching and specialized hospitals: 6; medical college hospitals: 14; district hospitals: 62; upazila hospitals: 421; 31-bed hospitals: 2; infectious disease hospitals: 5; labor hospitals: 5; leprosy hospitals: 3; tuberculosis hospitals: 12; government employees hospital: 1; mental hospital: 1; rural health centers: 14). Besides, 43 tuberculosis clinics, 12 urban dispensaries, 19 school health clinics, one tuberculosis center and secretariat clinic also provide data. Data were also available from many union sub-centers. Cumulative data from the community clinic project has also been made available. Other than community clinics, 54.71 million patients reportedly received medical advice from these facilities in 2009 and 2.98 million patients were admitted in the hospitals. It is reported that about 15 million patients received services from the community clinics as of June 2010. Health facility utilization data were also collected from 26 private and non-profit/NGO facilities. Chapter 6 provides detail information on the health facility utilization.

Morbidity profiles

In 2009, MIS-Health collected disease profile data on indoor patients from 424 public hospitals. Disease profile data on outdoor and emergency section patients were not collected due to concerns about reliability of the diagnoses. Of the 424 hospitals, 356 were upazila hospitals, 57 were district and general hospitals, 6 were medical college hospitals, 4 were postgraduate teaching institute hospitals, and one was medical university hospital (BSMMU). We included 2.77 million indoor patients in the disease profile analysis and tried to identify the top 10 diseases for each type of hospitals. As disease pattern varies by type of hospitals, we performed the analysis for upazila hospitals, district and general hospitals, medical college hospitals separately. As the postgraduate teaching institute hospitals are specialty hospitals, and each of them deals with special kinds of patients, we analyzed the disease profile data of each of the postgraduate teaching institute hospitals separately. We also analyzed the disease profile data of the medical university hospital separately. Table-17.1 shows the number of indoor patients by type of hospitals who were included in the disease profile analysis. Chapter 7 shows the results of disease profile analysis in details.

Table-17.1. Number of indoor patient s by type of hospitals who were included in disease profile analysis (Year 2009)

Hospital type	No. of hospitals	No. of indoor patients
Upazila hospitals	356	1,691,021
District and general hospitals	57	857,711
Medical college hospitals	6	169,594
Bangabandhu Sheikh Mujib Medical University (BSMMU) Hospital	1	10,604
National Institute of Traumatology, Orthopedics & Rehabilitation (NITOR)	1	21,780
National Institute of Kidney Diseases & Urology (NIKDU)	1	4,849
National Institute of Diseases of Chest & Hospital (NIDCH)	1	9,372
National Institute of Ophthalmology (NIO)	1	2,252
Total=	424	2,767,183

Mortality profile

In 2009, there were 57,404 reported deaths in the government hospitals of Bangladesh. We received cause of death data on 39,753 death events from 418 hospitals. Among these hospitals, 342 were upazila hospitals, 52 were district hospitals, 2 were general hospitals, 11 were medical college hospitals, 6 were postgraduate teaching institute hospitals, 2 were infectious disease hospitals, and 3 were chest hospitals. Table-17.2 shows the distribution of death events by type of hospitals.

Table-17.2. Distribution of death events by type of government hospitals (Year 2009)

Type of health facility	No. of facilities	No. of deaths
Upazila Health Complexes	342	6,673
District Hospitals	52	14,905
General Hospitals (Narayangani, Naraingdi)	2	156
Medical College Hospitals [Comilla, Dinajpur, Faridpur, Khulna, Rajshahi, Rangpur, Shahid Sharwardi (Dhaka), SZR (Bogra), Sher-e-Bangla (Barisal), Sir Salimullah (Dhaka), and MAG Osmani (Sylhet)]	11	13,902
Postgraduate specialized teaching hospitals (NICVD, NIDCH, NIKDU, NIRCH, NITOR and NIMHR)	6	3,953
Infectious Disease Hospitals (Dhaka and Rajshahi)	2	139
Chest Hospitals (Bogra, Rajshahi and Rangpur)	3	25
Total=	418	39,753

The results of causes of death data are shown in Chapter 8. In the analysis, top 10 causes of deaths were identified. Like the disease pattern, causes of deaths also vary by type of hospitals. Therefore, causes of deaths analysis were done for upazila hospitals, district hospitals, general hospitals, medical college hospitals, infectious disease hospitals and chest hospitals separately. As the postgraduate teaching institute hospitals are specialty hospitals, and each of them deals with special kinds of patients, we analyzed the causes of deaths data of each of the postgraduate teaching institute hospitals separately. We also analyzed the disease profile data of the medical university hospital separately.

Emergency obstetric care profile

Emergency Obstetric Care (EOC) is an important maternal health care service provided by the Ministry of Health and Family Welfare for achieving the Millennium Development Goal 5. All medical college hospitals, 2 district hospitals and 269 upazila health complexes provide comprehensive and 59 district hospitals and 132 upazila health complexes provide basic emergency obstetric care services. NGO and private providers from a number of districts also provide similar services. The MIS-Health manages the service data on EOC. In 2009, data from 475 health facilities were received of which 13 were medical college hospitals, 61 were district and general hospitals, and 401 were upazila hospitals. Besides, NGO providers from 30 districts and private providers from 62 districts also sent EOC data. Table-4.1 summarizes the source of EOC data we received for the year 2009. The data contained events of 448,564 child deliveries. Of the total deliveries, live births were 434,502. There were 2,385 reported newborn deaths and 1,307 maternal deaths. Chapter 4 shows the results of analysis of EOC data.

Statistics of Integrated Management of Childhood Illness (IMCI)

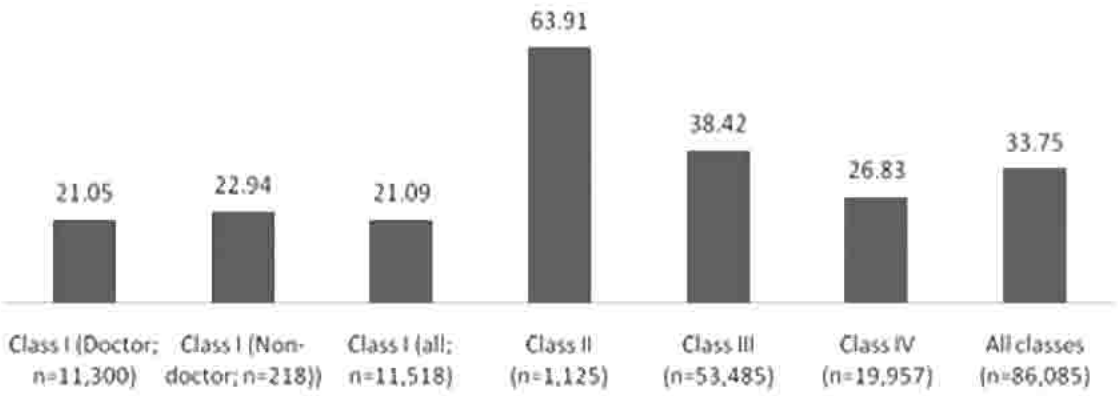
"Integrated Management of Childhood Illness (IMCI)" is a worldwide program supported by UNICEF, WHO and other development partners. The morbidities which are included for the integrated management under this program are responsible for almost 75% of under-5 deaths. In Bangladesh, IMCI is provided through facility-based service as well as through home care. Facility-based IMCI is provided in 325 upazilas of 41 districts. Community IMCI is a new intervention and is introduced in 15 upazilas. The MIS-Health collects data on IMCI services. In 2009, data from all the 41 districts on 2,210,985 patients were collected and analyzed. Chapter 4 shows the results. Recently, new online database software has been hosted in MIS-Health server system to automate the data collection and report generation on IMCI.

Health personnel information

MIS-Health maintains an online database of health personnel working under the DGHS. Staffs can maintain detail service related personal resume in the database under own control and access it through Internet from anywhere. This personal resume is popularly known as PDS or personal datasheet. Due to inherent staff management processes of the MOHFW and DGHS, demand on staffs other than the medical doctors is less to maintain the personal datasheets. Therefore, the online personnel database largely contains information on medical doctors. MIS-Health would need policy support to create an accountability system on the staffs so that they maintain and update the personal data in the database as soon as a service related new event occurs. MIS-Health frequently collects staff availability information from all health offices, institutions and facilities. The information works as a basis for understanding the existing staffing pattern of health services from time to time. The status of health personnel is provided in Chapter 16 of this Health Bulletin 2010. The latest available data as of June 2010 state that there are 112,302 sanctioned posts under the DGHS. The distribution of these posts between Class I, Class II, Class III and Class IV was 20,700 (18.4%); 1,611 (1.4%); 65,079 (57.9%); and 24,912 (22.2%) respectively. The doctors dominate the Class I sanctioned posts than the non-doctors (20,234 vs. 466). Eighteen percent of the sanctioned posts of all staffs are of doctors. Class I non-doctors constitute only 0.4% of the total sanctioned posts. It is seen that 77% of the total sanctioned posts were filled up having an overall vacancy of 23%. The vacancy rate was more in non-doctor Class I positions (53%; 248 vacancies against 466 posts) followed by the doctors' positions (44%; 8,934 vacancies

against 20,234 positions). There were 30% vacancies in Class II positions (486 vacancies against 1,611 posts), 18% vacancies in Class III positions (11,594 vacancies against 65,079 posts) and 20% vacancies in Class IV positions (4,955 vacancies against 24,912 posts).

Figure-17.1. Percentage of females among the available staffs of DGHS (June 2010)



One third (33.75%) of the total available staffs are females (Figure-17.1). This figure is 21.05% for the doctors, 22.94% for the Class I non-doctors, 21.09% for all Class I staffs, 63.91% for Class II staffs, 38.42% for Class III staffs and 26.83% for Class IV staffs. Data collected, by MIS-Health, on sex distribution of the new medical doctors passed from different medical and dental colleges show that female doctors' percentage is gradually increasing which was 40.1% in 2004 and 49.2% in 2009. However, the percentage of female doctors in government service is lower compared to their production rate.

One of the limitations of the current personnel management information system is its inability to produce updated personnel status on real time. There are number of reasons. The personnel deployment system is done through paper-based manual system and in well over 600 places (MOHFW, DGHS, Divisional Directors' offices; Civil Suregons' offices, Upazila Health Offices and each institutional level). There are many aspects of staff movements, viz. recruitment, leave, transfer, joining, promotion, suspension, termination, retirement, death, etc. If data related to all these information are not fed into personnel information system from the source in real time, a complete real time status of national health personnel is not possible to produce. Our experience shows that in the given context of accountability system, without full process automation only reliance on human compliance for updating data from the multiple points will not gurranty complete real time staff profiles. MIS-Health is currently discussing possibility of introducing a web based database solution accessible to all health authorities real time and for full process automation.

However, the human resource information functions done by the MIS-Health are not at all unsatisfactory. Health personnel status has been analyzed in further details according to staff categories and presented in Chapter 16. Personnel status of other departments of MOHFW, viz. of Directorate General of Family Planning (DGFP), Directorate General of Drug Administration (DGDA) and Directorate of Nursing (DNS) was also collected. We gathered information on the academic and training institutions for health and alternative medicine, both in public and private sectors, and their number and type of courses along with number

of seats in each course. A profile of the on the job training given under the operational plan of In-Service Training has also been provided. There are more opportunities to improve the health personnel information system integrating the human resource production, training, re-training and deployment system. However, strong policy support and coordination between the MIS-Health, personnel department and medical education department would be required to achieve this success.

Logistics information system

One of the great challenges of the government health system of Bangladesh is the poor maintenance of logistic inventory at the health facility level. On the national level, efforts were made to periodically collect equipment status reports, viz. of numbers of major equipment by type in each institution, their functional status, if non-functional whether repairable or not, etc. However, it remains a difficult task to get periodic data to keep the database updated. Trackable inventory management for all logistics, institution-wise, was not attempted before. The ICT backbone as well as information culture of the Bangladesh health facilities in public sector are not yet good enough that may create interest for locally hosted computer-based inventory management system. MIS-Health dreams of a web based centralized inventory management system to start with major equipment in each of the larger facilities with automated report generation. This database would be accessible both at policy level at the head quarter as well as at local level for local management decision. The inventory management system will gradually be expanded to include more items and to more facilities.

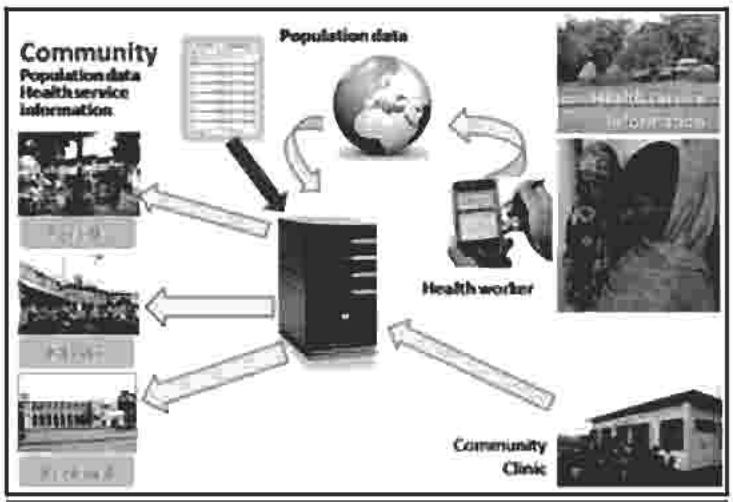
Monthly and annual reporting for cabinet division

The cabinet division of the government of Bangladesh requires routine reporting from each ministry each month and an annnual report in July each year on many management issues related to the respective ministry. The items to be reported by the DGHS contains an exhaustive list and MIS-Health has to carry out this function each month and annually on behalf of DGHS. MIS-Health could add better quality to this job than ever.

Population information

There is no routine data source in the country as yet to estimate the status of health related MDGs specially the MDG4 and MDG5 to know child and maternal mortality rates. In our country, most births and deaths occur in the households. There is a strong presence of private and informal sector in health care. Owing to these factors, public health facilities encounter only a proportion of the health care seekers. Therefore, the households are the best source of data to estimate the age, sex and cause specific death rates, disease burden and other population based health information. The health census carried out by the Bureau of Statistics is held once every 10 years and lacks adequate data on health profiles. Moreover, the health service at the local levels suffers acutely from lack of reliable denominators to plan and execute health programs. There are regularly paid permanent health workers in the community level of Bangladesh. They provide domiciliary service, hold immunization camps and run community clinics. They maintain lot of registers locally. However, there is absence of mechanism to document the information against individual for or to whom the service is offered. Important population indicators, such as, child and maternal mortality rates are estimated through sample surveys in intervals. For example, the last child mortality was estimated by Bangladesh Demographic and Health Survey (BDHS) in 2007. The latest maternal mortality survey was done in 2009 the report of which is yet to be prepared and

published. The prior maternal mortality survey was done in 2001. Fortunately, DGHS had a historical system of collecting population data annually since 1961. Popularly known as GR (Geographical Reconnaissance) once was a good source of population data for local level planning. GR, was literally a kind of annual health census, being carried out to collect population data by visiting every household each year in the month of January and February. Health workers used to visit the households in the rural areas, and to collect socio-demographic data, viz. family size, age-and sex- distribution, death(s) in past year, pregnancy, immunization information, drinking water source, etc. GR was done in all years until 2008. However, due to lack of proper supervision and manual system of data collection and entry, GR data lost credibility, and therefore no report was published after 2004. In 2009, it was felt that GR should not be abandoned as it provides local level up-to-date health data. DGHS, due to its large number of health workers spread throughout the rural areas of Bangladesh has the capability to conduct GR. Moreover, field workers of DGHS having the experience built over many years to collect the GR data may be considered as inherent strength which should not be allowed to die down. Experts in several stakeholders' workshops have worked out that use of ICT in the GR process may minimize repetitive works and help to develop a computer based permanent population health database. Accordingly a machine readable data form has been designed, printed and distributed for use in GR data collection in rural Bangladesh. The GR form has the provision of providing unique identification number to each member of the family as well as using the National Identification Number (NID), if any. Training has been provided to field staffs of 170 upazilas for GR data collection to complete in 6 months to one year. It is expected that in fiscal 2010-11, training of field staffs of the rest of the upazilas will be completed followed by GR data collection in those upazilas. After data collection, data entry jobs will be outsourced. Hard copies of entered data will be sent back to the communities for checking errors and authentication. After finalization, data will be stored in national database. Data center, data backup and other necessary arrangement will be created. It is planned that subsequently, no annual GR will be conducted. Rather the health workers will update household data during their routine visits using mobile phones or personal digital assistants or from community clinics using mini laptops. The data will be accessible from any health points (viz., hospitals, immunization camps, etc.) for updating as well as decision making. The database is expected to be very helpful for both national and local level decision making.



Sketch-17.1. The thematic future integrated health information system surrounding the population health database of MIS-Health

Data from other health programs and organizations

MIS-Health also continued collection of data from other programs and organizations for report preparation and distribution. Information from programs like Essential Service Delivery (ESD), Communicable Disease Control (CDC), Non-Communicable Diseases and Other Public Health Interventions (NCD&OPHI), Micronutrient Supplementation (MS), National Nutrition Program (NNP), Mycobacterial Disease Control Program (MBDC) and organizations like Institute of Epidemiology, Disease Control and Research (IEDCR), Institute of Public Health (IPH), National Institute of Preventive and Social Medicine (NIPSOM), Institute of Child and Mother Health (ICMH), from Directorate General of Family Planning (DGFP), Directorate of Drug Administration (DGDA), Directorate of Nursing (DNS) and from number of non-government organizations have been gathered. Reports have been prepared using those data and information for Health Bulletin 2010. Annual performance reports on all operational plans under DGHS for fiscal 2008-09 have also been collected and published in Year Book 2009. Work for Year Book 2010 has also begun. As the capacity of MIS-Health is improving, reports using data gathered from other organizations will be further enriched in future.

Geographical Information System (GIS) for health service and disease pattern mapping

In 2009, MIS-Health undertook a pilot program in Nilphamari district of Bangladesh to see whether GIS can be introduced in health sector through the existing information staffs for health facility and service mapping. The pilot was highly successful and the report was highly appreciated by the policy makers. Being inspired from this pilot, each divisional and district health office has been provided with a GIS device called Global Positioning System (GPS). The divisional and district information staffs are planned to collect geospatial data and present them on maps for easy visualization. As of July 2010, training of two batches of staffs out of four planned has been completed. The next two batches will be given training soon. The staffs will then be engaged for gradually building the GIS data resource. One of the objectives of our GIS program, amongst others, is to build GIS resources for the health facility locations of Bangladesh to make publicly available on the Internet.

Dissemination of information and publications

Several seminars and discussions were held to disseminate information and progress of MIS-Health. Media features and news were frequently published in national newspapers. Radio and television including British Broadcasting Corporation (BBC) aired special reports on activities of MIS-Health. The website of MIS-Health was a vibrant platform for information dissemination as a focal point for DGHS. The email and SMS broadcasts were other stronger tools of information dissemination within organization. The routine publications, like Health Bulletin, Year Book, IMCI newsletter, EOC newsletter have been continued. Other special publications, such as, Report on Service Availability Mapping, GIS Guidebook, e-Health Brochure, etc. need special mention. Distribution of Digital Health Guidebook remained as one of the popular publications. MIS-Health also actively assisted to publication of snapshot book on development activities of Ministry of Health and Family Welfare by Bureau of Health Education on the occasion of Development Forum 2010 (of the development partners) held in Dhaka.

e-Health

Although health information system is part of e-Health, we described health information system separately above given the special importance of health information system in the mandate of MIS-Health. However, e-Health is being given special emphasis due to present government's Digital Bangladesh campaign which gives special preference to citizens' services through ICT. The MIS-health introduced number of e-Health programs and services in the health sector of the country. These are briefly described below:

Mobile phone health service

Launched in May 2009, each of all upazila hospitals (418 Nos.) and district hospitals (64 Nos.) of the country has been provided a mobile phone to act as a local call center for delivering medical advice 24h/7d to the citizens who make calls to the mobile phone. The numbers of the mobile phones have been circulated in the communities using local channels. A doctor on duty in the hospital remains available to answer the phone call. The service is free of charge and has number of benefits, viz. wider coverage that reaches to everybody everywhere; simplicity of use even by the technologically lagging people. As a medical doctor is available within distance of a phone call round the clock for free, people have a better option to avoid unqualified healers. Mobile phone health service also helps patients to avoid unnecessary visits to health centers, which indirectly benefits the health centers to provide better attention and supplies to the patients who physically visit the health centers. Being local the service is also culturally responsive and customizable to local situation. Owing to the comfort of people in getting medical advice easily and quickly, it is being recommended to roll out mobile phone health service even up to community clinics.

Telemedicine

All necessary arrangements for introducing telemedicine service in eight hospitals (two tertiary hospitals, three district hospitals and three upazila hospitals) with high quality video conferencing equipment have been completed. The vendor is now installing the system in the respective hospitals. It is expected that this will create a new avenue of remote health care in the public health service of Bangladesh. To further expand the telemedicine service in all hospitals, MIS-Health also provided web cameras to all upazila hospitals. MIS-Health also received 1,500 web cameras from the National Election Commission to distribute among all public hospitals of Bangladesh for expanding telemedicine service across the country. Therefore, it is expected that people will remain in even better position about getting health care without need for traveling to distance. The telemedicine dream of the MIS-Health and Community Clinic project is to expand the service up to community clinics. For this purpose, it is planned to provide mini laptops to community clinics, where health workers will use those to help patients consult upazila hospital doctors by video conferencing. The laptops in the community clinics will be used for multiple purposes, viz. telemedicine, updating community health data, health education of people, training of health staffs, communication, and Internet browsing.

Picture-17.2. The visiting International Telecommunication Union Secretary General Dr Hamdoun Ibrahim Toure witnessed rural telemedicine program of MIS-Health in Savar Upazila Hospital on 3 March 2010

SMS advice for safe pregnancy

Launched in March 2010, the SMS-based pregnancy advice is expected to emerge as one of the pioneering programs of MIS-Health. On registration via cell-phone SMS, pregnant mothers would receive appropriate periodic antenatal, safe delivery and postnatal care advices through SMS. Currently the mobile operator TeleTalk has developed this service. GrameenPhone is also working to introduce that service. Text in Bangla and also voice mail are also being considered to add to this pregnancy care advice. MIS-Health plans to use the large number of health workers under the DGHS to undertake promotional activity for this service. The SMS advice for safe pregnancy will contribute to the MDGs 4 and 5 through improving neonatal and maternal health.

Bulk SMS

The innovative bulk SMS system of MIS-Health introduced in 2009 remained as an effective solution even as of now to broadcast quick and urgent messages to health staffs. The use of bulk SMS was frequent and demand driven.

More m-Health

A number of SMS based services is in plan to introduce gradually. These are Web/SMS box for receiving citizens' complaints/suggestions, Queue management in hospital OPD or doctor's chamber, Rapid health survey, Query-based delivery of health statistics, etc. MIS-Health has agreed to work in collaboration with University of Oslo to develop a system to collect public health data from the rural setting through using mobile phone by the health workers.

Digital training facility

MIS-Health created a digital training facility with the state of the art gadgets, such as, digital podium and sound, interactive board, wireless presentation, wifi network, video conferencing, etc. to showcase opportunity for modern training. This facility is a learning opportunity for the heads of the training and teaching institutions to understand what types of teaching tools and environment they require for their students and trainees.

A well connected health systems

It is well known that MIS-Health is the only organization among the entire public sectors of Bangladesh which has created Internet connectivity across all health points down to upazila level (~800 places). When the community clinics will be put in the network, it will be the largest network in the country even in the region. With the addition of web cameras as low as up to community clinics, MIS-Health will also have the largest video conferencing and tele-medicine network. MIS-Health provided connectivity in the DGHS and in the MOHFW through wifi network

Human resource of MIS-Health

Currently there are 721 sanctioned posts under the MIS-Health throughout the country for carrying out the different activities related to health information system and e-Health. As yet, there is no sanctioned post for Director of MIS-Health. The current director has been attached with MIS-Health on special duty of DGHS. Inclusive of the director position Table-17.3 shows a total of 722 sanctioned posts. Of the sanctioned posts, 538 are filled up as of June 2010, and 184 are vacant (vacancy rate: 25.5%).

At the MIS-Health head office, there are 63 sanctioned posts of which 23 are vacant (vacancy rate: 36.5%). In the district hospitals there are no posts for statistical staffs. In some of the medical college hospitals and also in some postgraduate teaching institute hospitals, there are no posts of statistical staffs. In each civil surgeon's office, there is a post of class I statistician. However, in only eight districts, this position is filled up. In the rest 56 districts, this position is vacant.

Table-17.3. Human resource status of MIS-Health at different levels (June 2010)

Place	Class	Type of post	Total (N)	Filled up (N)	Vacant (N)
MIS-Health	Class I	Medical/ Non-medical	18	10	8
	Class III	Statistical/ clerical/ support	38	27	11
	Class IV	Support	7	3	4
	Total		63	40	23
DGHS	Class I	At MBDC	1	0	1
	Class II	At EPI	1	1	0
	Class III	At CDC, Hospital, IMCI, EPI, MBDC	6	5	1
	Total		8	6	2
Division	Class I	Assistant Chief	5	5	0
	Class III	Data entry operator (5); Statistical assistant (12)	17	16	1
	Total		22	21	1
District	Class I	Statistician	64	8	56
	Class III	Statistical assistant	56	56	0
	Total		120	64	56
Upazila	Class I	Statistical officer	1	1	0
	Class II	Statistician	1	0	1
	Class III	Statistical assistant (5); Statistician (475)	480	395	85
	Total		482	396	86
Medical college hospital (8 old, SSMCH, SZMCH)	Class I	Statistician/ Statistical officer	10	2	8
Postgraduate institute (IPHN, NIPSOM, NICVD, NIDCH, NIKDU, NICRH, NCCRFH)	Class I	Statistician/ Statistical officer	5	2	3
	Class II	Statistician/ Statistical officer	3	2	1
	Class III	Assistant statistician/ Statistical assistant	5	4	1
	Total		13	8	5
200- & 250-bed hospital (Narayanganj, Khulna, Noakhali)	Class III	Statistical assistant	3	1	2
TB Clinic (Chankharpul)	Class III	Statistical assistant	1	0	1
All places	Class I	Mentioned above	104	28	76
	Class II		5	3	2
	Class III		606	504	102
	Class IV		7	3	4
	Total		722	538	184

The limitation of the MIS-Health throughout the country inclusive of its head office is serious lack of appropriate technical persons both for information technology as well as for statistical analysis and interpretation. The available statistical staffs have graduation and/or higher secondary level educational background and not in statistics discipline. To meet the current and future challenges of MIS-health, it is very critical to create adequate number of positions of competent persons in all relevant areas. As interim measure, manpower or service should be hired from external outsource.

Capacity building and maintenance support

MIS-Health continued capacity building through training, supply of ICT equipment, computer stationeries, payment of Internet bills and also repair and maintenance support.

Training

In 2009-10, thirteen types of training/workshop of different duration were held both at MIS-Health office in Dhaka as well as at local hospital/health offices. A total of 13,507 officers and staffs joined the training/workshops held under HNPSP. Under UNICEF supported training program, another 1,406 participants joined. Table-17.4 summarizes the training and workshop events, which also includes a partial list of WHO-supported training/workshops joined by 502 participants.

Table-17.4. Training/workshops held in fiscal 2009-10 by MIS-Health

Description	Batch (N)	Duration	Participants (N)
Training / Workshop under HNPSP			
Advanced computer training for MIS staff all over the country and/or data entry/clerical staff	10	14 days	150
Computer training for doctors	10	14 days	140
Training for data handling staff	4	6 days	60
Computer training for MIS data access for policy makers	1	4 days	15
Orientation training/workshop of divisional directors and civil surgeons	1	1 day	72
Tools/methods/reports development consultative workshop	2	4 days	20
MIS Coordination Consultative workshop at MOHFW	1	1 day	8
MIS Coordination Consultative workshop at DGHS	4	1 day	28
MIS Coordination workshop at medical college/tertiary hospital	3	1 day	840
MIS Coordination workshop at Division	4	1 day	224
MIS Coordination workshop at district/sadar hospital	4	1 day	1,820
MIS Coordination workshop at upazila hospital	1	1 day	2,410
Training/Refreshers for Geographical Reconnaissance (GR)	1	1 day	7,720
		Total (HNPSP)=	**13,507**
Training under UNICEF			
Training on Emergency Obstetric Care			
Training on EmOC web based reporting software on use and transfer of information to central MIS, DGHS	4	2 days	88
Training for statisticians/ nurses/ service providers on EmOC record keeping and reporting tools	10	2 days	296
Training on MIS record keeping and reporting tools for service providers, statistical staffs	4	2 days	104
		Total=	488

Table-17.4. Training/workshops held in fiscal 2009-10 by MIS-Health (Continued)

Description	Batch (N)	Duration	Participants (N)
Training / Workshop under HNPSP			
Training on Integrated Management of Childhood Illness			
Divisional Review Meetings on IMCI Performances & MIS reporting	4	1 day	115
Training on Capacity Development of MIS staffs on data analysis, reporting and feedback on IMCI	4	2 days	108
Training on reporting on IMCI Customized Software for Statistical Assistants and Statisticians	12	2 days	207
		Total=	430
		Total (UNICEF)=	**1,406**
Training/ Workshop under WHO (partial list)			
Consultative workshop for redesigning the objective and process of Geographical Reconnaissance (GR)	3	2 days	135
Consultative workshop for further updating of manual on recording and reporting system at different levels of hospitals	5	4 days	50
Dissemination workshop on SAM piloted in district hospital and all upazila health complexes of a district of Bangladesh	1	1 day	35
Second Global Survey on eHealth 2009 with support for key experts (resource persons)	1	6 days	23
Workshop for finalization of Bangladesh eHealth Survey	1	1 day	23
Development of draft training manual for service availability mapping (SAM) through consultative meeting	1	6 days	6
Second Global Survey on eHealth 2009 with support from WHO-HQ, Geneva	1	6 days	6
Strengthening data collection and supervision for Service Availability Mapping (SAM)	1	6 days	6
Strengthening data collection and supervision for service availability mapping (SAM)	1	7 days	4
Training on process and formats of data collection for service availability mapping (SAM)	1	4 days	10
Training of the assigned person from Government, Private and NGO hospitals/clinics	4	2 days	88
Consultative workshop on finalization of facility and district formats for service availability mapping (SAM)	4	2 days	10
Development of tools for verbal autopsy	5	3 days	100
Development of draft training manual for service availability mapping (SAM)	1	6 days	6
		Total (WHO)=	**502**

Supply of ICT equipment and computer stationeries

In 2009-10, 420 computers, 550 laser printers, 1,100 printer toners, 550 printer cables, 70 Global Positioning Systems (GPS), 428 web cameras, 614 copies of antivirus software, 434 tables and 630 chairs have been procured and distributed to different health facilities and health offices. MIS-Health collected 1,500 web cameras from the National Election Commission for distribution among the hospitals under DGHS to introduce telemedicine service. Table-17.5 summarizes the distribution list. Besides, some laptops computers were bought for MIS-Health training room. Different health offices were also provided financial assistance for buying computer stationeries.

Table-17.5. Number of computers, printers, toners, printer cables, tables and chairs procured and distributed from MIS-Health in FY 2009-10

Name of the Institute	Computer	Printer	Toner	Printer Cable	GPS	Web camera	Antivirus software	Table	Chair
MIS-Health Head Office/ DGHS/ MOHFW	46	204	408	204				49	203
Divisional Health Offices					6		6	6	6
Civil Surgeons Offices	64	64	128	64	64		65	64	64
District Hospitals	65	65	130	65		9	64	71	92
Tongi 50-bed Hospital , Gazipur , Dhaka	1	1	2	1				1	1
Upazila Health Complexes	18	18	36	18		419	419	24	45
50-bed Hospital, Saidpur , Nilphamari	1	1	2	1				1	1
Sadar Upazila Health Offices							60		
Health Complexes	4	4	8	4				4	4
Rural Health Centers (10-bed)	14	14	28	14				14	14
Medical College Hospitals	75	74	148	74				74	74
Specialized Institutes and Hospitals	60	33	66	33				60	60
Chittagong Skin and Social Hygiene Centre, Chittagong	1	1	2	1				1	1
Government Employees Hospital, Dhaka	1	1	2	1				1	1
Urban Dispensaries	33	33	66	33				33	33
Stores (Health) in divisional level	3	3	6	3				3	3
School Health Clinics	21	21	42	21				21	21
Port Health office, Chittagong	1	1	2	1				1	1
Medical Assistant Training Schools	6	6	12	6				6	6
Total=	**420**	**550**	**1,100**	**550**	**70**	**428***	**614**	**434**	**630**

*MIS-Health also received 1,500 web cameras for distribution among all hospitals under the Ministry of Health and Family Welfare forintroducing telemedicine services

Repair and maintenance of computers, printers and other accessories

MIS-Health experiences that even in divisional or district towns there is lack of appropriate private firms for fixing computers and related accessories. So, MIS-Health has made an innovative solution. Under this approach, the respective health facilities or health offices having trouble with computers or related accessories are told to first try locally to fix the problem or seek advice over phone from the MIS-Health offices during the first 24 hours. If within this period it is not possible to fix the problem locally, they are asked to send the troubled machine to MIS-Health office. MIS-Health head office with help of a repair vendor in Dhaka tries to fix the problem in next two days. On the fourth or fifth day, the computer should go back to the place from where it is brought. If it is not possible to fix within this period, an effort is undertaken in most cases to replace a workable computer to the respective place. This has been done to ensure that computer does not sit ideal for longer period. In 2009-10, MIS-Health fixed 118 computers, 20 monitors, 32 printers and 15 UPS (uninterruptable power supply). Table-17.6 shows the list.

Table-17.6. Number of computers, monitors, printers and UPS repaired in FY 2009-10 by MIS-Health

Institute	Computer	Monitor	Printer	UPS
Directorate General of Health Services	19	2	6	11
Specialized Institutes	4			
Civil Surgeon Offices	16	3	3	
District Hospitals	5	1	3	
Upazila Hospitals	74	14	20	4
Total =	118	20	32	15

National Eye Care

It is estimated that 750,000 people of Bangladesh aged 30+ years are blind. About 40,000 children are also estimated to be blind. Refractive errors claim problems in vision of about 5 million people including children. Among the adults, 250,000 have low vision. Nearly 80% of the blinds are cataract victims. Cataract is an avoidable or treatable blindness which can be remedied through simple and cost effective surgical intervention. The other causes of the blindness in the country are refractive errors and low vision, corneal diseases, glaucoma, diabetic retinopathy and ocular trauma. The Government of Bangladesh is one of the signatories of the global campaign of Vision 2020 for elimination of avoidable blindness by the year 2020. There is a National Eye Care Plan in the country under the leadership of the Bangladesh National Council for the Blind, a MOHFW's apex body.

The National Eye Care is an operational plan under the Health, Nutrition and Population Sector Program 2003-2010. This plan emphasized the need for capacity building for secondary care stretched down to upazila level and primary care to community level with effective referral chain from primary to tertiary level of eye care. It further emphasized the need for effective national coordination as well as district level coordination through establishing national and district coordination committee bringing all active eye care providers to work together for common goal.

The objectives of this operational plan include development and/or improvement of eye care infrastructure at secondary level and increasing the cataract surgical rate through improving skills of the primary ophthalmologists; strengthening coordination among GO-NGO and private eye care providers; prevention of childhood blindness; increasing affordability of eye care services by the poor patients particularly elderly, women and children through vouchering scheme; increasing awareness of mass population on eye care; and supporting the low vision patients.

The activities carried out under this program in 2009-10 are summarized below:

- Training of 25 ophthalmologists from different eye care service centers on microsurgery (SICS)
- Training of 30 nurses trained on eye operation theater and ward management
- Formation of Vision 2020 District Committees in 6 districts and making them functional. The districts are Mymensingh, Sirajganj, Rajbari, Jessore, Jamalpur and Narail
- Initiation for procurement process of eye care equipment
- Supply of medical and surgical requisites (MSRs) to several district hospitals (Brahmibaria, Satkhira, Narayanganj, Sariatpur, Madaripur, Bhola, Rajbari, Chandpur, Munshiganj, Netrokona, Pirojpur, Gopalganj, Kishoreganj, Jhalokathi, Gazipur, Laxmipur, Jamalpur, Manikganj, Chpai Nawabganj, Nilphamari, Noakhali, Jenaidah, Jhalokati, Dinajpur, Norsingdhi, Natore, Gaibhanda and Naogaon
- Observance of World Sight Day 2009 in collaboration with International NGOs and the WHO
- Holding of PSP and Free Cataract Surgery Camps at Kashiani and Kotalipara of Gopalganj and Ashasuni, Debhata, Kaliganj and Shymnagar of Satkhira
- Repair of eye care equipment for district hospitals (Satkhira, Bhola, Faridpur, Natore, Narsingdhi, Manikganj, Chapainawabganj and Gopalganj).

Health Education & Promotion (HEP)

Bureau of Health Education (BHE) of the Directorate General of Health Services runs the Health Education and Promotion (HEP) Program under the Operational Plan of the same name (HEP). It is assumed that if the health behavior of the individuals is changed, this will enable them to take right decisions at the right time in a more dynamic and interactive way. This would then influence the determinants of health. The net benefits could be reduction in the magnitude of health hazards and increase of health service utilization rate. The HEP includes several programs, such as, School health education, Hospital health education, Occupational/ Industrial health education, Environmental health education, and Community health education for selective/vulnerable groups.

The Bureau of Health Education uses multiple ways of campaigns, which include, amongst others, model village for target specific health education activities, rallies (anti-smoking, health and others), folk songs, video shows, uthan baithak, film shows, mass media activities (TV spots, newspaper advertisement, spot announcements, etc.), health fairs, group meetings, debates, health exhibitions, and distribution of IEC materials. Table-19.1 shows the different types of campaigns organized by the BHE in the fiscal 2009-10.

Table-19.1. Different types of campaigns organized by Bureau of Health Education in fiscal 2009-10

Type of campaign	No.
Districts with one model village in each for target specific health education activities	128
Anti-smoking and other rallies	45
Folk songs	60
Video shows	60
Health rallies	90
Uthan baithak	256
Film shows	170
Mass media activities	635
TV spots	10,000
Newspaper advertisements	23,000
Spot announcements	85
Health fairs	200
Group meetings	80
Debates	64
Healthexhibitions	50
IEC materials	200,000

Alternative Medical Care

The election manifesto of the present ruling party states promise for expanding the scope of modernized alternative medicine (unani, ayurvedic and homeopathic systems) to compliment the health care of the people. Alternative Medicine has been playing a significant role in the health care delivery system in the developing countries of this region from time immemorial. Although tremendous progress has taken place in the field of allopathic medicine particularly in synthetic pharmaceuticals and antimicrobials, the practice and use of alternative medicine is being continued throughout the country even today. Bangladesh due to its climatic condition is a favorable home for growth and use of herbal medicines. The World Health Organization is providing financial and technical support for the improvement of unani, ayurvedic and homeopathic system of medicine in Bangladesh.

There are two undergraduate medical colleges for alternative medicine in Dhaka. One is Government Unani and Ayurvedic Degree College and the other is Homeopathic Degree College. There is an affiliated 100-bed hospital with each of the colleges. The duration of course for each is 5 years followed by one year internship. The degrees are BUMS (Bachelor of Unani Medicine and Surgery), BAMS (Bachelor of Ayurvedic Medicine and Surgery) and BHMS (Bachelor of Homeopathic Medicine and Surgery). In addition to the graduate colleges, there are 11 unani diploma colleges (10 private and one government), 7 ayurvedic diploma colleges and 38 homeopathic diploma colleges in Bangladesh. From the diploma colleges DUMS (Diploma in Unani Medicine and Surgery), DAMS (Diploma in Ayurvedic Medicine and Surgery) and DHMS (Diploma in Homeopathic Medicine and Surgery) certificates are offered after completing 4 years of academic course and six months of internship. The diploma certificates are offered by the Board of Unani and Ayurvedic System of Medicine and Board of Homeopathic Medicine. Table-20.1 summarizes the academic and training institutions for alternative medicine in Bangladesh.
To create opportunities for providing patient care services through alternative medicine, posts for 198 medical officers have been created. The medical officers are 66 for unani medicine, 66

Table-20.1. Academic institutions for teaching and training of alternative medicines in Bangladesh

Name of the AMC institute	No			Duration of course	Duration of internship	Degree offered	Certifying board
	Total	Government	Private				
Government Unani & Ayurvedic Degree College	1	1	0	5 years	1 years	BUMS (Bachelor of Unani Medicine & Surgery); BAMS (Bachelor of Ayurvedic Medicine & Surgery)	University of Dhaka
Homeopathic Degree College	1	1	0	5 years	1 year	BHMS (Bachelor of Homeopathic Medicine & Surgery)	University of Dhaka
Unani diploma college	11	1	10	4 years	6 months	DUMS (Diploma in Unani Medicine & Surgery)	Board of Unani & Ayurvedic System of Medicine
Ayurvedic diploma college	7	0	7	4 years	6 months	DAMS (Diploma in Ayurvedic Medicine & Surgery)	Board of Unani & Ayurvedic System of Medicine
Homeopathic diploma college	38	0	38	4 years	6 months	DHMS (Diploma in Homeopathic Medicine & Surgery)	Board of Homeopathic Medicine

for ayurvedic medicine and 66 for homoeopathic medicine. These medical officers are now working in the district hospitals. To assist the medical officers, 64 support personnel (compounders) have also been appointed. To grow medicinal plants and create awareness of the local people about medicinal plants, 467 demonstration herbal gardens have been established, one in each district hospital and upazila health complex premise. One herbal gardener (herbal assistant) has been appointed for each herbal garden to take care of the gardens. As of now, a total of 531 alternative medical care (AMC) health personnel and staffs are working at different places. They are against 729 sanctioned posts. According to a survey conducted in 2007-08, about 28% of treatment coverage in the government health facilities is being provided through alternative medicine. Apart from the government services, some of the graduates and diploma certificate holders are working in different NGOs and private organizations.

Table-20.2. Current human resource for alternative medicine

Name of post	Sanctioned	Filled up	Filled up as % of sanctioned	Vacant	Vacant as % of sanctioned
Medical officers for unani medicine	66	20	30%	46	70%
Medical officers for ayurvedic medicine	66	22	33%	44	67%
Medical officers for homeopathic medicine	66	16	24%	50	76%
Compounders for alternative medicine	64	48	755	16	25%
Herbal assistant for herbal gardens	467	425	91%	42	9%
Total=	729	531	73%	198	27%

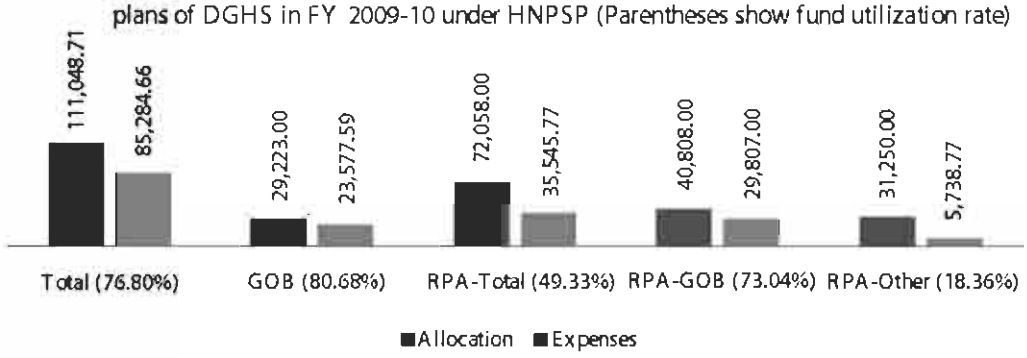
There is a post of medical officer on alternative medicine in each 100-bed and 250-bed hospital. For each 50-bed district hospital, one post of medical officer already exists. The government is considering a proposal for creating one medical officer post on alternative medicine in each upazila health complex.

Financing Health Care

Financing development program for DGHS under FY 2009-10

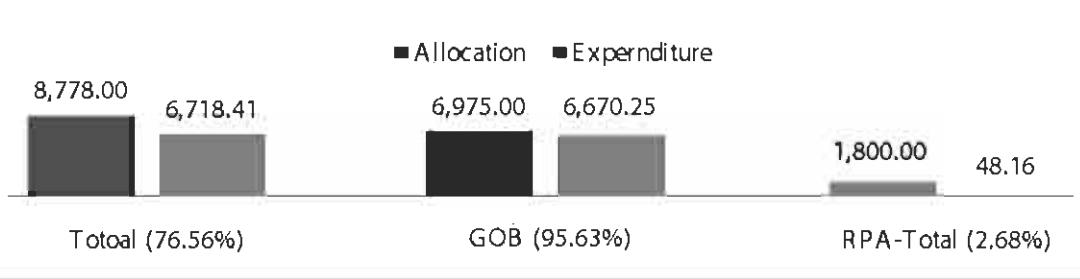
The financing of the development program for the Directorate General of Health Services (DGHS) came from Health, Nutrition and Population Sector Program (HNPSP 2003-11). In fiscal 2009-10, there was a total allocation in revised annual development program (RADP) of 111,048.71 lakh taka for 19 operational plans of the DGHS (Figure-21.1).

Figure-21.1. Allocation and expenditure of fund (lakh taka) against 19 operational plans of DGHS in FY 2009-10 under HNPSP (Parentheses show fund utilization rate)



The total expenditure was 85,284.66 lakh taka. The utilization rate is 76.80%. Of the total RADP allocation, GOB fund was 29,223.00 lakh taka (26.32%) and World Bank pooled fund was 72,058.00 lakh taka (64.89%). The utilization rate of GOB money was 80.68% (23,577.59 lakh taka) and that of RPA (GOB plus others) fund was 49.33% (35,545.77 lakh taka).

Figure-21.2. Allocation and expenditure of HNPSP fund (lakh taka) in fiscal 2009-10 under six investment projects of DGHS (parentheses show utilization rate)



There were six investment projects under DGHS in HNPSP fiscal 2009-2010. The total allocation in revised annual development program (RADP) was 8,775.00 lakh taka (Figure-22.2). The total expenditure was 6,718.41 lakh taka. The utilization rate was 76.56%. Of the total allocation, GOB contribution was 6,975.00 lakh taka (79.49%) and RPA contribution was 1,800.00 lakh taka (20.51%). The utilization rate of GOB fund was 95.63% (6,670.25 lakh taka). The utilization rate of RPA fund was 2.68% (48.16 lakh taka).

Table-21.1 shows the operational plan-wise allocation, expenditure and utilization rate of the HNPSP development fund of DGHS for the fiscal 2009-2010.

Table-21.1. Summary of allocation, expenditure and utilization of HNPSP fund against 19 operational plans of DGHS in fiscal 2009-2010

Operational Plan	Allocation in Revised ADP FY 2009-10 (Lakh Taka)					Expenditure FY 2009-10 (Lakh Taka)					Progress% against RADP allocation
	Total	GOB	RPA-GOB	RPA-Other	Other than RPA	Total	GOB	RPA-GOB	RPA-Other	Other than RPA	
Alternative Medical Care (AMC)	722	672	50	0	0	712.57	664.34	48.23	0	0	98.69
Communicable Disease Control (CDC)	8200	1200	6000	1000	0	7302	1088.10	6013.23	201.07	0	89.05
Essential Service Delivery (ESD)	46100	8500	7500	30100	0	31907.01	4740.86	3148.59	0	24017.56	69.21
Health Education and Promotion (HEP)	1200	100	1050	0	50	1197.34	98.02	1049.32	0	50	99.78
Human Resource Management (HRM)	110	50	60	0	0	91.68	36.71	54.97	0	0	83.35
Improved Financial Management (IFM)	36	2	34	0	0	21	2	19	0	0	58.33
Improved Hospital Services Management (IHSM)	15200	5000	10000	0	200	13333.36	4450.62	8780.68	0	102.06	87.72
In-Service Training (IST)	3717.71	600	1600	0	1517.71	2765.10	148.97	1014.55	0	1601.58	74.38
Management Information System (MIS)-Health	1067	232	685	150	0	883.56	230.36	543.96	0	109.24	82.81
Micronutrient Supplementation (MS)	2150	350	1800	0	0	1338.84	154.46	1184.38	0	0	62.27
Tuberculosis & Leprosy Control	8590	220	472	0	7898	6217.35	193.07	307.72	5537.70	178.86	72.38
National AIDS/ STD Program (NASP) and Safe Blood Transfusion Program (SBTP)	4700	200	4500	0	0	1398.44	10.07	1388.37	0	0	29.75
National Eye Care (NEC)	357	190	65	0	102	350	183	65	0	102	98.04
Non-communicable Diseases & Other Public Health Interventions (NCD&PHI)	2800	300	2500	0	0	2753.16	285.40	2467.76	0	0	98.33
Pre-service Education (PSE)	4800	800	4000	0	0	3943.50	688.75	3254.75	0	0	82.16
Procurement, Logistics & Supplies Management (CMSD)	10780	10700	80	0	0	10603.86	10524.47	79.39	0	0	98.37
Quality Assurance (QA)	87	12	75	0	0	86.85	11.85	75	0	0	99.83
Research & Development	232	25	207	0	0	210.12	11.26	198.86	0	0	90.57
Sector-wide Program Management (SWPM)	200	70	130	0	0	168.52	55.28	113.24	0	0	84.26
Total	111048.71	29223	40808	31250	9767.71	85284.66	23577.59	29807	5738.77	26161.30	76.80

Table-21.2 shows the investment project wise allocation, expenditure and utilization rate of the HNPSP development fund of DGHS for the fiscal 2009-2010.

Table-21.2. Summary of allocation, expenditure and utilization of HNPSP fund against 6 investment projects of DGHS in fiscal 2009-2010

Project (parentheses show total project lefalion allocation)	RADP allocation FY 2009-10 (Lakh Taka)					Expenditure FY 2009-10 (Lakh Taka)					Progress against allocation %
	Total	GOB	RPA-GOB	RPA-Other	Other than RPA	Total	GOB	RPA-GOB	RPA Other	Other than RPA	
Construction project of 150-bed Modern Hospital for Government Employees (4239)	1000	1000	0	0	0	943.21	943.21	0	0	0	94.32
Establishment of 250-bed National Institute of Ophthalmology & Hospital (13287.43)	1215	215	0	1000	0	175	126.84	0	48.16	0	14.40
Establishment of National Institute of ENT (1st phase) in Dhaka (4127)	500	0	0	0	0	471.03	471.03	0	0	0	94.21
Establishment of National Institute of Neurosciences (NINS) (1st phase) in Dhaka (10848)	2000	2000	0	0	0	1985.99	1985.99	0	0	0	99.30
Expansion and modernization of DMCH (6000)	2200	2200	0	0	0	2176.00	2176.00	0	0	0	98.91
Up-gradation of National Institute of Cancer Research & Hospital from 50-bed to 300-bed (29552.30)	1860	1060	0	800	0	967.18	967.18	0	0	0	52
Total (68053.73)	8775	6975	0	1800	0	6718.41	6670.25	0	48.16	96.17	76.56

Bangladesh National Health Accounts (NHA) 1997-2007

As we were at the last moment for publishing Health Bulletin 2010, the Bangladesh National Health Accounts 1997-2007 was published officially by the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare. The work was done by a consulting firm, Data International Limited with the financial and technical assistance from German Technical Corporation (gtz). Mr. Ravi P. Rannan-Eliya from the Institute for Health Policy, Sri Lanka was the editor of the report. The National Health Accounts 1997-2007 may be an interesting reading for the readers. Therefore, we excerpts selected part of this report. Table-22.3 shows the total health expenditure and annual growth rates in total health expenditures from 1997 to 2007.

Table-21.3. Total health expenditure, current and constant 2007 prices, and annual growth rates, 1997-2007

Fiscal Year	Amount (Taka Million)		Growth rate over previous year (%)	
	Current	Constant (a)	Current	Constant
1996-97	48,699	74,392		
1997-98	53,602	78,966	10.1	6.1
1997-99	59,433	84,554	10.9	7.1
1999-00	65,497	91,796	10.2	8.6
2000-01	74,193	103,256	13.3	12.5
2001-02	82,978	111,652	11.8	8.1
2002-03	89,709	115,867	8.1	3.8
2003-04	102,229	126,624	14.0	9.3
2004-05	117,085	136,075	14.5	7.5
2005-06	138,955	152,588	18.7	12.1
2006-07	160,899	160,899	15.8	5.4

Figure-21.3. shows the total health expenditure each year as percentage of GDP of Bangladesh from 1997 to 2007. As the figure reveals, the total health expenditures increased at very negligible rate of only 0.1% each year from 2003-04 to 2006-07.

Figure-21.3. Ratio of total health expenditure each year as percentage of GDP (1997-2007)

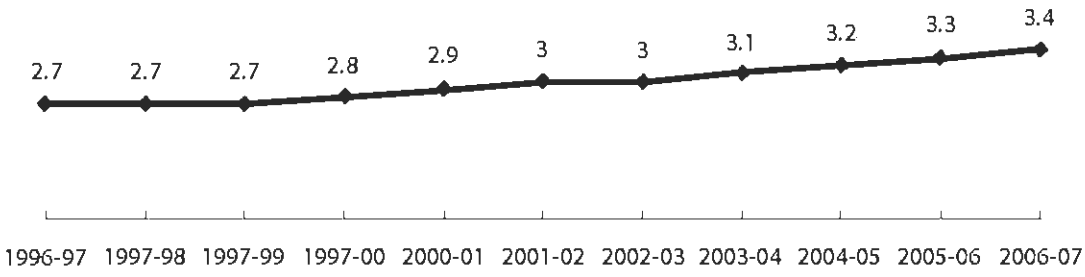


Table-21.4 shows the total health expenditure and GDP of Bangladesh from 1997 to 2007.

Table-21.4. **Total health expenditure and GDP from 1997 to 2007 in Bangladesh**

Fiscal Year	Total Health Expenditure				GDP		
	Current Taka	Constant Taka*	Current US$	Real growth rate (%)	Current Taka	Constant Taka*	Current US$
1996-97	393	600	$9.2		14,571	22,258	$341
1997-98	426	627	$9.4	4.5	15,901	23,425	$350
1997-99	466	662	$9.7	5.6	17,209	24,483	$358
1999-00	506	709	$10.1	7.1	18,313	25,666	$364
2000-01	571	794	$10.6	12.0	19,499	27,137	$361
2001-02	624	840	$10.9	5.8	20,557	27,661	$358
2002-03	665	860	$11.5	2.3	22,298	28,800	$385
2003-04	742	920	$12.6	7.0	24,181	29,951	$410
2004-05	845	982	$13.8	6.8	26,747	31,085	$436
2005-06	988	1,085	$14.7	10.5	29,568	32,469	$441
2006-07	1,118	1,118	$16.2	3.0	32,831	32,831	$476

*Constant price of health expenditure and GDP were expressed in terms of 2007 prices

Figure-21.4 shows the gap between per capita GDP and per capita total health expenditure from 1997 to 2007. The figure clearly reveals that the gap has been widened over the years from 2002-03 to 2006-07.

Figure-21.4. Gap between per capita GDP and per capita total health expenditure from 1997 to 2007

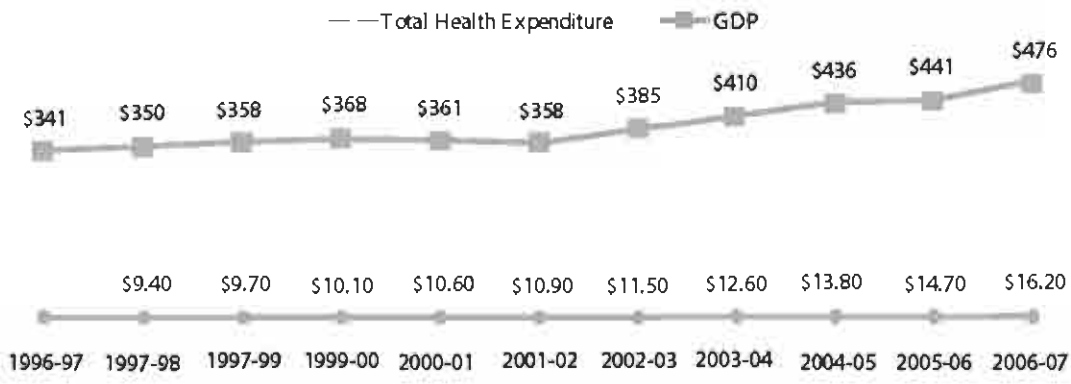


Figure-21.5 shows the per capita purchasing power parity (PPP) adjusted total health expenditure in Bangladesh from 1997 to 2007. The per capita expenditure has increased slowly over the years. However, was it what we expected or similar to that in other countries? One should find answer to this question before making a contention.

Figure-21.5. Per capita purchasing power parity (PPP) adjusted total health expenditure nominal from 1997 to 2007 in Bangladesh

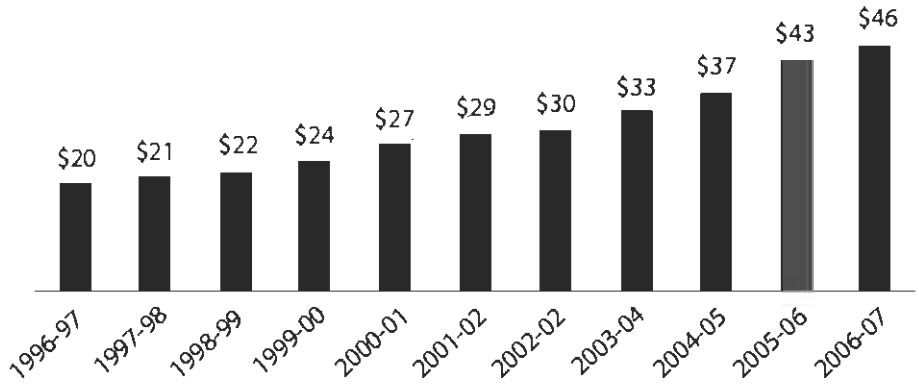


Table-21.5 shows the contribution of Total Health Expenditure from different sources from 1997 to 2007. Household (out of pocket) contribution continues to be two-thirds of the total health expenditure which was 57% in 1996-97 and became 64% in 2006-07.

Table-21.5. Contribution of Total Health Expenditure (THE) from different sources from 1997 to 2007

Fiscal Year	Public sector		Household		Private		Insurance		NGO		Development partners		Total THE
	Million Taka	% of THE	Million Taka	% of THE	Million Taka	% of THE	Million Taka	% of THE	Million Taka	% of THE	Million Taka	% of THE	Million Taka
1996-97	17,682	36%	27,573	57%	562	1%	35	0%	548	1%	2,300	5%	48,699
1997-98	18,341	34%	31,055	58%	605	1%	41	0%	685	1%	2,875	5%	53,602
1997-99	19,292	32%	35,071	59%	487	1%	47	0%	849	1%	3,688	6%	59,433
1999-00	20,217	31%	38,719	59%	910	1%	54	0%	1,019	2%	4,578	7%	65,497
2000-01	23,128	31%	43,456	59%	594	1%	97	0%	1,260	2%	5,659	8%	74,193
2001-02	25,223	30%	48,944	59%	657	1%	117	0%	1,265	2%	6,772	8%	82,978
2002-03	24,810	28%	54,461	61%	871	1%	142	0%	1,422	2%	8,004	9%	89,709
2003-04	29,316	29%	61,078	60%	854	1%	167	0%	1,579	2%	9,235	9%	102,229
2004-05	29,918	26%	74,506	64%	937	1%	224	0%	1,765	2%	9,734	8%	117,085
2005-06	38,696	28%	86,419	62%	1,100	1%	256	0%	1,954	1%	10,530	8%	138,955
2006-07	41,318	26%	103,459	64%	1,325	1%	314	0%	2,092	1%	12,391	8%	160,899

Figure-21.6 shows that the Ministry of Health and Family Welfare is the largest contributor of the public sector expenditure for health. In fiscal 2006-07, it contributed 97.1% followed by Ministry of Local Government, Rural Development and Cooperatives (1.0%) and Ministry of Home Affairs (0.6%). The rest of the ministries of the Government of Bangladesh together contributed 1.3%.

Figure-21.6. Share of different ministries to public sector fund for total health expenditure in FY 2006-07

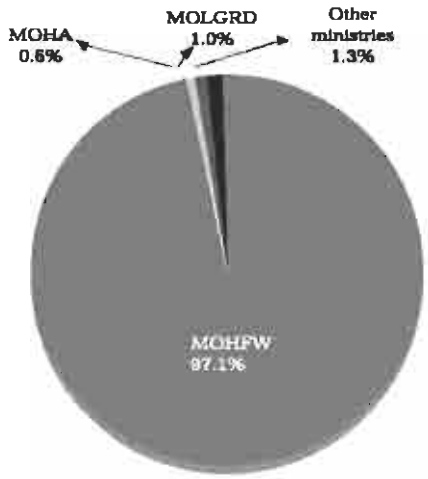


Figure-21.7 shows the contribution of different development partners as percentage of total donor funds to health expenditures in fiscal 2006-07

Figure-21.7. Contribution of development partners to the external funds for helath (FY2006-07)

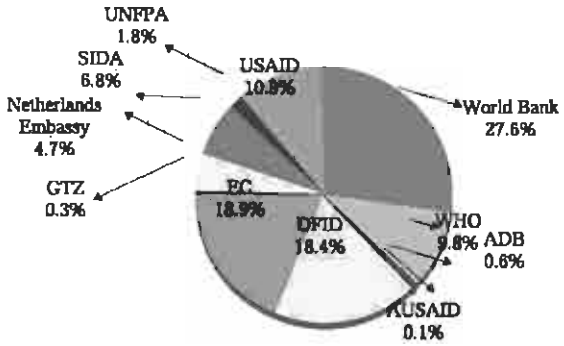


Figure-21.8 shows the distribution of total health expenditures by type of providers in fiscal 2006-07.

Figure-21.8. Distribution of total health expenditures by type of health care providers in 2006-07

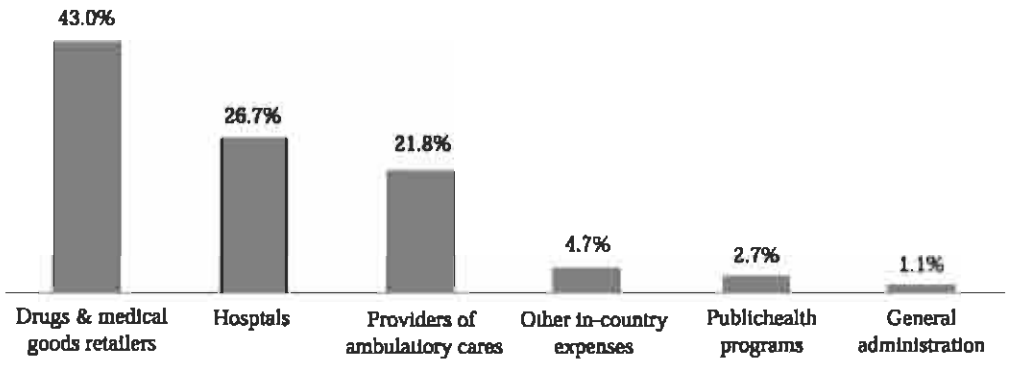


Table-21.6 shows the distribution of health expenditures on different types of health care providers in fiscal 2006-07. Of the hospital expenditures, more than half (54.5%) went to the private/NGO hospitals. Of the ambulatory health care expenditures, majority (32.5%) went to family planning centers followed by to general physicians (27.0%), medical and diagnostic centers (18.4%). Other outpatient health centers got 12.1% of the share. The home care providers got 3.5%.

Table-21.6. How much each type of health providers got in FY2006-07 out of health expenditures used for health care.

Share of hospital expenditure		Share of ambulatory health care expenditure	
Type of health facility	Percentage	Type of health facility	Percentage
Private/NGO hospitals	54.5%	General physicians	27.0%
Hospitals at upazila level & below	24.1%	Dentists	0.9%
District/General hospitals	8.7%	Homeopaths	3.2%
Medical college hospitals	5.2%	Ayurved/Unani	2.4%
Specialized hospitals	3.4%	Family planning centers	32.5%
Other ministry hospitals	3.1%	All other outpatient health centers	12.1%
University hospital & PG institute hospitals	0.8%	Medical & diagnostic centers	18.4%
Government mental hospitals	0.2%	Home health care providers	3.5%

Figure-21.9. shows the distribution of public sector health expenditures by functions of health services in fiscal 2006-07. Curative care drained 33%. Another 14% was drained by medicines and medical goods. Preventive care used 27%.

Figure-21.9. Distribution of public sector health expenditure by functions of health services in 2006-07

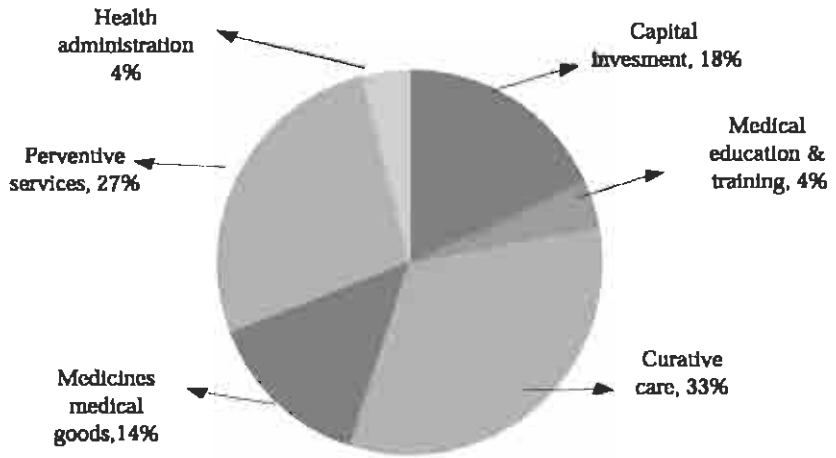


Table-21.7. shows the comparison of health expenditures between Bangladesh and some neighboring countries in fiscal 2005-06 and 2006-07

Table-21.7. Comparison of health expenditures between Bangladesh and neighboring countries

Country	Year	Per capita health expenditure (US$)	Total health expenditure as % of GDP	Public expenditure as % of total health expenditure	Public expenditures as % of GDP
Bangladesh	2006-07	16	3.6	26	0.9
Bangladesh	2005-06	14	3.3	27	0.9
India		29	3.6	25	0.9
Nepal		17	5.1	30	1.6
Pakistan		19	2.6	32	0.8
Sri Lanka		57	4.2	49	2.1

ANNEX

EOC PROCESS INDICTORS

UN Process Indictor	District Hospitals (n=61)	Medical College Hospitals (n=13)	Upazila Health Complexes (n=401)	NGO facilities (n=30)	Private clinics or hospitals (n=62)	Total (n=567)
Barisal Division						
Expected births (N)	196680	196680	150041	138876	196680	878897
Expected complications (N)	29499	29499	22506	20831	29499	131834
ANC services (N)	5402	8437	13821	1494	4935	34089
No. admitted	6982	4732	9145	796	9981	31636
Complications treated (N)	3944	2980	3011	63	2708	12706
Normal delivery (N)	1932	1093	4269	149	2401	9844
Forceps delivery (N)	4	0	24	0	21	49
Vaginal breech delivery (N)	20	3	14	0	19	56
Cesarean section (N)	1047	2278	1112	307	5472	10216
Total delivery (N)	3003	3374	5419	456	7913	20165
Live births (N)	2840	3029	5221	456	7764	19310
Still births (N)	209	437	236	2	203	1087
Other operations (N)	411	31	82	29	116	669
Referred out (N)	707	5	913	76	110	1811
PNC services (N)	1988	487	6446	408	3161	12490
Maternal death (N)	22	77	15	0	1	115
Newborn deaths (N)	20	377	19	1	9	426
Proportion (%) of births in EmOC facilities	1.5	1.7	3.6	0.3	4.0	2.3
Met need for EmOC	13.4	10.1	13.4	0.3	9.2	9.6
CS as % of total births	0.5	1.2	0.7	0.2	2.8	1.2
Case fatality rate (%)	0.6	2.6	0.5	0.0	0.0	0.9
Chittagong Division						
Expected births (N)	581727	692463	427690	310974	569260	2582114
Expected complications (N)	87259	103869	64153	46646	85389	387316
ANC services (N)	21314	1260	61547	14335	35068	133524
No. admitted	20998	16683	28236	1411	19877	87405
Complications treated (N)	9374	6525	6341	206	8263	32709
Normal delivery (N)	6473	5799	19126	863	6551	38812
Forceps delivery (N)	155	218	202	0	288	863
Vaginal breech delivery (N)	169	191	118	7	486	971
Cesarean section (N)	5825	5891	2242	276	10911	25145
Total delivery (N)	12622	12099	21688	1146	18236	65791
Live births (N)	11686	11507	20918	1136	17977	63224
Still births (N)	1072	753	862	17	393	3097
Other operations (N)	2254	152	1601	16	454	4477
Referred out (N)	527	17	2986	242	361	4133
PNC services (N)	11218	0	21403	3555	13745	49921
Maternal death (N)	76	95	7	0	1	179
Newborn deaths (N)	51	323	31	7	46	458
Proportion (%) of births in EmOC facilities	2.2	1.7	5.1	0.4	3.2	2.5
Met need for EmOC	10.7	8.2	9.9	0.4	9.7	8.4
CS as % of total births	1.0	0.9	0.5	0.1	1.9	1.0
Case fatality rate (%)	0.8	1.1	0.1	0.0	0.0	0.5
Dhaka Division						
Expected births (N)	677221	2970521	640580	52355	1645491	5986168
Expected complications (N)	101583	445578	96087	7853	246824	897925
ANC services (N)	38300	51824	169449	5653	141509	406735
No. admitted	33990	42034	47596	642	78096	202558
Complications treated (N)	15106	13832	15261	201	33545	77945
Normal delivery (N)	10073	11811	24860	137	21982	68863

EOC Process Indictor	District Hospitals (n=61)	Medical College Hospitals (n=13)	Upazila Health Complexes (n=421)	NGO facilities (n=30)	Private clinics or hospitals (n=82)	Total (n=657)
Forceps delivery (N)	85	268	421	0	421	1195
Vaginal breech delivery (N)	115	258	113	0	350	836
Cesarean section (N)	8196	15834	6167	118	48992	79307
Total delivery (N)	18469	28171	31561	255	71745	150201
Live births (N)	17728	26673	30507	255	71074	146237
Still births (N)	907	1602	1260	1	819	4589
Other operations (N)	3218	1420	1013	0	918	8569
Referred out (N)	1233	112	5845	160	1097	8447
PNC services (N)	20677	19475	66800	1533	76733	185218
Maternal death (N)	75	244	17	0	29	365
Newborn deaths (N)	14	349	56	0	144	563
Proportion (%) of births in EmOC facilities	2.7	0.9	4.9	0.5	4.4	2.5
Met need for EmOC	14.9	3.1	15.9	2.6	13.6	8.7
CS as % of total births	1.2	0.5	1.0	0.2	3.0	1.3
Case fatality rate (%)	0.5	1.8	0.1	0.0	0.1	0.5
Khulna Division						
Expected births (N)	352246	352246	250608	335487	352246	1642833
Expected complications (N)	52837	52837	37591	50323	52837	246425
ANC services (N)	18838	5332	61571	30255	44540	160536
No. admitted	23438	3584	31887	4302	20761	83972
Complications treated (N)	9010	550	10096	264	5416	25336
Normal delivery (N)	9651	1399	15448	1328	5566	33392
Forceps delivery (N)	29	60	236	1	16	336
Vaginal breech delivery (N)	103	6	85	21	24	239
Cesarean section (N)	4174	944	5291	2627	13369	26405
Total delivery (N)	13951	2409	21060	3977	18975	60372
Live births (N)	13401	2268	20630	3957	18796	59052
Still births (N)	626	165	532	29	194	1546
Other operations (N)	932	5	870	22	219	2048
Referred out (N)	405	10	2298	21	172	2906
PNC services (N)	10982	1456	20770	12079	11749	57036
Maternal death (N)	55	36	18	2	1	112
Newborn deaths (N)	5	26	49	5	41	126
Proportion (%) of births in EmOC facilities	4.0	0.7	8.4	1.2	5.4	3.7
Met need for EmOC	17.1	1.0	26.9	0.5	10.9	10.3
CS as % of total births	1.2	0.3	2.1	0.8	3.8	1.6
Case fatality rate (%)	0.6	6.5	0.2	0.8	0.0	0.4
Rajshahi Division						
Expected births (N)	609889	859367	568535	474889	725691	3238371
Expected complications (N)	91483	128905	85280	71233	108854	485755
ANC services (N)	18052	18133	101861	44077	35467	217590
No. admitted	36751	20761	63550	12123	38183	171368
Complications treated (N)	15435	4796	14763	1784	9247	46025
Normal delivery (N)	14281	7641	41940	7907	10776	82545
Forceps delivery (N)	46	164	661	289	173	1333
Vaginal breech delivery (N)	176	108	207	307	144	942
Cesarean section (N)	6221	5659	4448	2928	24216	43472
Total delivery (N)	20724	13572	47256	11431	35309	128292
Live births (N)	19719	12555	46342	11177	34858	124651
Still births (N)	1210	1090	1366	291	595	4552
Other operations (N)	2024	1131	1768	19	289	5231
Referred out (N)	781	470	7556	271	624	9702
PNC services (N)	13526	6899	41727	7769	20252	90173
Maternal death (N)	134	177	23	9	59	402
Newborn deaths (N)	67	143	94	99	117	520
Proportion (%) of births in EmOC facilities	3.4	1.6	8.3	2.4	4.9	4.0

Annexure 1: EOC Process Indictor by type of hospitals (Continued)

EOC Process Indicator	District Hospitals (n=61)	Medical College Hospitals (n=13)	Upazila Health Complexes (n=301)	MCH Facilities (n=30)	Private clinics or hospitals (n=82)	Total (n=487)
Met need for EmOC	16.9	3.7	17.3	2.5	8.5	9.5
CS as % of total births	1.0	0.7	0.8	0.6	3.3	1.3
Case fatality rate (%)	0.022	0.021	0.004	0.002	0.008	0.012
Sylhet Division						
Expected births (N)	190456	190456	151754	42211	190456	765333
Expected complications (N)	28568	28568	22763	6332	28568	114799
ANC services (N)	2198	9440	23388	96	10931	46053
No. admitted	7200	12258	12452	278	4370	36558
Complications treated (N)	2558	10549	3183	35	605	16930
Normal delivery (N)	2341	3571	7699	19	1251	14881
Forceps delivery (N)	14	274	245	0	46	579
Vaginal breech delivery (N)	116	175	97	0	10	398
Cesarean section (N)	718	4354	160	259	2394	7885
Total delivery (N)	3189	8374	8201	278	3701	23743
Live births (N)	2770	7585	7784	277	3612	22028
Still births (N)	457	789	453	1	112	1812
Other operations (N)	377	1734	421	0	92	2624
Referred out (N)	427	0	1819	0	56	2302
PNC services (N)	1108	3938	11683	68	1892	18689
Maternal death (N)	38	87	7	0	2	134
Newborn deaths (N)	36	210	36	0	10	292
Proportion (%) of births in EmOC facilities	1.7	4.4	5.4	0.7	1.9	3.1
Met need for EmOC	9.0	36.9	14.0	0.6	2.1	14.7
CS as % of total births	0.4	2.3	0.1	0.6	1.3	1.0
Case fatality rate (%)	1.5	0.8	0.2	0.0	0.3	0.8

LIST OF SECONDARY AND TERTIARY HEALTH CARE FACILITES

Specialized Hospitals with Postgraduate Teaching Institutes (7 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Dhaka	1. National Institute of Diseases of Chest and Hospital (NIDCH)	600	600	-	600	-
	2. National Institute of Traumatology & Research (NITOR)	500	500	-	500	-
	3. National Institute of Cardiovascular Diseases (NICVD)	414	250	164	414	-
	4. National Institute of Ophthalmology & Hospital (NIOH)	250	100	150	250	-
	5. National Institute of Cancer Research & Hospital (NICRH)	150	50	100	250	100
	6. National Institute of Kidney Diseases & Urology (NIKDU)	100	-	100	100	-
	7. National Institute of Mental Health & Hospital (NIMH)	100	50	50	100	-
	Total =	2114	1550	564	2214	100

Medical College Hospitals/ Dental College Hospitals/ Hospitals affiliated with Colleges for Alternative Medicine (some colleges have postgraduate teaching facilities) (17 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Dhaka	1. Dhaka Medical College Hospital	1700	1700	-	2000	300
Chittagong	2. Chittagong Medical College Hospital	1010	1010	-	1010	-
Rajshahi	3. Rangpur Medical College Hospital	1000	600	400	1000	-
Sylhet	4. Sylhet MAG Osmani Medical College Hospital	900	900	-	1000	100
Dhaka	5. Mymenshing Medical College Hospital	800	800	-	1000	200
Barisal	6. Sher-e-Bangla Medical College Hospital	600	600	-	1000	400
Dhaka	7. SirÐ Salimullah Medical College Hospital	600	600	-	600	-
Rajshahi	8. Rajshahi Medical College Hospital	550	550	-	550	-
Chittagong	9. Comilla Medical College Hospital	500	250	250	500	-
Khulna	10. Khulna Medical College Hospital	500	250	250	500	-
Rajshahi	11. Bogra Medical College Hospital	500	500	-	500	-
	12. Dinajpur Medical College Hospital	500	250	250	500	-
Dhaka	13. Shahid Sohorawardi medical college & hospital	375	375	-	850	475
	14. Faridpur Medical College Hospital	250	250	-	250	-
	15. Ayurvedic Degree College & Hospital	100	100	-	100	-
	16. Homeopathic College & Hospital	100	100	-	100	-
	17. Dhaka Dental College Hospital	20	20	-	180	180
	Total =	10005	8855	1150	11640	1655

Specialized centers (3 Centers)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Dhaka	1. National Asthma Center, Mohakhali	100	-	100	100	-
	2. Burn Unit at Dhaka Medical College Hospitals	50	-	50	200	150
	3. National Center for Rheumatic Fever & Heart Diseases	-	-	-	-	-
	Total =	150	-	150	300	150

Specialized Hospitals (2 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Rajshahi	1. Mental Health, Pabna	500	400	100	500	-
Khulna	2. Sheikh Abu Naser Specialized Hospital	-	-	250	250	
	Total =	500	400	350	750	-

Infectious Disease Hospitals (5 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Dhaka	1. Infectious Diseases Hospital (IDH)	100	100	-	100	-
Chittagong	2. Infectious Diseases Hospital, Chittagong	20	20	-	20	-
Khulna	3. Infectious Diseases Hospital, Khulna	20	20	-	20	-
Rajshahi	4. Infectious Diseases Hospital , Rajshahi	20	20	-	20	-
Sylhet	5. Infectious Diseases Hospital, Sylhet	20	20	-	20	-
	Total =	180	180	-	180	-

District Hospitals (53 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Barisal	1. Patuakhali Sadar hospital	250	150	100	250	-
Chittagong	2. Brahmanbaria Sadar Hospital	250	100	150	250	-
	3. Adhunic Sadar Hospital, Cox's Bazar	250	100	150	250	-
	4. Feni Sadar Hospital	250	100	150	250	-
Dhaka	5. Gopalganj Sadar Hospital	250	100	150	250	-
	6. Jamalpur Sadar Hospital	250	100	150	250	-
	7. Kishoreganj Sadar Hospital	250	100	150	250	-
	8. Tangail Sadar Hospital	250	100	150	250	-
Khulna	9. Jessore Sadar hospital	250	250	-	250	-
	10. Kushtia Sadar hospital	250	150	100	250	-
Rajshahi	11. Bogra Sadar Hospital	250	250	-	250	
	12. Dinajpur Sadar Hospital	250	250	-	250	
	13. Pabna Sadar hospital	250	120	130	250	-
Sylhet	14. Mowlovi BazarSadar hospital	250	100	150	250	-
	15. Sunamganj Sadar hospital	250	100	150	250	-
Chittagong	16. Chandpur Sadar hospital	200	100	100	200	-
Barisal	17. Barguna Sadar hospital	100	100	-	100	-
	18. Bhola Sadar hospital	100	100	-	150	50
	19. Jhalokhati Sadar hospitall	100	100	-	150	50
	20. Pirojpur Sadar hospital	100	100	-	150	50
Chittagong	21. Bandarban Sadar hospital	100	100	-	100	-
	22. Adhunic Zilla Sadar hospital, Khagrachari	100	50	50	100	-
	23. Laxmipur SadarHospital	100	100	-	100	-
Dhaka	24. Gazipur Sadar Hospital	100	100	-	100	-
	25. Madaripur Sadar Hospital	100	100	-	100	-
	26. Manikganj Sadar Hospital	100	100	-	100	-
	27. Munshiganj Sadar Hospital	100	100	-	250	150
	28. Narayanganj Sadar Hospital	100	100	-	100	-
	29. Narshindi Sadar Hospital	100	100	-	100	-
	30. Narshindi Zilla Hospital	100	-	100	100	-
	31. Netrokona Sadar Hospital	100	100	-	100	-
	32. Rajbari Sadar Hospital	100	100	-	100	-
	33. Shariatpur Sadar Hospital	100	100	-	100	-
	34. Sherpur Sadar Hospital	100	50	50	100	-
Khulna	35. Bagerhat Sadar hospital	100	100	-	150	50
	36. Chuadanga Sadar hospital	100	100	-	150	50
	37. Jhenaidah Sadar hospital	100	100	-	100	-
	38. Magura Sadar hospital	100	100	-	150	50
	39. Meherpur Sadar hospital	100	100	-	100	-
	40. Narail Sadar hospital	100	100	-	100	-
	41. Satkhira Sadar hospital	100	100	-	150	50
Rajshahi	42. Chapai Nowabganj Sadar hospital	100	100	-	100	-
	43. Gaibanda Sadar hospital	100	100	-	100	-
	44. Joypurhat Sadar hospital	100	100	-	150	50
	45. Kurigram Sadar hospital	100	100	-	250	150
	46. Lalmonirhat Sadar hospital	100	100	-	100	-
	47. Naogaon Sadar hospital	100	100	-	100	-
	48. Natore Sadar hospital	100	100	-	100	-
	49. Nilphamari Sadar hospital	100	100	-	150	50
	50. Panchagar Sadar hospital	100	100	-	100	-
	51. Thakorgaon Sadar hospital	100	100	-	100	-
Sylhet	52. Hobiganj Sadar hospital	100	100	-	150	50
	53. Sylhet Sadar Hospital	100	100	-	100	-
	Total =	7650	5670	1980	8450	800

General Hospitals (9 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Chittagong	1. Noakhali General Hospital	250	150	100	250	-
Dhaka	2. Narayanganj General Hospital	200	200	-	250	50
Chittagong	3. Chittagong General Hospital	150	150	-	150	-
Khulna	4. Khulna General Hospital	150	150	-	150	-
Barisal	5. Barisal General Hospital	100	100	-	100	-
Chittagong	6. Comilla General Hospital	100	100	-	100	-
	7. Rangamati General Hospital	100	100	-	100	-
Dhaka	8. Faridpur General Hospital	100	100	-	100	-
Rajshahi	9. Serajgonj General Hospital	100	100	-	100	-
	Total =	1250	1150	100	1300	50

Chest Diseases /TB Hospitals (12 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Chittagong	1. Chest Diseases Hospital, Chittagong	150	150	-	150	-
Khulna	2. Chest Diseases Hospital, Khulna	100	100	-	100	-
Rajshahi	3. Chest Diseases Hospital, Rajshahi	100	100	-	100	-
Sylhet	4. Chest Diseases Hospital, Sylhet	56	56	-	56	-
Barisal	5. Chest Diseases Hospital, Barisal	20	20	-	20	-
Chittagong	6. Chest Diseases Hospital, Brahmanbaria	20	20	-	20	-
Khulna	7. Chest Diseases Hospital, Jessore	20	20	-	20	-
Rajshahi	8. Chest Diseases Hospital, Bogura	20	20	-	20	-
	9. Chest Diseases Hospital, Pabna	20	20	-	20	-
	10. Chest Diseases Hospital, Rangpur	20	20	-	20	-
Sylhet	11. Chest Diseases Hospital, Sylhet	20	20	-	20	-
Dhaka	12. 250 Bedded TB Hospital at Shyamoli, Dhaka	-	-	-	250	250
	Total =	546	546	-	796	250

Leprosy Hospitals (3 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Sylhet	1. Leprosy Hospital, Sylhet	80	80	-	80	-
Dhaka	2. Leprosy Hospital, Mohakhali, Dhaka	30	30	-	30	-
Rajshahi	3. Leprosy Hospital, Nilphamari	20	20	-	20	-
	Total =	130	130	-	130	0

Other Hospitals (6 Hospitals)

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Dhaka	1. Sharkari Karmachari Hospital	100	100	-	100	-
	2. Bangladesh Korea Moitree Hospital, Savar	30	-	30	30	-
Dhaka	3. Tongi 50-bed Hospital, Gazipur	50	50	-	50	-
Khulna	4. 25-bed Sishu Hospital at Jhenaidah	25	-	25	25	-
Rajshahi	5. Labor Hospital, Syedpur	50	50	-	100	50
Sylhet	6. Sreemongal 50-bed Hospital, Moulavi Bazar	50	50	-	50	-
	Total =	305	250	55	355	50

Proposed New Hospitals

Division	Name of Hospital	Functional beds	Revenue beds	Development beds	Proposed beds	Beds will increase
Chittagong	1. 100-bedded General Hospital Port area, Chittagong	-	-	-	100	100
Dhaka	2. 500-bed General Hospital, Khilgaon, Dhaka	-	-	-	500	500
	3. 500-bed General Hospital, Kurmitola, Dhaka	-	-	-	500	500
	4. 500-bed General Hospital, Mirpur, Dhaka	-	-	-	500	500
	Total =	-	-	-	1600	1600

HOSPITAL UTILIZATION

Number of admissions, deaths and out-patients visits in different types of hospitals (Jan-Dec 2009)

Type of health facility	Name of Institute	No. of beds	Admission (N)			Death (N)			Outdoor visit (N)			
			Male	Female	Total	Male	Female	Total	Male	Female	Child	Total
Specialized Post-graduate Teaching Hospitals	NICVD	414	28216	12960	41176	1848	832	2680	10212	40020	53626	103858
	NIDCH	670	7506	2520	10026	752	200	952	2996	57674	10200	70870
	NITOR	500	17319	3333	20652	157	13	170	77125	39834	26750	143709
	NIO	100	1338	1484	2822	0	0	0	18586	40372	32344	91302
	NIKDU	116	2464	1398	3862	120	86	206	3428	32838 1	6916	53182
	IMHR	150	1188	658	1846	14	10	24	550	15212 1	0166	25928
	NICRH	150	958	682	1640	48	23	71	6724	5519	391	12634
	Total	2100	58989	23035	82024	2939	1164	4103	119621	231469	150393	501483
Medical College Hospitals	Rangpur MCH	600	45310	33112	78422	1786	1208	2994	29374	130492	128876	288742
	Rajshahi MCH	600	25038	25828	50866	1068	1014	2082	45714	112394	162180	320288
	SBMCH	600	34434	27820	62254	1462	1084	2546	80602	171390	139272	391264
	SSMCH, Mitford	600	31892	26670	58362	1166	704	1870	127914	125466	122351	375731
	Mymensingh MCH	800	56326	58426	114752	2716	2666	5382	277838	261248	275930	815016
	MAGO MCH	900	63824	59314	123138	2880	2072	4952	-	377348	400674	778022
	Dinajpur MCH	500	13028	21892	34920	440	776	1216	58438	85232	76644	220314
	Faridpur MCH	500	9964	11818	21782	618	530	1148	19674	28342	31456	79472
	Comilla MCH	500	12866	13346	26212	788	640	1428	42938	101786	83320	228044
	Bogra MCH	500	22100	18632	40732	1414	874	2288	27408	125794	125926	279126
	Shahid Suhroawrdi MCH	375	5309	6705	12014	154	105	259	147696	185865	22119	355680
	Total	9685	319891	303563	623454	14492	11673	26165	857594	1705357	1568748	4131699
General Hospitals	Mental Hospital, Pabna	500	1183	307	1490	4	2	6	-	21108	6324	27432
	Tongi 50-bed Hospital	50	2732	2907	5639	20	12	32	31082	26066	41803	98951
	Total	550	3915	3214	7129	24	14	38	31082	47174	48127	126383
Chest Clinics & Chest Hospitals	Rajshahi	150	404	84	488	14	2	16				
	Khulna	100	428	164	592	10	8	18				
	Sylhet	56	410	98	508	12	8	20				
	Chittagong	100	362	245	607	14	2	16				
	Total	406	1604	591	2195	50	20	70				
TB Segrega-tion Hospitals	Bogra 20	276	90	366	10	0	10					
	Pabna	20	58	24	82	0	0	0				
	Jessore	20	55	21	76	2	0	2				
	Barisal	20	50	30	80	2	0	2				
	Faridpur	20	44	21	65	2	0	2				
	Brahmanbaria	20	23	1	125	3	56	8	6	14		
	Rangpur	20	48	24	72	0	0	0				
	Total	140	762	335	1097	24	6	30				
Leprosy Hospitals	Nilphamari	20	67	0	67	0	0	0	0			
	Dhaka	30	140	45	185	0	0	0	0	1966	504	2470
	Sylhet	80	332	62	394	0	0	0	164	2752	1574	4490
	Total	130	539	107	646	0	0	0	164	4718	2078	6960
Infectious Disease Hospitals	Rajshahi	20	180	40	220	34	2	36	0			
	Khulna	20	1044	1012	2056	18	8	26	1630	0	1896	3526
	Dhaka	100	1094	712	1806	120	30	150	17072	30648	14978	62698
	Sylhet	20	0	0	0							
	Chittagong	20	222	86	308	12	8	20	0			
	Total	180	2540	1850	4390	184	48	232	18702	30648	16874	66224
	Country Total = 4832749	13191	388240	332695	720935	17713	12925	30638	356513		2019366	1786220

Number of admissions, deaths and visits in District Hospitals (Jan - Dec 2009)

Name of District Hospital (alphabetically arranged)	No of beds	Admission (N)			Death (N)			Outdoor visit (N)			
		Male	Female	Total	Male	Female	Total	Male	Female	Child	Total
Brahmanbaria	100	10801	10442	21243	290	239	529	101937	91104	73020	266061
Bagerhat	100	3928	5299	9227	114	67	181	28857	31408	17652	77917
Bandarban	100	2998	4318	7316	30	54	84	24486	15950	19930	60366
Barguna	100	9886	3538	13424	186	104	290	18024	88732	96112	202868
Bhola	100	4622	7332	11954	94	144	238	25534	19502	30932	75968
Bogra	250	12144	16052	28196	170	94	264	61374	103418	110446	275238
Chapainwabganj	100	8376	10374	18750	228	108	336	40605	32346	44274	117225
Chandpur	200	5112	9978	15090	146	110	256	82650	46426	75740	204816
Chittagong	150	1922	2722	4644	16	8	24	28032	39270	43228	110530
Chuadanga	100	6352	12848	19200	212	248	460	28230	53028	50840	132098
Comilla	100	4942	5726	10668	92	82	174	40236	53528	67346	161110
Cox's Bazar	100	11206	11560	22766	472	412	884	127140	38590	46202	211932
Faridpur	100	6462	7980	14442	168	36	204	32958	30828	39468	103254
Feni	250	7549	17032	24581	188	300	488	72360	69055	66761	208176
Gaibandha	100	5148	6978	12126	144	242	386	27430	23546	32640	83616
Gazipur	100	4337	9044	13381	37	83	120	54713	37259	62550	154522
Gopalganj	100	6247	5295	11542	199	295	494	27951	25303	26851	80105
Hobiganj	100	5924	12948	18872	154	402	556	29292	38710	42216	110218
Jamalpur	250	10818	11570	22388	224	158	382	53974	59866	69728	183568
Jessore	250	17294	20124	37418	725	491	1216	92131	98856	32274	223261
Jhalakathi	100	3922	4566	8488	22	24	46	28416	32600	44232	105248
Jhenaidah	100	6300	12060	18360	182	230	412	36480	46762	66494	149736
Joypurhat	100	9110	11326	20436	262	124	386	55156	36402	95366	186924
Khagrachhari	100	3284	3822	7106	92	102	194	19744	21838	27378	68960
Khulna	150	3033	4254	7287	69	18	87	29478	57441	52772	139691
Kishoreganj	100	8484	15130	23614	404	250	654	56312	60316	83318	199946
Kurigram	100	8032	7146	15178	194	134	328	49764	36580	54342	140686
Kushtia	250	16608	17162	33770	730	424	1154	44132	65502	74454	184088
Lalmonirhat	100	3449	5219	8668	42	75	117	27408	33895	27211	88514
Laximpur	100	7100	6226	13326	162	86	248	35818	46620	40248	122686
Moulavibazar	100	9852	9550	19402	184	144	328	61282	62020	63138	186440
Madaripur	100	4282	8808	13090	62	68	130	22218	24380	27164	73762
Magura	100	10300	8815	19115	264	129	393	38364	38757	33234	110355
Manikganj	100	6070	7346	13416	210	192	402	70014	59386	79458	208858
Meherpur	100	5318	7684	13002	140	88	228	29666	31912	47950	109528
Munshignj	100	5040	8225	13265	32	46	78	52150	51485	103057	206692
Naogan	100	9532	80556	90088	266	112	378	28720	35976	47832	112528
Narail	100	4446	5706	10152	108	82	190	30696	23440	33660	87796
Narayangonj	100	2964	5008	7972	6	10	16	39405	10464	98342	148211
Narsingdi	200	5199	8592	13791	171	183	354	83839	83237	112332	279403
Natore	100	8524	8752	17276	208	148	356	35632	30032	45028	110692
Netrokona	100	4030	7630	11660	82	46	128	21348	19880	20438	61666
Nilphmari	100	8284	15496	23780	66	83	149	57013	49156	67231	173400
Noakhali	250	13026	11450	24476	550	290	840	20872	16658	18060	55590
Pabna	250	15172	21346	36518	290	228	518	42222	66790	51748	160760
Panchagarh	100	4058	5078	9136	82	78	160	28964	25644	43238	97846
Patuakhali	250	9628	9370	18998	276	166	442	36860	31374	39524	107758
Perojpur	100	3114	5208	8322	64	62	126	17668	15816	22112	55596
Rajbari	100	4484	8808	13292	138	92	230	20036	20450	27328	67814
Rangamati	100	4024	3690	7714	108	62	170	12676	11530	11504	35710
Satkhira	100	4656	5082	9738	226	248	474	31058	47876	62724	141658
Serajgonj	100	13646	18786	32432	160	180	340	18114	24538	31030	73682
Shariatpur	100	6648	7544	14192	146	105	251	26965	26507	20336	73808
Sherpur	100	6648	7544	14192	146	105	251	13483	26507	20336	60326
Sunamganj	100	4136	7503	11639	65 1	74	239	26875	36583	39518	102976
Tangail	250	10502	18754	29256	314	510	824	39002	58892	62046	159940
Thakurgaon	100	4826	14910	19736	132	238	370	45276	38684	44134	128094
Country Total =	7350	403799	605312	1009111	10544	9013	19557	2331010	2402650	2886527	7620217

Average Length of Stay, Bed Occupancy Rate, Hospital Death Rate, Average Daily Admissions and Average Daily OPD Patients in different types of hospitals (Jan-Dec 2009)

Type of health facility	Name of Institute	No. of beds	Average Length of Stay (d)	BedOccupancy Rate(%)	Hospital Death Rate (%)	Average Daily Admission (N)	Average Daily OPD Patients (N)
Specialized Postgraduate Teaching Hospitals	NICVD	414	5	145.36	6.45	113	285
	NIDCH	670	23	88.38	10.02	27	194
	NITOR	500	8	90.22	0.87	57	394
	NIO	100	12	87.70	0.00	8	250
	NIKDU	116	0	79.27	6.95	11	146
	IMHR	150	20	59.56	1.45	5	71
	NICRH	150	24	68.49	4.45	4	35
	Total	2100	9	96.04	5.18	33	232
Medical College Hospitals Rangpur	MCH	600	3	93.87	4.47	215	791
	Rajshahi MCH	600	6	130.14	4.36	139	878
	SBMCH	600	6	169.42	4.20	171	1072
	SSMCH, Mitford	600	5	132.91	2.99	160	1029
	Mymensingh MCH	800	5	215.01	4.69	314	2233
	MAGO MCH	900	5	168.65	4.54	337	2132
	Dinajpur MCH	500	5	89.58	3.71	96	604
	Faridpur MCH	500	5	54.04	5.53	60	218
	Comilla MCH	500	5	61.62	5.81	72	625
	Bogra MCH	500	6	123.79	6.00	112	765
	Shahid Suhrawrdi MCH	375	10	84.49	2.18	33	974
	Total	9685	5	86.30	4.44	158	1179
General Hospitals	Mental Hospital, Pabna	500	109	83.98	0.43	4	75
	Tongi 50-bed Hospital	50	3	78.63	0.74	15	271
	Total	550	29	83.50	0.66	9	174
Chest Clinics & Chest Hospitals	Rajshahi	150	60	45.00	3.92	1	
	Khulna	100	49	80.48	3.03	2	
	Sylhet	56	43	90.94	4.65	1	
	Chittagong	100	40	60.75	2.87	2	
	Total	406	48	63.96	3.52	1	
TB Segregation Hospitals	Bogra	20	22	77.55	3.91	1	
	Pabna	20	85	90.66	0.00	0	
	Jessore	20	131	95.34	3.77	0	
	Barisal	20	74	56.58	3.57	0	
	Faridpur	20	56	57.19	2.70	0	
	Brahmanbaria	20	14	63.00	4.15	1	
	Rangpur	20	101	95.40	0.00	0	
	Total	140	42	76.53	3.75	-	-
Leprosy Hospitals	Nilphamari	20	42	36.55	0.00	0	0
	Dhaka	30	33	52.79	0.00	1	7
	Sylhet	80	44	58.24	0.00	1	12
	Total	130	41	53.64	0.00	1	14
Infectious Disease Hospitals	Rajshahi	20	25	61.42	20.22	1	0
	Khulna	20	8	201.29	1.33	6	10
	Dhaka	100	26	113.66	9.35	5	172
	Sylhet	20	0	0.00	0.00	0	0
	Chittagong	20	38	151.23	6.80	1	0
	Total	180	18	109.14	5.76	2	35
	Country Total	13191	-	-	-	-	-

Average Length of Stay, Bed Occupancy Rate, Hospital Death Rate, Average Daily Admission and Average Daily Outpatient Visit in District Hospitals (Jan Ð Dec 2009)

Name of District Hospital (alphabetically arranged)	No. of beds	Average Length of Stay (d)	Bed Occupancy Rate (%)	Hospital Death Rate (%)	Average Daily Admission (N)	Average Daily OPD Patients (N)
Brahmanbaria	100	6	189.10	4.64	58	729
Bagerhat	100	4	107.97	1.97	25	213
Bandarban	100	4	68.79	1.25	20	165
Barguna	100	3	182.43	1.29	37	556
Bhola	100	3	96.56	2.19	33	208
Bogra	250	5	160.43	0.89	77	754
Chapainawabganj	100	2	129.49	1.64	51	321
Chandpur	200	5	74.36	2.27	41	561
Chittagong	150	10	80.33	0.53	13	303
Chuadanga	100	3	132.04	2.44	53	362
Comilla	100	4	123.29	1.68	29	441
Cox's Bazar	100	3	170.44	4.13	62	581
Faridpur	100	4	149.44	1.56	40	283
Feni	250	4	93.10	2.03	67	570
Gaibandha	100	6	113.27	5.75	33	229
Gazipur	100	3	81.51	1.01	37	423
Gopalganj	100	3	92.04	4.50	32	219
Habiganj	100	2	123.05	3.05	52	302
Jamalpur	250	3	77.90	1.75	61	503
Jessore	250	3	142.07	3.28 1	03	612
Jhalakathi	100	4	88.21	0.55	23	288
Jhenaidah	100	2	126.56	2.19	50	410
Joypurhat	100	3	167.02	2.05	56	512
Khagrachhari	100	5	69.85	3.59	19	189
Khulna	150	6	72.91	1.26	20	383
Kishoreganj	100	3	192.89	2.81	65	548
Kurigram	100	3	123.80	2.24	42	385
Kushtia	250	3	114.82	3.49	93	504
Lalmonirhat	100	4	94.50	1.40	24	243
Laxmipur	100	4	133.53	2.00	37	336
Moulavibazar	100	2	126.07	1.73	53	511
Madaripur	100	3	99.38	0.00	36	202
Magura	100	2	125.86	2.11	52	302
Manikganj	100	3	120.82	3.09	37	572
Meherpur	100	3	95.60	1.75	36	300
Munshiganj	100	3	103.91	0.62	36	566
Naogan	100	3	137.16	2.22	247	308
Narail	100	3	83.28	1.84	28	241
Narayangonj	100	3	72.41	0.21	22	406
Narsingdi	200	6	90.62	3.13	38	765
Natore	100	3	116.51	2.11	47	303
Netrokona	100	3	84.74	1.19	32	169
Nilphmari	100	2	128.67	0.63	65	475
Noakhali	250	5	139.97	3.47	67	152
Pabna	250	2	92.48	1.48	100	440
Panchagarh	100	3	81.40	1.79	25	268
Patuakhali	250	5	95.96	2.57	52	295
Perojpur	100	4	78.77	1.57	23	152
Rajbari	100	3	108.82	0.00	36	186
Rangamati	100	6	123.92	2.27	21	98
Satkhira	100	6	111.42	6.92	27	388
Sirajgonj	100	6	162.44	3.21	89	202
Shariatpur	100	4	136.36	1.80	39	202
Sherpur	100	4	136.36	1.80	39	165
Sunamganj	100	3	85.89	2.09	32	282
Tangail	250	3	86.75	3.04	80	438
Thakurgaon	100	3	134.04	1.93	54	351
Country Total =	7350	3	112.63	2.24	-	-

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes

Barisal Division

District	UHC	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Barguna	Amtali	31	93.22	119.79	87.28	95.31	123.25	94	101	114	98	145
	Bamna	31	82.06	64.07	61.2	60.42	87.19	78	109	102	90	119
	Betagi	50	86.1	80.05	73.85	75.49	76.12	114	107	92	117	143
	Patharghata	31	77.57	98.75	92.26	82.7	116.72	84	54	64	78	126
Barisal	Agailjhara	50		38.91	81.24	94.52	74.84		38	42	73	68
	Babuganj	31		33.52	54.72	62.13	53.98		55	26	31	23
	Bakerganj	31		99.77	95.66	111.39	80.84		105	103	115	101
	Banaripara	31		117.73	103.51	109.94	91.29		57	66	56	43
	Gouranadi	50		49.67	69.27	82.81	68.16		54	43	63	88
	Hizla	31		37.82	86.12	85.96	80.04		68	71	83	72
	Mehendiganj	31		75.67	60.77	71.52	66.04		70	83	97	78
	Muladi	31		61.32	75.49	91.03	68.47		46	54	74	68
	Wazirpur	31		98.88	88.59	93.48	82.93		45	55	65	68
Bhola	Borhanuddin	50		62.13	52.13	75.73	61.08		128	118	129	131
	Charfession	50		98.1	99.97	61.86	70.12		176	156	149	163
	Daulatkhan	50		42.89	52.94	55.41	45.51		138	128	143	154
	Lalmohan	31		58.13	71.05	68.32	85.82		114	86	113	158
	Manpura	31		47.33	37.31	50.38	54.25		97	117	143	154
	Tajumuddin	31		74.94	74.86	69.9	61.83		119	129	143	138
Jhalakathi	Kathalia	31	85.26	72.36	81.27	86.17	82.25	84	79	103	67	72
	Nalchithi	31	74.67	64.85	65.85	90.59	57.66	114	123	113	157	153
	Rajapur	31	92.28	87.47	77.47	94.48	98.67	125	98	83	143	163
Patuakhali	Bauphal	31	88.52	93.84	97.66	81.3	97.82	95	136	126	139	162
	Dashmina	31	85.65	92	83.97	71.32	79.79	91	105	98	105	118
	Dumke	31	76.94	71.84	69.85	51.82	65.28	85	93	91	88	92
	Galachipa	50	89.45	107.4	101.25	95.58	75.53	92	95	99	93	94
	Kalapara	31	82.9	94.64	95.81	87.25	90.45	94	100	105	109	129
	Mirzaganj	31	89.68	77.07	67.95	57.84	78.11	125	117	119	95	118
Perojpur	Bhandaria	31	111.03	101.49	61.42	111.27	165	77	68	123		
	Kowkhali	31	97.81	105.65	46.59	89.86	116	75	40	70		
	Mathbaria	50	94.31	106.96	42.07	54.95	88	91	92	128		
	Nazirpur	31	112.36	96.68	49.39	118.35	169	142	40	72		
	Swarupkathi	31	85.44	74.92	43.73	74.45	210	129	121	189		

Chittagong Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Bandarban	Alikadam	31	40.89	40.89	38.52	41.04	55.53	127	134	114	80	101
	Lama	31	106.92	120.68	101.96	63.65	86.26	96	86	101	95	115
	Nykongchari	31	56.41	56.08	48.57	45.32	61.07	92	84	81	77	109
	Rowangchari	10	34.36	32.6	22.83	58.36	41.47	26	22	18	15	26
	Ruma	10	65.89	87.53	63.14	64.01	54.27	33	29	25	21	35
	Thanchi	31	0	0 0 0	9	12 11	10 18					
Brahmanbaria	Akaura	31	44.36	52.89	54.93	72.17	120	115	94	191		
	Bancharampur	31	44.66	56.37	52.06	67.61	99	96	86	164		
	Kashba	31	61.69	79.42	76.97	55.65	99	82	100	141		
	Nabinagar	31	56.54	66.78	65.18	48.96	77	75	72	169		
	Nasirnagar	50	105.8	87.18	88.12	102.88	113	120	117	177		
	Sarail	50	44.21	64.44	66.09	59.51	176	166	169	413		
Chandpur	Faridganj	31	75.32	89.88	84.77	81.32	77.26	264	184	174	180 2	01
	Haimchar	31	42.98	43.75	45.11	55.4	69.87	152	155	145	165	175
	Haziganj	50	77.65	68.77	72.25	42.49	50.95	138	158	168	178	171
	Kachua	50	77.46	83.12	93.72	83.19	73.04	205	212	201	185	175
	Matlab	31	102.7	99.17	88.16	84.68	74.94	73	82	78	86	76
	Matlab Uttar	31										
	Saharasthi	50	65.13	72.97	68.42	44.49	68.37	98	109	107	110	114

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes

Chittagong Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Chittagong	Anwara	50	117.78	107.24	94.93	94.22	84.26	128	131	129	126	136
	Baushkhali	50	93.42	103.19	97.35	55.79	62.36	89	95	105	94	119
	Boalkhali	50	73	81.9	72.99	43.97	57.92	98	124	113	139	159
	Chandanish	31	79.73	89.24	97.35	89.97	80.81	116	121	112	123	135
	Fatikchari	31	91.82	94.95	80.95	76.15	84.65	145	149	136	145	155
	Hathazari	50	72.76	82.65	85.7	84.4	74.51	126	136	118	135	211
	Lohagara	50	97.64	102.26	96.32	60.62	64.54	116	112	126	135	148
	Mirersarai	31	77.38	84.42	81.58	80.74	92.36	112	111	87	125	165
	Potiya	31	89.25	93.12	84.93	76.91	89.99	144	140	126	120	131
	Rangunia	50	91.63	101.97	81.76	92.57	78.85	124	143	122	131	142
	Rowzan	31	116.23	110.23	91.55	82.79	74.63	133	116	124	135	159
	Sandwip	31	55.26	54.93	53.56	55.8	49.69	106	113	95	118	119
	Satkania	31	76.5	86.23	79.84	73.47	95.32	94	106	116	126	136
	Sitakundia	31	83.38	94.47	84.25	82.85	94.89	123	133	132	90	185
Comilla	Barura	31	83.95	77.67	78.2	88.22	75.76	87	73	69	91	105
	Brahmanpara	31	82.24	80.11	81.26	71.74	69.53	51	43	61	87	83
	Burichong	31	68.55	65.71	55.55	72.06	80.76	48	32	41	68	85
	Chandania	31	114.74	112.11	101.23	94.74	104.14	83	73	79	100	116
	Chouddagram	50	116.42	105.12	101.23	113.24	103.97	112	119	116	120	135
	Daudkandi	31	98.01	92.5	113.11	113.25	101.9	93	84	82	96	109
	Debidwar	50	103.57	95.5	85.46	71.04	72.01	82	68	62	72	111
	Homna	50	92.05 7	1.78	82.5	42.26	48.82	88	70	60	120	112
	Laksham	50	103.65	104.16	105.72	64.01	68.95	80	79	81	92	80
	Monohorganj	31										
	Muradnagar	50	84.96	86.22	85.87	55.22	67.81	63	79	69	89	126
	Nangalkot	31	112.15	94.25	93.45	96.17	96.87	64	53	43	63	88
	Sadar Dakhin	31										
Cox's Bazar	Chakaria	50	86.9	81.36	85.19	87.53	82.61	175	172	181	193	215
	Kutubdia	31	84.45	76.86	66.36	59.57	62.83	147	127	108	129	151
	Moheshkhali	50	98.04	89.92	81.07	32.87	60.94	153	147	135	145	167
	Pekua	20					36.53					38
	Ramu	31	102.44	99.6	103.81	98.28	88.65	225	195	180	188	178
	Teknaf	50	79.85	73.1	68.49	52.22	54.89	123	113	109	110	103
	Ukhiya	31	64.25	55.98	65.3	75.62	65.95	176	163	150	195	175
Feni	Chhagalnaya	50	103.14	114.59	113.55	52.34	87.37	146	169	116	145	189
	Dagaunbhuiya	31	101.45	93.35	92.17	96.55	108.63	95	136	98	115	204
	Fulgazi	31	74.36	68.62	63.45	67.04	78.24	91	60	79	113	135
	Pasuram	50	117.84	109.94	101.75	103.58	83.37	110	127	90	137	146
	Sonagazi	31	126.8	114.06	104.58	95.92	115.96	195	214	201	178	207
Khagrachhari	Dighinala	31	52.13	38.06		52.28	41.98	91	69		99	87
	Laxmichari	31	12.5	87.68		32.95	46.77	40	38		41	46
	Manikchari	31	43.7	55.05		41.68	49.63	119	101		113	115
	Matiranga	31	37.38	37.69		50.61	60.98	124	115		137	125
	Mohalchari	31	15.75	5.82		33.6	30.31	114	34		90	81
	Panchari	31	40.72	28.73		45.3	45.39	138	104		79	69
	Ramgrah	31	69.58	54.43		58.69	61.12	28	43		53	117
Laxmipur	Raipur	50	68.2	78.52	82.89	74.77	69.62	85	103	93	145	155
	Ramganj	31	82.01	89.28	93.7	90.99	92.09	216	196	176	156	176
	Ramgati	31	67.46	69.2	71.26	69.24	79.01	79	88	78	92	112
Noakhali	Begumganj	31	43.21	68.62	157							
	Charjabbar	31										
	Chatkhil	50				41.02	56.57					116
	Companiganj	31				56.08	80.13					168
	Hatiya	31				52.07	97.62					118
	Senbag	50				57.18	54.95					116
	Sonimuri	31				54.58	83.96				69	145
	Subarnachar	31				52.41	62.18				55	99

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes

Chittagong Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Rangamati	Bagaicahri	31	63.13	50.09	30.92	47.7	42.66	45	72	68	51	48
	Barkol	10	54.6	46.53	36.96	34.16	33.52	23	12	11	13	22
	Belaichari	10	48.09	44.01	50.85	67.71	57.78	38	32	30	24	34
	Jhuraichari	10	58.46	45.75	58.37	39.67	31.85	37	27	26	22	21
	Kaptai	31	58.23	47.19	42.15	56.46	49.79	92	77	68	57	67
	Kowkhali	10	49.16	39.58	30.27	46.77	63.19	86	68	52	50	67
	Langadu	31	61.54	63.19	52.61	46.06	54.12	49	71	60	64	82
	Naniarchar	10	43.23	33.37	38.16	58.39	46.89	58	38	48	32	44
	Rajehthali	10	63.6	9.23	68.69	53.6	49.85	82	62	54	45	45

Dhaka Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Dhaka	Dhamrai	50	88.62	88.05	85.6	56.79	126.22	174	206	166	220	262
	Dohar	31	73.64	72.64	76.35	86.12	92.05	118	115	132	129	279
	Keraniganj	31	86.54	68.89	92.29	89.62	82.01	210	215	220	230	332
	Nawabganj	50	79.13	104.65	111.27	73.97	82.91	223	101	196	208	387
	Savar	50	83.72	80.8	80.23	54.49	125.51	188	165	156	175	351
Faridpur	Alfadanga	31	98.6	99.33	101.23	98.52	98.6	143	131	133	180	155
	Bhanga	50	87.46	77.77	92.83	112.53	75.64	135	138	129	170	140
	Boalmari	50	94.26	82.43	74.45	111.59	72.9	188	213	194	195	186
	Charbhadrasan	31	84.92	82.86	80.85	75.45	76.34	73	89	85	101	88
	Modhukhali	31	70.49	75.86	71.91	85.66	92.52	137	159	144	167	137
	Nagarkanda	50	84.86	78.21	73.24	95.41	77.65	174	149	136	178	156
	Sadarpur	31	87.96	87.25	84.97	81.11	78.48	90	94	90	116	96
Gazipur	Kaliakair	31	85.24	84.15	98.82	93.85	100.29	148	159	165	155	174
	Kaliganj	50	67.68	70.28	69.86	56.05	115.04	157	146	127	133	175
	Kapasia	31	86.27	84.38	79.86	77.51	97.02	146	147	137	134	213
	Sreepur	31	78.02	78.52	82.38	70.96	81.01	164	175	160	152	401
Gopalganj	Kassiani	31	75.57	54.92	79.72	69.07	58.59	105	105	113	116	136
	Kotwalipara	31	86.06	77.03	87.28	99.74	98.83	88	108	101	141	178
	Mukshedpur	31	96.74	102.54	101.78	100.61	92.72	102	102	109	136	146
	Tungipara	31	88.56	91.22	98.64	101.35	96.86	84	98	129	142	168
Jamalpur	Bakshiganj	31	86.59	61.21	61.18	69.68	93.66	149	186	162	172	199
	Dewanganj	31	88.08	91.61	89.39	76.64	85.11	82	74	106	114	117
	Islampur	31	79.03	45.99	44.4	74.24	79.72	186	176	172	165	188
	Madarganj	31	67.18	76.91	73.93	91.98	95.48	118	151	150	178	202
	Malandha	31	77.67	65.51	63.58	60.03	83.48	152	188	178	195	218
	Sarisabari	50	101.29	112.93	70.03	101.12	104.91	165	126	172	186	165
Kishoreganj	Astagram	31	77.68	74.24	64.03	86.4	93.08	167	159	131	138	175
	Bajitpur	31	69.28	68.44	61.87	73.17	93.95	165	152	147	155	165
	Bhairab	50	89.39	99.81	61.58	61.58	64.45	188	197	185	201	212
	Hossainpur	31	98.78	100.98	91.53	89.63	91.33	166	182	168	177	211
	Itna	31	87.91	93.58	83.55	73.99	63.09	98	101	99	105	135
	Karimganj	50	98.11	96.61	70.75	70.96	70.82	176	160	159	165	172
	Kishoreganj	31	108.81	98.03	97.53	103.34	02.35	173	164	177	208	198
	Kuliachar	31	68.77	59.68	58.68	63.24	85.06	118	112	126	139	149
	Mitamain	31	87.37	85.59	83.58	73.02	63.52	171	159	149	137	157
	Nikhli	31	91.04	88.98	78.64	76.71	79.82	142	131	128	148	169
	Pakundia	31	82.61	72.65	71.71	73.34	73.82	130	127	155	172	245
	Tarail	31	111.26	109.04	101.22	106.01	85.42	167	163	161	154	168
Madaripur	Kalkini	31	101.78			98.42	112.29	99			116	149
	Rajoir	31	98.25			116.5	126.22	118			127	154
	Shibchar	31	87.12			74.34	79.52	85			74	126

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes

Dhaka Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Manikganj	Daulatpur	31	69.48	75.39	66.74	65.05	63.47	74	91	91	153	157
	Ghoir	31	83.14	73.88	74.75	84.21	75.08	106	96	115	141	142
	Harriampur	31	68.43	63.49	65.01	69.94	66.64	125	110	120	125	125
	Saturia	31	88.01	77.72	80.23	85.34	82.56	136	100	113	155	145
	Shibalaya	31	91.57	89.4	74.49	97.53	88.05	135	91	95	135	135
	Singair	31	97.13	86.81	76.03	66.42	84.42	153	117	115	126	136
Munshiganj	Gazaria	31	78.16	73.25	83.04	79.9	148.13	142	156	169	149	217
	Louhajang	50	59.63	63.97	6.06	47.47	108.84	87	92	95	115	281
	Serajdikhan	31	66.72	69.77	80.09	78.43	139.38	106	109	113	135	272
	Sreenagar	31	73.21	68.01	79.03	71.99	68.25	71	98	118	120	141
	Tungibari	50	67.72	57.78	70.12	61.02	126.84	136	148	125	165	403
Mymensingh	Bhaluka	50	145.26	139.92	100.28	100.28	90.52	127	129	128	118	117
	Dhubaura	31	50.32	49.01	47.96	69.48	65.25	152	146	166	169	166
	Fulbaria	31	109.44	101.16	104.04	119.92	121.52	196	186	192	151	175
	Fulpur	50	83.17	93.82	90.67	90.67	79.34	134	152	155	171	189
	Gouripur	31	67.25	65.47	68.69	89.57	86.91	185	165	175	165	162
	Guffargaon	50	108.57	102.88	112.19	112.19	99.12	148	154	155	170	186
	Haluaghat	31	91.04	95.3 89.	52101.	53 92.	31 16	51	56	148	197	187
	Iswarganj	50	75.44	86.92	80.48	80.48	72.22	85	92	82	125	145
	Muktagacha	31	73.16	83.39	76.26	83.26	82.19	188	176	173	161	151
	Nandail	50	102.41	98.78	78.17	78.17	74.62	165	160	164	174	183
	Trisal	50	96.29	98.78	80.26	80.26	75.85	103	112	119	141	167
Narayanganj	Araihazar	31	95.01	73.61	81.36	85.27	82.58	256	225	195	208	234
	Bandar	31	64.86	64.75	68.28	70.44	62.66	191	221	139	155	189
	Rupganj	31	82.38	91.7	77.54	78.32	78.88	187	179	168	176	166
	Sonargaon	31	69.63	57.15	65.2	73.32	72.03	86	85	84	120	142
Narsingdi	Belabo	31	86.91	96.05	79.26	97.2	78.86	176	153	168	185	175
	Monohordi	31	99.38	101.7	98.85	111.68	94.44	86	96	98	110	120
	Palash	31	81.48	91.88	92.88	94.21	81.31	152	137	159	145	127
	Raipur	31	84.58	82.26	77.03	92.21	76.21	78	75	76	111	101
	Shibpur	31	83.01	88.24	74.25	84.65	74.72	113	116	115	125	145
Netrokona	Atpara	31	75.51	97.62	87.85	81.61	73.81	155	101	103	159	148
	Barhata	31	38.44	54.58	34.88	64.57	70.28	145	150	148	177	167
	Durgapur	31	94.2	99.94	71.91	69.31	74.61	161	172	171	183	168
	Kamalkanda	50	99.53	117.41	92.79	71.98	68.28	104	110	109	129	124
	Kendua	50	91.89	91.6	87.77	74.73	75.15	163	127	125	148	131
	Khaliajjuri	31	87.57	55.42	45.36	51.61	47.71	79	46	43	101	98
	Madan	50	82.15	64.91	54.2	91.63	75.16	65	104	60	144	122
	Mohanganj	31	97.74	87.36	78.2	63.47	64.13	118	99	97	90	69
	Purbadhala	50	74.68	72.14	71.58	89.31	82.36	117	107	112	151	146
Rajbari	Baliakandi	31	87.6	86.85		75.86	72.9	112	127		136	127
	Goalandaghat	31	83.32	77.99		69.71	86.27	140	109		107	129
	Pangsha	50	114.18	76.88		94.21	87.7	118	122		168	146
Shariatpur	Bhedarganj	31	106.2	96.33	86.06	92.21	96.29	87	103	82	97	121
	Damuddya	31	73.75	69.92	61.4	85.78	78.52	120	129	98	113	92
	Goshairhat	31	95.32	93.42	90.98	108.11	92.49	143	157	139	143	135
	Naria	31	105.37	98.14	82.08	89.92	92.89	101	129	101	137	144
	Zanzira	31	91.06	96.19	94.9	76.83	78.42	146	163	137	184	198
Sherpur	Jhenaigati	31	89.92		89.34	76.24	59.64	144	145		152	266
	Nakhla	31	88.01		98.02	74.64	66.43	113	135		145	159
	Nalitabari	31	76.32		78.62	75.21	76.01	100	102		99	140
	Sribardi	31	86.19		101.07	77.19	66.89	147	84		157	319
Tangail	Basail	31	90.46	93.26	88.23	74.49	75.54	162	157	162	179	169
	Bhuapur	50	78.75	68.85	67.53	62.86	63.92	81	78	83	105	126
	Delduar	31	64.03	66.01	68.23	77.24	76.52	109	103	110	130	115
	Ghatail	31	96.05	104.25	101.54	110.42	99.3	168	176	169	179	185
	Gopalpur	31	85.54	79.15	77.52	84.07	93.59	116	126	136	159	168
	Kalihati	50	87.01	89.83	89.88	71.25	72.54	157	160	155	175	154
	Mirzapur	31	55.99	55.48	55.45	72.52	82.69	148	143	142	156	175
	Modhupur	50	118.52	106.78	67.04	105.12	72.01	158	162	153	164	195
	Nagarpur	31	89.46	92.15	66.24	104.27	79.77	86	79	83	119	102
	Sakhipur	50	88.91	76.28	56.13	97.9	66.52	106	94	91	111	107
	Tangail											

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes

Khulna Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Bagerhat	Chitalmari	31	85.87	77.44	63.91	72.1	71.14	79	85	97	107	158
	Fakirhat	31	118.14	96.73	78.76	101.55	144.9	129	117	99	113	243
	Kachua	50	67.62	96.49	84.88	84.58	84.16	127	129	136	142	192
	Mollahat	31	87.87	92.28	93.27	80.57	90.64	129	140	112	155	167
	Mongla	50	78.72	84.98	93.85	50.12	55.58	58	48	82	91	111
	Morrelganj	31	99.51	116.84	101.12	81.63	115.24	88	113	98	119	171
	Rampal	50	116.44	99.47	104.67	50.47	96.36	100	82	97	102	136
	Sarankhola	31	98.35	93.72	96.73	102.15	124.33	64	74	67	87	106
Chuadanga	Alamdanga	31	88.85	92.68	96.16	75.68	96.03	232	238	198	198	219
	Damurhuda	31	75.17	77.47	74.5	67.67	70.68	213	203	158	125	188
	Jibannagar	31	78.18	74.25	74.61	64.95	95.4	170	172	125	148	195
Jessore	Aboynagar	50	120.77	127.68	117.79	164.33	116.87	144	167	161	166	186
	Bagerpara	31	87.69	83.64	81.74	95.16	98.01	102	112	93	141	147
	Chowgacha	50	116.27	117.52	97.29	156.45	184.61	164	185	152	329	346
	Jhikargacha	31	77.94	84.37	94.28	104.56	94.99	105	124	133	195	192
	Keshabpur	50	86	96.98	82.76	85.53	92.52	65	73	76	156	178
	Monirampur	31	69.25	77.12	87.19	109.91	121.19	83	93	113	195	199
	Sarsa	31	68.55	69.98	69.15	97.76	95.32	93	113	129	190	187
Jhenidah	Harinakunda	50	114.48	101.41	96.91	53.76	70.2	165	175	148	184	204
	Kaliganj	50	102.46	94.07	103.51	64.28	62.77	146	149	139	173	209
	Kotchandpur	31	93	88.21	91.65	86.09	87.09	165	156	146	159	179
	Moheshpur	31	87.91	77.76	83.27	71.48	82.14	168	165	135	118	137
	Sailkupa	31	88.42	91.49	82.05	80.78	101.53	169	189	169	178	214
Khulna	Battiaghata	31	82.36	88.06	77.46	98.42	78.07	125	96	131	119	117
	Dacope	50	72.77	119.75	98.7	115.63	78.52	111	98	138	128	118
	Dhumuria	31	108.01	118.29	112.45	97.64	77.59	178	136	164	180	171
	Dighalia	31	84.85	86.12	76.61	94.92	88.23	165	174	165	160	145
	Fultala	50	68.26	84.09	78.49	115.75	69.01	102	112	117	128	118
	Koyra	31	87.85	118.06	98.32	93.61	68.05	118	134	162	135	133
	Paikgacha	31	87.19	96.65	72.36	84.73	78.41	114	125	139	160	165
	Rupsha	31	87.36	83.46	91.48	80.01	71.95	105	125	106	115	105
	Terakhada	31	78.05	76.91	89.66	79.22	69.77	116	126	136	146	116
Kushtia	Bheramara	50	60.98	71.34	55.01	33.84	52.46	119	141	129	106	116
	Daulatpur	50	91.94	95.36	102.47	54.19	86.95	80	115	135	149	166
	Khoksha	31	78.05	90.94	92.06	78.7	87.19	118	108	123	93	95
	Kumarkhali	31	102.87	105.79	80.18	93.96	119.33	248	178	193	167	143
	Mirpur	31	114.53	63.78	73.35	63.44	74.27	100	92	107	95	98
Magura	Mohammadpur	31	50.75	48.18	52.85	42.4	61.62	73	67	55	89	110
	Salika	31	68.02	68.63	78.27	77.54	63.58	62	74	89	72	74
	Sreepur	31	62.56	52.03	73.71	63.85	77.97	72	62	56	55	81
Meherpur	Gangni	31	95.12	88.9	78.31	97.69	88.15	185	158	148	152	236
	Mujibnagar	31										
Narail	Kalia	31	91.77	74.61	87.49	79.55	101.85	165	68	141	150	161
	Lohagara	31	99.28	100.33	109.06	110.44	97.75	144	174	149	143	157
Sathkhira	Assasuni	31	67.25	51.45	52.51	53.33	72.26	98	76	85	141	119
	Debhatta	31	73.13	83.37	93.17	71.18	67.63	107	127	104	128	142
	Kalaroa	50	89.18	89.63	78.29	44.96	47.38	100	101	98	117	134
	Kaliganj	31	95.83	96.95	92.88	85.71	73.92	94	74	91	89	101
	Shyamnagar	50	110.42	102.19	101.31	67.34	68.33	75	71	87	98	117
	Tala	31	89.98	99.19	70.55	90.27	89.83	97	101	129	135	105

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes Rajshahi Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Bogra	Adamdighi	31	78.42	85.02		41.62	110.01	128	244		166	191
	Bogra											
	Dhunat	50	89.33	86.78		81.71	78.65	128	123		186	175
	Dhupchachia	50	92.05	98.53		94.26	72.87	281	234		146	143
	Gabtali	50	96.78	101.23		56.55	77.98	193	196		150	190
	Kahaloo	50	88.46	98.46		57.42	78.64	225	194		194	233
	Nandigram	31	79.72	69.88		71.89	75.58	158	228		168	177
	Sariakandi	50	79.83	125.96		75.46	72.13	171	150		244	196
	Shahjaharpur	31										
	Sherpur	31	101.65	86.12		111.71	124.91	124	246		202	227
	Shibganj	50	88.26	90.32		53.55	86.48	194	141		180	209
	Sonatala	50	83.01	108.27		70.55	73.83	223	192		181	231
Chapainawabganj	Bholahat	31	69.09	63.45	56.2	61.99	65.24	98	110	119	139	126
	Gomastapur	31	78.3	76.25	72.74	70.23	68.75	159	168	159	195	185
	Nachol	31	56.42	58.7	57.78	47.54	44.06	168	172	178	169	159
	Shibganj	31	72.24	68.75	78.14	92.74	88.92	149	140	146	174	192
Dinajpur	Birampur	31	59.84	70.23	68.26	68.9	67.67	99	104	152	104	148
	Birganj	31	66.79	74.6	73.65	69.94	67.57	135	145	129	145	170
	Birol	31	68.05	82.03	78.77	65.42	86.66	102	92	164	92	108
	Bochaganj	50	67.88	70.65	74.77	62.87	58.42	89	86	124	86	175
	Chirirbandar	31	74.29	81.29	92.79	70.99	72.77	83	75	154	75	159
	Fulbari	31	77.83	87.52	85.41	54.99	113.25	91	97	126	97	110
	Ghoraghat	31	80.83	82.62	76.54	61.88	72.71	92	113	110	113	129
	Hakimpur	31	64.79	76.45	85.48	68.9	77.22	110	86	149	86	117
	Kaharol	31	71.86	72.32	83.38	61.21	70.26	112	115	113	115	146
	Khansama	31	75.63	85.32	84.88	80.07	117.61	126	119	127	119	156
	Nawabganj	31	68.31	70.75	81.38	75.02	86.68	101	120	95	120	116
	Parbatipur	31	78.01	81.72	79.48	79.26	85.8	82	96	134	96	110
Gaibandha	Fulchari	31	69.06	84.42	97.57	56.46	60.03	110	127	117	132	121
	Gobindaganj	31	90.99	105.95	103.32	112.57	94.14	120	130	118	210	201
	Palashbari	31	86.99	88.91	92.85	79.24	82.81	96	117	106	163	191
	Sadullapur	31	88.73	79.06	84.97	88.24	87.84	116	115	112	160	177
	Saghatta	31	93.69	106.39	117.65	65.05	72.84	146	170	157	206	240
	Sundarganj	31	99.81	95.77	101.81	89.42	77.58	185	135	160	173	147
Joypurhat	Akkelpur	50	94.27	93.53	91.89	87.07	75.4	180	170	167	199	214
	Kalai	50	88.31	91.9	89.36	55.78	61.47	126	170	161	100	112
	Khetlal	31	86.92	84.54	83.94	85.05	87.88	232	195	188	113	135
	Panchbibi	31	102.95	104.37	101.25	86.21	103.61	151	166	153	130	132
Kurigram	Bhurungamari	31	83.3	72.88	70.33	85.24	82.74	113	120	86	110	195
	Chilmari	50	86.49	89.16	102.08	44.71	50.77	126	131	111	162	143
	Fulbari	31	86.82	88.89	78.08	81.23	83.02	164	176	122	113	222
	Nageswari	31	76.61	83.61	92.23	88.45	99.96	125	155	117	145	154
	Rajarhat	31	75.32	93.13	101.22	98.78	78.34	114	103	132	140	125
	Rajibpur	31	64.42	61.16	51.48	56.47	53.25	87	77	99	126	116
	Rowmari	31	93.35	74.2	87.94	85.63	74.11	145	114	113	129	132
	Ulipur	50	88.92	94.85	91.23	45.09	56.88	89	121	105	88	145
Lalmonirhat	Aditmari	31	73.25			71.59	76.65	95			219	174
	Hatibandha	31	84.35			84.84	113.07	132			208	242
	Kaliganj	31	83.65			87.49	82.19	148			203	221
	Patgram	31	74.22			79.01	102.05	100			196	189
Naogaon	Atrai	50	76.8	68.28	58.25	50.08	58.6	139	114	116	147	127
	Badalgachi	31	88.34	83.23	79.23	46.15	57.52	161	155	169	165	159
	Dhamairhat	31	83.55	81.71	80.12	47.91	94.72	148	134	145	188	168
	Manda	50	75.3	68.45	58.45	48.18	52.18	173	124	153	172	167
	Mohadevpur	50	74.93	76.82	72.98	53.11	66.12	173	210	186	201	213
	Niamatpur	31	95.35	90.32	84.21	68.08	92.16	135	151	131	130	164
	Patnitala	50	92.31	76.74	66.52	64.13	61.02	154	136	126	153	149
	Porsha	31	79.46	81.65	72.2	62.17	65.17	158	174	127	127	117
	Raninagar	31	91.46	84.72	81.27	55.74	59.09	175	190	145	335	201
	Sapahar	50	69.75	67.31	57.78	55.52	54.36	168	172	164	214	201

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes Rajshahi Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Natore	Bagatipara	31	62.48	62.51	79.5	54.23	64.15	117	183	134	147	137
	Baraigram	31	68.5	61.94	84.63	50.57	61.56	124	162	147	117	129
	Gurudashpur	31	69.47	61.73	85.09	52.87	72.59	167	187	155	207	217
	Lalpur	50	72.3	77.18	68.13	66.05	65.69	127	150	146	137	145
	Singra	31	83.42	84.21	101.5	54.05	78.72	122	110	112	141	156
Nilphamari	Dimla	50	129.61	114.34	118.34	79.21	128.97	90	33	55	91	98
	Domar	50	75.54	68.9	65.81	54.41	86.03	130	33	41	111	144
	Jaldhaka	31	119.34	100.77	98.45	117.63	127.67	120	64	75	176	221
	Kishoreganj	31	134.51	104.59	104.69	117.9	102.75	84	32	45	65	65
	Saidpur	50	121.97	116.85	110.37	146.97	117.39	140	89	85	181	176
Pabna	Atghoria	31	91.84	97.43	84.46	87.27	84.72	173	186	173	192	214
	Bangura	31	97.89	84.9	85.89	87.94	75.32	129	165	142	146	156
	Bera	31	95.56	100.79	89.79	78.37	114.01	214	188	183	163	208
	Chatmohar	31	103.3	102.75	104.75	93.43	108.62	178	201	188	181	178
	Faridpur	31	99.54	75.14	72.16	63.73	93.79	142	162	136	131	129
	Ishwardi	31	89.74	101.42	91.13	93.63	102.17	186	203	185	204	215
	Santhia	31	101.2	95.94	99.95	78.2	110.12	169	179	171	242	256
	Sujanagar	50	93.08	91.23	87.15	82.99	78.25	182	187	177	238	218
Pachagarh	Atwari	31	94.89	81.38	79.52	61.03	83.5	116	94	98	113	130
	Boda	31	91.89	79.24	74.84	63.38	78.02	157	135	145	155	164
	Debiganj	31	83.93	87.16	85.46	80.41	101.49	181	198	172	174	194
	Tentulia	31	85.17	81.06	76.35	69.98	87.65	130	140	118	172	228
Rajshahi	Bagmara	31	90.19	58.91	78.37	80.91	94.11	183	129	144	237	266
	Bogha	50	87.89	96.92	92.38	68.42	62.08	189	174	169	183	215
	Charghat	50	116.24	106.78	93.48	65.72	66.24	181	294	163	353	331
	Durgapur	50	96.59	98.08	99.54	49.75	47.7	217	258	159	295	265
	Godagari	31	93.83	98.63	109.26	97.48	105.12	105	87	97	147	158
	Godagari	31	37	60.46	62.23	110	115					
	Mohanpur	31	98.17	112.46	106.11	67.56	70.47	161	199	169	204	210
	Paba	31	71.58	66.92	79.21	63.76	85.18	151	211	125	272	267
	Puthia	31	86.53	92.48	96.74	101.94	101.03	174	280	172	341	325
	Tanore	31	94.33	109.32	92.86	92.86	115.3	112	136	147	358	264
Rangpur	Badarganj	31	94.56	97.29	94.87	105.43	96.6	110	147	117	205	200
	Gangachara	31	93.09	87.71	97.61	93.2	83.89	165	195	154	228	227
	Haragach	31	35.36	42.81	41.43	57.71	49.47	92	87	78	182	126
	Kownia	31	85.44	83.34	93.01	66.94	69.41	159	132	152	183	203
	Mithapukur	50	105.93	101.49	101.4	99.58	71.99	135	151	145	161	159
	Pirgacha	31	109.04	84.45	95.9	81.89	77.68	169	182	193	174	189
	Pirganj	31	101.73	85.62	99.07	89.28	100.33	111	104	124	151	152
	Taraganj	31	91.17	76.18	86.89	61.55	83.29	106	100	112	177	162
Seraganj	Belkuchi	31	95.51	43.52	49.14	69.51	60..14	125	183	92	115	146
	Chowhali	31	89.98	25.6 3	5.85	30.55	28.35	113	126	63	136	141
	Kamarkanda	31	84.16	53.8 6	5.72	54.65	49.96	241	193	136	146	161
	Kazipur	31	72.47	51.84	52.28	62.15	51.93	175	165	121	155	171
	Ralganj	31	89.07	61,72	64.54	78.247	66.47	151	168	61	63	75
	Shahzadpur	31	92.19	39.79	69.34	95.38	69.13	179	174	131	151	161
	Tarash	31	93.17	52.02	53.06	40.86	38.49	172	160	158	162	166
	Ullapara	31	95.38	54.19	67.2	84.17	69.47	190	178	156	151	146
Thakurgaon	Baliadangi	31	106.23	94.99	82.85	101.18	105.59	73	77	74	108	91
	Haripur	31	84.74	103.26	74.02	99.94	75.52	149	130	128	102	98
	Pirganj	31	88.95	90.15	91.85	97.27	80.58	193	149	112	161	138
	Ranisankhail	50	83.65	89.88	65.73	87.26	64.07	147	119	109	130	110

Bed Occupancy Rate (%) and Daily Average Outdoor Visits in Upazila Health Complexes Sylhet Division

District	Upazila Health Complex	No of beds	Bed Occupancy Rate (%)					Daily Average Outdoor Visits (N)				
			Y 2005	Y 2006	Y 2007	Y 2008	Y 2009	Y 2005	Y 2006	Y 2007	Y 2008	Y 2009
Hobiganj	Azmiriganj	31	74.82	75.06	88.41	72.84	62.08	146	144	98	83	120
	Bahubal	31	97.3	87.42	92.07	82.1	79.47	143	142	117	119	165
	Baniachong	31	86.95	74.81	74.22	84.8	76.95	182	161	156	132	157
	Chunarughat	31	83	79.31	85.78	76.21	74.53	139	124	137	127	155
	Lakhai	31	65.37	58.55	48.61	54.1	52.54	176	153	115	75	120
	Madhabpur	31	100.02	109.91	105.72	98.28	89.87	207	187	177	171	165
	Nabiganj	31	97.31	88.25	89.26	82.06	77.01	218	212	180	175	152
Moulavibazar	Barlekha	31		87.47	69.78	64.74	61.14		161	153	158	168
	Kamalganj	31	52.19	55.55	65.54	69.86	79.22	108	102	90	120	136
	Kaulaura	50	-	65.51	76.58	36.22	45.16		197	187	174	189
	Rajnagar	31	-	51.14	65.61	66.72	78.73		183	173	145	134
	Sreemangal	31		64.22	75.48	68.32	62.68		149	151	125	145
Sunamganj	Biswambarpur	31	39.12	-	-	55.63	91.25	85			148	161
	Chhatak	31	81.63	-	-	36.62	39.49	95			83	96
	Deerai	31	83.5	-	-	93.19	99.46	62			87	102
	Dharmapasha	31	90.35	-		43.76	75.04	134			158	167
	Duararbazar	31	52.66	-		62.23					121	135
	Jagannathpur	50	39.89	-		32.81	35.45	76			67	65
	Jamalganj	31	58.64	-		53.78	48.64	116			240	266
	Sulla	31	85.37	-		49.73	69.45	68			113	101
	Taherpur	31	56.01			41.92	46.56	105			123	113
Sylhet	Balaganj	31	56.52	52.42	44.74	41.57	43.15	96	90	98	83	79
	Beanibazar	50	64.05	54.68	49.37	35.92	32.49	187	186	188	223	257
	Biswanath	31	37.4	36.36	26.68	35.23	56.95	127	110	117	153	133
	Companiganj	31	5074	40.49	33.13	52.42	62.71	97	86	87	83	112
	Fenchuganj	31	66.83	63.85	56.7	43.78	53.61	179	166	167	85	85
	Golapganj	50	51.63	44.19	41.72	41.18	52.29	126	130	135	105	111
	Gowainghat	50	32.52	31.12	26.24	26.72	45.13	156	136	139	197	195
	Jointapur	31	85.46	75.37	72.63	75.06	69.92	84	82	87	69	59
	Kanaighat	31	52.53	48.62	49.24	44.91	60.13	115	120	139	126	139
	Zakiganj	31	69.32	68.5	69.02	74.41	82.32	207	180	178	194	220

ON THE JOB TRAINING UNDERIST

Name of Training	Duration	No. of participants
Clinical Training		
2 weeks training on intensive coronary care for junior doctors working in the CCU/cardiology department of medical colleges including curriculum review	2 weeks	29
2 weeks training on intensive coronary care for staff nurses working in the CCU/cardiology department of medical colleges including curriculum review	2 weeks	28
Training on primary management & prevention of kidney & urological diseases for primary health care physicians	6 days	45
Training on kidney & urological diseases for nurses working at primary health care level	6 days	45
Training on Kidney & urological diseases for health workers working at primary health care level	6 days	45
1 day Orientation on Continuing Performance Development (CPD) on Medical, Surgical & Management skill for Medical personnel at division level	1 day	75
6 days Training on Applied forensic Medicine including post mortem for MOs, RMOs and UH&FPO (including curriculum development)	6 days	188
6 days training on recent advances in dentistry for Dental Surgeons including curriculum development/review	6 days	88
	Total=	**543**
Computer/ IT Training		
Advanced programming on visual basic 6, SQL server for officer and staff		68
Advanced training on computer networking (including Curriculum/Guide book Development/ review)	28 days	42
Hardware training on computer operation for officer and staff (including Curriculum/Guide book Development/ review)	28 days	297
Computer programming on MS access and SPSS for officer and staff (including Curriculum/Guide book Development/ review)	28 days	620
Computer programming on Graphics Design and webpage design for officer and staff (including Curriculum / Guide book Development/ review)	28 days	131
28 days basic computer training on operating system, installation, internet etc. for the persons of MOHFW, DGHS and autonomous institute	28 days	409
14 days refresher computer training on operating system, installation, internet etc. for the persons of MOHFW, DGHS and autonomous institute	14 days	644
15 Days Computer Training on DMIS for Health Personnel from district and Upazila	15 days	191
21 days advanced computer training on District management Information System (DMIS)	21 days	113
	Total=	**2,514**
Management Training		
3 day TOT for District/ Upazila Managers on 6 days Basic Training for Medical Assistant including curriculum development	3 days	35
Training on Lactation Management skills for MOs and Nurses (Relactation, problem shooting etc) including curriculum development/review	-	286
1 day orientation on cervical and breast cancer awareness for opinion leaders including curriculum and teaching aids development	1 day	413
6 days training program on primary health care physicians on mental health including curriculum development /Review	6 days	19
3 days training program on primary health workers on mental health including curriculum development /Review	3 days	113
6 days training for doctors on violence against women and girls	6 days	152
6 days training for nurses on violence against women and girls.	6 days	543
3 days Training on management & prevention of substance abuse including alcohol for doctors (including curriculum development)	3 days	19

Name of Training	Duration	No. of participants
3 days Training on management & prevention of substance abuse including alcohol for nurses and medical assistants. (including curriculum development)	3 days	19
2 days orientation on medico legal activities for CS, DCS, RMO, etc. including Curriculum Review	2 days	225
3 days Training on basic management skill with curriculum development and curriculum review	3 days	217
6 days Training on improved financial management for personnel working at Division, District, Upazila and Specialized Institutions, TTU and Others Including curriculum Review	6 days	277
21 days basic service management training for newly recruited doctors including TOT & curriculum development/Review	21 days	525
5 days Training on office management for office staff including Curriculum development	5 days	420
Training on TMIS recording and reporting for personnel of DTCC & DUTT and other related institutions including guide book		150
2 days training on monitoring and supportive supervision for supervisors at upazila level and below (HI, AHI, SI, EPI Tech, MA etc) including curriculum review	2 days	919
2 days PMIS Training for PMIS recording & reporting tools	2 days	713
2 days Training for service statistics related MIS recording & reporting tools	2 days	18
5 days Training on standard operating procedures (SOP) regarding IPD, OPD, OT, emergency, housekeeping, record keeping, nursing services, diagnostic services, etc. for service providers of primary, secondary and tertiary Hospitals including monitoring	5 days	270
3 days Training on SOP for MLSS, aya, attendant, sweeper, cleaner, security, guard, etc. from primary, secondary and tertiary level hospitals including monitoring and supervision and development/review of hand out	3 days	90
3 days Women's professional development program for personnel from district/directorate/ Secretariat level managers including curriculum	3 days	58
5 days Mid level management development program for personnel from district level Health managers & UH& FPO including curriculum development/Review	5 days	75
3 days training on technique of developing training media and maintenance of audiovisual equipment for audiovisual operator, audiovisual projectionist, audiovisual helper and audiovisual technician including curriculum development	3 days	32
1 day orientation for awareness building on PAP screening and VIA program	1 day	113
1 day orientation for awareness building on Fistulae prevention and care	1 day	425
28 days English language course for health personnel 28 days	329	
3 days Training for Paramedics (Nurses, Technologists) on proper use and preventive maintenance of basic medical equipment including curriculum development	3 days	270
5 days Training on store management for store keepers including curriculum development	5 days	463
1 day orientation for awareness building on violence against women for community leaders	1 day	664
1 day orientation for awareness building on violence against women for health workers	1 day	472
2 days Training program on reproductive health for community Gate keeper (UP Chairman, UP member, Imam, School teachers and health volunteers) including curriculum review	2 days	376
Training on updating media and messages in support on HEP for HEO/HE/Other related officers	3 days	19
3 days Training on gender issue, equity and poverty alleviation for field staff including curriculum development	3 days	1,133

Name of Training	Duration	No. of participants
1 day training for doctors , medical assistant, MA, Paramedical Health/ Field Staff, Nurses, RMP, Drug distributor, formal and informal leaders etc on filariasis elimination & morbidity control to be held at divisional/ district/ upazila level with fie	1days	375
Organization of 2 days joint simulation exercise with BDRCS at most cyclone prone districts. (Multi-sectoral approach) on EPR	2days	356
Conduct vulnerability and Capacity Assessment at 10 (ten) selected hazard prone areas on EPR	2days	65
2 days training for field staff on Disaster Mitigation	2days	236
Workshop on Search, Rescue, Evacuation and First Aid for Health workers & volunteers (2 days)	2days	245
Training course on Mass casualty management for hospital level staffs	2days	300
2 days Orientation on service statistics of MO, MA, MT, HI, AHI and HA	2days	82
HEP Training for the mid -level managers (5 days) Health Education officers/Health Educator	5 days	81
Emergency management Training of Traffic police/Launch driver and Helper/Bus driver and helper/Petrol pump worker	1 days	683
15 days basic Training for nurses, MTs on patient care and hospital management (including curriculum development)	15 days	75
Training on disease Surveillance	3 days	47
Training on Outbreak Investigation	3 days	56
10 days Training on GLP and Lab Management for health personnel	10 days	75
Orientation Training program on Family Medicine	3 days	538
	Total=	**13,058**
Six MonthsÕ Training for Doctors on Anesthesiology (EmOC) 6 month Training for Doctors on Anesthesia (EmOC) including TOT & curriculum Development/Review	6 months	116
6 month Training for Doctors on Obstetrics & Gynecology (EmOC) including TOT & curriculum development/review	6 months	104
2 days Workshop on Medical Biotechnology	2 days	150
Breast feeding counseling training for health care providers (HAs/ Field service providers)	3 days	841
2 days Training program on reproductive health for health service providers (Doctors, Nurses, HI, AHI, HA, etc.) including curriculum review	2 days	113
2 days Training on infection prevention policy and practice for District & Upazila Health Personnel including Curriculum review	2 days	1,030
	Total=	**2,134**
Six MonthsÕ Training for Doctors on Obstetrics & Gynecology (EmOC)		
6 days ESP orientation for auxiliary service providers. Including curriculum Review	6 days	550
6 days ESP refresher training for field service providers including curriculum development	6 days	2,506
6 days Basic Training for Medical Assistant with curriculum development/review (when required)	6 days	405
Breast feeding counseling for health care providers (Doctors and Nurses) including curriculum Review	6 days	50
Training for Nurses and Paramedics on advanced ESP clinical skills from district, upazila and below on Reproductive 10 days	180	
Training for Nurses and Paramedics on advanced ESP clinical skills from district, upazila and below on Child health care	6 days	153
6 days training on nutrition for field service providers	6 days	1,575
	Total=	5,419
Overseas Training		
Overseas Training		83
	Total=	**83**
	Grand Total=	23,970

LIST OF DISEASES IN THE MORBIDITY PROFILE FORM

1. Abortion
2. Acid Burn
3. AIDS/HIV
4. Allergic Reaction
5. Anemia
6. Anal fistula
7. Angina Pectoris
8. Depressive Disorders
9. Ante partum hemorrhage
10. Appendicitis
11. Arsenicosis
12. Arthritis
13. Assault
14. Bacillary dysentery
15. Bone tumor
16. Brain Tumor
17. Bronchial Asthma
18. Bronchiectasis
19. Bronchiolitis
20. Burn (Others)
21. Congestive cardiac failure
22. Ca- Cervix
23. Ca-bladder
24. Ca-Breast
25. Ca-Colon
26. Ca-Gall bladder
27. Ca-Kidney
28. Ca-Larynx
29. Ca-liver
30. Ca-Lungs
31. Ca-esophagus
32. Ca-Oral Cavity
33. Ca-Pancreas
34. Ca-prostate
35. Ca-Rectum & anal Canal
36. Ca-scrotum
37. Ca-Skin
38. Ca-Stomach
39. Cataract
40. Ca-thyroid
41. Cholecystitis
42. Cholelithiasis
43. Cirrhosis of liver
44. Congenital Heart Disease
45. Chronic obstructive pulmonary diseases
46. Corneal Ulcer
47. CVA
48. Dengue
49. Diabetes mellitus
50. Diarrhea
51. Diphtheria
52. Disc prolapse
53. Drowning/Near Drowning
54. Drug Reaction
55. Dysentery
56. Ectopic pregnancy
57. Electric shock
58. Emphysema
59. Encephalitis
60. Enteric Fever
61. Epilepsy
62. Fibroid
63. Filariasis
64. Food poisoning
65. Fracture
66. Fungal Infections
67. Gangrene
68. Glaucoma
69. Glomerulonephritis
70. Gonorrhea
71. Hemolytic Jaundice
72. Hemorrhoids (Piles)
73. Head injury
74. Heart failure
75. Hepatic failure
76. Hepatitis
77. Hernia
78. Hydrocephalous

79. Hydrocele
80. Hydronephrosis
81. Hypercholesteremia
82. Hypertension
83. Hyperthyroidism
84. Hypertrophied Prostate
85. Hypothyroidism
86. Infective Endocarditis
87. Intestinal Obstruction
88. Kala-azar
89. Leprosy
90. Leukemia
91. Liver Abscess
92. Lymphoma
93. Lymphosarcoma
94. Malaria (Vivax / Falciparum)
95. Mastoiditis
96. Measles
97. Meningitis
98. Mental retardation
99. Mumps
100. Myocardial Infarction
101. Nasal Polyp
102. Nasopharyngal Carcinoma
103. Nephrotic Syndrome
104. Night Blindness
105. Obstructive jaundice
106. Obstructed Labor
107. Orchitis
108. Osteomyelitis
109. Osteosarcoma
110. Ovarian tumor
111. Pancreatitis
112. Pelvic Infectious Disease
113. Peptic Ulcer
114. Perforation (GI Tract)
115. Peripheral Vascular Disease
116. Pleural effusion
117. Pneumonia
118. Pneumothorax
119. Poisoning
120. Poliomyelitis
121. Postpartum hemorrhage
122. Prostatic Tumor
123. Prostatitis
124. Protein Energy Malnutrition
125. Pulmonary fibrosis
126. Pyelonephritis
127. Rabies
128. Rectal prolapse
129. Refractive error
130. Renal failure
131. Renal Stone
132. Retinal Problem
133. Rheumatic fever
134. Rhinitis
135. Rickets
136. Road Traffic Accident
137. Rupture Uterus
138. Scabies
139. Schizophrenia
140. Septicemia
141. Spinal Cord Injury
142. Suppurative Otitis Media
143. Syphilis
144. Tetanus
145. Thalassemia
146. Tonsillitis
147. Tuberculosis (Extra-Pulmonary)
148. Tuberculosis (Pulmonary)
149. Urethritis
150. Urinary Stone Disease
151. Urinary Tract Infection
152. Valvular Heart Disease
153. Viral fever
154. Whooping cough
155. Worm Infestation (Intestinal)
156. Other

MORTALITY PROFILES OF PUBLIC HOSPITALS

Upazila health complexes (n=342)

Age 0 - 28 day					
Boy		Girl		Both sex	
Asphyxia	32.25	Asphyxia	25.24	Asphyxia	28.83
Pneumonia	14.50	Pneumonia	17.35	Pneumonia	15.86
Severe disease	11.75	Septicemia	14.51	Septicemia	12.14
Septicemia	10.50	Severe disease	12.30	Severe disease	12.00
Acute respiratory tract infection	9.50	Acute respiratory tract infection	6.31	Acute respiratory tract infection	8.28
Cardio-respiratory failure	5.50	Cardio-respiratory failure	5.36	Cardio-respiratory failure	5.52
Low birth weight	4.00	Low birth weight	4.42	Low birth weight	4.28
Respiratory failure	2.50	Pyrexia of unknown origin	1.89	Respiratory failure	2.21
Jaundice	1.00	Respiratory failure	1.89	Birth injury	0.97
Birth injury	1.58	Pyrexia of unknown origin	0.83		
Total patients=	369	Total patients=	288	Total patients=	659
Age 29 day - 11 months					
Boy		Girl		Both sex	
Pneumonia	37.53	Pneumonia	35.13	Pneumonia	35.98
Severe disease	17.48	Acute respiratory tract infection	16.43	Acute respiratory tract infection	16.53
Acute respiratory tract infection	16.20	Severe disease	14.73	Severe disease	16.27
Cardio-respiratory failure	4.63	Septicemia	9.07	Septicemia	6.61
Septicemia	4.37	Cardio-respiratory failure	4.82	Cardio-respiratory failure	4.63
Respiratory failure	2.83	Malnutrition	2.83	Malnutrition	2.38
Meningitis	2.06	Fever	1.42	Respiratory failure	1.85
Fever	1.80	Diarrhea	1.13	Fever	1.59
Malnutrition	1.80	Meningitis	1.13	Meningitis	1.59
Pyrexia of unknown origin	1.54	Multi-organ failure	1.13	Pyrexia of unknown origin	1.19
Total patients=	351	Total patients=	310	Total patients=	670
Age 1 Ð 4 year					
Boy		Girl		Both sex	
Pneumonia	24.69	Pneumonia	25.98	Pneumonia	25.25
Severe disease	14.40	Severe disease	12.20	Severe disease 13.81	
Acute respiratory tract infection	10.29	Cardio-respiratory failure	7.09	Acute respiratory tract infection	8.68
Diarrhea	4.53	Acute respiratory tract infection	6.69	Cardio-respiratory failure	5.33
Drowning	4.53	Diarrhea	4.72	Diarrhea	4.54
Cardio-respiratory failure	3.70	Drowning	4.33	Drowning	4.54
Malnutrition	2.88	Encephalitis	3.15	Encephalitis	2.76
Encephalitis	2.47	Septicemia	3.15	Malnutrition	2.76
Febrile convulsion	2.47	Febrile convulsion	2.76	Febrile convulsion	2.56
Asphyxia	2.06	Convulsion 2.36		Septicemia	2.17
Total patients=	175	Total patients=	184	Total patients=	367
Age 5 - 14 years					
Boy		Girl		Both sex	
Cardio-respiratory failure	7.25	Poisoning	8.44	Pneumonia	7.38
Pneumonia	7.25	Pneumonia	7.14	Poisoning	6.71
Pyrexia of unknown origin	7.25	Bronchial asthma	6.49	Cardio-respiratory failure	6.38
Meningitis	5.80	Acute respiratory tract infection	5.84	Encephalitis	5.03
Poisoning	5.07	Cardio-respiratory failure	5.84	Pyrexia of unknown origin	4.70
Road traffic accident	5.07	Encephalitis	4.55	Meningitis	4.36
Diarrhea	4.35	Febrile convulsion	4.55	Bronchial asthma	4.03
Drowning	4.35	Organo-phosphorus compound poisoning	4.55	Road traffic accident	4.03
Septicemia	4.35	Enteric fever	3.25	Acute respiratory tract infection	3.69
Encephalitis	3.62	Fever	3.25	Fever	3.02
Total patients=	75	Total patients=	83	Total patients=	147

Upazila health complexes (n=342) (Continued)

Age 15 - 24 years					
Male		Female		Both sex	
Poisoning	22.22	Poisoning	26.82	Poisoning	24.89
Organo-phosphorus compound poisoning	17.78	Organo-phosphorus compound poisoning	21.07	Organo-phosphorus compound poisoning	19.68
Cardio-respiratory failure	10.00	Cardio-respiratory failure	7.28	Cardio-respiratory failure	8.37
Road traffic accident	4.44	Eclampsia	3.45	Road traffic accident	2.94
Acute abdomen	2.22	Anemia	2.30	Pyrexia of unknown origin	2.26
Acute heart failure	2.22	Pyrexia of unknown origin	2.30	Eclampsia	2.04
Acute respiratory tract infection	2.22	Road traffic accident	1.92	Acute abdomen	1.81
Pyrexia of unknown origin	2.22	Acute abdomen	1.53	Anemia	1.81
Acute myocardial infarction	1.67	Shock	1.53	Acute respiratory tract infection	1.58
Bronchial asthma	1.67	Acute respiratory tract infection	1.15	Acute heart failure	1.36
Total patients=	120	Total patients=	181	Total patients=	295
Age 25 - 49 years					
Male		Female		Both sex	
Cardio-respiratory failure	11.47	Poisoning	13.39	Poisoning	11.17
Poisoning	8.73	Cardio-respiratory failure	9.19	Cardio-respiratory failure	10.18
Bronchial asthma	7.19	Organo-phosphorus compound poisoning	8.23	Organo-phosphorus compound poisoning	6.90
Acute myocardial infarction	5.99	Cardiovascular disease	6.29	Bronchial asthma	6.24
Organo-phosphorus compound poisoning	5.65	Bronchial asthma	5.32	Acute myocardial infarction	4.84
Acute abdomen	3.77	Acute myocardial infarction	3.87	Cardiovascular disease	4.60
Road traffic accident	3.77	Acute abdomen	3.23	Acute abdomen	3.61
Cardiovascular disease	2.91	Cerebro-vascular accident	3.06	Cerebro-vascular accident	2.87
Cerebro-vascular accident	2.74	Eclampsia	2.26	Road traffic accident	2.63
Acute heart failure	2.57	Anemia	2.10	Respiratory failure	2.05
Total patients=	320	Total patients=	353	Total patients=	671
Age 50+ years					
Male		Female		Both sex	
Bronchial asthma	16.04	Cardiovascular disease	17.59	Bronchial asthma	14.34
Cardiovascular disease	12.43	Cardio-respiratory failure	11.38	Cardiovascular disease	14.23
Cardio-respiratory failure	9.27	Bronchial asthma	11.03	Cardio-respiratory failure	9.85
Acute myocardial infarction	8.16	Cerebro-vascular accident	6.67	Acute myocardial infarction	7.23
Chronic obstructive pulmonary disease	7.27	Acute myocardial infarction	5.52	Chronic obstructive pulmonary disease	6.45
Cerebro-vascular accident	5.16	Hypertension	5.52	Cerebro-vascular accident	5.57
Respiratory failure	2.94	Chronic obstructive pulmonary disease	4.71	Hypertension	3.65
Acute abdomen	2.77	Acute abdomen	3.33	Acute abdomen	3.02
Hypertension 2.77		Acute heart failure 2.41		Acute heart failure 2.62	
Acute heart failure	2.66	Respiratory failure	1.95	Respiratory failure	2.58
Total patients=	1,802	Total patients=	870	Total patients=	2,712
All ages					
Male		Female		Both sex	
Bronchial asthma	9.14	Pneumonia	9.70	Pneumonia	8.92
Cardio-respiratory failure	8.31	Cardio-respiratory failure	8.32	Cardio-respiratory failure	8.23
Pneumonia	8.23	Cardiovascular disease	6.98	Bronchial asthma	7.43
Cardiovascular disease	6.58	Poisoning	6.31	Cardiovascular disease	6.79
Acute myocardial infarction	4.97	Bronchial asthma	5.22	Severe disease	4.47
Severe disease	4.28	Severe disease	4.51	Poisoning	4.39
Chronic obstructive pulmonary disease	3.93	Organo-phosphorus compound poisoning	4.44	Acute respiratory tract infection	3.97
Asphyxia	3.90	Acute respiratory tract infection	3.91	Acute myocardial infarction	3.96
Acute respiratory tract infection	3.88	Septicemia	3.39	Asphyxia	3.58
Poisoning	2.97	Asphyxia	3.28	Organo-phosphorus compound poisoning	3.09
Total patients=	3741	Total patients=	2836	Total patients=	6,673

District hospitals (n=52)

Age 0 - 28 day					
Boy		Girl		Both sex	
Asphyxia	44.95	Asphyxia	43.70	Asphyxia	45.29
Low birth weight	12.38	Low birth weight	13.72	Low birth weight	13.07
Pneumonia	10.95	Pneumonia	10.05	Pneumonia	10.31
Septicemia	10.15	Septicemia	7.74	Septicemia	9.29
Cardio-respiratory failure	4.04	Cardio-respiratory failure	5.58	Cardio-respiratory failure	4.47
Respiratory failure	3.99	Respiratory failure	5.50	Respiratory failure	4.32
Acute respiratory tract infection	2.07	Acute respiratory tract infection	2.07	Acute respiratory tract infection	1.98
Severe disease	1.38	Severe disease	1.44	Severe disease	1.38
Meningitis	0.64	Cerebral ischemia	0.96	Cerebral ischemia	0.66
Total patients=	1723	Total patients=	1152	Total patients=	3061
Age 29 day - 11 months					
Boy		Girl		Both sex	
Pneumonia	31.66	Pneumonia	31.13	Pneumonia	30.98
Septicemia	10.23	Septicemia	10.82	Septicemia	10.99
Severe disease	8.30	Acute respiratory tract infection	8.61	Severe disease	8.60
Acute respiratory tract infection	7.92	Severe disease	8.17	Acute respiratory tract infection	8.41
Asphyxia	6.18	Asphyxia	5.74	Asphyxia	6.02
Malnutrition	4.05	Cardio-respiratory failure	5.08	Cardio-respiratory failure	4.11
Cardio-respiratory failure	3.86	Malnutrition	4.42	Malnutrition	4.11
Meningitis	2.90	Respiratory failure	3.53	Respiratory failure	2.68
Diarrhea	2.70	Low birth weight	2.21	Meningitis	2.49
Respiratory failure	2.12	Meningitis	2.21	Diarrhea	2.01
Total patients=	414	Total patients=	371	Total patients=	841
Boy		Girl		Both sex	
Pneumonia	17.39	Pneumonia	18.52	Pneumonia	17.68
Encephalitis	8.12	Severe disease	7.41	Encephalitis	7.48
Acute respiratory tract infection	7.25	Cardio-respiratory failure	7.04	Acute respiratory tract infection	7.17
Asphyxia	6.38	Encephalitis	7.04	Asphyxia	6.53
Septicemia	6.38	Acute respiratory tract infection	6.67	Meningitis	6.21
Cardio-respiratory failure	5.22	Asphyxia	6.67	Severe disease	6.05
Meningitis	5.22	Meningitis	6.67	Cardio-respiratory failure	5.89
Severe disease	5.22	Septicemia	4.44	Septicemia	5.57
Brought dead	3.19	Respiratory failure	4.07	Respiratory failure	3.50
Respiratory failure	3.19	Malnutrition	3.33	Malnutrition	2.71
Total patients=	233	Total patients=	194	Total patients=	432
Age 5 - 14 years					
Boy		Girl		Both sex	
Road traffic accident	9.20	Cardio-respiratory failure	9.33	Cardio-respiratory failure	7.82
Cardio-respiratory failure	7.20	Organo-phosphorus compound poisoning	7.25	Road traffic accident	6.98
Meningitis	7.20	Poisoning	7.25	Meningitis	5.92
Agn	5.20	Encephalitis	5.18	Poisoning	5.71
Pneumonia	4.80	Road traffic accident	4.15	Agn	4.02
Poisoning	4.80	Asphyxia	3.63	Encephalitis	4.02
Anemia	3.60	Meningitis	3.63	Organo-phosphorus compound poisoning	3.81
Brought dead	3.20	Anemia	3.11	Pneumonia	3.81
Septicemia	2.80	Pyrexia of unknown origin	3.11	Anemia	3.38
Bronchial asthma	2.40	Respiratory failure	3.11	Respiratory failure	2.96
Total patients=	126	Total patients=	96	Total patients=	229

District hospitals (n=52) (Continued)

Age 15 - 24 years					
Male		Female		Both sex	
Organo-phosphorus compound poisoning	19.14	Poisoning	13.59	Organo-phosphorus compound poisoning	16.52
Poisoning	16.17	Organo-phosphorus compound poisoning	13.38	Poisoning	14.82
Road traffic accident	6.74	Cardio-respiratory failure	10.19	Cardio-respiratory failure	8.03
Cardio-respiratory failure	5.39	Eclampsia	8.92	Eclampsia	4.86
Cardiovascular disease	5.39	Respiratory failure	5.10	Cardiovascular disease	4.19
Encephalitis	3.23	Anemia	4.25	Respiratory failure	4.07
Respiratory failure	3.23	Postpartum hemorrhage	4.03	Road traffic accident	3.62
Acute abdomen	2.16	Cardiovascular disease	3.61	Anemia	3.39
Anemia	2.16	Septicemia	1.91	Postpartum hemorrhage	2.15
Meningitis	2.16	Bronchial asthma	1.49	Encephalitis	1.92
Total patients=	244	Total patients=	313	Total patients=	562
Age 25 - 49 years					
Male		Female		Both sex	
Cardio-respiratory failure	9.81	Cardio-respiratory failure	12.08	Cardio-respiratory failure	11.12
Acute myocardial infarction	9.59	Cardiovascular disease	10.81	Cardiovascular disease	8.96
Road traffic accident	7.99	Poisoning	5.96	Acute myocardial infarction	6.75
Cardiovascular disease	7.27	Organo-phosphorus compound poisoning	4.69	Poisoning	5.96
Poisoning	6.32	Eclampsia	3.90	Road traffic accident	5.02
Organo-phosphorus compound poisoning	4.36	Acute myocardial infarction	3.42	Organo-phosphorus compound poisoning	4.77
Respiratory failure	3.71	Respiratory failure	3.42	Respiratory failure	3.43
Bronchial asthma	2.18	Anemia	3.02	Cerebro-vascular accident	2.31
Chronic obstructive pulmonary disease	1.89	Cerebro-vascular accident	2.38	Anemia	1.99
Acute abdomen	1.74	Postpartum hemorrhage	2.38	Bronchial asthma	1.99
Total patients=	755	Total patients=	655	Total patients=	1448
Age 50+ years					
Male		Female		Both sex	
Cardiovascular disease	19.26	Cardiovascular disease	28.10	Cardiovascular disease	21.77
Cardio-respiratory failure	10.64	Cardio-respiratory failure	12.17	Cardio-respiratory failure	11.23
Acute myocardial infarction	9.67	Cerebro-vascular accident	6.79	Acute myocardial infarction	8.31
Chronic obstructive pulmonary disease	5.25	Acute myocardial infarction	4.78	Cerebro-vascular accident	5.57
Cerebro-vascular accident	4.51	Hypertension	4.35	Bronchial asthma	4.54
Bronchial asthma	4.48	Bronchial asthma	3.64	Chronic obstructive pulmonary disease	4.36
Hypertension	3.37	Respiratory failure	3.10	Hypertension	3.70
Respiratory failure	3.29	Ischemic heart disease	2.77	Respiratory failure	3.07
Ischemic heart disease	2.75	Chronic obstructive pulmonary disease	2.50	Ischemic heart disease	2.65
Left ventricular failure	2.55	Anemia	1.63	Left ventricular failure	2.11
Total patients=	3526	Total patients=	1840	Total patients=	5728
All ages					
Male		Female		Both sex	
Asphyxia	11.31	Cardiovascular disease	11.83	Asphyxia	11.32
Cardiovascular disease	9.79	Asphyxia	10.72	Cardiovascular disease	10.45
Cardio-respiratory failure	8.07	Cardio-respiratory failure	9.89	Cardio-respiratory failure	8.79
Acute myocardial infarction	5.82	Pneumonia	5.91	Pneumonia	5.76
Pneumonia	5.77	Respiratory failure	3.94	Acute myocardial infarction	4.61
Septicemia	3.65	Low birth weight	3.47	Septicemia	3.60
Respiratory failure	3.43	Septicemia	3.33	Respiratory failure	3.48
Low birth weight	3.15	Poisoning	3.07	Low birth weight	3.31
Road traffic accident	2.92	Cerebro-vascular accident	2.76	Cerebro-vascular accident	2.69
Chronic obstructive pulmonary disease	2.62	Organo-phosphorus compound poisoning	2.53	Poisoning	2.65
Total patients=	8282	Total patients=	5766	Total patients=	14905

General hospitals (n=2)

Age 0 - 28 day					
Boy		Girl		Both sex	
Asphyxia	100.00			Asphyxia	100.00
Total patients=	2	Total patient=	0	Total patients=	2
Age 29 day - 11 months					
Boy		Girl		Both sex	
Pneumonia	60.00	Malnutrition	42.86	Malnutrition	38.46
Malnutrition	40.00	Bronchiolitis	14.29	Pneumonia	30.77
		Head injury	14.29	Bronchiolitis	15.38
		Pneumonia	14.29	Head injury	7.69
		Severe disease	14.29	Severe disease	7.69
Total patients=	5	Total patients=	7	Total patients=	13
Age 1 - 4 year					
Boy		Girl		Both sex	
		Acute abdomen	33.33	Acute abdomen	33.33
		Pneumonia	33.33	Pneumonia	33.33
		Respiratory failure	33.33	Respiratory failure	33.33
Total patients=	0	Total patients=	3	Total patients=	3
Age 5 - 14 years					
Boy		Girl		Both sex	
Acute heart failure	33.33	Anemia	100.00	Acute heart failure	25.00
Nephroblastoma	33.33			Anemia	25.00
Respiratory failure	33.33			Nephroblastoma	25.00
				Respiratory failure	25.00
Total patients=	3	Total patients=	1	Total patients=	4
Age 15 - 24 years					
Male		Female		Both sex	
Organo-phosphorus compound poisoning	22.22	Organo-phosphorus compound poisoning	40.00	Organo-phosphorus compound poisoning	28.57
Anemia	11.11	Cesarean section	20.00	Anemia	7.14
Hypertension	11.11	Encephalitis	20.00	Cesarean section	7.14
Low birth weight	11.11	Postpartum hemorrhage	20.00	Encephalitis	7.14
Pneumonia	11.11			Hypertension	7.14
Poisoning	11.11			Low birth weight	7.14
Road traffic accident	11.11			Pneumonia	7.14
Septicemia	11.11			Poisoning	7.14
				Postpartum hemorrhage	7.14
				Road traffic accident	7.14
Total patients=	9	Total patients=	5	Total patients=	13
Age 25 - 49 years					
Male		Female		Both sex	
Chronic obstructive pulmonary disease	18.75	Congenstive cardiac failure	13.33	Chronic obstructive pulmonary disease	12.90
Cardio-respiratory failure	12.50	Cerebro-vascular accident	13.33	Cardio-respiratory failure	9.68
Acute abdomen	6.25	Organo-phosphorus compound poisoning	13.33	Congenstive cardiac failure	6.45
Cardiovascular disease	6.25	Anemia	6.67	Cerebro-vascular accident	6.45
Encephalitis	6.25	Asphyxia	6.67	Organo-phosphorus compound poisoning	6.45
Hematemesis	6.25	Aspiration pneumonia	6.67	Acute abdomen	3.23
Hepatic encephalopathy	6.25	Bronchial asthma	6.67	Anemia	3.23
Intestinal obstruction	6.25	Cardiogenic shock	6.67	Asphyxia	3.23
Left ventricular failure	6.25	Chronic obstructive pulmonary disease	6.67	Aspiration pneumonia	3.23
Respiratory failure	6.25	Cardio-respiratory failure	6.67	Bronchial asthma	3.23
Total patients=	13	Total patients=	13	Total patients=	18

General hospitals (n=2) (Continued)

Age 50+ years					
Male		Female		Both sex	
Respiratory failure	12.50	Respiratory failure	20.00	Respiratory failure	14.61
Carcinoma	7.81	Cor pulmonale	16.00	Cor pulmonale	10.11
Cor pulmonale	7.81	Cerebro-vascular accident	12.00	Cerebro-vascular accident	8.99
Cerebro-vascular accident	7.81	Cardiovascular disease	8.00	Carcinoma	6.74
Left ventricular failure	7.81	chronic obstructive pulmonary disease	4.00	Cardiovascular disease	6.74
Bronchial asthma	6.25	crp	4.00	Left ventricular failure 6.74	
Chronic obstructive pulmonary disease	6.25	Anemia	4.00	Chronic obstructive pulmonary disease	5.62
Cardiovascular disease	6.25	Carcinoma	4.00	Bronchial asthma	4.49
Cardio-respiratory failure	4.69	Cardiogenic shock	4.00	Cardio-respiratory failure	3.37
Acute abdomen	3.13	Chronic obstructive pulmonary disease	4.00	Acute abdomen	2.25
Total patients=	64	Total patients=	25	Total patients=	89
All ages					
Male		Female		Both sex	
Respiratory failure	10.10	Respiratory failure	10.71	Respiratory failure	10.26
Left ventricular failure	6.06	Cerebro-vascular accident	8.93	Cerebro-vascular accident	6.41
Carcinoma	5.05	Cor pulmonale	7.14	Cor pulmonale	5.77
Chronic obstructive pulmonary disease	5.05	Organo-phosphorus compound poisoning	7.14	Cardiovascular disease	4.49
Cor pulmonale	5.05	Anemia	5.36	Left ventricular failure	4.49
Cerebro-vascular accident	5.05	Malnutrition	5.36	Organo-phosphorus compound poisoning	4.49
Cardiovascular disease	5.05	chronic obstructive pulmonary disease	3.57	Pneumonia	4.49
Pneumonia	5.05	Cardiogenic shock	3.57	Carcinoma	3.85
Bronchial asthma	4.04	Congenstive cardiac failure	3.57	Chronic obstructive pulmonary disease	3.85
Cardio-respiratory failure	4.04	Cardiovascular disease	3.57	Bronchial asthma	3.21
Total patients=	99	Total patients=	56	Total patients=	156

Medical College Hospital (n=11)

Age 0 - 28 day					
Boy		Girl		Both sex	
Low birth weight	29.92	Asphyxia	30.18	Low birth weight	29.32
Asphyxia	27.79	Low birth weight	28.63	Asphyxia	28.63
Pneumonia	9.67	Pneumonia	12.30	Pneumonia	11.48
Septicemia	9.59	Septicemia	10.58	Septicemia	9.95
Cardio-respiratory failure	5.61	Cardio-respiratory failure	5.07	Cardio-respiratory failure	5.26
Shock	1.56	Jaundice	1.03	Shock	1.18
Hyperimmunoglobulin e syndrome	1.28	Hyperimmunoglobulin e syndrome	0.95	Hyperimmunoglobulin e syndrome	1.11
Encephalitis	0.78	Encephalitis	0.86	Encephalitis	0.84
				Shock	0.77
				Respiratory failure	0.69
Total patients=	1258	Total patients=	1059	Total patients=	2354
Age 29 day - 11 months					
Boy		Girl		Both sex	
Pneumonia	20.29	Pneumonia	15.96	Pneumonia	18.68
Septicemia	17.10	Septicemia	15.49	Septicemia	16.73
Malnutrition	6.38	Malnutrition	9.39	Malnutrition	7.47
Cardio-respiratory failure	5.22	Meningitis	6.57	Cardio-respiratory failure	5.87
Severe disease	4.64	Encephalitis	5.63	Encephalitis	4.27
Low birth weight	4.35	Low birth weight	3.29	Low birth weight	3.91
Encephalitis	3.48	Diarrhea	2.82	Severe disease	3.74
Acute respiratory tract infection	2.90	Asphyxia	2.35	Diarrhea	2.67
Asphyxia	2.61	Severe disease	2.35	Asphyxia	2.49
Total patients=	252	Total patients=	151	Total patients=	405

Medical College hospitals (n=11) (Continued)

Age 1 Ð 4 year					
Boy		Girl		Both sex	
Encephalitis	23.81	Encephalitis	17.79	Encephalitis	21.25
Cardio-respiratory failure	11.26	Cardio-respiratory failure	7.98	Cardio-respiratory failure	9.75
Pneumonia	7.79	Pneumonia	4.91	Pneumonia	7.00
Low birth weight	4.76	Head injury	4.29	Low birth weight	4.50
Malnutrition	4.33	Low birth weight	4.29	Septicemia	4.00
Septicemia	3.90	Septicemia	4.29	Malnutrition	3.50
Severe disease	3.03	Road traffic accident	3.68	Head injury	3.25
Asphyxia	2.60	Poisoning	3.07	Asphyxia	2.50
Head injury	2.60	Asphyxia	2.45	Meningitis	2.50
Meningitis	2.60	Diarrhea	2.45	Acute respiratory tract infection	2.00
Total patients=	154	Total patients=	90	Total patients=	241
Age 5 - 14 years					
Boy		Girl		Both sex	
Encephalitis	12.63	Cardio-respiratory failure	11.06	Encephalitis	11.65
Head injury	10.92	Encephalitis	10.60	Head injury	9.90
Cardio-respiratory failure	8.53	Head injury	8.29	Cardio-respiratory failure	9.51
Meningitis	5.12	Organo-phosphorus compound poisoning	5.53	Road traffic accident	4.85
Road traffic accident	5.12	Road traffic accident	4.61	Meningitis	4.66
Septicemia	3.75	Meningitis	3.23	Septicemia	3.50
Anemia	2.39	Septicemia	3.23	Organo-phosphorus compound poisoning	2.91
Injury	2.39	Cerebro-vascular accident	2.30	Tetanus	1.94
Brought dead	2.05	Tetanus	2.30	Acute glomerulo-nephritis	1.75
Acute glomerulo-nephritis	1.71	Acute glomerulo-nephritis	1.84	Anemia	1.75
Total patients=	160	Total patients=	115	Total patients=	270
Age 15 - 24 years					
Male		Female		Both sex	
Organo-phosphorus compound poisoning	12.72	Organo-phosphorus compound poisoning	16.27	Organo-phosphorus compound poisoning	14.49
Cardio-respiratory failure	9.43	Cardio-respiratory failure	9.98	Cardio-respiratory failure	9.69
Head injury	8.11	Poisoning	9.33	Poisoning	8.61
Poisoning	7.89	Eclampsia	5.86	Head injury	4.79
Road traffic accident	7.46	Encephalitis	4.12	Road traffic accident	4.47
Encephalitis	3.95	Cerebro-vascular accident	3.69	Encephalitis	4.03
Meningitis	2.85	Septicemia	3.47	Cerebro-vascular accident	3.16
Cerebro-vascular accident	2.63	Anemia	3.04	Eclampsia	3.16
Brought dead	2.41	Shock	2.17	Septicemia	2.94
Septicemia	2.41	Hepatic encephalopathy	1.95	Shock	2.18
Total patients=	273	Total patients=	276	Total patients=	528
Age 25 - 49 years					
Male		Female		Both sex	
Cardio-respiratory failure	11.23	Cardio-respiratory failure	12.01	Cardio-respiratory failure	11.57
Acute myocardial infarction	8.01	Cardiovascular disease	8.88	Cerebro-vascular accident	7.18
Head injury	7.25	Cerebro-vascular accident	7.96	Cardiovascular disease	6.89
Cerebro-vascular accident	6.55	Organo-phosphorus compound poisoning	4.34	Acute myocardial infarction	5.80
Road traffic accident	6.14	Eclampsia	3.48	Head injury	5.10
Cardiovascular disease	5.26	Dm	3.27	Organo-phosphorus compound poisoning	4.17
Organo-phosphorus compound poisoning	4.04	Acute myocardial infarction	2.99	Road traffic accident	4.07
Brought dead	3.74	Encephalitis	2.99	Encephalitis	2.72
Encephalitis	2.51	Septicemia	2.99	Brought dead	2.66
Poisoning	2.28	Poisoning	2.70	Diabetes mellitus	2.53
Total patients=	975	Total patients=	726	Total patients=	1644

Medical College hospitals (n=11) (Continued)

Age 50+ years					
Male		Female		Both sex	
Acute myocardial infarction	12.25	Cerebro-vascular accident	15.32	Cerebro-vascular accident	13.09
Cerebro-vascular accident	12.18	Cardiovascular disease	14.97	Cardiovascular disease	12.42
Cardiovascular disease	11.38	Cardio-respiratory failure	12.34	Acute myocardial infarction	11.46
Cardio-respiratory failure	10.68	Acute myocardial infarction	9.54	Cardio-respiratory failure	11.19
Chronic obstructive pulmonary disease	4.05	Diabetes mellitus	3.10	Chronic obstructive pulmonary disease	3.31
Left ventricular failure	2.98	Left ventricular failure	2.74	Left ventricular failure	2.90
Hypertension	2.50	Head injury	2.09	Hypertension	2.36
Head injury	2.38	Shock	2.09	Head injury	2.31
Road traffic accident	2.15	Hypertension	2.03	Diabetes mellitus	2.15
Shock	2.15	Bronchial asthma	1.73	Shock	2.13
Total patients=	3999	Total patients=	1677	Total patients=	5683
All ages					
Male		Female		Both sex	
Cardio-respiratory failure	9.61	Cardio-respiratory failure	10.05	Cardio-respiratory failure	9.74
Acute myocardial infarction	7.55	Cerebro-vascular accident	7.40	Cerebro-vascular accident	7.34
Cerebro-vascular accident	7.37	Cardiovascular disease	7.31	Cardiovascular disease	6.81
Cardiovascular disease	6.57	Asphyxia	6.89	Acute myocardial infarction	6.18
Low birth weight	5.54	Low birth weight	6.72	Low birth weight	6.07
Asphyxia	4.94	Septicemia	4.71	Asphyxia	5.73
Septicemia	3.78	Acute myocardial infarction	4.02	Septicemia	4.15
Head injury	3.49	Pneumonia	4.00	Pneumonia	3.63
Pneumonia	3.14	Organo-phosphorus compound poisoning	3.10	Head injury	2.90
Road traffic accident	2.86	Encephalitis	2.72	Encephalitis	2.63
Total patients=	8498	Total patients=	5325	Total patients=	13902

Chest hospital (n=3)

Age 25 - 49 years					
Male		Female		Both sex	
Tuberculosis	50.00	Cardio-respiratory failure	33.33	Tuberculosis	45.45
Cardio-respiratory failure	25.00	Low birth weight	33.33	Cardio-respiratory failure	27.27
Low birth weight	25.00	Tuberculosis	33.33	Low birth weight	27.27
Total patients=	8	Total patients=	3	Total patients=	11
		Age 50+ years			
Male		Female		Both sex	
Cardio-respiratory failure	33.33	Bronchiectasis	50.00	Cardio-respiratory failure	28.57
Tuberculosis	25.00	Pneumonia	50.00	Tuberculosis	21.43
Low birth weight	16.67			Bronchiectasis	14.29
Bronchial asthma	8.33			Low birth weight	14.29
Bronchiectasis	8.33			Bronchial asthma	7.14
Pulmonary lesion	8.33			Pneumonia	7.14
				Pulmonary lesion	7.14
Total patients=	12	Total patients=	2	Total patients=	14
All ages					
Male		Female		Both sex	
Tuberculosis	35.00	Bronchiectasis	20.00	Tuberculosis	32.00
Cardio-respiratory failure	30.00	Cardio-respiratory failure	20.00	Cardio-respiratory failure	28.00
Low birth weight	20.00	Low birth weight	20.00	Low birth weight	20.00
Bronchial asthma	5.00	Pneumonia	20.00	Bronchiectasis	8.00
Bronchiectasis	5.00	Tuberculosis	20.00	Bronchial asthma	4.00
Pulmonary lesion	5.00			Pneumonia	4.00
				Pulmonary lesion	4.00
Total patients=	20	Total patients=	5	Total patients=	25

Infectious Disease hospitals (n=2)

Age 0 - 28 day					
Boy		Girl		Both sex	
Tetanus	83.33	Tetanus	100.00	Tetanus	87.50
Chicken pox	16.67			Chicken pox	12.50
Total patients=	6	Total patients=	2	Total patients=	8
		Age 29 day - 11 months			
Boy		Girl		Both sex	
		Diphtheria	100.00	Diphtheria	100.00
Total patients=	0	Total patients=	1	Total patients=	1
Age 1 Ð 4 year					
Boy		Girl		Both sex	
Rabies	100.00	HIV	50.00	Rabies	50.00
		Tetanus	50.00	HIV	25.00
				Tetanus	25.00
Total patients=	2	Total patients=	2	Total patients=	4
Age 5 - 14 years					
Boy		Girl		Both sex	
Tetanus	73.33	Tetanus	100.00	Tetanus	80.00
Chicken pox	13.33			Chicken pox	10.00
ARV reaction	6.67			ARV reaction	5.00
Rabies	6.67	Rabies 5.00			
Total patients=	15	Total patients=	5	Total patients=	20
Age 15 - 24 years					
Male		Female		Both sex	
Tetanus	60.00			Tetanus	60.00
Chicken pox	20.00			Chicken pox	20.00
Total patients=	5	Total patients=	0	Total patients=	5
Age 25 - 49 years					
Male		Female		Both sex	
Tetanus	78.95	Tetanus	50.00	Tetanus	75.00
HIV	10.53	HIV	16.67	HIV	11.36
Total patients=	38	Total patients=	6	Total patients=	44
Age 50+ years					
Male		Female		Both sex	
Tetanus	80.39	Tetanus	83.33	Tetanus	80.70
Chicken pox	5.88	Rabies	16.67	Chicken pox	5.26
Rabies	1.96			Rabies	3.51
Total patients=	51	Total patients=	6	Total patients=	57
All ages					
Male		Female		Both sex	
Tetanus	76.92	Tetanus	72.73	Tetanus	76.26
Chicken pox	5.98	Hiv	9.09	Chicken pox	5.04
HIV	3.42	Diphtheria	4.55	HIV	4.32
Rabies	3.42	Rabies	4.55	Rabies	3.60
ARV reaction	0.85			ARV reaction	0.72
				Diphtheria	0.72
Total patients=	117	Total patients=	22	Total patients=	139

National Institute of Mental Health and Research Hospital

Age 15 - 24 years					
Male		Female		Both sex	
Suicide	100.00			Suicide	100.00
Total patients=	1	Total patients=	0	Total patients=	1
Age 25 - 49 years					
Male		Female		Both sex	
Cardio-respiratory failure	66.67	Meningitis	100.00	Cardio-respiratory failure	50.00
Encephalitis	33.33			Encephalitis	25.00
				Meningitis	25.00
Total patients=	3	Total patients=	1	Total patients=	4
All ages					
Male		Female		Both sex	
Cardio-respiratory failure	50.00	Meningitis	100.00	Cardio-respiratory failure	40.00
Encephalitis	25.00			Encephalitis	20.00
Suicide	25.00	Meningitis	20.00	Suicide	20.00

National Institute of Cardiovascular Disease Hospital

Age 0 - 28 day					
Boy		Girl		Both sex	
Atrial septal defect	40.00	Atrial septal defect	20.00	Atrial septal defect	33.33
Congenstive cardiac failure	20.00	Congenstive cardiac failure	20.00	Congenstive cardiac failure	20.00
Patent ductus arteriosus	20.00	Patent ductus arteriosus	20.00	Patent ductus arteriosus	20.00
Down syndrome	10.00	Severe disease	20.00	Down syndrome	6.67
Tetralogy of Fallots	10.00			Tetralogy of Fallots	6.67
Total patients=	10	Total patients=	5	Total patients=	15
Age 29 day - 11 months					
Boy		Girl		Both sex	
Atrial septal defect	26.92	Tetralogy of Fallots	33.33	Atrial septal defect	19.51
Tetralogy of Fallots	11.54	Patent ductus arteriosus	26.67	Tetralogy of Fallots	19.51
Acute heart failure	7.69	Atrial septal defect	6.67	Patent ductus arteriosus	14.63
Aortic stenosis	7.69	Coronary heart disease	6.67	Coronary heart disease	7.32
Congenstive cardiac failure	7.69	Hypertrophic cardiomyopathy	6.67	Acute heart failure	4.88
Coronary heart disease	7.69	Ventricular asystole	6.67	Aortic stenosis	4.88
Patent ductus arteriosus	7.69			Congenstive cardiac failure	4.88
Severe disease	7.69			Complete heart block	2.44
Complete heart block	3.85			Hypertrophic cardiomyopathy	2.44
Total patients=	24	Total patients=	15	Total patients=	36
Age 1 - 4 year					
Boy		Girl		Both sex	
Tetralogy of Fallots	42.42	Atrial septal defect	30.77	Tetralogy of Fallots	39.13
Severe disease	18.18	Tof	30.77	Severe disease	15.22
Dilated cardio-myopathy	9.09	Acute heart failure	7.69	Atrial septal defect	8.70
Acute myocardial infarction	6.06	Chronic rheumatic heart disease	7.69	Dilated cardio-myopathy	8.70
Acute heart failure	3.03	Dilated cardio-myopathy	7.69	Acute heart failure	4.35
Complete heart block	3.03	Severe disease	7.69	Acute myocardial infarction	4.35
Patent ductus arteriosus	3.03			Complete heart block	2.17
Postpartum hemorrhage	3.03			Chronic rheumatic heart disease	2.17
Severe ventricular tachycardia	3.03			Patent ductus arteriosus	2.17
Total patients=	31	Total patients=	13	Total patients=	41

National Institute of Cardiovasculer Disease Hospital (Continued)

Age 5 - 14 years					
Boy		Girl		Both sex	
Tetralogy of Fallots	23.53	Dilated cardio-myopathy	14.29	Tetralogy of Fallots	20.00
Atrial septal defect	11.76	Tetralogy of Fallots	14.29	Dilated cardio-myopathy	10.91
Acute myocardial infarction	8.82	Severe disease	9.52	Atrial septal defect	9.09
Dilated cardio-myopathy	8.82			Atrial septal defect	4.76
Severe disease	8.82	Carcinoma	4.76	Acute myocardial infarction	5.45
Rheumatic heart disease	5.88	Congestive cardiac failure	4.76	Left ventricular failure	3.64
Aortic regurgitation	2.94	Complete heart block	4.76	Mitral regurgitation	3.64
Chronic rheumatic heart disease	2.94	Coronary heart disease	4.76	Myocarditis	3.64
Cardio-respiratory failure	2.94	Chronic obstructive pulmonary disease	4.76	Rheumatic heart disease	3.64
Deep vein thrombosis	2.94	Left ventricular failure	4.76	Aortic regurgitation	1.82
Total patients=	27	Total patients=	15	Total patients=	39
Age 15 - 24 years					
Male		Female		Both sex	
Acute myocardial infarction	14.29	Acute myocardial infarction	15.63	Acute myocardial infarction	14.93
Chronic rheumatic heart disease	8.57	Atrial septal defect	12.50	Chronic rheumatic heart disease	10.45
Tetralogy of Fallots	8.57	Chronic rheumatic heart disease	12.50	Atrial septal defect	5.97
Dilated cardio-myopathy	5.71	Rheumatic heart disease	9.38	Left ventricular failure	5.97
Left ventricular failure	5.71	Left ventricular failure	6.25	Pericardial effusion	5.97
Mitral regurgitation	5.71	Pricardial effusion	6.25	Rheumatic heart disease	5.97
Mitral valve regurgitation	5.71	Severe disease	6.25	Tetralogy of Fallots	5.97
Pe	5.71	Bronchial asthma	3.13	Dilated cardio-myopathy	4.48
Atrial fibrillation	2.86	Cardio-respiratory failure	3.13	Mitral regurgitation	4.48
Angina	2.86	Dilated cardio-myopathy	3.13	Mitral valve regurgitation	4.48
Total patients=	23	Total patients=	25	Total patients=	46
Age 25 - 49 years					
Male		Female		Both sex	
Acute myocardial infarction	44.58	Acute myocardial infarction	31.13	Acute myocardial infarction	39.97
Unstable angina	10.34	Dilated cardio-myopathy	6.60	Unstable angina	8.09
Left ventricular failure	4.43	Left ventricular failure	6.60	Left ventricular failure	5.18
Ischemic cardiomyopathy	3.94	Rheumatic heart disease	6.60	Non-ST elevation myocardial infarction	3.56
Old myocardial infarction	3.69	Chronic rheumatic heart disease	6.13	Dilated cardio-myopathy	3.40
Non-ST elevation myocardial infarction	3.45	Atrial septal defect	4.25	Old myocardial infarction	3.40
Mitral valve regurgitation	1.97	Non-ST elevation myocardial infarction	3.77	Rheumatic heart disease	3.24
Dilated cardio-myopathy	1.72	Unstable angina	3.77	Ischemic cardiomyopathy	3.07
Ischemic heart disease	1.72	Mitral valve regurgitation	3.30	Chronic rheumatic heart disease	2.91
Rheumatic heart disease	1.48	Congestive cardiac failure	2.83	Mitral valve regurgitation	2.43
Total patients=	314	Total patients=	159	Total patients=	465
Age 50+ years					
Male		Female		Both sex	
Acute myocardial infarction	42.51	Acute myocardial infarction	40.68	Acute myocardial infarction	41.99
Unstable angina	11.89	Unstable angina	15.23	Unstable angina	12.83
Old myocardial infarction	8.94	Left ventricular failure	8.24	Old myocardial infarction	8.64
Left ventricular failure	8.16	Old myocardial infarction	7.89	Left ventricular failure	8.19
Non-ST elevation myocardial infarction	5.91	Non-ST elevation myocardial infarction	6.27	Non-ST elevation myocardial infarction	6.01
Icm	5.56	Ischemic heart disease	3.23	Ischemic cardiomyopathy	4.60
Recurrent myocardial infarction	2.74	Ischemic cardiomyopathy	2.15	Ischemic heart disease	2.48
Ischemic heart disease	2.18	Chronic rheumatic heart disease	1.61	Recurrent myocardial infarction	2.27
Complete heart bloch	1.62	Cor pulmonale	1.25	Complete heart block	1.41
Dilated cardio-myopathy	1.13	Recurrent myocardial infarction	1.08	Dilated cardio-myopathy	1.01
Total patients=	1421	Total patients=	558	Total patients=	1979

National Institute of Cardiovasculer Disease Hospital (Continued)

All ages					
Male		Female		Both sex	
Acute myocardial infarction	40.44	Acute myocardial infarction	34.77	Acute myocardial infarction	38.72
Unstable angina	10.73	Unstable angina	10.85	Unstable angina	10.77
Old myocardial infarction	7.22	Left ventricular failure	7.35	Left ventricular failure	7.08
Left ventricular failure	6.97	Old myocardial infarction	5.83	Old myocardial infarction	6.80
Non-ST elevation myocardial infarction	5.04	Non-ST elevation myocardial infarction	5.02	Non-ST elevation myocardial infarction	5.03
Ischemic cardiomyopathy	4.88	Chronic rheumatic heart disease	3.15	Ischemic cardiomyopathy	3.97
Recurrent myocardial infarction	2.34	Ischemic heart disease	2.80	Ischemic heart disease	2.20
Ischemic heart disease	1.93	Atrial septal defect	2.68	Recurrent myocardial infarction	1.98
Tetralogy of Fallots	1.68	Dilated cardio-myopathy	2.68	Dilated cardio-myopathy	1.91
Dilated cardio-myopathy	1.58	Rheumatic heart disease	2.45	Tetralogy of Fallots	1.66
Total patients=	1966	Total patients=	857	Total patients=	2823

National Institute of Disease of Chest and Hospital

Age 1 Ð 4 year					
Boy		Girl		Both sex	
				Cardio-respiratory failure	100.00
Total patients=	0	Total patients=	0	Total patients=	1
Age 5 - 14 years					
Boy		Girl		Both sex	
Cardio-respiratory failure	50.00	Bronchial asthma	33.33	Cardio-respiratory failure	37.50
Carcinoma	25.00	Cardio-respiratory failure	33.33	Aspiration pneumonia	12.50
Shock	25.00	Low birth weight	33.33	Bronchial asthma	12.50
				Carcinoma	12.50
Total patients=	4	Total patients=	3	Total patients=	8
Age 15 - 24 years					
Male		Female		Both sex	
Tuberculosis	30.00	Cardio-respiratory failure	18.18	Tuberculosis	25.81
Chronic obstructive pulmonary disease	10.00	Tuberculosis	18.18	Cardio-respiratory failure	12.90
Cardio-respiratory failure	10.00	Cardiac tamponade	9.09	Respiratory failure	9.68
Respiratory failure	10.00	Cor pulmonale	9.09	Chronic obstructive pulmonary disease	6.45
Bronchial asthma	5.00	Hemoptysis	9.09	Pneumothorax	6.45
Carcinoma	5.00	Low birth weight	9.09	Bronchial asthma	3.23
Pneumothorax	5.00	Pneumothorax	9.09	Carcinoma	3.23
Shock	5.00	Respiratory failure	9.09	Cardiac tamponade	3.23
				Cor pulmonale	3.23
Total patients=	20	Total patients=	11	Total patients=	27
Age 25 - 49 years					
Male		Female		Both sex	
Tuberculosis	16.67	Cardio-respiratory failure	23.33	Cardio-respiratory failure	17.82
Cardio-respiratory failure	14.91	Bronchial asthma	11.67	Tuberculosis	12.64
Respiratory failure	11.40	Respiratory failure	8.33	Respiratory failure	10.34
Chronic obstructive pulmonary disease	8.77	Pneumonia	6.67	Chronic obstructive pulmonary disease	5.75
Carcinoma	4.39	Carcinoma	5.00	Carcinoma	4.60
Pleural effusion	4.39	Tuberculosis	5.00	Bronchial asthma	4.02
Pneumothorax	4.39	Lung abscess	3.33	Pleural effusion	4.02
Hemoptysis	2.63	Pleural effusion	3.33	Pneumothorax	3.45
Emphysema	1.75			Pneumonia	2.30
Total patients=	92	Total patients=	48	Total patients=	132

National Institute of Disease of Cheast and Hospital (Continued)

Age 50+ years					
Male		Female		Both sex	
Chronic obstructive pulmonary disease	25.49	Chronic obstructive pulmonary disease	21.43	Chronic obstructive pulmonary disease	24.86
Cardio-respiratory failure	20.26	Cardio-respiratory failure	14.29	Cardio-respiratory failure	19.34
Respiratory failure	9.48	Tuberculosis	12.50	Respiratory failure	9.67
Carcinoma	8.17	Pleural effusion	10.71	Carcinoma	7.46
Tuberculosis	5.56	Respiratory failure	10.71	Tuberculosis	6.63
Pleural effusion	4.90	Pneumonia	5.36	Pleural effusion	5.80
Pneumothorax	2.94	Acute myocardial infarction	3.57	Pneumothorax	3.04
Acute myocardial infarction	1.63	Bronchial asthma	3.57	Acute myocardial infarction	1.93
Carcinoma	3.57			Pneumonia	1.66
				Pneumothorax	3.57
Total patients=	306	Total patients=	56	Total patients=	362
All ages					
Male		Female		Both sex	
Chronic obstructive pulmonary disease	18.97	Cardio-respiratory failure	17.99	Cardio-respiratory failure	18.85
Cardio-respiratory failure	18.97	Chronic obstructive pulmonary disease	9.35	Chronic obstructive pulmonary disease	16.77
Respiratory failure	10.10	Respiratory failure	8.63	Respiratory failure	9.74
Tuberculosis	9.28	Tuberculosis	8.63	Tuberculosis	9.11
Carcinoma	7.22	Carcinoma	6.39		
Low birth weight	5.77	Bronchial asthma	7.19	Pleural effusion	4.79
Pleural effusion	4.33	Pleural effusion	6.47	Pneumothorax	3.35
Pneumothorax	3.51	Pneumonia	5.04	Bronchial asthma	2.24
Interstitial lung disease	1.24	Carcinoma	3.60		
				Pneumothorax	2.88
Total patients=	485	Total patients=	139	Total patients=	626

National Institute of Kidney Diseases and Urology

Age 1 Ð 4 year					
Boy		Girl		Both sex	
Chronic kidney disease	100.00	Congestive cardiac failure	100.00	Respiratory failure	50.00
				Congestive cardiac failure	16.67
				Chronic kidney disease	16.67
				Injury	16.67
Total patients=	1	Total patients=	1	Total patients=	6
		Age 5 - 14 years			
Boy		Girl		Both sex	
Acute heart failure	50.00			Acute glomerulo-nephritis	28.57
Cardio-respiratory failure	50.00			Cardio-respiratory failure	28.57
				Acute heart failure	14.29
				Chronic kidney disease	14.29
				Respiratory failure	14.29
Total patients=	2	Total patients=	0	Total patients=	7
Age 15 - 24 years					
Male		Female		Both sex	
Chronic kidney disease	30.77	Cardio-respiratory failure	45.45	Cardio-respiratory failure	28.00
Renal failure	15.38	Chronic kidney disease	18.18	Chronic kidney disease	24.00
Respiratory failure	15.38	Glomerulo-nephritis	18.18	Glomerulo-nephritis	8.00
Cardio-respiratory failure	7.69	Acute myocardial infarction	9.09	Renal failure	8.00
End stage renal disease	7.69	Left ventricular failure	9.09	Respiratory failure	8.00
Hepato-renal failure	7.69			Acute myocardial infarction	4.00
Pneumonia	7.69			End stage renal disease	4.00
				Hepato-renal failure	4.00
				Left ventricular failure	4.00
Total patients=	13	Total patients=	0	Total patients=	24

National Institute of Kidney Disease and Urology (Continued)

Age 25 - 49 years					
Male		Female		Both sex	
Chronic kidney disease	25.58	Chronic kidney disease	33.33	Chronic kidney disease	29.90
Cardio-respiratory failure	18.60	Cardio-respiratory failure	27.78	Cardio-respiratory failure	23.71
Diabetes mellitus	9.30	Renal failure	12.96	Renal failure	10.31
Glomerulo-nephritis	6.98	Glomerulo-nephritis	5.56	Glomerulo-nephritis	6.19
Renal failure	6.98	Left ventricular failure	3.70	Diabetes mellitus	5.15
End stage renal disease	4.65	Respiratory failure	3.70	Respiratory failure	4.12
Pneumonia	4.65	Diabetes mellitus	1.85	End stage renal disease	3.09
Respiratory failure	4.65	Electrolyte imbalance	1.85	Left ventricular failure	3.09
Acute myocardial infarction	2.33	End stage renal disease	1.85	Pneumonia	3.09
Carcinoma	2.33	Hypertension	1.85	Obstructive uropathy	2.06
Total patients=	37	Total patients=	51	Total patients=	88
Age 50+ years					
Male		Female		Both sex	
Cardio-respiratory failure	32.50	Chronic kidney disease	32.35	Cardio-respiratory failure	28.95
Chronic kidney disease	26.25	Cardio-respiratory failure	20.59	Chronic kidney disease	28.07
Diabetes mellitus	11.25	Diabetes mellitus	14.71	Diabetes mellitus	12.28
Renal failure	6.25	End stage renal disease	5.88	Renal failure	5.26
Respiratory failure	3.75	Glomerulo-nephritis	5.88	Respiratory failure	4.39
Acute myocardial infarction	2.50	Hypertension	5.88	End stage renal disease	3.51
Diabetic nephropathy	2.50	Respiratory failure	5.88	Glomerulo-nephritis	3.51
End stage renal disease	2.50	Cardiovascular disease	2.94	Diabetic nephropathy	2.63
Glomerulo-nephritis	2.50	Diabetic nephropathy	2.94	Acute myocardial infarction	1.75
Left ventricular failure	2.50	Renal failure	2.94	Hypertension	1.75
Total patients=	80	Total patients=	34	Total patients=	114
All ages					
Male		Female		Both sex	
Chronic kidney disease	26.62	Chronic kidney disease	31.00	Chronic kidney disease	27.71
Cardio-respiratory failure	25.90	Cardio-respiratory failure	27.00	Cardio-respiratory failure	26.10
Diabetic mellitus	9.35	Renal failure	8.00	Diabetic mellitus	7.63
Renal failure	7.19	Glomerulo-nephritis	7.00	Renal failure	7.23
Respiratory failure	5.04	Diabetic mellitus	6.00	Respiratory failure	6.02
End stage renal disease	3.60	Respiratory failure	4.00	Glomerulo-nephritis	4.82
Glomerulo-nephritis	3.60	End stage renal disease	3.00	End stage renal disease	3.21
Pneumonia	2.88	Hypertension	3.00	Left ventricular failure	2.41
Acute myocardial infarction	2.16	Left ventricular failure	3.00	Pneumonia	2.01
Left ventricular failure	2.16	Acute myocardial infarction	1.00	Acute myocardial infarction	1.61
Total patients=	139	Total patients=	100	Total patients=	249

National Institute of Cancer Research and Hospital

Age 5 - 14 years					
Boy		Girl		Both sex	
Acute lymphatic leukemia	50.00	Acute lymphatic leukemia	100.00	Acute lymphatic leukemia	66.67
Osteo-sarcoma	50.00			Osteo-sarcoma	33.33
Total patients=	2	Total patients=	1	Total patients=	3
Age 15 - 24 years					
Male		Female		Both sex	
Carcinoma	40.00	Carcinoma	100.00	Carcinoma	66.67
Acute myeloid leukemia	20.00			Acute myeloid leukemia	11.11
Leukemia	20.00			Leukemia	11.11
Osteo-sarcoma	20.00			Osteo-sarcoma	11.11
Total patients=	5	Total patients=	4	Total patients=	9
Age 25 - 49 years					
Male		Female		Both sex	
Carcinoma	73.33	Carcinoma	100.00	Carcinoma	87.10
Acute lymphatic leukemia	13.33			Acute lymphatic leukemia	6.45
Glioblastoma	6.67			Glioblastoma	3.23
Hepatocellular carcinoma	6.67			Hepatocellular carcinoma	3.23
Total patients=	15	Total patients=	16	Total patients=	31
Age 50+ years					
Male		Female		Both sex	
Carcinoma	92.31	Carcinoma	100.00	Carcinoma	93.10
Lung abscess	3.85			Lung abscess	3.45
Non-HodgkinÕs lymphoma	3.85			Non-HodgkinÕs lymphoma	3.45
Total patients=	26	Total patients=	3	Total patients=	29
All ages					
Male		Female		Both sex	
Carcinoma	77.08	Carcinoma	95.83	Carcinoma	83.33
Acute lymphatic leukemia	6.25	Acute lymphatic leukemia	4.17	Acute lymphatic leukemia	5.56
Osteo-sarcoma	4.17			Osteo-sarcoma	2.78
Acute myeloid leukemia	2.08			Acute myeloid leukemia	1.39
Glioblastoma	2.08			Glioblastoma	1.39
Hepatocellular carcinoma	2.08			Hepatocellular carcinoma	1.39
Leukemia	2.08			Leukemia	1.39
Lung abscess	2.08			Lung abscess	1.39
Non-HodgkinÕs lymphoma	2.08			Non-HodgkinÕs lymphoma	1.39
Total patients=	48	Total patients=	24	Total patients=	72

National Institute of Traumatology, Orthopedics and Rehabilitation

Age 1 Ð 4 year					
Boy		Girl		Both sex	
Head injury	100.00			Head injury	100.00
Total patients=	1	Total patients=	0	Total patients=	1
Age 5 - 14 years					
Boy		Girl		Both sex	
Cardio-respiratory failure	50.00	Cardio-respiratory failure	50.00	Cardio-respiratory failure	50.00
Injury	16.67	Septicemia	50.00	Septicemia	25.00
Road traffic accident	16.67			Injury	12.50
Septicemia	16.67			Road traffic accident	12.50
Total patients=	6	Total patients=	2	Total patients=	8
Age 15 - 24 years					
Male		Female		Both sex	
Cardio-respiratory failure	42.11	Cardio-respiratory failure	100.00	Cardio-respiratory failure	50.00
Cervical injury	21.05			Cervical injury	18.18
Road traffic accident	15.79			Road traffic accident	13.64
Shock	10.53			Shock	9.09
Bomb injury	5.26			Bomb injury	4.55
Injury	5.26			Injury	4.55
Total patients=	19	Total patients=	3	Total patients=	22
Age 25 - 49 years					
Male		Female		Both sex	
Cardio-respiratory failure	27.91	Cardio-respiratory failure	40.00	Cardio-respiratory failure	29.17
Cervical injury	18.60	Road traffic accident	40.00	Cervical injury	17.71
Road traffic accident	13.95	Cervical injury	10.00	Road traffic accident	16.67
Head injury	11.63	Postoperative complication	10.00	Head injury	10.42
Injury	5.81			Injury	5.21
Fracture	4.65			Fracture	4.17
Shock	4.65			Shock	4.17
Septicemia	3.49			Septicemia	3.13
Cerebro-vascular accident	2.33			Cerebro-vascular accident	2.08
Amputation	1.16			Amputation	1.04
Total patients=	81	Total patients=	10	Total patients=	90
Age 50+ years					
Male		Female		Both sex	
Cardio-respiratory failure	52.94	Cardio-respiratory failure	70.59	Cardio-respiratory failure	58.82
Cervical injury	8.82	Acute myocardial infarction	5.88	Cervical injury	7.84
Head injury	8.82	Cervical injury	5.88	Head injury	7.84
Spinal injury	8.82	Head injury	5.88	Shock	5.88
Brought dead	5.88	Injury	5.88	Spinal injury	5.88
Shock	5.88	Shock	5.88	Brought dead	3.92
Anemia	2.94			Injury	3.92
Injury	2.94			Acute myocardial infarction	1.96
Road traffic accident	2.94			Anemia	1.96
				Road traffic accident	1.96
Total patients=	34	Total patients=	17	Total patients=	51
All ages					
Male		Female		Both sex	
Cardio-respiratory failure	36.30	Cardio-respiratory failure	62.50	Cardio-respiratory failure	41.01
Cervical injury	15.75	Road traffic accident	12.50	Cervical injury	14.04
Road traffic accident	11.64	Cervical injury	6.25	Road traffic accident	11.80
Head injury	9.59	Acute myocardial infarction	3.13	Head injury	8.43
Injury	5.48	Head injury	3.13	Injury	5.06
Shock	5.48	Injury	3.13	Shock	5.06
Fracture	2.74	Postoperative complication	3.13	Septicemia	2.81
Septicemia	2.74	Septicemia	3.13	Fracture	2.25
Spinal injury	2.74	Shock	3.13	Spinal injury	2.25
Bomb injury	1.37			Bomb injury	1.12
Total patients=	146	Total patients=	32	Total patients=	178