



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

Health Bulletin 2008



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

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[The Health Bulletin 2008 excerpted lot of information from the previous Health Bulletin published in 2007. Therefore, names and designations of the editorial board members of Health Bulletin (2007) are mentioned here to acknowledge their great contributions]

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MESSAGE

Honorable Adviser

Ministry of Health & Family Welfare
and
Ministry of Food & Disaster Management
Government of the People's Republic of Bangladesh

The Directorate General of Health Services (DGHS) is going to publish its Health Bulletin 2008. The Bulletin is an attempt to publish the statistical information of different health programs, health workforce, hospital services, and academic and public health institutions mainly under the DGHS. Besides those statistics, the Health Bulletin also tries to portray the morbidity and mortality profiles of the population of the country drawn from public-run hospitals.

Keeping the contents in view, the Health Bulletin is certainly a very useful publication, which may benefit the policy makers, health planners and program managers outline the policy decisions and program designs surrounding health services of Bangladesh.

I am informed that publication of such a Bulletin by MIS of DGHS began in 2007. What needs to be done is move away from a routinized exercise and move towards a more meaningful plan of action based on sound and reliable statistical data on public health issues. Further, each year's publication should be an improvement of the previous one.

I hope that all concerned who gave labor and thoughts for this Health Bulletin 2008 will keep this in mind.


Dr A M M Shawkat Ali



MESSAGE

Secretary

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

I am happy to see that the Management Information System (MIS) of the Directorate General of Health Services (DGHS) is going to publish a Health Bulletin to deliver the statistical information of different health programs, hospital services, academic and public health institutions, and health workforce mainly under the DGHS of Ministry of Health and Family Welfare. A section of the Health Bulletin will also cover morbidity and mortality data collected from the public-run hospitals. Although a large number of people seek health care from private providers, difficulty of gathering data from these sources is a limitation to explain why private providers have been inadequately covered. However, despite this limitation, the contents of this Health Bulletin are rich and useful to provide an overview of the health situation of the country. I am sure that the health policy makers, planners and program managers will definitely see this Health Bulletin as one of the good resources of the health sector of Bangladesh.

I have been informed that this is the second attempt of MIS, DGHS to publish Health Bulletin. The first Health Bulletin was published in 2007 with data mostly up to year 2005. This year's "Health Bulletin 2008" contains data from 2007 and also the data of 2006 which the earlier Health Bulletin missed. I am more happy to see that MIS, DGHS has turned the Health Bulletin to a routine yearly publication.

I congratulate this great endeavor and wish that the readers will well accept the Health Bulletin 2008.

A handwritten signature in black ink, appearing to be 'A M M Nasir Uddin'.

A M M Nasir Uddin



MESSAGE

Director General of Health Services

Government of the People's Republic of Bangladesh

It is a great pleasure and satisfaction for me to see that the Health Bulletin 2008 of MIS, DGHS is going to be published. This Health Bulletin is a statistical year book of hospitals, health services, health workforce, and health situation of the country reflected through the various health programs undertaken by Directorate General of Health Services (DGHS). It is indeed a happy event to note that MIS, DGHS has been able to make publication of this Health Bulletin as a yearly routine, which was begun in 2007. I have been informed that the editorial board of Health Bulletin 2008 has made effort to cover more up to date data than in its predecessor. While the Health Bulletin published in 2007 covered data mainly up to 2005, Health Bulletin 2008 will cover data of year 2006, year 2007 and available data as of June 2008. I appreciate this sincere effort of the team members of Health Bulletin 2008.

Recently MIS, DGHS is rapidly moving through a positive path of strengthening its infrastructure and capacity. I am optimistic that it would contribute to the health services of Bangladesh with more and more useful and beautiful publications. I am looking forward to see these changes.

A handwritten signature in black ink, appearing to read 'Mia Abul Raiz'.

PROFESSOR MIA ABUL RAIZ



PREFACE

Director

Management Information System

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

I am grateful to Almighty Allah for giving us the opportunity to publish this Health Bulletin 2008. Quite a few years back, the Directorate General of Health Services (DGHS) began publishing an Annual Report covering the various aspects of the government health services given mainly by the DGHS. That trend could not continue. In 2007, Management Information System (MIS), DGHS undertook a fresh attempt to publish Health Bulletin with the same purpose. It is our pleasure that we could continue the new tradition which just began one year back. We hope that in the next and subsequent years Health Bulletin or similar reports will continue to be published from MIS, DGHS.

I have joined as Director of MIS, DGHS just few months back. My observation with regard to Health Bulletin or a like publication is that it needs long time work by a dedicated and competent team to produce a comprehensive document that may provide adequate and reliable information of health situation of the country arranged and presented in well-organized format. We could not meet these prerequisites due to constraints of personnel and time. Data from private sector health providers could not be widely collected; some of the public sector hospitals also remained uncovered. Yet this Health Bulletin 2008 will provide lot of useful information pertaining to our health systems. I certainly believe that the next Health Bulletin will use the lessons learnt from this year's experience.

I am very much grateful to the kind and continued support and encouragement of our Honorable Adviser to the Ministry of Health and Family Welfare (MOHFW), Dr AMM Shawkat Ali for scientific knowledge and works. These inspirations actually made us publish this Health Bulletin in a very short time.

Mr AMM Nasir Uddin, the Secretary to the MOHFW has given us the message on the first day of his meeting with the Line Directors of Health, Nutrition and Population Sector Program (HNPSP) just after his joining to this ministry which demonstrates that he gives importance to MIS and health information system. That clear message has given us the signal that we will get his stewardship role to move forward to the right direction. I am really grateful to him.

Our Director General of Health Services, Professor MA Faiz is a scientist literally. His untiring quests for preparation of information in a truly scientific format and dissemination of the information to standard publications, web sites or other communication channels always act as our source of energy to do something better. I appreciate him for this kind of guardianship role.

Finally, I extend my acknowledgement to the Line Directors and other institute heads, who kindly provided us information to create the pages of this Health Bulletin with useful health information. My colleagues and staff members worked hard to make this publication possible. I am indebted to them.

Finally, this book is not without mistake. I shall beg apology from our learned readers and shall appreciate valuable advice to further improve the future publications.

Professor Dr Abul Kalam Azad

ACRONYMS

ALS	Average Length of Stay	GO	Government
ARI	Acute Respiratory Tract Infection	GOB	Government of Bangladesh
BBS	Bangladesh Bureau of Statistics	HIV	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
BCC	Behavior Change Communication	HMN	Health Metrics Network
BDHS	Bangladesh Demographic and Health Survey	HNPSP	Health, Nutrition and Population Sector Program
BEOC	Basic Emergency Obstetric Care	HPSP	Health and Population Sector Program
BGC	Bangladesh Geographic Survey	IAPB	International Association for Prevention of Blindness
BMI	Body Mass Index	ICT	Information and Communication Technology
BMRC	Bangladesh Medical Research Council	IDA	Iron Deficiency Anemia
BOR	Bed Occupancy Rate	IDD	Iodine Deficiency Disorder
BSMMU	Bangabandhu Sheikh Mujib Medical University	IDH	Infectious Diseases Hospital
CC	Community Clinic	IEDCR	Institute of Epidemiology, Disease Control and Research
CDC	Communicable Disease Control	IHSM	Improved Hospital Services Management
CEmOC	Comprehensive Emergency Obstetric Care	IMHR	Institute of Mental Health and Research
CIDD	Control of Iodine Deficiency Disorder	IMR	Infant Mortality Rate
CMMU	Construction, Maintenance and Management Unit	IOL	Intraocular Lens
CMNS	Child and Mother Nutrition Survey	IPH	Institute of Public Health
CNS	Child Nutrition Survey	IPHN	Institute of Public Health Nutrition
CRF	Chronic Renal Failure	IRS	Indoor Residual Spraying
CS	Civil Surgeon	IST	In-Service Training
DAB	Diabetic Association of Bangladesh	IVM	Integrated Vector Management
DDA	Directorate of Drug Administration	IYCF	Infant and Young Child Feeding
DF	Dengue Fever	LAN	Local Area Network
DGFP	Directorate General of Family Planning	LLN	Long Lasting Insecticidal Net
DGHS	Directorate General of Health Services	MATS	Medical Assistants' Training School
DHF	Dengue Hemorrhagic Fever	MDA	Mass Drug Administration
DNS	Directorate of Nursing Services	MDG	Millennium Development Goal
DOTS	Directly Observed Treatment Strategy	MIS	Management Information System
DPHE	Department of Public Health Engineering	MLSS	Member of the Lower Subordinate Staff
DSF	Demand Side Financing	MNC	Maternal, Neonatal and Child
DSS	Dengue Shock Syndrome	MNHC	Maternal and Neonatal Health Care
EOC	Emergency Obstetric Care	MO	Medical Officer
ESD	Essential Service Delivery	MOHFW	Ministry of Health and Family Welfare
ESP	Essential Service Packages	MOLGRD	Ministry of Local Government and Rural Development
ETT	Exercise Tolerance Test	MOU	Memorandum of Understanding
FEP	Filarisis Elimination Program	MSA	Management Service Agency
GAVI	Global Alliance for Vaccine and Immunization		

MSR	Medical and Surgical Requisites	PRSP	Poverty Reduction Strategy Paper
MWM	Medical Waste Management	PSM	Preventive and Social Medicine
NCD	Non-communicable Diseases	RDU	Research and Development Unit
NEMEW	National Equipment Maintenance and Engineering Workshop	RHC	Rural Health Center
NGO	Non-government Organization	RTAG	Regional Technical Advisory Group
NICRH	National Institute of Cancer Research and Hospital	SBTP	Safe Blood Transfusion Program
NICVD	National Institute of Cardiovascular Diseases	SEARO	South East Asian Regional Office
NID	National Immunization Day	SSMIS	Service Statistics Management Information System
NIDCH	National Institute of Chest Diseases and Hospital	SVRS	Sample Vital Registration Survey
NIKDU	National Institute of Kidney Diseases and Urology	TB	Tuberculosis
NIO	National Institute of Ophthalmology	TT	Tetanus Toxoid
NIPORT	National Institute of Population Research and Training	TTU	Technical Training Unit
NIPSOM	National Institute of Preventive and Social Medicine	UHC	Upazila Health Complex
NITOR	National Institute of Traumatology, Orthopedics and Rehabilitation	UHFPO	Upazila Health and Family Planning Officer
NNP	National Nutrition Program	UHFWC	Union Health and Family Welfare Center
OP	Operational Plan	UMIS	Unified Management Information System
OPD	Outpatient Department	UNICEF	United Nations Children's Educational Fund
ORS	Oral Rehydration Salt	USC	Union Sub Center
ORT	Oral Rehydration Therapy	USI	Universal Salt Iodization
OT	Operation Theater	VAC	Vitamin A Capsule
PIR	Project Implementation Review	VAD	Vitamin A Deficiency
PMIS	Personnel Management	VSAT	Very Small Aperture Terminal
		WAZ	Weight of Age Z score
		WCBA	Women of Child Bearing Age
		WHO	World Health Organization

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Introduction

The constitution of Bangladesh mandates for basic health care services for its people as one of the fundamental responsibilities of the state. Towards this goal, the government has taken different endeavors to extend health facilities to the population. The broader policy document of the Government of Bangladesh that shapes direction of health care is the Poverty Reduction Strategy Paper (PRSP). The Ministry of Health and Family Welfare (MOHFW) designed the Program Implementation Plan (PIP) in accordance with the PRSP to implement its sector-wide program popularly known as Health, Nutrition and Population Sector Program (HNPS). The HNPS covers 38 Operational Plans (OP) to be implemented by 38 Line Directors and 14 Projects/ Programs.

Distribution of Operational Plans and Projects/
Programs under HNPS (2008-2011)

Implementing Authority	OP	Project / Program
Ministry of Health & Family Welfare (includes NNP)	7	1
Directorate General of Health Services	19	9
Directorate General of Family Planning	9	1
Directorate of Drug Administration	1	0
Directorate of Nursing Services	1	2
National Institute of Population Research and Training	1	1
Total	38	14

Of the 38 OPs, 7 are under MOHFW, 19 under Directorate General of Health Services (DGHS), 9 under Directorate General of Family Planning (DGFP), 1 under Directorate of Nursing Services (DNS), 1 under Directorate of Drug Administration (DDA) and 1 under National Institute of Population Research and Training (NIPORT). Of the 14 projects/programs, 1 is under MOHFW, 9 under DGHS, 1 under DGFP, 2 under DNS and 1 under NIPORT.

HNPS was first started in 1998 in the name HPSP (Health and Population Sector Program). It was revised in 2003 incorporating Nutrition as one of the major sector programs and given the current name of HNPS. In 2003, HNPS was aimed for implementation from 2003 up to 2010. But, in 2008, it was decided to extend the implementation period up to 2011. A new PIP with new OPs is now being prepared for HNPS 2008-2011.

One of the important goals of PRSP and HNPS is attainment of Millenium Development Goals (MDGs). The health sector is specially striving for attainment of health related MDGs. The Health Bulletin 2008 is an attempt of Management Information System (MIS) of DGHS to provide an overview of the current health profiles of Bangladesh.

Geo-physiology of Bangladesh

Geography

Bangladesh is located in the north eastern part of South Asia between 20°34' and 26°38' north latitude and 88°01' and 92°41' east longitude. India is on the west, the north and the north-east; Myanmar is on the south-east; and the Bay of Bengal on the south.

Land area

The area of the country is 147,570 square kilometers.



Climate

An ideal tropical monsoon climate prevails in the country with warm wet summer and cool dry winter. There are four distinct seasons, namely, winter, spring, summer and autumn. Monsoon occupies the greater part of the summer. The country's location is in close proximity to the sea. There are sufficient water bodies in the form of rivers and marshes. Therefore, the climate of Bangladesh does not much vary from place to place.

Physiography

Bangladesh is, in general, a vast alluvial plain. Only the eastern and southeastern parts are covered with hill ranges. The vast plain is built by the enormous load of alluvium laid down by the Ganges, the Brahmaputra, the Meghna and their many tributaries. The mighty streams of the rivers filled up Assam Gulf to build the alluvial plain of Bangladesh. The alluvial deposits are Pleistocene and the Recent with the later forming the low-laying flood plains and delta plains. The total forest area covers about 8% of the land area.

Soils

Soils of Bangladesh have been derived from the Tertiary rocks, the Pleistocene sediments and the Recent deposits. Each of the parent materials has developed a distinct type of soils, namely Hill Soils, Red Soils and Alluvial Soils. In addition, Swamp Soils have developed the coastal mangrove area.

Transportation

The country has about 2,734 kilometers of rail-road, 17,554 kilometers of paved road and roughly 5,968 kilometers of perennial and seasonal waterways. Side by side with the development of road transport, efforts are under way to develop the water transport system. In fact, rivers are the lifeline of the nation, which provide the cheapest means of transport. Regarding air transport facilities, Dhaka is connected by air with many global cities by the national airline (Biman Bangladesh Airlines). A number of foreign airlines operate their international services with a link to Dhaka, Chittagong and Sylhet. The two sea ports of Bangladesh are Chittagong and Mongla respectively.

Population and Demographic Situation

Bangladesh is a densely populated small country. The Bangladesh Bureau of Statistics estimates the population size as of July 1, 2007 to be 143.91 million. The rural population constitutes the majority (65.4%); but urban population is increasing and currently 34.6%. Number of

people living per square kilometer is 939. Male to female ratio is 105:100. Children under 5 years of age are 11.7% and those under 15 years are 36.2%. Elderly population (60+ years) is 6.5%. Therefore, population at the productive age (15-59 years) is 57%.

District-wise distribution of population in Bangladesh (estimated)

Sl. No.	District	Adjusted	Estimated					
		2001	2002	2003	2004	2005	2006	2007
Barisal Division								
1	Barisal	2,465,392	2,501,880	2,538,368	2,574,855	2,611,343	2,650,513	2,690,271
2	Barguna	887,144	900,274	913,403	926,533	939,663	953,758	968,064
3	Bhola	1,788,019	1,814,482	1,840,944	1,867,407	1,893,870	1,922,278	1,951,112
4	Jhalakhati	727,175	737,937	748,699	759,462	770,224	781,777	793,504
5	Patuakhali	1,537,747	1,560,506	1,583,264	1,606,023	1,628,782	1,653,214	1,678,012
6	Pirojpur	1,154,549	1,171,636	1,188,724	1,205,811	1,222,898	1,241,241	1,259,860
Division-Total		8,560,026	8,686,714	8,813,403	8,940,091	9,066,780	9,202,782	9,340,823
Chittagong Division								
7	Bandarban	315,717	320,390	325,062	329,735	334,407	339,423	344,514
8	B-Baria	2,496,403	2,533,350	2,570,297	2,607,243	2,644,190	2,683,853	2,724,111
9	Chandpur	2,352,623	2,387,442	2,422,261	2,457,079	2,491,898	2,529,276	2,567,216
10	Chittagong	6,869,744	6,971,416	7,073,088	7,174,761	7,276,433	7,385,579	7,496,363
11	Comilla	4,819,989	4,891,325	4,962,661	5,033,997	5,105,332	5,181,912	5,259,641
12	Cox's Bazar	1,847,186	1,874,524	1,901,863	1,929,201	1,956,539	1,985,887	2,015,675
13	Feni	1,266,038	1,284,775	1,303,513	1,322,250	1,340,987	1,361,102	1,381,518
14	Kharachari	542,642	550,673	558,704	566,735	574,766	583,387	592,138
15	Laxmipur	1,560,570	1,583,666	1,606,763	1,629,859	1,652,956	1,677,750	1,702,917
16	Noakhali	2,698,658	2,738,598	2,778,538	2,818,478	2,858,419	2,901,295	2,944,815
17	Rangamati	551,250	559,409	567,567	575,726	583,884	592,642	601,532
Division-Total		25,320,820	25,695,568	26,070,316	26,445,064	26,819,813	27,222,110	27,630,442
Dhaka Division								
18	Dhaka	9,047,911	9,181,820	9,315,729	9,449,638	9,583,547	9,727,300	9,873,210
19	Faridpur	1,829,507	1,856,584	1,883,660	1,910,737	1,937,814	1,966,881	1,996,384
20	Gazipur	2,124,018	2,155,453	2,186,889	2,218,324	2,249,760	2,283,506	2,317,759
21	Gopalgonj	1,209,160	1,227,056	1,244,951	1,262,847	1,280,742	1,299,953	1,319,452
22	Jamalpur	2,210,921	2,243,643	2,276,364	2,309,086	2,341,808	2,376,935	2,412,589
23	Keshoregonj	2,684,591	2,724,323	2,764,055	2,803,787	2,843,519	2,886,172	2,929,464
24	Madaripur	1,186,211	1,203,767	1,221,323	1,238,879	1,256,435	1,275,282	1,294,411
25	Manikgonj	1,366,735	1,386,963	1,407,190	1,427,418	1,447,646	1,469,361	1,491,401
26	Munshigonj	1,353,297	1,373,326	1,393,355	1,413,383	1,433,412	1,454,913	1,476,737
27	Mymensingh	4,682,234	4,751,531	4,820,828	4,890,125	4,959,422	5,033,813	5,109,321
28	Narayangonj	2,278,843	2,312,570	2,346,297	2,380,024	2,413,751	2,449,957	2,486,707
29	Narshingdi	1,996,552	2,026,101	2,055,650	2,085,199	2,114,748	2,146,469	2,178,666
30	Netrokona	2,069,408	2,100,035	2,130,662	2,161,290	2,191,917	2,224,796	2,258,168
31	Rajbari	999,704	1,014,500	1,029,295	1,044,091	1,058,886	1,074,769	1,090,891
32	Shariatpur	1,134,498	1,151,289	1,168,079	1,184,870	1,201,660	1,219,685	1,237,980
33	Sherpur	1,331,083	1,350,783	1,370,483	1,390,183	1,409,883	1,431,031	1,452,497
34	Tangail	3,424,028	3,474,704	3,525,379	3,576,055	3,626,730	3,681,131	3,736,348
Division-Total		40,928,701	41,534,446	42,140,191	42,745,935	43,351,680	44,001,955	44,661,985

District-wise distribution of population in Bangladesh (estimated) [continued...]

Khulna Division								
35	Bagerhat	1,592,358	1,615,925	1,639,492	1,663,059	1,686,626	1,711,925	1,737,604
36	Chuadanga	1,055,238	1,070,856	1,086,473	1,102,091	1,117,708	1,134,474	1,151,491
37	Jessore	2,592,670	2,631,042	2,669,413	2,707,785	2,746,156	2,787,348	2,829,159
38	Jhenardha	1,646,548	1,670,917	1,695,286	1,719,655	1,744,024	1,770,184	1,796,737
39	Khulna	2,475,365	2,512,000	2,548,636	2,585,271	2,621,907	2,661,236	2,701,154
40	Kustia	1,823,881	1,850,874	1,877,868	1,904,861	1,931,855	1,960,833	1,990,245
41	Magura	862,768	875,537	888,306	901,075	913,844	927,552	941,465
42	Meherpur	616,883	626,013	635,143	644,273	653,402	663,203	673,151
43	Narail	729,506	740,303	751,099	761,896	772,693	784,283	796,048
44	Shatkhira	1,937,007	1,965,675	1,994,342	2,023,010	2,051,678	2,082,453	2,113,690
Division-Total		15,332,224	15,559,141	15,786,058	16,012,975	16,239,892	16,483,490	16,730,743
Rajshahi Division								
45	Bogra	3,165,567	3,212,417	3,259,268	3,306,118	3,352,969	3,403,264	3,454,312
46	Dinajpur	2,772,459	2,813,491	2,854,524	2,895,556	2,936,589	2,980,638	3,025,347
47	Gaibandha	2,235,759	2,268,848	2,301,937	2,335,027	2,368,116	2,403,638	2,439,692
48	Joupurhat	899,217	912,525	925,834	939,142	952,451	966,738	981,239
49	Kurigram	1,850,713	1,878,104	1,905,494	1,932,885	1,960,275	1,989,679	2,019,524
50	Lalmonir-hat	1,159,357	1,176,515	1,193,674	1,210,832	1,227,991	1,246,411	1,265,107
51	Naogoan	2,504,718	2,541,788	2,578,858	2,615,927	2,652,997	2,692,792	2,733,184
52	Natore	1,592,547	1,616,117	1,639,686	1,663,256	1,686,826	1,712,128	1,737,810
53	Nawabgonj	1,492,543	1,514,633	1,536,722	1,558,812	1,580,902	1,604,616	1,628,685
54	Nilphamary	1,639,956	1,664,227	1,688,499	1,712,770	1,737,041	1,763,097	1,789,543
55	Pabna	2,272,775	2,306,412	2,340,049	2,373,686	2,407,323	2,443,433	2,480,084
56	Panchgar	879,711	892,731	905,750	918,770	931,790	945,767	959,953
57	Rajshahi	2,387,602	2,422,939	2,458,275	2,493,612	2,528,948	2,566,882	2,605,385
58	Rangpur	2,652,908	2,692,171	2,731,434	2,770,697	2,809,960	2,852,109	2,894,891
59	Sherajgonj	2,806,178	2,847,709	2,889,241	2,930,772	2,972,304	3,016,889	3,062,142
60	Thakur-goan	1,275,150	1,294,022	1,312,894	1,331,767	1,350,639	1,370,899	1,391,462
Division-Total		31,587,160	32,054,650	32,522,140	32,989,630	33,457,120	33,958,977	34,468,361
Sylhet Division								
61	Habigonj	1,837,339	1,864,532	1,891,724	1,918,917	1,946,109	1,975,301	2,004,930
62	Moulavi Bazar	1,688,981	1,713,978	1,738,975	1,763,972	1,788,969	1,815,804	1,843,041
63	Sunamgonj	2,089,480	2,120,404	2,151,329	2,182,253	2,213,177	2,246,375	2,280,070
64	Sylhet	2,674,177	2,713,755	2,753,333	2,792,910	2,832,488	2,874,975	2,918,100
Division-Total		8,289,977	8,412,669	8,535,360	8,658,052	8,780,744	8,912,455	9,046,142
Country-Total		130,018,908	131,943,188	133,867,468	135,791,748	137,716,027	139,781,767	141,878,494

Source: BBS Census Population 2001 (adjusted). Note: We estimated population for 2006 and 2007 based on 2005 estimated population and adding 1.5% average growth rate. The BBS used different method of calculation. Therefore, our figures for 2006 and 2007 are lower than BBS'

Religion

The dominant religion in Bangladesh is Islam. Almost 88.3% of the population is

Muslims and the rest are Hindus, Buddhists and Christians. Religion

Organizational Setup of MOHFW

The Ministry of Health and Family Welfare is responsible for making policy, planning and decision. The health infrastructure of the country has been built on the country's general administrative pattern, which follows the national government, divisional administration, district administration,

upazila (sub-district) administration, union administration, and ward administration. Bangladesh is a non-federal state having no province. The country has 6 divisions, 64 districts, 481 upazilas/thanas 4,498 unions and 40,482 (one ward per union). But,

Welfare as yet deploys health workforce with the older ward system, which divides each union into 3 wards. Therefore, number of MOHFW wards is 13,494.

The MOHFW implements its policies through several executive authorities. These authorities are listed below:

List of Executing Authorities of MOHFW

- 1. Directorate General of Health Services (DGHS)
- 2. Directorate General of Family Planning (DGFP)
- 3. Construction Maintenance and Management Unit (CMMU)
- 4. Directorate of Drug Administration (DDA)

- 5. Directorate of Nursing Services (DNS)
- 6. National Nutrition Program (NNP).

Directorate General of Health Services (DGHS)

The Director General of Health Services is responsible for implementation of all health related programs on behalf of the MOHFW. It provides technical guidance to the ministry. DGHS carries out its activities through different directors, line directors, project directors, institution heads, district and upazila health managers and union health staffs. Welfare as yet deploys health workforce with the older ward system, which divides each union into 3 wards. Therefore, number of MOHFW wards is 13,494.

Health managers, Institution heads and Supervisory staffs

Level	Designation of Manager	Responsibility
National	Director General	Looks after overall administration and implementation for health services
	Additional Directors General	Assist Director General
	Directors of DGHS	Assist Director General
	Line Directors	Implement respective Operational Plan of HNPS
	Project Directors	Implement respective project under HNPS
	Program Managers	Assist respective Line Director
	Deputy Program Managers	Assist respective Program Manager
Regional	Directors of different National Institutions	Administer and manage respective national level institution
	Principals of academic institutions	Administer and manage respective medical college, institute of health technology, medical assistants' training school, etc.
Division	Directors of medical college hospitals	Administer and manage respective medical college hospital
	Divisional Directors for health	Administer and supervise activities of health managers at district and lower levels
District	Civil Surgeons (CS)	Implement, administer and manage health programs of district level. In some cases, look after district hospital
	Superintendents	Administer and manage respective sadar hospital, general hospital, mental hospital, chest hospital, etc.
Upazila	Upazila Health & Family Planning Officers (UHFPO)	Implement, administer and manage health programs of upazila level. Run respective upazila health complex
Union	Health Inspectors/Assistants Health Inspectors	Manage and supervise health programs at union level and below

Divisional level health organization

At the divisional level, there is a Divisional Director for Health. S/he has a Divisional Health Office with necessary staff. Divisional Directors supervise the activities of the Civil Surgeons.

District level health organization

At the district level, Civil Surgeon is the health

manager. S/he has own administrative office supported by various categories of staff. There is either a Sadar Hospital or a General Hospital in each district head quarter. The Hospital provides services under the management of Civil Surgeon with a view to render out-patient, in-patient, emergency, laboratory and imaging to the people. The in-patient services are internal medicine, general surgery, obstetric and gynecology,

common specialist clinical services. It is the secondary level referral facility of health services of Bangladesh. Currently there are 52 Sadar district hospitals and 13 General hospitals in the country each having mostly 100-250 bed.

Upazila level health organization

Upazila Health Complex (UHC) is another fixed service delivery point next to district level hospital. It provides the first level referral services to the population. In each UHC, there are posts for 9 (nine) doctors including one Upazila Health and Family Planning Officer (UHFPO). UHFPO is the Chief Health Officer of upazila and also Head of the UHC. Other doctors of UHC are Junior Consultants-4, Resident Medical Officer-1, Assistant Surgeons (MO)-2 and Dental Surgeon-1. Number of UHCs is given under Essential Services Delivery section of this Health Bulletin. UHC provides out-patient, in-patient and emergency services, limited diagnostic and imaging services, emergency obstetric care, contraceptive surgeries and dental care.

Union level health organization

There are four types of static health facilities in the union level. These are Rural Health Centers (RHC, 10-bed hospital), Union Sub-centers (USC), Union Health and Family Welfare Centers (UHFWC) and Community Clinics (CC). Number of USC is 1,362; that for UHFWC is 87. Under HPSP, Government planned for establishing one Community Clinic for every 6,000 rural populations. Number of CCs so far built is 11,883. But, these were not made functional. Recently Government has decided to start the CCs again and the CCs which have been built have started functioning. The main health workforce in the rural level is the domiciliary staff called health assistants. They are placed in each ward, which is the lowest and smallest administrative unit of the health sector. They visit the homes of the local people for providing primary health care services and collection of routine health data. The health assistants routinely organize satellite clinics for immunization services. The health assistants are supervised by health inspectors and assistant health inspectors deployed in union levels or one for several unions.common specialist

Health Related Millennium Development Goals (MDGs)

Bangladesh is making steady progress on the achievement of health related Millennium Goals which the country leaders of 189 countries adopted in 2000 Millennium Summit. The recent South Africa Millennium Count Down 2015 Conference (Countdown to 2015: Tracking Progress in Maternal, Newborn & Child Survival Report 2008) has observed that Bangladesh is on track with regard to MDG achievement. Estimate says that 68 countries of the world represent 97% of the global maternal and child deaths. Out these 68 countries 16 are making impressive progress for MDG 4, which calls for reducing <5 year child death by 2/3rd between 1990 and 2015. These 16 countries made 50% or more reduction in child mortality since 2005. Bangladesh's position is 8 out of first 10 countries which made such good progress. The 16 countries are Bolivia, Brazil, China, Egypt,

Eritrea, Guatemala, Haiti, Indonesia, Lao People's Democratic Republic, Mexico, Morocco, Nepal, Bangladesh, Peru, the Philippines and Turkmenistan. Tracking MDG 5 progress, which calls for reducing maternal deaths by three quarters between 1990 and 2015, is much difficult; because, countries have limited data on maternal deaths. For example, Bangladesh conducted its last Maternal Mortality Survey in 2001. Only 3 countries (Azerbaijan, China and Mexico) have "low" maternal mortality ratios. Eighteen countries showed good progress towards MDG 4, MDG 5, or both. Ten countries demonstrated progress towards both MDGs. These countries are Bolivia, Brazil, China, Egypt, Guatemala, Mexico, Morocco, Peru, the Philippines and Turkmenistan.

Health-related Millennium Development Goals (MDGs) and Bangladesh

Goal	Target	Indicator	Bangladesh Situation		
			Bench mark	Current	Target 2015
1. Reduced child mortality	Reduce by 2/3rds, between 1990 and 2015, the under five mortality rate	Under five mortality rate (per 1000 live births)	144.0 (1990)	65.0 (2007)	48.0
		Infant mortality rate (per 1000 live births)	94.0 (1990)	52.0 (2007)	31.3 -
		Proportion of infants immunized against measles	65.0 (1990)	83.1 (2007)	
2. Improved maternal health	Reduced by 3/4th, between 1990 and 2015, the maternal mortality ratio	Maternal mortality ratio (per 1000 live births)	4.8 (1990)	3.2 (2001)	1.2
		Proportion of births attended by skilled health personnel	7.0% (1990)	17.8% (2007)	50.0% (by 2010)
3. Combat HIV/ AIDS malaria and other diseases	Half halted by 2015 and begun to reverse the spread of HIV/AIDS	Prevalence of HIV (% among high risk groups)	-	0.57-0.75% (2007)	Halt
	Half halted by 2015 and begun to reverse the incidence of malaria and other major diseases	New TB cases detected%	-	72.2% (2007)	>70.0%
		TB cure rate under DOTS	29.2 (1993)	92.0% (2007)	>85.0%

Other Health Indicators of Bangladesh

Households (No.) ¹	25.49 million	Gross reproduction rate ³	1.21
Household size (Average No.) ²	4.7	Net reproduction rate ³	1.18
Population (estd 1 Jul 2007) ²	143.91 million	Life expectancy at birth (both sex) ²	65.4 years
Urban population (2006) ²	34.6 million	Life expectancy at birth (male) ²	64.4 years
Male ¹	74.1 million	Life expectancy at birth (female) ²	66.0 years
Female ¹	69.81 million	Mean age at marriage (both sex) ³	21.95 years
Male : female ratio ²	105 : 100	Mean age at marriage (male) ³	25.31 years
<5 children ³	11.7%	Mean age at marriage (female) ³	19.03 years
<15 children ³	36.2%	Registered physicians (No.) ⁷	48,104
Eligible couples (15-49 years) ²	51.2%	Physicians working in the country (No.) ⁸	38,537
60+ years population ²	6.5%	Physicians working under MOHFW ⁸	35%
Population (No.) per square kilometer ¹	939	Physicians working under other ministries ⁸	3%
Adult literacy rate ²	53.7%	Physicians working in private sector ⁸	62%
DPT3 coverage ^{4,5}	91.1%	Physicians working under DGFP (No.) ⁸	540
Measle coverage ^{4,5}	83.1%	Dental surgeons (No.) ⁷	3,238
BCG coverage ^{4,5}	96.8%	Registered homeopath doctors (No.) ⁹	645
Oral polio coverage ^{4,5}	92%	Registered Unani doctors (No.) ⁹	158
Hep-B3 coverage ^{4,5}	83.7%	Registered Ayurved doctors (No.) ⁹	130
Fully Immunized Children ^{4,5}	81.9%	Registered nurses (No.) ⁷	23,056
TT2 coverage ^{4,5}	94.0%	Nurses working in the country (No.) ⁸	15,023
Vitamin A coverage among children ^{4,5}	93%	Registered medical technologists (No.) ⁸	12,441
Treatment seeking rate of <5 ARI affected children from trained personnel ^{4,5}	28.13%	Medical assistants (No.) ⁷	5,251
Pre-schooler night blindness rate ^{4,5}	0.04%	Sanctioned posts for health assistants (No.) ⁷	20,518
Home made ORS use rate for diarrhea affected <5 children ^{5,6}	81.2%	Sanctioned posts for assistant health inspectors (No.) ⁷	1,398
Birth rate ²	2.06%	Sanctioned posts for family welfare visitors (No.) ⁸	1,401
Birth per minute (No.) ²	5.5	Sanctioned posts for family planning visitors (No.) ⁸	4,179
Death rate ²	0.56%	Sanctioned posts for	
Population growth rate ²	1.41%		
Total fertility rate (TFR) ²	2.47		

Source: (1) BBS 2007; (2) Sample Vital Registration Survey 2006; (3) Sample Vital Registration Survey 2004; (4) EPI 2006; (5) BDHS 2007; (6) IPHN 2007; (7) DGHS; (8) Human Resource Data Sheet 2007, HRD Unit, MOHFW; (9) Director, AMC, DGHS.

Essential Service Delivery

Reproductive Health

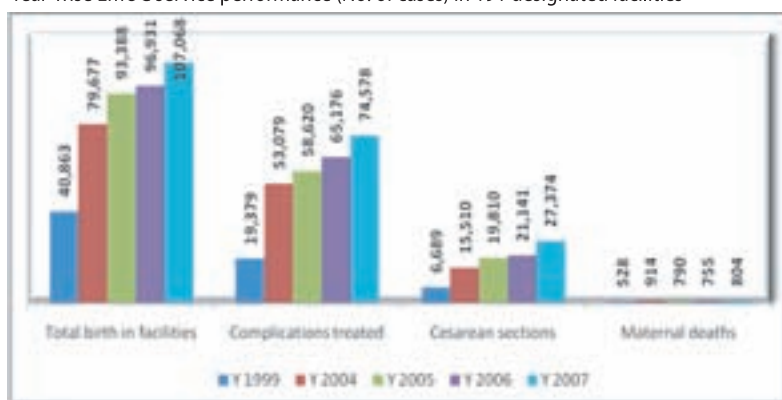
Reproductive health care service in Bangladesh is provided through several modalities called emergency obstetric care, demand side financing, maternal voucher scheme, maternal-neonatal-child health audit, etc. Emergency Obstetric Care (EOC) program has been started under maternal and neonatal health care (MNHC) project in 1993 and ended in 1998. This program covered 31 upazilas of 4 districts. EOC was incorporated in HPSP (1998-2003) as Reproductive Health Program under the Operational plan of Essential Service Package (ESP and now ESD). In HNPS (2003-2010) also, RH program has been given priority.

In Bangladesh, the leading causes of maternal mortality are hemorrhage, abortion, injuries, eclampsia, sepsis and obstructed labor. Maternal malnutrition is an underlying cause. To address these issues, the Government planned for raising the percentage of institutional safe delivery to 35% cases by 2015 through

strengthening emergency obstetrical care services, training of skilled birth attendants and introduction of maternal health voucher scheme. Later a new innovative program called demand side financing was also introduced. Currently 132 upazila health complexes and 59 district hospitals are providing comprehensive EOC. EOC is provided in two forms: Comprehensive and Basic Emergency Obstetric Care (CEmOC and BEOC).

To institutionalize the service, facilities were upgraded, manpower was trained, equipment and supplies were given and referral linkages developed. Social mobilization is one of the key factors to raise people's awareness on seeking antenatal, intra-natal and postnatal services. To complement social mobilization, behavioral change communication (BCC) program is carried out. To provide skilled birth attendants, competency-based 6 months training on basic midwifery for community health workers (family welfare workers and female health assistants) has been introduced.

Year-wise EmOC service performance (No. of cases) in 191 designated facilities

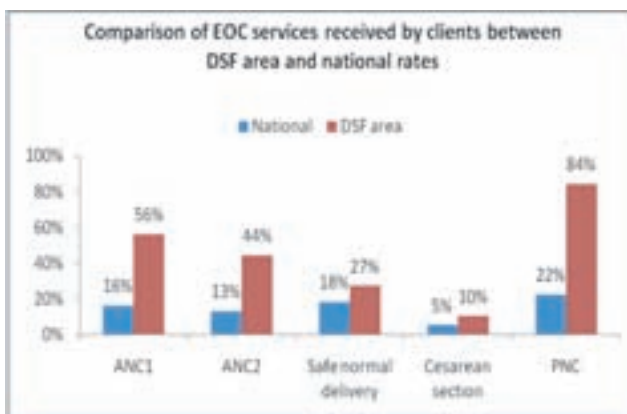


Maternal Health Voucher Scheme: Demand Side Financing (DSF)

The program designed to test the effectiveness and feasibility of using cash voucher as a way of increasing demand for maternal health services among the pregnant women. The target group includes pregnant poor and vulnerable women in 24 upazilas and all pregnant women in 9 upazilas. The service packages antenatal cares, safe delivery including cesarean section if needed, one postnatal care, and care for complication(s). DSF encourages maternal health packages and institutional delivery. The maternal health package includes three antenatal cares, safe delivery, one postnatal care within 6 weeks of delivery, and services for obstetric complications. A benefit of Tk. 750 is given to mother in case of normal delivery. If there is complication, another amount up to Tk. 1000 and for cesarean section up to Tk. 6000 is given. To support transportation of mother to health center, Tk. 500 is given. For referral to district hospital, further amount of up to Tk. 500 may be given. Besides, there is provision of gift for the mother and newborn and Tk. 2000.00 in cash to mother for institutional delivery. Maternal health voucher scheme is being implemented in 33 upazilas of 31 districts. So far 114,000 vouchers have been distributed. It is reported that 73% of the targeted beneficiaries received maternal health vouchers.

Child Health

Integrated Management of Childhood Illness (IMCI)

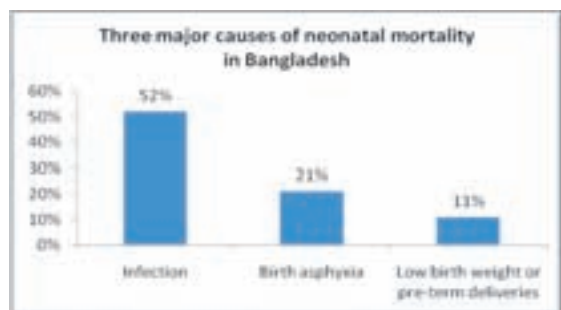


Integrated Management of Childhood Illness (IMCI) is a strategy as well as a program developed in mid-1990s by WHO, UNICEF and other partners to unify existing vertical child health programs (e.g., CDD, ARI) and designed to address causes responsible for almost 75% of under-5 deaths. IMCI has been regarded as one of the major strategies in HNPSP to reduce neonatal and child mortality in Bangladesh.

Launched in Bangladesh in 2002, IMCI aims to reduce child deaths from major killers, viz. neonatal infections, pneumonia, diarrhea, malaria, malnutrition, etc. The package includes improved quality and coverage of treatment, counseling and home-care. Health providers were trained to ensure care by skilled health workers. UNICEF and WHO provide technical and financial supports along with other development partners. The interventions of IMCI take a comprehensive approach ranging from quality case management and counselling by doctors, paramedics and nurses at health facilities and NGO clinics; counselling and education of village doctors and opinion leaders; incorporation in curriculum for medical, paramedical and nursing education; and

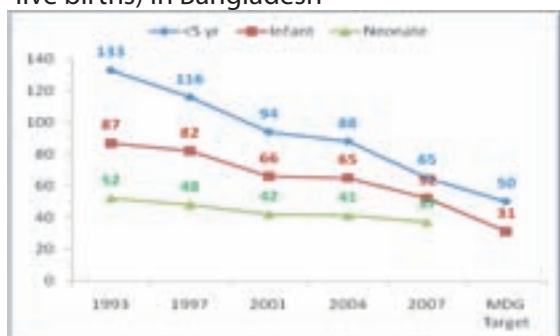
15/ 1000 live births

- Neonatal death rate is 2.5 times higher than death rates in next 11 months of first year
- Neonatal deaths as % of <5 deaths: 57%
- Neonatal deaths as % of <1 deaths: 70%
- One neonate dies every 3-4 minutes
- Neonatal deaths every hour: 14
- Neonatal deaths per year: 120,000



It is seen that despite the increasing trend in ORT use rate (85%) and care seeking from trained providers for ARI (28%), facility utilization by the sick children is not more than 13-15%. Village doctors are still the prime service providers for sick children.

Trend of child mortality (number per 1000 live births) in Bangladesh



To counter this situation it needs to expand facility-based IMCI services. Currently IMCI is provided in 274 upazilas. Facility utilization rate by sick <5 children has been seen to increase by 22% (from 8% to 30%) and provision of quality care provisions has increased by >50%. Community-based IMCI

has been initiated in 15 upazilas, which will be expanded further to 12 additional upazilas by December 2008.

Expanded Program on Immunization

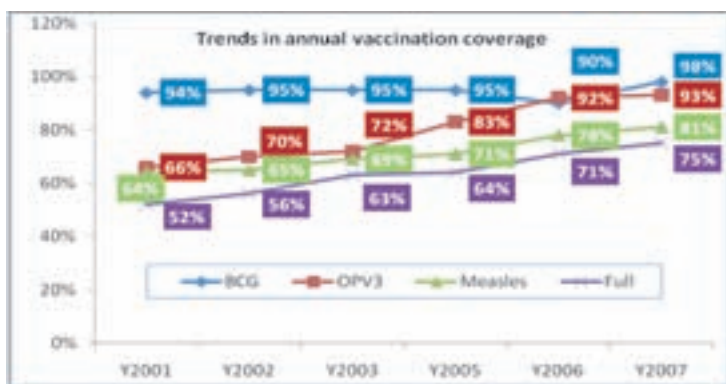
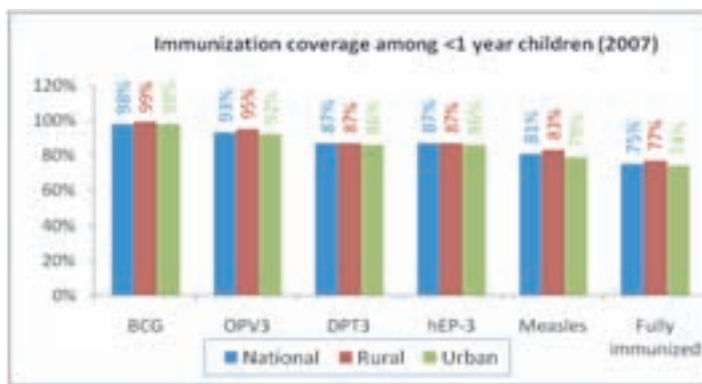
Expanded Program on Immunization (EPI) was officially launched in Bangladesh on April 7, 1979 aiming to reduce child mortality and morbidity by providing vaccines against 6 vaccine preventable diseases. Initially EPI services were limited in districts and major municipalities. In the year 1985, intensification was started to cover all the target populations throughout the country under UCI (Universal Child Immunization) initiative. UCI also used for TT vaccination for pregnant women. Intensification was completed by the year 1990. In 1993, the government endorsed TT5 dose schedule for women of child bearing age initially from 15 to 45 years age, and later from 15 to 49 years age. Hepatitis-B vaccine has been incorporated in the program in 2003 with support from GAVI (Global Alliance for Vaccines and Immunization) Phase I support bundle.

Bangladesh has been able to sustain the immunization coverage among the children over the years. In 2007, immunization coverage has been increased from 2006 figures for BCG, OPV3, measles. The percentage of fully immunized children was 71% in 2006, which has been raised to 75% in 2007.

Bangladesh did not find any case of wild polio in 2007. In 2006, unexpectedly 18 cases of wild polio were detected. Before that the last case, only one, was found. Then, there was silent period from 2001 until 2005, when there was no polio case in Bangladesh. It is suspected that the cases which were identified in 2006 were the victims of imported polio virus from neighbouring country of India. India still bears the burden

cases which were identified in 2006 were the victims of imported polio virus from neighbouring country of India. India still bears the burden of polio. As there was no polio case in 2007, it may be assumed that Bangladesh could successfully eradicate polio. One of the important problems of Bangladesh that it has to use

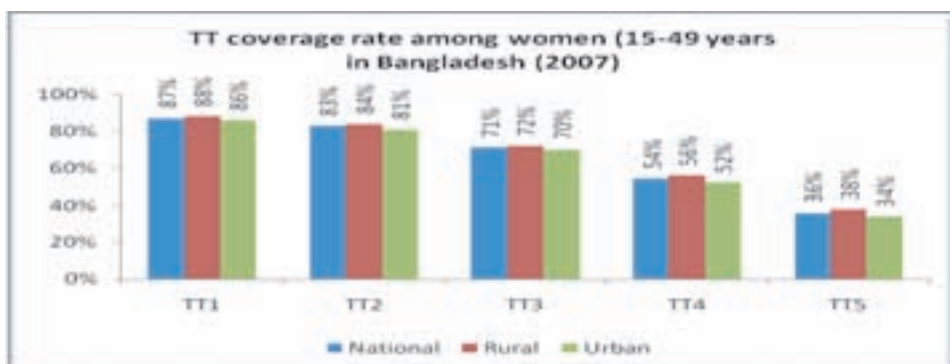
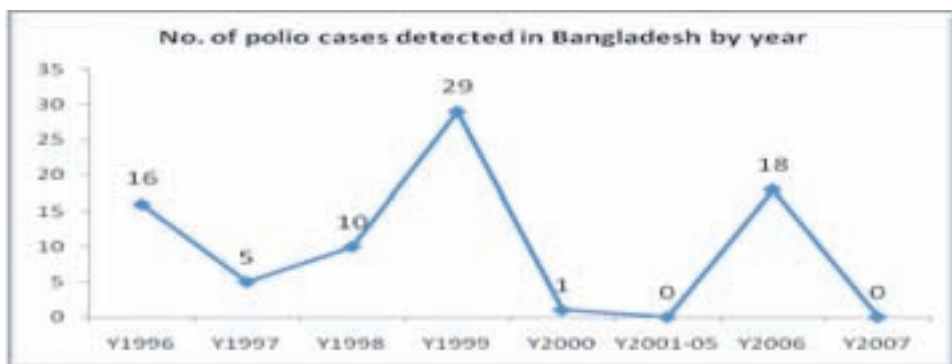
a huge amount of money to conduct National Immunization Day (NID), although the country is free from polio. The world bodies say that if your neighbouring country has risk of polio, your country will have to continue observation of NID.



Bangladesh needs a good solution, may be in terms of technical assistance to subsidize its extra resources it needs to conduct NID for cause of other countries.

The TT coverage rate as seen in figure in next page reveals the declining rate of TT coverage specially from TT3 until TT5 is

completed. As in other essential service delivery programs, urban coverage for TT shows slightly lower figures. This is due to absence of systematic health care network in urban areas. Ministry of Health and Family Welfare, which is specialized for health service provision is not responsible for urban health care. Urban



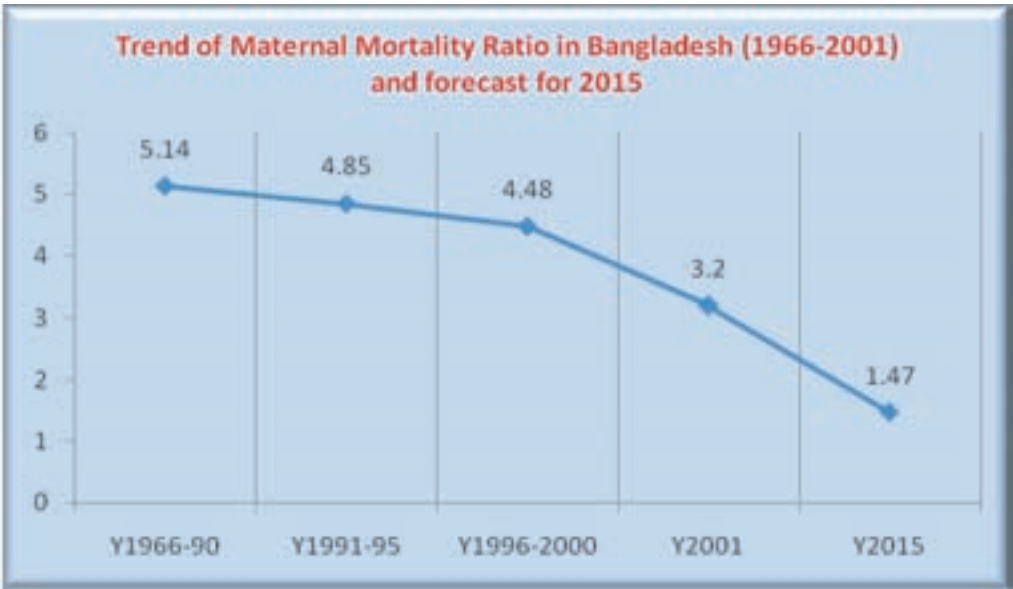
on maternal and child death confronts health policy makers of Bangladesh as a great challenge. Following the MDG Count Down 2015 conference (South Africa 2008), which has shown Bangladesh's impressive progress in reduction of child mortality, health authorities of the country now believe that it is not impossible to achieve the MDG 4 and 5 goals within the time frame. Although child survival data are available through regularly conducted Bangladesh Demographic and Health Survey (BDHS), Bangladesh is not in good position with regard to maternal mortality data. The last maternal mortality survey was conducted in 2001. Health managers assume that maternal mortality in Bangladesh has been declined significantly, but because of absence of valid data source, this claim can not be established. It is again noted that neonatal deaths in Bangladesh

account for 70% of infant mortality in Bangladesh. Early neonatal deaths within 7 days of birth are also found high. Therefore more attention to neonatal lives of children can significantly drop infant mortality rate (IMR). With these ideas, the Ministry of Health and Family Welfare has started Maternal, Neonatal and Child Death Audit (MNC Death Audit) to record every child birth and death of every mother and child (up to 5 years) whenever and wherever the event takes place. The program is jointly being conducted all over Bangladesh by both Directorate General of Health Services (DGHS) and Directorate General of Family Planning. (DGFP) Line Director, Essential Service Delivery and of Management Information System of DGHS are taking lead role in implementation of the program.

Reproductive Health

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Support service and coordination for Essential Service Delivery

In the Health, Nutrition and Population Sector Program, Line Director for Essential Service Delivery has been given special responsibility to support the health facilities at upazila and below. A program called "Support service and coordination" has been introduced to provide inputs to all newly constructed and upgraded health facilities at the level of upazila and below with a view to (a) improve coordination among all the components of ESD and others; (b) establish referral linkage among public-public and public-private health facilities; and (c) monitor and accelerate maximum utilization of beds of the health facilities. Support service and

Health facilities at upazila level and below

Type of Health Facility	No.	No. of bed
UHCs upgraded from 31-bed to 50-bed	91	4550
UHCs 31-bed	301	9331
UHCs 31-beds (new)	4	124
UHCs 10-beds (Hill Tracts)	11	110
Total UHCs with bed	407	14115
31-bed hospital	4	124
20-bed hospital	9	180
10-bed hospital	6	60
Trauma Centers (20-bed)	5	100
Total other hospitals bed	24	464
USCs (no bed)	1,362	
Community clinics	11,883	
Source : Line Director, ESD, DGHS		

Ambulance, X-Ray machines and Generators at upazila level and below

Name of the Item	Existing	Functioning	%	Non-functioning	%
Ambulance	490	316	64.5	174	35.5
X-Ray	477	343	71.9	134	28.1
Generator	362	247	68.2	115	31.8

Diet in health facilities at upazila level and below

Quality of diet has been improved as budget for diet has been increased to Tk. 75.00 per patient per day. Introduction of regular monitoring system also contributed to improvement of diet quality. In the up-graded UHCs (50-bed), cost for additional 19-beds is being provided from Operational Plan of ESD.

Overall service

It is reported that overall service of the health facilities at upazila level and below has been improved. There is local level health care improvement committee for each facility which provides regular monitoring and supervision with regard to Health Facility Citizen Charters. Improvement has been claimed in attendance of doctors and staffs, diet quality, availability of medicines, cleanliness, etc.

Urban Health Services

It is a hard fact that delivery of essential health services to the urban population did not grow in a systematic manner. Unlike the rural areas, primary health care in urban area is not provided by Ministry of Health and Family Welfare (MOHFW). The Ministry of Local Government and Rural Development (MOLGRD) which is the official ministry responsible for providing primary health care to urban population does not have routine child health immunization and reproductive health programs. As a result, health status of urban population specially that of slum dwellers and marginal population groups suffers. This situation negatively

influences country's overall health indicators. Understanding this limitation, the MOHFW started Urban Health Service Program as a component of ESD. The program mainly focuses on orientation of the health service managers of the city corporations and municipalities, which are the executing authorities of health services for MOLGRD. Another important component of the program is to increase the awareness of the urban population on nutrition, family planning, maternal and child care, breast feeding, and care of pregnant women (antenatal, intra-natal and postnatal care, institutional delivery, etc.). The program is in its early stage and will need to give time to see results.

Community clinics (CCs)

The Ministry of Health and Family Welfare initiated Community Clinics program under Health and Population Sector Program 1998-2003. It aimed to provide essential service package (ESP) for health, family planning and nutrition to rural people from a single-stop demand-based static center for every 6,000 population. In April 1999, MOHFW issued guidelines for operation of CC, where there was provision of involving local people in the management of CC. A Community Group comprised of 9 to 11 members was proposed to function as executive board of the CC. It was planned to construct 13,695 CCs, of which 11,883 were completed. Community Clinic functioning was declared abandoned in 2001 and the facilities were sitting idle until 2008. In June 2006, the MOHFW again issued a circular to resume operation of CCs phase by phase. This fresh attempt has created much hope among the community people with regard

Current status of the Community Clinics

Division	Planned	Built	Hand over completed	Stared (2 hrs daily)	Not yet started
Dhaka	3885	3611	2583	2398	1213
Chittagong	2633	2392	1582	1503	889
Rajshahi	3593	3230	3161	2531	699
Khulna	1599	1366	1353	1118	248
Barisal	1046	729	721	394	335
Sylhet	939	555	555	482	73
Total =	13695	11883	9955	8426	3457

The MOHFW has also decided to let NGOs to operate 378 Community Clinics of 15 upazilas of 6 districts. A Management Service Agency (MSA) has been created under the MOHFW to administer the handing over of these 378 CCs to NGOs.

Medical Waste Management at Upazila Level Hospital

Health care wastes in Bangladesh did not get much attention even a decade back. But, recently issues related to implications of hospital and/or health care wastes with regard to transmission of fatal communicable diseases have been given due importance. Line Director, Improved Hospital Services Management has been given responsibility to introduce scientific waste management in district hospitals and above, whereas line Director, ESD has been given responsibility for health facilities at upazila level and below. The program components include (a) construction of pits in UHC; (b) procurement

and regular supply of logistics for collection and transportation of waste and the safety materials for the waste handlers; (c) training/orientation of concerned personnel and staff; and (d) community awareness on health care waste, its management and individual responsibility.

Activities so far completed or in pipeline

1. Orientation on medical waste management of all personnel and staffs of 237 upazila health complexes and of medical personnel of civil surgeon offices of 34 districts.
2. Procurement and distribution of medical waste management logistics for 133 upazila health complexes are in pipeline.
3. Construction of medical waste disposal pits have been completed in 95 upazila health complexes and that for 133 UHCs is in process. The MOHFW has also decided to let NGOs to operate 378

Facility-based Health Services

Government health facilities

The list of the health facilities at upazila level and below was given under Essential Service Delivery. Here is given the list of hospitals above that level. The table shows that there are currently 20,590 beds in the level of district hospitals or above under DGHS. There are 9 postgraduate level institute hospitals with current bed capacity of 2,014. The number of medical college hospitals is 14 with total bed capacity of 8,685. Dhaka Dental College Hospital has 20 beds. There are two hospitals for alternative medical colleges with total bed capacity of 200. There are 3 specialized hospitals, one is the Burn Unit at Dhaka Medical College Hospital, one

is National Asthma Center at Mohakhali and the other is Pabna Mental Hospital. Sarkari Karmochari Hospital, Dhaka; Bangladesh-Korea Moitree Hospital, Savar and 25-bed Shishu Hospital, Jenidah have 100 beds, 20 beds and 25 beds respectively. There are 5 Infectious Diseases Hospitals with total bed capacity of 180. Number of General Hospitals is 13 (both current and proposed). The total currently available beds in these hospitals are 1,250. District sadar hospitals are 52 in numbers with currently available beds of 6,750. There are 11 TB hospitals with total beds of 566. Number of leprosy hospitals is 3 with total bed capacity of 130.

Government health facilities

Number of hospitals with bed capacities and health facilities under DGHS

Division	Hospital	Bed	Revenue	Development	Proposed Bed	Bed will increase
Postgraduate Institute Hospital						
Dhaka	Institute of Diseases of Chest and Hospital (NIDCH)	600	600	-	-	-
Dhaka	National Institute of Traumatology & Rehabilitation (NITOR)	500	500	-	-	-
Dhaka	National Institute of Cancer Research and Hospital (NICRH)	50	50	-	250	200
Dhaka	National Institute of Cardiovascular Diseases (NICVD)	414	250	164	-	-
Dhaka	National Institute of Kidney Diseases and Urology (NIKDU)	100	-	100	-	-
Dhaka	National Institute of Mental Health (NIMH)	100	50	50	-	-
Dhaka	National Institute of Ophthalmology and Hospital (NIOH)	250	250	-	-	-
Total: 9 Nos.		2014	1700	314	250	200
Medical College Hospital						
Barisal	Sher-e-Bangla Medical College Hospital	600	600	-	1000	400
Chittagong	Chittagong Medical College Hospital	1010	1010	-	-	-
Chittagong	Comilla Medical College Hospital	250	250	-	500	250
Dhaka	Shuhrowrdi Hospital	375	375	-	-	-
Dhaka	Dhaka Medical College Hospital	1700	1700	-	2000	300
Dhaka	Faridpur Medical College Hospital	250	250	-	-	-
Dhaka	Mymensingh Medical College Hospital	800	800	-	1000	200
Dhaka	Sir Salimullah Medical College Hospital	600	600	-	-	-
Khulna	Khulna Medical College Hospital	250	250	-	500	250
Rajshahi	Bogra Medical College Hospital	500	500	-	-	-
Rajshahi	Dinajpur Medical College Hospital	250	250	-	500	250
Rajshahi	Rajshahi Medical College Hospital	600	600	-	-	-

Number of hospitals with bed capacities and health facilities under DGHS (continued...)

Division	Hospital	Bed	Revenue	Development	Proposed Bed	Bed will increase
Rajshahi	Rangpur Medical College Hospital	600	600	-	1000	400
Sylhet	Sylhet MAG Osmani Medical College Hospital	900	900	-	1000	100
Total: 14 Nos.		8685	8685	-	7500	2150
Dental College Hospital						
Dhaka	Dhaka Dental College Hospital	20	20	-	200	180
Total: 1 No.		20	20	-	200	180
Hospital for Alternative Medical Care						
Dhaka	Ayurvedic Degree College and Hospital	100	100	-	-	-
Dhaka	Homeopathic College and Hospital	100	100	-	-	-
Total: 2 Nos.		200	200	-	0	-
Specialized Hospital						
Dhaka	Burn Unit at Dhaka Medical College Hospital	50	-	50	200	150
Dhaka	National Asthma Center, Mohakhali	100	-	100	-	-
Dhaka	National Center for Rheumatic Fever and Heart Diseases	-	-	-	-	-
Rajshahi	Mental Hospital, Pabna	500	400	100	-	-
Total: 3 Nos.		650	400	250	200	150
Sarkari Karmochari Hospital						
Dhaka	Sharkari Karmochari Hospital	100	100	-	-	-
Total: 1 No.		100	100	-	0	-
Moitree Hospital						
Dhaka	Bangladesh Korea Moitree Hospital, Savar	20	-	20	-	-
Total: 1 No.		20	-	20	-	-
Children Hospital						
Khulna	25 Bed Sishu Hospital at Jenaidah	25	-	25	-	1
Total: 1 No.		25	-	25	0	1
Infectious Disease Hospital						
Chittagong	Infectious Diseases Hospital	20	20	-	-	-
Dhaka	Infectious Diseases Hospital	100	100	-	-	-
Khulna	Infectious Diseases Hospital	20	20	-	-	-
Rajshahi	Infectious Diseases Hospital	20	20	-	-	-
Sylhet	Infectious Diseases Hospital	20	20	-	-	-
Total: 5 Nos.		180	180	-	-	-
General Hospital						
Barisal	Barisal General Hospital	100	100	-	-	-
Chittagong	100 Bed General Hospital at Port area, Chittagong	-	-	-	100	100
Chittagong	Chittagong General Hospital	150	150	-	-	-
Chittagong	Comilla General Hospital	100	100	-	-	-
Chittagong	Noakhali General Hospital	250	150	100	-	-
Chittagong	Rangamati General Hospital	100	100	-	-	-
Dhaka	500 Bed General Hospital at Khilgaon, Dhaka	-	-	-	500	500
Dhaka	500 Bed General Hospital at Kurmitolla, Dhaka	-	-	-	500	500
Dhaka	500 Bed General Hospital at Mirpur, Dhaka	-	-	-	500	500
Dhaka	Faridpur General Hospital	100	100	-	-	-
Dhaka	Narayanganj General Hospital	200	200	-	250	50
Khulna	Khulna General Hospital	150	150	-	-	-
Rajshahi	Sirajgonj General Hospital	100	100	-	-	-
Total: 13 Nos.		1250	1150	100.00	1850	1,650
Sadar Hospital						
Barisal	Barguna Sadar hospital	100	100	-	-	-
Barisal	Bhola Sadar hospital	100	100	-	150	50
Barisal	Jhalokhati Sadar hospital	100	100	-	150	50
Barisal	Patuakhali Sadar hospital	250	150	100	-	-
Barisal	Pirojpur Sadar hospital	100	100	-	150	50
Chittagong	Bandarban Sadar hospital	100	100	-	-	-

Number of hospitals with bed capacities and health facilities under DGHS (continued...)

Division	Hospital	Bed	Revenue	Development	Proposed Bed	Bed will increase
Chittagong	Brahmanbaria Sadar Hospital	100	100	-	250	150
Chittagong	Chandpur Sadar hospital	200	100	100	-	-
Chittagong	Cox's Bazar Sadar Hospital	250	100	150	-	-
Chittagong	Feni Sadar Hospital	100	100	-	250	150
Chittagong	Khagrachari Sadar hospital	50	50	-	100	50
Chittagong	Lakshmipur SadarHospital	100	100	-	-	-
Dhaka	Narshingdi Sadar Hospital	100	-	100	-	-
Dhaka	Gazipur Sadar Hospital	100	100	-	-	-
Dhaka	Gopalganj Sadar Hospital	250	100	150	-	-
Dhaka	Jamalpur Sadar Hospital	250	100	150	-	-
Dhaka	Kishoreganj Sadar Hospital	250	100	150	-	-
Dhaka	Madaripur Sadar Hospital	100	100	-	-	-
Dhaka	Manikganj Sadar Hospital	100	100	-	-	-
Dhaka	Munshiganj Sadar Hospital	100	100	-	250	150
Dhaka	Narayanganj Sadar Hospital	100	100	-	-	-
Dhaka	Narshingdi Sadar Hospital	100	100	-	-	-
Dhaka	Netrokona Sadar Hospital	100	100	-	-	-
Dhaka	Rajbari Sadar Hospital	100	100	-	-	-
Dhaka	Shariatpur Sadar Hospital	100	100	-	-	-
Dhaka	Sherpur Sadar Hospital	100	50	50	-	-
Dhaka	Tangail Sadar Hospital	250	100	150	-	-
Khulna	Bagerhat Sadar hospital	100	100	-	150	50
Khulna	Chuadanga Sadar hospital	100	100	-	150	50
Khulna	Jessore Sadar hospital	250	250	-	-	-
Khulna	Jenaidah Sadar hospital	100	100	-	-	-
Khulna	Kushtia Sadar hospital	250	150	100	-	-
Khulna	Magura Sadar hospital	100	100	-	150	50
Khulna	Meherpur Sadar hospital	100	100	-	-	-
Khulna	Narail Sadar hospital	100	100	-	-	-
Khulna	Satkhira Sadar hospital	100	100	-	150	50
Rajshahi	Bogra Sadar Hospital	250	250	-	-	-
Rajshahi	Chapai Nowabganj Sadar hospital	100	100	-	-	-
Rajshahi	Gaibanda Sadar hospital	100	100	-	-	-
Rajshahi	Joypurhat Sadar hospital	100	100	-	150	50
Rajshahi	Kurigram Sadar hospital	100	100	-	150	50
Rajshahi	Lalmonirhat Sadar hospital	100	100	-	-	-
Rajshahi	Naogaon Sadar hospital	100	100	-	-	-
Rajshahi	Natore Sadar hospital	100	100	-	-	-
Rajshahi	Nilphamari Sadar hospital	100	100	-	150	50
Rajshahi	Pabna Sadar hospital	250	120	130	250	130
Rajshahi	Panchagar Sadar hospital	100	100	-	-	-
Rajshahi	Thakurgaon Sadar hospital	100	100	-	-	-
Sylhet	Hobiganj Sadar hospital	100	100	-	150	50
Sylhet	Mowlovi Bazar Sadar hospital	100	100	-	250	150
Sylhet	Sunamganj Sadar hospital	100	100	-	250	150
Sylhet	Sylhet Sadar Hospital	100	100	-	-	-
Total 52 Nos.		6750	5420	1,330.00	3250	1,480
TB Hospital						
Barisal	TB Segregation Hospital, Barisal	20	20	-	-	-
Chittagong	TB Segregated Hospital, Brahmanbaria	20	20	-	-	-
Chittagong	TB Hospital (Chittagong)	150	150	-	-	-
Dhaka	250 Bed TB Hospital at Shyamoli, Dhaka	-	-	-	250	250
Khulna	TB Hospital, Khulna	100	100	-	-	-
Khulna	TB Segregation Hospital, Jessore	40	40	-	-	-
Rajshahi	TB Segregated Hospital, Rangpur	20	20	-	-	-
Rajshahi	TB Segregated Hospital, Pabna	20	20	-	-	-
Rajshahi	TB Segregated Hospital, Bogra	20	20	-	-	-
Rajshahi	TB Hospital, Rajshahi	100	100	-	-	-
Sylhet	TB Hospital, Sylhet	56	56	-	-	-

Number of hospitals with bed capacities and health facilities under DGHS (continued...)

Division	Hospital	Bed	Revenue	Development	Proposed Bed	Bed will increase
Sylhet	TB Segregated Hospital (Sylhet)	20	20	-	-	-
Total: 11 Nos.		566	566	-	250	250
Leprosy Hospital						
Dhaka	Leprosy Hospital, Mohakhali, Dhaka	30	30	-	-	-
Rajshahi	Leprosy Hospital (Nilphamari)	20	20	-	-	-
Sylhet	Leprosy Hospital (Sylhet)	80	80	-	-	-
Total: 3 Nos.		130	130	-	-	-
Grand Total		20590	18551	2,039	13,500	6,061
Source: Director, Hospital, DGHS, Mohakhali, Dhaka						

The Directorate General of Family Planning under the Ministry of Health and Family Welfare also operates 2 hospitals and range of day care to out-patient facilities. The details of these facilities are shown below. The Directorate General of Family

Number of hospitals with bed capacities and health facilities under DGFP

Type of facility	No. of facility	No. of bed in each	Total bed (No.)	No. of hospitals in this category	No. of non-bed facility in this category	No. of beds in this category
Community health facility (0-bed)	3500	0	0	0	3500	0
Maternal and Child Welfare Center (0-bed)	97				97	
MCH-FP Clinic (0-bed)	471				471	0
NGO clinic supported by DGFP (0-bed)	177	0	0	0	177	0
Model clinic (0-bed)	8	0	0	0	8	0
Hospital (0-bed)	2			2	0	
Total	4255				4253	
Source : Website of DGFP						

Armed Forces of Bangladesh, Bangladesh Police, Bangladesh Ansars, The Bangladesh Railway, and Ministry of Social Welfare also run some hospitals mainly for their service men and families.

Private health facilities

It is known from the Director of Hospital of DGHS that there are 6,784 registered

hospitals, clinics, pathological laboratories and diagnostic centers in the private sector. The number of hospitals and clinics is 2,155 and that of pathological laboratories and diagnostic clinics is 4,629. The total number of beds in the registered private hospitals and clinics is 35,338. The table below summarizes the picture. Armed Forces of Bangladesh, Bangladesh Police, Bangladesh

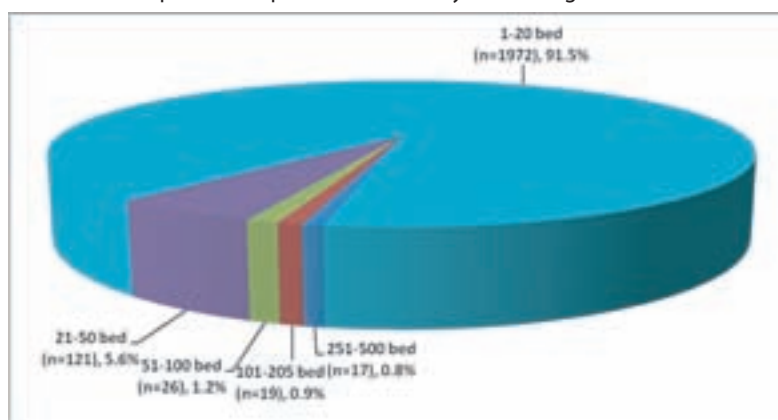
Number of Registered Private Hospitals, Clinics, Pathology Laboratories and Diagnostic Centers

Type of facility	No. of facility	No. of hospitals in this category	No. of non-bed facility in this category	No. of beds in this category
251-500 bed hospital	17	2155	0	35338
101-250 bed hospital	19			
51-100 bed hospital	26			
21-50 bed hospital	121			
1-20 bed hospital	1972			
Pathology Laboratory/ Diagnostic clinic	4629	0	4629	0
Total	6784	2155	4629	35338

Division-wise distribution of total number of registered private hospitals/clinics

Type of facility		Dhaka	Rajshahi	Chittagong	Barisal	Khulna	Sylhet	Total
251-500 bed	No.	14	3	0	0	0	0	17
	%	82.4	17.6	0.0	0.0	0.0	0.0	100.0
101-205 bed	No.	12	2	5	0	0	0	19
	%	63.2	10.5	26.3	0.0	0.0	0.0	100.0
51-100 bed	No.	12	6	8	0	0	0	26
	%	46.2	23.1	30.8	0.0	0.0	0.0	100.0
21-50 bed	No.	65	11	35	2	5	3	121
	%	53.7	9.1	28.9	1.7	4.1	2.5	100.0
1-20 bed	No.	698	428	263	34	416	133	1972
	%	35.4	21.7	13.3	1.7	21.1	6.7	100.0
Total	No.	801	450	311	36	421	136	2155
	%	37.2	20.9	14.4	1.7	19.5	6.3	100.0

Distribution of private hospitals and clinics by bed strength



Government rules for licensing of private hospital or clinic

To start a private hospital or clinic, the interested party has to take license from DGHS through submission of application in prescribed forms. The conditions for issuing and continuing a license are as follows:

1. The hospital or clinic will require to have adequate space and healthy environment
2. It should have at minimum 80 square feet space per patient
3. The operation theater should be air-conditioned
4. There should be appropriate instruments as per prescribed guidelines
5. The hospital or clinic will have to keep

stores of adequate life saving drugs and other medicines

6. There should be full time doctors, nurses and other staffs as per prescribed guidelines (for every 10 beds 3 doctors, 6 nurses, 3 cleaners, specialist doctors for surgery and follow-up)

In violation of any of the clauses, the accused clinic owner will be liable to 6 months jail or fine worth Tk. 5,000 or both or cease of all removable assets in favor of state.

Hospital Statistics

The MIS, DGHS received information from 6 postgraduate institute hospitals, 6 medical college hospitals and 64 districts (district and other hospitals and facilities below) in the public sector for 2007. It is estimated that these hospitals and health facilities provided

in that period in the hospitals after admission giving a death rate of 2.2%. The reported average number deaths per hospital appear
ambiguos in some cases and require caution to interpret.
in that period in the hospitals after admission

No. of patients served by public sector hospitals and clinics in 2007 (Jan-Dec) under DGHS

Type of hospital	No. of facilities provided data	OPD / Emergency		Admissions		Deaths		
		No.	Average	No.	Average	No.	Average	% of admission
Postgraduate Institute Hospitals	6	344,184	57,364	155,931	25,989	4,178	996	2.7%
Medical College Hospitals	12	181,794	15,150	109,210	9,101	914	76	0.8%
General Hospitals	6	626,302	104,384	133,319	22,220	1,548	258	1.2%
District/ Secondary Hospi tals and below	64 districts	60.0 million	937,957	4.9 million	6,895	100,000	1,718	2.7%
Total=		61,181,557		5,319,743		116,610		2.2%

Source: Respective Hospitals

Patient statistics of selected district hospitals under DGHS (Year 2007)

District	Bed (N)	Admissions (N)			Outdoor Patients (N)				Av. daily admn (N)	Av. daily OPD pts (N)	ALS (d)	BOR (%)
		M	F	Total	M	F	Child	Total				
Jessore	250	12414	13928	26342	62448	48594	31274	142316	72	390	4	101.55
Kushtia	150	13390	14490	27880	63298	59130	39116	161544	76	443	4	187.09
Narsingdi	200	2642	3116	5758	39346	29412	26822	95580	16	262	6	84.18
Pabna	120	15432	19072	34504	75952	78136	54520	208608	95	572	3	193.13
Panchagarh	100	4446	3228	7674	30848	21916	24434	77198	21	212	3	54.10
Chandpur	200	4816	8396	13212	71192	36640	64030	171862	36	471	8	76.85
Jamalpur	250	6478	6288	12766	40682	38624	27798	107104	35	293	6	66.10
Khulna	150	3573	4941	8514	82473	75760	7576	165809	23	454	4	58.00
Thakurgaon	100	4596	19290	23886	43464	36732	56250	136446	65	374	3	162.53
Chittagong	150	1380	2127	3507	35424	38736	21969	96129	10	263	12	76.32
Noakhali	250	13126	11560	24686	21972	15568	17060	54600	68	150	5	137.89
Nilphmari	100	5776	10516	16292	48264	35458	44588	128310	45	352	2	107.59
Patuakhali	150	8394	9000	17394	56694	49236	43734	149664	48	410	5	154.17
Kurigram	100	7212	5877	13089	43624	33088	34507	111219	36	305	4	122.10
Gaibandha	100	4906	6794	11700	45344	31630	34730	111704	32	306	6	114.00
Joypurhat	100	8606	11358	19964	72270	54748	45460	172478	55	473	3	169.89
Sirajgonj	100	6436	4670	11106	42302	37194	11060	90556	30	248	3	92.86
Natore	100	7170	8588	15758	43030	28988	40160	112178	43	307	3	107.62

Patient statistics of selected district hospitals under DGHS (Year 2007) (Continued...)

District	Bed (N)	Admissions (N)			Outdoor Patients (N)				Av. daily admn (N)	Av. daily OPD pts (N)	ALS (d)	BOR (%)
		M	F	Total	M	F	Child	Total				
Naogan	100	9720	6360	16080	62374	42396	23340	128110	44	351	3	107.24
Ch.Nawbganj	100	8193	10131	18324	47451	40371	43077	130899	50	359	2	95.29
Meherpur	100	3502	4742	8244	44616	29752	28228	102596	23	281	3	57.21
Chuadanga	100	6438	11848	18286	48592	62280	26974	137846	50	378	3	120.61
Jhenaidah	100	6547	9463	16010	81387	59655	50043	191085	44	524	3	160.69
Magura	100	11511	12192	23703	50343	51087	41229	142659	65	391	3	193.55
Narail	100	2752	4024	6776	24280	19459	17498	61237	19	168	3	55.11
Satkhira	100	4794	6260	11054	69736	25966	32766	128468	30	352	4	138.89
Bagerhat	100	3400	5538	8938	39956	29660	18424	88040	24	241	5	118.59
Pirojpur	100	3672	3612	7284	31668	22440	21180	75288	20	206	3	62.33
Jhalokathi	100	3798	4100	7898	45890	33542	29708	109140	22	299	4	85.34
Barguna	100	4752	5280	10032	38670	33198	19866	91734	27	251	5	121.76
Bhola	100	5710	7122	12832	40204	29266	28990	98460	35	270	4	108.87
Shariatpur	100	2361	3830	6191	21427	16855	20625	58907	17	161	4	58.79
Madaripur	100	3540	6624	10164	8473	21672	11950	42095	28	115	4	95.66
Gopalganj	100	7156	8476	15632	21228	18000	20920	60148	43	165	4	97.99
Faridpur	100	5464	6658	12122	34668	33768	19930	88366	33	242	5	152.42
Manikganj	100	6358	7630	13988	76930	68300	76200	221430	38	607	4	129.24
Munshigonj	100	3420	3352	6772	31316	32004	31494	94814	19	260	4	72.02
Narayanganj	100	3876	4288	8164	76162	76928	19004	172094	22	471	3	60.63
Gazipur	100	3088	6954	10042	35644	19866	50148	105658	28	289	3	65.41
Tangail	100	8658	20336	28994	52756	45862	39062	137680	79	377	2	158.86
Kishoreganj	100	7396	13136	20532	63948	52684	30704	147336	56	404	4	218.70
Netrokona	100	6246	7804	14050	33036	24402	19106	76544	38	210	3	116.64
M.Bazar	100	8460	9072	17532	42708	71064	54540	168312	48	461	3	129.53
Hobiganj	100	5840	11478	17318	75590	60572	48406	184568	47	506	4	187.46
B. Baria	100	8656	7950	16606	66422	81614	53700	201736	45	553	0	174.39
Comilla	100	4590	4416	9006	54500	44970	33946	133416	25	366	5	125.10
Laxmipur	100	4328	4418	8746	43976	47512	25950	117438	24	322	2	48.98
Feni	100	7798	17186	24984	81494	79814	72658	233966	68	641	4	242.09
Rangamati	100	3446	2896	6342	10830	11366	12684	34880	17	96	5	76.91
Bandarban	100	2238	2902	5140	11870	11718	16252	39840	14	109	4	53.39
Cox's Bazar	100	10086	10952	21038	41420	38370	112284	192074	58	526	3	161.29
Sherpur	100	8220	86667	94887	47731	46407	23640	117778	260	323	4	168.32
Total	6070	326807	500936	827743	2475923	2132410	1799614	6407947	2268	17556	4	113.62

Source: MIS, DGHS, Mohakhali, Dhaka; Note : ALS- Average Length of Stay, BOR-Bed Occupancy Rate

**Patient statistics of selected postgraduate institute hospitals, medical college hospitals,
chest hospitals and infectious disease hospitals under DGHS (Year 2007)**

Hospital	Bed (N)	Admissions (No.)			Outdoor Patients (No.)				ALS (d)	Av. Daily Admn (N)	BOR (%)	Av. Daily OPD Pt (N)
		M	F	Total	M	F	Child	Total				
Postgraduate Institute Hospitals												
NICVD	414	-	-	29147	76732	41792	7417	125941	5.48	80	174.80	345
NITOR	500	13572	2484	16056	61614	23682	19116	104412	10	83.81	44	286
NIO	100	1272	1392	2664	31800	22512	10428	64740	11	85.61	7	177
IMHR	150	715	379	1094	10850	4881	55	15786	19	55.23	3	43
Medical College Hospitals												
Rangpur	650	34761	29779	64540	19272	115840	64713	199825	3	93.75	177	547
Rajshahi	650	43647	44635	88282	19272	234831	148483	580438	6	194.14	242	1590
Barisal	500	26395	25965	52360	105220	118353	118353	359588	7	200.19	143	985
Mymensingh	1000	44388	45638	90026	181052	174309	152152	550592	6	145.67	247	1508
Sylhet	900	48862	52236	101098	0	289942	300040	589982	4	130.78	277	1616
Dinajpur	250	14418	26016	40434	0	87846	65436	258864	5	194.01	111	709
Faridpur	250	10182	13806	23988	44454	39888	19246	103588	5	137.10	66	284
General Hospitals												
SS Hospital	375	4711	3900	8611	96852	96852	117747	311451	9	57.09	24	853
Mental	500	9912	252	10164	0	8556	11479	20035	123	84.37	28	55
Tongi labour	50	2836	2540	5376	28416	40178	36796	105390	6	91.89	15	289
Chest Hospitals												
Rajshahi	150	266	50	316				0	62	35.31	1	0
Khulna	100	540	237	777				0	44	78.54	2	0
Sylhet	56	290	74	364				0	49	77.49	1	0
Chittagong	100	600	198	798				0	78	122.48	2	0
Leprosy Hospitals												
Bogra	20	164	42	206				0	38	65.10	1	0
Pabna	20	48	9	57				0	102	72.90	0	0
Jessore	20	12	6	18				0	134	22.03	0	0
Faridpur	20	24	132	156				0	34	88.44	0	0
B. Baria	20	48	60	108				0	0	29.21	0	0
Infectious Disease Hospitals												
Rajshahi	20	132	48	180				0	20	46.11	0	0
Khulna	20	1135	1027	2162				0	2	62.66	6	0
Dhaka	100	890	614	1504	17604	6528	12460	36592	0	33.99	4	100
Source: Respective Hospitals; Note: ALS- Average Length of Stay, BOR-Bed Occupancy Rate												

Hospital statistics of upazila health complexes 2007

No. of UHCs for which data received	No. of beds	No. of beds compiled	No. of admissions	No. deaths	No. of Patient Days	Bed occupancy rate (%)	Hosp death rate (%)	Average length of stay (d)	Outdoor attendance
413	14,038	11,858	1,345,860	21324	3,718,486	72.57	1.62	3	23,642,512

Source: Respective Hospitals

Bed occupancy rate of upazila health complexes (Year 2001-2007)

Bed Occupancy Rate	Year 2001		Year 2002		Year 2003		Year 2004		Year 2005		Year 2006		Year 2007	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Below 40%	9	3.73	4	1.29	3	0.93	3	0.84	7	2.1	14	3.9	11	3.1
40.0–50.0	10	4.15	16	5.16	4	1.25	7	1.97	8	2.1	20	5.6	14	3.9
50.0–60.0	26	10.79	23	7.42	11	3.43	23	6.46	17	4.8	26	7.3	27	7.5
60.0–70.0	46	19.09	68	21.94	29	9.03	22	6.18	41	12.31	36	10.1	48	13.3
70.0–80.0	58	24.07	72	23.23	38	11.84	75	21.07	56	16.52	62	17.4	80	22.2
80.0–90.0	13	13.28	51	16.45	83	25.86	70	19.66	94	27.63	75	21.0	69	19.1
90.0–100.0	30	12.45	45	14.52	73	22.74	82	23.03	77	22.22	70	19.6	67	18.6
100.0–110.0	15	6.22	16	5.16	34	10.59	52	14.61	26	7.81	36	10.1	37	10.2
110.0-120.0	11	4.56	9	2.9	33	10.28	14	3.93	21	5.71	15	4.2	7	1.94
120.01-130.00	2	0.83	3	0.97	8	2.49	4	1.12	6	1.8	2	0.5	1	20.3
130.0–140.0	2	0.83	1	0.32	5	1.56	3	0.84	1	0.3	1	0.3	0	0.0
Above 140.0%	0	0	2	0.65	0	0	1	0.28	3	0.9	0	0.1	0	0.0
Total=	241	100	310	100	321	100	356	100	343	100	357	100.0	361	100.0

Source: Respective UHCs

Hospital deaths in selected district hospitals under DGHS (Year 2007)

District	Admission (N)			Deaths (N)			Hospital death rate (%)
	M	F	Total	M	F	Total	
Jessore	12414	13928	26342	608	460	1068	4.18
Kushtia	13390	14490	27880	690	444	1134	3.92
Narsingdi	2642	3116	5758	84	42	126	2.28
Pabna	15432	19072	34504	610	424	1034	3.13
Panchagarh	4446	3228	7674	88	48	136	2.19
Chandpur	4816	8396	13212	112	160	272	3.92
Jamalpur	6478	6288	12766	154	144	298	2.72
Khulna	3573	4941	8514	151	86	237	2.98
Thakurgaon	4596	19290	23886	150	348	498	2.13
Chittagong	1380	2127	3507	3	9	12	0.34
Noakhali	13126	11560	24686	552	288	840	0.00
Nilphmari	5776	10516	16292	70	120	190	1.19
Patuakhali	8394	9000	17394	234	196	430	2.65
Kurigram	7212	5877	13089	237	146	383	3.06
Gaibandha	4906	6794	11700	144	270	414	6.15
Joypurhat	8606	11358	19964	398	230	628	3.18
Sirajgonj	6436	4670	11106	772	200	972	8.14

Hospital deaths in selected district hospitals under DGHS (Year 2007) (Conitnued...)

District	Admission (N)			Deaths (N)			Hospital death rate (%)
	M	F	Total	M	F	Total	
Naogan	9720	6360	16080	276	132	408	2.63
Ch.Nawbganj	8193	10131	18324	183	177	360	2.00
Meherpur	3502	4742	8244	106	106	212	2.63
Chuadanga	6438	11848	18286	240	264	504	2.87
Jhenaidah	6547	9463	16010	243	312	555	3.04
Magura	11511	12192	23703	336	177	513	2.30
Narail	2752	4024	6776	55	115	170	2.71
Satkhira	4794	6260	11054	224	240	464	4.02
Bagerhat	3400	5538	8938	132	96	228	2.38
Pirojpur	3672	3612	7284	108	72	180	0.00
Jhalokathi	3798	4100	7898	52	28	80	1.02
Barguna	4752	5280	10032	104	82	186	1.91
Bhola	5710	7122	12832	156	244	400	3.61
Shariatpur	2361	3830	6191	57	69	126	2.16
Madaripur	3540	6624	10164	75	69	144	0.00
Gopalganj	7156	8476	15632	240	458	698	7.91
Faridpur	5464	6658	12122	114	106	220	1.85
Manikganj	6358	7630	13988	242	188	430	3.22
Munshignj	3420	3352	6772	48	36	84	1.38
Narayanganj	3876	4288	8164	10	10	20	0.24
Gazipur	3088	6954	10042	66	64	130	1.47
Tangail	8658	20336	28994	334	700	1034	3.63
Kishoreganj	7396	13136	20532	288	252	540	2.40
Netrokona	6246	7804	14050	144	98	242	1.78
M.Bazar	8460	9072	17532	156	120	276	1.60
Hobiganj	5840	11478	17318	212	796	1008	6.12
B. Baria	8656	7950	16606	452	280	732	4.64
Comilla	4590	4416	9006	184	118	302	3.28
Laxmipur	4328	4418	8746	158	128	286	3.63
Feni	7798	17186	24984	272	430	702	3.14
Rangamati	3446	2896	6342	68	68	136	2.19
Bandarban	2238	2902	5140	20	56	76	1.64
Cox's Bazar	10086	10952	21038	460	462	922	4.42
Sherpur	8220	86667	94887	291	223	514	3.14
Total	326807	500936	827743	11413	10557	21970	3.08

Source: Respective UHCs

Hospital deaths in selected postgraduate institute hospitals, medical college hospitals, general hospitals, chest hospitals, leprosy hospitals and infectious disease hospitals under DGHS (Year 2007)

Hospital	Admission (N)			Deaths (N)			Death Rate (%)
	M	F	Total	M	F	Total	
Postgraduate Institute Hospital							
NICVD	19916	8310	28226	1760	660	2420	8.43
NITOR	13572	2484	16056	120	36	156	1.06
NIO	1272	1392	2664	0	0	0	0.00
IMHR	715	379	1094	0	1	1	0.06
Total	35475	12565	48040	1880	697	2577	5.39
Medical College Hospital							
Rangpur	34761	29779	64540	1737	1387	3124	4.91
Rajshahi	43647	44635	88282	1899	1978	3877	4.77
Barisal	26395	25965	52360	1128	1077	2205	4.50
Mymensingh	44388	45638	90026	2426	1951	4377	5.29
Sylhet	48862	52236	101098	1942	1782	3724	3.84
Dinajpur	14418	26016	40434	270	774	1044	2.79
Faridpur	10182	13806	23988	604	548	1152	5.01
Total	222653	238075	460728	10006	9497	13188	4.49
General Hospital							
SS Hospital	4711	3900	8611	144	28	172	1.97
Mental	9912	252	10164	1	0	1	0.08
Tongi labour	2836	2540	5376	22	12	34	1.18
Total	17459	6692	24151	167	40	207	1.61
Chest Hospital							
Rajshahi	266	50	316	14	0	14	4.52
Khulna	540	237	777	35	6	41	6.30
Sylhet	290	74	364	7	4	11	3.43
Chittagong	600	198	798	24	12	36	6.25
Bogra	164	42	206	6	2	8	6.45
Pabna	48	9	57	0	2	2	3.85
Jessore	12	6	18	1	0	1	8.33
Faridpur	24	132	156	0	0	0	0.00
B. Baria	48	60	108	6	2	8	0.00
Total	1992	808	2800	93	28	121	4.32
Leprosy Hospital							
Nilphamari	64	0	64	0	0	0	0.00
Sylhet	300	50	350	0	1	1	0.29
Total	364	50	414	0	1	1	
Infectious Disease Hospital							
Rajshahi	132	48	180	14	12	26	15.12
Khulna	1135	1027	2162	31	0	31	1.48
Dhaka	890	614	1504	84	26	110	0.00
Total	2157	1689	3846	129	38	167	4.63

Source: MIS, DGHS, Mohakhali, Dhaka

Morbidity statistics

Morbidity is a measure of the burden of disease, injuries or ill health in population. It comprises a spectrum of physical states from minor discomforts for which a remedy may be self-prescribed through more serious but self-limiting conditions to illness which requires medical or surgical intervention, or which are intractable and serious that only supportive treatment can alleviate the suffering.

A morbidity profile of 34 diseases is published here. These data were gathered from public health facilities (hospitals and out-patient facilities) of Bangladesh. It must be kept in mind that not all cases are reported to the health facilities, and again not all cases are reported to public health

facilities or to similar type of institutions. An estimate says that about 80% of the people seek health care from any one type of private provider. Therefore, the morbidity profile shown here may not reflect the true picture of the whole country.

The morbidity profile of 2007 data shows that the top 10 diseases and health related problems for which people go to public facilities are diarrhoeal disease, acute respiratory tract infection (ARI - all types), pain abdomen, intestinal worm infestation, skin diseases, pyrexia of unknown origin (PUO), anemia, malnutrition and gynecological problems. Diarrheal disease, ARI and intestinal worm infestation account for more than 33% of total diseases reported. Women and children <5 years are particularly at high

Morbidity Profile (Disease Profile) based on facility based data (Year 2007)

Sl. No.	Diseases	0-11 Month		1-4 Year		5-14 Year		15 - 49 Year		50+ Year		Sub-Total		Total	%of Total
		M	F	M	F	M	F	M	F	M	F	M	F		
1	Diarrheal Diseases	203115	214650	463695	479830	654415	718590	1018490	1196415	653110	722045	2992825	3331530	6324355	12.57
2	ARI	440880	449920	612920	638665	535360	574195	622570	739730	414875	458740	2626605	2861250	5487855	10.91
3	Pain Abdomen	11565	12330	65720	82535	282265	339180	1054320	1279555	744315	815325	2158185	2528925	4687110	9.32
4	Intestinal Worm Infection	25215	30000	249620	288675	444630	512630	643690	760980	440235	503220	1803390	2095505	3898895	7.75
5	Skin Disease	110200	130920	266295	302975	413005	462415	612740	722725	394900	436575	1797140	2055610	3852750	7.66
6	Pyrexia of Unknown Origin	78330	93325	173285	187645	278625	312865	442505	500430	307455	329755	1280200	1424020	2704220	5.37
7	Anaemia	19260	23335	87050	105020	194830	282480	373170	726445	300100	461175	974410	1598455	2572865	5.11
8	Malnutrition	57560	69245	159110	185700	245180	290250	324635	435375	258005	310345	1044490	1290915	2335405	4.64
9	Injury	12790	13635	84210	84195	236595	198520	693485	489635	268830	213230	1295910	999215	2295125	4.56
10	Gynecological Problem	0	0	0	125	0	6940	0	1332635	0	396485	0	1736185	1736185	3.45
11	Dental Disease	0	0	43880	50160	159635	181670	330950	401320	257600	277225	792065	910375	1702440	3.38
12	Conjunctivitis	28440	32400	84255	93610	147820	167390	252655	284940	219605	236735	732775	815075	1547850	3.08
13	Ear Infection	23085	26650	76605	85975	134700	156490	217665	251540	179100	198085	631155	718740	1349895	2.68
14	Asthma	7525	8450	22420	24360	60090	75175	189885	223450	220415	222940	500335	554375	1054710	2.10
15	RTI/STD	0	0	1325	1835	46485	62930	100945	123595	84380	94245	233135	282605	515740	1.03
16	Blood Pressure	0	0	35	15	2920	3970	108280	117820	128955	127755	240190	249560	499750	0.97
17	Malaria	4385	5165	16640	18800	31820	34545	58890	61080	30595	29645	142330	149235	291565	0.58
18	Diabetes	5	10	275	265	1245	1440	24055	26085	28375	31655	53955	59455	113410	0.23
19	Poisoning	240	150	2530	1995	4265	5605	36520	32865	6800	3720	50355	44335	94690	0.19
20	Tuberculosis	15	15	120	70	1500	1630	33610	22750	20805	9825	56050	34290	90340	0.18
21	Jaundice	1885	2070	3160	3650	7605	7820	15135	14230	9275	9625	37060	37395	74455	0.15

Morbidity Profile (Disease Profile) based on facility based data (Year 2007)

Sl. No.	Diseases	0-11 Month		1-4 Year		5-14 Year		15-49 Year		50+ Year		Sub-Total		Total	% of Total
		M	F	M	F	M	F	M	F	M	F	M	F		
22	Heart Attack	0	0	0	0	1490	1410	8305	7295	10175	6935	19970	15640	35610	0.07
23	Night Blindness	0	0	1005	1220	2350	2685	2040	2465	2390	2620	7785	8990	16775	0.03
24	Chicken Pox	190	230	545	645	1305	1390	1455	1800	950	1040	4445	5105	9550	0.02
25	Kala-azar	15	10	415	355	1500	1265	2445	1815	870	395	5245	3840	9085	0.02
26	Goiter	85	105	205	230	620	880	865	1380	810	1175	2585	3770	6355	0.01
27	Measles	360	395	410	475	560	565	505	615	440	510	2275	2560	4835	0.01
28	Filariasis	15	20	190	215	325	470	630	1315	560	535	1720	2555	4275	0.01
29	Cancer	50	35	80	95	205	190	705	740	835	460	1875	1520	3395	0.01
30	Acute Flaccid Paralysis	35	15	270	275	240	235	335	555	285	400	1165	1480	2645	0.01
31	Leprosy	0	0	20	45	130	230	640	635	265	325	1055	1235	2290	0.00
32	Tetanus	5	4	5	7	9	5	125	120	30	25	174	161	335	0.00
33	Whooping Cough	0	0	5	5	10	5	15	95	10	85	40	190	230	0.00
34	Others	207640	251470	380470	436575	621895	694225	1222470	1459140	830455	896355	3262930	3737765	7000695	13.91
Grand Total		1232890	1364554	2796770	3076242	4513629	5100285	8394730	11221570	5815805	6799210	22753824	27561861	50315685	100.0

Source: MIS, DGHS, Mohakhali, Dhaka

Mortality statistics of Bangladesh

Mortality statistics reflect a country's level of overall development and quality of life. Every citizen of the country expects to be born and brought up in a good atmosphere, to lead a usual span of life and to die a normal death.

As most of the deaths in Bangladesh occur in homes, it is always the best to prepare mortality statistics based on the population data. The MIS (health), DGHS collects every year, in January and February, population data through Geographic Reconnaissance (GR), when health workers visit every household to get data on several demographic variables. However, due to absence of good planning and supervision data reliability from this source remains doubtful. Deaths due to accidents, criminal injuries or other external causes are reported

and recorded in the police departments of the concerned areas. The dead bodies are sent to the Forensic Medicine Departments of the Medical College hospitals or Forensic Departments of the hospitals. Postmortems are performed and the findings are recorded and often reported to the MIS Health, DGHS.

The statistical staffs in hospitals classify the deaths recorded in the health institutions according to coding system of the International Statistical Classification of Diseases (ICD-10). The ICD system of coding was followed. Forty major conditions were cited in terms of the absolute number of deaths due to a particular cause, their relative percentage as well as sex and age

Top 40 causes of deaths in 2006 (facility-based data) irrespective of age

Sl. No.	ICD-10	Disease	No. of deaths			%of all deaths		%due to this diseases	
			Both sex	Male	Female	Male	Female	Male	Female
1	I61-69	Cerebrovascular diseases	2,692	1,520	1,172	11	12	56.5	43.5
2	J12-18	Pneumonia (All)	2,380	1,372	1,008	10	11	57.6	42.4
3	J95-98	Respiratory failure	2,280	1,389	891	10	9	60.9	39.1
4	P21	Birth asphyxia	1,986	1,185	801	8.4	8.5	59.7	40.3
5	T45-62	Poisoning by toxic agents	1,823	938	885	7	9	51.5	48.5
6	I21-25	Ischemic heart disease	1,525	1,186	339	8	4	77.8	22.2
7	J45-47	Asthma	930	653	277	5	3	70.2	29.8
8	I46-51	Heart failure	812	527	285	4	3	64.9	35.1
9	A41	Other septicaemia	739	421	318	3.0	3.4	57.0	43.0
10	J22-44	Lower respiratory diseases	691	410	281	3	3	59.3	40.7
11	G03-05	Encephalitis, meningitis	690	397	293	3	3	57.5	42.5
12	V09-96	Road traffic accidents	613	451	162	3	2	73.6	26.4
13	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	585	337	248	2.4	2.6	57.6	42.4
14	S01-T14	Injury of head and body	428	326	102	2	1	76.2	23.8
15	A01-09	Diarrhoeal diseases	421	239	182	2	2	56.8	43.2
16	R50	Fever of unknown origin	389	207	182	1.5	1.9	53.2	46.8
17	I10-15	Hypertension heart disease	380	207	173	1	2	54.5	45.5
18	R10	Abdominal and pelvic pain	350	237	113	1.7	1.2	67.7	32.3
19	D64	Anemias	334	137	197	1	2	41.0	59.0
20	O00-85	Eclampsia and pregnancy disorders	326	11	315	0	3	3.4	96.6
21	R57	Shock, not elsewhere classified	313	158	155	1.1	1.6	50.5	49.5
22	B50	Plasmodium falciparum malaria	255	138	117	1.0	1.2	54.1	45.9
23	A33-35	Tetanus all	248	177	71	1	1	71.4	28.6
24	R56	Convulsions, not elsewhere classified	225	122	103	0.9	1.1	54.2	45.8
25	R17-18	Unspecified jaundice	213	136	77	1	1	63.8	36.2
26	R40	Somnolence, stupor and coma	174	108	66	0.8	0.7	62.1	37.9
27	J82	Pulmonary eosinophilia, not elsewhere classified	173	135	38	1.0	0.4	78.0	22.0
28	K55-59	Intestinal disorders	160	104	56	1	1	65.0	35.0
29	B55	Leishmaniasis	133	79	54	0.6	0.6	59.4	40.6
30	C15-77	Malignant neoplasm (All)	133	94	39	1	0	70.7	29.3
31	T20-22	Burn and corrosion	126	40	86	0	1	31.7	68.3
32	A15-18	Tuberculosis of all organs	102	74	28	1	0	72.5	27.5
33	R07	Pain in throat and chest	100	70	30	0.5	0.3	70.0	30.0
34	E40-46	Malnutrition	96	53	43	0	0	55.2	44.8
35	P36	Bacterial sepsis of newborn	86	43	43	0.3	0.5	50.0	50.0
36	N04-45	Renal failure and renal diseases	82	49	33	0	0	59.8	40.2
37	R06	Abnormalities of breathing	75	51	24	0.4	0.3	68.0	32.0
38	K27	Peptic ulcer, site unspecified	58	43	15	0.3	0.2	74.1	25.9
39	A82-B18	Viral diseases (chicken pox, measles, hepatitis)	44	27	17	0	0	61.4	38.6
40	E11-14	Diabetes mellitus	44	23	21	0	0	52.3	47.7
		Total	23,604	14,113	9,491	100	100	59.8	40.2

Top 40 causes of deaths in 2006 (facility-based data) by age-group

Sl. No.	ICD-10	Disease Name	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
			<7 days		<28 days		<1 year		1-4 year		5-14 y		15-49 y		50-59 y		60+y	
1	I61-69	Cerebrovascula diseases	4	0	0	0	4	2	0	0	4	4	256	347	279	226	973	593
2	J12-18	Pneumonia (all)	195	142	150	109	587	441	230	185	64	50	72	51	13	18	61	12
3	J95-98	Respiratory failure	32	23	19	10	62	55	42	37	44	45	490	429	237	95	463	197
4	P21	Birth asphyxia	1,130	759	27	11	11	11	6	9	2		7	10	1		1	1
5	T45-62	Poisoning by toxic agents	1	1	3	0	2	2	14	14	19	48	778	762	56	27	65	31
6	I21-25	Ischemic heart disease	2	2	1	0	6	0	4	1	2	2	237	90	312	75	622	169
7	J45-47	Asthma	11	7	4	0	32	27	7	5	13	4	103	83	111	42	372	109
8	I46-51	Heart failure	1	3	1	0	6	7	6	6	11	3	110	109	113	50	279	107
9	A41	Other septicaemia	166	98	76	61	101	79	26	14	12	8	22	48	8	5	10	5
10	J22-44	Lower respiratory diseases	78	41	63	40	168	131	65	46	17	12	13	6	1	1	5	4
11	G03-05	Encephalitis, meningitis	6	3	4	4	45	41	81	63	85	65	110	83	21	19	45	15
12	V09-96	Road traffic accidents	1	0	4	0	6	7	11	10	28	20	231	52	56	28	114	45
13	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	293	207	31	25	11	12	1	3							1	1
14	S01-T14	Injury of head and body	2	1	2	0	2	1	6	9	32	22	189	38	26	6	67	25
15	A01-09	Diarrhoeal diseases	21	6	5	1	43	32	23	30	17	10	42	65	28	11	60	27
16	R50	Fever of unknown origin	2	2	3	1	11	11	16	19	23	28	85	87	19	14	48	20
17	I10-15	Hypertension heart disease	2	2	0	0	1	0	0	0	1	2	43	49	42	33	118	87
18	R10	Abdominal and pelvic pain	3	1	3		7	2	6	6	11	6	75	54	42	12	90	32
19	D64	Anaemias	5	2	1	1	8	12	13	11	19	13	45	126	19	9	27	23
20	O00-85	Eclampsia and pregnancy disorders	2	4	0	1	1	3	1	0	1	0	4	296	0	4	2	7
21	R57	Shock, not elsewhere classified	1			1		1			3	2	57	82	32	24	65	45
22	B50	Plasmodium falciparum malaria					4	2	17	18	29	30	64	49	13	8	11	10
23	A33-35	Tetanus all	21	12	15	7	1	1	5	5	26	5	69	20	16	5	24	16
24	R56	Convulsions, not elsewhere classified	13	3	3	3	12	9	23	23	13	18	14	21	8	2	36	24
25	R17-18	Unspecified jaundice	16	5	1	2	2	2	3	4	8	8	67	43	15	5	24	8
26	R40	Somnolence, stupor and coma					1	2	1	1	8	3	40	31	16	8	42	21
27	J82	Pulmonary eosinophilia, not elsewhere classified					1	1			1	2	18	4	28	10	87	21
28	K55-59	Intestinal disorders	5	2	1	1	1	5	1	4	6	4	45	24	17	2	28	14
29	B55	Leishmaniasis		1			4	2	12	9	18	7	33	29	8	3	4	3
30	C15-77	Malignant neoplasm (All)	0	1	1	0	1	0	0	0	1	2	30	14	20	7	41	15
31	T20-22	Burn and corrosion	1	0	0	0	4	4	5	11	4	7	16	41	6	3	4	20
32	A15-18	Tuberculosis of all organs	0	0	0	0	1	0	2	1	2	2	38	16	8	7	23	2
33	R07	Pain in throat and chest	1					1					25	17	12	2	32	10
34	E40-46	Malnutrition	0	0	2	1	12	5	6	9	2	2	5	15	7	3	19	8
35	P36	Bacterial sepsis of newborn	26	28	11	9	1	3	2		1		2	3				
36	N04-45	Renal failure and renal diseases	2	2	0	1	3	4	3	1	10	4	10	14	3	3	18	4
37	R06	Abnormalities of breathing	1					1	1	1	2	2	18	12	9	3	20	5
38	K27	Peptic ulcer, site unspecified					3	1					23	11	6	2	11	1

Top 40 causes of deaths in 2006 (facility-based data) by age-group (continued...)

Sl. No.	ICD-10	Disease Name	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
			<7 days		<28 days		<1 year		1-4 year		5-14 y		15-49 y		50-59 y		60+ y	
39	A82-B18	Viral diseases (chicken pox, measles, hepatitis)	0	0	6	0	3	1	1	4	2	2	10	6	1	2	4	2
40	E11-14	Diabetes mellitus	0	0	0	0	0	1	0	0	1	1	5	12	5	2	12	5
		Total	2,054	1,366	439	291	1,173	926	645	565	565	457	3,606	3,329	1,650	788	3,981	1,769

Improved Hospital Services Management

Medical waste management (MWM) activities are being implemented in 2 medical college hospitals and 11 district hospitals. The Line Director, Improved Hospital Services Management (IHSM) is also trying to improve emergency obstetric care and gender sensitivity in the selected district hospitals. Four district hospitals and 3 upazila health complexes have been selected for baby and women friendly hospital activities. Piloting and rolling out of hospital referral system is being done with a view to develop a structured two way referral system linked with essential service package. It is expected to launch quality assurance activities in the Quality Assurance Cell of DGHS as part of Hospital Accrediation System. It was a long felt need to strengthen the responsible department for repair of biomedical equipment used in the hospital. This year National Equipment Maintenance and Engineering Workshop (NEMEW) has been given reasonable amount of fund to conduct its core responsibilities. ISHM has provided fund to Burn Unit of Dhaka Medical College for holding camps for reconstructive surgery. Over 500 patients were benefitted from the program. The National Institute of Traumatology, Orthopedics and Rehabilitation (NITOR) also received fund for performing increased number of reconstructive surgery. NITOR also strengthened its artificial limb workshop with assistance from IHSM. Transportation

and Equipment Maintenance Organization (TEMO) could repair a good number of motor vehicles of different hospitals. Ophthalmic care in district hospital is not a common opportunity. IHSM explored possibility of GO-NGO collaboration through development of capacity in 5 district hospitals for intraocular lens (IOL) implant surgery. Support was also provided to Bangabandhu Sheikh Mujib Medical University (BSMMU), National Heart Foundation, Ahsania Mission Cancer Hospital and National Center for Rheumatic Fever and Heart Diseases for improvement of services.

Medical Waste Management Activity under MOHFW

According to decision of the Ministry of Health and Family Welfare (MOHFW) all hospitals of the country will be brought under Medical Waste Management Program by the year 2011. The government has adopted the pit method as standard for safe disposal of medical wastes.

The government's guidelines for medical waste management are as follows:

- The responsibility for hospitals' in-house medical waste management lies with MOHFW.
- That for out-house waste management lies with Ministry of Local Government and Rural Development (MOLGRD).
- The hospitals will group medical wastes in specific categories and store them locally in separate color coded containers.

- The city corporations will collect the wastes for safe disposal.
- The city corporations will outsource the activities to Prism Bangladesh or to other NGOs.
- Committees will be formed in national, district and upazila levels for collection, transportation and safe disposal of medical wastes.
- MOHFW will allocate fund to each hospital on per bed basis for medical waste management.

The institutions where medical waste management is currently ongoing:

1. Sylhet Medical College Hospital
2. Chittagong Medical College Hospital
3. Cox's Bazar District Hospital
4. Laxmipur District Hospital
5. Noakhali District Hospital
6. Rangamati District Hospital
7. Brahmanbaria District Hospital
8. Sylhet Sadar Hospital
9. Hobigong District Hospital
10. Mowlovibazar District Hospital
11. Chapainowabgonj District Hospital
12. Joypurhat District Hospital
13. Jessore District Hospital

The institutions where MWM will soon be operationalized:

1. Khulna Medical college Hospital
2. Faridpur Medical college Hospital
3. Rajbari District Hospital
4. Manikgonj District Hospital
5. Kushtia District Hospital
6. Shirajgonj District Hospital
7. Feni District Hospital
8. Thakurgaon District Hospital
9. Bandarban District Hospital
10. Narsingdi Zilla Hospital

11. Noakhali District Hospital

Institutions where process is started to launch MWM:

1. Dhaka Medical College Hospital
2. Rajshahi Medical college Hospital
3. Sher-e-Bangla Medical College Hospital, Barishal
4. Shohid Soharawardi Hospital
5. National Institute of Kidney Diseases and Urology
6. National Institute of Traumatology, Orthopedics and Rehabilitation
7. Gazipur District Hospital
8. Chandpur District Hospital
9. Potuakhali District Hospital
10. Narayangong District Hospital
11. Panchagar District Hospital

Institutions where MWM is planned to start in FY 2008-2009:

1. Sir Salimullah Medical College and Mitford Hospital
2. Mymensingh Medical College Hospital
3. Comilla Medical College Hospital
4. National Institute of Cardiovascular Diseases
5. National Institute of Mental Health
6. National Institute of Diseases of Chest and Hospital
7. Infectious Diseases Hospital
8. National Asthma Center
9. Munshigonj District Hospital
10. Narsingdi District Hospital
11. Faridpur District Hospital
12. Khulna District Hospital
13. Khagrachari District Hospital
14. Kishoregonj District Hospital
15. Comilla District Hospital.

Improved Hospital Services Management

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Communicable Diseases

Communicable diseases are now commonly being referred to as emerging and reemerging infectious diseases. Emerging infectious diseases are those, the incidence of which in humans has increased during the last two decades or which threaten to increase in the near future. The term also refers to newly appearing infectious diseases or diseases that are spreading to new geographic areas. The term reemerging diseases refer to the communicable diseases which have been previously easily controlled by chemotherapy and antibiotics, but now they have developed antimicrobial resistance and are often appearing in epidemic form.

The list of emerging and reemerging diseases includes avian influenza, Nipah virus infection, HIV/AIDS, viral hepatitis, poliomyelitis, Dengue, malaria, Kala azar, enteric fever, anthrax, leptospirosis, diarrhea, ARI, etc.

Recently a case of Avian Influenza has been identified in Bangladesh although it didn't claim any life yet.

Six outbreaks of human encephalitis were recorded over the last 7 years in Bangladesh which was caused by Nipah virus.

The first case of HIV in the country was detected in 1989. As of December 2007, the number of reported cases of HIV infection is 1,207 and 365 of them developed AIDS. It is estimated that there can be up to 7,500 HIV positive cases in Bangladesh. So far 123 people have died of HIV/AIDS in Bangladesh.

Hepatitis A virus infection is common in Bangladesh with a prevalence of about 2 to 7%. Prevalence of hepatitis C virus

infection is less than 1%. Sporadic outbreak is often seen and caused by hepatitis E virus infection; but presence of hepatitis D infection is not exactly known.

Bangladesh is in a stage of polio eradication, since no case was detected in 2007, although 18 wild polio cases were caused by virus imported from neighbouring India after a polio free status between 2001 and 2005.

Dengue was first recorded in the country in 1960 as Dhaka fever. In 2000, there was a huge outbreak with about 5,541 cases and 93 deaths (case fatality rate 1.68%). As of 2007, there were 22,212 cases and 221 deaths.

Kala azar is an endemic disease in Bangladesh. From 1999 to June 2008, a total of 63,480 cases and 232 deaths were reported from 34 districts of Bangladesh. The number is increasing day by day.

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. 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.

Enteric fever is thought to be one of the most important causes of fever in Bangladesh with high morbidity. Emergence of antibiotic resistance is another factor making the disease difficult to control.

Anthrax is not reported in Bangladesh. An unpublished report says that 19 cases of cutaneous anthrax were identified among

disease in Bangladesh. The highest number of diarrhea cases occurred was recorded in 2002 to be 2,599,225 with 1,022 deaths. In 2007, 1,551,209 cases of diarrhea and 272 deaths were reported.

In Bangladesh, acute Respiratory Infections constitute 30 to 50% of pediatric attendance and 10 to 30% of child admissions to hospital.

Disease of unknown cause: In 2006, about 100 cases followed by 521 cases in 2007 of similar presenting features caught the attention of mass media of Bangladesh. Most of the victims were school students and females. Although the cases were suspected as Mass Psychogenic Illness, investigations are needed to understand whether these were from infectious origins.

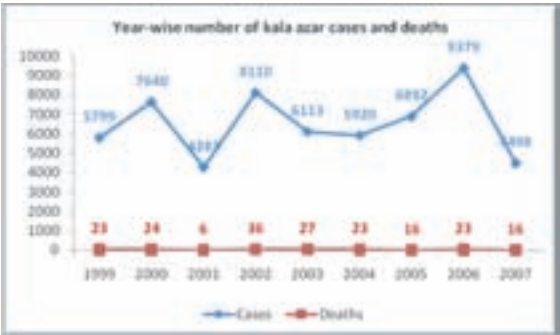
Below is given an overview of few locally important emerging and reemerging diseases.

Kala azar

Kala-azar or Visceral Leishmaniasis is one of the complex of diseases, called leishmaniasis and is caused by the trypanosomatid parasite *Leishmania donovani*. In the Indian sub-continent it is transmitted by the sand fly, *Phlebotomus argentipes*. The disease presents with fever of long duration (more than two weeks) with splenomegaly, anemia and progressive weight loss. In endemic areas, children and young adults are its principal victims. Without timely treatment the disease is fatal. Kala azar and HIV coinfection has emerged as a health problem in recent years. India, Bangladesh and Nepal have expressed a commitment to eliminate Kala azar elimination by 2015. In May 2005, the three countries signed a Memorandum of Understanding (MOU), in Geneva during the World Health Assembly. A Regional Strategic Plan has been prepared and endorsed by the WHO SEARO Regional Technical Advisorv Group (RTAG) and

partners supporting elimination.

In Bangladesh, Kala azar has been reported in 45 districts. In the past 'Malaria Eradication Program' blanket DDT spraying controlled Kala azar transmission. In the late 1970s Kala azar re-emerged sporadically. During 1981-85, only 8 upazilas reported Kala azar, which increased to 105 upazilas in 2004. During the last few years, Kala azar situation assumed epidemic proportion with the number of reported cases increasing from 3,978 in 1993 to 8,505 in 2005. Present surveillance is weak and the current estimated total cases are about 45,000. Annually 10,000 cases are treated by the control program but the cases treated by the private clinics and practitioners are not reported.



Malaria

Malaria is a major cause of mortality and morbidity in the tropical and sub-tropical regions of the world. Malaria remains one of the most serious problems faced by the countries of the SEAR. The burden of malaria here is second to Africa. Every year one hundred million cases are estimated of which 50% are *P. falciparum*. The disease is endemic in all countries in this region except Maldives. Official case and death reporting is poor and the actual number may be 10 to 20 times higher.

Malaria is a major public health problem in Bangladesh. Thirteen districts are high endemic. About 98% of the malaria

countries of the SEAR. The burden of malaria here is second to Africa. Every year one hundred million cases are estimated of which 50% are *P. falciparum*. The disease is endemic in all countries in this region except Maldives. Official case

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Division-wise malaria detection rate (2001-2007) in Bangladesh

Year	Name of Division	Adjusted Population	Total B/S Examination	ABER%	Total +ve Case	API	ASPR %	Total Pv	% of Pv	Total Pf	% of Pf
2001	Barisal	8560027	4096	0.05	27	0.00	0.66	15	55.56	12	44.44
	Chittagong	25320819	224053	0.88	51854	2.05	23.14	13796	26.61	38058	73.39
	Dhaka	40928700	80828	0.20	1406	0.03	1.74	964	68.56	442	31.44
	Khulna	15332224	4474	0.03	56	0.00	1.25	48	85.71	8	14.29
	Rajshahi	31587159	20652	0.07	80	0.00	0.39	51	63.75	29	36.25
	Sylhet	8289977	27776	0.34	2223	0.27	8.00	1005	45.21	1218	54.79
All Divisions		130018906	361879	0.28	55646	0.43	15.38	15879	28.54	39767	71.46
2002	Barisal	8690996	2181	0.03	0	0.00	0.00	0		0	
	Chittagong	25708228	221777	0.86	60211	2.34	27.15	15383	25.55	44828	74.45
	Dhaka	41554909	58026	0.14	1046	0.03	1.80	472	45.12	574	54.88
	Khulna	15566807	2724	0.02	22	0.00	0.81	16	72.73	6	27.27
	Rajshahi	32070443	3676	0.01	51	0.00	1.39	2	102	49	96.08
	Sylhet	8416813	32951	0.39	2381	0.28	7.23	815	34.23	1566	65.77
All Divisions		132008195	321335	0.24	63711	0.48	19.83	16688	26.19	47023	73.81
2003	Barisal	8821964	3507	0.04	25	0.00	0.71	10	40.00	15	60.00
	Chittagong	26095636	233015	0.89	53216	2.04	22.84	13367	25.12	39849	74.88
	Dhaka	42181118	58271	0.14	873	0.02	1.50	407	46.62	466	53.38
	Khulna	15801390	5210	0.03	26	0.00	0.50	23	88.46	3	11.54
	Rajshahi	32553726	17464	0.05	46	0.00	0.26	39	84.78	7	15.22
	Sylhet	8543650	32804	0.38	1723	0.20	5.25	542	31.46	1181	68.54
All Divisions		133997484	350271	0.26	55909	0.42	15.96	14388	25.73	41521	74.27
2004	Barisal	8952932	3020	0.03	0	0.00	0.00	0		0	
	Chittagong	26483045	237139	0.90	57939	2.19	24.43	12394	21.39	45545	78.61
	Dhaka	42807327	44152	0.10	271	0.01	0.61	271	100.00	0	0.00
	Khulna	16035973	4787	0.03	12	0.00	0.25	11	91.67	1	8.33
	Rajshahi	33037010	14242	0.04	85	0.00	0.60	25	29.41	60	70.59
	Sylhet	8670487	24321	0.28	1207	0.14	4.96	515	42.67	692	57.33
All Divisions		135986774	327661	0.24	59514	0.44	18.16	13216	22.21	46298	77.79
2005	Barisal	9083901	4045	0.04	0	0.00	0.00	0	0.00	0	0.00
	Chittagong	26870453	228476	0.85	47096	1.75	20.61	10334	21.94	36762	78.06
	Dhaka	43433536	35748	0.08	370	0.01	1.04	105	28.38	265	71.62
	Khulna	16270556	4066	0.02	10	0.00	0.25	9	90.00	1	10.00
	Rajshahi	33520293	12096	0.04	8	0.00	0.07	7	87.50	1	12.50
	Sylhet	8797323	457207	5.20	612	0.07	0.13	192	31.37	420	68.63
All Divisions		137976063	741638	0.54	48096	0.35	6.49	10647	22.14	37449	77.86

Division-wise malaria detection rate (2001-2007) in Bangladesh (continued...)

Year	Name of Division	Adjusted Population	Total B/S Examination	ABER %	Total +ve Case	API	ASPR %	Total Pv	% of Pv	Total Pf	% of Pf
2006	Barisal	9193469			-			-	-	-	-
	Chittagong	27194560			31702			7686	24.25	24016	75.75
	Dhaka	40928700			382			148	38.74	234	61.26
	Khulna	15332224			-			-	-	-	-
	Rajshahi	31587159			1			1	100.00	-	-
	Sylhet	8289977			772			194	25.13	578	74.87
All Divisions		139640305			32857			8029	24.44	24828	75.56
2007	Barisal	9320157			-			-	-	-	-
	Chittagong	27569308			51424			12637	24.57	38787	75.43
	Dhaka	44563169			374			140	37.43	234	62.57
	Khulna	16693725			-			-	-	-	-
	Rajshahi	34392099			3			3	100.00	-	-
	Sylhet	9026127			665			261	39.25	404	60.75
All Divisions		141564585			52466			13041	24.86	39425	75.14
B/S: Blood slide; ABER: ; API: ; ASPR: ; Pv: ; Pf											

Source: Malaria – Bangladesh situation, 2005, IEDCR, DGHS, Mohakhali, Dhaka-1212; Malaria Epidemiological information in Bangladesh (1963 - 2005); Director, Disease Control, DGHS, Mohakhali, Dhaka.

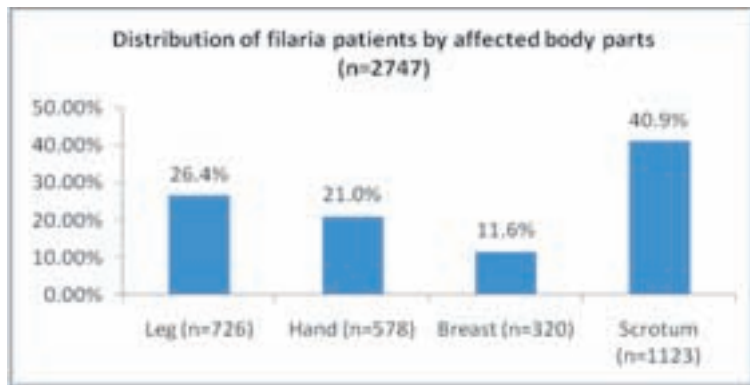
reported from these districts. Half of the total population in the three hill districts are indigenous who are the most vulnerable to suffer from malaria. Three-quarters of the cases reported from these districts are *P. falciparum* malaria. Seasonal migratory laborers and new settlers are non-immune and hence more prone to get malaria infection. In 2005, a total of about 242,297 clinical cases and 48,121 confirmed cases were reported from 13 districts of which 501 died. Income generating group >15 years of age are the major sufferers. Children and pregnant women belong to high risk group.

Bangladesh revised its Malaria Control program to strengthen and scale up the current malaria control activities. Malaria diagnostic and treatment services will be expanded at the community level. Long lasting Insecticidal Net (LLIN) will be distributed and existing nets will be retreated. Vector control measure will be strengthened through (Indoor Residual spraying (IRS) and Integrated Vector

Management (IVM). Behavior change communication activities will be scaled up. Partnership with private health services will be established. One important objective of the program is to reduce the prevalence of malaria morbidity and mortality by half by 2010 from 2000 level.

Filariasis

Filariasis (Lymphatic Filariasis) is a leading cause of permanent and long-term disability worldwide and hence WHO targeted it as one among the seven communicable diseases for elimination by the year 2020. The target of Bangladesh is to eliminate the disease by 2015 through transmission and morbidity control. Accordingly Filariasis Elimination Program (FEP) was started from January 2001 as a new program under Director, Communicable Disease Control (CDC) of DGHS. The program has two principal goals: (a) to interrupt transmission of infection; and (b) to alleviate and prevent both the suffering and disability caused by the disease. The main strategy for filariasis elimination is mass drug



Division-wise distribution of filariasis patients by body parts affected

Division	Leg Swelling	Hand swelling	Breast Swelling	Scrotal Swelling
Rajshahi	482	530	265	569
Chittagong	4	0	0	0
Khulna	0	0	1	31
Barisal	35	14	1	67
Total	521	544	267	667

Source: The Global Elimination of Lymphatic Filariasis, Bangladesh, FEP 2005, DGHS, Mohakhali, Dhaka

Two Drugs Treatment Schedule (once in a year for 5 consecutive years)

Age	Tab Diethyl Carbamazine (100 mg)	Tab Albendazole (400 mg)
2-8 yrs	1 Tab	1 Tab
> 8-12 yrs	2 Tab	1 Tab
>12yrs	3 Tab	1 Tab

administration (MDA) to the entire population at risk and morbidity control. A Filaria Hospital has been established at Syedpur of Nilphamari in January 2003, which is the only center in the world. The disease mainly prevails in the northern part of Bangladesh.

Nipha Encephalitis

Nipah is a zoonotic viral disease first identified in Nipah village of Malaysia in 1998-1999. The virus has been isolated from healthy fruit bats (Pteropus) which is being often found to cause infections in

some animals including humans. In Bangladesh, Nipah emerged as a new

Global Suspected Nipah Outbreaks

Year	Country	Suspected Cases (N)	Death (N)	Case Fatality Rate
1998 to 1999	Malaysia	265	106	40%
1999	Singapore	11	1	9.1%
2001 to 2005	Bangladesh	129	81	62.79 %
2002	India	6	-	-

Source: Nipah in short, 2006, Dr. Be-Nazir Ahmed, IEDCR, Mohakhali, Dhaka

Suspected Nipah Outbreak in Bangladesh

Year	Month	District	Suspected Cases (N)	Death (N)
2001	April-May	Meherpur	13	9
2003	January	Naogaon	12	8
2004	January	Rajbari	12	10
2004	January-March	Rajbari, Dhaka, Natore, Gopalganj, Rajshahi, Manikganj, Joypurhat, Naogaon, Faridpur	24	15
2004	Feb-April	Faridpur	36	27
2005	January	Tangail	12	11
2007	January	Thakurgaon	5	3
2007	April	Kushtia	8	5
2008	February	Manikganj & Rajbari	9	8
Total			131	96

Sources: Nipah in short, 2006, Dr. Be-Nazir Ahmed, IEDCR, Mohakhali, Dhaka

killer disease from 2001. It may be manifested as a mild form of viral fever to severe form causing encephalitis or severe respiratory distress syndrome. Nipah experience in Bangladesh shows that the disease is a highly fatal one. So far 7 outbreaks have been recorded in Bangladesh.

No single measure is found to be effective in control of the disease. Medical management depends on early diagnosis and

symptomatic management including quick management of unconscious patients and respiratory distress conditions. For prevention, primary steps of creating awareness of people are the most important.

Dengue

Dengue (fever) is a reemerging vector borne communicable disease in Bangladesh established after its outbreak in the year 2000. Before the disease was

Division-wise Dengue victims and deaths (2001-2007)

Division	Year 2001		Year 2002		Year 2003		Year 2004		Year 2005		Year 2006		Year 2007	
	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death
Barisal	3	0	54	0	0	0	8	0	0	0	1	0	0	0
Chittagong	9	0	92	0	21	1	9	0	2	0	0	0	0	0
Dhaka	2344	44	5859	49	450	9	3875	13	1033	4	2144	11	465	0
Khulna	74	0	122	9	15	0	41	0	11	0	53	0	1	0
Rajshahi	0	0	4	0	0	0	1	0	2	0	2	0	0	0
Sylhet	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Total	2430	44	6132	58	486	10	3934	13	1048	4	2200	11	466	0

Source: Dengue Program, DGHS, Mohakhali, Dhaka

fairly unfamiliar though its presence was evident by a well organized scientific study in 1996-1997 by the National Control Program. The outbreak started in summer 2000 as acute febrile illness involving mainly three major cities of Bangladesh, Dhaka, Chittagong and Khulna with the highest incidence rate in Dhaka.

Clinically Dengue presents as undifferentiated fever like other viral fever. Classical Dengue syndrome are of 3

types: (a) Dengue fever (DF); (2) Dengue Hemorrhagic fever (DHF); and (3) Dengue shock syndrome (DSS).

Diarrhea

Diarrheal disease is a public health problem in our country which is more prevalent among the children under the age of 5 years. The highest rate of illness with mortality occurs in children less than 2 years of age whose case fatality rate is five times higher than the older children.

Diarrhoeal Report by Division and Year (2001-2005)

Division	Year 2001		Year 2002		Year 2003		Year 2004		Year 2005		Year 2006		Year 2007	
	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death	Attack	Death
Barisal	25202	33	19869	19	14412	11	17986	19	15078	12	29072	5	31695	5
Chittagong	337838	166	512215	296	379276	265	432829	277	405446	162	363710	84	446965	148
Dhaka	518951	101	667406	140	610181	221	606782	172	606302	165	654172	46	770972	180
Khulna	349735	56	528556	60	455683	82	401339	98	428502	81	413268	32	445631	37
Rajshahi	412531	65	519503	121	528211	285	474848	382	441132	247	349203	49	461969	88
Sylhet	213207	100	251296	96	209156	168	198650	119	144467	27	152425	23	178094	79
Total	1857464	521	2498845	732	2196919	1032	2132434	1067	2040927	694	1961850	239	2335326	537

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

Division-wise case fatality rate of diarrhea in Bangladesh (2001-2007)

Division	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
Barisal	0.13	0.10	0.08	0.11	0.08	0.02	0.02
Chittagong	0.05	0.06	0.07	0.06	0.04	0.02	0.03
Dhaka	0.02	0.02	0.04	0.03	0.03	0.01	0.02
Khulna	0.02	0.01	0.02	0.02	0.02	0.01	0.01
Rajshahi	0.02	0.02	0.05	0.08	0.06	0.01	0.02
Sylhet	0.05	0.04	0.08	0.06	0.02	0.02	0.04
Average	0.03	0.03	0.05	0.05	0.03	0.01	0.02

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

HIV/AIDS

The prevalence of HIV/AIDS in Bangladesh is low in comparison to other neighboring countries. But risks prevail, which include high prevalence in neighboring countries, mobility of travellers between countries, lack of awareness of HIV infections, existence of commercial sex and male homosexuality, high prevalence of sexually transmitted

infections among the commercial sex workers, rising rate of HIV career among intravenous drugs users, low condom use among the commercial sex clients, etc. However, religious and cultural values and family bondage of the society are strong positive factors which help in the control of HIV/AIDS transmission in the country. HIV/AIDS

Year-wise number of HIV cases detected in Bangladesh (1989-2008)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Male	1	2	4	2	10	9	9	23	17	11	16	23	-	-	-	-	-	-	-
Female	0	0	2	0	2	4	1	6	2	1	4	8	-	-	-	-	-	-	-
Total	1	2	6	2	12	13	10	29	19	12	20	31	31	60	115	102	193	216	333

Source: NASP, DGHS

Reported HIV/AIDS cases as of June 2008

Cases	Total
HIV Cases	465
AIDS Cases	87
AIDS Death	44

Source: NASP, DGHS

The first case of HIV in the country was detected in 1989. As of December 2007, the number of reported cases of HIV infection is 1,207 and 365 of them developed AIDS. It is estimated that there can be up to 7,500 HIV positive cases in Bangladesh. So far 123 people have died of HIV/AIDS in Bangladesh. In 2007, there were 333 new HIV cases and 125 new AIDS cases. Fourteen persons died of AIDS in 2007. The first case of HIV in the

Distribution of HIV cases by occupation

Occupation	No.	%
Unknown	28	27.45
Unique/ Loyal/ Tokai/ Begging	24	23.52
Services	16	15.69
House Wife	13	12.74
Business (small in type)	11	10.79
Rickshaw Puller	5	4.9
Farmer	3	2.94
Drug Seller/ Injection Pusher	2	1.97
Total	102	100.0

Source: NASP, DGHS

Expanded and continuing coverage of targeted population

Group	Estimated Size (lower estimate)	Coverage 2007	%Coverage
Injecting drug users	20,000	10,082	51.0
Heroin smokers	-	28,259	-
Brothel sex workers	3,600	3,817	100.0
Street sex workers	37,000	6,708	18.0
Hotels/residence sex workers	14,000	12,740	90.0
Men buying sex (from male/females)	1,882,080	100,559	5.3
MSM /MSW	40,000	6,175	15.0
Transgender	10,000	1,000	10.0

Source: NASP, DGHS

Compraison of needle/syringe sharing among injecting drugs users between 2004 and 2007

Indicator	Baseline 2004 (5th Sero & Behavioural Surveillance)	Achievement 2007 (7th Sero & 6th Behavioural Surveillance)	P value
% Injecting drug users who shared needle/ syringe last time in last 2 months			
Dhaka	90.2	60.4	<0.001
Rajshahi	21.9	56.6	<0.001
Chapinawabganj	74.2	78.6	NS
Chandpur	63.8	64.1	NS
% Sex workers who used condom during last sex with new client			
Brothel	39.7	70.2	<0.001
Street	13.5 – 37.7	50.9 – 81.2	<0.001
Hotel	29.7 – 37.5	36.3 – 39.9	

Source: NASP, DGHS

Compraison of active syphilis and HIV among sex workers and injecting drug users between 2004 and 2007

Prevalence (%) of active syphilis among sex workers			
Female	Brothel	3.2 - 12.2	0.4 – 6.3
	Street	1.5 – 11.9	7.0-10.1
	Hotel	4.3 – 5.4	4.2-8.3
Male	MSW	6.2	4.9
Prevalence (%) of HIV among sex workers			
Female	Brothel	0.0 – 0.6	0.2 – 0.7
	Street	0.0 – 0.2	0.0 – 0.3
	Hotel	0.5 – 1.6	0.0
Male	MSW	0.0	0.7
Prevalence (%) of HIV among injecting drug users			
Central Dhaka		4.0	7.0
Others		0.0	0.0 – 1.8

Source: NASP, DGHS

Avian Influenza (Bird flu)

Avian Influenza or "Bird flu" is a contagious disease of animals caused by viruses that normally infect only birds and less commonly pigs. Avian influenza viruses are highly species-specific, but on rare occasions

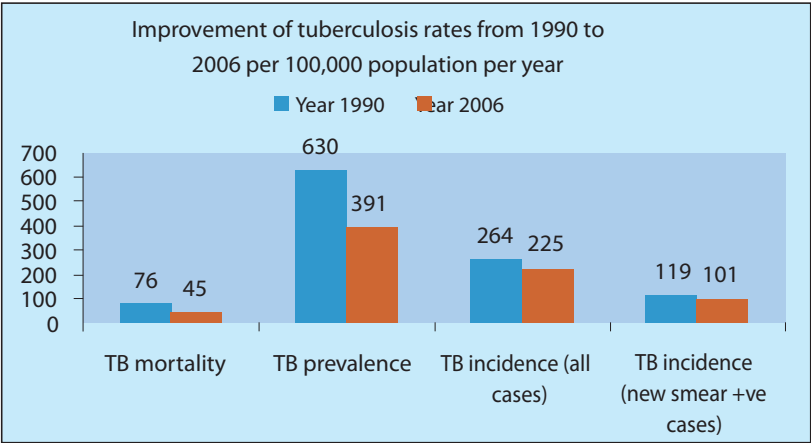
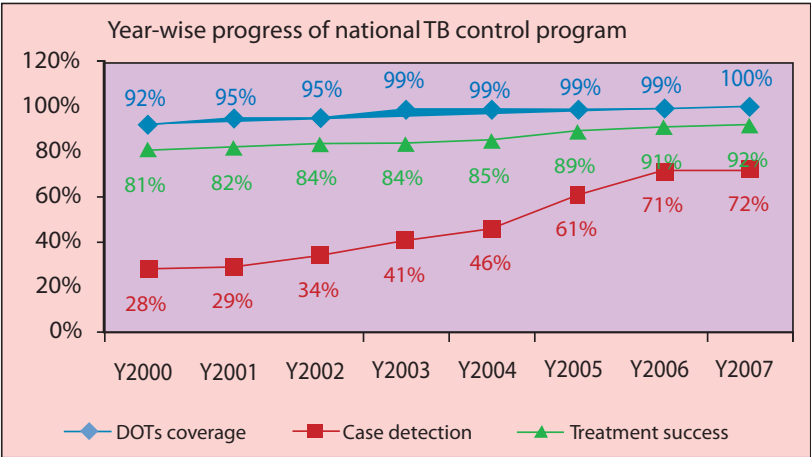
cross the species barrier to infect humans. It spreads very rapidly though poultry flocks, causes disease affecting multiple internal organs, and has a morality that can approach 100% often within 48 hours. The disease is first identified in Italy in 1878. In Asia,

Avian Influenza caused by H5N1 was initially recognized in Hong Kong in 1997. H5N1 Avian Influenza resurfaced in December 2003 initially in South Korea, with additional outbreaks reported in January 2004 in Vietnam, Japan, Thailand, Cambodia and China. Despite extensive control efforts, new outbreaks of H5N1 Avian Influenza continued to be reported. In 2007, Bangladesh witnessed affection of poultry population by Avian Influenza. So far one Avian Influenza case has been identified in the country but the person is still surviving.

Tuberculosis

Every year more than 300,000 people develop active TB in Bangladesh; nearly 50% of them have infectious pulmonary disease and can spread the infection to

others. Introduction of DOTs strategy (since 1993) has already reduced the number of deaths, but about 65,000 people continue to die every year from this disease. Now DOTs is available all over the country. The program has successfully treated over 92% of the new smear-positive cases registered in 2006 and has detected over 72% of the estimated new smear-positive cases in 2007. The overall goal of TB control is to reduce morbidity, mortality and transmission of TB until it is no longer a public health problem. The global target for national TB control program is to reach and thereafter sustain the global targets of achieving at least 70% case detection and 85% treatment success among smear-positive TB cases under DOTs.

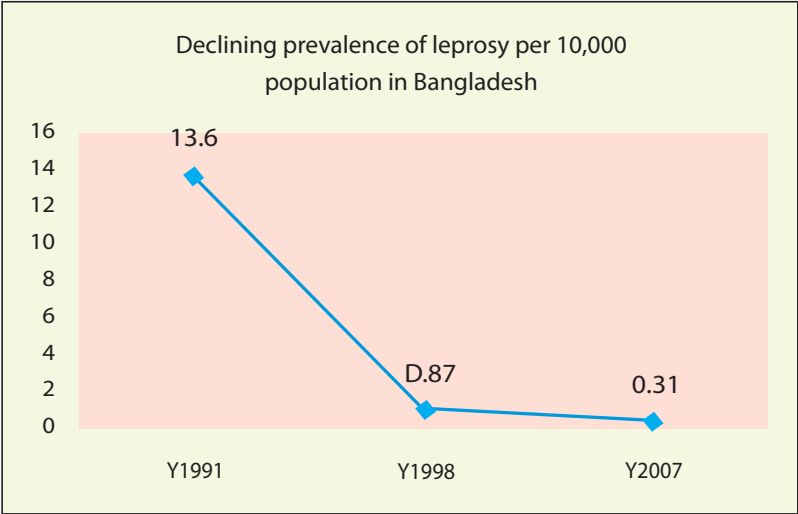


Leprosy

In 1991, Bangladesh was estimated to have 136,000 leprosy cases, giving a prevalence of 13.6 cases per 10,000 populations. By the end of December 1998, the registered prevalence came down for the first time to <1 case per 10,000 population. The registered prevalence is gradually declining each year and has reached at 0.31 per 10,000 populations by the end of 2007. While 60 districts acheived the target, still 4 districts including Dhaka

metropolitan area shows prevalence of >1 per 10,000 populations. The 4 districts are Nilphamari, Gaibandha, Khagrachari and Bandarban.

Leprosy elimination needs to further boost its effort in the reduction of grade 2 disability rates among newly detected cases, which is currently about 10.4% by the end of 2007. In 1993, it was 21.4%. This should be reduced to <5%.Leprosy



Safe Blood Transfusion

In the world more than 500,000 (0.5 million) women die needlessly during pregnancy, labor and postpartum period every year and 99% of them die in the developing countries. Among the persons who die due to loss of blood in developing countries, about 25% could be prevented from death through safe blood transfusion in time. When some become victims of road traffic accidents or undergo major surgery, they may need blood transfusion.

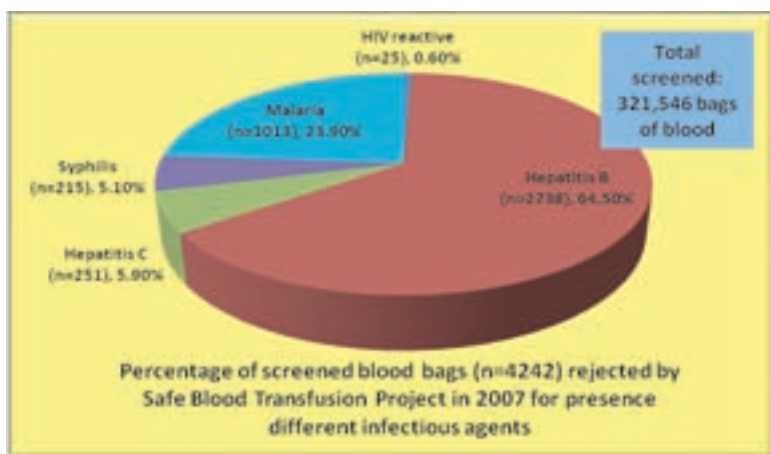
It is estimated that in Bangladesh roughly 0.4 million bags of blood are required annually. Patients' family members, relatives, friends and acquaintances donate 65% of the blood. Twenty five percent come from voluntary donors. In 2000, a Safe Blood Transfusion Program (SBTP) was started in Bangladesh to ensure collection of blood not from commercial blood sellers and for compulsory

screening of blood for 5 blood-borne diseases viz. HIV/AIDS, hepatitis-B, hepatitis-C, syphilis and malaria before transfusion of blood. SBTP has 114 safe blood transfusion centers.

No. of SBTP centers (2007 and 2008)

Location of center	Year 2007	Year 2008
Medical College Hospitals	13	14
Specialized Hospitals	5	8
Other Hospitals	53	59
Combined Military Hospital	13	14
Other Government and Non-Government Hospitals	11	11
BDR, Red Crescent, BIRDEM, Thalassimia Center	4	8
Total	99	114

In 2007, SBTP screened 321,546 bags of blood and rejected 4,242 bags of blood due to presence of infectious disease agents. In the world more than 500,000 (0.5 million)



There are few philanthropic organizations which promote the cause of voluntary blood donation in the country. Sandhani, a well-known medical and dental students' organization in the country pioneered the voluntary blood donation movement in 1978. Since then the organization made

significant contributions towards motivation of people for voluntary blood donation and safe blood transfusion. Later, other organizations also join in the efforts. These organizations are Bangladesh Red Crescent Society, Quantum and Badhan. There are few philanthropic organizations which promote

Year-wise collection of safe blood by
philanthropic organizations

Year	Sandhani	Red Crescent	Quantum	Badhan	Total
2001	43,702	19,300	1,781	8,785	73,568
2002	34,125	22,470	5,295	11,030	72,920
2003	35,223	22,810	6,720	13,000	77,753
2004	37,426	23,195	10,431	10,300	81,352
2005	38,989	24,842	15,063	17,000	95,894
2006	40,306	27,486	22,635	21,166	111,593
2007	29312	14612	33712	28000	107643
Total	259,083	154,715	95,637	109,281	620,723

In Bangladesh, there is a "Safe Blood Transfusion Law 2002" enacted by the

National Parliament. Under this Act, there is regulations called "Safe blood transfusion regulations 2008" published in 17 June 2008. The regulations say that without taking license from a licensing authority no person, organization or institution will be allowed to establish and run a private blood bank. The prerequisites for establishing a blood transfusion center: physical infrastructure, viz. specialist doctor, medical officer, staff nurse, technical supervisor, councilor, necessary equipment as per regulations, necessary furniture and reagents.In Bangladesh, there is a "Safe Blood

Non-communicable Diseases

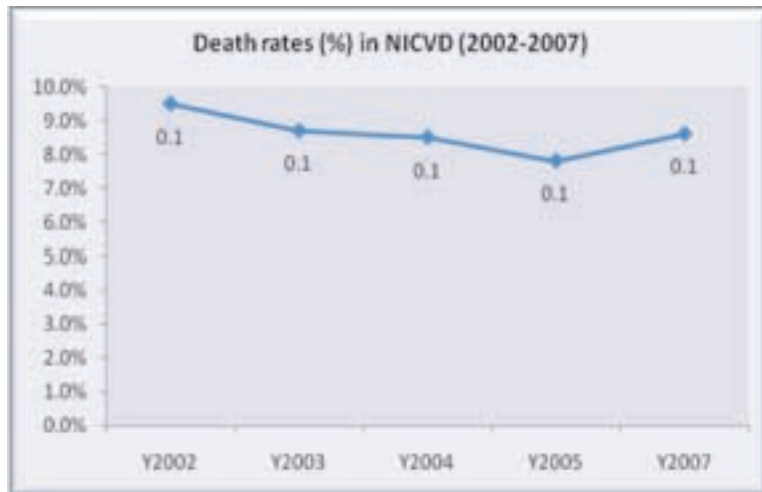
Bangladesh is moving towards a transitional economy with a two-edge sword in disease pattern - the so called double burden of diseases. While the communicable disease is still a huge burden in a complexity of emerging and reemerging diseases, chronic non-communicable diseases (NCDs) of the affluent society are also showing increasing prevalence. Other conditions like injuries especially road traffic injuries are increasing

keeping pace with development of economy. Other tropical conditions such as snake bites are also prevailing. Data from some of the key institutions dealing with chronic non-communicable diseases are presented here. This overview will give an indirect impression about the patient load of NCDs in the country. Bangladesh is moving towards a transitional economy with a two-edge sword in disease pattern - the so called double

Statistics of National Institute of Cardiovascular Diseases (NICVD) 2007

Year	Admission Total	Outdoor patients (No.)				Average daily admission (No.)	Average daily OPD patients (No.)	Average length of stay (d)	Bed occupancy rate%
		Male	Female	Child	Total				
2002	17081	52740	29532	4674	86944	47	238	6.91	129.63
2003	20083	54550	31939	5150	91639	55	251	7.07	157.76
2004	21522	56482	31250	4857	92589	59	253	6.90	164.03
2005	22419	59950	34608	5497	100055	62	274	6.46	160.39
2006	24376	61565	34861	6060	102486	67	281	6.47	175.80
2007	29147	76732	41792	7417	125941	80	345	5.48	174.80

Note: Sanctioned bed 2002-2005: 250; Sanctioned bed 2006-2007: 414



Number of ETT performed at NICVD by year

Year	Male	Female	Total
2001	210	24	234
2002	454	55	509
2003	731	102	833
2004	828	167	995
2005	823	180	1003

Source: NICVD, Sher-e-Bangla Nagar, Dhaka

Cath Lab procedures done at NICVD by year (2001-2005)

Year	CAG	Cardiac cath			Renal Angiogram	Peripheral Angiogram	Interventional Procedure			Total
		Ped	Adult	Total			PCI	PTMC	Others	
2001	995	146	104	250	4	116	163	74	4	1654
2002	1378	111	95	206	6	97	228	92	11	2018
2003	2827	144	164	308	13	42	371	189	12	3762
2004	3210	55	170	225	69	93	599	273	13	4482
2005	2780	62	155	217	6	85	488	295	11	4109
Total	11190	518	688	1206	98	433	1849	923	51	16025

Cath Lab procedures done at NICVD by year (2006-2007)

Year	Interventional procedures											Cardiac Cath	Other	Total
	CAG	PCI	Device closure	Angiography		Angioplasty		PTMC	TPM	PPM	EPS			
				Renal	Peri- pheral	Renal	Peri- pheral							
2006	3105	584	1	-	106	-	7	280	675	321	161	229	4	5473
2007	3266	574	-	-	87	-	43	20	850	359	204	295	-	5698
Total	6371	1158	7529	-	193	-	50	300	1525	680	365	524	4	11171

Source: NICVD, Sher-e-Bangla Nagar, Dhaka

Open and closed heart and vascular surgeries performed at NICVD by year

Year	Open Heart Surgery					Closed Heart Surgery	Vascular Surgery
	CABG	Valve	Congenital	Other	Total		
2001	60	134	133	3	330	157	-
2002	112	89	210	4	415	151	-
2003	170	142	162	22	496	140	-
2004	180	159	205	17	561	95	-
2005	267	102	237	20	626	93	-
2006	226	113	255	28	622	70	500
2007	188	165	256	46	655	58	568
Total	1203	904	1458	140	3705	764	1068

Source: NICVD, Sher-e-Bangla Nagar, Dhaka

Diabetes

Diabetic Association of Bangladesh (DAB) provides comprehensive health care to a vast number of diabetic patients all over the country. DAB executes this program primarily through its central institute, Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) and many other hospitals and

centers spread all over the country. BIRDEM has the largest diabetic out-patients turnover in the world under a single roof. The institute has about 800-bed indoor with all modern disciplines of medicine. The indoor and outdoor facilities go a long way in meeting the ever increasing demand of the diabetic as well as non-diabetic patients. Diabetes

Number of diabetic patients seen in BIRDEM OPD by Fiscal Year

Patients	2001-2002	2002-2003	2003-2004	2004-2005	2005-06	2006-07
New Patients	20603	20883	21462	22324	22559	22363
Old Patients	249587	270190	291073	312535	334859	357418
Total	270190	291073	312535	334859	357418	379781

Source: BIRDEM, Shahbagh, Dhaka

Discipline-wise number of patients attending different specialized OPDs of BIRDEM

Year	Endocrinology	Cardiology	Surgery	Ophthalmology	Obstetrics Gynecology	Dentistry	Skin diseases	Total
2003-2004	16096	20654	1015	69426	24192	19047	18833	169263
2004-2005	18298	23142	1103	69783	26631	21359	20326	180642
2005-2006	21269	29884	24023	69329	25979	24154	24755	219393
2006-2007	20977	28454	19110	75355	25760	20738	21704	212098

Year	Pulmonology	Pediatrics	Pediatric Endocrinology	Pediatric Neurology	ENT	Total
2006-2007	20977	28454	19110	75355	25760	169656

Source: Annual Report of Diabetic Association of Bangladesh (2003-2006)

Distribution of diabetic patients registered by BIRDEM

Fiscal Year	No. of registered diabetic patients		
	Male	Female	Total
2003-2004	113982	88212	202194
2004-2005	115427	94542	209969
2005-2006	125149	116007	241156
2006-2007	82420	91777	174197

Source: BIRDEM, Shahbagh, Dhaka; Note: Reports were collected from 52 of diabetic affiliated institution

Cancer

Clinicians and epidemiologists who deal with carcinoma of any kind in Bangladesh estimate that a large number of people of the country are suffering from cancer. Annual mortality from cancer is claimed to be 150,000 lives. Every year over 200,000

new cancer patients are detected. The National Institute of Cancer Research and Hospital (NICRH) is the focal point for cancer related hospital services and programs. This bulletin shows some cancer related data provided by NICRH. Cancer

Cancer patients treated at NICRH

Year	Cancer patients attending OPD					Cancer patients admitted				
	Total No.	Male		Female		Total	Male		Female	
		No.	%	No.	%		No.	%	No.	%
2001	6001	3481	58.0	2520	42.0	3485	2226	63.9	1259	36.1
2002	7570	4383	57.9	3187	41.9	4208	2659	63.2	1549	36.8
2003	7203	4069	56.5	3134	43.5	5656	3357	59.4	2299	40.6
2004	5777	3331	57.7	2446	42.3	4854	2933	60.4	1921	39.4
2005	7516	4359	58.0	3157	42.0	5411	3136	58.0	2275	42.0
2006	7790	4643	59.6	3147	40.4	6492	3824	58.9	2668	41.1
2007	9541	5438	56.9	4103	43.1	6926	3937	56.8	2989	43.2

Source: Cancer Institute, Mohakhali, Dhaka

Distribution of cancers by primary site (out of the patients attending NICRH)

Primary site	Frequency	Percent
Lip, oral cavity, pharynx	755	10.9
Digestive organ	1442	20.8
Respiratory system and intra-thoracic organs	1535	22.2
Hematopoietic and reticulo-endothelial system	34	0.5
Peripheral nerve and autonomic nervous system	2	0.0
Retroperitoneal and peritoneum	13	0.2
Connective, subcutaneous and other soft tissue	63	0.9
Female genital organs	836	12.1
Breast	881	12.7
Male genital organs	147	2.1
Urinary tract	153	2.2
Thyroid and other endocrine glands	57	0.8
Other ill-defined sites	50	0.7
Unknown primary site	94	1.4
Lymph nodes	577	8.3
Bones, joints and articular cartilage	70	1.0
Skin	72	1.0
Eye, brain and other parts of CNS	145	2.1
Total :	6926	100.0

Source: Cancer Institute, Mohakhali, Dhaka

Distribution of malignancies by sex (2007)

Site	Male		Female	
	No.	%	No.	%
Lungs	1082	71.2	162	7.5
Cervix	-	-	579	26.9
Breast	10	0.7	857	39.7
Lymph node and Lymphatic	417	27.4	164	7.6
Larynx	155	10.2	8	0.4
Esophagus	281	18.5	123	5.7
Liver	164	10.8	65	3.0
Tongue	155	10.2	60	2.8
Rectum	103	6.8	43	2.0
Stomach	235	15.5	95	4.4
Total	1520	100.0	2156	100.0

Source: Hospital Cancer Registry, NICRH

Distribution of Cancer Research & Hospital cancer patients by age-group (2007)

Age-group (year)	No. of cancer patients	%
0-9	107	1.5
10-19	181	2.6
20-29	469	6.8
30-39	970	14.0
40-49	1531	22.1
50-59	1575	22.7
60-69	1262	18.2
70+	831	12.0
Total	6926	100.0

Method of diagnosis (all sites)

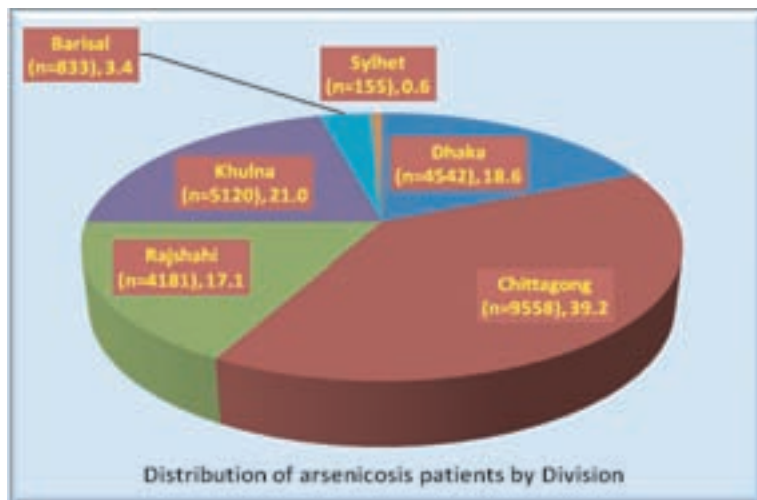
Method	Frequency	Percent
Histopathology	3838	55.4
Cytopathology	2540	36.7
X-ray and other imaging	332	4.8
Clinical	216	3.1
Total	6926	100.0

Source: Cancer Institute, Mohakhali, Dhaka

Arsenicosis

Arsenicosis through drinking of tube well water is being seen in Bangladesh for the last few years. It was first detected in 1994 in Chapai Nawabganj, a northern district of Bangladesh. Distribution and intensification of arsenic contamination of the ground water in this country is related more to the geological than to depth matter. The arsenic distribution map (BGS and DPHE 2001)

shows that greater concentration of the problem lies in the deltaic and floodplain areas of the country; whereas the late Pleistocene and older sediment covered areas are not affected. Unfortunately, when most of the people have developed the habit of drinking ground water from tube-wells, arsenic has been detected in unacceptable concentrations in tube well water of 61 out of 64 districts of Bangladesh. Arsenicosis



Different surveys have indicated that about 30% of the tube-wells nation-wide are affected. In severely affected areas over 50% of the screened tube-well water have shown contamination by arsenic. Some hot spots show contamination of tube well water by 85-98%. In such areas, availability of arsenic safe drinking water source is now a burning problem. Bangladesh has set the national standard of arsenic concentration in drinking water at 0.05 mg/liter. The present WHO provisional guideline value for arsenic in

drinking water is 0.01 mg/liter.

Injury Surveillance System (ISS): A pilot

Centre for Injury Prevention and Research, Bangladesh (CIPRB), located at DOHS, Mohakhali, Dhaka conducts an injury surveillance system for prevention of child injuries through social-intervention and education (PRECISE) in the community since January 2006. The project is being carried out with Different surveys have

assistance from the MOHFW, UNICEF and TASC (Alliance for Safe Children). A survey titled "Bangladesh Health and Injury Survey (BHIS)" has showed that injury is the largest killer of Bangladeshi children between 1 and 17 years causing >30,000 children to die every year in addition to crippling many with permanent disabilities. ISS tracks the trends of various child injuries over time; monitors the activities outlined for injury tracking and prevention; and evaluates the effectiveness of the program. The program includes 126,812 households in three upazilas, namely Raigonj (40,312 households), Sherpur (45,141 households) and Monohardi (41,359 households) under Narsingdi district. The total beneficiaries are 560,193 of all ages. Each upazila has been divided into 30 blocks each block consisting of around 1,000 to 1,500 households. It is an active surveillance program under which trained staffs visit every household at least once a month. Based on identification number for each household, they collect demographic and socio-economic information, and information on birth and death, marriage, migration, illness, injury death, injury illness, and knowledge and practice.

The surveillance data (a) provide quantitative estimates of morbidity and mortality due to injury and thereby serve to quantify the health and financial burdens of injuries in the surveillance areas; (b) help characterize affected individuals and those at the greatest risk through demographic and socioeconomic information on individuals, groups and

living areas; (c) contribute to identification of possible risk factors and determinants and thereby stimulate epidemiological research; (d) describe trends of various injuries in the surveillance areas. The experience of this program can be useful for introduction of demographic surveillance system in the community.

Patients Statistics of National Institute of Traumatology, Orthopedics and Rehabilitation (NITOR)

The patient statistics of NITOR can give an impression of road traffic accidents and other injuries taken place in Bangladesh. Information on number of patients attending out-patient department, admitted and surgeries performed could be made available from NITOR. These figures can not necessarily tell how many of the patients were of road traffic or other injuries. The data available are shown below:

Patient statistics of NITOR 2007

Year	OPD	Admission	Surgeries including day surgeries
2000	57748	11591	13422
2001	96979	13089	17882
2002	107250	14296	18337
2003	108299	15729	18898
2004	108941	16068	19406
2005	114650	16955	21660
2006	117795	17331	22300
2007	130386	19631	41817
2008 as of June	94132	10731	13609

Nutrition

Data from Child Nutrition Surveys (CNS) 1995 and 2000, Child and Mother Nutrition Survey (CMNS) 2005 and UNICEF 2008 (State of the World Children 2008) are presented below to portray the current nutritional status of the children in Bangladesh.

Prevalence (%) of malnourished <5 years children in Bangladesh

Year	Residence	Underweight	Stunted	Wasted
1995	Urban	46.3	42.9%	13.3%
	Rural	59.3%	52.8%	17.2%
	National	57.4%	51.4%	16.6%
2000	Urban	41.8%	37.5%	10.9%
	Rural	52.6%	50.2%	12.2%
	National	51.0%	48.3%	12.0%
2005	Urban	38.5%	32.5%	10.8%
	Rural	50.0%	44.9%	13.1%
	National	47.8%	42.4%	12.7%
2000 2006*	National	48.0%	43.0%	13.0%

Source: CNS 1995-2000; CMNS 2005; *UNICEF 2008

The National Low Birth Weight Survey of Bangladesh 2003-2004 provides data on percentage of low birth weight newborns in sex and urban-rural disaggregation. Prevalence of low birth weight newborns are more among the girls than among the boys both in rural as well as in urban areas. More rural newborns show low birth weight than urban newborns.

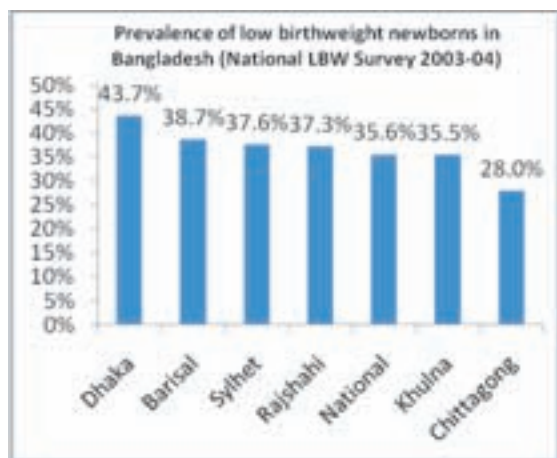
Prevalence (%) of low birth weight newborns

Sex	Rural	Urban	National
All	36.7%	29.0%	35.6%
Girl	38.8%	31.4%	37.9%
Boy	34.4%	26.6%	33.3%

Source: National Low Birth Weight Survey of Bangladesh 2003-2004

The division-wise distribution of rural newborns shows that Dhaka division has the highest prevalence of low birth weight

newborns and the Chittagong division has the lowest prevalence. The prevalence of low birth weight newborns in other divisions is in intermediate levels.



The Child and Mother Nutrition Survey 2005 also collected data on non-pregnant adult mothers. Body mass index (BMI) was calculated and graded using Asian BMI criteria. Results are presented below:

Nutritional status	BMI (kg/m ²)	Rural %	Urban %	National %
Grade III CED	<16	4.1	2.0	3.7
Grade II CED	16 to 16.9	8.1	4.6	7.4
Grade I CED	17 to 18.4	23.0	14.4	21.2
Total	<18	35.2	21.0	32.2
Normal	18.5 to 22.9	52.1	47.0	51.1
Overweight	23 to 27.4	10.6	23.5	13.3
Obese	>27	2.1	8.5	3.4
Total	>23	12.7	32.0	16.7

Note: CED (Chronic Energy Deficiency);

Source: Child and Mother Nutrition Survey 2005

Institute of Public Health Nutrition

Institute of Public Health Nutrition (IPH) is the focal institution for carrying out nutrition-related activities for Directorate General of Health Services. The institute is implementing number of activities intended

intended for the improvement of the nutritional status of the people particularly of the mothers and <5 year children.

IPHN tries to improve following indices of nutrition:

- i. Vitamin A deficiency disorders (VAD): % of night blindness among children and women of child bearing age (WCBA);
- ii. Iodine deficiency disorder (IDD): Urinary iodide excretion rate;
- iii. Iron deficiency anemia (IDA): % of anemia among WCBA and under 5 year children;
- iv. Infant and young child feeding (IYCF): % of children consuming colostrums; % of children under exclusive breast feeding;
- v. Weight for age Z score (WAZ): % of children under weight;
- vi. Behavior change communication (BCC): % of population under direct contact of BCC activities.

Nutritional Blindness Prevention Program (NBPP)

Children under 1 year: High potency vitamin A capsules (100,000 international units) are supplemented during measles vaccination at EPI site.

Children 1 to 5 year: High potency vitamin A capsules (200,000 international units) are supplemented through two national events at 4 to 6 months Intervals every year.

Mothers: High potency vitamin A capsules (200,000 international units) are supplemented during postpartum period within 6 weeks of child birth.

Rate of night blindness has been reduced from 3.76% (1983) to 0.04% (2005). Vitamin A capsule distribution coverage rate among 1 to 5 year age children has been increased to 99.7% (10 May 2008). De-worming tablet distribution (Tablet

Albendazole) rate has been reached to 99.3% (10 May 2008). Postpartum coverage of vitamin A capsules has been raised to 29% (2006). Seminar with prominent obstetricians and gynecologists of the country was arranged. They committed to advice vitamin A during antenatal checkups and according to their decisions a guideline was sent to different hospitals to increase coverage. Vitamin A coverage for >1 year children has been raised to 73% (2006).

Reduction in the incidence of iodine deficiency disorders (IDD)

The program includes iodized salt monitoring and awareness creation activities; training of field workers of health and family planning on control of iodine deficiency disorder (CIDD); training for testing iodized salt, and surveillance of salt for iodization.

Status of nutritional blindness prevention program

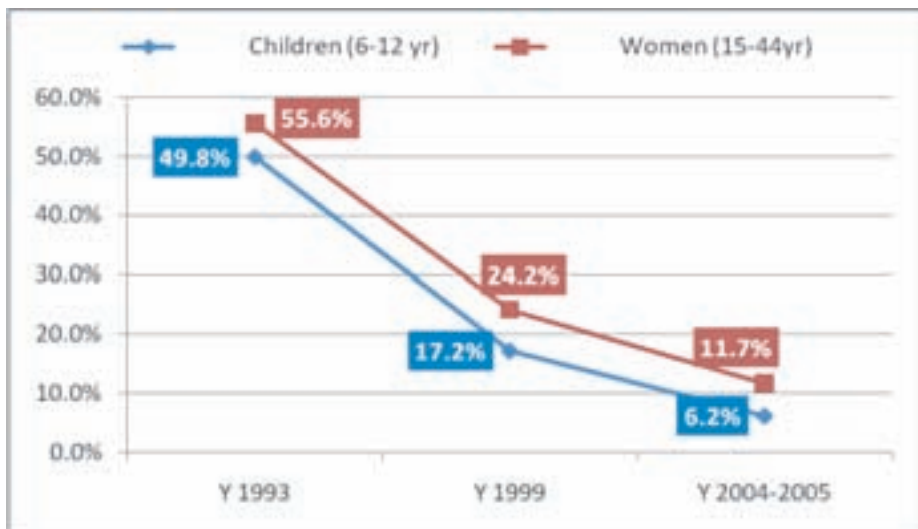
Night blindness prevalence (2005)	0.04%
Vitamin A capsule coverage among 1-5 year children (May 2008)	99.7%
Vitamin A capsule coverage among postpartum mothers (2006)	29.0%
De-worming (Tab. Albendazole) distribution rate (May 2008)	99.3%

Survey shows that iodized salt users are now 84% (UNICEF 2006). Universal salt iodization (USI) law was distributed to health inspectors and sanitary inspectors of 57 districts. Universal salt iodization law is currently being updated and draft copy was sent to ministry for approval.

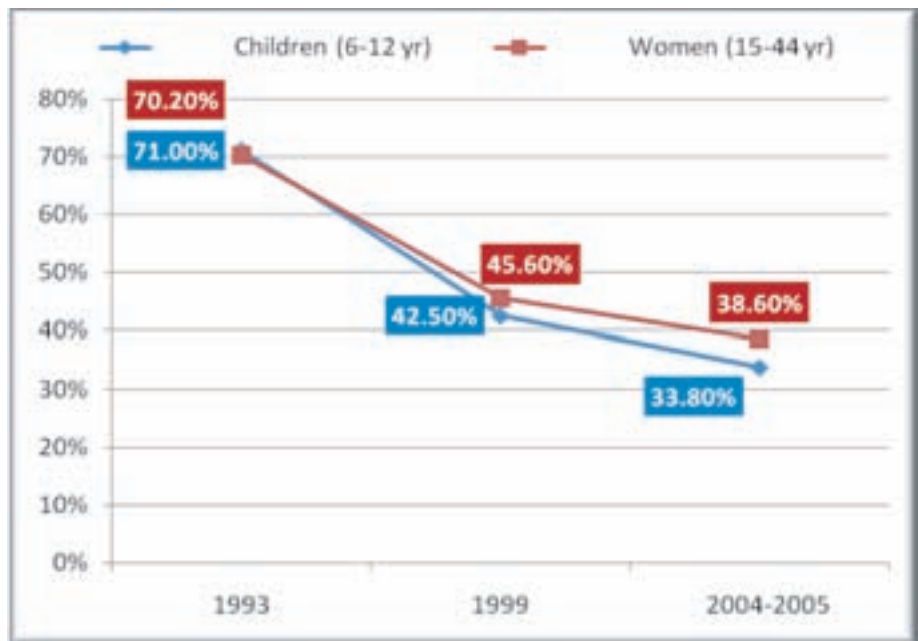
Reduction of Protein Energy Malnutrition (PEM) by training program

This program includes awareness program for PEM control; growth monitoring of 1 to 3 year old children; and communication on weaning. A national guideline for severe PEM is in process of publication.

Prevalence of goiter in Bangladesh (1993-2005)



Prevalence of biochemical iodine deficiency in Bangladesh (1993-2005)



Reduction of incidence of iron deficiency anemia

This program includes awareness creation activities to control anemia and parasitic diseases; implementation of strategy to address the major causes of the malnutrition and anemia including iron-folate supplementation, longtime food fortification and implementation.

Prevalence of anemia in Bangladesh

Population group	Prevalence (%)
Pres-school aged children	49%
Pregnant women	46%
Non pregnant women	33%
Adolescents in country	23-29%
Adolescent in the Chittagong Hill Tracts	43%

Infant and Young Child Feeding (IYCF)

This program opts promotion and protection of breast feeding through proper implementation of Breast Milk Substitute (BMS) code and proper child weaning practice.

Strengthening laboratory activities

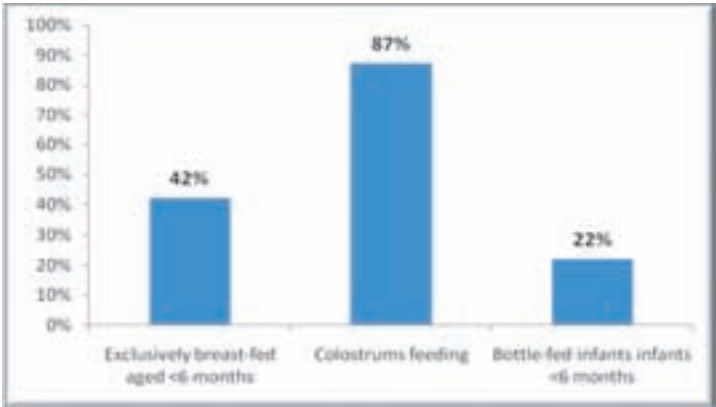
The purpose of this activity is to develop the effective laboratory facilities of food and biochemical aspects of nutrition and to introduce serological tests for nutrition related diseases. IPHN is running its child nutrition units (CNU) to full strength. All laboratory tests for identifying nutritional

status of children and mothers are routinely done at IPHN laboratory. Iodine content of salt is also routinely tested.

Nutrition survey

To assess the nutritional situation, surveys are now being carried out in selected districts. The survey will find answers to questions like impact of price hike on household food security, food quality and nutritional status of poor women and children in Bangladesh. Recently a survey was done among 164 families in Bangalipoor union of Sayedpur upazila under Nilphamari district.[Infant and Young Child Feeding \(IYCF\)](#)

Infant and young child feeding (IYCF) practice in Bangladesh



Child Nutrition Unit (CNU)

The Institute of Public Health Nutrition is running 20 Child Nutrition Units, one located at IPHN and the others in 19 upazila health complexes. The program has provided one nutritionist to each center. The overall aim is to improve the nutritional status of the under-5 children and mothers of the country. The CNU provides services like growth monitoring; supplementation; complementary feeding; nutrition corner for mothers' education on nutrition; breast

feeding corner; treatment of malnutrition and associated problem; referral center; and demonstration of home gardening. IPHN has taken steps to revitalize and provide more functional support to CNU. In last 6 months, 500 malnourished or undernourished mothers and children were managed from the CNU. Among the treated children, 229 were moderately malnourished and 4 (1.8%) were severely malnourished.[Child Nutrition Unit \(CNU\)](#)

The Institute of Public Health Nutrition is

National Eye Care

The Government of Bangladesh has identified blindness as a critical social and health problem and demonstrated its commitment by forming a National apex body titled Bangladesh National Council for the Blind in the year 1978 with a mandate to formulate, facilitate and monitor the National Plan of Action to prevent and control blindness. Besides, the Government of Bangladesh has ratified the Vision 2020 program (innovative approach initiated by WHO, IAPB, professional bodies and civil societies to prevent avoidable blindness from the globe).

Avoidable Blindness is one the major public health problems in Bangladesh. According to recently conducted national blindness and low vision survey, presently about 7.5 lakhs of people aged 30 and above in the country are blind. Besides, about 40 thousand children are also blind. About 5 million people including children suffer from refractive errors while 250,000 adults are victims of low vision. The number of blind population, it is feared, will go double by the year 2020 if no intervention is initiated immediately.

In view of this critical situation, Bangladesh Government, being a signatory to Vision 2020, a global campaign for elimination of avoidable blindness by the year 2020, formulated a National Eye Care Plan under the leadership of the Bangladesh National Council for the Blind, which is an apex body under the Ministry of Health and Family Welfare in consultation with the stakeholders across the country and with supports from International eye NGOs.

Goals of the program

Elimination of Avoidable Blindness by the year 2020

Objectives of the National Eye Care Operational Plan

- To develop / improve eye care infrastructure at secondary and primary level
- To strengthen coordination among GO-NGO and private eye care providers
- To increase in the awareness of mass population on eye care
- To increase country cataract surgical rate through improving skill of ophthalmologists
- To prevent childhood blindness
- To increase affordability of eye care services by the poor patients particularly elderly, women and children through vouchering scheme

Component of the Program

- Strengthening advocacy and coordination
- Policy development and support
- Planning and research
- Infrastructure and facility development
- Supply / repair and maintenance of equipment
- Establishment of structured referral system
- Human resource development
- Performance management

The Government of Bangladesh has identified blindness as a critical social and health problem and demonstrated its commitment by forming a National apex

Achievements in 2007-2008

Indicators	Unit of measurement	Achievement
Output Indicators		
Cataract Surgery for Adult	# of cataract surgery performed /million/ year	1100
Cataract Surgery for Child	# of cataract surgery performed /year	2000
Cataract surgery in district hospital under special package	# of patient provided with IOL surgery facilities at district hospitals	5000
Formation & functioning of National vision 2020 advisory committee	# of committee formed & functioning	01
Formation of vision 2020 district committees	# of district committees formed & functioning	08
Refraction service in district & Upazila level hospital	# of patients provided refraction	40000
Input Indicators		
No. of secondary hospitals (GoB) having IOL facilities	# of district hospitals completion to perform IOL surgery	15
Establish Eye OT & OPD at district hospitals	# of OT & OPD renovated at districts level hospital	10 District hospitals
Establishment of Pediatric Ophthalmic facilities (OT & OPD) at tertiary level hospital	# of tertiary hospitals having Pediatric Ophthalmic facilities	01 Tertiary level hospitals
Supply/replacement of eye equipment at district hospitals	# of DH provided with eye care equipment	6 DH (complete)
MSR support for eye care at district & upazila level	# of DH/ UHC provided MSR support	20 DH
Training of Doctors on micro surgery	# of Micro surgery trained doctors available	30
Mid level eye care personnel developed	# of MLEP providing eye care services	10

Achievements during the period 2007-08

- 20 (twenty) ophthalmologists from different districts have been trained on micro surgery (SICS)
- 1500 primary health care workers have been trained on primary eye care
- Eye care equipment procured, distributed and installed in 10 (ten) districts
- One TV spot and one Radio spool developed and disseminated
- Vision 2020 district committee formed in 6 (six) districts e.g., Chapai Nawabganj, Nilphamari, B.Barua, Satkhira, Cox's Bazar and Narayanganj
- MSR support to district hospitals: Brahmonbaria, Satkhira, Narayanganj, Sariatpur, Madaripur, Bhola, Rajbari, Chandpur, Munshiganj, Netrokona, Pirojpur by GOB (Manikganj, Chapai Nawabganj, Nilphamari, Noakhali, Jenaidah, Jhalokhati, Dinajpur) by NGOs
- Vouchering scheme for IOL (cash support to poor patients) surgery in district of Manikganj sustained
- Printing of 3,000 copies of treatment protocol
- Printing of 5,000 copies of training module for PHC workers
- Editing and reprinting of 3,000 copies of National Eye Care Plan
- Development, sharing and introduction of monthly and annual reporting formats for strengthening of MIS eye health.

Emergency Preparedness & Response (EPR)

Bangladesh is a land of frequent natural calamities. Flood, cyclones, tornadoes, etc. are common and almost yearly picture of Bangladesh. Cyclone SIDR was the most disastrous natural calamity in Bangladesh that left a historical impact in the overall global perspective. This cyclone caused loss of thousands of human and animal lives and loss of homes, trees and other household resources. During such disasters health situation deteriorates in the affected areas. The most important reason is scarcity of safe drinking water. Disruption of sanitary conditions, scarcity of food and living in shelter camps are reasons of diseases from which people commonly suffer. Other reasons of suffering are drowning and snake bites. Therefore, the most frequently occurring diseases in the affected areas that are seen, sometimes in the epidemic proportion are diarrhea, gastroenteritis, enteric fever, acute respiratory tract infections, scabies, etc. Other conditions as mentioned above include drowning of young children and snake bites.

The Directorate General of Health Services (DGHS) has acquired the competence of efficient management of any sort of sudden natural calamities with immediate response. Each district of Bangladesh has to keep ready list of medical teams to respond to any moderate to large scale natural calamity. These medical teams are deployed when widespread country-wide flood occurs. In other cases, medical teams from unaffected areas move immediately to the affected areas subject to the instructions of the Director, Disease Control, DGHS.

Division-wise number of medical teams deployed during floods of 2007

Division	No. of districts	No. of medical teams
Dhaka	17	1682
Chittagong	11	1189
Barisal	6	406
Rajshahi	16	1455
Khulna	10	781
Sylhet	4	471
Total	64	5984

District-wise number of medical teams of Barisal Division deployed during floods of 2007

Division	District	No. of medical teams
Barisal	Barguna	54
Barisal	Barisal	118
Barisal	Bhola	63
Barisal	Jhalokhati	37
Barisal	Patuakhali	71
Barisal	Pirojpur	63
Total		406

District-wise number of medical teams of Chittagong Division deployed during floods of 2007

Division	District	No. of medical teams
Chittagong	Bandarban	38
Chittagong	Brahmanbaria	129
Chittagong	Chandpur	119
Chittagong	Chittagong	283
Chittagong	Comilla	170
Chittagong	Cox's Bazar	115
Chittagong	Feni	75
Chittagong	Khagrachari	44
Chittagong	Lakshmipur	57
Chittagong	Noakhali	101
Chittagong	Rangamati	58
Total		1189

District-wise number of medical teams of Dhaka Division deployed during floods of 2007

Division	District	No. of medical teams
Dhaka	Dhaka	104
Dhaka	Faridpur	122
Dhaka	Gazipur	55
Dhaka	Gopalganj	83
Dhaka	Jamalpur	77

Division	District	No. of medical teams
Dhaka	Kishoreganj	163
Dhaka	Madaripur	75
Dhaka	Manikganj	89
Dhaka	Munshiganj	90
Dhaka	Mymensingh	159
Dhaka	Narayanganj	92
Dhaka	Narshingdi	100
Dhaka	Netrokona	106
Dhaka	Rajbari	50
Dhaka	Shariatpur	99
Dhaka	Sherpur	91
Dhaka	Tangail	127
Total		1682

District-wise number of medical teams of Khulna Division deployed during floods of 2007

Division	District	No. of medical teams
Khulna	Bagerhat	88
Khulna	Chuadanga	36
Khulna	Jenaidah	98
Khulna	Jessore	113
Khulna	Khulna	116
Khulna	Kushtia	94
Khulna	Magura	52
Khulna	Meherpur	27
Khulna	Narail	41
Khulna	Satkhira	116
Total		781

District-wise number of medical teams of Rajshahi Division deployed during floods of 2007

Division	District	No. of medical teams
Rajshahi	Bogra	123
Rajshahi	Chapai Nowabganj	64

Rajshahi	Dinajpur	170
Rajshahi	Gaibanda	120
Rajshahi	Joypurhat	103
Rajshahi	Kurigram	85
Rajshahi	Lalmonirhat	48
Rajshahi	Naogaon	126
Rajshahi	Natore	60
Rajshahi	Nilphamari	70
Rajshahi	Pabna	101
Rajshahi	Panchagar	49
Rajshahi	Rajshahi	89
Rajshahi	Rangpur	95
Rajshahi	Sirajgonj	92
Rajshahi	Thakurgaon	60
Total		1455

District-wise number of medical teams of Sylhet Division deployed during floods of 2007

Division	District	No. of medical teams
Sylhet	Hobiganj	97
Sylhet	Mowlovi Bazar	97
Sylhet	Sunamganj	130
Sylhet	Sylhet	147
Total		471

Managing the SIDR

In 2007, the coastal areas of Bangladesh experienced the worst hit by Cyclone SIDR. The DGHS immediately deployed hundreds of medical teams to work in the affected area. These medical doctors and teams worked in the affected area from 18 November 2007 to 16 April 2008. Below is a profile of SIDR response by DGHS:

Medical teams and doctors deployed by DGHS for SIDR response (Nov 2007-Apr 2008)

District	No. of affected upazila	No. of affected unions	No. of medical teams	No. of doctors working from before SIDR	No. of additional doctors deployed
Barisal Division					
Barisal	10	85	49	94	9
Patuakhali	7	68	68	63	8
Perojpur	7	51	51	53	6
Bhola	7	62	63	56	7
Barguna	5	38	45	30	6
Jhalokhathi	4	32	10	32	5
Sub -total	40	336	286	328	41
Khulna Division					
Khulna	5	16	11	120	0
Bagerhat	9	78	36	72	12
Satkhira	3	8	8	79	0
Sub -total	17	102	55	271	12
Total	57	438	341	599	53

Morbidities in the affected areas in post-SIDR period (Nov 2007-Apr 2008)

District	Barisal Division						Khulna Division		
	Barisal	Patuakhali	Bhola	Perojpur	Barguna	Jhalokhathi	Khulna	Bagerhat	Satkhira
Minor injuries	215	11202	1377	3665	1532	472	93	8277	87
Deaths from trauma	0	0	0	0	0	0	1	1	0
Diarrhea cases	614	2662	2010	1953	1247	806	370	7133	3741
Deaths from diarrhea	2	0	0	0	0	1	0	1	0
RTI cases	845	3164	614	1398	1611	309	332	6988	2434
Skin diseases	2056	11316	149	4604	4629	169	219	14788	1824
Conjunctivitis	436	2846	46	2089	2366	79	107	4611	2092
Fever/ Enteric fever	2914	11039	318	8135	8895	294	360	20503	1407
Jaundice	16	238	4	43	49	0	9	17	0

Rapid response team for investigating communicable disease outbreak

The health services of Bangladesh has also mechanism for rapid response whenever there is sudden outbreak of communicable disease of any kind or an outbreak of unknown disease or any condition of public health emergencies. The Institute of Epidemiology, Disease Control and Research (IEDCR) is the national focal institute to carry out outbreak investigations by sending rapid response teams to the affected area. There are national, district and upazila level rapid response teams. With this structure, immediate response by a local level team is possible. If preliminary investigation by the local team shows that response from higher

level or expert teams are required, feed backs are immediately sent to upper level including IEDCR to enable specialist team to move to the field quickly. In any case, a report of the outbreak must be sent to IEDCR. This institute has other routine functions, such as, disease surveillance and research related to epidemiology of diseases. Over the past few years, the institute has developed substantial capacity with regard to disease surveillance including HIV/AIDS, Nipah and Avian influenza. The World Health Organization is the regular donor of IEDCR to support and build on the institute's capacity.

Rapid response team for investigating communicable disease outbreak

Health Promotion through Health Education

The achievement of health promotion and health education program of 2007-2008 is given below:

1. Health Education and Promotion Model
Village activities are going on in 128 upazilas
2. Awareness, sensitization and motivation
 - a. Procurement of service (sensitization workshop for the journalist and stakeholder)
 - b. Procurement of service (country wide cluster group education on HEP)
 - c. Procurement of service (school/ hospital/ occupational/ environmental/ community health education)
- d. Health education team traveled by boat, visited different riverine areas of Bangladesh. Disseminated health messages on prevention and control of communicable and non-communicable diseases, maternal and child health care, nutrition and ill effects of smoking followed by magic shows
- e. Mass health education campaign (folk songs) conducted by Bureau of Health Education DGHS in SIDR affected areas in order to prevent emerging health hazards and promote environmental health
- f. Audiovisual equipment, 506 in number, were bought and distributed to 292 upazila health complexes
- g. Distributed TV, DVD and PA sets to 250 upazila health complexes in order to disseminate health messages and conduct hospital health education sessions more effectively
3. Media campaign and transmission of health education and promotion
 - a. TV spots, on different health education issues, altogether 887 numbers, were broadcasted
 - b. Health education and promotion newspaper ads, 900 in number, were given
 - c. Production, distribution and display of IEC materials
 - d. Billboards on communicable and non-communicable diseases
4. Strengthening intersectional and multisectoral coordination and advocacy
5. Health education and promotion need assessment
6. Procured 20 motorcycles and distributed among health promotions supervisory staffs.

The achievement of health promotion and health education program of 2007-2008 is given below:

1. Health Education and Promotion Model

Alternative Medical Care (AMC)

Alternative Medicine popularly known as Unani, Ayurvedic and Homeopathic Medicine has been playing a significant role in the health care delivery system in the developing countries of this region including Bangladesh from time immemorial. A large number of population living in the rural areas in the midst of extreme poverty can hardly afford the expensive diagnostic and treatment facilities of modern medicine. Due to lack of adequate support and patronization from state, the alternative medicine is being practiced currently mostly by unqualified persons. After the National Drug Control Act (1982), Bangladesh Government took different steps for the development of Alternative Medicine. Government Unani and Ayurvedic Degree College was established in 1990. Homeopathic Degree College was also established at about the same time. Both of the colleges are located at Mirpur, Dhaka and are being runned smoothly. The admission criteria and duration of courses for both the colleges are similar to that for the MBBS course. The newly graduated doctors need to complete one year compulsory internship course in the attached 100-bed teaching hospitals. Both of the hospitals provide outdoor and indoor facilities. Graduate doctors are now available to provide services for alternative medical care for the community at large. About six hundred personnel and staffs of alternative medical care work in these institutions. These institutions also have manpower of allopathic medicine.

To grow awareness and explore perception of the people about alternative medical care, a large number of manuals

on traditional medicine have been prepared and distributed. In the district hospitals, 64 support personnel, one in each, have been appointed. There are 467 herbal gardens in the country established under Line Director of Alternative Medical Care, in each of which, there is one appointed gardener.

Personnel and staffs of alternative medical care working under DGHS

Post	No.
Medical officers (unani)	15
Medical officers (ayurvedic)	15
Medical officers (homeopathic)	15
Support staff	64
Gardeners	467
Total=	576
Source: Line Director, Alternative Medical Care, DGHS	

The country has now about 482 companies for manufacturing products of alternative medical care. Their discipline-wise distribution is given below.

Manufacturing companies for alternative medical care products

Manufacturing companies for alternative medical care products	No. (approx.)
Unani	261
Ayurvedic	161
Homeopathic	60
Total=	482
Source: Line Director, Alternative Medical Care, DGHS	

It is learnt from Line Director, AMC that 16 orientation workshops for AMC health personnel were conducted in 2007-2008. During the same year, one medical officer was sent for foreign fellowship on AMC; 22 billboards were erected in 22 district hospitals; posters, stickers, audio-video

CDs, etc. were also distributed at different districts and upazilas; the herbal gardens, 64 in district hospitals and 403 in upazila health complexes, were maintained; medicines for alternative medical care and MSRs were provided to 45 district hospitals; the first part of Alternative Medical Pharmacopeia, for each of Unani,

Ayurvedic and Homeopathic discipline was prepared; and the AMC medical officers were provided motor cycles to extend services to the community. It is also learnt that a process for establishing a Registration Council for Unani, Ayurvedic and Homeopathic disciplines is currently underway.

Other Public Health Interventions

There are number of public health activities that support the over all public health interventions in the country. These activities include quality control of drugs produced or imported for marketing in Bangladesh, testing of food items and drinking water, production and supply of vaccines, intravenous fluids, anti-sera and diagnostic reagents, diagnosis of

infectious diseases, carrying out related research facilities, etc. Institute of Public Health (IPH) established in 1953 is relentlessly carrying out these activities since its inception. IPH also provides training to public health workers on laboratory quality, and food and water quality checking. There are number of public health activities that support the

Activities of Institute of Public Health (IPH)

Production of intravenous fluids by year (No. of bags)

Fluid	Pack Size (ml)	Y 2001	Y 2002	Y 2003	Y 2003	Y 2004	Y 2005	Y 2006	Y 2007
Glucose Saline	1000	101956	66780	39735	80904	81238	81238	6754	13242
	500	406246	3497	243610	241043	221026	221026	285145	217758
Glucose Aqua	1000	89894	56055	42569	84455	72429	72429	7823	11325
	500	411722	333213	248265	233086	211607	211607	277329	204345
Normal Saline	1000	886	9291	17662	9783	17930	17930	5029	-
	500	45831	77319	68492	50536	52518	52518	58338	67831
Cholera Saline	1000	79291	118519	129986	192907	10409	10409	1627	25304
	500	213599	308536	246718	472545	280402	280402	182789	240473
P.D. Fluid	1000	117370	93384	57657	68421	53666	53666	61391	38109
	500	-	20278	-	-	-	-	-	10291
3% Normal Saline	1000	-	-	-	-	-	-	-	-
	500	3890	5022	5107	4578	6888	6888	6939	8456
Baby Saline	1000	-	-	-	-	-	-	11000	12600
	500	7224	6717	4689	14307	8245	8245	500	-
Haemodialysis Fluid	1000	42220	33510	14200	21100	20650	20650	1000	-
	500	-	-	-	-	-	-	500	8700
Hartman's Solution	1000	-	-	-	-	-	-	1000	-
	500	-	31694	42710	47520	70676	70676	500	21014

Source: I PH, Mohakhali, Dhaka

Production of blood bags, infusion and transfusion sets by year and by size of pack

Item	Pack type	Y2001	Y2002	Y2003	Y2003	Y2004	Y2005	Y2006	Y2007
CPD Blood Bag	Single	145291	101844	107437	87586	59827	59827	65936	74435
	Double	1571	394	1599	50	-	-	-	-
	Triple	488	1482	538	-	-	-	-	-
	Quadruple	-	388	-	-	-	-	-	-
Baby Bag	150 ml	2355	-	150	-	-	-	-	-
Transfusion Set	-	40020	37060	15650	51775	34775	34775	31860	24060
Infusion Set	-	142185	130200	107350	190300	188750	188750	86710	42200

Source: IPH, Mohakhali, Dhaka

Production of anti-rabies vaccines (unit in ml)

Fiscal Year	For man (5 ml)			For animal (10 ml)		
	ml	Ampoule	Course	ml	Ampoule	Course
2000-2001	3283700	656740	46910	433700	43370	1033
2001-2002	3672400	734480	52463	98100	9810	234
2002-2003	3381300	676260	48304	126100	121610	300
2003-2004	3698600	739720	52837	382400	38240	910
2004-2005	2814100	562820	40201	403900	40390	962
2005-2006	2730400	546080	39005	418600	41860	996
2006-2007	2446900	489380	34955	483750	48375	1166

Source: IPH, Mohakhali, Dhaka

Production of diagnostic reagents to support the laboratories by year (unit in liter)

Item	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
Benedict's Solution	420	600	555	470	460	294	480
ESR Fluid	60	160	160	150	160	110	237
20% Sulphuric Acid Solution	40	40	95	95	30	-	20
N/10 Hydrochloric Acid Solution	70	60	90	10	60	70	80
Acetone-alcohol	Nil	Nil	55	20	10	-	10
5% Acetic Acid Solution	60	60	80	100	60	20	70
WBC Fluid	60	50	80	40	60	20	40
RBC Fluid	20	50	80	70	30	-	20
30% Suplhosalicylic Acid	10	Nil	Nil	10	11.6	-	10
20% Sodium Hydroxide Solution	Nil	Nil	Nil	20	Nil	-	-
20% Potassium Hydroxide Solution	Nil	02	11.5	Nil	Nil	-	-
Semen Analysis Fluid	20	Nil	36.5	20	10	-	05
Normal Saline	60	100	90	70	40	30	80
Methylene Blue	20	35	57	30	10	10	05
Crystal Violet	15	15	30	10	10	-	-
Basic Fuchsin	05	10	33	10	05	32	-
Carbol Fuchsin	22	22	66	44	11	10	-
Gram Iodine	10.5	05	35	10	05	05	10
Lugol's Iodine	15.5	20	40	15	15	15	16
Leishman Stain	44	96	69	47	62	29	65.1
Giemsa Stain	29	48	39.5	Nil	36 l	16	51.8
Glucose Kits	100 kits	47 kits	78 kits	100 kits	48 kits	98	-
Bilirubin Kits	62 kits	68 kits	152 kits	97 kits	Nil	99	44
Creatinine Kits	Nil	Nil	54	51	Nil	-	-
Uric Acid Kits	Nil	Nil	27	60	Nil	-	-
EDTA Vial	Nil	Nil	Nil	Nil	Nil	500	-

Source: IPH, Mohakhali, Dhaka

Production of oral rehydration salt (ORS)

Year	Production (Packet)	Sale (Packet)
2001	32632350	30404625
2002	33713751	37000192
2003	34604700	3661741
2004	38094650	37942765
2005	39058284	38798539
2006	41050550	35472590
2007	41086825	44630025

Source: IPH, Mohakhali, Dhaka

Food samples tested

Year	Total Samples	Genuine		Adulterated	
		No.	%	No.	%
2001	3280	1692	51.6%	1588	48.4%
2002	4300	2110	49.0%	2190	51.0%
2003	5120	2515	49.1%	2605	50.9%
2004	4413	2214	52.0%	2119	48.0%
2005	6337	3200	50.5%	3137	49.5%
2006	2779	1405	50. 6%	1374	49.4%
2007	5992	3488	58.2 %	2504	41. 8%

Source: IPH, Mohakhali, Dhaka

Water samples tested by chemical method

Year	Total samples	Satisfactory		Unsatisfact	
		No.	%	No.	%
2001	174	170	97.7%	4	2.3%
2002	248	240	96.8%	8	3.2%
2003	359	296	82.5%	63	17.5%
2004	319	315	98.7%	4	1.3%
2005	316	290	91.8%	26	8.2%
2006	301	278	92.4%	23	7.64%
2007	411	378	91.9 %	33	8.03%

Source: IPH, Mohakhali, Dhaka

Water samples tested by bacteriological method

Year	Total samples	Satisfactory		Unsatisfactory	
		No.	%	No.	%
2001	386	332	86.0%	54	14.0%
2002	406	373	91.9%	33	8.1%
2003	492	426	86.6%	66	13.4%
2004	486	446	91.7%	40	8.3%
2005	290	248	85.5%	42	14.5%
2006	524	474	89. 9%	53	10.11 %
2007	725	580	80 .0%	145	20 .0%

Source: IPH, Mohakhali, Dhaka

Number of drug samples received and tested

Year	Samples received	Satisfactory	Unsatisfactory	Not analyzed	Feed back 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	-	-

Source: IPH, Mohakhali, Dhaka

Stool samples tested for polio virus

Item	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
Total Number of AFP Cases	1287	1365	1128	1301	1458	1619	1844
Total Number of Sample s	2728	2931	2388	2631	2910	3185	3611
Total Polio Virus Isolates	74	93	91	118	59	253	181
Total Wild Polio Viruses	0	0	0	0	0	18	0
Total Vaccine (Sabin) Viruses	74	93	91	118	59	187	193
Total NPEV (Non Polio Entero Viruses)	804	815	565	517	574	473	553
Total Negative Samples	1850	2023	1732	1996	2277	2492	2910
Total	6817	7320	5995	6681	7337	8227	9292

Source: IPH, Mohakhali, Dhaka

Measles and Rubella (IgM antibody) tested

Item	Y2003	Y2004	Y2005	Y2006	Y2007
Total Blood Sample	71	616	1834	411	587
Measles Positive	59	404	769	170	06
Rubella Positive	0	55	609	164	432
Total Negative	12	157	453	77	149

Source: IPH, Mohakhali, Dhaka

Diagnostic services

Item	Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
Biochemical tests (blood)	189	182	176	45	-	-	-
Serological tests	-	70	19	871	3333	923	2051
Routine examination (Stool, Blood-CP, Urine, Sputum)	970	840	395	456	341	192	133
Culture & Sensitivity Test (Stool, Blood, Urine, Sputum, Throat Swab, Ear Swab)	222	231	381	146	121	161	108

Source: IPH, Mohakhali, Dhaka

No. of stool samples, throat swabs and rectal swabs tested for epidemiological purposes

Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
72	57	214	14	-	-	24

Source: IPH, Mohakhali, Dhaka

No. of 4th year MBBS students visited IPH

Y2001	Y2002	Y2003	Y2004	Y2005	Y2006	Y2007
803	893	1158	924	1105	847	1476

Source: IPH, Mohakhali, Dhaka

Research and Development

The Directorate General of Health Services (DGHS) has a Line Director to oversee the priority areas that need health systems and other research and also support research agencies, organizations and individuals to carry out research. The principle that identifies priority research areas and research organizations focuses to the objectives of Health, Nutrition and Population Sector Program (HNPSPP). It includes basic medical and bio-medical research, demographic, epidemiological, operational and policy research, clinical research including research on reproductive health, impact and cost-effectiveness studies, behavioral and health systems research.

In 2007-2008, the Research and Development Unit (RDU) of DGHS funded about 200 research projects on nutrition, poverty reduction, gender equity, child and maternal health, tuberculosis and malaria. Out of these, 40 researches have already been completed. The other important activities that have been carried out by the RDU include (a) formation of a 10-member research unit with 3 advisors to provide professional guidance to RDU; (b) development of a research guideline for HNPSPP; (c) development of research protocol format; (d) training on research methodology in collaboration with Bangladesh Medical Research Council (BMRC); (e) training of RDU members for capacity building; (f) consultations on improvement of RDU functions; (g) supply of research books worth Tk. 3.79 million to 7 medical colleges; (h) publication of journals and bulletins in collaboration with BMRC; and (h) dissemination workshops on research findings.

Public health researches carried out by NIPSOM

National Institute of Preventive and Social Medicine (NIPSOM) is the national focal institute for postgraduate public health teaching and research. Its faculty members and students carry out wide range research in various public health fields. Here is a list of researches done by NIPSOM students in 2007.

M. Phil (PSM)

1. Prevalence of smoking and its determinants among the college students.
2. Oral cancer and its determinants among the patients attending the National Institute of Cancer Research and Hospital (NIRCH).
3. Risk factors for autism among the children attending in Dhaka Shishu Hospital, Dhaka.
4. Post-partum contraceptive use and its determinants among the women in a selected upazila.

MPH in Community Medicine

5. Clients opinion about the service rendered at indoor in selected private hospital.
6. Teachers' view on existing school health services in some selected public and private schools.
7. Anthropometrics status between tribal and non-tribal school children.
8. Awareness of household members about drowning among under five children in some selected villages.

9. Tobacco consumption use among micro-credit and non-micro-credit holders.
 10. Client's opinion on outdoor facilities in some selected NGO hospitals.
 11. Use of iodized salt by rural community.
 12. Feeding practice and nutritional status among the infants of garments workers.
 13. Review of prescriptions available at rural households.
 14. Uses of packet Oral Rehydration Salt (ORS) by micro-credit and non-micro-credit holders in selected urban community.
 15. Health problems and Body Mass Index (BMI) among adult females attending in selected diagnostic centers of Dhaka city.
 16. Personal hygiene and life style among the students of selected urban and rural secondary schools.
 17. Knowledge and practice on the preparation of home made saline among mothers of tribal community in Sylhet district.
- MPH in Epidemiology
18. Utilization of emergency obstetrics care in a selected slum in Dhaka City.
 19. Assessment of cognitive development of breast-fed and non-breast-fed infants and young children in a rural community.
 20. Gender differentials of vaccination coverage in zone-8 of Dhaka City Corporation.
 21. Treatment seeking behavior of kala-azar patients in an endemic area of Bangladesh.
 22. Pattern of injuries among adolescents attending Emergency department of Dhaka Medical College Hospital.
 23. Pattern of neuritis between Multi-bacillary (MB) and Pauci-bacillary (PB) leprosy cases.
 24. Feeding practice among anemic and non-anemic infants and young children in a selected rural area.
 25. Pattern of injuries among urban slum dwellers in Dhaka City.
 26. Morbidity pattern of soldiers attending in Orthopedic Center, Combined Military Hospital (CMH), Dhaka.
 27. Factors associated with cleft lip and cleft plate.
- MPH in Hospital Management
28. Management of Cardiac Emergency Services in a selected Non-Govt. Hospital in Dhaka City.
 29. Study on Medical Record Keeping System in selected tertiary level Public & Private Hospital.
 30. Appropriateness of hospital stay in surgical ward in a tertiary care teaching hospital in Dhaka.
 31. A Study on the utilization of Hospital Bed in Some selected upazila health complexes of Gazipur District.
 32. Management of Medical Store of Dhaka Medical College Hospital.
 33. Oral Health status of primary school children attending tertiary level hospital.
- MPH in Health Promotion and Health Education
34. Pattern of sickness of animals Zoonotic Diseases in a selected slaughter house.
 35. Role of village Doctors in implement Directly observed treatment strategy (DOTS) in Tuberculosis control program.

36. Knowledge and practice about Bird Flu among the broiler worker in broiler house in a selected area of Dhaka city.
 37. Oral health status of under-five children attending a selected Dental Hospital in Dhaka city.
 38. Knowledge of pregnant women about neonatal care in a selected area.
 39. Care pattern of the children of working mother living in the urban slum.
 40. Role of Mass Media on Smoking Prevention in a selected area.
 41. Effect of Tobacco smoking and periodontal health in adult male in an urban area of Bangladesh.
 42. Knowledge about family planning among the female students in a selected college.
 43. Knowledge of postnatal care among the mothers in a selected community at Meherpur district.
 44. Pattern of the causes of chronic renal failure (CRF) among the admitted patients in a selected tertiary hospital.
 45. Nurses knowledge about control of infection after major surgery in a selected tertiary hospital.
 46. Educational intervention of Acute Respiratory Infection (ARI) among the mothers in a selected rural community.
 47. Knowledge on Menopause among the women of a selected community in a rural area.
 48. Mothers' knowledge about colostrums in a selected area.
 49. Job satisfaction among Nursing Instructor in a selected teaching institute.
 50. Comparative study on dietary pattern among adolescent girls in a selected rural and urban school.
 51. Knowledge about HIV/AIDS prevention among the community people in a selected area.
 52. Knowledge about Self-protection among tannery workers in selected tanneries.
- MPH in Nutrition
53. Pattern of dyslipidemia among the patients with type-2 diabetes mellitus in a selected diabetic centre in Dhaka city.
 54. Birth weight and maternal nutritional status at a selected maternity centre in Dhaka city.
 55. Nutritional status of psychiatric patients attending OPD at a selected tertiary hospital.
- MPH in Occupational and Environmental Health
56. Pattern of health problems among Re-Rolling Mill workers Exposed to High Temperature.
 57. Health problems among the Glass Factory workers Exposed to Dust.
 58. Respiratory problem among workers of looming section in Polypropylene Bag Industry.
 59. Respiratory problems amongst Females Exposed to Biomass Fuel and Gas Fuel.
 60. Respiratory and other health problems among the Ceramic workers.
 61. Hepatitis B Virus infection among workers in selected Garments.
 62. Work-related health problems amongst building construction workers of some selected construction sites in Dhaka City.
 63. Study on Asthma like symptom among the flour mill workers.

MPH in Public Health Administration

64. Reproductive Tract Infection (RTI) and its related attributes among the women attending Gynecological Outpatient Department in a selected Hospital.
65. Differentials of Juvenile Diabetic cases attending in BIRDEM Hospital.
66. Child labor and its related factors among children attending UCEP School.
67. Treatment adherence of TB patients in selected DOTS centers of Dhaka City.
68. Risk behavior and knowledge about HIV/AIDS among Injectable Drug Users in a selected District.
69. Hygiene practice among Food Vendor in Dhaka City.
70. Disease pattern and personal protective measure among the Workers in some selected Tanneries of Dhaka City.
71. Drug use pattern of Bronchial Asthma cases attending at Out Patient Department in a Tertiary level Hospital.
72. Pattern of Congenital malformation in children under 5 years and its related attributes in a rural community of a Northern District of Bangladesh.
73. Effectiveness of visual inspection with acetic acid (VIA) as a test for Cervical Cancer screening.
74. Health care seeking behavior among Male Sex Workers in Dhaka City.

MPH in Reproductive and Child Health

75. Morbidity pattern of early neonate admitted in specialized hospital.
76. Health care seeking behavior and nutritional status of adolescent pregnant women in a rural community of Bangladesh.

77. Knowledge and attitude about STDs among the rickshaw pullers in Rajshahi city corporation.
78. Unmet contraceptive need among the eligible couples in an urban slum.
79. Knowledge and attitude towards STDs and premarital sex among private university students.
80. Factors related with desire of homosexual behavior and risk of STDs among men sex with men.
81. Violence against infertile women attending in different infertility clinic.
82. Determinants of cervical changes among married women attending VIA project.
83. Knowledge of HIV/AIDS transmission and its prevention among the proprietors with staff of the beauty parlor in the Dhaka city.
84. Factors behind acid violence in Bangladesh and its effect towards health-A hospital based study.
85. Reproductive tract infection among diabetic women of reproductive age group.
86. Life style of street children and their risk behavior.
87. Utilization of PNC and its determinants.
88. Marital Instability and it's related factors among urban slum dwellers.
89. Service rendered by CSBAs and their perceived barriers.
90. Knowledge about safe sex among garment's workers.

Research done by Center for Medical Education

Research done in 2006

1. Opinion of teachers of medical colleges

- Continuing Medical Education (CME) for continuing Professional Development (CPD) in Bangladesh- Teacher's Views
- Need Assessment study for communication skills teaching and its process in health professional institutes.
- Perception of Students regarding the newly introduced assessment system in the 2nd professional MBBS examination.
- Teacher's and student's views regarding current undergraduate Community Medicine Curriculum in Bangladesh.
- Opinion from the teachers about the new assessment system introduced in the MBBS curriculum of Bangladesh.
- Practice of formative assessment in 2nd professional MBBS subjects-opinion of 4th year medical students.
- Perception of the preclinical and para-clinical teachers on the Undergraduate Medical Education Curriculum, 2002, focused on the practical and oral assessment in the professional examinations.
- Views of Government doctors working in Primary Health Care level for assessing the needs for curriculum development of Undergraduate Medical Education of Bangladesh.
- Problems in the Workplace- View of Medial Teachers.

Research done in 2007

- Survey to Identify the Deficiencies in Emergency Obstetric Care (EOC) Related Training Imparted by the Medical Colleges at Undergraduate Medical Education in Bangladesh.
- Identifying the Factors Affecting Undergraduate Medical Education in Bangladesh- Teachers' Views.
- Present status of practice of day visit program in Medical Colleges in Bangladesh and views of the 5th year students and teachers of Community Medicine department regarding day visit program.

Bangladesh Medical Research Council

Bangladesh Medical Research Council (BMRC) is the apex body of the Ministry of Health and Family Welfare for supporting health research in the country. This organization was established in 1972 by order of the President as an Autonomous Body. As per resolution of the Government, BMRC is the focal point for Health Research. The objectives of BMRC are to identify problems and issues relating to medical and health sciences and to determine priority areas in research on the basis of health care needs, goals, policies and objectives. An account of research projects supported or done by BMRC is given below:

Institute-wise distribution of ongoing research projects during 2007-2008

Institution	N o. of Projects (n=52)		Total	%
	Regular Program	Development Program		
Research Cell, Medical College	08	05	13	25.0
Postgraduate Medical Institute	10	08	18	34.6
BSMMU	04	03	07	13.5
NGO	-	02	02	3.8
Other Institutes	09	03	12	23.1
Total	31	21	52	100.0

Source: BMRC, Mohakhali, Dhaka

Subject-wise distribution of ongoing research projects during 2007-2008

Subjects	No. of Projects (n=52)		Total	%
	Regular Program	Development Program		
Maternal Health	08	03	11	21.1
Child Health	03	02	05	9.6
Infectious Diseases	02	02	04	7.7
Health Systems Research	02	03	05	9.6
Nutrition	01	01	02	3.8
Occupational and Environmental Health	01	02	03	5.8
Non-communicable Diseases				
Hypertension and Cardiovascular Diseases	04	03	07	13.6
Diabetes	04	01	05	9.6
Kidney Diseases	02	01	03	5.8
Mental Disorders	01	01	02	3.8
Others	03	02	05	9.6
Total	31	21	52	100.0

Source: BMRC, Mohakhali, Dhaka

Human Resources

Health workforce

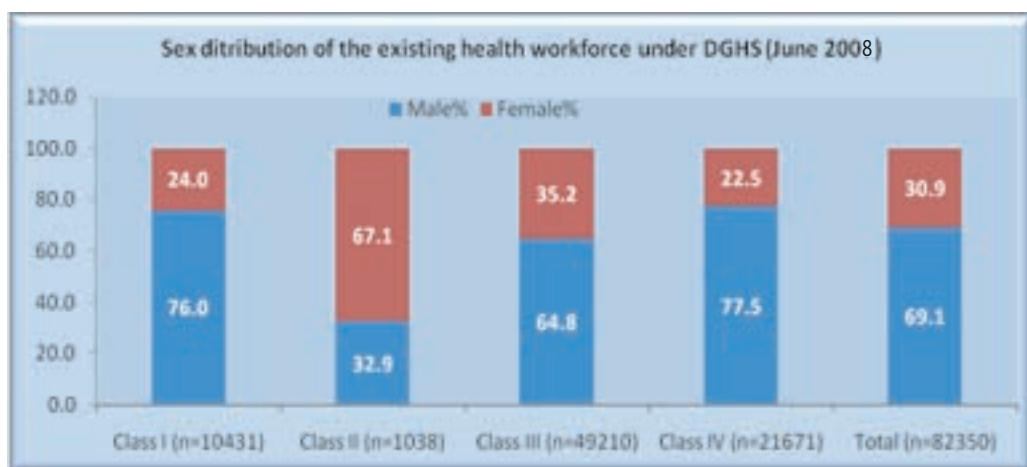
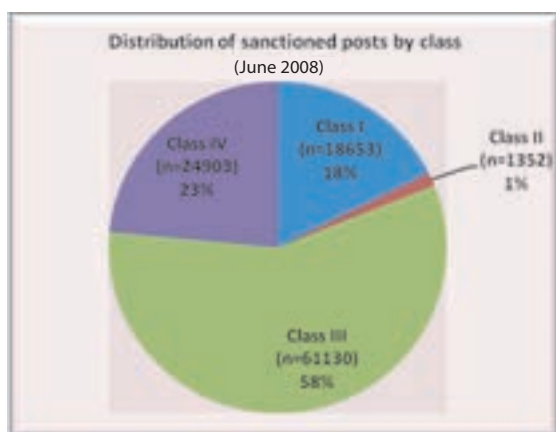
The Directorate General of Health Services (DGHS) has deployed over one lakh personnel and staffs throughout Bangladesh to deliver health services to the people, develop manpower and provide support services like maintenance of equipment, production of intravenous fluids, blood bags and reagents, etc.

The distribution of human resources across the health sector governed by the Ministry of Health and Family Welfare (MOHFW) oversees a dynamic process. Placement and transfer of manpower are done at different levels, viz. MOHFW, DGHS and offices of the Divisional Directors of Health and of Civil Surgeons. Retirements, leaves or deaths are other events that influence number and distribution of health workforce. Therefore, the distribution of manpower across health sector at any given point of time is not static or absolute number. Reminding the readers about this limitation, below is given a table on the distribution of human resources working under DGHS, which is

based on information available during preparation of this Health Bulletin.

Number of sanctioned, available and vacant posts under DGHS (June 2008)

Class	Sanctioned	Available			Vacant
		Male	Female	Total	
Class I	18653	7924	207	10431	8222
Class II	1352	341	697	1038	314
Class III	61130	31864	17346	49210	11920
Class IV	24903	16794	4877	21671	3232
Total	106038	56923	25427	82350	23688



Number of sanctioned, available and vacant posts of doctors under DGHS (June 2008)

Post	Sanctioned	Available	Vacant
Director, Principal or equivalent	47	21	26
Deputy director or equivalent	79	70	9
Assistant Director, Civil surgeon or equivalent	191	147	44
Deputy civil surgeon or Upazila Health & Family Planning Officer	500	473	27
Vice Principal	14	12	2
Professor	402	231	171
Associate Professor	552	223	329
Assistant Professor	745	315	430
Senior lecturer	8	8	0
Junior lecturer	32	24	8
Junior consultant (newly created)	1234	0	1234
Senior consultant	350	230	120
Junior consultant/ equivalent	2153	1372	781
Assistant surgeon	11353	9309	2044
Total=	17660	12435	5225

Number of sanctioned, available and vacant posts of nurses under Directorate of Nursing Services (2008)

Class	Category	Sanctioned (No.)			Available (No.)			Vacant (No.)		
		Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total
I	Nursing	45	13	58	9	1	10	36	12	48
I	Non-nursing	0	1	1	0	0	0	0	1	1
II	Nursing	231	156	387	160	0	160	71	156	227
	Non-nursing	2	9	11	1	7	8	1	2	3
III	Nursing	6481	9552	16033	5859	7786	13645	622	1766	2388
	Non-nursing	184	79	263	152	76	228	32	3	35
IV	Non-nursing	454	250	704	420	215	635	34	35	69
Total		7397	10060	17457	6601	8083	14686	796	1975	2771

Number of sanctioned, available and vacant posts of medical assistants under DGHS (2008)

Post	Sanctioned	Available	Vacant
Medical Assistant (permanent)	2075	1945	130
Medical Assistant (temporary)	3176	1784	1392
Total	5251	3729	1522
Note: recruitment done in temporary vacant posts 1460 in first phase and 324 in second phase (total 1784)			

Post	Sanctioned	Available	Vacant
Medical Technology (Physiotherapy)	33	29	4
Medical Technology (Radiotherapy)	38	14	24
Total	5651	4514	1137
Note: Process for recruitment in vacant posts is ongoing			

Medical technologists' newly created temporary posts (2008)

Post	Sanctioned	Available	Vacant
Medical Technology (Pharmacy)	24	0	24
Medical Technology (Lab)	177	0	177
Medical Technology (Physiotherapy)	153	0	153
Total	354	0	354
Note: Advertisement given for recruitment in the vacant posts			

Number of sanctioned, available and vacant posts of medical technologists under DGHS (2008)

Post	Sanctioned	Available	Vacant
Pharmacist	2620	1952	668
Medical Technology (Lab)	1846	1504	342
Medical Technology (Dental)	492	397	95
Medical Technology (Radiography)	622	618	4

Number of sanctioned, available and vacant posts of domiciliary workers under DGHS (2008)

Post	Sanctioned	Available	Vacant
Health assistant	20518	14127	6391*
Health Inspector	1398	1078	329
Assistant Health Inspector	4179	3713	466
Total	26095	18918	7186
Note: *Requisition for recruitment of 6391 vacant posts is in process of MoEst			

Proposal for creation of posts for 5 trauma Centers (2008)

Post	Proposed	Approved
Junior consultant	3	25
Resident Medical Officer	1	
Medical officer	5	
Class III	28	
Class IV		
Total	37	25
Note: MoEst approved 25 posts and MOHFW for subsequent actions		

Current status of process of the proposals for creation of posts for different type of staffs

Processing stage	Doctors	Nurs es	Others	Total
Ministry of Finance (approval of pay scale)	2015	1076	1778	4869
Ministry of Finance (approval)	645	246	715	1606
Ministry of Establishment	1366	751	1391	3508
MOHFW	516	25	682	1223
DGHS	79	48	111	238
Total	4621	2146	4677	11444

Alternative Medical Care

It may be mentioned here that the Ministry of Health and Family Welfare operates under DGHS one Government Unani and Ayurvedic Medical College and Hospital and one Homeopathic Medical College and Hospital. About six hundred personnel and staff of alternative medical care work there. These institutions also have manpower of allopathic medicine.

Personnel and staff of Alternative Medical Care working under DGHS (2008)

Post	No.
Medical officers (unani)	15
Medical officers (ayurvedic)	15
Medical officers (homeopathic)	15
Support staff	64
Gardeners	467
Total=	576

Source: Line Director, Alternative Medical Care, DGHS

Human Resource Development

Bangladesh is witnessing a sharp growth of all ranges of medical institutes, both in public as well as in private sector, to produce human resources for serving the country's overall need. The inspirations for this growth came from the projections that the country will need large number of physicians, nurses, medical technologists and other paramedical workforces currently and in future. The global increasing demands for health workforces are also working as stimulating factors. This section will give an overview of teaching/training institutes of human resources for health.

Postgraduate medical degree

There are over 30 institutes in Bangladesh which offer postgraduate specialist degrees in medical fields. Of these institutes 22 are in public sector, 4 are non-profit organizations (these institutes receive financial grants from government to run the institutes or their affiliated hospitals) and others are in private and NGO sector. Of the public sector institutes, 19 are under Directorate General of Health Services (DGHS), one is autonomous medical university and another is under the Bangladesh Armed Forces. Of the 19 institutes under DGHS, 10 are postgraduate institutes offering only postgraduate medical degrees. Others are medical or dental colleges and offer both undergraduate and postgraduate medical degrees.

List of postgraduate medical institutes (total number: 11) under DGHS

1. Institute of Child and Mother Health (ICMH), Matuail, Dhaka
2. Institute of Nuclear Medicine and Hospital, Dhaka
3. National Institute of Cancer Research and Hospital (NICRH), Mohakhali, Dhaka
4. National Institute of Cardiovascular Diseases (NICVD), Sher-E-Bangla Nagar, Dhaka.
5. National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka
6. National Institute of Kidney Diseases and Urology (NIKDU), Sher-e-Bangla Nagar, Dhaka
7. National Institute of Mental Health and Research (NIMHR), Sher-e-Bangla Nagar, Dhaka
8. National Institute of Ophthalmology (NIO), Sher-E-Bangla Nagar, Dhaka.
9. National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali, Dhaka
10. National Institute of Traumatology, Orthopedics & Rehabilitation (NITOR), Sher-e-Bangla Nagar, Dhaka
11. Center for Medical Education, Dhaka

List of medical colleges under DGHS, which in addition to providing undergraduate degrees also offer postgraduate medical degrees (total number: 9)

1. Chittagong Medical College, Chittagong
2. Dhaka Dental College, Dhaka
3. Dhaka Medical College, Dhaka
4. MAG Osmani Medical College, Sylhet
5. Mymensingh Medical College, Mymensingh
6. Rajshahi Medical College , Rajshahi
7. Rangpur Medical College , Rangpur
8. Sher-e-Bangla Medical College, Barisal
9. Sir Salimullah Medical College , Dhaka

Medical University under MOHFW (total number: 1)

1. Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka

Postgraduate Institute under Bangladesh Armed Forces (total number: 1)

1. Armed Forces Medical Institute

List of non-profit institutes which offer postgraduate medical degrees (these institutes receive government grants for running their institute or affiliated hospital; total number: 4)

1. Bangladesh College of Physicians and Surgeons (BCPS), Mohakhali, Dhaka
2. Bangladesh Institute of Child Health, Sher-e-Bangla Nagar, Dhaka
3. Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), Shahbagh, Dhaka
4. National Heart Foundation Hospital and Research Institute, Mirpur, Dhaka

List of other institutes in private and NGO sector which offer postgraduate medical degrees (total number: 7)

1. Chattagram Maa O Shishu and General Hospital, Chittagong
2. Institute of Child Health and Shishu Hospital, Shishu Sasthya Foundation, Bangladesh, Mirpur-2, Dhaka
3. Lions Eye Institute and Hospital, Lions Bhaban, Agragaon, Dhaka
4. MAI Institute of Ophthalmology and Islamia Hospital, Sher-e-Bangla Nagar, Dhaka
5. James P Grant School of Public Health, BRAC University, Mohakhali, Dhaka
6. State University of Bangladesh, Dhanmondi R/A, Dhaka
7. Gono Bisshobidhyaloya (People's University), Savar, Dhaka

Beside the above-mentioned institutions, several other institutions in private sector are known to conduct postgraduate public health courses.

Number of seats in the postgraduate medical courses provided under institutes and colleges under DGHS and BCPSa

Course	Students received degrees so far (Nos.)	No. of seats
MS	692	478
MD	460	591
MPhil	536	278
MPhil (PH ^b)	108	
Diploma	2,959	585
Diploma (PH ^b)	3,917	-
MPH	815	154
MMEd	0	15
FCPS	2203	Not fixed
MCPS	1595	Not fixed

a) Bangladesh College of Physicians and Surgeons;

b) Public Health

Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka; NIPSOM

Undergraduate medical degree

There are 50 medical colleges and 13 dental colleges in the country to offer bachelors' degree in medicine (MBBS) and dentistry (BDS). Of the 50 medical colleges, 14 are under the MOHFW, one under Bangladesh Armed Forces and 35 are in the private sector. Of the 14 dental colleges, 3 are under MOHFW and 10 are in the private sector. The medical colleges currently have capacity of annual admission of 4,620 students for MBBS course. These include 2,160 seats in medical colleges under MOHFW, 70 seats in Armed Forces Medical College and 2,390 seats in private medical colleges. Out of the seats in medical colleges under MOHFW, 40 seats are reserved for children of freedom fighters, 20 for tribal students and 80 for foreign students. Number of seats in the private medical colleges could be more by 100. But, MOHFW has imposed embargo for admission in two private medical colleges, such as, Durra Samad Red Crescent Medical College, Sylhet (50 seats) and Northern International Medical College, Dhaka (50 seats).

Medical colleges under MOHFW and their number of seats

Name (alphabetical order)	No. of Seats
1. Begum Khaleda Zia Medical College, Sher-e-Bangla Nagar, Dhaka	126
2. Chittagong Medical College, Chittagong	178
3. Comilla Medical College, Comilla	107
4. Dhaka Medical College, Dhaka	178
5. Dinajpur Medical College, Dinajpur	132
6. Faridpur Medical College, Faridpur	107
7. Khulna Medical College, Khulna	132
8. MA G Osmani Medical College, Sylhet	178
9. Mymensingh Medical College, Mymensingh	178
10. Rajshahi Medical College, Raj shahi	178
11. Rangpur Medical College, Rangpur	178
12. Shahid Ziaur Rahman Medical College, Bogra	132
13. Sher-e-Bangla Medical College, Baris al	178
14. Sir Salimullah Medical College, Dhaka	178
Total	2160
Note: Out of these, 40 seats are reserved for children of freedom fighters, 20 seats for tribal students and 80 seats for foreign students (50 for SAARC and 30 for non-SAARC countries)	
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Medical colleges under Bangladesh Armed Forces and its number of seats

Name	No. of Seats
Armed Forces Medical College, Dhaka Cantonment, Dhaka	70
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Private medical colleges and their number of seats

Name (alphabetical order)	No. of Seats
1. Bangladesh Medical College House # 35, Road # 14/A Dhanmondi R/A, Dhaka	130
2. BGC Trust Medical College Kanchan nagar, Chandanaish, Chittagong ¹	100
3. Central Medical College, Comilla	50
4. Chottogram, Ma O Shishu Medical College, Dhaka	60
5. Community Based Medical College, Mymensingh	100
6. Delta Medical College, Mirpur, Dhaka	50
7. Dhaka National Medical College 53/1, Johnson Road, Dhaka	100
8. Durra Samad Red Crescent Medical College Sylhet ³	50
9. East West Medical College, Uttara, Dhaka	50
10. Eastern Medical College, Comilla	50
11. Enam Medical College, Savar, Dhaka	60
12. Holy Family Red Crescent Medical College New Eskaton, Moghbazar, Dhaka	110
13. IBN Sina Medical College, Dhaka	50
14. Ibrahim Medical College, Shegun Bagicha, Dhaka	60
15. Institute of Applied Health Sciences, Chittagong ²	200
16. International Medical College, Tongi	50
17. Islami Bank Medical College, Bowalia, Rajshahi	50
18. Jahurul Islam Medical College Bajitpur, Kishoregonj	80
19. Jalalabad Ragib Rabeya Medical College Sunamgonj Road, Sylhet ¹	160
20. Khawja Yunus Medical College, Sirajganj	50
21. Kumudini Medical College, Mirzapur, Tangail	75
22. Medical College for Women and Hospital Road # 9, Sector # 1, Uttara, Dhaka	80
23. Moulana Bhashani Medical College Plot 26, Road # 10, Sector # 11, Uttara, Dhaka	50
24. Nightangel Medical College, Ashulia, Dhaka	50
25. North Bengal Medical College, Shirajgonj ¹	50
26. North East Medical College, Sylhet	100
27. Northern International Medical College Dhanmondi, Dhaka ³	50
28. Northern Medical College, Dhap, Rangpur ¹	30
29. Samaj Vittik Medical College, Savar, Dhaka ²	70
30. Shahabuddin Medical College, Gulshan, Dhaka	50
31. Southern Medical College, Chittagong ¹	50
32. Sylhet women Medical College, Sylhet	50
33. Tairunnesa Medical College, Tongi, Gazipur	50
34. Uttara Adhunik Medical College, Uttara, Dhaka	50
35. ZH Sikdar Women Medical College Monika Estate, West Dhanmondi, Dhaka	75
Total=	2490 ³
Note: (1) College is now running under High Court Rule; (2) Private University; (3) MOHFW imposed embargo on admission; thus number of private medical colleges currently running and total number of seats will be 33 and 2390 respectively.	
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka.	

Three dental colleges under MOHFW and 10 in private sector offer bachelor degree in dentistry (Bachelor of Dental Surgery). A total of 780 students can be admitted per year, 205 in government dental colleges and 575 in private dental colleges. Five seats in government dental colleges are reserved for children of freedom fighters.

Dental colleges under MOHFW and their number of seats

Name (alphabetical order)	No. of Seats
Dental Unit, Chittagong Medical College, Chittagong	50
Dental Unit, Rajshahi Medical College, Rajshahi	50
Dhaka Dental College, Dhaka	105
Total	205 *
*5 seats are reserved for children of freedom fighters Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Private dental colleges and their number of seats

Name (alphabetical order)	No. of Seats
1. Bangladesh Dental College, House # 35, Road # 14/A, Dhanmondi R/A, Dhaka	50
2. Chittagong International Dental College, Chittagong	50
3. City Dental College, 1085/1, Malibag Chowdhury Para, Dhaka	75
4. Marks Dental College, A/3, Main Road, Section-14, Mirpur, Dhaka	50
5. Pioneer Dental College, 111 Malibag, DIT Road, Dhaka	85
6. Rangpur Dental College, Rangpur	60
7. Samaj Vittik Dental College, Mirzanagar, Savar, Dhaka	30
8. Saporro Dental College, Road # 1/B, Sector # 9, Uttara, Dhaka	50
9. University Dental College, 120 Shiddeswari Outer Circular Road, Century Orchid (4 th Floor), Moghbazar, Dhaka	75
10. Update Dental College, 162, Atish Dipankar Road, West Mugdha, Dhaka	50
Total=	575
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Graduation on alternative medicine

There are 3 medical colleges for producing graduates in alternative medicine under MOHFW. These medical colleges are (a) Homoeopathic Degree College, Dhaka; (b) Sylhet Tibbia College, Sylhet (offers diploma); and (c) Unani and Ayurved College, Dhaka. Total seat capacity is 125.

Medical colleges for alternative medicine

Name (alphabetical order)	No. of Seats
Homoeopathic Degree College, Dhaka	50
Sylhet Govt. Tibbia College, Sylhet ¹	25
Unani and Ayurved College, Dhaka	50
Total=	125
1. Offers diploma Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

It is estimated that there are over nineteen thousand graduates and/or diploma holders of alternative medicines in the country. Their detail distribution is given in the table below.

Graduates and diploma holders in alternative medicine

Type alternative medicine manpower	Total No.
Unani Graduates	364
Ayurvedic Graduates	297
Unani Diploma holders	1025
Ayurvedic Diploma holders	491
Homeopathic Graduates	616
Homeopathic Diploma holders	16222
Total=	19015
Source: Line Director, Alternative Medical Care, DGHS	

Nursing education

There are 8 nursing colleges and 55 nursing institutes in the country for production of nursing workforce. The post basic nursing colleges offer BSc nursing degree (see below in table) and the nursing institutes offer diploma in nursing. Of the 8 nursing colleges, 5 are under MOHFW and 3 under private sector.

Nursing colleges under MOHFW and their number of seats

Name (alphabetical order)	No. of Seats
1. College of Nursing, Mohakhali, Dhaka (3 reserved seats for foreign students)	125
2. College of Nursing, Dhaka Medical College Hospital, Dhaka	100
3. College of Nursing, Mymensingh Medical College, Mymensingh	50
4. College of Nursing, Rajshahi Medical College, Rajshahi	50
5. College of Nursing, Chittagong Medical College, Chittagong	50
Total	375
Note: All offer basic nursing courses Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Nursing college under private sector and their number of seats

Name	No. of Seats
Kumudini Nursing College, Kum udini Hospital, Mirzapur, Tangail (post basic)	20
State College of Health Sciences, Dhanmondi, Dhaka (post basic)	20
State College of Health Sciences, Dhanmondi, Dhaka (basic)	20
International Medical College, Tongi, Gazipur (basic)	20
Total	80
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Of the 55 nursing institutes, 34 are under MOHFW, 1 under Bangladesh Armed Forces and 20 under private sector. Under the MOHFW, 6 nursing institutes are attached with medical college hospitals, 11 with general hospitals and 17 with district hospitals. The nursing institute under the Bangladesh Armed Forces is attached with the Armed Forces Medical Institute, Dhaka.

Nursing institutes attached with government medical college hospitals and their number of seats

Name of nursing institute	No. of seats
1. Nursing Institute attached with Shere Bangla Medical College Hospital, Barisal	50
2. Nursing Institute attached with SSMC Mitford Hospital, Dhaka	50
3. Nursing Institute attached with Comilla Medical College Hospital , Comilla	50
4. Nursing Institute attached with Faridpur Medical College Hospital, Faridpur	50
5. Nursing Institute attached with Rangpur Medical College Hospital, Rangpur	50
6. Nursing Institute attached with MAG Osmani Medical College Hospital, Sylhet	50
Tota l=	300
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Nursing institutes attached with government general hospitals and their number of seats

Name of nursing institute	No. of seats
Nursing Institute attached with Bogra General Hospital	40
Nursing Institute attached with Dinajpur General Hospital	40
Nursing Institute attached with Jessore General Hospital	40
Nursing Institute attached with Khulna General Hospital	50
Nursing Institute attached with Kustia General Hospital	40
Nursing Institute attached with Noakhali General Hospital	40
Nursing Institute attached with Pabna General Hospital	40
Nursing Institute attached with Patuakhali General Hospital	40
Nursing Institute attached with Rangamati General Hospital	40
Nursing Institute attached with Sirajganj General Hospital	30
Nursing Institute attached with Tangail General Hospital	40
Total	440
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Nursing institutes attached with government district hospitals and their number of seats

Name of nursing institute	No. of seats
Nursing Institute attached with Bagerhat District Hospital	30
Nursing Institute attached with Bhola District Hospital	30
Nursing Institute attached with Brahamonbaria District Hospital	30
Nursing Institute attached with Chapai Nawabganj District Hospital	30
Nursing Institute attached with Chuadanga District Hospital	30
Nursing Institute attached with Cox's Bazar District Hospital	30
Nursing Institute attached with Feni District Hospital	30
Nursing Institute attached with Jovvohat District Hospital	30
Nursing Institute attached with Kurigram District Hospital	30
Nursing Institute attached with Magura District Hospital	30
Nursing Institute attached with Moulvi Bazar District Hospital	30
Nursing Institute attached with Munshiganj District Hospital	30
Nursing Institute attached with Netrokona District Hospital	30
Nursing Institute attached with Rajbari District Hospital	30
Nursing Institute attached with Satkhira District Hospital	30
Nursing Institute attached with Sherpur District Hospital	30
Nursing Institute attached with Thakurgaon District Hospital	30
Total	510
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Nursing institutes attached with combined military hospital and its number of seats

Name of nursing institute	No. of seats
Armed Forces Medical Institute	25
Total	25
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Nursing institutes in private sector and their number of seats

Name of nursing institute	No. of seats
Nursing Institute attached with Holy Family Red Crescent Hospital, Dhaka	40
Kumudini Nursing School, Mirzapur, Tangail	50
Nursing Institute attached with Rajshahi Missionary hospital	20
Nursing Institute attached with Chandraghona Missionary hospital	30
Nursing Institute attached with Zahurul Islam Medical College Hospital	20
Nursing Institute attached with BHPI, CRP, Savar, Dhaka	20
Nursing Institute attached with Diabetic Hospital, Faridpur	25
Nursing Institute attached with Khawja Yunus Medical College Hospital, Enayetpur, Sirajganj	50
Moulana Bhashani Nursing Institute, Uttara, Dhaka.	20
Fatima Nursing Institute, Moghbazar	20
Safina Nursing Institute, Kushtia	20
Ad-Din Nursing Institute, Jessore	20
Nursing Institute, Islami Bank Medical College Hospital, Rajshahi	40
North East Nursing Institute, Sylhet	25
Nursing Institute, Central Hospital, Dhaka	20
Nursing Institute, Uttara Women Medical College Hospital, Dhaka	25
Nursing Institute, Christian Health Project, Joy ramkura, Haluaghat, Mymensingh	20
Nursing Institute, Shishu Shayastha Foundation Hospital, Mirpur, Dhaka	20
Nursing Institute, Chottogram Ma O Shishu Hospital, Agrabad, Chittagong	25
TMMC Nursing Institute, Targas, Boardbazar, Gazipur	20
Total=	530
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Besides, 2 institutes produce specialized nurses. These are National Heart Foundation, Mirpur, Dhaka (20 seats; intensive care unit, coronary care unit, cardiac nursing) and

cardiac nursing) and Bangladesh Health Professionals Institute, Savar, Dhaka (20 seats; rehabilitation nursing).

Production of midwives

There are 8 junior midwifery institutes with total seat capacity of 140.

Junior midwifery institutes

Name of nursing institute	No. of seats
Junior Midwifery Institute, Holy Family Red Crescent Hospital, Dhaka	25
Kumudini Hospital, Mirzapur, Tangail	10
SMUR Maternity Hospital, Bangla bazar, Dhaka	20
Mamon Hospital, City Corporation, Chittagong	25
CR Maternity Hospital, Chandpur	20
Fatema Hospital Jessore	10
Ad-din Maternity Hospital, Jessore	20
Christian Hospital, Bogra	10
Total=	140
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Production of community based skilled birth attendants

There are 28 government and 2 private training institutes to produce community

Training institutes for production of community based skilled birth attendants

Ownership	Location
Government (28 Nos.)	General or Sadar Hospital located at Narayanganj, Manikganj, Kishoreganj, Jamalpur, Habiganj, Gopalganj, Narshingdi, Nilphamari, Tangail, Barisal, Faridpur, Comilla, Kushtia, Khulna, Noakhali, Jessore, Satkhira, Thakurgaon, Feni, Joypurhat, Pabna, Brahmonbaria, Netrokona, Chuadanga, Cox's bazar, Patuakhali, Chapainawabganj, Sirajganj
Private (2 Nos.)	Kumudini Hospital, Mirzapur, Tangail Lamb Hospital, Parbatipur, Dinajpur
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Production of medical assistants

Medical assistants as the name of their posts suggests work as the assistants to the doctors working at the upazila health complexes or union sub-centers. In a country like Bangladesh where there is shortage of graduate medical doctors, the medical assistants serve as the intermediate force to meet the extreme need of qualified doctors. Currently there are 7 medical assistant training schools in the country which together have seat capacity of 650 students. Medical assistant's course requires a student to complete a 3 years' course to obtain a medical diploma.

Medical assistant training schools (MATS) under DGHS and their number of seats

Name of MATS	No. of seats
Medical Assistant Training School, Bagerhat	150
Medical Assistant Training School, Comilla (non -function ing)	50
Medical Assistant Training School, Faridpur	50
Medical Assistant Training School, Kushtia	100
Medical Assistant Training School, Noakhali	100
Medical Assistant Training School, Sirajganj	100
Medical Assistant Training School, Tangail	100
Total	650
Note: A new MATS is being constructed in Jenidah district Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Production of medical technologists

Medical technologists are technicians who perform the laboratory tests, take x-ray images, provide physiotherapy or radiotherapy, help making artificial dentures, etc. To produce medical technologists there are currently both graduate and diploma courses in the country.

Eleven institutes conduct BSc medical technology courses in laboratory medicine, physiotherapy, occupational therapy and dentistry. Total seat capacity is 545. Of the 11 institutes, 3 are under MOHFW and the rests are in private sector. Government has given approval to 2 institutes (Gonobisshobidhyaloya, Savar and BHPI, Savar: total 25 seats) to start also MSc course in medical technology in physiotherapy discipline.

BSc Institutes of Health Technology under DGHS and their number of seats

Name	Total
NITOR, Sher -e-Bangla Nagar, Dhaka	25
Institute of Health Technology, Dhaka	60
Institute of Health Technology, Rajshahi	60
Total=	145
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

BSc Institutes of Health Technology in private sector and their number of seats

Name	Total
1. State University , Mohammadpur Dhaka	80
2. Institute of Medical Technology, Mirpur, Dhaka	60
3. BHPI , Savar, Dhaka	46
4. Saik Institute of technology	25
5. Institute of Health Technology, Rajshahi	25
6. Prime Institute of Health Technology, Talaimari, Rajshahi	100
7. The People's University, Dhanmondi, Dhaka	25
8. Gonobisshobidhyaloya, Savar, Dhaka	20
Total=	381

To produce diploma medical technologists, the DGHS has 3 institutes of health technology (IHT) in the government sector. They altogether have 1, 010 seats. Construction of 7 new IHTs (one in each of 6 Divisions and one in Rangpur) is progressing rapidly. There are 39 private IHTs which have total seat capacities of 4400. These IHTs offer

capacities of 4,400. These IHTs offer 3 years diploma in medical technology in 7 disciplines, viz. laboratory, radiography, physiotherapy, SIT, dental technology, radiotherapy and pharmacy.

Currently 42 institutes both in government and private sector have total seat capacity of 5,410. The current annual production capacity is 1,000 medical technologists, which will rise to 2,500 to 3,000 per year by 2009.

Institutes of Health Technology under DGHS and their number of seats

Name of nursing institute	No. of seats
1. Institute of Health Technology, Dhaka	327
2. Institute of Health Technology, Rajshahi	326
3. Institute of Health Technology, Bogra	357
Total=	1010
Note: Another 7 Institutes of Health Technologies are being established. Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

Institutes of Health Technology in private sector offering diploma in medical technology and their number of seats

Name of institute	Total
1. Bangladesh Institute of Medical and Dental Technology, 23/10, Khilzi Road, Mohammadpur, Dhaka	170
2. Bangladesh Institute of Medical Technology, Haji Mohsin Road, Dilalpur, Pabna	120
3. Bangladesh Medical College, Dhanmondi, Dhaka	25
4. Centre for Rehabilitation of the Paralyzed (CRP), Chapain, Savar, Dhaka	160
5. Chittagong Institute of Medical Technology, Halishahar, Chittagong	150
6. Elah College of Medical Technology, Nahar Kutir, East Bank of Ranir Dighi, Comilla	50
7. Fortune Institute of Medical Technology, H #03, R # 13, Sector # 01, Jasim Uddin Road, Uttara, Dhaka-1230	175
8. Gonoshasthya Institute of Health Sciences, Tengra, Shripur, Gazipur	100

Name of institute	Total
9. Green view Institute of medical technology, 25/3, Section # 14, Mirpur, Dhaka	105
10. Health Wage Institute of Medical Technology, Sewgari, Carmichael Road, Bogra	90
11. Institute of Community Health Banglade sh, 190/1 Bara Maghbazar, Dhaka	75
12. Institute of Health Technology, 180, Firinghee Bazar (City Corporation Chittagong), Chittagong	150
13. Institute of Medical Technology, H # 68, R # 4, Block # B, Section # 12 Mirpur, Dhaka	150
14. Institute of Medical Technol ogy, Tamizuddin khan Road, Jheeltuli, Faridpur	100
15. International Institute of Health Sciences, House #71/1, Road #15/A, Shankar Bus Stand, Dhaka	140
16. Islami Bank Institute of Health Technology, Rajshahi	150
17. Janata Institute of M edical Technology, North PTI lane, Jaleshwari tala, Bogra	115
18. Marks Institute of Medical Technology, A/3, Section # 14, Mirpur, Dhaka	150
19. Millennium Institute of Medical Technology, 61 Bhecharam Dewri Road, Armanitola, Dhaka	75
20. National Institute of Med ical & Dental Technology, 19/10 Babar Road, Mohammadpur, Dhaka	65
21. National Institute of Medical Technology, H#3 Garib Newaz Avenue , Sector # 13, Model Town, Dhaka	150
22. New lab Institute of Medical Technology, 1/2 Asad gate , Mohammadpur, Dhaka	110
23. Prime I nstitute of Medical Technology, 213/A, Talaimari, Rajshahi.	150
24. Professor Shohrab Uddin Institute of Medical Technology, Sablia, Tangail	165
25. Psyche Institute of Medical Technology, Mirpur-6, Road # 2, Block # B, Dhaka	120
26. Radiant College of Medical Tech nology, 69/E, Ara Plaza,	100

Name of institute	Total
27. Rajshahi Institute of Medical Technology, Tuni Bhaban, House # 342, Para Medical Road. Lakshmipur , Rajshahi	150
28. Shahid S. A. Memorial IHT, Uttara, Dhaka	75
29. Sumona Institute of Medical technology , 2/2, 2/3, Chittaranjan Avenue , Sadarghat	130
30. Comilla Institute of Medical Technology, Laksam Road, Comilla	100
31. Comilla Institute of Medical Technology, Thakurpara, Comilla	75
32. Prime Institute of Science and Technology (PRISMET), Rangpur	75
33. Rumdo Insti tute of Health Technology, Mymensingh	50
34. Ad-deen Women's Institute of Health Technology, Jessore	100
35. Ahsania Mission Institute of Health Technology, Mirpur, Dhaka	75
36. TMSS Medical Technology Institute, Thengamara, Bogra	150
37. Institute of Medical and Dental Technology, Tangail	105
38. Trauma Institute of Medical Technology, 22/8/A, Block -B, Shaymoli, Dhaka	100
39. Dhaka Instiute of Health Technology, Humayun Road, College Gate, Dhaka	100
Total=	4400
Source: Director, Medical Education and Health Manpower Development, Mohakhali, Dhaka	

In-service Training

The Directorate General of Health Services (DGHS) has provision of giving the personnel and staffs on the job training, both local and foreign. In 2007-2008, a total number of 12,371 personnel and staffs were given local training and 129 personnel were given foreign training. The Technical Training Unit (TTU) under the Line Director of In-service Training is responsible for providing local training to the personnel and staffs under DGHS.

Personnel and staffs given local and foreign training by Line Director, In-Service Training of DGHS in 2007-2008

Type of training	No. of participants
Local Training	12,371
Foreign Training	129
Total	12,500

Local training organized by Technical Training Unit of DGHS in 2007-2008

Name of Local Training	No. of participants
6 days ESP orientation for auxiliary service providers. Including curriculum Review	150
6 days ESP refresher training for field service providers including curriculum development	2000
Curriculum development/Review for Nurses and Paramedics on advanced ESP clinical skills from district, upazila and below on reproductive health (10 days)	Done
Curriculum development for Nurse s and Paramedics on advanced ESP clinical skills from district, upazila and below on Child health care (6 days)	Done
Training for Nurses and Paramedics on advanced ESP clinical skills from district, upazila and below on Reproductive health (10 days)	58
Breast feeding counseling for health care providers (Doctors and Nurses) (6 days) Including curriculum Review	148
5 days training on Asthma prevention and management for Medical graduates. Including curriculum Review	126
5 days training on Cancer awareness, screening and primary detection for doctors including curriculum development	20
1 day orientation on cervical and breast cancer awareness for opinion leaders including curriculum and teaching aids development	200
6 days training on nutrition for field service providers	1750
2 days Workshop on Medical Biotechnology	50
Breast feeding counseling training for health care providers (HAs /Field service providers.) (3 days)	275
2 weeks training on intensive coronary care for junior doctors working in the CCU / cardiology department of medical colleges including curriculum review	37

Name of Local Training	No. of participants
2 weeks training on intensive coronary care for staff nurses working in the CCU/cardiology department of medical colleges including curriculum review	18
5 days Training on awareness of primary health care doctors on biochemical parameters for prevention and control of cardiovascular diseases	47
3 days Training of health technologists on biochemical tests for diagnosis of cardiovascular risks and diseases	-
3 days training program on primary health care physicians on mental health including curriculum development	60
2 days training program on primary health workers on mental health	90
Training on primary management & prevention of kidney & urological diseases for primary health care physicians (6 days)	60
Training on kidney & urological diseases for nurses working at primary health care level (6 days)	60
Training on Kidney & urological diseases for health workers working at primary health care level (6 days)	120
6 days training for doctors on violence against women and girls	188
6 days training for nurses on violence against women and girls	215
6 days training on management & prevention of substance abuse including alcohol for doctors. (including curriculum development)	25
6 days training on management & prevention of substance abuse including alcohol for nurses and medical assistants. (including curriculum development)	50
2 days orientation on medico-legal activities for CS, DCs, RMO, etc	150
6 days training on Applied forensic Medicine including post mortem for MOs, RMOs and UH&FPO (including curriculum development)	200
One year Training Course on Diploma in Anesthesia (DA) and Diploma in Obstetric and Gynecology (DGO) for Doctors	-
6 days training on improved financial management for personnel working at Division, District, Upazila and Specialized Institutions, TTU and Others including curriculum Review	275
15 days basic service management training for doctors	60
2 days training on monitoring and supportive supervision for supervisors at upazila level and below (HI, AHI, SI, EPI Technician, MA, etc) including curriculum	720

Name of Local Training	No. of participants
Hardware training on computer operation for officer and staff	30
Computer programming on MS access and SPSS for officer and staff (including Curriculum review)	39
Computer programming on Graphics Design and webpage design for officer and staff	30
28 days basic computer training on operating system, installation, internet etc for the persons of MOHFW, DGHS and autonomous institute	89
14 days refresher computer training on operating system, installation, internet etc. for the persons of MOHFW, DGHS and autonomous institute.	900
2 days PMIS training for PMIS recording & reporting tools	301
2 days training for service statistics related MIS recording & reporting tools	301
5 days training on standard operating procedures (SOP) regarding IPD, OPD, OT, emergency, house keeping, record keeping, nursing services, diagnostic services, etc. for service providers of primary, secondary and tertiary Hospitals including monitoring and supervision including curriculum review	180
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	180
15 Days Computer Training on DMIS for Health Personnel from district and Upazila	120
3 days Women's professional development program for personnel from district/ directorate/ Secretariat level managers	60
5 days Mid level management development program for personnel from district level Health managers and UH&FPO	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	64
Reporting and Dissemination of Different activities under In-service training and up date training facility and resource inventory of district /Upazila	Done
Maintenance and Further Development of Training Management Information System (TMIS)	Done

Name of Local Training	No. of participants
21 days advanced computer training on District management Information System (DMIS)	253
Need assessment of different categories of training	done
Evaluation of different categories of training activities	done
28 days English language course for health personnel	125
Training on updating media and messages in support on HEP for HEO/HE/Other related officers	100
Training on gender issue and poverty alleviation for HEO/HE/Other related officers	25
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 field implementation of HH registration, Mass drug administration and coverage survey	200
Organization of 2 days joint simulation exercise with BDRCS at most cyclone prone districts. (Multi-sectoral approach) on EPR	50
Conduct vulnerability and Capacity Assessment at 10 (ten) selected hazard prone areas on EPR	100
2 days training for field staff on Disaster Mitigation	90
two days orientation course for Disaster Focal Points on EPR	
Training course on Mass casualty management for hospital level staffs	40
2 days Orientation on service statistics of MO, MA, MT, HI, AHI and HA	150
HEP Training for the mid-level managers (5 days) Health Education officers/ Health Educator	28
Program/ Administrative Management Training for the HEP Focal Points. (Do) Health Education officers/ Health Educator	38
TOT Program	199
Orientation Training program of Participants	404
Attachment of Participants at different Department at different Institution	186

Workshop, Seminar, etc.	
Workshop on Accreditation and assessment Procedure, Dissertation writing, Information technology & Communication Skill development, Curriculum development, Research methodology, OSPE & OSCE, Examination and assessment procedure for 40 subject	141
Training on Outbreak Investigation for One Week	176
Training on Laboratory Diagnosis of emerging and reemerging diseases for one week	112
Certificate Course on Clinical Epidemiology for three months	15
Microbiological Lab Training of the Lab personnel	304
TOT for Doctors on advanced ESD clinical skills training course on Reproductive Health	27
TOT for Doctors on advanced ESD clinical skills training course on Child Health care	23
Training on Complementary Feeding	27
Breastfeeding counseling for health care providers	12
TOT on Nutrition Program, Planning and Management	12
Breastfeeding counseling for health care providers	11
Continuation of ongoing Training on Epidemiology and Bio-Statistics using SPSS with Cambridge University (Data analysis) and linkage with NIPSOM	2
Total participants in local training	12371
Source: Line Director, IST, DGHS, Mohakhali, Dhaka	

No. of admissions in different medical and dental colleges (2003-2007)

Medical or Dental College	2003			2004			2005			2006			2007			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Dhaka Medical College	84	66	150	82	79	161	94	69	163	111	73	184	94	93	187	465	380	845
Sir Salimullah Medical College	78	79	157	80	78	158	93	68	161	104	82	186	86	91	178	441	398	840
Rajshahi Medical College	102	60	162	82	76	158	85	70	155	112	67	179	107	71	178	488	344	832
Rangpur Medical College	96	57	153	68	85	153	67	89	156	91	87	178	88	90	178	410	408	818
Mymensingh Medical College	79	74	153	71	89	160	89	70	159	97	85	182	110	68	178	446	386	832
Chittagong Medical College	96	58	154	80	77	157	96	62	158	100	86	186	101	82	183	473	365	838
MAG Osmani Medical College	93	69	162	93	61	154	89	66	155	104	84	188	87	92	179	466	372	838
Shere Bangla Medical College	86	70	156	90	63	153	84	70	154	105	79	184	110	68	178	475	350	825
Faridpur Medical College	29	22	51	25	24	49	28	21	49	51	51	102	53	50	103	186	168	354
Begum Khaleida Zia Medical College	33	23	56	20	37	57	56	45	101	65	45	110	51	51	102	225	201	426
Dinajpur Medical College	26	24	50	23	28	51	21	33	54	56	53	109	66	57	123	192	195	387
Khulna Medical College	32	18	50	27	29	56	26	30	56	66	42	108	69	63	132	220	182	402
Comilla Medical College	27	28	55	36	21	57	44	63	107	44	63	107	48	59	107	199	234	433
Dhaka Dental College	26	39	65	35	33	68	58	40	98	61	83	144	55	83	138	235	278	513
Chittagong Dental College	8	11	19	5	13	18	19	23	42	-	-	-	-	-	-	32	47	79
Rajshahi Dental College	7	12	19	7	10	17	18	23	41	-	-	-	-	-	-	32	45	77

Source: Director, Medical Education, DGHS

No. of students passed from in different medical and dental colleges (2003-2007)

Medical or Dental College	2003			2004			2005			2006			2007			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Dhaka Medical College	105	70	175	58	50	108	75	83	158	69	63	132	98	72	170	405	338	743
Sir Salimullah Medical College	58	46	104	109	88	197	72	76	148	102	72	174	69	73	142	410	355	765
Rajshahi Medical College	102	70	172	181	103	284	97	79	176	102	58	160	91	59	130	573	369	922
Rangpur Medical College	89	65	154	176	70	246	115	77	192	72	79	151	82	76	158	534	367	901
Mymensingh Medical College	179	63	242	102	95	197	102	79	181	88	62	150	71	78	149	542	377	919
Chittagong Medical College	104	85	189	140	68	208	171	108	279	116	82	198	100	74	174	631	417	1048
MAG Osmani Medical College	105	69	174	79	69	148	88	77	165	136	160	296	112	85	197	520	460	980
Shere Bangla Medical College	134	90	224	157	96	253	112	76	188	96	74	170	71	78	149	570	414	984
Faridpur Medical College	44	31	75	37	31	68	22	16	38	39	39	78	19	21	40	161	138	299
Begum Khaleida Zia Medical College	28	22	50	34	34	68	35	32	67	21	38	59	39	39	78	157	165	322
Dinajpur Medical College	23	15	38	23	24	47	21	18	39	23	26	49	35	27	62	125	110	235
Khulna Medical College	25	20	45	35	26	61	29	25	54	31	17	48	24	19	43	144	107	251
Comilla Medical College	40	47	87	31	37	68	16	36	52	24	33	57	28	26	54	139	179	318
Dhaka Dental College	75	52	127	50	31	81	157	150	307	158	151	309	160	166	326	600	550	1150
Chittagong Dental College	16	10	26	12	1	13	6	3	9	-	-	-	-	-	-	34	14	48
Rajshahi Dental College	0	0	0	9	4	13	9	6	15	-	-	-	-	-	-	18	10	28

Source: Director, Medical Education, DGHS

Management Information System (MIS)

Since the time when Ministry of Health and Family Welfare undertook the sector-wide program approach (HPSP 1998-2003) to boost the speed of program implementation, development of management information system was given due importance. It was decided to unify the MIS departments of Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGHS) as UMIS (Unified MIS). At the end of HPSP in 2003, the sector-wide approach was continued as HNPS (2003-2010). However, the concept of UMIS was abandoned and MIS (health) started its separate journey for development of MIS for DGHS.

ICT infrastructure

Over the years, the MIS (health) has gained substantial experience and built its ICT capacity gradually. There are servers and good computer network in its office. The offices of all Line Directors have been connected with local area network (LAN) and/or Internet service. All officers at the MOHFW have also computers and Internet connection. Computers and Internet connection are also available in the offices of all divisional health directors and district civil surgeons. More than 80% of the Upazila Health Complexes (UHCs) have computers. The remaining UHCs will be provided computers in 2008-2009. The medical colleges and hospitals, postgraduate institutes and hospitals and other large hospitals have also computers. Internet connectivity in all UHCs and in some of the academic institutions and hospitals is yet to

be given. Additional servers are being added to MIS (health) office. To handle power supply problem, in addition to existing Instant Power Supply (IPS) devices, a large capacity generator has been placed.

Since the time when Ministry of Health and Family Welfare undertook the sector-wide program approach (HPSP 1998-2003) to boost the speed of program implementation,



GIS picture showing availability computers at Upazila Health Complexes (UHCs). Nearly 80% of the UHCs have computers. The UHCs in Chittagong Hill Tracts and the coastal areas have poor computer density. MIS (health) has planned to provide computers to all remaining UHCs in 2008-2009.

MIS manpower

There is a designated statistical staff placed at office of each divisional director (health), civil surgeon in district and in each UHC. These staffs are mostly commerce graduates with some background statistical knowledge. Few are statistics graduates. Most of the statistical staffs were given training on computer based data entry and data processing. The training of the remaining statistical staff will be completed in fiscal 2008-2009.

¹ Health and Population Sector Program 1998-2003

² Health, Nutrition and Population Sector Program 2003-2010

MIS (health) activities in 2007-2008

ICT infrastructure building

1. Local area network (LAN) in MOHFW, DGHS, Shaheed Shuhrawardi Hospital
 2. Supply of computers provided to Divisional Health Offices and 45 District Civil Surgeons' Offices
 3. Internet and email connection to DGHS, civil surgeons' offices and medical colleges hospitals
 4. Procurement and distribution of PC servers (8 Nos.), personal computers (250 Nos.), printers (70 Nos.), uninterrupted power supply units (250 Nos.), computer tables (250 Nos.) and computer chairs (250 Nos.)
 5. Development of patient info database software
 6. Redesign of existing database software
 7. Launch of new web site www.dghs.gov.bd
- Survey and evaluation
8. National household survey (Geographical Reconnaissance) in rural areas of Bangladesh
 9. Quality evaluation of GR in selected areas

Forms and registers

10. Redesign of record keeping registers and reporting formats for all level hospitals
11. Printing and distribution of redesigned recording and reporting tools (registers and forms)

Introduction of new methods

12. Introduction of updated recording and reporting system on ICD-10, EmOC and IMCI in different hospitals

Publication

13. Health Bulletin
14. Newsletters on EmOC
15. Year Book 2007 on HNPSP

Training (total 5022 personnel and staffs)

16. Computing skill: 385 persons
17. ICD-10: 172 persons
18. Service statistics (SSMIS) (1-day): 309 persons
19. Service statistics SSMIS (2-day): 540 persons
20. Refresher training on EmOC: 130 persons
21. Updated recording and reporting tools: 414 persons
22. Data editing and analysis with age, sex
23. disaggregation: 47 persons
24. Geographical Reconnaissance: 162 national persons
25. Geographical Reconnaissance: 1060 field persons
26. IMCI: 537 persons
27. PMIS: 1266 persons

Workshop

28. PMIS: 320 persons
29. Improved collection of age and sex disaggregated data recording and reporting

Others

30. Updating of Personnel Data Sheets of 13205 class I officers
31. Preparation gradation list of doctors under DGHS
32. Preparation of LPR (leave preparatory to retirement) list of 161 class-I officers under DGHS

Record keeping staffs in the district hospitals, medical college hospitals and tertiary level hospitals are also being trained.

Forms and registers

Forms and registers have been developed and distributed. Updated recording and reporting system on International Classification of Diseases version 10 (ICD-10), Emergency Obstetric Care (EmOC) and Integrated Management of Childhood Illnesses (IMCI) has been introduced in different hospitals.

Dynamic Web site

The web site for DGHS developed by MIS (health) is going to be an information warehouse for health organizations, services and programs. It is virtually a web portal allowing multiple websites of hundreds of organizations in a single portal.



All Line Directors and stakeholders, public or private, are allowed to put contents free of charge. The web environment is truly dynamic with easy interface for novice to update web content without hassle. The MIS (health) already put several web based database software on the portal for remote data entry. The Line Directors are also allowed to put own database software in the portal without any need for buying own database server.

Workgroups for organizational efficiency

The exiting workforce at MIS (health) has been divided into several workgroups with specific assignments with respect to different MIS related task areas. "Monitoring and supervision" and "Documentation, publication

publication and communication" functions have been given extra emphasis. The staffs are being released gradually from data entry functions to engage more to monitoring function of remote data entry by peripheral staffs. It is true that existing workforce at MIS (health) lacks adequate knowledge and skill in advanced ICT. To fill



Schematic view workgroups and ICT infrastructure of MIS (health)

the gaps, hands on training opportunities are being created for them. In addition, hiring experts or firms from outside will be required.

Vision for future MIS (health)

The new vision of MIS (health) is to develop itself as the fastest possible health information gathering and delivery source of Bangladesh for the best use in evidence based decision making considering the limitation of resources, user skill and attitude.

The Mission

A mission has also been chosen, which states that "MIS (health) will use all possible ICT equipment, viz. computer, laptop, land phone, fax, mobile phone, Internet, SMS, wifi, PDAs and conventional paper-based technology for gathering, channeling, processing and distribution of health information through improving the capacity of existing workforce as well as coordination and integration between all programs and partners."

Extending Internet connectivity

It is planned to provide to the upazila health offices wireless modems (GPRS or EDGE) for Internet connectivity. Few village health workers will be given personal digital assistants (PDAs) to experiment if they can update household data directly on the central server.

Upazila Health Complex Health Line

MIS (health) is going to introduce an innovative technology-based health service from Upazila Health Complexes in 2008-2009. As part of association of Ministry of Health and Family Welfare with the QuickWin projects of the e-governance cell of the Chief Adviser's Office, the MIS (health) is going to introduce a Tele-Health service for community people based on each UHC of the country. The service will be available in all working days. Doctors working in the health center will answer calls of people for medical advice. The UHCs will be supplied mobile phones for dedicated use (hotline). The phone number will be well-circulated locally through local government, educational and religious institutions, NGOs, social, religious and other communication channels. In the service hours, people living in the catchments area will call the hotline and get at least one doctor to listen to their calls, discuss health problems, advice instant treatment or for welcoming them to the health center on particular date and time or to refer them to other right centre. After the working hours, the phone will be kept in emergency department of the UHC. It is expected that this UHC based Tele-Health service will help building confidence of the local people on the near by health center, improve doctor-patient relationship, encourage patients to visits more to public health facilities, indirectly influence doctors to remain available in health centers. The idea of this technology-based service solution has been appreciated with certain

unique characteristics, viz., wider coverage of the population; reaching people living in the remote areas; availability to economically deprived community; and simple to use by the technologically lagging people.

Making GR the best source for population data

To collect population data, the MIS (health) conducts GR each year. GR stands for Geographical Reconnaissance which began in 1961 under malaria eradication program. It is being still continued. GR is literally an Annual Health Census, routinely conducted each year in January through February. Health workers visit every household of the country and collect socio-demographic data. The data they collect could be sufficient for generating all population-based health rates. But due to weak supervision, data quality is not maintained. All data forms are brought to Dhaka for data entry. There are roughly about 30 million families in Bangladesh. Only 12 persons in MIS (health) can not handle data entry of so huge volume of forms. So, data entry in real sense can not be completed. The last report was published in 2004 using data of GR from 2002. To remove the bottleneck, it has been decided to give serious attention to next GR. Rather than one for 18 families as used currently, separate form will be used for each family. A unique ID number will be used for each individual of the family following the convention used in the National ID project. To allow health workers get correct data, data collection period will be extended to 6 months (20 to 30 families daily) in stead of 2 months (55 to 60 families daily) currently used. Community and multi-sectoral involvement will be emphasized and so will be for monitoring and supervision. Data entry tasks will be decentralized at upazila level. After the comprehensive effort to prepare a good quality population database, no more GR will be conducted annually. The health workers will routinely visit each family at least once a

month and update the database if s/he finds any change in the family information, such as, new birth, death, etc.

Maternal, Neonatal and Child Death Audit (MNC Death Audit)

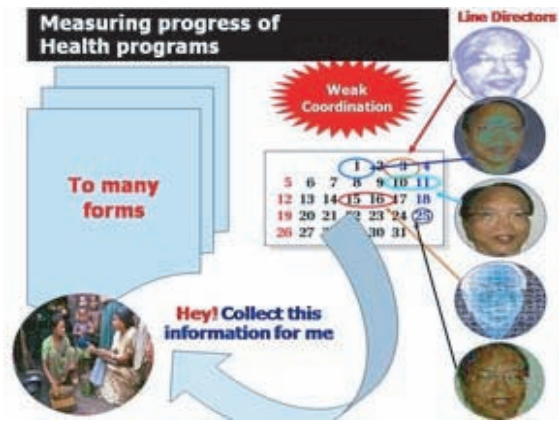
Ministry of Health and Family Welfare has started Maternal, Neonatal and Child Death Audit (MNC Death Audit) to record every birth of child and every death of mother and child (up to 5 years) whenever and wherever the event takes place. The program is jointly being conducted all over Bangladesh by both Directorate General of Health Services (DGHS) and Directorate General of Family Planning. Line Director, Essential Service Delivery and Management Information System of DGHS are taking lead role in implementation of the program. Special forms have been developed to record and report maternal and child deaths. Health and Family Planning field workers and managers from rural areas up to district levels will jointly prepare and authenticate the report forms. Full coverage of home and institutional data will be ensured and care will be taken to avoid duplication in reporting. UNICEF, Bangladesh has come forward to support the program for further improving it. MIS (health) is trying to develop a software solution to computerize the MNC Death Audit data.

Minimizing number of reporting forms

The Project Implementation Review (PIR, April 2008), done for HNPS, by the World Bank Mission observed existence of too many reporting forms for MIS (health) causing burden over the field workers. As per the decision undertaken by the MIS Committee of the MOHFW, it was decided to make as few forms as possible. MIS (health) is currently engaged in exercise to reduce number of

Extending Internet connectivity
It is planned to provide to the upazila health offices wireless modems (GPRS or EDGE) for Internet connectivity. Few village health workers will be given personal digital

reporting forms. Once the new form(s) will be introduced, health workers will routinely visit every home at least once each month to collect information for all Line Directors in a single go.



It is alleged that field workers are overburdened with too many reporting forms introduced by the Line Directors

Health service statistics

MIS (health) routinely collects information on health facility statistics. Although the health facilities at districts and below show reasonably good compliance, that from tertiary and private hospitals are poor. To ease data collection and improve supervision online database software have been put on web-server. Communication with the private providers and tertiary hospitals are being enhanced to improve compliance.

Health Workforce MIS

Currently Personnel Management Information System (PIMS) is based on a static database maintained in a standalone computer. Only personnel of class one status are covered. The concerned staffs need to visit personally or sent postal mail to get their personal data sheet (PDS) updated. Due to non-user friendly system, the concerned persons do not get inspirations to keep PDS updated. To improve the situation, effort has been undertaken to develop web-based database software. The new web-based

interface will incorporate all personnel and staffs working under the DGHS. The updating role will be delegated to the personnel and staffs themselves. Local authorities will be given role for authentication. It is expected that full coverage of all public sector health workforces and frequent updating would be possible through the new system. It will remain a challenge to include the private sector health workforces. A drive will be initiated to develop communication with the private sector employers, regulatory state bodies, professional bodies, pharmaceutical associations, drug administrations, professional bodies, etc. to include as many private health professionals as possible within MIS (health) database.

Logistic MIS

Currently there is a system for quarterly updating number of functioning, non-functioning and repair ambulances and major equipment available in the public hospitals. Compliance is not satisfactory. It is planned to first prepare a exhaustive list and update the information more frequently preferably through web-based online database software.

Financial MIS

Currently the Planning Wing of the MOHFW monitors progress of implemen-tation by the Line Directors of Annual Development Program (ADP). The MIS (health) will use available data from this wing. Before going to introduce more micro-level financial MIS, it is planned to first consolidate the other areas of MIS.

Publications

MIS (health) started publishing some routine reports. The Health Bulletin is a statistical year book of the health situation of the country, although representing the public sector mainly. However, more and more private and non-profit hospitals andreporting forms. Once the new form(s) will be introduced, health workers will

facilities are being included in the report. From 2007, MIS (health) started to publish a Year Book to bundle all information on the progress of different operational plans of HNPSF implemented by the Line Directors of DGHS. Preparation for publishing Year Book 2008 is also underway. MIS (health) publishes some newsletters on different health priority issues, such as, one on Emergency Obstetric Care. More publications are planned in future. MIS (health) wishes to use its web portal as one of the strongest tools of publication and communication. This wish is already being in practice. Readers are welcome to visit the web site www.dghs.gov.bd to enjoy lot of information being put almost on daily basis.

Training, workshop and advocacy

MIS (health) organizes large number of training, workshops and advocacy programs for capacity building, system design and sensitizing the policy makers, planners and managers. A list of such programs carried out in 2007-2008 is given above in the information box. In subsequent years, these programs will be continued and more

streamlined.

Feed back system to data providers

Sending feed back to data senders is one of the important means to keep MIS vibrant. This aspect got little attention earlier due to shortage of manpower. Better work plan and redistribution of assignments among staff members will improve feed back system. Improvement of local capacities and more dependence on electronic data sharing system will improve feed back system. More avenues will be explored for effective feed back.

Health Metrics Network

Health Metrics Network (HMN) is a global fund to support improvement of health information system in countries. Bangladesh received HMN grant and is currently working to assess and improve its health information system through harmonizing efforts with all stakeholders. MIS (health) is playing strong coordination role in this process. facilities are being included in the report. From 2007, MIS (health) started to publish a Year Book to

e-health in Bangladesh

Excerpt from Country Paper for Commonwealth Health Ministers' Meeting

18 May 2007; Geneva, Switzerland

Definition of e-health used in this paper

All applications of use of Information and Communication Technologies (ICTs) to support health and delivery of health care (WHO 2004. Ehealth for health care delivery: Strategy 2004-2007).

ICT Policy

The country adopted ICT policy in 2002 which recognizes the importance of ICT as a thrust sector.

National Policy on ICT

Like all other developing countries, Bangladesh is also striving for development of its ICT sector to facilitate social, economic, health and livelihood improvement of its people. The recognition to importance of ICT as a "thrust sector" came out through adoption of National Policy on ICT in 2002. The policy set target to create by 2006 a country-wide ICT infrastructure to ensure access to information by every citizen for facilitating empowerment of people and enhancing democratic values and norms for sustainable economic development. All sectors, viz. human resource development, governance, e-commerce, banking, etc. have been duly addressed in the policy. Although much progress has yet to be made to materialize the dream, there are some positive developments towards the goal. This paper will make an overview of ICT situation of the country and will discuss the issues related to ICT in health sector.

ICT use in the country in general

The ICT statistics

A recent publication supported by UNDP (August 2007) states that ICT is penetrating gradually in Bangladesh in one way or other. It estimates that there are 1.1 million PCs in the country (7.3 PCs per 1000 population).

The overall pictures are as follows:

Total No. of PCs:	1.1 million (UNDP 2007)
No. of PCs per 1000 population:	7.3 (UNDP 2007)
Annual growth rate of PCS:	40% (Bangladesh Computer Somity Website 2008)
No. of Internet Service Providers (ISPs):	500 (UNDP 2007)
No. of PC based Internet users:	300,000 (UNDP 2007)
No. of cyber cafes spread at least up to the district level:	Several thousand
Providers of Internet Service:	6 mobile Operators, Other private ISPs; Government owned Telephone and Telegraph Company (T&T) (T& coverage is up to district level and is expected to expand service soon up to upazila levels)
Current trend in the metropolitan cities:	24h unlimited fixed rate fibre optic broadband Internet connections – a mode of home networks connecting several hundred homes in each community

- Situation of ICT use in public sector will be described in this paper subsequently.
- Compared to the public sector, ICT use in private sector is obviously much better.
- In general, all medium to big businesses in the urban areas, NGOs, private academic institutions, pharmaceutical companies and garment sector all have good records of computer use in various levels of depth.
- The banking sector creates the largest corporate users of ICT.
- Quite a good number of private bankers have started online or Internet banking.
- Recently Bangladesh Bank issued directives to all bankers for rapid introduction of online banking.

Connectivity through cell phone boom

- The boom of cell phones in Bangladesh has made opportunity for remarkable progress in ICT use.
- Fixed line telephone penetration is still poor at =1% rate.
- Cell phone penetration rate is approaching 25% with annual growth rate of around 75%.
- Total mobile phone subscribers reached to 38.93 million (end of March 2008).
- Bangladesh Telecommunication Regulatory Commission (BTRC) forecasts: 50 million subscribers by end of 2008.
- No. of mobile telephone operators (mostly GSM) in Bangladesh: 6
- Clear domination of market by GrameenPhone: 45.7% subscribers.
- New players including Vodafone Group are in pipeline.

- BTRC source says Bangladeshis are enjoying the lowest mobile call rates in the world.
- This estimate needs matching with people's affordability.
- Coverage of land area of Bangladesh by mobile: 98%
- Internet users are rapidly growing in the country, because all mobile operators provide Internet service accessible anywhere in their network area directly through cell phone or using cell phone as dial up modem.
- Until middle of 2006, the country's only source of Internet bandwidth was Very Small Aperture Terminals (VSATs).
- Submarine cable connectivity has been established in second half of 2006, which now serves as the main Internet backbone. The Government has recently decided to establish the second
- submarine cable connectivity through public-private partnership.

WiMAX – the new promise

In September 2007, the Noble Laureate Professor Dr. Muhammad Yunus signed, on behalf of Grameen Solutions Ltd. (an enterprise of Grameen Bank), a contract with Dr. Craig R. Barrett, Chairman of the giant chip maker company, Intel to introduce Intel's World Ahead programme. Under this programme, Intel's Classmate PCs will be distributed to 35 thousands schools in Bangladesh at a price of US\$ 220 - 250. For Internet connectivity, high speed broadband WiMAX networks will be established across the country. Intel will provide world class contents for the students to access online through their Classmate PCs. It is said that this WiMAX network will also remain open for ICT businesses in Bangladesh.

ICT manpower development

The Bangladesh Bureau of Statistics (BBS) records as of 2005 show, following figures about educations institutions in Bangladesh:

No. of universities: 78 (public: 24; private: 54)

Production of computer graduates (all universities/year): Over 5000

Polytechnic institutes:
Computer training centres spread across the country:
Other institutions create computer exposure:

134 (public: 37; private: 97)
Many hundred
3150 general colleges
8,500 secondary schools (public: 317;
private: 18,183)
Bangladesh Public Administration and
Training Centre (BPATC) and
Bangladesh Computer Council (BCC).

Computer training provided to public sector officials by:

ICT use in public sector: e-Governance

To keep up the momentum of adoption of a National Policy on ICT in 2002, the Government issued in 2003 directives to all government ministries and offices to launch their respective websites to improve the flow of information to citizens. These directives were implemented through private firms and Government forms and documents were made available through Internet. However, because of lack specific and conversant ICT staff, regular updating of most of the websites are seldom done. A survey carried out in 2002 shows only 522 sanctioned ICT positions to exist in all ministries. They represent data entry operators and low level programmers. Network engineers, security specialists, or other skill sets are grossly underrepresented. The survey reveals that most of the Class I officers in the ministries were provided with computers and basic computer training. But, most of them appear reluctant to use computers and depend on clerical staff for typing. Use of fax is widespread; but electronic communication for exchanging files, documents, collaboration, etc. is seldom present. Recently things have been started to change. An initiative has been undertaken to inter-network the existing LANs of all the 45 ministries, the chief adviser's office and the Planning Commission across some 2200 office rooms. It is learnt that the Government has taken a bold step to adopt a fresh e-governance strategy by June 2008.

Price Waterhouse will write GOB's e-Governance Strategy

It is known that Price Waterhouse Coopers, a global consultancy firm, has been given assignment to prepare draft for e-governance strategy by June 2008. If introduced the strategy may change the work-practice of the bureaucrats, enabling them to serve citizens in a more effective way through modern and speedy state machinery. To tell more specifically, automating file processing and communication systems as well as service delivery to people will contribute to the country's current most well-known war against corruption and urge for transparency in the governance.

e-Governance in some public offices

Name of the Public Office	Type of e-Governance
Ministry of Finance	Software-based budget planning, sensitivity and impact analysis, financial projections, etc.
Bureau of Educational Information and Statistics	GIS map-based information system for regional distribution of academic institutions, institution-by-institution multilayer data
Planning Commission	Searchable database of all Annual Development Programmes from 2001; intranet for file-sharing, video conferencing, e-notice board, digital library, etc.
Ministry of Religious Affairs	Online Hajj Information Management System, with message boards, flight information, personal tracking information, downloadable forms, list of authorized agents, etc.
Ministry of Health & Family Welfare	Personnel and logistic databases for health services
Ministry of Establishment	Personnel database for administrative cadre
Rajshahi City Corporation	Electronic Birth Registration System (EBRS) for children with machine readable e-card for various services (school admission, health service, etc.)
Bureau of Stock Exchange	Online share management

ICT use in the health sector: e-health

Computers, connectivity and electronic data transfer between health institutions

Computers have so far been provided to:

- All the officials of MOHFW (140 Nos. in LAN)
- All the officials of DGHS (150 Nos. in LAN)
- All the officials of DGFP (>100 Nos. in LAN)
- All administrative points of both health and population sector as below as up to upazila levels
- Major teaching institutes and hospitals

It should be noted that number of computers in the institutes and hospitals is absolutely inadequate. **Internet connection is available in all places except upazila level, where Internet will go next year.**

Use of e-health equipment in institutes and hospitals

- Mainly used for word processing, documentation, exchange of emails and web browsing.
- The academics also use them for data processing and accessing research information, such as, MEDLINE, POPLINE, etc.
- Real time collaborative works, file sharing or e-conferences across various centres or peers are insignificant.
- Some of the vertical health and population programmes also maintain own databases.
- People-centric use of e-health in the public sector is yet to be achieved.

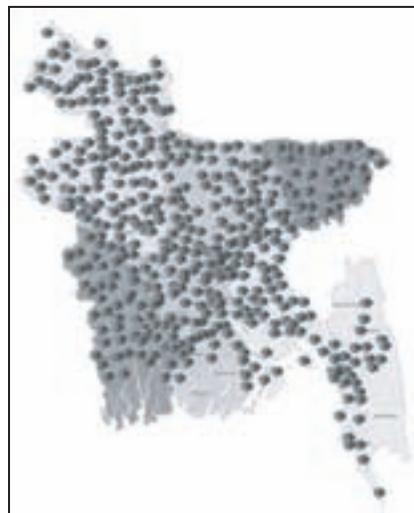


Figure: Distribution of Computers in Upazila Health Complexes of Bangladesh

Introduction of e-records is difficult in Bangladesh

Introduction of e-records for each patient is difficult in the public sector hospitals. The principal reasons include huge patient load and scarcity of human and e-health resources. There is no provision of clinical clerkship staff in the hospital wards of Bangladesh as seen in many countries. Doctors and nurses remain heavily engaged in patient services with limited ability to give attention to maintaining quality patient records. Due to economic constraints, Government can not give priorities to provide computer to each ward and lab of all hospitals immediately. Before widespread computerization, strong thought must be given to deal with the challenge for constantly maintaining (plus trouble shooting), upgrading and replacing them. It is literally difficult to maintain computer-based registers at the hospital OPDs, because due to huge patient load doctors can hardly give more than five minutes, on average, to see a patient at the OPD.

Global experience of electronic health records (EHR)

The affordability is prohibitive. Costs are high, can not be flexed easily, overrun, seem to defer modest benefits, no evidence of net benefits (e-health for developing countries: affordable strategies [Commonwealth Health Ministers' Meeting HMM 2008 (08)3].

MOHFW, DGHS and DGFP all have their own web sites. But, these web sites are static and only provide generalized information and statistical figures, and are also not updated regularly.

e-health training of health manpower

The immediate problem of the country's public health sector with regard to ensuring more widespread use of e-health is unavailability of adequate number of computer literate workforce. Recruitment of separate e-health workforce is not a practical idea for financial reason. The best idea at this moment is to make the existing workforce computer literate. Towards this goal, the departments of MIS (both in health and family planning) are organizing training for the personnel and staff who are engaged in processing health data. Technical Training Unit (TTU) of DGHS organizes basic and advanced training for doctors and clerical staff. The TTU is also supporting Bangladesh College of Physicians and Surgeons to run computer training for the clinical specialists.

Use of specific e-health applications (e.g., GIS, SAM, etc.)

Awareness in health sector on the use of GIS and SAM is limited. In 2001-2003, under a project supported by IDA-Credit, a comprehensive GIS database for all public health facilities (4352 Nos.) of Bangladesh was created. The database, owned by Construction and Maintenance Management Unit (CMMU) of MOHFW, is not yet known to be used. The International Centre for Diarrhoeal Research, Bangladesh (ICDDR,B) experiments with GIS-based information systems in Matlab area of Bangladesh where the centre operates its community based demographic surveillance systems. Recently, emphasis is being given to strengthen the country's capacity to use GIS or SAM in health information systems. Towards this objective, the Department of MIS (health) has planned for organizing training on GIS and SAM under the WHO Biennium Programmes (2008-2009).

Few examples to understand the current situation of weaknesses of MIS department

Example-1: The Government needs data on population-based health indicators for measuring programme performance and fulfilling global and MDG needs. The existing system for annual household survey called Geographical Reconnaissance (GR) and conducted by MIS (health) could be a good source to satisfy this need. Each year (Jan-Feb) DGHS health workers visit every household country-wide and gather

Use of e-health in decision making: entire blame should not go policy makers

The entire blame should not go to policy makers that they do not use health information for decision making. There is paucity of timely and reliable data in format suitable for easy understanding. MOHFW and higher authorities often call for health data to take important decisions. But, efficiency of MIS departments is not up to the mark to always satisfy the data needs. The MIS departments are not manned by competent persons to design appropriate hardware, software, and system for generation, transfer, processing and dissemination of health data.

socio-demographic data. Compliance of quality assurance could give GR equivalence to health population census. Complexity in form design, heavy workload, and lack of supervision and incentives influence data quality right during collection. All GR forms are brought to MIS office in Dhaka for data entry by only 12 computer operators. It usually takes over years to complete data entry and publish report. Last report was published in 2004 with data from 2002 GR, although GR was conducted every year till 2008. In failure of MIS (health) to provide timely and reliable population data, MOHFW needs to conduct special survey (Bangladesh

Demographic and Health Survey) every two years on a cross section of population.

Example-2: The Department of MIS (health) maintains national databases for health personnel and logistics. Until now all databases are maintained in standalone computer. Due to lack of web-based remote data entry option, updating is difficult. Although targeted for including all staff, in about 10 years only part of Class I personnel could be covered. None of the two databases can properly meet data need for policy decisions.

Pro-activists and innovations

Shortage of computer literate workforce may not be the absolute barrier to expansion of ICT. It needs to hit the culture of inertia to change the traditional mode of work pattern.

For sustainability, solution to ICT system design (viz. data need, ability of workforce, hardware, software, analysis technique, transmission, utilization, etc.) must come from local situation involving the local enthusiasts. If motivated the local group may help accelerate the ICT train.

Case of Mymensingh Medical College

A place located some 200 kilometres east of Dhaka, few proactive physicians have made remarkable progress in improving the ICT capacity and use.

Case of National Institute of Cardiovascular Diseases (NICVD)

Being motivated from local need, the then Professor and Head of Department of Biochemistry at NICVD (2004-2008) introduced electronic lab report system at his institute laboratory, Dhaka which eliminated paper-based registers.

Creative brains in MOHFW

Enthusiasts discovered to use the advantage of SMS (short message service) to circulate reminders to all mobile phone users, one the eve of last two successive National Immunization Days, about vaccinating their children.

Innovative examples of small to large scale ICT use in health sector in Bangladesh

Rajshahi City Corporation introduced electronic birth registration system (EBRS)

A child is issued a machine readable electronic card to update, retrieve and track demographic, schooling and immunization records. Parents require producing the card to get health care, education and other city corporation services for the child.

The Urban Primary Health Care Project's on line centralized database

UPHCP with 9.41 million beneficiaries, a project of the Ministry of Local Government maintains a web based online database to capture service delivery data from remote partners. The system facilitates real time review of data and feed back by stakeholders, tracking of work flow, centralized web administration, filtering information visibility by user group, and transparency.

Apollo - The paperless hospital

The Apollo Hospitals Dhaka (AHD), a 450-bed super specialty tertiary care facility has virtually created a paperless and filmless environment for all events through a synergy of medical technology and advances in IT. RFID (Radio Frequency IDentification) employs tracking of real time movement of high value assets, patients and staffs. Tele-health service offers discussion opportunities between patient, family and clinicians. A unified messaging solution for clinicians to receive in a single universal inbox all voice, text, emails, fax messages and location based services, is planned to deploy by end of 2008.

GrameenPhone's Mobile Phone HealthLine

GrameenPhone, the largest mobile operator in Bangladesh, received the GSM Association's Global Mobile Award 2007 in the category of "Best Use of Mobiles for Social and Economic Development" for its popular people-centric project "HealthLine". HealthLine is a medical call center where any person can call a mobile hotline through Grameen's mobile phone and consult a doctor on 24/7 basis at a minimal call rate. Two million people mostly women (60%) from the remotest part of Bangladesh are claimed to use the system in last 14 months.

Marie Stopes overcomes Internet connection barrier

The Marie Stopes - a NGO, which provides sexual and reproductive health services to 92,000 poor and middle income clients of Bangladesh, maintains a centralized database to receive info from 240 services delivery points. It was difficult to get data from hard to reach remotest centers due to lack of Internet connectivity. Marie Stopes removed the obstacle using the latest mobile technology, "Zoom In" of Citycell PSTN as modem.

ICDDR,B's electronic Demographic Surveillance System

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) operates a Health and Demographic Surveillance System (HDSS) currently covering 149 villages of Matlab, a community cohort 55 kilometres away from Dhaka. HDSS includes data such as registration of births, deaths, migrations and other socio-demographic and economic events. ICDDR,B created an e-data repository (1977-till date), which is being updated continuously.

Example-3: The hospital- and facility-based service data are collected and compiled locally in paper-based forms. The forms require handful of data and appear unrealistic to be handled by over burdened service providers. As a result forms are incompletely filled; coverage is unsatisfactory; and tertiary hospitals and all private providers remain almost uncovered. All compiled forms come to MIS office for manual data entry to prepare national disease profile. The disease profiles suffer from the blame of misrepresentation of true picture.

Example-4: Directors of several vertical programmes utilize the health workers to collect routine field data for measuring respective programme performances. Each director uses separate forms and separate schedules. Many indicators are common. Monitoring is weak. So, health workers

take opportunity for data manipulation for avoiding repeated home visits. Data are compiled in paper forms locally in three stages, first at union level, then at upazila level and finally at district level. The compiled data forms are sent to Dhaka to programme director's office. Data do not reach to MIS offices or to other programme directors. On the other hand, the MIS departments are blamed for failure to provide programme coverage data.

It is assumed that good leadership in the MIS departments, appropriate advocacy programmes for the policy makers and quick mobilization of resources, manpower and technology will quickly boost the health information systems in the country.

Strengths and weaknesses of ICT application in decision making in health sector

Strengths

Benefit of ethnic, cultural and linguistic uniformity and harmony of its people suitable for common platform for ICT based public health information system.

Lowering price of desktop and laptop computers, PDAs and Internet enabled mobile phones; availability of ICT geniuses; good coverage of Internet to enable tele-medicine and web-based community health awareness programme.

Good and systematically designed public health care network with health workers at each service distribution point from cities to rural areas constituting a good data collection network; existing forms, systems of data collection; long valuable experience; computers up to upazila levels to serve as valuable resources for switching to ICT based data collection, communication and information system.

Government's recent steps to strengthen e-Governance, which has specific e-health visions.

Interest of policy makers in MOHFW to use health information in decision making. MOHFW's ongoing initiative under Health Metrics Network (HMN) project for improving health information system.

Existence of MIS departments in both executing authorities (DGHS and DGFP) of MOHFW to promote ICT culture; ongoing ICT training programmes to fill the gap of ICT workforce.

The Government's policy promotes public-private-NGO partnerships; pro-activists and innovations to carry forward ICT movement in health sectors.

Two recent highly ambitious praiseworthy projects in Bangladesh, viz. photograph-based electronic voter ID cards, and nation-wide vital registration to link to national databases to build confidence towards ambitious health ICT projects.

Weaknesses

Gross shortage of expert and competent manpower in the MIS departments of health sector.

Absence of ICT trouble shooting and support policy for institutions, hospitals and facilities.

Weak coordination between MIS departments of DGHS and DGFP and between line directors; ICT equipments are distributed by several programme directors and donors without coordination causing misdistribution with surplus in one place and deficit in other.

- Weakness in planning, supervision and monitoring in implementation of annual household survey (GR).
- Absence of simple web-based interface causing partial coverage of personnel, logistic and facility based MIS; absence of financial MIS.
- Inadequate attention use possibility of mobile phone SMS for creating mass awareness and mobilizing health manpower.
- Uncoordinated and poorly monitored field data collection keeping room for duplicate effort for same indicator, worker burden and de-motivation, and data manipulation.
- Weaker emphasis to use of GIS and SAM in health information system; a GIS resource on health facilities completed in 2003 owned by CMMU was not used.
- Insufficient dissemination and advocacy programmes for use of ICT in health sector.

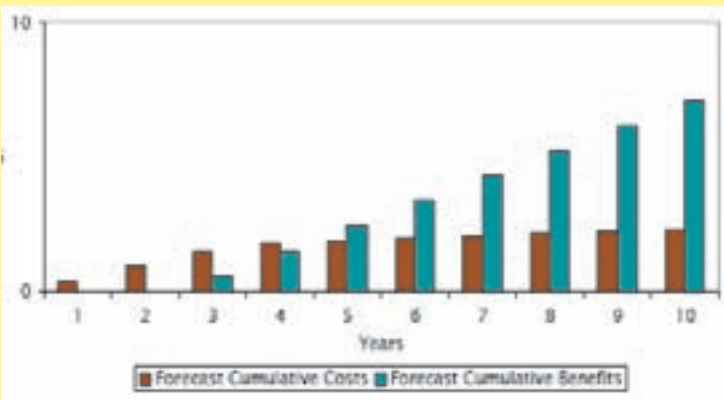
Strategy to improve e-health in health sector of Bangladesh

1. Immediate steps to provide expert and competent manpower in the MIS departments of both DGHS and DGFP.
2. Centralized web based system: This would be the best option. Good system, good maintenance, single effort, easier availability of manpower, quicker update, uniform data platform. Centralized database accessible through web browser in client computer from anywhere through any device, viz. desktop PC, laptop, mobile phone or PDA. The educational and skill background of health workers will permit use of the interface.
3. Special attention of MOHFW to strengthen the MIS

Global experience of investment in e-health

Successful model of ICT investment shows rapid rise of benefits from year three. Investment needs decline from year four through year ten. However, maximum net benefits must be realized over the shortest feasible time scales.

Figure: Illustrative forecasts for cumulative costs and benefits of successful e-health investment and net benefits



For ICT investment, many suggest Jigsaw Model for developing countries, which advises for beginning with an agreed overall picture for e-health that is then constructed from its small constituent parts. The project grows gradually and ultimately becomes big. The Bing bang Model is large scale initial project which is not suggested usually for developing countries.

4. departments and enhanced coordination between the MIS departments of DGHS and DGFP
4. Minimum number of data collection forms, minimum number of indicators (only core ones).
5. An immediate policy and plan for choice, coordination, distribution, and support for ICT equipment across facilities.
6. Transformation of GR to permanent citizens' registry integrating with National ID and Vital Registration databases to lessen future workload and an instant source of updated and quality population data.
7. MOHFW should give serious drive to ensure that all health personnel, staff and managers must take care to update the personnel and logistic MIS whenever a change occurs. A way should be found to create and maintain financial MIS.
8. Innovations to discover people-centric use of mobile phone and SMS
9. Improved supervision and monitoring of e-health projects.
10. Emphasis to appropriate dissemination and advocacy programmes.
11. Increased use of new e-health applications, such as, GIS and SAM; use the GIS resource available with CMMU.
12. Sustaining all positive efforts, like HMN and e-Governance initiatives, public-private-NGO partnership, proactive enthusiasm and innovations.

Conclusion

With the new drive of Government to enhance e-Governance, the e-health initiatives in the country have recently gained momentum. The health sector is not out of this phenomenon. Fortunately this happened in a time when MOHFW was assessing the existing health information system (HIS) as part of a drive under HMN project for development of new plan for future HIS of the country. HMN has created an opportunity to bring all the stakeholders, public, private and donors, under common platform to find ways and means for a sustainable and effective HIS. MOHFW has recently undertaken initiatives to improve coordination for e-health related activities. Change in MIS leaderships has created opportunities for appropriate systems and solutions. It is hoped that the health sector of Bangladesh will soon be able to exploit the various success factors to achieve its e-health vision.

Financing Health Services

Allocation of fund for Annual Development Program under Health, Nutrition and Population Program (HNPPSP) 2008-2009 (in Lakh Taka)

Operational Plans (Total 19)	Total	GOB & JDCF	Project Aid Total	RPA		Other than RPA
				GOB	Other	
Essential Service Delivery (ESD)	38683	7181	31502	11315	0	20187
Communicable disease control (CDC)	10788	2500	8288	8000	288	0
TB and Leprosy Control (TLC)	2717	1357	1360	495	0	865
Health Education and Promotion (HEP)	2306	716	1590	1540	0	50
Improved Hospital Service Management (IHSM)	16000	6000	10000	9900	0	100
Alternative Medical Care (AMC)	1157	871	286	286	0	0
Non-Communicable Disease and Other Public Health Interventions (NCDI)	5066	204	4862	4862	0	0
National Aids-Std Program (NASP)	11865	131	11734	11734	0	0
In-service Training (IST)	4683	600	4083	4083	0	0
Pre-service Education (PSE)	6500	1500	5000	5000	0	0
Procurement Storage and Supplies (PSS)	4057	3657	400	100	0	300
Research and Development (Health)	570	30	540	540	0	0
MIS (Health)	1500	120	1380	1380	0	0
Quality Assurance (QA)	160	17	143	143	0	0
Sector-wide Program Management (SWPM)	500	10	490	490	0	0
Human Resource Management (HRM)	150	50	100	100	0	0
Improved Financial Management (IFM)	50	12	38	38	0	0
Micronutrient Supplementation (MS)	1600	345	1255	1255	0	0
National Eye Care (NEC)	500	273	227	227	0	0
Total (Lakh Taka) =	108852	25574	83278	61488	288	21502
Note: This ADP will be revised after approval of the proposed revised Program Implementation Plan (PIP) for HNPSP in ECNEC						

Allocation, Expenditures and Progress of Operational Plans of HNPSP 2007-2008 under DGHS (in lakh taka)*

Operational Plans (Total 19)	Allocation					Expenditures					Progress against allocation%
	GOB & JDCF	RPA		Other than RPA	Total	GOB & JDCF	RPA	Other	Other than RPA	Total	
		GOB	Other				GOB				
Essential Service Delivery	7,212.00	9,015.00	22,349.00	10,749.00	49,325.00	5,812.00	8,115.00	22,349.00	8,044.41	44,320.41	89.85
Communicable Disease Control	2,600.00	8,887.00	1,113.00	-	12,600.00	1,262.47	4,742.61	2,588.58	-	8,593.66	68.20
TB & Leprosy Control	1,006.00	450.00	8,131.45	1,420.55	11,008.00	732.28	371.97	9,262.86	243.97	10,611.08	96.39
Health Education and Promotion	992.00	1,118.00	-	50.00	2,160.00	986.88	713.19	-	50.00	1,750.07	81.02
Improved Hospital Service Management	6,150.00	3,909.00	-	91.00	20,150.00	4,609.26	11,856.18	-	38.44	16,503.88	81.91
Alternative Medical Care	920.00	46.00	-	-	966.00	741.28	41.85	-	-	783.13	81.07
Non-Communicable Diseases & Other Public Health Interventions	204.00	2,500.00	-	-	2,704.00	77.49	1,783.18	-	-	1,860.67	68.81
National AIDS/STD Program	261.00	4,618.00	2,037.00	7,800.00	14,716.00	102.41	1,671.76	2,037.00	6,800.00	10,611.17	72.11
In-service Training	313.00	2,200.00	-	559.00	3,072.00	174.58	1,579.54	-	1,128.47	2,882.59	93.83
Pre-service Education	1,775.00	335.00	-	-	2,110.00	1,700.99	283.01	-	-	1,984.00	94.03
Procurement Storage & Supplies	3,017.00	40.00	-	-	3,057.00	2,980.69	30.17	-	-	3,010.86	98.49
Research & Development (Health)	18.00	682.00	-	-	700.00	10.39	503.48	-	-	513.87	73.41
MIS-Health	290.00	810.00	-	-	1,100.00	226.12	476.54	-	29.77	732.43	66.58
Quality Assurance	16.00	100.00	-	-	116.00	14.12	100.00	-	-	114.12	98.38
Sector-wideProgram Management	10.00	290.00	-	-	300.00	8.90	171.69	-	-	180.59	60.20
Human Resource Management	25.00	70.00	-	-	95.00	24.95	51.44	-	-	76.39	80.41
Improved Financial Management	22.00	28.00	-	-	50.00	11.00	28.00	-	-	39.00	78.00
Micronutrient Supplementation	318.00	1,769.00	-	-	2,087.00	282.61	887.94	-	-	1,170.55	56.09
National Eye Care	200.00	110.00	-	-	310.00	195.81	110.00	-	-	305.81	98.65
Total (Lakh Taka)=	25,349.00	46,977.00	33,630.45	20,669.55	126,626.00	19,277.32	30,873.50	36,237.44	16,400.54	102,788.80	81.18
Note: In some OPs, DPA fund was not shown											

Revenue budget of Ministry of Health and Family Welfare

Heads	Figures are in '000 Taka		
	Budget FY 2008-2009	Revised FY 2007-2008	Budget FY 2007-2008
Administration (Secretariat, autonomous bodies, international organizations)	1080,18,01	744,69,91	726,18,03
DGHS (DGHS, divisional offices, civil surgeons' offices, UHFPO offices, Drug Administration, Directorate of nursing services)	544,95,62	464,54,97	464,33,82
Medical education (medical colleges, paramedical institutions, MATS, dental colleges, nursing institutes, alternative medical colleges, CME)	123,51,18	101,90,67	102,08,57
Hospitals (medical college hospitals, district hospitals, general hospitals, upazila hospitals, dental college hospitals)	951,50,26	806,36,14	788,64,90
Specialized hospitals (postgraduate institute hospitals)	183,87,17	134,29,74	127,59,99
Public health (epidemic disease control)	2,11,29	1,72,62	1,79,28
Clinics and health centers (TB clinics, school health clinics, other centers)	27,37,98	23,63,74	23,65,96
Family planning (DGFP, division FP offices, district FP offices, upazila FP offices, hospital and dispensaries, other population control services)	752,18,01	633,27,44	641,30,69
Total MOHFW	3665,69,52	2910,45,23	2875,61,24