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Ministry of Health and Family Welfare

HEALTH BULLETIN 2023

Management Information System

Directorate General of Health Services

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ACRONYMS

ACSM	Advocacy, Communication, and Social Mobilization	BNC	Bangladesh Nursing Council
ACR	Annual Confidential Report	BNHA	Bangladesh National Health Accounts
ACT	Artemisinin-based Combination Therapy	BIRDEM	Bangladesh Institute of Research and Rehabilitation for Diabetes, Endocrine and Metabolic Disorders
ADB	Asian Development Bank	BNNC	Bangladesh National Nutrition Council
ADP	Annual Development Program	BNSB	Bangladesh National Society of Blind
AEFI	Adverse Events Following Immunization	bOPV	Bivalent Oral Polio Vaccine
AeHIN	Asian eHealth Information Network	BOR	Bed-occupancy Ratio/Rate
AFP	Acute Flaccid Paralysis	BPL	Below Poverty-line
AHI	Assistant Health Inspector	BRAC	Bangladesh Rural Advancement Committee
A2i	Access to Information	BRIS	Birth Registration Information System
AIDS	Acquired Immunodeficiency Syndrome	BRN	Birth Registration Number
ALS	Average Length of Stay	BSL	Biosafety Level
AMC	Alternative Medical Care	BSMMU	Bangabandhu Sheikh Mujib Medical University
AMR	Antimicrobial Resistance	BST	British Summer Time
AMS	Asset Management System	BTRC	Bangladesh Telecommunication Regulatory Commission
ANC	Antenatal Care	BUET	Bangladesh University of Engineering and Technology
API	Annual Parasite Incidence/Application Programming Interfaces	BUMS	Bachelor of Unani Medicine and Surgery
APIR	Annual Program Implementation Report	CAGR	Compound Annual Growth Rate
APR	Annual Program Review	CBE	Clinical Breast Examination
ARC	American Red Crescent/Antimicrobial Resistance Containment	CBHC	Community-based Healthcare
ARI	Acute Respiratory Infection	CC	Community Clinic
ART	Antiretroviral Treatment/Antiretroviral Therapy	CCC	Chattogram City Corporation
ASD	Autism Spectrum Disorder	CCU	Cardiac/Coronary Care Unit
ASP	AIDS/STD Program	CDC	Communicable Disease Control
BAMS	Bachelor of Ayurvedic Medicine and Surgery	CDD	Control of Diarrheal Diseases
BBS	Bangladesh Bureau of Statistics	CD-VAT	Customs Duty and Value-added Tax
BCC	Behavior Change Communication/Barishal City Corporation	CEmOC	Comprehensive Emergency Obstetric Care
BCG	Bacillus Calmette–Guérin	CES	Coverage Evaluation Survey
BCPS	Bangladesh College of Physicians and Surgeons	CFR	Case-fatality Rate
BCS	Bangladesh Civil Service	CG	Community Group
BDHS	Bangladesh Demographic and Health Survey	CHCP	Community Healthcare Provider
BDT	Bangladeshi Taka	CHE	Current Health Expenditure
BEOC	Basic Emergency Obstetric Care	CHT	Chattogram Hill Tracts
BHFS	Bangladesh Health Workforce Survey	CHW	Community Health Worker
BHMS	Bachelor of Homeopathic Medicine and Surgery	CIDA	Canadian International Development Agency
BITID	Bangladesh Institute of Tropical and Infectious Disease	CIDD	Control of Iodine Deficiency Disorder
BMDC	Bangladesh Medical and Dental Council	CIN	Cervical Intra-epithelial Neoplasia
BMRC	Bangladesh Medical Research Council	CIPRB	Center for Injury Prevention and Research, Bangladesh
		CKD	Chronic Kidney Disease

CMBT	Center for Medical Biotechnology	DRPCC	District Rabies Prevention and Control Center
CME	Center for Medical Education	DSCC	Dhaka South City Corporation
CMSD	Central Medical Store Depot	DSF	Demand-side Financing
CoD	Cause of Death	DUMS	Diploma in Unani Medicine and Surgery
COPD	Chronic Obstructive Pulmonary Disease	EA	Enterprise Architecture
CPR	Contraceptive Prevalence Rate	ECG	Electrocardiogram
CR	Civil Registration	ECNEC	Executive Committee of National Economic Council
CRD	Chronic Respiratory Disease	eHealth	Electronic Health
CRPD	Convention on the Rights of Persons with Disabilities	ELMIS	Electronic Logistic Management Information System
CRTF	Competency-based Residential Training for Fellowship	EmONC	Emergency Obstetric and Newborn Care
CRVS	Civil Registration and Vital Statistics	EMR	Electronic Medical Record
CS	Civil Surgeon	EOC	Emergency Obstetric Care
CSBA	Community-based Skilled Birth Attendant	EPI	Expanded Program on Immunization
CSG	Community Support Group	ERD	Economic Relations Division
CSO	Civil Society Organization	ERP	Emergency Response Preparedness
CT	Computed Tomography	ESD	Essential Service Delivery
CVD	Cardiovascular Disease	ESP	Essential Health Service Package
DAMS	Diploma in Ayurvedic Medicine and Surgery	ETL	Extract Transform-Load
Dev.	Development	FAO	Food and Agriculture Organization
D4D	Data for Decision	FBIS	Foodborne Illness Surveillance
DF/DHF	Dengue Fever/Dengue Hemorrhagic Fever	FCPS	Fellow of College of Physicians and Surgeons
DFID	Department for International Development	FCTC	Framework Convention on Tobacco Control
DGDA	Directorate General of Drug Administration	FD	Finance Division
DGFP	Directorate General of Family Planning	FDMN's	Forcibly-displaced Myanmar Nationals
DGHEU	Directorate General of Health Economics Unit	FETP, B	Field Epidemiology Training Program, Bangladesh
DGHS	Directorate General of Health Services	FP	Family Planning
DGME	Directorate General of Medical Education	FPI	Family Planning Inspector
DGNM	Directorate General of Nursing and Midwifery	FRCS	Fellowship of the Royal College of Surgeons
DH	District Hospital	FSW	Female Sex Worker
DHIS2	District Health Information System software version 2	FWA	Family Welfare Assistant
DHFR	Dihydrofolate reductase	FWV	Female Welfare Visitor
DHMS	Diploma in Homoeopathic Medicine and Surgery	FY	Fiscal Year
DHPEd	Diploma in Health Professional Education	FYP	Five-year Plan
DHS	Demographic Health Survey	GAVI	Global Alliance for Vaccines and Immunization
DICs	Drop-in-Centers	GBD	Global Burden of Disease
DLI	Disbursement Link Indicator	GBS	Guillain-Barre Syndrome
DMCH	Dhaka Medical College Hospital	GBV	Gender-based Violence
DNA	Deoxyribonucleic Acid	GCC	Gazipur City Corporation
DNCC	Dhaka North City Corporation	GDD	Global Disease Detection
DOTs	Directly-observed Treatment-Short Course	GDP	Gross Domestic Product
DP	Development Partners	GED	General Economic Division
DPA	Direct Project Aid	GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
DR	Disaster Recovery		

GH	General Hospital	icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
GHS	Global Health Security	ICD-10	International Statistical Classification of Disease
GHSA	Global Health Security Agenda	ICMH	Institute of Child and Mother Health
GNI	Gross National Index	ICT	Information and Communication Technology
GOARN	Global Outbreak Alert and Response Network	ICU	Intensive Care Unit
GOB	Government of Bangladesh	ideSHi	Institute of developing Science and Health initiatives
Govt.	Government	IEDCR	Institute of Epidemiology, Disease Control and Research
GPS	Global Positioning System	IHR	International Health Regulations
GR	Geographical Reconnaissance	IHT	Institute of Health Technology
GRS	Grievance Redress System	IMCI	Integrated Management of Childhood Illness
HA	Health Assistant	IMPACT	Improving Public Health Management for Action
HAV	Hepatitis A Virus	IMNCI	Integrated Management of Neonatal and Childhood Illness
HBV	Hepatitis B Virus	INFOSAN	International Network of Food Safety Authority
HCFS	Healthcare Financing Strategy	IPGMR	Institute of Postgraduate Medicine and Research
HCV	Hepatitis C Virus	IPH	Institute of Public Health
HDI	Human Development Index	IPHN	Institute of Public Health Nutrition
HDU	High Dependency Unit	IPV	Inactivated Polio Virus Vaccine
HEU	Health Economics Unit	ISDP	Integrated Service Delivery Platform
HI	Health Inspector	ISP	Internet Service Provider
HIE	Health Information Exchange	IT	Information Technology
HIS	Health Information System	IV	Intravenous Fluid
HISPBd	Health Information Systems Program, Bangladesh	IVM	Integrated Vector Management
HIV	Human Immunodeficiency Virus	JEE	Joint External Evaluation
HMIS	Health Management Information System	JHU	Johns Hopkins University
HNP	Health and Nutrition Program	JICA	Japan International Cooperation Agency
HNPSIP	Health, Nutrition and Population Strategic Investment Plan	JPEG	Joint Photographic Experts Group
HPNSDP	Health, Population and Nutrition Sector Development Program	KA	Kala-azar
HPNSP	Health, Nutrition and Population Sector Program	KCC	Khulna City Corporation
HPSP	Health and Population Sector Programme	KSM	Kala-azar Search Volunteer
HPV-Load	Human Papillomavirus Viral Load	LAN	Local Area Networking
HR	Human Resource	LD	Line Director
HRH	Human Resource for Health	LEEP	Loop Electrosurgical Excision Procedure
HRIS	Health Resource Information System	LF	Lymphatic Filariasis
HRM	Human Resource Management	LG	Local Government
HRMS	Human Resource Management System	LHB	Local Health Bulletin
HSGP	Health and Gender Support Project		
HSM	Hardware Security Module		
HSS	Health Systems Strengthening		
HWF	Health Workforce		
IAEG-SDGs	Inter-agency and Expert Group on SDG Indicator	M&E	Monitoring & Evaluation
IBS	Irritable Bowel Syndrome	MARP	Most-at-risk Population
		MAT	Medical Assistance Training

MATS	Medical Assistant Training School	MSW	Male Sex Worker
MBBS	Bachelor of Medicine and Surgery	MT	Medical Technologist
MBDC	Mycobacterium Disease Control	MT-EPI	Medical Technologist of Expanded Program on Immunization
MBT	Medical Biotechnology	MTR	Mid-term Review
MCC	Mymensingh City Corporation		
MCCoD	Medically-certified Cause of Death		
MCH	Medical College Hospital	NAC	National AIDS Committee
MCPS	Member of the College of Physicians and Surgeons	NASP	National AIDS and STD Program
MCV1	Measles Coverage Vaccine first dose	NCC	Narayanganj City Corporation
MCWC	Maternal and Child Welfare Centers	NCD	Non-communicable Disease
MD	Doctor of Medicine	NCT	National Competitive Tendering
MDA	Mass Drug Administration	NFC	National Fistula Center
MDGs	Millennium Development Goals	NFM	New Funding Model
MDR	Multidrug Resistance	NGOs	Non-governmental Organizations
MDT	Multidrug Therapy	NHA	National Health Accounts
MDV	Mass Dog Vaccination	NIC	National Influenza Center
ME	Medical Education	NICRH	National Institute of Cancer Research & Hospital
MEHM	Minimum European Health Module	NICU	Neonatal Intensive Care Unit
ME&HMD	Medical Education and Health Manpower Development	NID	National ID/National Immunization Day
MHPSS	Mental Health and Psychosocial Support Services	NIDCH	National Institute of Diseases of the Chest & Hospital
MHVS	Maternal Health Voucher Scheme	NINH	National Institute of Neurology & Hospital
MICS	Multiple Indicator Cluster Surveys	NINS	National Institute of Neurosciences & Hospital
MIS	Management Information System	NIO	National Institute of Ophthalmology
MMEd	Masters in Medical Education	NIPORT	National Institute of Population Research and Training
MMR	Maternal Mortality Ratio	NIPSOM	National Institute of Preventive and Social Medicine
MNCAH	Maternal, Neonatal, Child and Adolescent Health	NISB	National Influenza Surveillance, Bangladesh
MNHI	Maternal and Newborn Health Initiative	NITOR	National Institute of Traumatology and Orthopaedics Rehabilitation
MO	Medical Officer	NKEP	National Kala-azar Elimination Program
MOCHTA	Ministry of Chattogram Hill Tracts Affairs	NLEP	National Leprosy Elimination Program
MOHA	Ministry of Home Affairs	nm	Nautical Mile
MOHFW	Ministry of Health and Family Welfare	NMCP	National Malaria Control Program
MOLGRD	Ministry of Local Government, Rural Development and Cooperatives	NMSS	National Micronutrients Status Survey
MPDSR	Maternal and Perinatal Death Surveillance and Response	NNP	National Nutrition Program
MPH	Masters in Public Health	NNS	National Nutrition Services
M Phil	Masters of Philosophy	NPAN2	Second National Plan of Action for Nutrition
MRCP	Membership of the Royal College of Physicians	NQAS	National Quality Assurance Standards
MR	Measles-Rubella Vaccine	NRPCC	National Rabies Prevention and Control Center
MRI	Magnetic Resonance Imaging	NSC	National Steering Committee
MRS	Medical Record System	NSP	National Strategic Plan
MS	Masters of Surgery	NTBB	National Taskforce on Biotechnology of Bangladesh
MSD	Measles Second Dose	NTC	National Technical Committee
MSH	Management Sciences for Health	NTCMB	National Technical Committee on Medical Biotechnology
MSM	Men having Sex with Men		

NTDs	Neglected Tropical Diseases	PSM	Preventive and Social Medicine
NTP	National TB Program	PSTN	Public Switched Telephone Network
NTRL	National TB Reference Laboratory	PUD	Peptic Ulcer Disease
NTV	Nerve Tissue Vaccine	PWID	People Who Inject Drugs
NTWG	National Technical Working Group	QAS	Quality Assurance Scheme
OMR	Optical Mark Recognition	RangCC	Rangpur City Corporation
OOP	Out of Pocket	RADP	Revised Annual Development Program
OOPE	Out-of-Pocket Expenditure	RBC	Red Blood Cell
OP	Operational Plan	RCC	Rajshahi City Corporation
OPD	Outpatient Department	RCHCIB	Revitalization of Community Healthcare Initiative in Bangladesh
OpenHIE	Open Health Information Exchange	RDU	Research and Development Unit
OpenMRS	Open Medical Record System	REMN	Reaching Every Mother and Newborn
OpenSRP	Open Smart Register Platform	REP	Rabies Elimination Program
OPV	Oral Polio Vaccine	Rev.	Revenue
ORG	Office of Registrar General	RHC	Rural Health Center
ORS	Oral Rehydration Salt	RHIS	Routine Health Information System
ORT	Oral Rehydration Therapy	RIG	Rabies Immunoglobulin
OSD	Officer on Special Duty	RMCS	Revised Malaria Control Strategies
OT	Operation Theater	RPA	Reimbursable Project Aid
PA	Project Aid	RRT	Rapid Response Team
PCR	Polymerase Chain Reaction	rRT-PCR	Real-time Reverse Transcription (RRT)-Polymerase Chain Reaction
PCV	Packed Cell Volume	RT-PCR	Reverse Transcription Polymerase Chain Reaction
PDA	Personal Digital Assistant	RTRL	Regional TB Reference Laboratory
PEP	Post-exposure Prophylaxis	SACMO	Sub-Assistant Community Medical Officer
Pf	<i>Plasmodium falciparum</i>	SAP	Strategic Action Plan
PH	Public Health	SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
PHC	Primary Healthcare	SBA	Skilled Birth Attendant
PhD	Doctor of Philosophy	SBTP	Safe Blood Transfusion Program
PHEIC	Public Health Emergency for International Concern	SCC	Sylhet City Corporation
PKDL	Post Kala-azar Dermal Leishmaniasis	SCAPAND	Strategic and Convergent Action Plan on Autism and Neurodevelopment Disabilities
PLHIV	People Living with HIV	SCANU	Special Care Newborn Unit
PLSM	Product Line Sales Manager/Police Long Service Medal	SDGs	Sustainable Development Goals
PMIS	Personnel Management Information System	SEARO	Southeast Asia Regional Office
PMMU	Program Management & Monitoring Unit	SHR	Shared Health Record
PMO	Prime Minister's Office	SIAP	Statistical Institute for Asia and the Pacific
PNC	Postnatal Care	SIP	Strategic Investment Plan
PoE	Point of Entry	SKKRC	Surya Kanta Kala-azar Research Center
PPP	Purchasing Power Parity	SMoL	Start-up Mortality List
PPR	Public Procurement-related Rules	SMS	Short Message Service
PRM	Population, Refugees and Migration/ Physician Relationship Management	SOP	Standard Operating Procedure
PRS	Population Registration System	SSK	Shasthyo Surokhsha Karmasuchi
PRSP	Poverty Reduction Strategy Paper		
PS&comp	Planning, Supply and ownership management program		

STD	Sexually Transmitted Disease	UPHCP	Urban Primary Healthcare Project
STH	Soil-transmitted Helminthes	UPS	Uninterruptible Power Supply
SVRS	Sample Vital Registration System	USAID	United States Agency for International Development
SWAp	Sectorwide Approach	USC	Union Sub-center
TAS	Transmission Assessment Survey	USD	United States Dollar
TAST	Technical Assistance Support Team	USG	Ultrasonography
TB	Tuberculosis	USI	Universal Salt Iodization
TCV	Time, Cost, and Visit	VA	Verbal Autopsy
TCV	Tissue Culture Vaccine	VAC	Vitamin A Capsule
Td	Tetanus-diphtheria	VAD	Vitamin A Deficiency
TEMO	Transport & Equipment Maintenance Unit	VIA	Visual Inspection with Acetic Acid
TFR	Total Fertility Rate	VPDs	Vaccine Preventable Diseases
THE	Total Health Expenditure	WASH	Water, Sanitation, and Hygiene
tOPV	Trivalent Oral Polio Vaccine	WAZ	Weight-for-age z-score
ToT	Training of Trainers	WB	World Bank
TT	Tetanus Toxoid	WBC	White Blood Cell
TTGA	Taurocholate-tellurite-gelatin Agar	WCBA	Women of Childbearing Age
TTI	Transfusion-transmitted Infection	WFS	Women-friendly Spaces
TTU	Technical Training Unit	WHO	World Health Organization
UAT	User Acceptance Test	WiMAX	Worldwide Inter-operability for Microwave Access
UESDS	Utilization of Essential Service Delivery Survey	WOA H	World Organization for Animal Health
UHFPO	Upazila Health and Family Planning Officer	<hr/>	
UHC	Universal Health Coverage/Upazila Health Complex	Note: Through a recent government announcement, spellings of the names of some places, like Chittagong, Comilla, Jessore, have been changed for adherence to their Bangla pronunciations. The new spellings could not be fully used in this publication because the institutions having names of these places have not yet changed the spellings. Following the principle of spelling proper names, we had to retain the old spellings of the names of these places whrn assocoated with the name of any institution. However, Chattogram for Chittagong, Cumilla for Comilla, Jashore for Jessore are used wherever possible	
UHFWC	Union Health and Family Welfare Center		
UN	United Nations		
UNAIDS	Joint United Nations Program on HIV/AIDS		
UNDP	United Nations Development Program		
UNESCO	United Nations Economic and Social Commission for Asia and the Pacific		
UNFPA	United Nations Population Fund		
UNGASS	United Nations General Assembly Special Session		
UNICEF	United Nations Children's Fund		



Message



Health Bulletin of the Directorate General of Health Services (DGHS) is one of the critical documents of health statistics in Bangladesh. It contains lots of routine health information as well as survey results, with in-depth analysis. The Bulletin is the witness of our many achievements toward the SDGs. I congratulate the MIS of the Directorate General of Health Services for the collection of related data, generation of information, compilation of the report, and dissemination. It will pave the way for deliberations by the planners, stakeholders, service providers, and the clients.

I am very happy to know that DGHS regularly publishes this bulletin with exciting information on the health sector. Nowadays, information is easily accessible through innovative eHealth and mHealth developed by DGHS. Over the last few years, Bangladesh made tremendous progress in the health sector under the present pro-people Government led by our Honorable Prime Minister Sheikh Hasina. These achievements are the results of visionary planning and good monitoring and evaluation of health interventions.

I would like to extend my thanks to all personnel of MIS-Health under the leadership of Prof. Dr. Abul Bashar Mohammed Khurshid Alam. I congratulate him and his colleagues and expect to see more of such publications in the coming days. I believe their good work will continue, and Health Bulletin 2023 will fulfill the information needs of all concerned.

Joy Bangla, Joy Bangabandhu
Long live Bangladesh

Dr. Samanta Lal Sen
Honorable Minister
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh



Message



I am very delighted to learn that the Management Information System (MIS) of the Directorate General of Health Services (DGHS) is going to publish its Health Bulletin 2023. This publication has now become a necessary source of information containing statistical information on different aspects of the health sector.

The Government is committed toward ensuring the fundamental rights of the people. The Constitution enshrines that health is a basic right of every citizen of the Republic. The country has to sustain a huge population with scarcity of resources. In the absence of sound health information, the limited resources available for meeting the health needs of people cannot be used effectively.

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

I am sure, the concepts and subjects highlighted in the Health Bulletin 2023 should be useful to all concerned in the health sector, particularly those who are endeavoring to change the quality of our life through the use and application of epidemiological tools and techniques in public health.

Joy Bangla

Joy Bangabandhu

Dr. Rokeya Sultana

Honorable State Minister

Ministry of Health and Family Welfare

Government of the People's Republic of Bangladesh



Message



I am very pleased to learn that MIS, DGHS is going to publish the Health Bulletin 2023, which is a yearly publication of DGHS and provides us with updated statistics on health situation in the country. I am sure that this bulletin will be helpful to the managers at all levels.

Without doubt it can be emphasized that this is the most reliable source of health-related information of the country. It gives us important clues for policy-making. I think this bulletin is helping us develop a culture of evidence-based decision-making which is very important for a country, like ours.

I am happy to know that the efforts of the Government in improving the health scenario of the country have been reflected in the facts and figures presented in this bulletin. At the same time, it is also showing us some areas for further improvements. I am hopeful that we shall be able to take prompt actions for the betterment in those areas.

I congratulate everyone involved in the production of this flagship publication on behalf of the Ministry of Health and Family Welfare. I want to give special thanks to Prof. Dr. Md. Shahadat Hossain, Director, MIS, and the hard-working people of MIS, DGHS. Hope they will incorporate the suggestions from the readers of the Bulletin so that the quality of publication gets even better in the future.

Md. Jahangir Alam
Secretary
Health Services Division
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh



Message



Health Bulletin is an important yearly publication of the Directorate General of Health Services under the Ministry of Health and Family Welfare. It provides an authentic picture that covers almost all aspects of healthcare delivery, especially by the Government. This critically helps us analyze our work and policies and plays an important role for future planning. I am very happy to know that DGHS is regularly publishing this bulletin, with exciting information, on the health sector. Nowadays, information is easily accessible through innovative eHealth and mHealth developed by DGHS.

The availability of accurate and timely data is essential to monitor the progress of health development and to evaluate its impact. Now, it is well-accepted that up-to-date information is very important for efficient management at all levels. The Bulletin with more updated information will certainly be very useful to the implementers, administrators, researchers, policy-makers, and also to our development partners.

I sincerely appreciate the hard work of personnel in the MIS, DGHS for production of this publication. Their efforts to improve the data collection and data presentation are also praiseworthy. I hope they will continue their good work despite our limitations and constraints.

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

Joy Bangla
Joy Bangabandhu
Long Live Bangladesh

Md. Azizur Rahman
Secretary
Medical Education and Family Welfare Division
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh



Message



I am glad that Health Bulletin 2023 is coming out in due time. This annual publication has been recognized as a useful document for all in the health sector, ranging from policy-makers and planners to the health managers and field workers. I have learnt that Health Bulletin 2023 furnishes better and more information than Health Bulletin 2022. This improvement has been possible because of better effort for improving data availability and quality. The development of digital systems across our healthcare network which improved our data communication systems in terms of availability, quicker transmission, and processing, contributed to improving our health information system as well.

Thanks to SMART BANGLADESH Vision of our Government. I am grateful to the Honorable Minister, State Minister, Secretary of the Health Services Division, and Secretary of the Medical Education and Family Welfare Division of the Ministry of Health and Family Welfare for their constant support and guidance for our activities.

I always believe that there is enough scope for perfection in the future issues of the Health Bulletin. With this, I would like to appreciate Prof. Dr. Md. Shahadat Hossain, Director of MIS-DGHS and his team who nurtured the difficult process of publication of the Health Bulletin. My gratitude is also for the editorial board members and concerned officers and staff members who were associated with this publication.

I believe that Health Bulletin 2023 will be of much use in strengthening the health services information and will also be effectively used in local and national-level planning, designing monitoring, and evaluating the programs.

Prof. Dr. Abul Bashar Mohammed Khurshid Alam
Director General
Directorate General of Health Services
Government of the People's Republic of Bangladesh



Message



Every year, I eagerly wait to see the Health Bulletin published by the Management Information System of the Directorate General of Health Services. This bulletin is, in fact, a yearbook that helps us understand what we have done in the past years and what remains to be done. I hope Health Bulletin 2023 will not be an exception. It is indeed a happy event to note that MIS-DGHS has been able to publish the Health Bulletin as a yearly routine.

This publication is of national importance as it brings out extensive health services information of Bangladesh. All this information is required for efficient functioning of public health systems, to improve health service outcomes. It is expected that this informative reference document shall be of immense support to all concerned government departments, policy-makers, planners, administrators, researchers, and academicians for a strong and efficient service-oriented health system in Bangladesh.

I extend my sincere thanks and appreciation to Director General of Health Services Prof. Dr. ABM Khurshid Alam, Director MIS Prof. Dr. Md. Shahadat Hossain, all MIS personnel, and the consultants who have brought the bulletin at this stage. I would also like to thank WHO for supporting the publication of this bulletin.

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 seeing these changes.

Prof. Dr. Md. Titu Miah
Director General
Directorate General of Medical Education
Government of the People's Republic of Bangladesh



From the Desk of Editor-in-Chief



I am deeply grateful to Almighty for enabling us to publish the Health Bulletin 2023. This publication marks a significant milestone of our ongoing efforts to improve the integrated health information system in our country. I extend my heartfelt thanks to everyone involved in the preparation of this bulletin. The task of compiling national health information has been a complex and challenging endeavor. However, through collaborative efforts and unwavering dedication, we have made substantial improvements over the previous issue. The encouraging feedback received from our readers has been a source of motivation, and we are hopeful that this report will continue to meet their needs effectively.

An updated and reliable health database is essential for decision-making and forms the foundation of effective policy planning, implementation, development, governance, regulation, health-related research, and health service delivery. Under the diligent supervision of the Directorate General of Health Services (DGHS), the Management Information System (MIS) has played a pivotal role in collecting data from government and private organizations, and these data are meticulously converted into actionable information. In Health Bulletin 2023, data were methodically compiled to provide a comprehensive overview of the health situation in Bangladesh, including insights into the healthcare network, health rights, and service delivery, financing, health infrastructure, and updated real-time information from various health facilities. These updated data serve as an invaluable resource for all stakeholders in the health sector.

I extend my deepest gratitude to Dr. Samanta Lal Sen, Hon'ble Minister for Health and Family Welfare; Dr. Rokeya Sultana, Hon'ble State Minister for Health and Family Welfare; and the respected Secretaries of the Ministry of Health and Family Welfare for their continuous encouragement and cooperation in bringing this bulletin to fruition. Their unwavering support has been instrumental in the successful completion of this project. My humble acknowledgments also go to Prof. Dr. ABM Khurshid Alam, Director General of Health Services, for his invaluable advice and guidance throughout the publication process. Furthermore, I would like to express my appreciation to the MIS team for their relentless support and cooperation. Their efforts in sharing and analyzing data were critical in preparing and producing this bulletin on time. The dedication and hard work of all team members, both within my office and across the health sector, have been commendable. I also acknowledge the contributions of personnel from various offices and departments, both in the public and private sectors. Their collaborative efforts have been vital in ensuring the accuracy and comprehensiveness of the data presented in this bulletin.

In conclusion, I welcome valuable suggestions and feedback from users at various levels. These insights will be taken into consideration for further improving the future issues of this publication. Our goal is to continually enhance the quality and utility of the Health Bulletin, making it an indispensable tool for all in the health sector. Thank you everyone for continued support and engagement in this important endeavor.

Prof. Dr. Md. Shahadat Hossain
Director, MIS and Line Director, HIS and eHealth
Directorate General of Health Services
Government of the People's Republic of Bangladesh

Table of Contents

ii	114	199
Editorial Board	Chapter 4.4: Non-communicable Disease Control	Chapter 5: Curative Care Services
iii	148	230
Acknowledgments	Chapter 4.5: Institute of Epidemiology, Disease Control and Research	Chapter 6: Morbidity and Mortality Status
iv	159	246
Acronyms	Chapter 4.6: Health Education, Promotion, and Lifestyle Modification	Chapter 7: Health Workforce
X	166	253
Messages and Editorial	Chapter 4.7: National Nutrition Service	Chapter 8: Medical Education
1	177	267
Chapter 1: Bangladesh	Chapter 4.8: Community Clinic-The Sheikh Hasina Initiative	Chapter 9: Health Research
14	183	275
Chapter 2: Health System of Bangladesh	Chapter 4.9: COVID-19 at a Glance	Chapter 10: Health Information System, eHealth, and MBT
26	187	296
Chapter 3: Rights, Acts, and Policies for Health	Chapter 4.10: Health Interventions for FDMNs	Chapter 11: Health Financing
32		312
Chapter 4.1: Maternal, Newborn, Child and Adolescent Health		Chapter 12: Health-related SDG
57		324
Chapter 4.2: Vaccination Services through EPI		Chapter 13: Health Status in Bangladesh: Achievements and Developments
66		
Chapter 4.3: Communicable Disease Control		

Bangladesh

An overview of the present health status

Bangladesh emerged as an independent and sovereign country on 16 December 1971 following a nine-month-long Liberation War under the great leadership of Father of the Nation Bangabandhu Sheikh Mujibur Rahman. Following Independence, Bangladesh embarked on a journey to address its healthcare disparities and improve health outcomes. The then newly-formed Government prioritized healthcare as a fundamental aspect of national development, laying the groundwork for healthcare reforms and initiatives.

Over the decades, Bangladesh has implemented several healthcare reforms and initiatives under the competent leadership of Hon'ble Prime Minister Sheikh Hasina, aiming at enhancing access to healthcare services, particularly in rural and underserved areas. Notable efforts include the establishment of community clinics, expansion of primary healthcare services, and investments in healthcare infrastructure. Bangladesh has achieved significant successes in health-related MDGs and SDGs (SDGs-Progress-Report-2022), including remarkable reductions in maternal and child mortality rates, increased immunization coverage, and improved access to essential healthcare services. However, challenges persist, such as addressing communicable diseases, like tuberculosis and malaria, other infectious diseases, like dengue, combating non-communicable diseases, and strengthening healthcare delivery systems.

Hon'ble Prime Minister Sheikh Hasina has declared to make the country a 'Smart Bangladesh' by 2041. Accordingly, MIS-DGHS under Health Services Division of the Ministry of Health and Family Welfare is working to implement Smart Health Information Management (Vision 2041, a2i).

In this bulletin, we put an effort to explore Bangladesh's healthcare landscape, analyzing its progress, challenges, and initiatives aimed at improving wellbeing of citizens. Despite strides in development, the country grapples with various health issues—from infectious diseases to maternal and child health. Healthcare professionals, policy-makers, and communities collaborate to address these challenges with resilience and innovation.

We put an effort to explore Bangladesh's healthcare landscape, analyzing its progress, challenges, and initiatives aimed at improving wellbeing of citizens

Using the latest data and insights, we provide an overview of Bangladesh's healthcare status. We examine infrastructure, access to services, public health interventions, and emerging trends.

While efforts have been made to ensure accuracy, discrepancies among indicators

may exist due to varied sources of data. Readers are encouraged to exercise discretion when interpreting and utilizing this report.

Geography and Administrative Units

(MOFA and PHC 2022)

Bangladesh, a diverse nation in Southeast Asia, features flat terrain and winding rivers, like the Ganges, Brahmaputra, and Meghna.

It offers scenic landscapes with clear lakes, tropical rainforests, and rolling tea plantations. Notable attractions include the world's largest mangrove forest Sundarbans—a UNESCO's World Heritage Site and home to the Royal Bengal Tiger and diverse wildlife. The rich biodiversity of the region is evident in its varied bird species and expansive paddy fields. Bangladesh also boasts of abundant sunshine and the world's longest natural sea-beach (Table 1.1)

Table 1.1. Geography and administrative units of Bangladesh			
Geography			
Location	Latitude: between 20°34' and 26°38' North Longitude: between 88°01' and 92°41' East		
Boundary	North and West: India; East: India and Myanmar; South: Bay of Bengal		
Total area	~148,460 square km	Climate	Tropical
Land area	~130,170 square km	Standard time	GMT + 6 hours
Water area	~18,290 square km	Rainfall	203 mm/month
Territorial water	12 nm	Climate	Tropical
Coastline	580 km		
Administrative Unit			
Division	8	Paurashava	328
District	64	Paurashava ward	3,075
City corporation	12	Union	4,596
City corporation ward	465	Mauza	58,846
Upazila	495	Village (in rural area)	98,049
Metro Thana	105		

Demography

(PHC 2022 and SVRS 2023)

Demographic data—the quantitative backbone of this narrative—unveil the dynamics of births, deaths, and various socio-economic factors that shape our nation.

Some health-related statistics are presented.

These data were taken from a number of national publications which reflect the overall current picture of the country. Through meticulous collection, analysis, and interpretation, demographic data reveal the heartbeat of nations. These insights provide invaluable guidance for addressing challenges and harnessing opportunities in fields ranging from public health to urban planning.

The total estimated population in 2023 is 171.0 million with male-female ratio of 96.3 (Figure 1.1), and 68.34% of the population lives in rural areas. According to the 2022 Census, the population living in slum areas is 1.05%, which is nearly double the figure in

the 2001 Census (PHC 2022). The floating population witnessed a significant decline from 839,442 in 1981 to 22,185 in 2022. Special health measures must be taken to these groups of population.

Table 1.2. Population and key demographic characteristics of Bangladesh

Population (based on PHC 2022)			
Total	171.0 million		
Male	83.91 million	Female	87.09 million
Key demographic characteristics			
Population density	1,171 per sq. km	Sex ratio (M/F*100)	96.3
Annual population growth rate (%)	0.69	Intercensal growth rate (%)	1.12
Median age of the population (year)			
Both sexes	26	Total	371
Male	25	Rural	387
Female	27	Urban	325
Dependency ratio (%)			
Total	53.7		
0-14 years	44.2		
65+ years	9.4		
Rural (total)	55.7		

Trend of the intercensal growth rate of population after Independence shows a decreasing pattern (Figure 1.2). In 2023, the annual population growth rate is 0.69%, and intercensal growth rate is 1.12% (SVRS 2023). The population density increased to 1,171 from 484 per square kilometer over the past 50 years. The most and the least

densely-populated divisions are Dhaka and Barishal respectively. The sex ratio declined to 96.3 in 2023 from 108 in 1974. It is observed from the analysis that 10.5% of the total population at the national level belongs to the age-group of 0-4 years, followed by the age-group of 15-19 years (10.1%) (Figure 1.3) (PHC 2022).

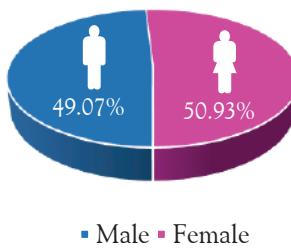


Figure 1.1. Male : Female ratio of total population, 2023

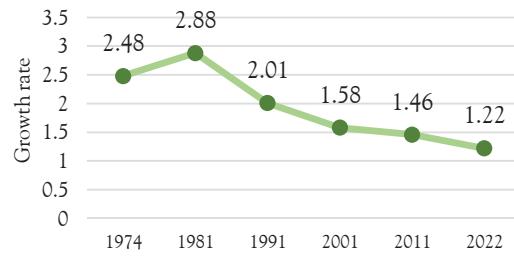


Figure 1.2. Intercensal growth rate of population

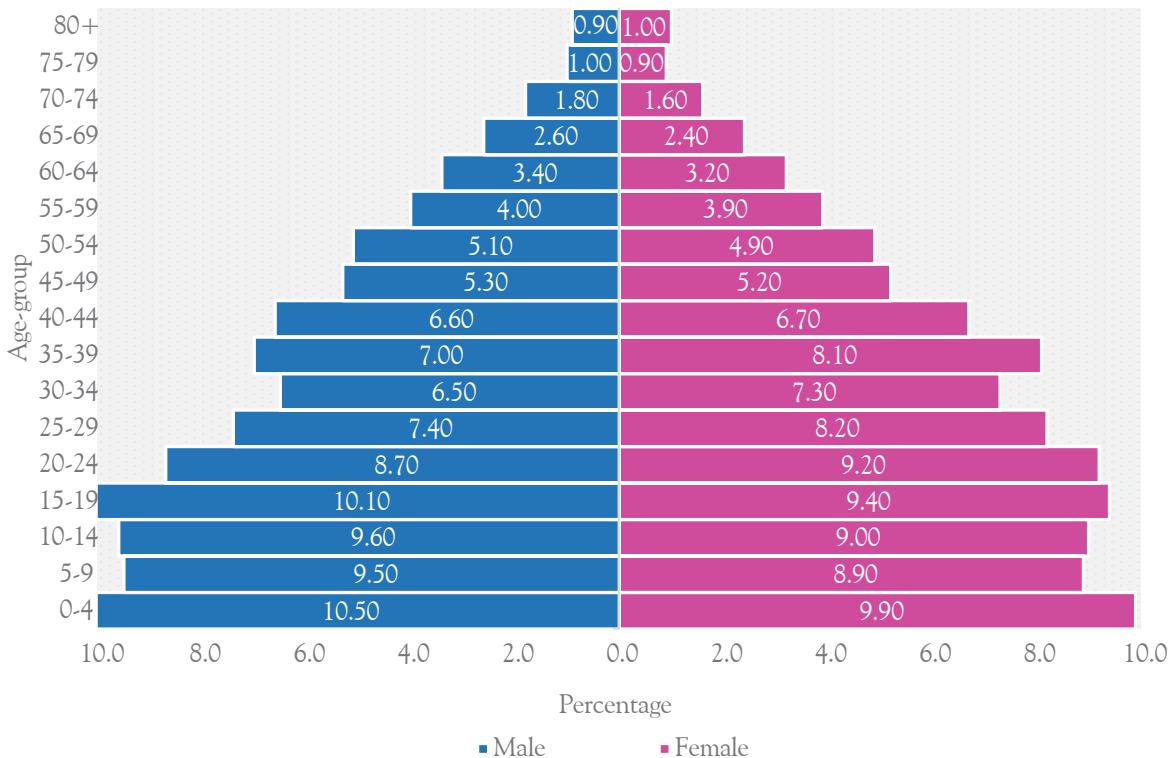


Figure 1.3. Age-sex population pyramid, 2023

Marriage, Divorce, and Separation

At the national level, the currently-married population is 63.9%, and 28.6% are never married, out of the population aged 10 years and above. The singulate

mean age at marriage for males and females are 24.2 and 18.4 years respectively at the national level (SVRS 2023). Number of widows and widowers is reduced over the years while the number of divorces or separations is showing a contrasting pattern (PHC 2022).

Table 1.3. Marriage, divorce, and separation in Bangladesh during 2023 (SVRS 2023)

Crude marriage rate (per 1,000 population)		Mean age at first marriage	
Total	15.7		
Rural	16.8		
Urban	12.0		
Marital status of population aged 10+ years (%)			
Never married	Male: 35.8		
	Female: 21.7		
Currently married	Male: 62.2		
	Female: 65.6		
Widowed/Separated/ Divorced	Male: 2.0		
	Female: 12.7		
Early/child marriage (%)		Crude divorce rate (per 1,000 population)	
Before 15 years of age	Rural: 8.8	Total	1.1
	Urban: 6.8	Rural	1.1
Before 18 years of age	Rural: 44.4	Urban	0.9
	Urban: 33.5		
Crude separation rate (per 1,000 population)			
Total		0.26	
Rural		0.28	
Urban		0.22	

Fertility and Pregnancy

Delivery by cesarean section is observed more in urban areas. One-third of the total deliveries still occurs at home while private facilities contribute more in institutional

deliveries (Figure 1.4). Birth registration of resident population is increasing day-by-day, and now it is 63.4% (Table 1.4) (SVRS 2023).

Table 1.4. Fertility and pregnancy in Bangladesh during 2023 (SVRS 2023)

Crude birth rate (per 1,000 population)		Total fertility rate (per woman aged 15-49 years)	
Total	19.4	Total	2.17
Male	20.4	Rural	2.31
Female	18.5	Urban	1.78
Rural (total)	20.2	General fertility rate	
Urban (total)	17.0	Total	68
		Rural	72
		Urban	57
Gross reproduction rate		Net reproduction rate	
Total	1.07	Total	1.06
Rural	1.14	Rural	1.12
Urban	0.86	Urban	0.86
Type of delivery (%)		Place of delivery (%)	
Normal		Home	32.77
National	49.3	Public facilities	26.43
Rural	51.6	Private facilities	39.76
Urban	40.9	NGO facilities	0.99
Cesarean section		Others/Transport	0.05
National	50.7	Antenatal care service-seeking (National) (%)	
Rural	48.4	Not at all/None	2.07
Urban	59.1	Once	6.44
Birth registration of resident population (%)		Twice	23.54
Total	63.36	Thrice	28.88
Rural	63.88	Four or more	39.08
Urban	61.68		

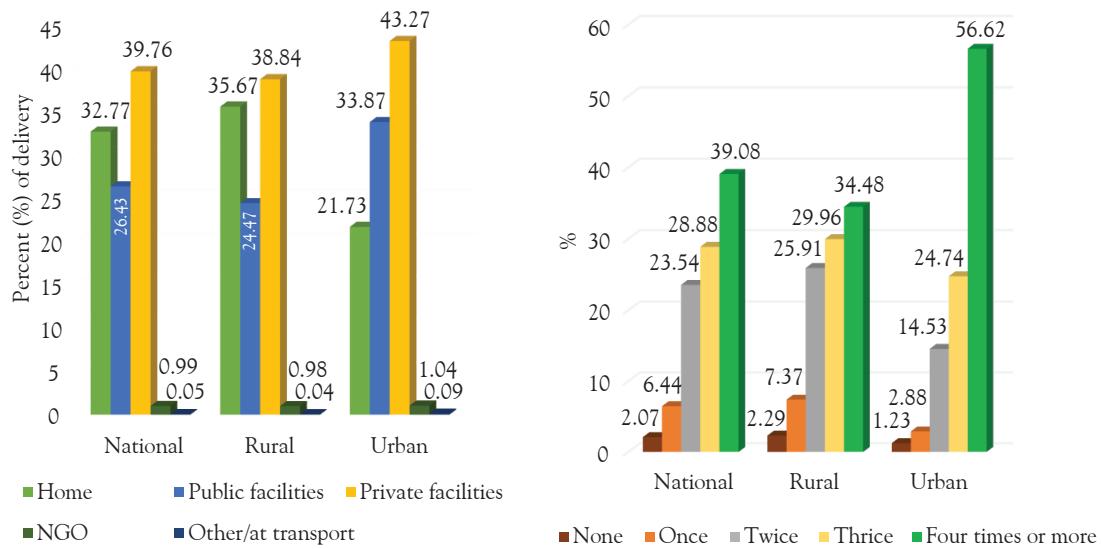


Figure 1.4. Place of delivery, 2023

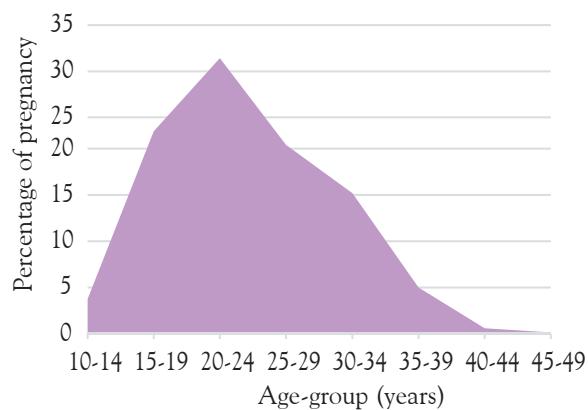


Figure 1.6. Proportion of pregnancy by age-group

Antenatal care (ANC) service-seeking from skilled health personnel increased in number both in rural and urban areas (Figure 1.5).

Figure 1.5. ANC service-seeking from skilled health personnel, 2023

Most pregnancies occur between 15 and 34 years of age, peaking at the 20-24 years age-group (Figure 1.6). Outcome of adolescent pregnancy (10-19 years) yielding livebirths is 88.79%, which is slightly lower compared to pregnancy between 10-49 years old (89.23%) (SVRS 2023).

Mortality

Analysis shows that trends of all mortality indicators exhibit a consistently decreasing pattern; however, the situation mildly improved in the previous two years (Figure 1.7). The life-expectancy is 72.3 years in both sexes, 0.3 years less than in 2019 (SVRS 2023).

Table 1.5. Mortality data of Bangladesh in 2023 (SVRS 2023)

Crude death rate (per 1000 population)		Neonatal mortality rate	
National	6.1	Total (both sexes)	20
Male	6.8	Male	22
Female	5.5	Female	17
Infant mortality rate			Maternal mortality ratio (per 100,000 livebirths)
Total (both sexes)	27	Total	136
Male	30	Rural	157
Female	24	Urban	56 (*)
Rural	28	Life-expectancy at birth (years)	
Urban	24	Both sexes	72.3
Under-5 mortality rate			Male
Total (both sexes)	33	Male	70.8
Male	35	Female	73.8
Female	30		
Rural	34		
Urban	30		

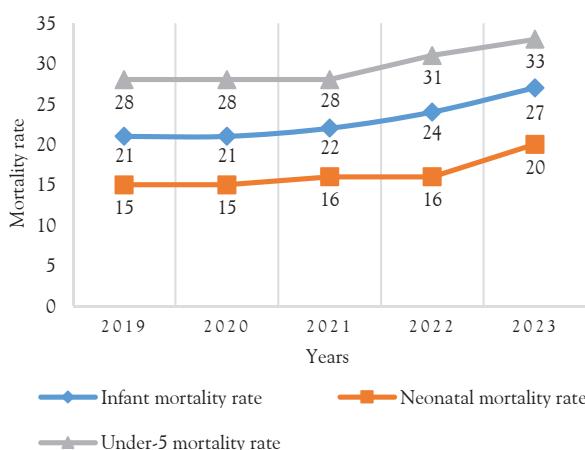


Figure 1.7. Trends of mortality rate

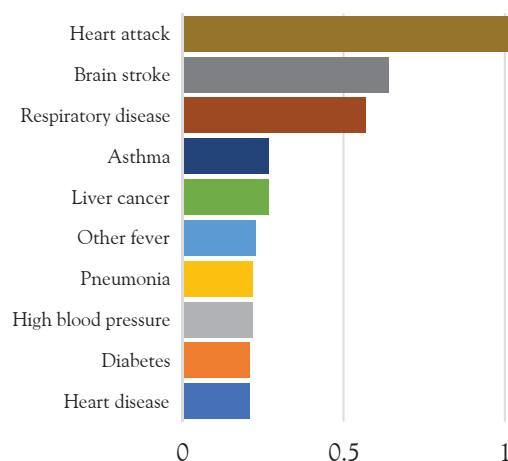


Figure 1.8. Top ten causes of death in community (SVRS 2023)

Figure 1.8 illustrates the top ten causes of death per 1,000 people in 2023, which is represented in SVRS key findings

from 2023. The details of mortality and morbidity are discussed in Chapter 6 of this bulletin.

Contraceptive Usage

Table 1.6. Contraceptive usage in Bangladesh, 2023 (SVRS 2023)

Contraceptive prevalence rate (%)		Contraceptive prevalence rate by method (%)	
Total	62.1	Any method	62.1
Rural	61.6	Modern method	61.0
Urban	63.9	Traditional method	1.1
Unmet need for family planning (%)			
Total need	15.57		
For birth spacing	7.66		
For birth limiting	7.91		

Disability

Disability data are collected following the 'Persons with Disabilities Rights and Protection Act, 2013'. In the 2022 Census, physical disability scored the highest (33.38%) nationally. The persons with more than one disability (multiple disabilities) rank the second highest with 12.04% (PHC 2022). The overall disability per 1,000 population is 2.5 point higher than in the previous year (SVRS 2023).

Table 1.7. Disability in 2023

Disability rate (%)	
Total	1.37
Male	1.57
Female	1.17
Hijra	6.66

Household Characteristics and Utilities

Average members per household or household-size is 4.2 in 2023. Households having 4-5 members rank the highest percentage (47.5%), followed by 2-3 members (34.3%) (FSS, BBS 2023). The number of female-headed households is increasing every year (HIES, BBS 2022). The percentages of all utilities are higher in city corporations, followed by other urban and rural areas. Wood, straw, leaves, dung, bamboo, charcoal, etc. are the primary cooking-fuel in rural areas (90.97%) (FSS, BBS 2023). All these produce pollutants by combustion.

Table 1.8. Household characteristics and utilities in Bangladesh, 2023

Number of households (PHC 2022)		Average monthly household income (BDT) (HIES, BBS 2022)	
National	41.01 million	National	32,422
Rural	27.82 million	Rural	26,163
Urban	13.19 million	Urban	45,757
Household-size (SVRS 2023)		Average monthly household expenditure (BDT)	
Rural	4.2	National	31,500
Urban	4.1	Rural	26,842
Headship (%) (SVRS 2023)		Urban	41,424
Male-headed	81.1	National distribution of average monthly household expenditure (BDT) (FSS, BBS 2023)	
Female-headed	18.9	Health services	393
Source of electricity (%) (SVRS 2023)		Medicine and health products	1,124
National grid	97.54	Surgery cost	295
Solar	1.81	Other	7361
Other	0.09	Percentage share of food and non-food consumption (%) (HIES, BBS 2022)	
No electricity	0.56	Food	45.76
Use of the Internet (%) (15+ years) (SVRS 2023)		Non-food	54.24
Total	50.1	Per-capita daily intake (gram) of major food items (HIES, BBS 2022)	
Male	58.0	National	1129.8
Female	42.6	Rural	1125.4
Rural	46.1	Urban	1139.4
Urban	62.7	Per-capita daily calorie intake (Kcal) (HIES)	
Ownership of mobile phone (%) (15+ years)		National	2393.0
Total	74.2	Rural	2424.2
Male	86.5	Urban	2324.6
Female	62.8		
Rural	71.6		
Urban	82.7		

Average monthly household income was nearly tripled in the last two decades, and so was the expenditure. Out of total expenditure, over 97% was spent for consumption. The difference between the concepts of expenditure and consumption is that 'consumption' excludes lumpy expenditure, like durable goods purchased and other expenditure, such as payment of tax, insurance, expenses of pilgrimage/hajj, marriage, etc. while 'expenditure' includes all these expenses. Nationally, monthly expenditure for food and non-food consumption was BDT 14,004 and BDT 16,599 respectively. The intake of carbohydrates decreased over the years while intake of fruits, vegetables, and proteins showed

an increasing trend. The calorie intake was higher among people of rural areas compared to urban areas (HIES, BBS 2022).

Health Behavior

Main source of drinking-water in rural (97.43%) and urban (93.89%) areas is tubewell whereas, in city corporations, the source is supply-water (59.42%). Toilet facilities improved 9.5% within the last 5 years while the numbers of those who share toilets remain nearly the same. Although the percentage of hand-washing facilities improved, the target is not yet achieved (sdgs.un.org).

Table 1.9. Health-related behaviors in Bangladesh, 2023

Main sources of drinking-water (%) (FSS, BBS 2023)		Hand-washing facilities (%) (SVRS 2023)	
Tubewell (Deep/Shallow/Submersible)	89.54	Having both soap and water	65.2
Supply-water (pipeline)	8.38	Having only soap	1.2
Open water bodies	1.12	Having only water	16.2
Bottle/Jar	0.48	No facility/No soap and water	17.4
Others	0.47		
Toilet facilities (SVRS 2023)			
Improved toilet facilities (%)	93.63		
Shared (%)	25.9		

Literacy and Education

Table 1.10. Literacy and education in Bangladesh, 2023 (SVRS 2023)

Literacy rate of population aged 7+ years (%)		Type of educational institution attended (%)	
Total	77.9	Government	46.86
Male	80.1	MPO	27.68
Female	75.8	Non-MPO	13.96
Rural	75.5	Non-formal	6.50
Urban	85.4	Others	4.99
Drop-out from education (5-24 years)			
Yes	9.36		
No	90.64		

Religion and Ethnicity

(SVRS 2023)

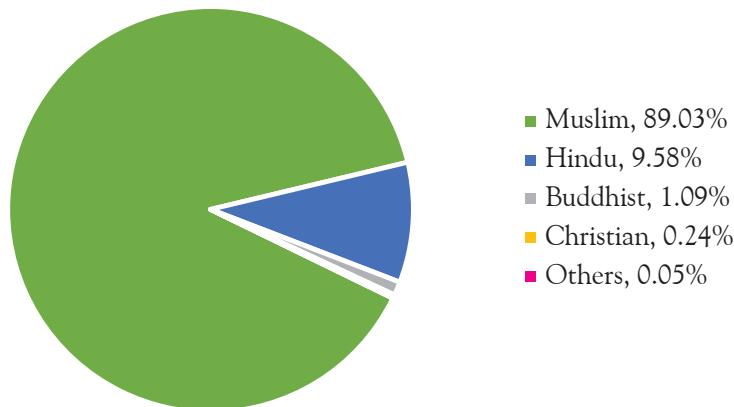


Figure 1.9. Percent population by religion in Bangladesh

Economy and Health

The total expenditure (size of the budget) of fiscal year 2023-24 increased by 15.33% compared to the previous revised budget of

2022-23. The percent allocation of budget for the health sector also shows 0.5% increment compared to the previous year, which amounts to 8,301 crore Taka more (Bangladesh National Budget 2023-24).

Table 1.11. Economy and health status in Bangladesh

National budget (FY 2023-24)		Bangladesh National Health Accounts (BNHA 1997-2020)	
Allocation of total budget to the health sector (%)	5.00	Total health expenditure in 2020 (% of GDP)	2.8%
Allocation of total budget to the health sector in crore BDT	38,050	Current health expenditure in 2020 (% of GDP)	2.6%
Allocation of operating expenditure to the health sector (%)	4.7	Out-of-pocket expenditure (household)	68.5% of THE
Allocation for development expenditure to the health sector (%)	5.6	Per capita total health expenditure (USD)	54

Health Workforce

Details are discussed in Chapter 7 of this bulletin.

Table 1.12. Health workforce in Bangladesh up to December 2023

Doctors registered with Bangladesh Medical and Dental Council (BMDC)	141,999	Population per all registered doctors	Medical technologists working under MOHFW (HRIS, DGHS)	9,425
MBBS	128,411			1,204
BDS	13,588			
Doctors working under MOHFW (HRIS, DGHS)	29,743		Population per doctors working under MOHFW	5,749
Postgraduate doctors (BMDC)	20,683		Population per registered nurses	1,945
Nurses registered with Bangladesh Nursing and Midwifery Council	87,933		Population per nurses working under MOHFW	4,188
Nurses working under MOHFW (DGNM, MOHFW)	40,831			

Health Services and Medical Education

Table 1.13. Health services and medical education in Bangladesh up to December 2023

Total hospital beds (govt.) (MIS, DGHS)	71,100	Medical colleges (government and private) (DGME)	104
Population per hospital bed	2,405		34
Medical universities (DGME)	5		6
Postgraduate medical teaching institutes (DGME)	39		120

Health System of Bangladesh

An intricate web

An intricate web of health facilities for service delivery, educational institutions, and administrative units constitute the health system of Bangladesh. This system includes regulatory bodies, implementing agencies, and care facilities spread throughout the country—from community clinics in rural areas to tertiary-level hospitals mostly in urban areas. The Ministry of Health and Family Welfare (MOHFW) formulates policies and plans. Private sector and NGO facilities are also regulated by the MOHFW.

In March 2017, the MOHFW was divided into two parts: the Health Services Division and the Medical Education and Family Welfare Division. The Health Services Division focuses on health policies, nursing care, and health financing. The Medical Education and Family Welfare Division deals with medical education, family planning, and birth and death registrations.

The Directorate General of Health Services (DGHS) is the largest agency under the MOHFW. It has over a hundred thousand staff members and supports the Ministry in improving programs and interventions. The DGHS operates at six levels: national, divisional, district, upazila (sub-district), union, and ward.

At the national level, there are specialized hospitals and medical education institutions. The Director General of Health Services

is supported by two additional director generals for administration and planning as well as several directors and deputy directors.

Each administrative division has a divisional director for healthcare activities, supported by deputy directors and assistant directors. Divisional headquarters have infectious disease hospitals and medical colleges with hospitals. At the district level, the civil surgeon (CS) manages secondary- and primary-care services. The Upazila Health and Family Planning Officer (UHFPO) leads healthcare at the upazila level where some upazilas have 30-bed, 25-bed, 20-bed and 10-bed hospitals in addition to the upazila health complex. District hospitals are managed by

The Directorate General of Health Services (DGHS) is the largest agency under the MOHFW. It has over a hundred thousand staff members and supports the Ministry in improving programs and interventions. The DGHS operates at six levels: national, divisional, district, upazila (sub-district), union, and ward

superintendents, and some districts have medical colleges, medical assistant training schools, and nursing training institutes.

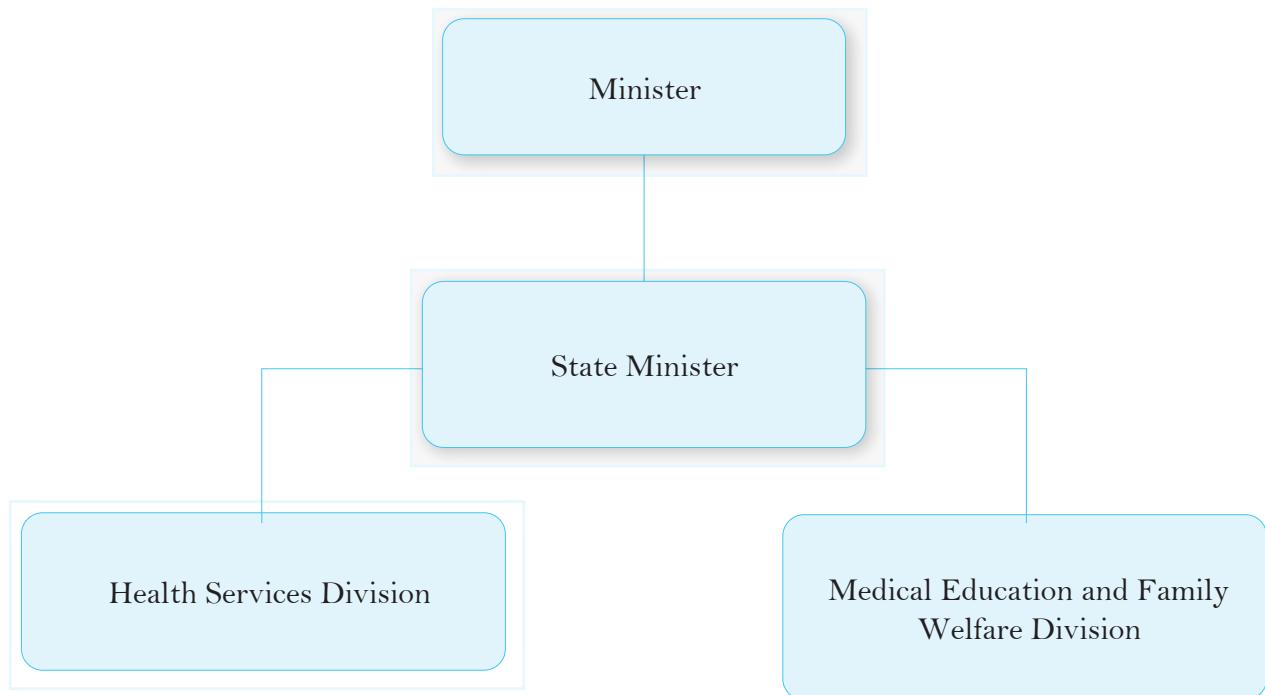


Figure 2.1. Divisions of the MOHFW

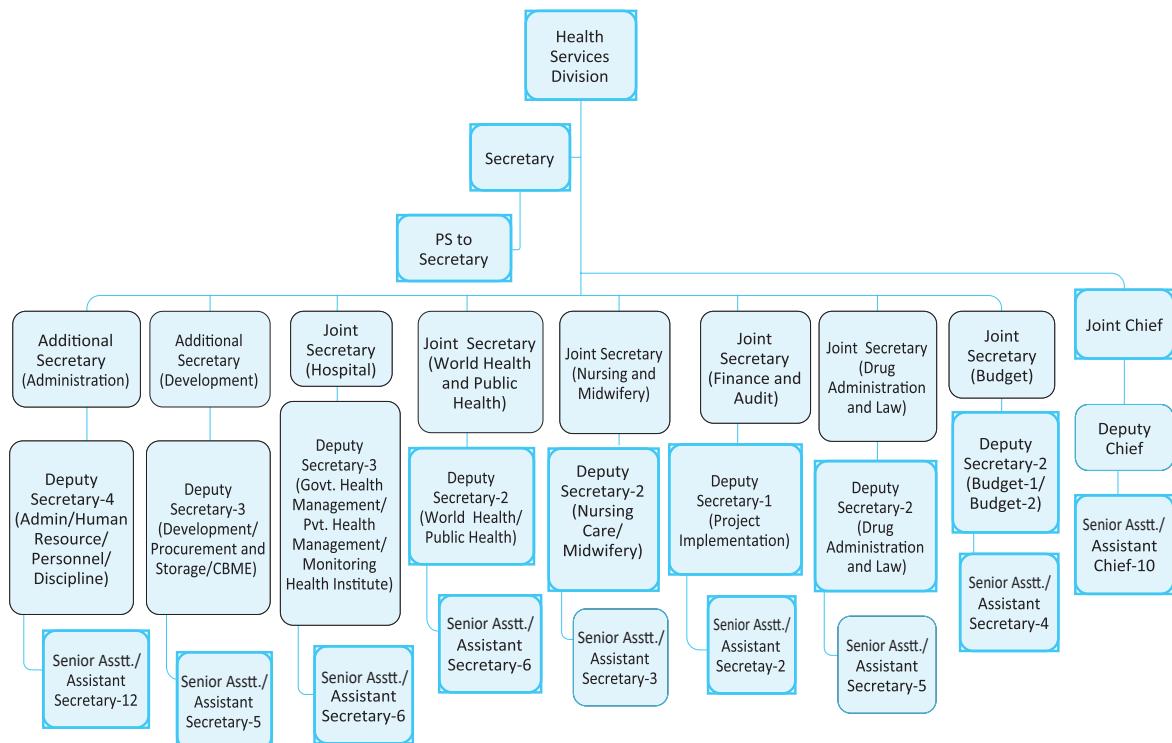


Figure 2.2. Hierarchy of personnel in Health Services Division of the MOHFW

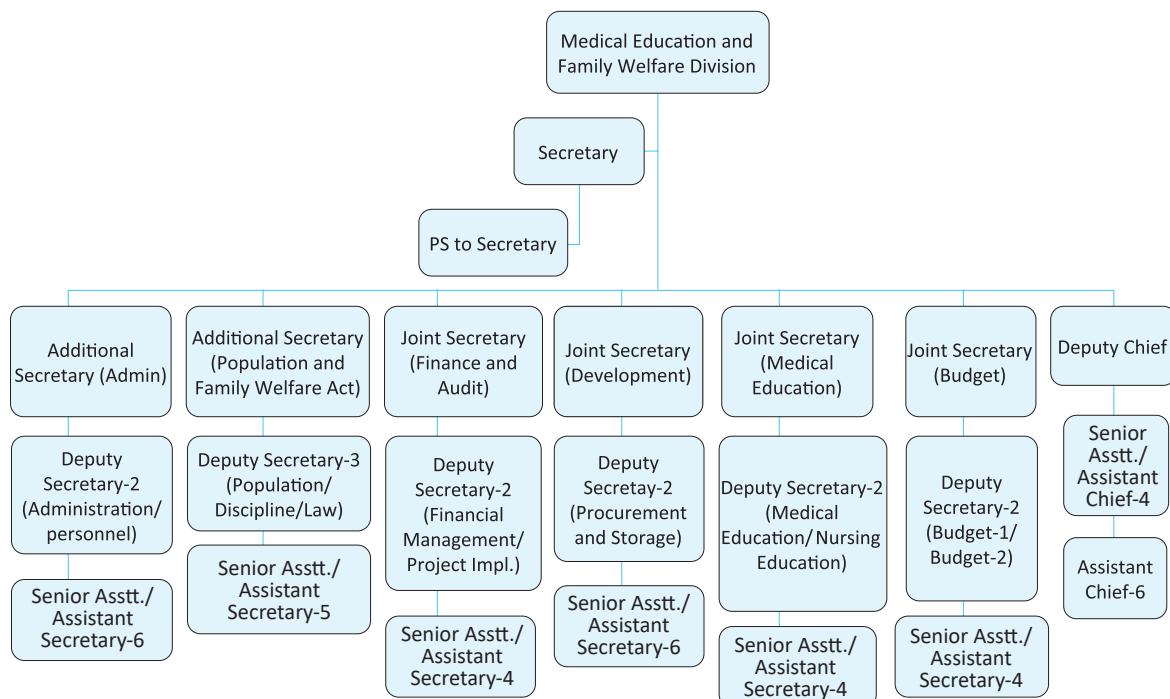


Figure 2.3. Hierarchy of personnel in the Medical Education and Family Welfare Division of the MOHFW

Implementing Authorities

There are 10 implementing authorities under the MOHFW as follows:



Figure 2.4. Implementing authorities under the Ministry of Health and Family Welfare [See List of Acronyms for the full names of the organizations]

Regulatory Bodies

There are five regulatory bodies under the MOHFW as follows:

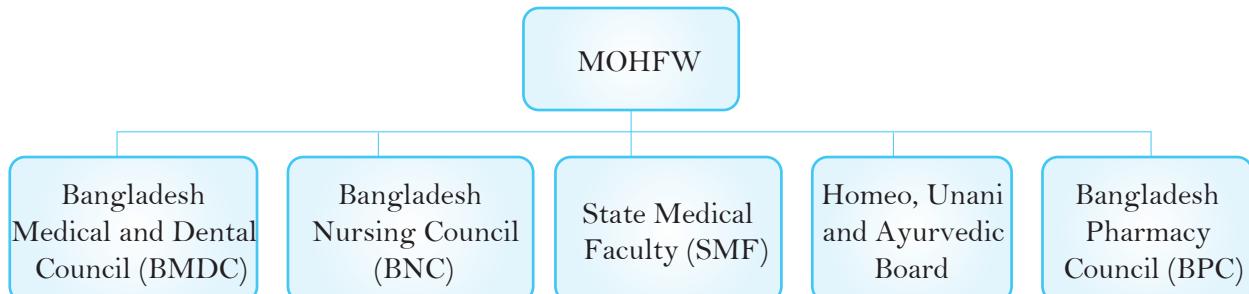


Figure 2.5. Regulatory bodies under the MOHFW

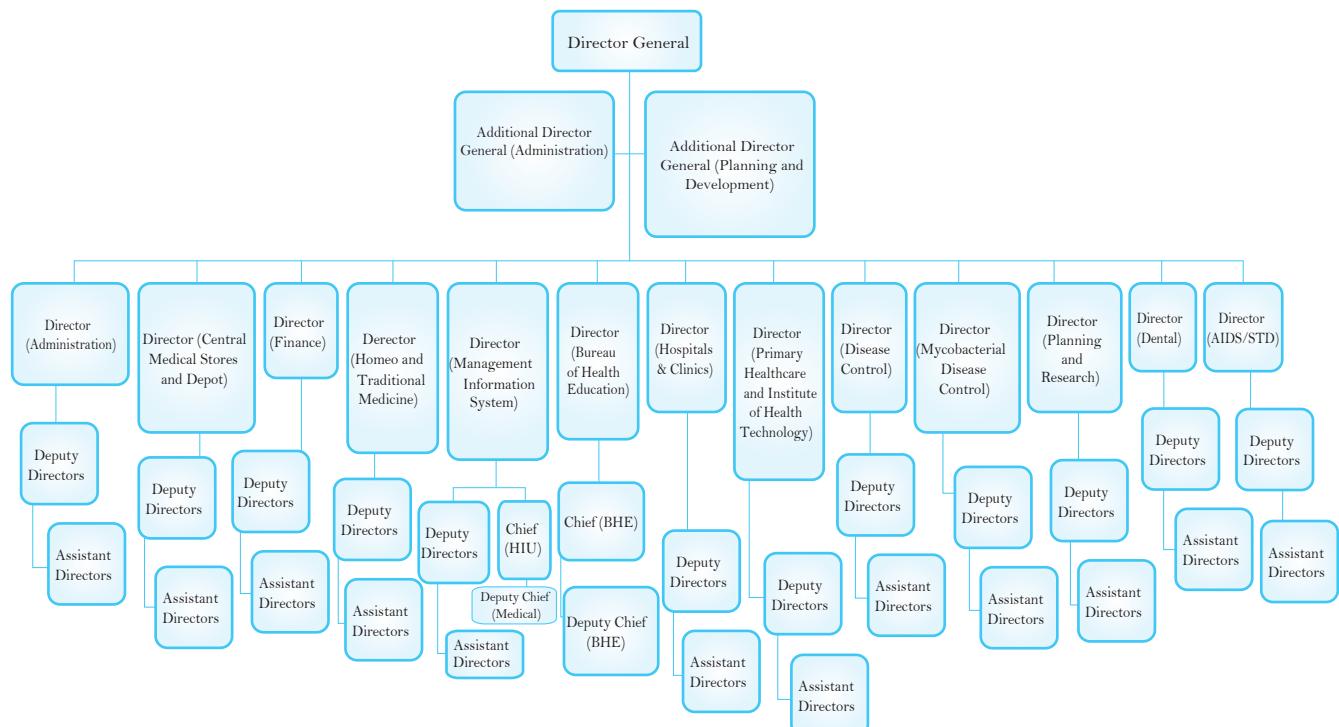


Figure 2.6. Hierarchy of personnel in the Directorate General of Health Services

Table 2. Officers and staff of the DGHS

Sl no.	Designation	No. of posts
1	Director General	1
2	Additional Director General	2
3	Director	14
4	Deputy Director	27
5	Assistant Director	50
6	Sr. Class-1 Officer	53
7	Medical Officer	15
8	2nd Class Officer	52
9	3rd Class Staff	531
10	4th Class Staff	320
Total		1,065

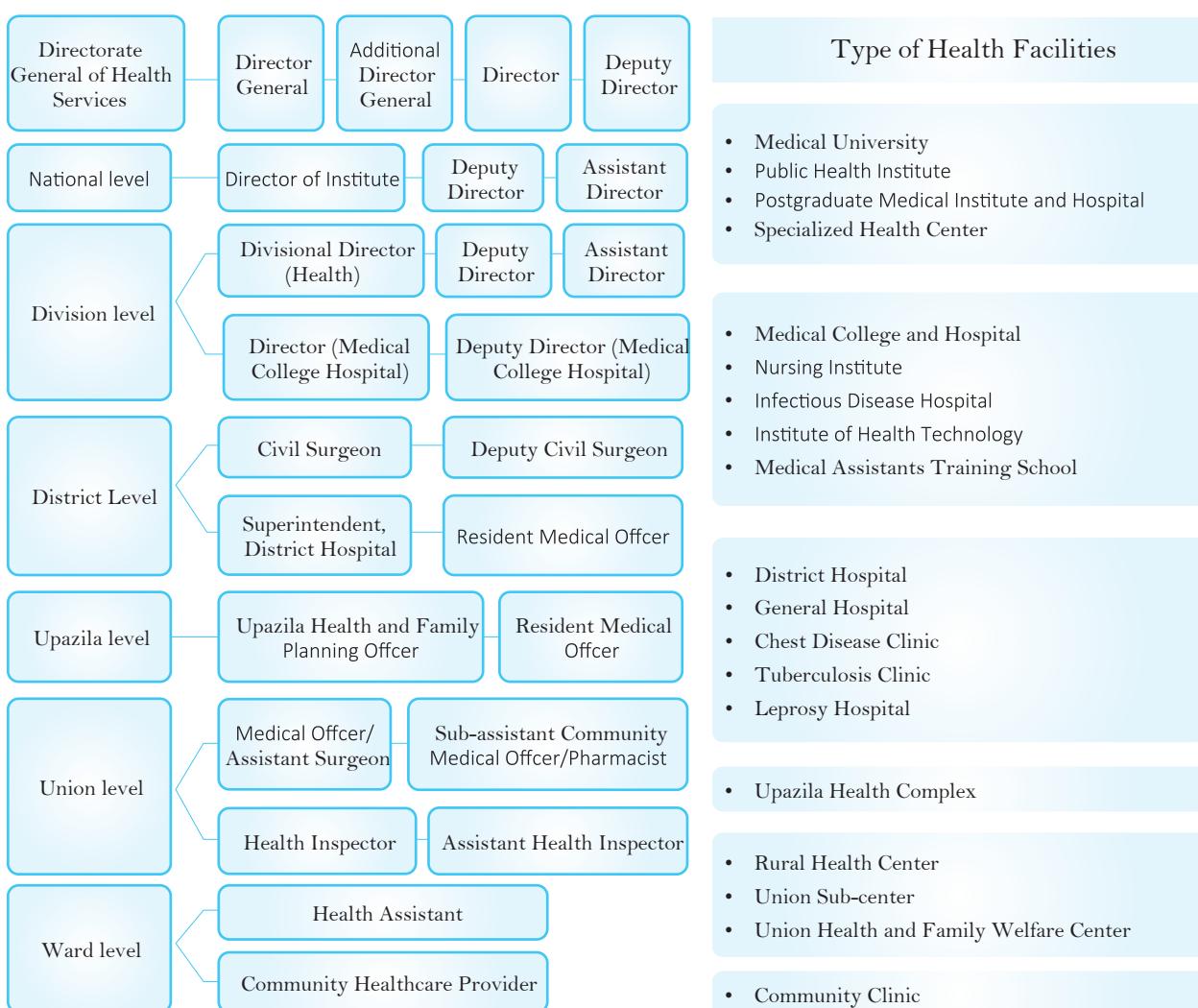


Figure 2.7. Managerial hierarchy according to types of facilities from national to the ward level

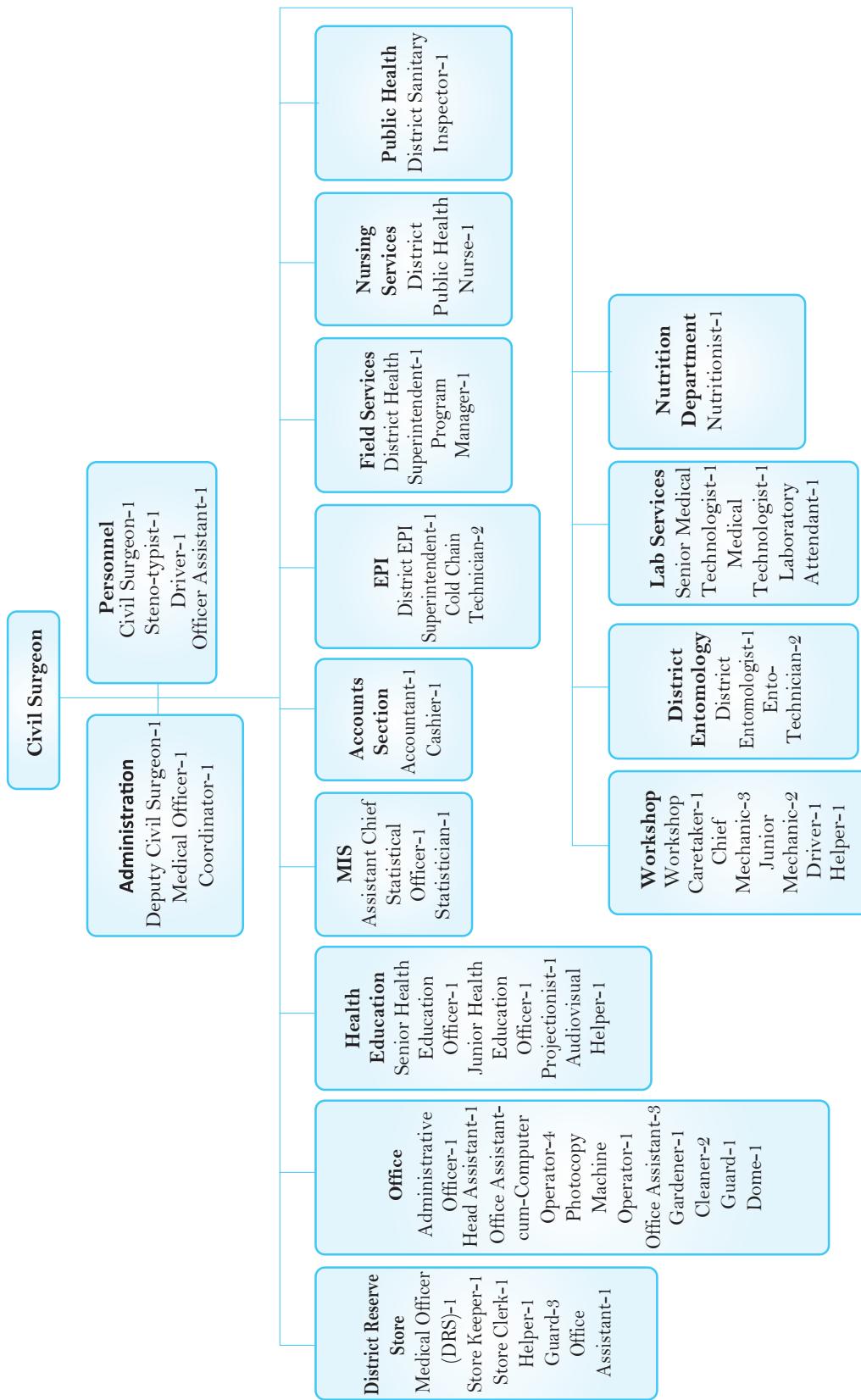


Figure 2.8. Organogram of Civil Surgeon's Office



Figure 2.9. Placement of personnel in 250-bed hospitals



Figure 2.10. Placement of personnel in the 100-bed hospital

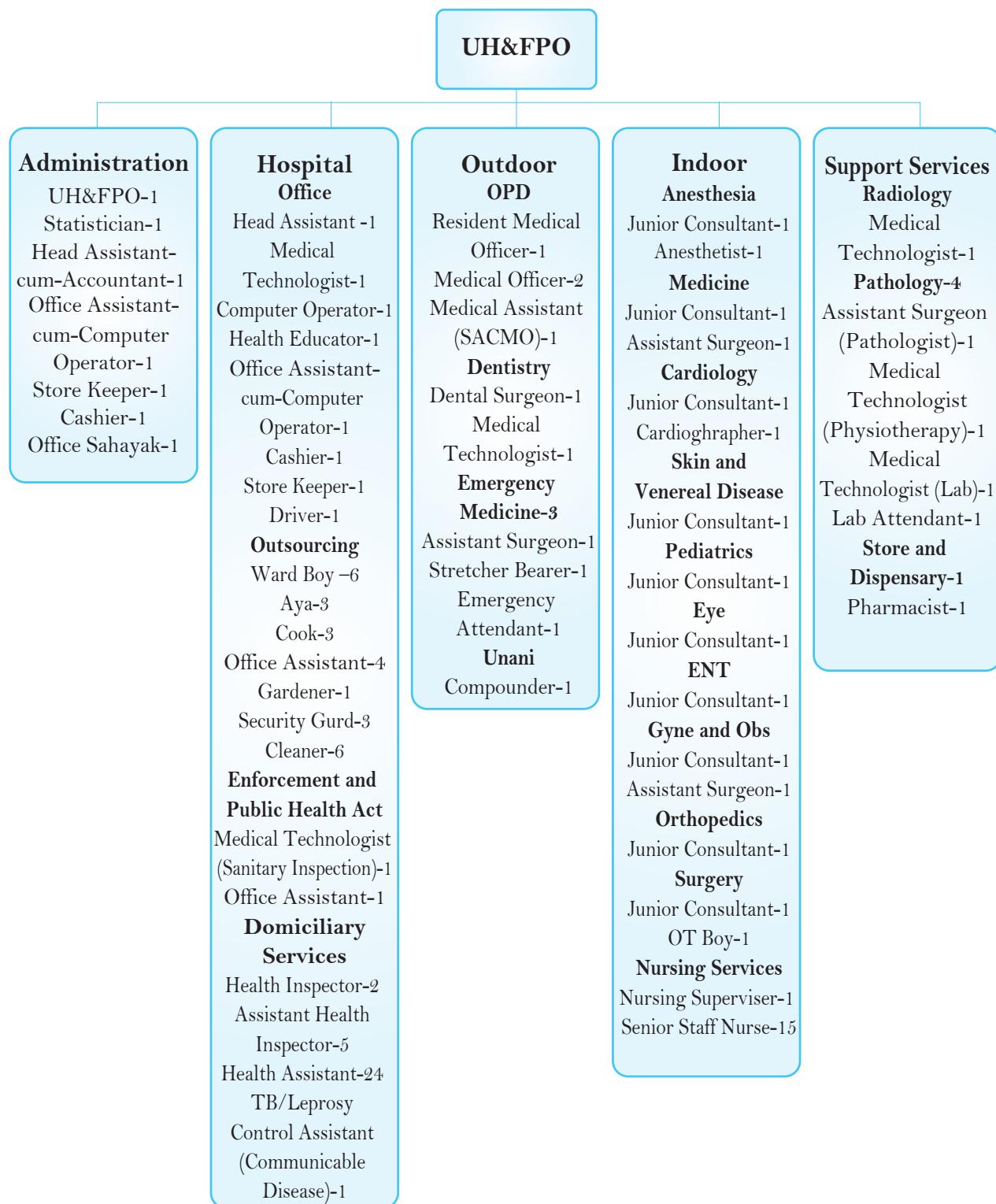


Figure 2.11. Placement of personnel in the 50-bed hospitals

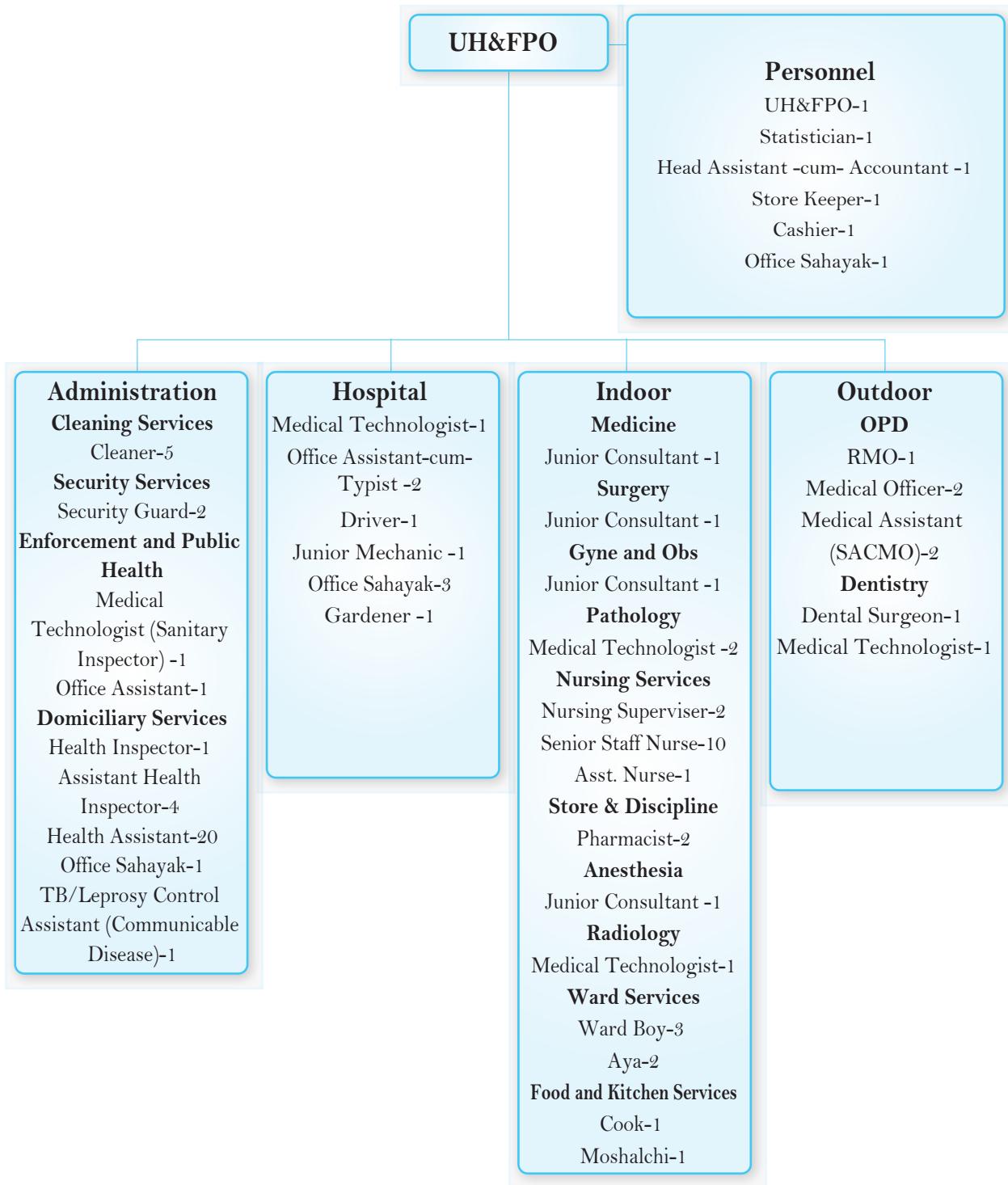


Figure 2.12. Placement of personnel in the 31-bed hospitals

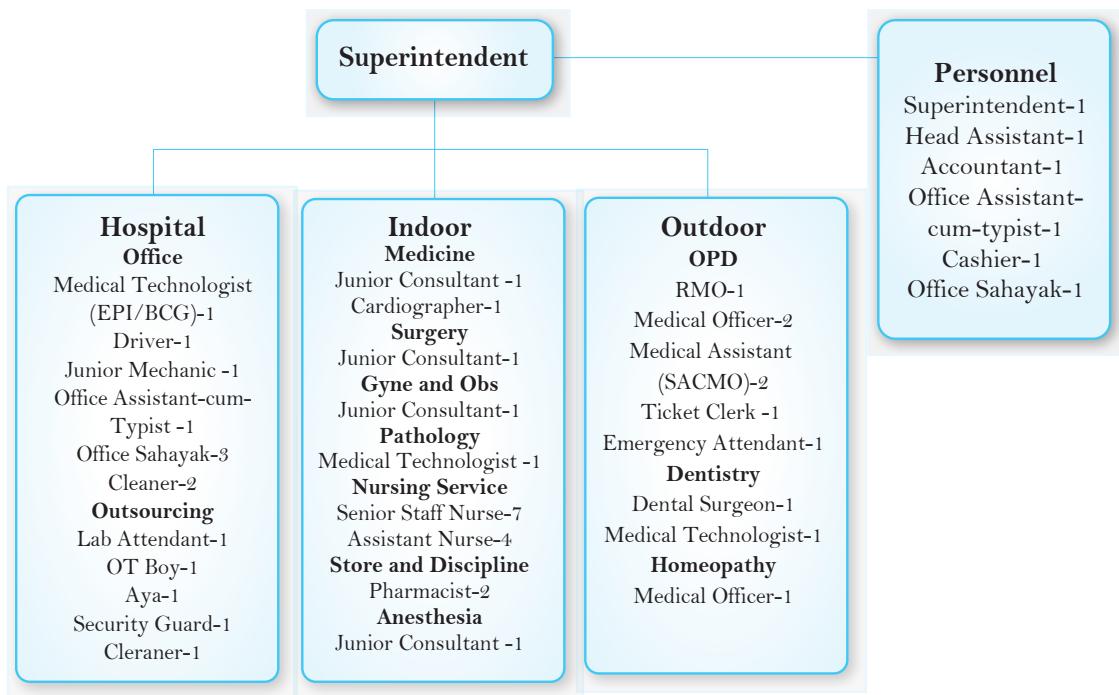


Figure 2.13. Placement of personnel in the 30-bed hospitals

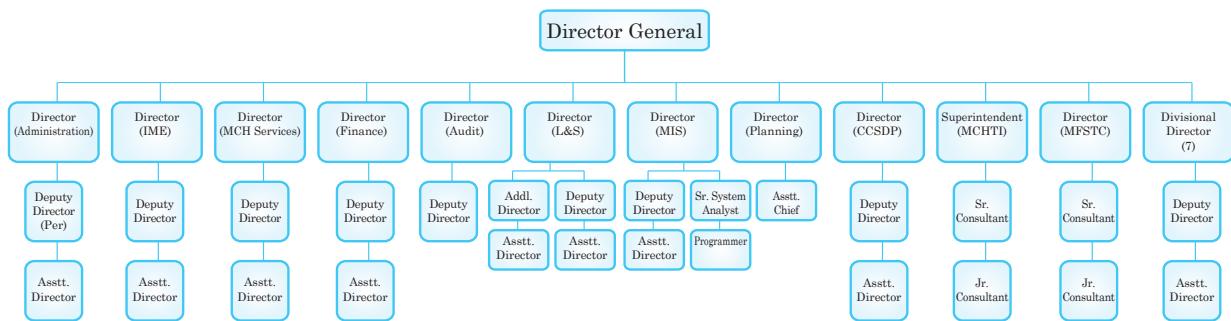


Figure 2.14. Hierarchy of personnel in the Directorate General of Family Planning

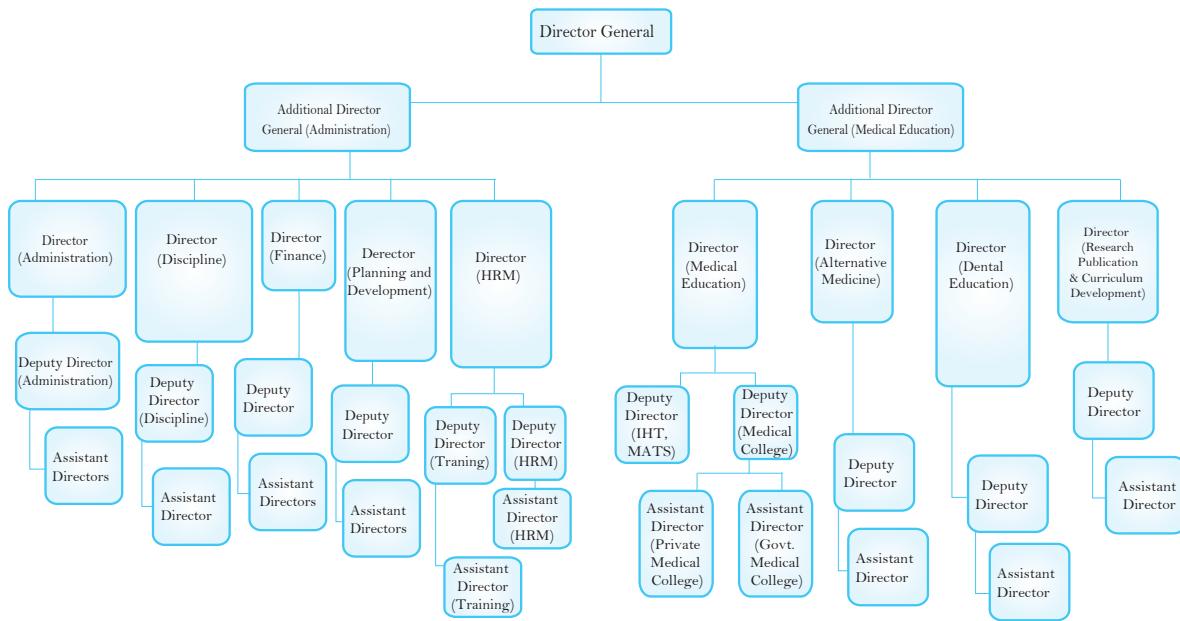


Figure 2.15. Hierarchy of personnel in the Directorate General of Medical Education

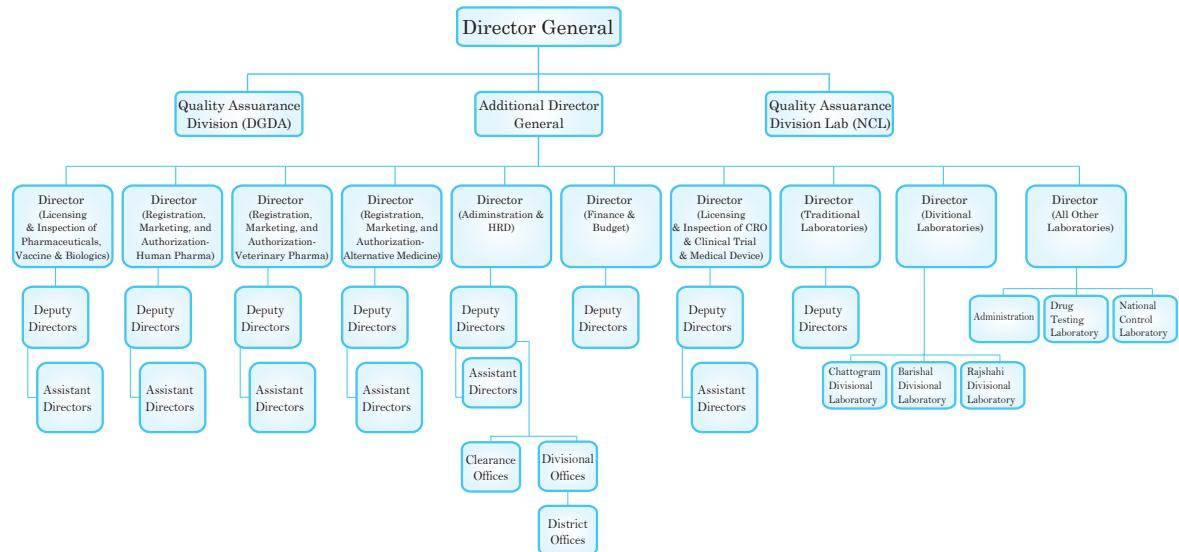


Figure 2.16. Hierarchy of personnel in the Directorate General of Drug Administration

Rights, Acts, and Policies for Health

Overarching foundation is equitable healthcare

Since the emergence of Bangladesh as an independent country, the highest priority has been given to ensuring human rights and dignity of the people. The Constitution of the People's Republic of Bangladesh guarantees that health is the basic right of every citizen of the Republic. Article 15 of the Constitution says, "It shall be a fundamental responsibility of the state to attain, through planned economic growth, a constant increase of productive forces and a steady improvement in the material and cultural standard of living of the people."

The country's first Five-year Plan (1st FYP) was chalked out for the period 1973-1978, which was started by the first President of the country Father of the Nation Bangabandhu Sheikh Mujibur Rahman. In that plan, health was stated to be a very important sector. Bangladesh is currently implementing its Eighth Five-year Plan (8th FYP) for the period 2020-2025. To ensure its progress, the Government of Bangladesh adopted a number of policies, acts, rules, etc. Recently, a number of acts (relating to communicable diseases, mental health, organ transplantation, community clinic, etc.) have either been passed or amended to strengthen the capacity and quality of health services in the country. Since the late 1990s, the Government of Bangladesh and the development partners have pursued a sectorwide approach (SWAp) in the health, nutrition and population (HNP)

sector. The Ministry of Health and Family Welfare (MOHFW) has implemented three consecutive sector programs previously in between July 1998 and December 2016. The MOHFW started the 4th sectorwide approach (SWAp), namely the 4th Health, Population and Nutrition Sector Program (4th HPNSP) to initiate its journey toward achieving the health-related Sustainable Development Goal (SDG). The articulation and design of the 4th HPNSP have been linked to the Eighth Five-year Plan (8FYP) of the Government. Other guiding principles are drawn from the national policies on health, nutrition and population (HNP), various HNP sector-related strategies approved by the Government, and the experiences of implementing three successive sector programs in Bangladesh. The 4th HPNSP started at a time of transition from the Millennium Development Goals (MDGs) to the newly-set Sustainable Development Goals

The 4th HPNSP started at a time of transition from the Millennium Development Goals (MDGs) to the newly-set Sustainable Development Goals (SDGs) with a target to achieve by 2030

(SDGs) with a target to achieve by 2030. The SDGs had taken into consideration the global development agenda as illustrated in the national plan during the 4th sector program.

Key Facts

- Despite challenges posed by COVID-19 pandemic, the 8th Five-year Plan successfully strengthened Bangladesh's health systems, improving governance, service delivery, and access to quality care, advancing progress toward SDGs and Universal Health Coverage by 2030
- The new strategy was Bangladesh Digital Health Strategy, 2023-2027

Health in the Constitution of Bangladesh

Bangladesh began its journey as an independent nation in 1971, and the first Constitution was established in 1972. Since then, health has historically been a state issue. Under the current Constitution, medical care is included as one of the basic necessities of the citizenry, and it is the fundamental responsibility of the state to ensure health services (Table 3.1).

Table 3.1 Health-related statements written in the Constitution of the People's Republic of Bangladesh

Provision of basic necessities	15. It shall be a fundamental responsibility of the State to attain, through planned economic growth, a constant increase of productive forces and a steady improvement in the material and cultural standard of living of the people, with a view to securing its citizens – (a) The provision of the basic necessities of life, including food, clothing, shelter, education and medical care; (b) The right to work, that is the right to guaranteed employment at a reasonable wage having regard to the quantity and quality of work; (c) The right to reasonable rest, recreation and leisure; and the right to social security, that is to say, to public assistance in cases of undeserved want arising from unemployment, illness or disablement, or suffered by widows or orphans or in old age, or in other such cases.
Rural development and agricultural revolution	16. The State shall adopt effective measures to bring about a radical transformation in the rural areas through the promotion of an agricultural revolution, the provision of rural electrification, the development of cottage and other industries, and the improvement of education, communications and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rural areas.
Public health and morality	18. (1) The State shall regard the raising of the level of nutrition and the improvement of public health as among its primary duties, and in particular shall adopt effective measures to prevent the consumption, except for medical purposes or for such other purposes as may be prescribed by law, of alcoholic and other intoxicating drinks and of drugs which are injurious to health. (2) The State shall adopt effective measures to prevent prostitution and gambling.

Important Health-sector Policies/ Strategies

- National Health Policy 2011
- Health, Nutrition and Population Sector of the Eighth Five-year Plan (2020-2025)
- National Nutrition Policy 2015
- 4th Health, Population and Nutrition Sector Program (HPNSP) 2017-2022
- Healthcare Financing Strategy 2012-2032: Expanding Social Protection for Health toward Universal Coverage
- Bangladesh Health Workforce Strategy 2016–2021
- National Strategy for Adolescent Health 2017-2030
- As a new initiative, the Bangladesh Digital Health Strategy 2023-2027 was introduced to further modernize and improve healthcare delivery in the country

National Health Policy 2011

The National Health Policy 2011 in Bangladesh aimed to ensure equitable healthcare access for all citizens, emphasizing primary healthcare and the strengthening of health systems. It also prioritized maternal and child health, communicable disease control, and the promotion of healthy lifestyles.

4th Health, Population and Nutrition Sector Program 2017-2022

The MOHFW is currently implementing its fourth sector program titled the '4th Health, Population and Nutrition Sector Program (4th HPNSP)' covering a 5.5-year period between

January 2017 and June 2022 (extended up to June 2024), at an estimated cost of US\$ 14.7 billion.

The 4th HPNSP is guided by Bangladesh's Vision 2021 (transforming the country from a developing country into a middle-income country), which acknowledges that improved health is a necessary and critical condition for the achievement of this vision.

Milestones for Vision 2021 in HPNSP

- 85% of the population has standard nutritional food
- Poor people ensure a minimum of 2,100 kilocalories of food
- All kinds of contagious diseases are eliminated
- Longevity increases to 72 years
- Infant mortality comes down to 15 from 54 per thousand at present
- Use of birth control methods increases to 80%

8th Five-year Plan: 2020–2025

The MOHFW has been pursuing focused improvements in increasing access to quality

The MOHFW has been pursuing focused improvements in increasing access to quality health services and improving equity, along with financial protection in order to achieve Universal Health Coverage (UHC) by 2030

health services and improving equity, along with financial protection in order to achieve Universal Health Coverage (UHC) by 2030.

Notable Future Activities

- Expansion and consolidation of community-based primary healthcare services
- The UHFWCs will be upgraded with increased human resources for provision of 24/7 services
- Quality of medical education and training, and HPN services will be ensured through upgrading of the educational facilities/ institutes and service facilities, modernization of examination process, inclusion of new subjects in the curricula, provision of specialty and sub-specialty positions
- Reviewing and restructuring of urban primary healthcare services for catering to the needs of rapidly-expanding urban population
- Upgrading of the existing facilities and creation of new facilities for service expansion with a view to bringing in more people under universal coverage and reducing individual out-of-pocket expenditure
- Expansion of health protection schemes (e.g. SSK, MHVS) for wider coverage of the poor
- Extensive digitalization at all levels of the MOHFW and development of digital data management, incremental use of IT in health, population and nutrition services
- Establishment of laws, rules, and formulation of new policies, updating the existing policies, for improved governance, equity, and inclusiveness

The 8th FYP has given emphasis on the continuation of efforts to strengthen core systems to support overall improvement in service efficiency, e.g. the re-organization of the financial management, restructuring of CMSD as the major procurement unit and other agencies/institutes. It will continue to emphasize on PHC, EPI, MNCAH, NCD, nutrition, etc. on consideration of achieving the equity goal and to implement the updated ESP as part of its strategy to achieving the UHC as proposed in SDG (Goal 3).

The health sector program under the 8th FYP needs adequate financial and technical support to implement, monitor, and manage the multifarious challenges posed by the ambitious health goals within the dynamic development process of Bangladesh.

Table 3.2. Targets of the 8th FYP in health, nutrition and population sector

Sl. no.	Indicator	Base year's information (source with year)	8th FYP target (FY 2025)
Impact/Outcome			
1.	Life-expectancy at birth	72 years (World Bank 2021)	74
2.	Total fertility rate (children per woman)	2.00 (World Bank 2020)	2.0
3.	Under-5 mortality rate (per 1,000 livebirths)	31 (BDHS 2022)	27
4.	Infant mortality rate (per 1,000 livebirths)	25 (BDHS 2022)	18

Table 3.2 contd.

Table continued...

Sl. no.	Indicator	Base year's information (source with year)	8th FYP target (FY 2025)
5.	Maternal mortality ratio (per 100,000 livebirths)	123 (World Bank 2020)	100
6.	Proportion of underweight among under-5 children (%)	22.6 (MICS 2019)	15
7.	Proportion of stunting among under-5 children (%)	24 (BDHS 2022)	20
Output			
8.	Proportion of births attended by medically-trained care providers (%)	70 (BDHS 2022)	72
9.	Contraceptive prevalence rate (%)	72.17% (BDHS 2022)	75
10.	Proportion of children fully-vaccinated by 12 months (%)	89 (BDHS 2017-2018)	98
11.	Proportion of births in health facilities by wealth quintile (ratio of the lowest and the highest quintile)	1:3 (BDHS 2017-2018)	1: 1.5
12.	Tuberculosis incidence per 100,000 population	221 (Global Tuberculosis Report, WHO, 2021)	112

Source: Ministry of Health and Family Welfare

Important Laws regarding Health

- The Medical and Dental Council Act, 2010
Available from: <http://www.clcbd.org/document/855.html>
- National Nutrition Policy, 2015
Available from: <https://faolex.fao.org/docs/pdf/bgd152517.pdf>
- National Health Policy, 2011
Available from: Health Policy 2011 (mohfw.gov.bd)
- Bangladesh Nursing and Midwifery Council Act, 2016
Available from: <http://bdlaws.minlaw.gov.bd/act-1200.html>
- Rules of Business, 1996
Available from: https://fid.portal.gov.bd/sites/default/files/files/fid.portal.gov.bd/page/c3ea3bd6_900c_42e7_a2d9_916db383a8a5/Rules%20of%20Business.pdf
- The Births and Deaths Registration Act, 2004
Available from: <http://bdlaws.minlaw.gov.bd/act-921.html>
- National Policy on Occupational Health and Safety, 2019
Available from: https://dife.portal.gov.bd/sites/default/files/files/dife.portal.gov.bd/page/a51db80d_ca8e_4cae_9579_5f6f089d5754/2021-09-15-05-58-20b6eeb7481056b939b691d2d26a401a.pdf

- The Environment Court Act, 2000
Available from: <https://drive.google.com/file/d/11Gm0OYHcgAbXbD95vLICodCbNjPmK6gu/view?usp=sharing>
- Non-government Medical & Dental College Act, 2022
Available from: <https://bpmcanews.blogspot.com/2022/09/private-medical-college-and-dental.html>
- The Medical Practice of Private Clinics and Laboratories (Regulation) Ordinance, 1982
Available from: The Medical Practice and Private Clinics and Laboratories (Regulation) Ordinance, 1982 (minlaw.gov.bd)
- Communicable Disease (Prevention, Control and Elimination) Act, 2018
Available from : https://www.covidlawlab.org/wp-content/uploads/2021/01/Bangladesh_2018.11.14_Act_Infectious-Diseases-Prevention-Control-and-Elimination-Act2018_BEN.pdf
- The Vaccination Act, 1880
Available from: <http://bdlaws.minlaw.gov.bd/act-42.html>
- Safe Blood Transfusion Act, 2002
Available from: https://legislatediv.portal.gov.bd/sites/default/files/files/legislatediv.portal.gov.bd/page/5a6bca14_6a2e_44e4_b155_c8147d1edd65/16.%20Blood%20Transfusion%20safety%20Act%2C%202002.pdf
- Drug Ordinance, 1982
Available from: <http://bdlaws.minlaw.gov.bd/act- 623.html#:~:text=The%20Drugs%20Control%29%20Ordinance%2C%201982%20%28Ordinance%20NO.%20VIII,control%20manufacture%2C%20import%2C%20distribution%20and%20sale%20of%20drugs.>
- Mental Health Law, 2018
Available from: <http://bdlaws.minlaw.gov.bd/act-1273.html>
- Smoking and Using of Tobacco Products (Control) Act, 2005
Available from: [http://bdlaws.minlaw.gov.bd/upload/act/2021-11-17-10-51-17-34.The-Smoking-and-Use-of-Tobacco-Products-\(Control\)-Act-2005.pdf](http://bdlaws.minlaw.gov.bd/upload/act/2021-11-17-10-51-17-34.The-Smoking-and-Use-of-Tobacco-Products-(Control)-Act-2005.pdf)
- Medical Waste Management and Processing Rules, 2008
Available from: <https://www.scribd.com/document/589848194/Medical-Waste-Management-and-Processing-Rules-2008>
- 4th Health, Population and Nutrition Sector Program (HPNSP) 2017-2022
Available from: http://hospitaldghs.gov.bd/wp-content/uploads/2020/01/HSM_OP_2017-22.pdf
- National Strategy for Adolescent Health, 2017-2030
Available from: <https://www.unicef.org/bangladesh/sites/unicef.org.bangladesh/files/2018-10/National-Strategy-for-Adolescent-Health-2017-2030.pdf>
- Bangladesh Health Workforce Strategy, 2016–2021
Available from: <http://hospitaldghs.gov.bd/wp-content/uploads/2019/11/Bangladesh-Health-Workforce-Strategy-2015-min.pdf>
- Bangladesh Food Safety Act, 2013
Available from: http://www.bfsa.gov.bd/sites/default/files/files/bfsa.portal.gov.bd/law/f6babc30_bed7_4337_a123_052e7e9d8784/Safe-Food-Act-2013-English.pdf

Maternal, Newborn, Child and Adolescent Health

About two-thirds of deliveries are institutional

The goal of Bangladesh's facility-based Emergency Obstetric Care (EOC) Program, which is being implemented in every district, is to improve the health of expectant mothers and their newborns by working with professional associations and development partners. Obstetric care services are offered by government medical college hospitals, district hospitals, upazila health complexes, union sub-centers, and community clinics. NGOs that deal with health issues as well as private clinics and hospitals actively take part in this initiative.

The two parts of the EOC program are Basic Emergency Obstetric Care (BEmOC) and Comprehensive Emergency Obstetric Care (CEmOC). CEmOC services are offered by 271 upazila health complexes, 61 district/general hospitals, and all medical college hospitals while BEmOC services are offered by other upazila health facilities. Notable contributions have also been made by NGOs, private clinics and hospitals.

Management Information System of the Directorate General of Health Services (MIS-DGHS) gathers data from EOC facilities in partnership with UNICEF.

Labor Care Guide

The Labor Care Guide (LCG) was designed for health personnel to monitor the wellbeing of women and babies during labor through

regular assessments to identify any deviation from normality. The tool aims to stimulate shared decision-making by healthcare providers and women, and to promote women-centered care. The LCG is intended as a resource to ensure quality evidence-based care, with a special emphasis on ensuring safety, avoiding unnecessary interventions, and providing supportive care. The second stage of labor is incorporated in the LCG, and it is initiated in the active phase of the first stage of labor (5 cm or more cervical dilatation), regardless of the parity and membranes status. The LCG has an alert column showing deviations and evidence-based time limits at each centimeter of cervical dilatation.

Key Facts

- In Bangladesh, the maternal mortality ratio (MMR) reduced from 153 to 136 per 100,000 livebirths in one year (SVRS 2023)
- Delivery at home decreased from 42.31% to 32.77% since the last year (SVRS 2023)
- Institutional delivery rate increased from 57.68 to 67.18% in one year (SVRS 2023)
- The cesarean section rate is 50.7% (SVRS 2023)
- 70% of deliveries in private facilities were conducted through cesarean section (DHIS2)

Table 4.1.1. Data collected from emergency obstetric care facilities

Type of hospital/facility	Total number of facilities
Government medical college hospitals	36
District and general hospitals	61
Upazila health complexes	429
Union sub-centers	1,314
Community clinics	14,234
Government specialized hospitals	40
Private medical college hospitals	73
NGO hospitals/clinics	1,610
Private hospitals/clinics	4,172
Total	21,969

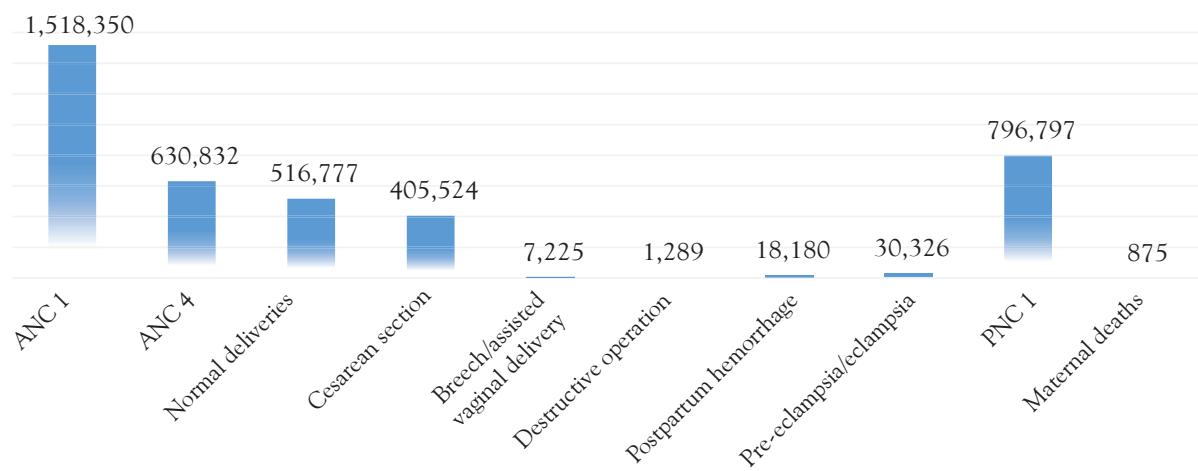


Figure 4.1.1. Different obstetric care services in the government, NGO and private healthcare facilities in Bangladesh in 2023 (DHIS2)

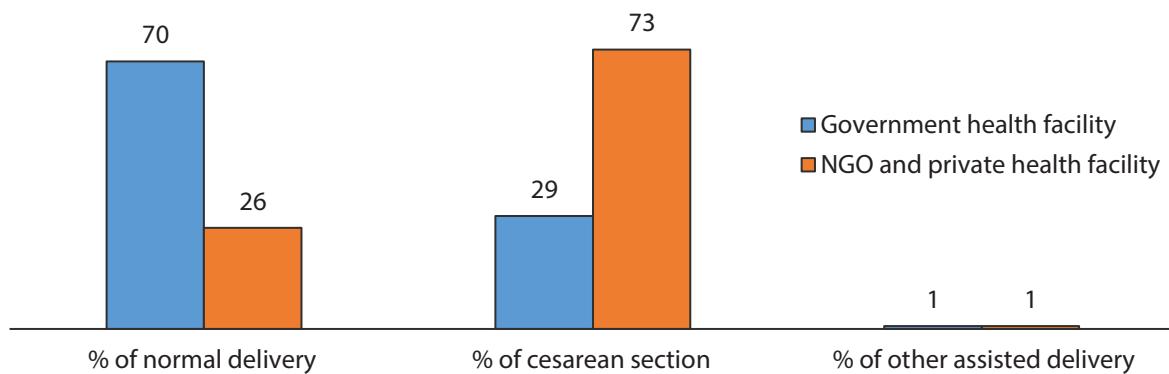


Figure 4.1.2. Percentage of deliveries by type between government and non-government (private and NGO) health facilities in 2023 (DHIS2)

Table 4.1.2. Obstetric care services provided by the government and non-government emergency obstetric care facilities in 2023 (DHIS2)

Type of obstetric service delivery	Govt. MCH	DH/GH	UHC	Community clinic	Sub-total (govt.)	NGO and private hospitals	Total (govt. and pvt.)
ANC 1		206,247	773,222	4,876	14,543	1,137,087	238,849
ANC 4	65,375	93,941	263,540	3,760	10,727	437,343	137,805
Normal deliveries	60,235	83,242	235,538	1,366	14,569	394,950	79,970
% of normal deliveries	43.93	65.64	89.23	99.78	76.41	75.00	26.29
Cesarean section	74,608	42,699	27,213	0	4,409	148,929	221,059
% of cesarean section	54.41	33.67	10.31	0.00	23.12	24.30	72.68
Forceps/Vacuum/Breech delivery	2,198	795	1,181	3	89	4,266	2,253
% of Forceps/Vacuum/Breech delivery	1.60	0.63	0.45	0.22	0.47	0.67	0.74
Destructive operation	79	84	26	0	0	189	863
% of destructive operation	0.06	0.07	0.01	0.00	0.00	0.03	0.28
Total deliveries	137,120	126,820	263,958	1,369	19,067	548,334	304,145
Postpartum hemorrhage	6,311	4,872	5,706	7	40	16,936	672
Pre-eclampsia/Eclampsia	17,195	6,398	4,178	8	32	27,811	1,328
PNC 1	123,612	127,181	267,015	1,323	3,840	522,971	219,506
Maternal deaths	685	146	27	0	2	860	8
							868

The WHO-modified Partograph is still used as a monitoring tool for pregnant women with labor in Bangladesh but, according to the WHO guidelines, LCG should be a monitoring tool for labor. The Modified WHO Partograph will be slowly transitioned to LCG in Bangladesh. A National Guideline for LCG is in the process of development by MNC&AH, DGHS, OGSB, and WHO. Three sessions of training of trainers (ToT) were conducted by MNC&AH and OGSB.

Near-miss Audit

The near-miss morbidity encompasses potentially life-threatening episodes. Currently, the maternal near-miss ratio (NMR) is increasingly employed in evaluating the quality of obstetric care in low-income countries. Near-miss audit is required for adequate evaluation of maternal health, and all survivors should be included in the review process to understand the causes behind the causes and to get a better understanding from the analyses. A National Guideline on Near-miss Audit was developed to capture and review those near-miss cases to better understand the situation as well as identify corrective measures for the improvement of maternal health in Bangladesh. Sessions of ToT were held in medical college hospitals.

Robson Ten Group Classification System

Cesarean section (CS) is a major obstetric intervention for saving the lives of women and their newborns from pregnancy and childbirth-related complications. Over the last decades, there has been a progressive increase in the rate of deliveries by cesarean section in most countries. WHO suggested that the optimal cesarean rates should be

between 5 and 15%. Rising cesarean section rates are a major public health concern and cause worldwide debates because of potential maternal and perinatal risks associated with the increased inequity in healthcare access and cost issues. When the cesarean delivery rate has been rising globally, there is a growing concern about unnecessary cesarean sections. To establish a common point for comparing maternal and perinatal data within facilities over time and among facilities and optimize cesarean section rates, WHO introduced a Robson Ten Group Classification System. The National Guideline on Robson Ten Group Classification System was developed and sessions of OT were held.

Reaching Every Mother and Newborn (REMN) through microplanning

Primary healthcare is a fundamental part of healthcare systems globally, including Bangladesh. Despite progress made in recent years, there are still many challenges and bottlenecks that need to be addressed to improve the quality of primary healthcare in Bangladesh.

Rising cesarean section rates are a major public health concern and cause worldwide debates because of potential maternal and perinatal risks associated with the increased inequity in healthcare access and cost issues

One major concern is the inadequate availability of and accessibility to quality primary healthcare services, particularly in rural and remote areas of the country. Although the number of community clinics

(CC), union sub-centers (USC), and union health and family welfare centers (UH&FWC) has increased, challenges (such as lack of sufficient and quality HR, equipment, and supplies) in those facilities remain. This results in people seeking private healthcare providers, especially unqualified professionals in rural areas. Although qualified staff members are available to provide the service at the upazila level, this is not closer to their location. Therefore, only people living around that upazila hospital can utilize the service from there. In addition, there is a long waiting line for patients, inadequate care, and a lack of access to essential medicines and medical technologies even at the upazila level.

Another major challenge is the low quality of care provided at primary healthcare facilities. Healthcare workers are often insufficiently trained and have inadequate knowledge, skills, and tools to deliver effective care.

Low retention of healthcare workers, particularly in rural areas, is another challenge. Healthcare workers often migrate to urban areas in search of better opportunities and salaries. This results in staffing shortages and a lack of continuity of care, which can be detrimental to the health of patients.

Primary healthcare facilities lack adequate monitoring systems at the community level and regular review mechanisms to monitor the progress against the target to improve the coverage of community-level maternal and child health services.

Challenges relating to cultural beliefs and social norms also affect primary healthcare in Bangladesh. Many people, particularly women, hesitate to seek care due to cultural and social barriers. For example, women may be reluctant to seek care from male healthcare providers

or may face difficulty accessing care due to restrictions on mobility or cultural norms.

In conclusion, while primary healthcare in Bangladesh has progressed, there are still many bottlenecks that need to be addressed. Improving the availability of and accessibility to healthcare services, capacity building of healthcare workers, increasing healthcare financing, and addressing cultural and social barriers can all contribute to the improvement of primary healthcare in Bangladesh. Addressing these challenges is essential to ensure that all individuals in Bangladesh have access to high-quality, effective, and affordable healthcare services.

To address these gaps, the Reaching Every Mother and Newborn (REMN) strategy was introduced. REMN is a multi-pronged approach ensuring readiness of facility, introducing quality of care standards, planning, and managing resources through a bottom-up microplanning approach, supportive supervision, clinical mentoring, establishing a data-driven continuous monitoring and evaluation system, and establishing community engagement and accountability mechanisms. Implementing these strategies can help ensure that all individuals, particularly mothers and children, have access to high-quality, effective, and affordable healthcare services at the primary healthcare level in Bangladesh.

Objectives of REMN

Reaching Every Mother and Newborn (REMN) is a strategy to achieving the goal of 80% maternal and newborn health service coverage in all districts. REMN aims to ensure quality ANC, institutional delivery, ENC and PNC, initial stabilization, timely referral for maternal and newborn

complication management, and follow-up at the PHC level.

REMN strategy

The REMN strategy consists of five key components. Although the guideline describes each component in a separate section, it is important to implement the REMN strategy as an interlinked process as the content and concepts of each component link and interact with one another.

Readiness of Facility and Quality of Care Standards

Primary healthcare facilities need to be well-equipped and staffed with trained healthcare professionals. Readiness of facility can be improved by building and renovating facilities, equipping them with necessary medical supplies, equipment, medicines, ensuring that facilities are adequately staffed with skilled health workers and by building the capacity of health workers through training and education, strengthening health information systems, and introducing WHO quality of care standards. Improving the quality of care at the community level is essential to ensure that everyone receives effective and efficient healthcare services.

Planning and Management of Resources

Effective planning and management of resources are essential to ensure that healthcare services are delivered efficiently and effectively. This can be done by developing and implementing evidence-based microplan and improving resource allocation and utilization.

Supportive Supervision and Mentoring

Supportive supervision is important to enhance the skill and motivation of the service providers guided by their supervisors. Clinical mentorship is also important for primary healthcare providers to retain their skills and maintain the quality of services at the community-level health facilities in the absence of a higher technical team.

Community Engagement and Accountability Mechanism

Community engagement and accountability mechanisms can promote primary healthcare by increasing knowledge and awareness of good health practices and promoting healthy behaviors. This can be done through community-based health education and awareness campaigns, and by involving communities in the planning, implementation, resource allocation, and evaluation of healthcare services.

Monitoring and Use of Data for Action

Continuous monitoring and use of data for action are critical to ensure effective management of healthcare services. This can be done by establishing effective monitoring and evaluation systems and using data to inform decision-making and policy development.

Seven Steps of Microplanning

1. Conduct a situation analysis of the local area—population, HR, logistics, and equipment
2. Prepare geographical maps, including geographical units (block/wards/union),

location of facilities, primary and secondary roads, and other geographical markings and hard-to-reach areas

3. Identify the location of health facilities where the quality MNH can be conducted
4. Calculate the expected number of pregnant women and estimated livebirths

5. Calculate the number of expectant mothers in each session based on the number of pregnant women and required sessions (Mothers x 5–4 ANC visits and one delivery event for each mother, PNC, or ENC for newborn)

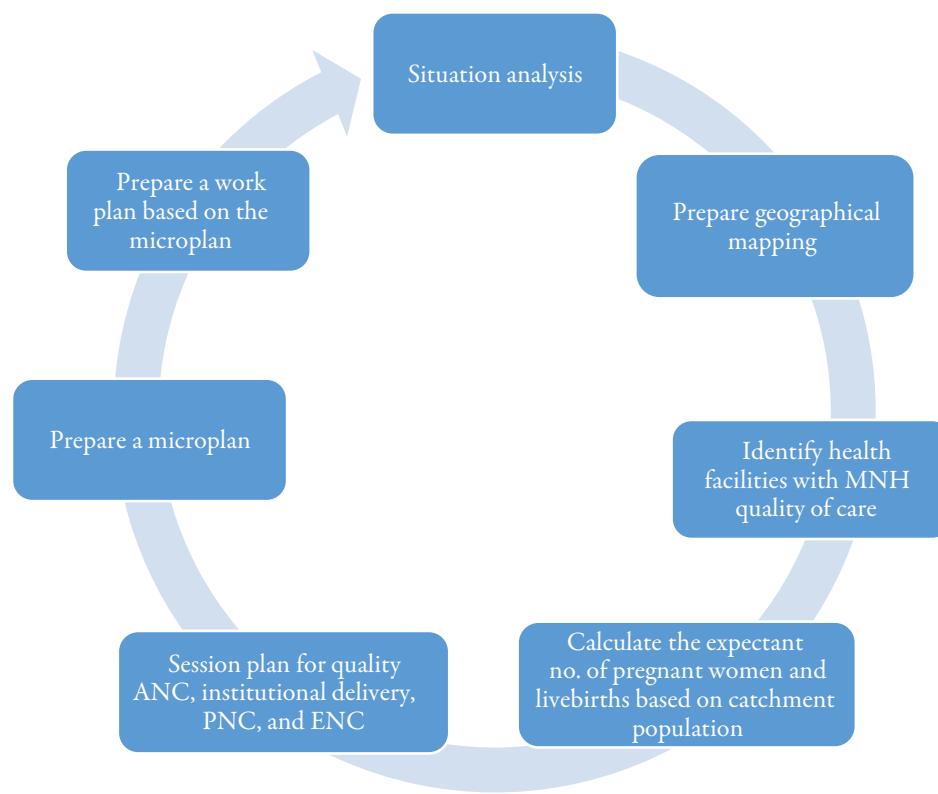


Figure 4.1.3. Steps of microplanning

6. Prepare a microplan, including a session plan, HR plan, supply and logistic plan, community engagement/communication plan, supervision, and monitoring plan
7. Prepare a work plan based on the microplan at the upazila level

Outcome of the Microplanning

After the preparation, a microplanning workshop will be planned and conducted in

each upazila. To design the REMN strategy successfully, a microplanning workshop needs to be conducted at the upazila level involving all the stakeholders. In the workshop, participants will be provided with the demographic information and digitalized map of the upazila, with findings and reports of the assessment of facilities. Before starting the workshop, the participants will be briefed about the objective of the workshop.

Indicators for Tracking the MNH Services

- % ANC 1
- % ANC 4
- % Institutional delivery
- % PNC 1 for mother and newborn in each district
- % ENC (essential newborn care)
- Number of initial stabilization and referral

Benefits of the REMN Strategy

- This strategy will facilitate health service providers at the primary level and the community to develop a microplan in a bottom-up approach based on the target and estimated population in the community for maximum utilization of resources
- It will help an early registration of pregnant women at the community level to provide quality of care throughout the pregnancy period for better outcomes of the pregnancy
- It will help identify the required resources, including supplies and HR to provide quality MNH services throughout the year, with maximum utilization of resources
- It will help monitor the performance of the MNH program based on the target population, which will help improve the performance of the program in the long run
- It will help provide an opportunity to leverage other interventions, such as nutrition and health promotion packages in a systematic way

Demand-side financing: Maternal Health Voucher Scheme

The Bangladesh Ministry of Health and Family Welfare, in 2007, introduced an innovative Maternal Health Voucher Scheme as a demand-side financing (DSF) initiative to improve access to and use of quality maternal health services for the poor pregnant women. The salient features of the scheme are as follows:

- The number of DSF upazilas was increased in phases. Currently, this program is being implemented in 64 upazilas of 42 districts
- Poor women are defined by specific selective criteria (approximately 28% of all the pregnant women of an upazila), and they are selected by local government representatives, health managers, and other stakeholders
- Registration is done by field workers. The total number of cumulative beneficiaries reached 1,934,772 (from July 2006 to February 2024)
- All the voucher-holders received health services free of charge (ANC, PNC, safe delivery, and treatment for complications, including cesarean section, transportation cost, and laboratory tests)
- To increase institutional delivery, the scheme provides cash incentive through rocket mobile banking to the poor pregnant woman (voucher-holder) aiming to reduce the maternal mortality
- Both public and NGO as well as private facilities participate in the DSF scheme
- Under the current sector program, there is a target to scale up the scheme

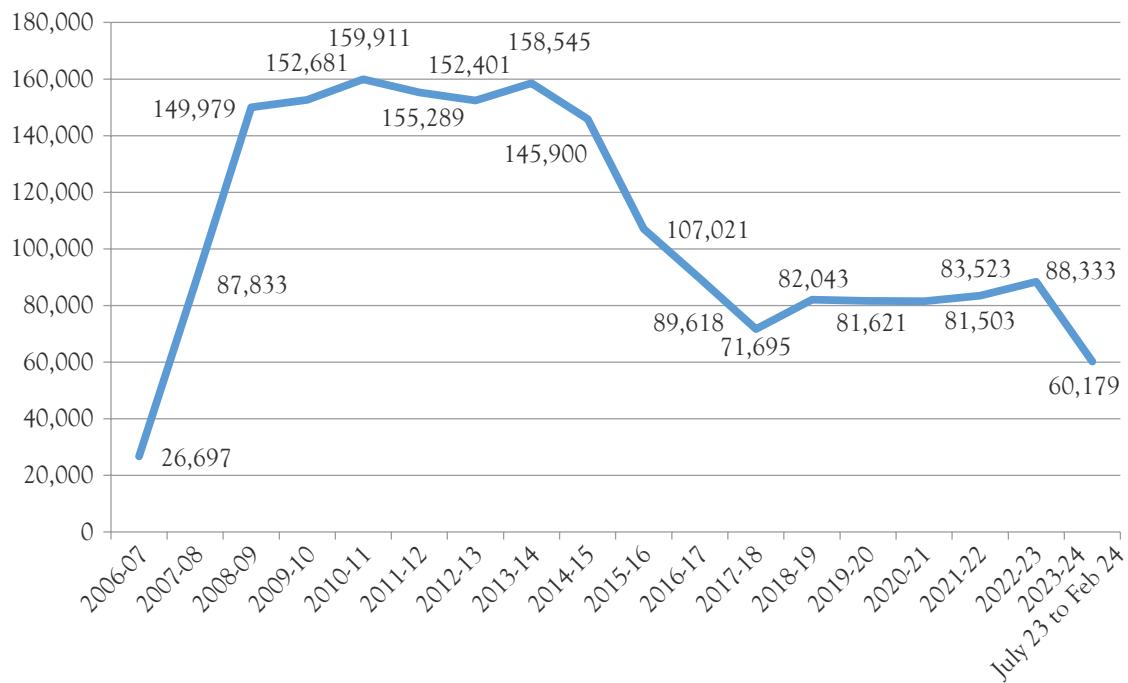


Figure 4.1.4. Number of DSF beneficiary pregnant women by fiscal year (total 19,34,772)

Future plan of DSF

1. Expansion of DSF scheme in new upazilas
2. Timely fund disbursement
3. Strengthening monitoring and supervision capacity

Community-based Skilled Birth Attendants and Midwives

Activities of the community-based skilled birth attendants and midwives are highlighted in the sections that follow:

- The MOHFW undertook a short-term measure to tackle shortage of skilled manpower by providing training
- The Directorate General of Health Services has also been implementing community-based skilled birth attendant (CSBA) training program since 2003 to train and educate the family welfare

assistants/female health assistants on midwifery skills

- The CSBAs are trained to conduct normal safe deliveries at home and to identify the risks and complicated cases so that they can motivate the women and their family members to refer to the nearby health facilities where comprehensive EOC services are available. The CSBA training program is now organized in 465 upazilas of 64 districts
- The total number of CSBAs in Bangladesh (up to June 2021) was 12,480 (including 1,275 private CSBAs)
- Training is given to female CHCPs and female HAs
- Training was imparted to 59 participants from OGSB Hospital of Dhaka, Nursing Institute of Netrakona, and Sadar Hospital of Narsingdi during 2019-2020 fiscal year

Table 4.1.3. Levels of training institutions in the whole country

Training institutions at the division level	Training institutions at the district level
<ul style="list-style-type: none"> Medical college hospital Nearest family welfare center 	<ul style="list-style-type: none"> Sadar hospital Nursing institution Family welfare center

Obstetric Fistula Program

In Bangladesh, obstetric fistula and other maternal morbidities affect thousands of women. Currently, it is estimated that approximately 17,457 women in the country are living with obstetric fistula. Measures taken to address this health problem are highlighted below:

- UNFPA has been assisting the Government of Bangladesh in strengthening the quality of service delivery and capacity-development of service/care providers at 10 government medical college hospitals
- Bangladesh endorses the UN declaration to end obstetric fistula by 2030
- UNFPA and other partners have been providing both technical and financial support to the Government to make Bangladesh fistula-free
- The Third National Strategy of Obstetric Fistula (2023-2030) is developed with an aim to end obstetric fistula in Bangladesh
- DGHS, with support from UNFPA as well as a range of non-government organizations, has continued its work to

end fistula in four divisions: Rangpur, Sylhet, Rajshahi, and Chattogram in 2023

- A national-level consultative workshop on “ending obstetric fistula” was organized by DGHS and UNFPA in December 2023

Given the standstill condition of fistula-related services, 680 patients were admitted to 18 government and private facilities in 2023, and a total of 526 surgeries were performed with a 92% success rate in the year across the program divisions; 52% of the total patients were diagnosed with obstetric fistula whereas 43% of cases had iatrogenic fistula.

Five hundred forty-seven fistula-repairing surgeries were performed in 2022 in 18 government and private facilities, with a success rate of 91%. Among the patients who had undergone surgery, 49.8% had obstetric fistula, the remaining cases were iatrogenic. Vesicovaginal fistula cases were around 75%. DGHS continued its work to strengthen the rehabilitation and re-integration mechanism for fistula survivors in 2023, with notable support from the Department of Social Welfare, Department of Women Affairs in academic institutions as well as in relevant local government bodies. More than 400 fistula survivors received some kind of support under this program. For the re-integration of survivors, 12 fistula survivors were engaged in making of the three-layers-cloth-masks in the Rangpur Division, and another 24 survivors received skilled-based training on handicraft. Additionally, several survivors participated in training and capacity-building activities, such as sanitary pad-making, paper packet-making, and training on sewing, facilitating their re-integration into society. Three upazilas in Rangpur Division, four upazilas of four districts in Sylhet Division, and one upazila

in Rajshahi Division were declared “End Obstetric Fistula” by the end of 2023. DGHS recognizes the tremendous support provided

by UNFPA and the professional society OGSB for successful implementation of Ending Fistula program.

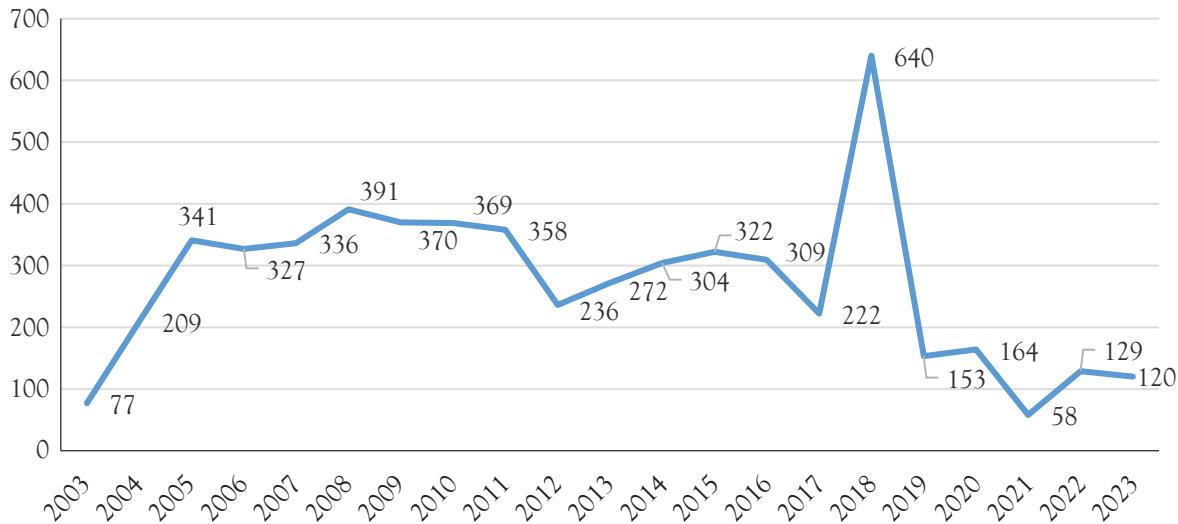


Figure 4.1.5. Number of fistula-repairing surgeries (N=5,707) at the government medical college and specialized hospitals during 2003-2023

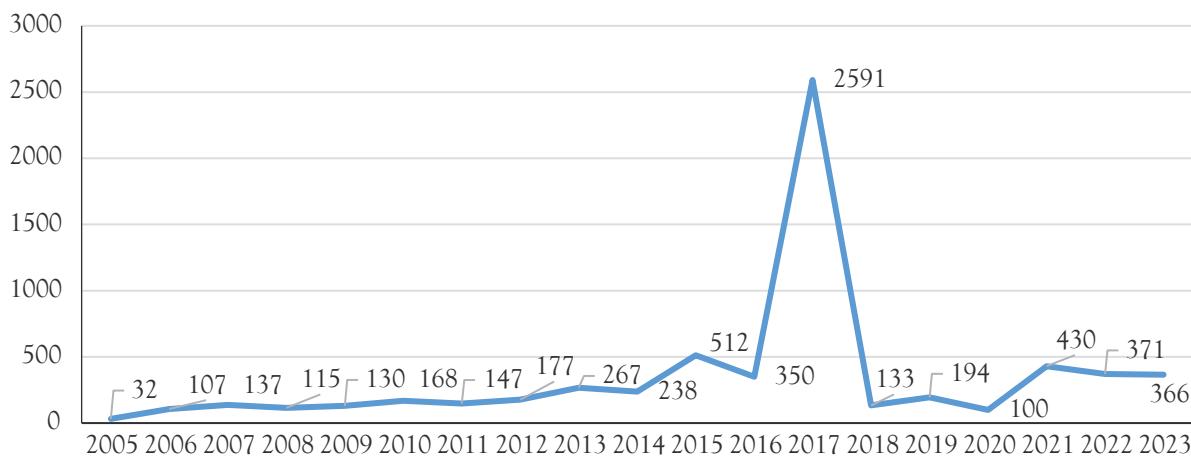


Figure 4.1.6. Number of fistula-repairing surgeries (N=6565) at NGO and private hospitals during 2005-2023

Cervical and Breast Cancer Screening Program in Bangladesh

- Bangladesh National Cervical and Breast Cancer Screening Program employs two diagnostic tools: Visual Inspection of the

Cervix with 5% Acetic Acid (VIA) and Clinical Breast Examination (CBE) every 5 years for married women aged 30 to 60 years

- HPV vaccination roll-out started from 15 October 2023, with a single-dose bivalent

HPV 16 and 18 vaccines for girls aged 10 to 14 years, studying in Grade V to IX as well as out-of-school girls aged 10 to 14 years

- From 2015 to 2023, a total of 4,430,230 VIA tests were conducted at various service centers. Among these tested women, 202,293 (4.57%) were VIA-positive

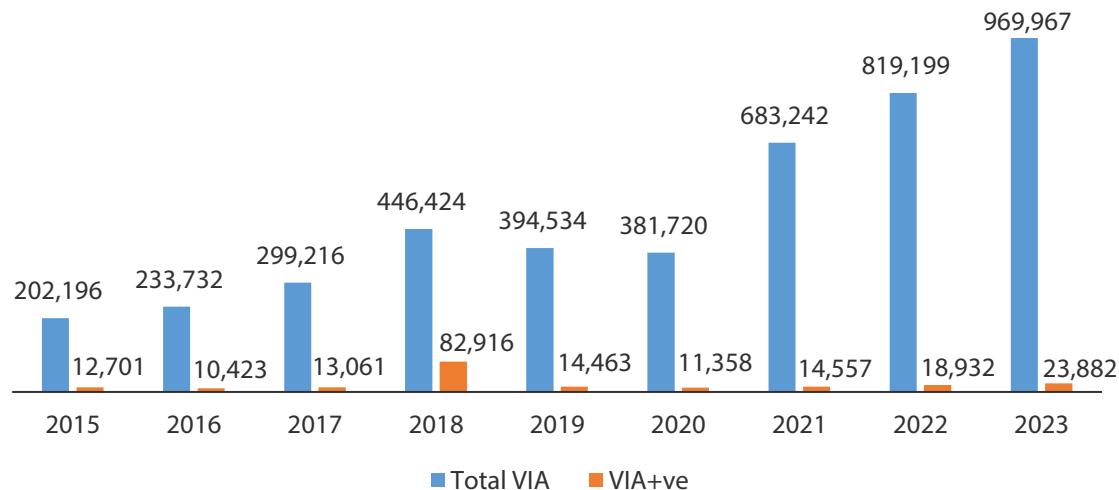


Figure 4.1.7. Number of VIA tests performed and VIA+ve results (2015-2023)

- A total of 4,337,306 CBE tests were performed in 2015 through 2023 and, among those, a total of 60,290 (1.3%) women were positive. All those CBE-positive women were referred to Surgery Department of BSMMU/ MCHs/ DHs
- The comprehensive screening program plays a pivotal role in early detection and prevention of cervical and breast cancers in Bangladesh
- A lot of VIA-positive patients are lost to follow up and 'See & Treat' approach needs to be implemented for this. Furthermore, strengthening of the public tertiary-care centers for cervical cancer patients is required with radiotherapy machines and skilled manpower on radical hysterectomy. Till 2023, a total of 601 centers (Table 4.1.4) have been established throughout the country

Table 4.1.4. Total number of VIA and CBE centers established at various institutions

VIA and CBE center at:	Number of centers (N=601)
Upazila health complexes (selected)	424
District hospitals	59
MCHTI, MFSTC, MCWCs	61
MCHs, BSMMU, NICRH, ICMH	27
BGB, CMCH, Private/NGO facilities	30

- The population-based screening with electronic data-tracking has been initiated in 200 selected upazilas by the MOHFW in collaboration with National Centre for Cervical and Breast Cancer Screening and Training at BSMMU. For this, MIS-DGHS developed a software using DHIS2 and designed a system for electronic data-

tracking, follow-up, and management of individual women

- Colposcopy centers are available at the national level; 49 colposcopy centers are established in 46 districts where colposcopy, thermal ablation and loop electrosurgical procedure (LEEP) are available
- 49 government medical college hospitals and district hospitals, along with BSMMU, have been developed as referral centers through development of colposcopy clinics with facilities of colposcopy and management of precancerous lesions of the cervix



Figure 4.1.8. Colposcopy centers developed in Bangladesh (N=49)

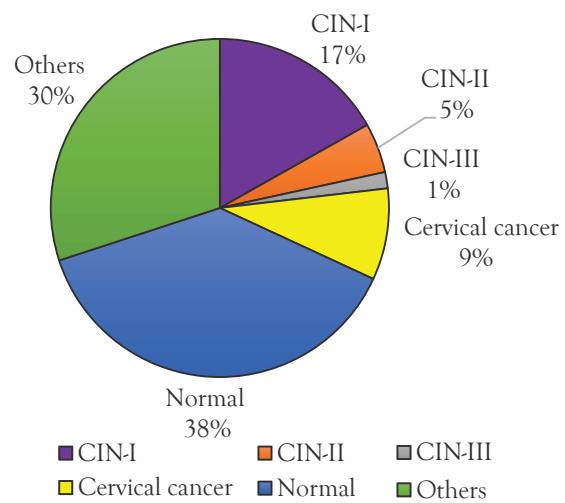


Figure 4.1.9. Findings in VIA+ve women attending colposcopy centers (N=40,867) from 2015 to 2023

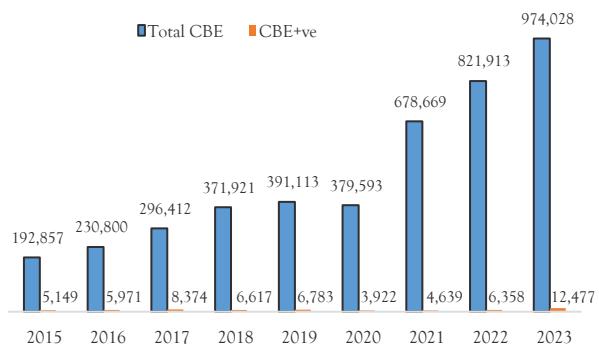


Figure 4.1.10. Number of CBE tests done, with results (N=43,37,306) in 2015-2022

Comprehensive analysis of VIA and CBE screening data in Bangladesh for 2023

In 2023, a total of 864,134 VIA tests were performed in Bangladesh; 22,291 of the tests yielded positive findings. This suggests that the positivity rate is 2.6% overall.

High positivity rate of VIA and CBE: In April, the VIA positivity rate was 3.3%, which was the highest even though fewer tests were performed. This implies focusing testing efforts

on high-risk regions or populations. Despite fewer tests being performed, April had also the highest CBE positivity rate (1.3%). This could indicate targeted screening initiatives in particular high-risk demographic groups.

Volume and rate correlation: The month of November recorded the highest number of tests (94,101) but a lower positivity rate (2.2%). Increased screening might be catching cases earlier, thus reducing the proportion of positive results.

Consistency: The overall annual positivity rate of 2.6% indicates a consistent identification of positive cases relative to the number of tests conducted. This reflects steady and effective screening efforts.

A positivity rate of 0.9% was recorded in Bangladesh in 2023, out of 851,588 CBE tests, of which 7,859 had positive results.

Stable positivity: The positivity rates remained relatively consistent at around 0.9% to 1.0% for most of the year, with minor fluctuations indicating stable detection rates.

Volume and efficacy: High test volumes in March, October, and November showed robust screening efforts. The lower positivity rates in these months suggest effective early detection and prevention measures.

Overall positivity rates: The VIA screening had a higher positivity rate (2.6%) compared to CBE (0.9%), which might indicate higher prevalence or detection efficacy for cervical issues.

Testing volumes: VIA screening (864,134) was slightly higher than CBE screening (851,588), indicating a balanced focus on both cervical and breast cancer detection.

The substantial progress gained in cancer prevention and early diagnosis is demonstrated by the VIA and CBE screening results in Bangladesh for 2023. The thorough monthly study gives advice for upcoming advancements and paints a clear picture of the success of public health programs. Bangladesh can advance its efforts to combat cervical and breast cancer, ultimately improving health outcomes for its populace, with sustained emphasis and strategic changes.

Maternal/Perinatal Death Surveillance and Response

Bangladesh has made encouraging progress in reducing maternal and neonatal mortality over the past two decades. The country was among the top seven countries around the world to follow the roadmap to achieve Millennium Development Goal (MDG) 4 and 5 by 2015. According to the 2023 report from Bangladesh Sample Vital Statistics, the maternal mortality ratio (MMR) in Bangladesh was estimated to be 136 per 100,000 livebirths, and the neonatal mortality rate (NMR) to be 20 deaths per 1,000 livebirths in Bangladesh in 2023. The health-related Sustainable Development Goal (SDG) has been set to achieve by 2030, where the new goal has set target to reduce maternal mortality to 70/100,000 livebirths and neonatal mortality to 12 or below/1,000 livebirths by 2030. To reduce the maternal and neonatal mortality, Bangladesh has introduced Maternal and Perinatal Death Review (MPDR) in 2010 in one district and gradually scaled up in 14 districts over the last six years. The Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) under the Ministry of Health and Family Welfare have been working together to implement the MPDR system. The

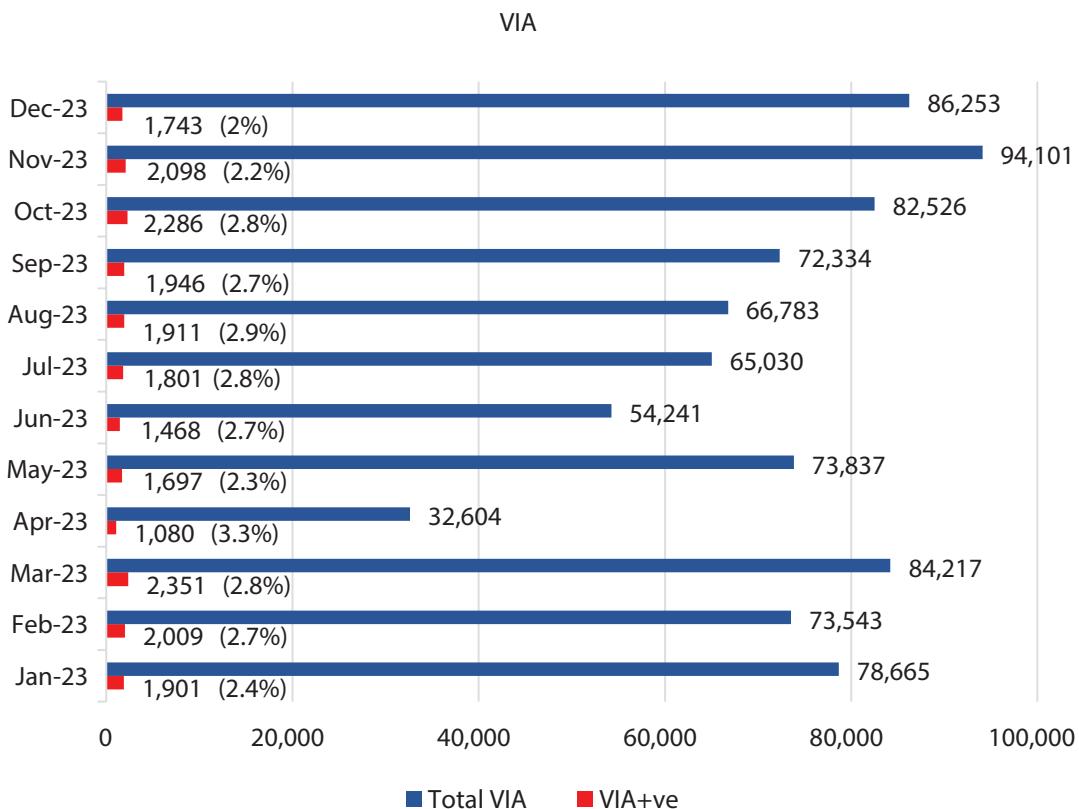


Figure 4.1.11. Monthly breakdown of VIA screening results in 2023

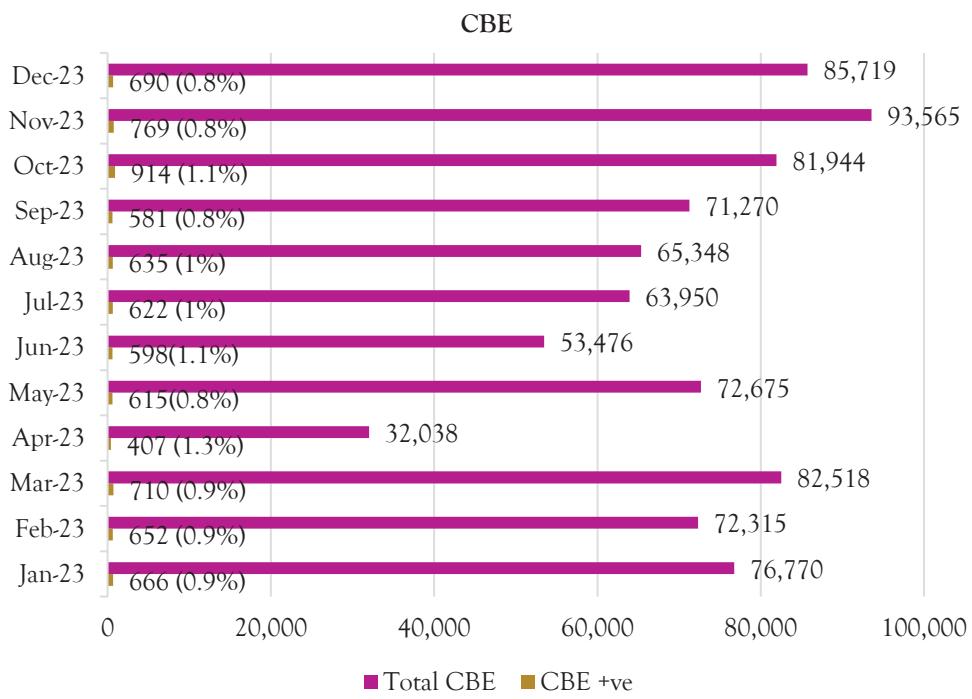


Figure 4.1.12. Monthly breakdown of CBE tests done in 2023

MPDR in Bangladesh covers maternal and neonatal deaths, including stillbirths in both community and at facility level, maintaining anonymity as well as a no blame and non-punitive environment with participation at all levels.

In 2016, the country has shifted from MPDR to Maternal Perinatal Death Surveillance and Response (MPDSR) which is aligned with the global Maternal Death Surveillance and Response (MDSR) developed by World Health Organization. The national guideline on MPDSR has been approved by the MOHFW to implement all over the country. The Government starts national scale-up to establish a comprehensive surveillance and response system to address maternal and newborn deaths.

The MPDSR program in Bangladesh is a comprehensive system encompassing maternal and perinatal death both at community and facility level. Any maternal, neonatal death or stillbirth is notified by the field-level government healthcare providers at the community level and by the senior staff nurses at the facility level. The death is usually notified and reported using a datasheet. Data from the reports are then uploaded on the DHIS2 database from community clinics, UHCs, and government district hospitals. All the cases of maternal deaths and 10% of neonatal deaths are reviewed by the health supervisors at the community level, using a verbal autopsy form.

By the end of 2022, the MOHFW has scaled up the initiative to 64 districts, with technical support from UNFPA, UNICEF, WHO, and other development partners. In 2022, the Government of Bangladesh finalized revision of national MPDSR guideline and tools

that included a stillbirth review component aligned with global MPDSR implementation guideline. A technical working group was formed, and they developed and disseminated a video-toolkit. Training sessions were conducted for healthcare providers and district managers on MPDSR performance reviews, cause analysis, and the development of response plans. Monitoring of MPDSR implementation took place through national-level video-conferences, and virtual orientation was provided to district MPDSR focal persons, and managers on cause analysis and the development of response plans. Furthermore, an operational guideline and implementation plan for near-miss maternal (NMM) studies were developed to enhance maternal healthcare at facilities, with the support of DGHS and development partners. Besides, 10 video-conferences were organized with the districts; over 40 districts were monitored that supported MPDSR implementation in 2023.

Newborn and Child Health Situation in Bangladesh

Bangladesh has been able to reduce the newborn mortality rate (NMR) from 52 per 1,000 livebirths in 1993 to 16 per 1,000 livebirths in 2022 (SVRS) and under-five mortality rate (U5MR) well ahead of the MDG 4 target (from 144 per 1,000 livebirths in 1990 to 28 per 1,000 livebirths in 2022 [SVRS]), reducing by 72.2% since 1990, with the annual rate of reduction being 2.4. The situation is highlighted hereafter.

- There has been a significant shift in the epidemiological pattern of under-five mortality. Neonatal deaths still account for almost 65% of all under-five mortality

- Diarrheal deaths among under-five children have decreased substantially over the last few years (29.5%). However, ARI/pneumonia continue to be the single-most cause (46.4%) of under-5 mortality (U5MR)
- Care-seeking from trained providers for pneumonia and diarrhea has increased remarkably over the last few years; use-rate of ORS for diarrhea management has increased to more than 72%, vitamin A supplementation coverage among under-five children has increased from 85% in 2005 to 91.3% in 2016 (CES, 2016) while exclusive breastfeeding practices have stood at 62.6% (in 2019)
- Activities of EPI and introduction of new vaccines have progressed well, and scaling up of C-IMCI and IMCI and nutrition corners is taking place. About 82.3% of children aged 12-23 months received all the scheduled vaccines by 12 months of their age (CES, 2016)
- Under the Reach Every District Community Strategy, routine EPI has further been strengthened in low-performing 32 districts and 4 city corporations. NGO-private sector partnership exists for EPI in a limited scale, especially in urban areas

mortality rate of 82 per 1,000 livebirths was noted among mothers with no education

- Among the mothers with secondary-level education or higher, the rate was 39 per 1,000 livebirths
- Although deaths due to preventable communicable diseases continued to decrease over time, the proportion of deaths due to drowning has resulted in a sharp rise from 26% in 2007 to 42% in 2011 among the age-group of 1-4 year(s). Currently, a clear multisector strategy to addressing child drowning is absent
- The current child health interventions mainly focus on the reduction of mortality, with limited emphasis on child development. Sustaining the already-achieved high coverage in EPI and reaching the unreached to further increase the coverage remain a challenge
- To improve newborn and child survival, the National Newborn Health Program (NNHP) was launched through the sector program; the IMCI program has also been strengthened
- Facilities under DGFP (MCRAH) also provide newborn and child-related services similar to DGHS. There is visible disparities and lack of coordination in between these directorates and operational plans
- Activities of the program during the reporting period are as follows:

Challenges

- Despite reduction in mortality over time, continued disparities have been observed between the richest and the poorest quintiles between urban and rural areas, and among divisions (e.g. Khulna, Sylhet)
- Mothers' education was found to be associated with U5MR. The highest

- The NNHP focused on achieving equitable and effective coverage of high-impact newborn services and practices at scale through quality implementation of a comprehensive newborn healthcare package by the public health system
- The activities under the IMCI program are implemented at the community and all levels of facilities in line with the national policy and strategy for achieving high coverage and quality of facility- and community-based IMCI services

Program management

- The existing Newborn and IMCI Unit under Line Director (MNCAH) is strengthened and renamed National Newborn Health Program and IMCI. The Unit has one Program Manager (PM- NNHP & IMCI), five Deputy Program Managers (DPM-Admin & Finance; DPM-Newborn Health; DPM- Training and Child Injury; DPM-Field Monitoring and Data Quality; DPM-Coordination and Logistics Management)

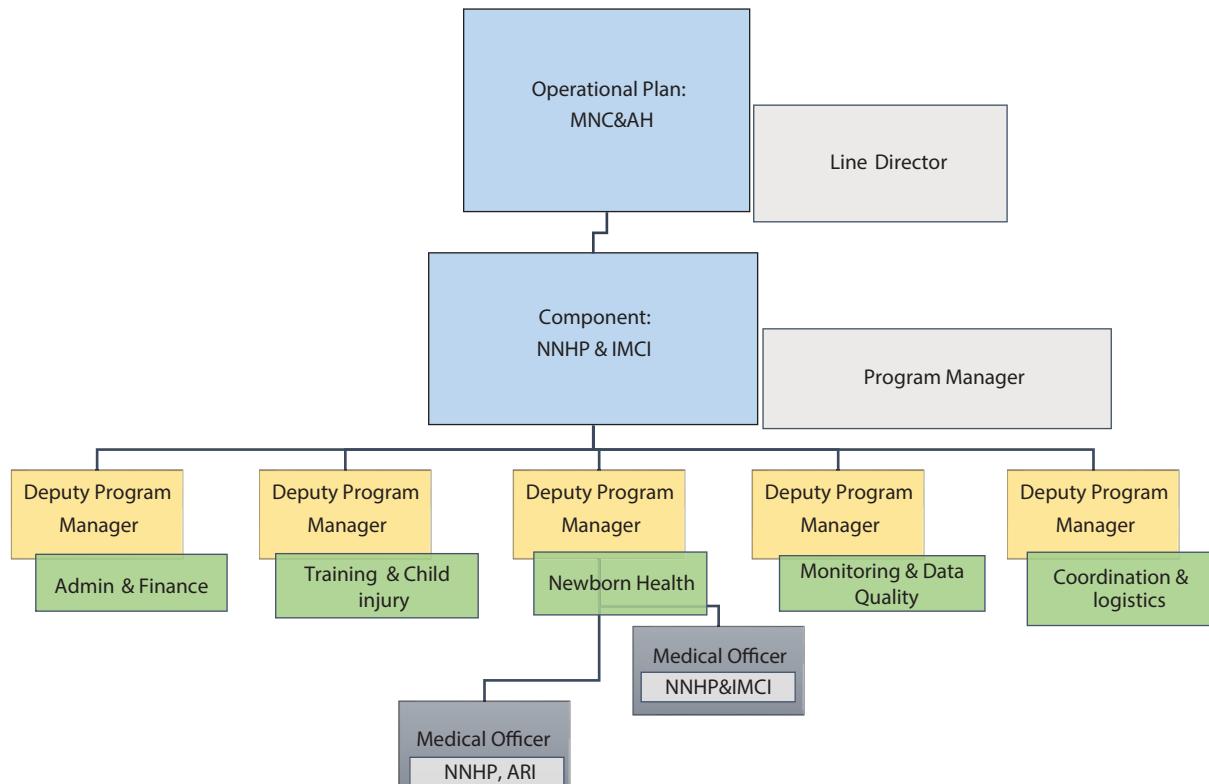


Figure 4.1.13. Organogram NNHP and IMCI

- Along with strong leadership and ownership of MOHFW officials at all levels, functional coordination among different departments and facilitation role from development partners are crucial to ensure successful implementation of NNHP and IMCI
- A District MNCH Focal Person (after training) works at the district level to strengthen supervision and monitoring of all maternal, newborn and child health-related activities at the district level and below. With the support of development

partners, a group of consultants worked from district and division levels to facilitate the implementation of NNHP throughout the country

Activities

- Promotion of preparedness for birth, preparedness for newborn care, and proper care-seeking through a comprehensive SBCC approach
- Immediate and essential newborn care (ENC), including application of 7.1% Chlorhexidine to the umbilical cord and postnatal care (PNC) in the facility and in the home by visiting community health workers for management of sick newborn and resuscitation using HBB protocol
- Kangaroo Mother Care (KMC) for management of preterm/LBW babies
- Judicial use of antenatal corticosteroid in threatened premature deliveries
- Care of critically-ill newborn at Special Care Newborn Units
- Strengthen effective referral systems, including reliable and affordable transportation
- Development of the NNHP management toolkit and training of health managers and MNCH focal persons
- Comprehensive Newborn Care Package (CNCP) implementation
- Capacity building of the healthcare providers and field workers at different levels on CNCP for KMC training for doctors and nurses to manage preterm low-birthweight babies at upazila health complex and higher-level facilities
- Training of doctors and nurses for management of sick newborn at SCANU/ NSU
- Ensure procurement and supply of necessary logistic commodities and medicines at the union-, upazila- and district-level facilities under DGHS for the management of sick newborn as per national guideline; establishment of standard KMC Corners in all upazila- and district-level facilities, ensuring commodities and logistic supplies, and functional newborn resuscitation devices (Bag & Mask) in all facilities
- Provision of District MNCH Focal Person to coordinate, supervise, and monitor
- All maternal, newborn and child health-related activities at the district level and below, and report to Line Director (MNCAH)
- Revision of National Neonatal Health Strategy and Standard Operating Procedure (SOP) for newborn health services
- Community engagement by using community group (CG) and community support group (CSG) of community clinics in coordination with community-based healthcare service (CBHCS)
- Strengthen societal engagement by orienting school teachers, local representatives, multisector officials, and NGOs through different existing platforms

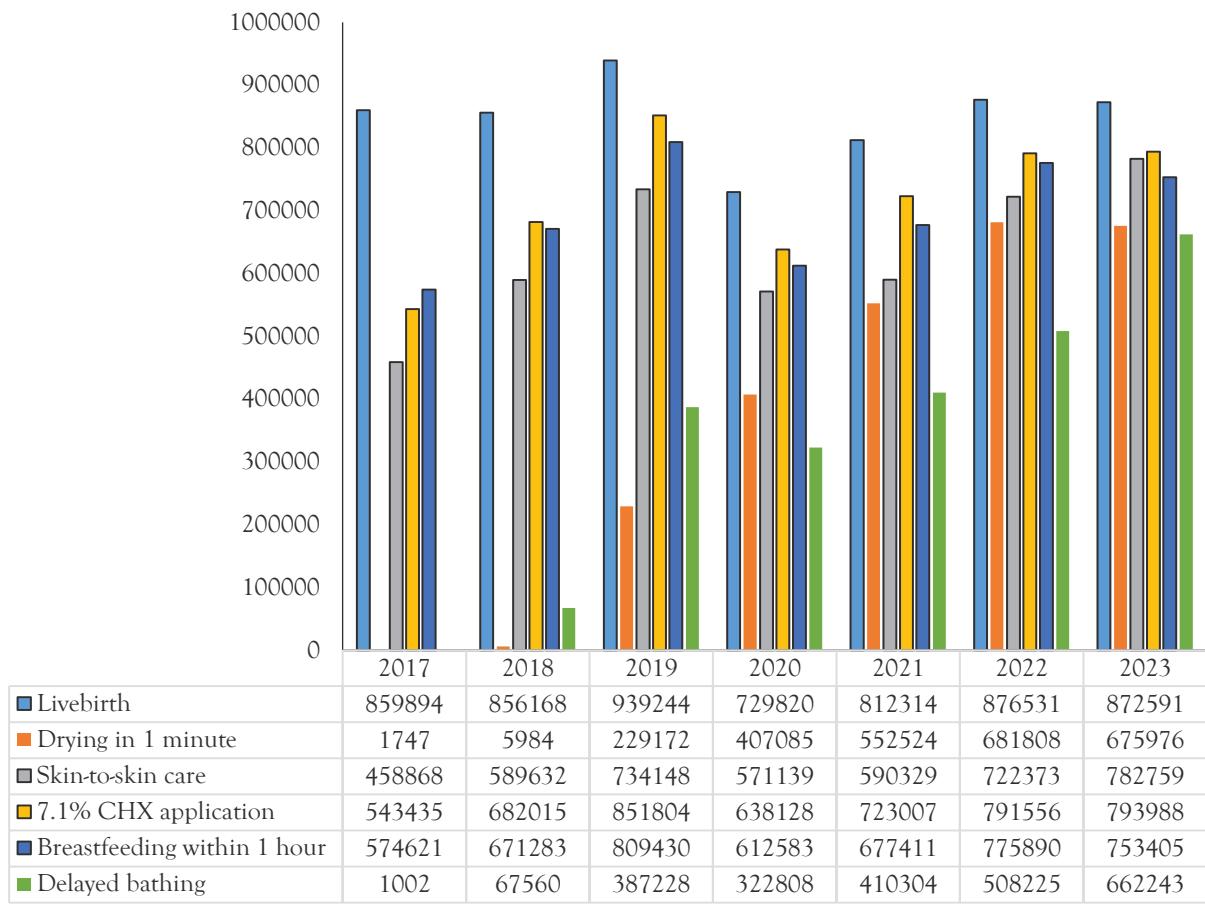


Figure 4.1.14. Elements of Essential Newborn Care (ENC): Status of Newborn and Child Health in the Last Five Years

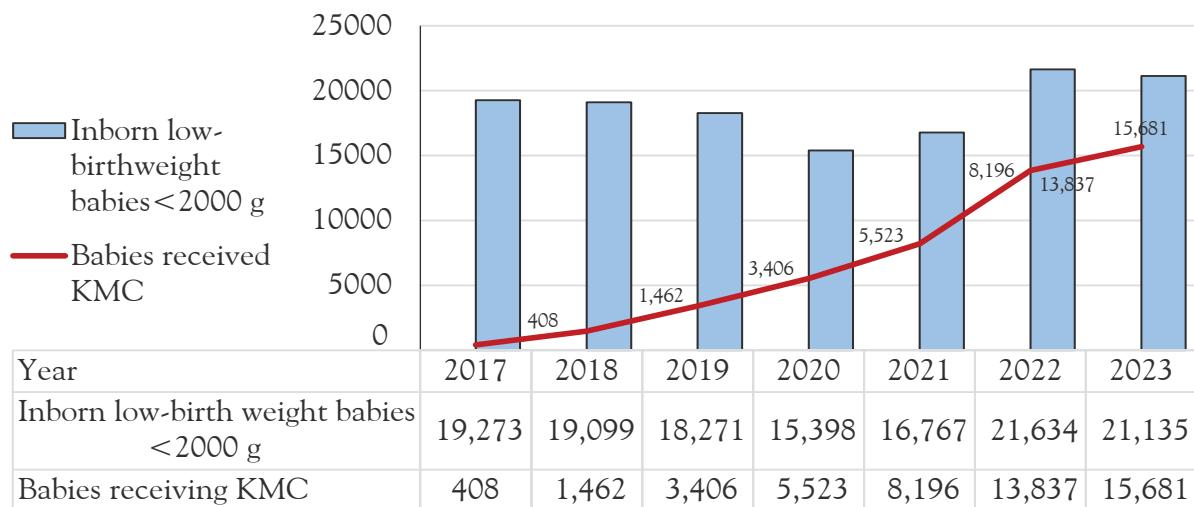


Figure 4.1.15. Elements of Kangaroo Mother Care (KMC)

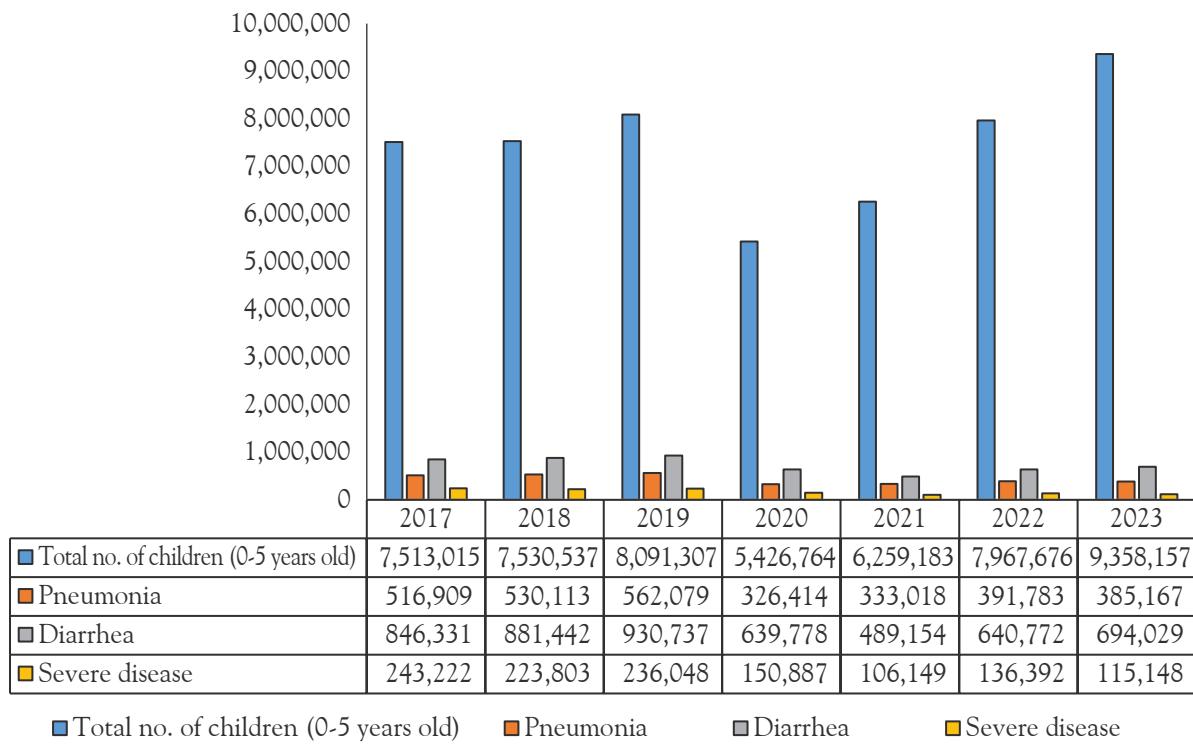


Figure 4.1.16. Elements of IMCI services

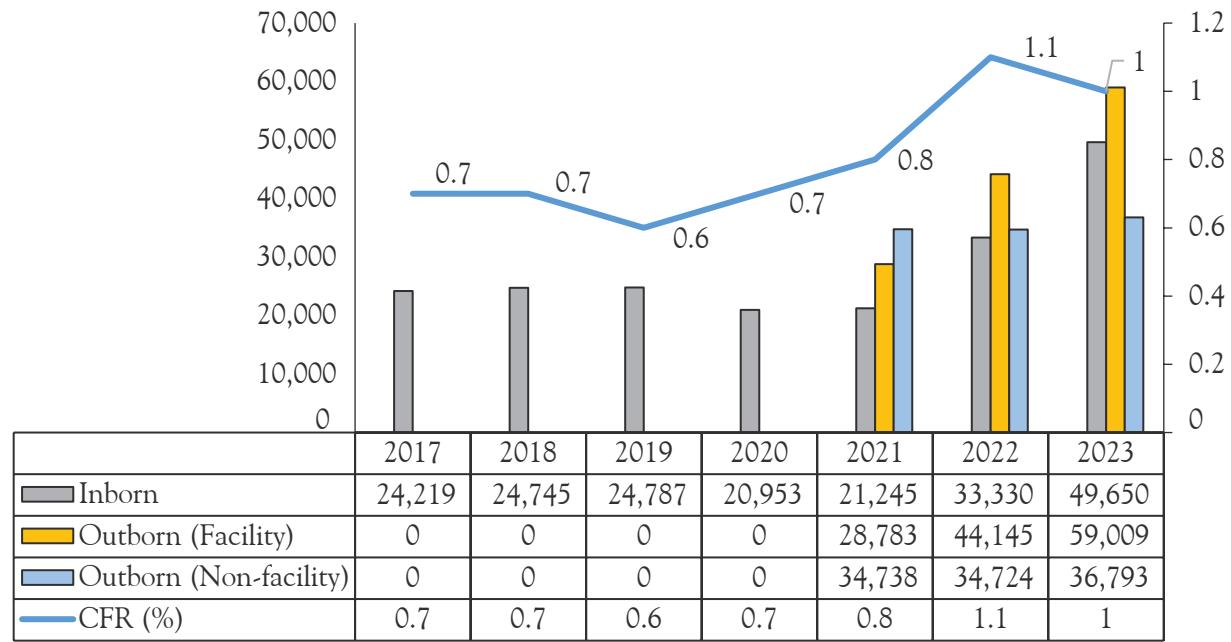


Figure 4.1.17. Elements of services at Special Care Newborn Units

Progress of Newborn Health and IMCI Services

- National Newborn Health Standard Operating Procedure (SOP) developed and implementation started countrywide
- In total, 59 SCANUs are functional covering 50 district hospitals (level 2 care), MCH (level 3 care)
- Newborn Stabilizing Unit (NSU) is functional in 231 UHCs
- KMC scaled up in all upazila- and district-
- level facilities, including community follow-up
- Immediate and essential newborn care ensured at all levels of facilities
- Providing IMCI-N service at all levels of health facilities up to community clinic and UHFWC
- National Newborn Health Strategy and Newborn Action Plan developed based on “Global Call for Action” and waiting for approval

Table 4.1. 5. Key indicators of MNCH services and SDG target

Indicator	Unit of measurement	Baseline data (Year and source)	Achievement	SDG target (2030)
U5MR	No. among 1,000 livebirths	45 (BDHS 2017)	28 (SVRS 2022)	25
NMR	No. among 1,000 livebirths	30 (BDHS 2017)	16 (SVRS 2022)	12
MMR	No. among 100,000 livebirths	176 (UN Est. 2015)	153 (SVRS 2022)	70

Adolescent and School Health Program

Bangladesh has an adolescent population of approximately 36 million: more than one-fifth of the total population of Bangladesh. Adolescents are defined as young persons between the ages of 10 and 19 years (BBS, 2015). This large cohort presents significant potential for the social and economic development of the country if we make the necessary investments to make them healthy and productive.

Adolescent health has been highlighted frequently during the HPNSP as a priority area that needs further and focused attention. The Bangladesh National Adolescent Reproductive Strategy for Health (ARSH) was formulated in 2006, and related action plan

was developed in 2013. Two major operational plans included design to carry out selected health activities of ARSH strategy. Moreover, National Adolescent Health Strategy 2017-2030 has been developed in December 2016 and National Plan of Action for Adolescent Health Strategy has been set.

Pregnancy of and childbearing by adolescents entail a high risk of maternal death; children of the young mothers have higher level of morbidity and mortality rates. They face a number of important health risks arising out of early pregnancies, violence, and inadequate nutrition. Almost twice as many newborn deaths occur among them.

Twenty-three percent of women aged 15–19 years have begun childbearing (that is, they

have had a child or are pregnant with their first child). Teenage childbearing has declined by 4 percentage points since 2017–2018. The aim of the 4th HPNSP is to reduce teenage childbearing to 25% by 2023, and this has been achieved (BDHS 2022).

Objectives of the Program

- ◆ Improve knowledge of adolescents on sexual and reproductive health (SRH), nutrition, violence against adolescents, and mental health and others
- ◆ Promotion of and ensuring access to adolescent-friendly health services at the facility and community levels
- ◆ Creation of positive changes in the behavior and attitude of gatekeepers of the adolescents toward reproductive health

Activities under the program during the reporting period are as follows:

- ◆ According to the Bangladesh National Adolescent Health Strategy for 2017 to 2030 and related action plan for adolescent health, activities are going on to improve adolescent health in Bangladesh
- ◆ Emphasis is given on four thematic areas: (i) Strengthened initiatives on adolescent, sexual and reproductive health issues; (ii) Nutrition; (iii) Violence against adolescents, and (iv) Mental health. All the activities and strategies are planned according to these four thematic areas
- ◆ Training modules, flyers, and booklets have been developed by the DGHS
- ◆ Training is provided to the health service providers, secondary school teachers,

adolescent peers, and orientation given for gatekeepers, field-level health workers, and members of the school management committee and parents

- ◆ Conduct screening on oral health, hearing, and vision and take anthropometric measurements. Teachers and peer-leaders support the organization of the School Health Day
- ◆ Training of trainers (ToT) is provided to the district- and upazila-level managers as master trainers on adolescent health issues, nutrition, and psychosocial counseling
- ◆ Capacity development by coordination system and appraisal of performance through workshop are made yearly
- ◆ Adolescent-friendly health services (AFHS) are established in 64 districts in 476 facilities (district hospital, UHCs, and School Health Clinics)

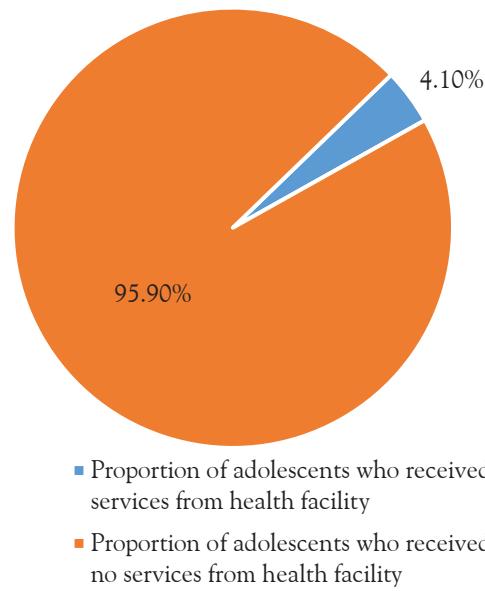


Figure 4.1.18. Percentage of adolescents receiving services and no services from health facilities in 2023

Training/Workshops in 2022-2023

- Training of 930 health service providers on adolescent health issues and nutrition, and psychosocial counseling were given in Sylhet, Rangamati, Habiganj, Noakhali, and Brahmanbaria districts
- Training of 630 secondary school teachers as trainers on adolescent health issues and nutrition, and psychosocial counseling was given in Manikganj, Sunamganj, Tangail, and Narsingdi districts
- Training was given to 2,130 secondary school students as peer-educators from the adolescent groups in Maulvibazar, Barishal, Cumilla, Jhalokathi, Feni, Jamalpur, Noakhali, Sylhet, and Sunamganj districts
- Orientation was given to 3,750 persons as gatekeepers (chairmen, members, imams, kavis, members of school management committee, and local population) in Sunamganj, Khulna, Jhalokathi, Feni, Jamalpur, Lakshmipur, Noakhali, Cumilla, Barishal, Sherpur, Nilphamari, and Bogura districts
- Screening of 450 persons was done on oral health, hearing, and vision; and anthropometric measurements were taken in Barishal and Lakshmipur districts
- Health education sessions with 4,380 persons were held by SACMOs in Feni, Maulvibazar, Habiganj, Khagrachhari, Cumilla, Khulna, and Narail districts
- Workshops were held with 180 persons in Sylhet, Lakshmipur, Noakhali, Habiganj, Feni, Chandpur, Tangail, Jamalpur, and Maulvibazar districts for capacity development, coordination, and appraisal of performance

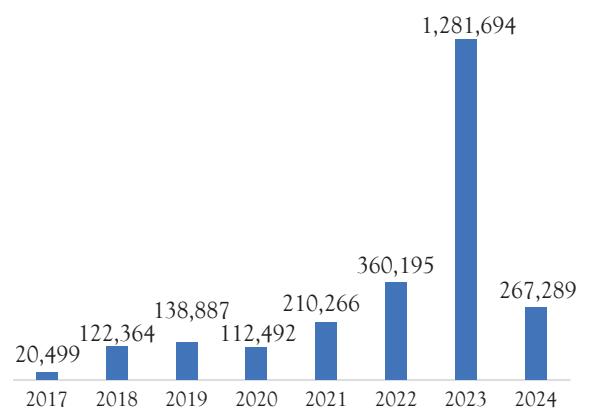


Figure 4.1.19. Number of adolescents receiving services from health facilities

- ◆ Dashboard for adolescent health indicators was developed, and HMIS was strengthened for adolescent health
- ◆ Data on adolescent health service are improving with time. Number of adolescents who received services from health facilities increased from 360,195 in 2022 to 1,281,694 in 2023
- ◆ Sanitary napkins (for emergency purpose) were distributed among school-going female adolescents
- ◆ IEC material, wall painting, and billboard were distributed for awareness building
- ◆ IFAs were distributed among female adolescents at schools
- ◆ Operational research on adolescent health was conducted
- ◆ Strategy on social and behavior change communication for adolescent health was developed

School Health Program

Since 1951, twenty-three school health clinics in 20 districts are running under School

Health Program in the old greater districts of the country. Each clinic has two graduate doctors, one pharmacist, and one office sahayak. The medical officers provide clinical service to the school-going children, conduct school visit, and counsel on BCC.

Objectives of the program

Objectives of the School Health Program are as follows:

- i. Improvement of the school environment
- ii. Improvement of school health services
- iii. Provision of health education to the school students. School health services include capacity development of school teachers for providing first-aid to the school students; teaching about personal hygiene, hand-washing, safe drinking-water, sanitation, and nutrition; conducting health education sessions; referral of sick students to health facilities; and provision of first-aid box. At least, one school teacher from each school will be trained for this purpose

Priority activities

- ◆ Capacity development of school teachers, local service providers, managers, and students on lifestyle modification, personal

hygiene, hand-washing, nutrition, helminthiasis, healthy school environment, NCD risk factors, eye, ENT, dental healthcare, and antimicrobial resistance, etc.

- ◆ To arrange periodic special health consultation camp with specialists (mainly eye, ENT, pediatrics, and dental health) for detection and care of physical and mental illness among school students
- ◆ Vitalization of services at the existing 23 school health clinics and future planning for strengthening school health clinics
- ◆ Training/workshop under School Health Program in 2022-2023:
 - Training of 600 primary school teachers on School Health Program
 - Periodic health consultation camps were arranged for 2,520 students, with specialists for screening of primary school students on eye, ENT, dental and nutritional status
 - Workshop was held with 24 persons at the national level for capacity development, coordination, and appraisal of performance
 - ◆ First-aid box, tooth brush, and tooth paste were distributed among students

Chapter
4.2

Vaccination Services through EPI

Protecting the community by preventing diseases

Brief History of the Expanded Program on Immunization (EPI)	
7 April 1979	Formal launching of EPI in towns
1985	Phase-wise and countrywide expansion
1990	EPI service was available to all target groups
1995	Activities toward Polio Eradication and Elimination of Maternal and Neonatal Tetanus (MNT) started
	VPD surveillance activities with WHO support started
1997	AFP and NT surveillance started
2003	Hepatitis B Vaccine was introduced
	AEFI at facility level initiated
2004	AD syringes were introduced
2006	Expansion of AEFI surveillance up to community level
2009	Hib Vaccine in pentavalent form was introduced
2012	MR Vaccine and Measles second dose were introduced
March 2015	PCV and IPV vaccinations were introduced
23 April 2016	tOPV switched to bOPV
November 2017	IPV switched to fIPV
March 2019	TT switched to Td
2019	EPI Coverage Evaluation Survey (EPI CES) was conducted and report was published
February 2021	COVID-19 vaccination started
October 2023	HPV vaccination launched

Key Milestones

2008	Achieved MNT elimination goal, and the status maintained
2009 and 2012	Earned GAVI Award for high immunization coverage
2014	Bangladesh achieved polio-free status
2018	Bangladesh achieved rubella and CRS control status
2019	Hon'ble Prime Minister received Vaccine Hero Award from GAVI
2019	Bangladesh achieved hepatitis B control target

Diseases Covered under EPI

1. Tuberculosis
2. Poliomyelitis
3. Diphtheria
4. Pertussis
5. Tetanus
6. Hepatitis B
7. Haemophilus influenzae Type B
8. Pneumococcal pneumonia
9. Measles
10. Rubella

Target Population

1. Total Population
2. All children aged 0-11 month(s)

3. All children aged 23 months
4. Under-5 children
5. Adolescents below 15 years of age
6. All women of childbearing age (15-49 years)

Immunization System Highlights

- >80% coverage for DTP-Hib-HepB3: 63 districts (98.44%)
- >90% coverage for MCV1: 64 districts (100%)
- >90% coverage for MCV2: 64 districts (100%)
- >10% drop-out rate for DTP-Hib-HepB1 to DTP-Hib-HepB3: 2 (3.13%)

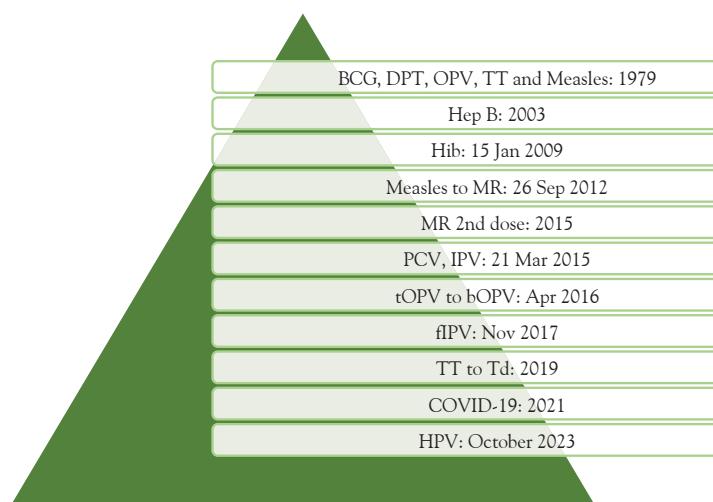


Figure 4.2.1. Timeline of vaccine introduction in Bangladesh

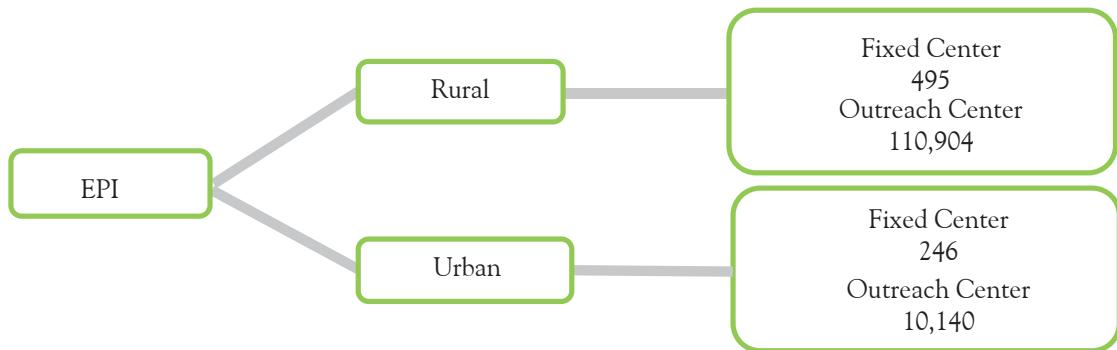


Figure 4.2.2. Operational outline of EPI services in Bangladesh

Table 4.2.1. Vaccination schedule for children

Vaccine	No. of doses	Age of administration	Dose interval	Route
BCG	1	After birth	-	Intradermal
Pentavalent (DTP-Hib-HepB)	3	W6, W10, W14	4 weeks	Intramuscular
PCV	3	W6, W10, W14	4 weeks	Intramuscular
bOPV	3	W6, W10, W14	4 weeks	Oral
IPV	2	W6, W14	8 weeks	Intradermal
Measles-Rubella (MR)	2	9 months and 15 months	-	Sub-cutaneous

Table 4.2.2. Tetanus Vaccine (Td) schedule for women of 15-49 years of age

Td doses	Starting dose/Minimum interval between doses
Td1	15 years of age
Td2	At least 4 weeks after Td1
Td3	At least 6 months after Td2
Td4	At least 1 year after Td3
Td5	At least 1 year after Td4

Tetanus (Td) for women of childbearing age

- Like the childhood vaccination coverage, Td vaccination coverage is assessed as crude and valid coverage
- The crude Td coverage is assessed in terms of all Td doses, both valid and invalid, that a woman receives
- The valid Td coverage is assessed in terms of the valid doses that a woman receives

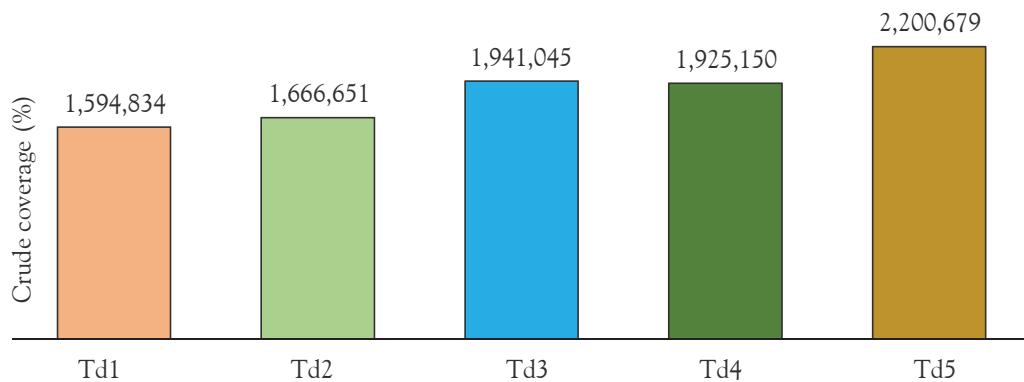


Figure 4.2.3 Total number of Td1-Td5 doses administered among the 15-49 years old women, Bangladesh, 2023 (Source: DHIS2, MIS, DGHS)

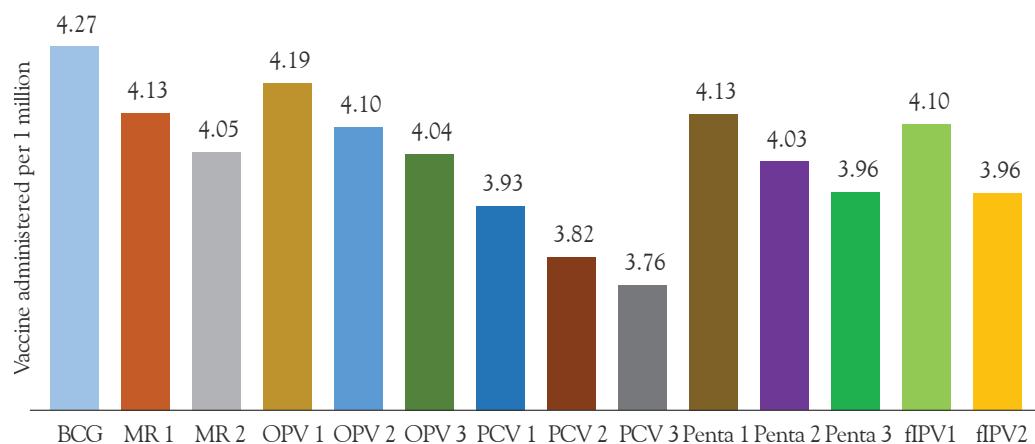


Figure 4.2.4. Childhood (0 to 11 months) crude vaccination coverage (%), Bangladesh, 2023 (DHIS2, MIS, DGHS)

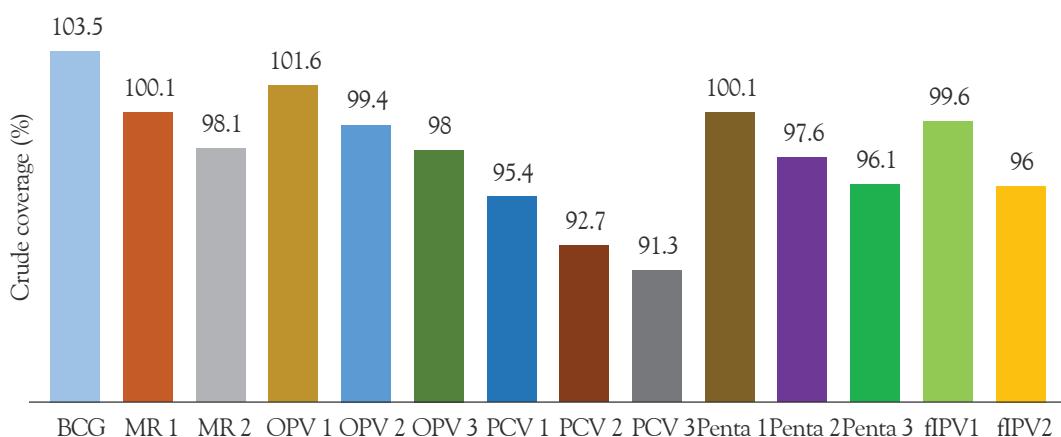


Figure 4.2.5. Total number of doses (in million) of all childhood (0 to 11 months) vaccines administered, based on estimated number of births Bangladesh, 2023 (Source: DHIS2, MIS, DGHS)

Surveillance

Timeline of VPD surveillance initiation

1995	Initiation of VPD surveillance activities with WHO support
1997	AFP and NT Surveillance started
2003	Facility-based surveillance initiated (reported by doctors only)
2006	Community-based surveillance initiated (reported by field workers/supervisors)
2021	Online reporting started through DHIS2

VPDs under surveillance

1. Acute Flaccid Paralysis (AFP): <15 years old
2. Polio: any age
3. Acute Encephalitis Syndrome (AES): any age
4. Measles: any age
5. Neonatal Tetanus: <28 days
6. Congenital Rubella Syndrome (CRS): <1 year
7. Tuberculosis: <5 years old
8. Diphtheria: any age
9. Pertussis: any age
10. Tetanus after neonatal period: any age

Active reporting

Passive reporting

AEFI surveillance

1. Type of AEFI surveillance: Spontaneous/ passive

2. No. of reporting facilities: 877 (Govt.: 697, Non-govt.: 180)

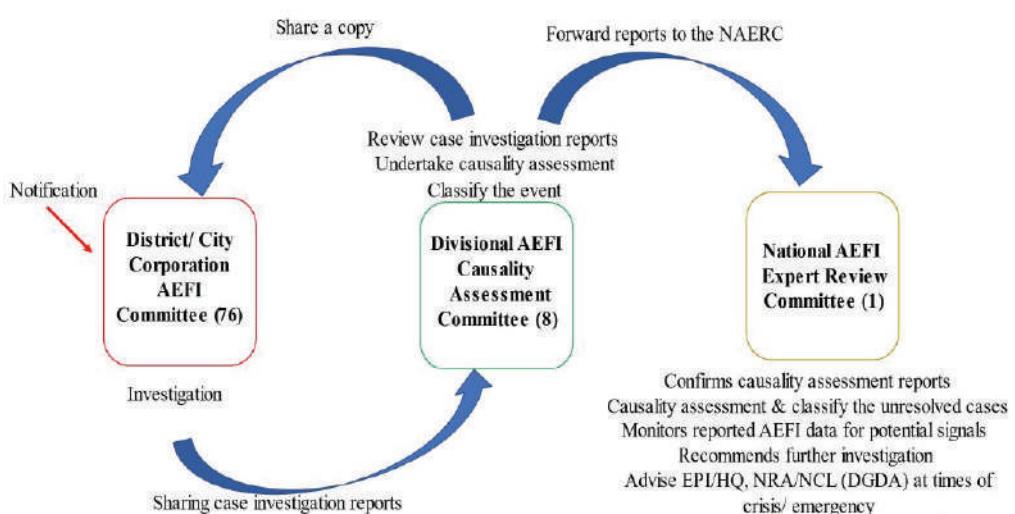


Figure 4.2.6 Outline of AEFI surveillance

Table 4.2.3 AEFI reporting with investigation and causality assessment, Bangladesh, 2023

Year	Total AEFI reported	Total serious AEFI reported	Investigated serious AEFI (%)	Causality assessment completed (%)
2023	1,712	32	100%	81.25%

VPD Surveillance indicators

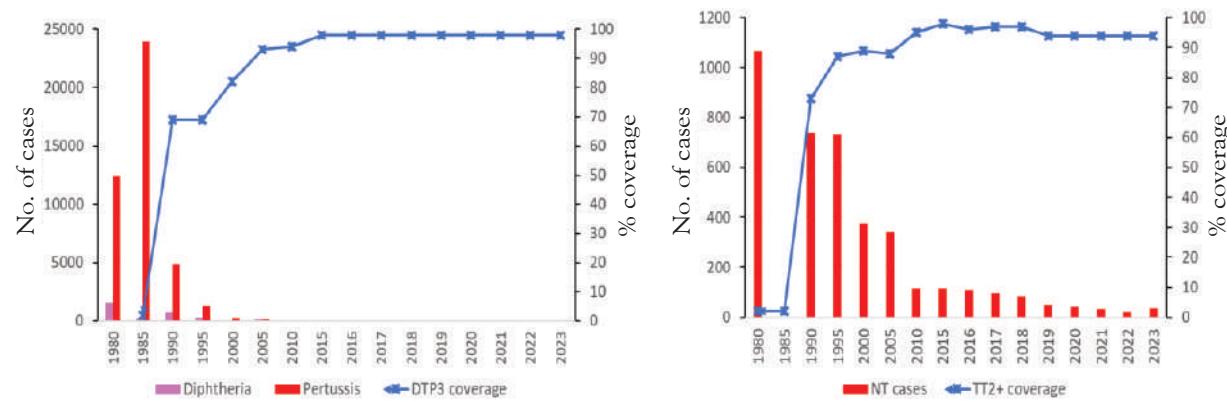


Figure 4.2.7. DPT3 coverage, diphtheria and pertussis cases 1980-2023 (left); Td2+ coverage and NT cases 1980-2023 (source: WHO Factsheet)

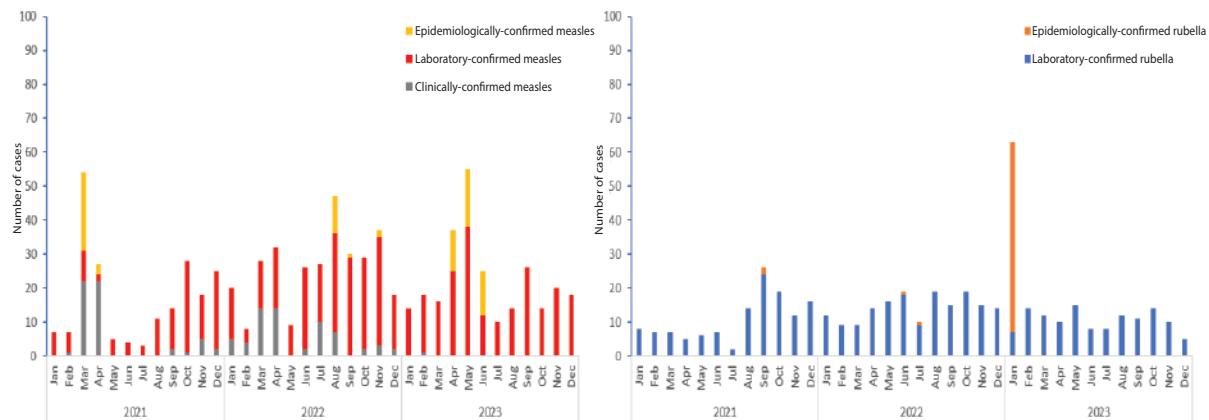


Figure 4.2.8. Reported cases of vaccine-preventable diseases, 2021-2023 (source: WHO Factsheet)

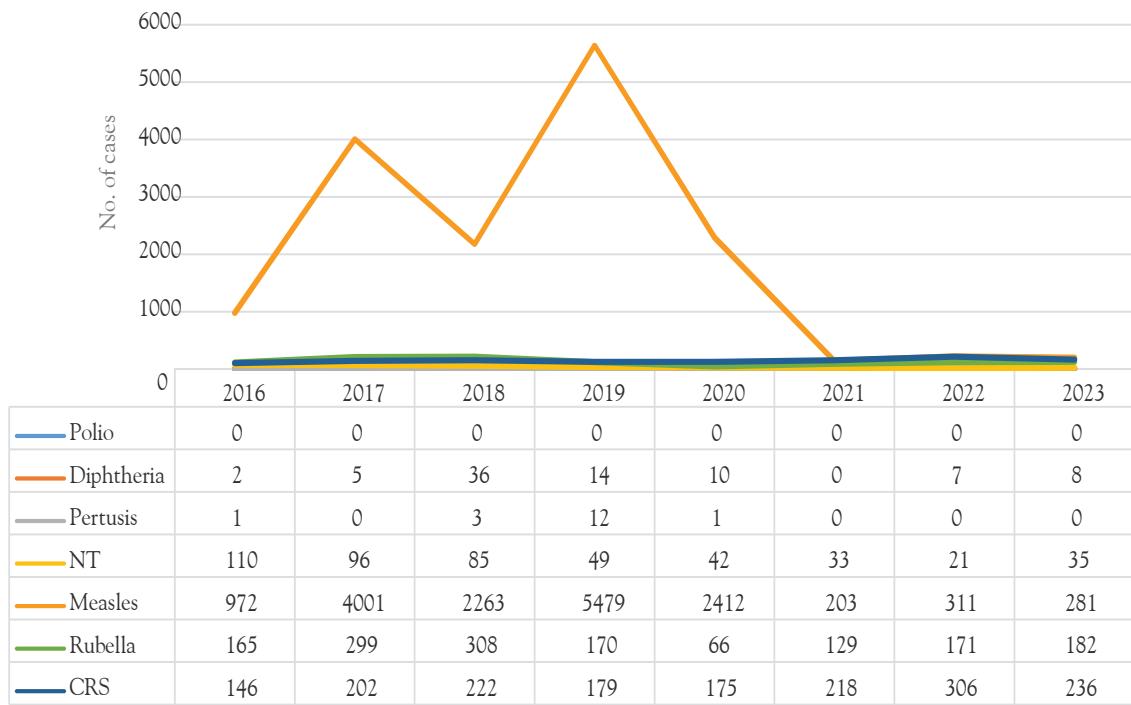


Figure 4.2.9. Summary of Measles Surveillance Indicators, 2020-2023 (source: WHO Factsheet)

Status of COVID-19 vaccination

- Total COVID vaccine doses administered: >366 million (366,768,396)
- >150 million received one dose (150,923,661)
- >142 million are fully vaccinated (142,195,872)
- >68 million received first booster (3rd dose) (68,571,466)
- >5 million received additional dose (4th Dose) (50,77,397)

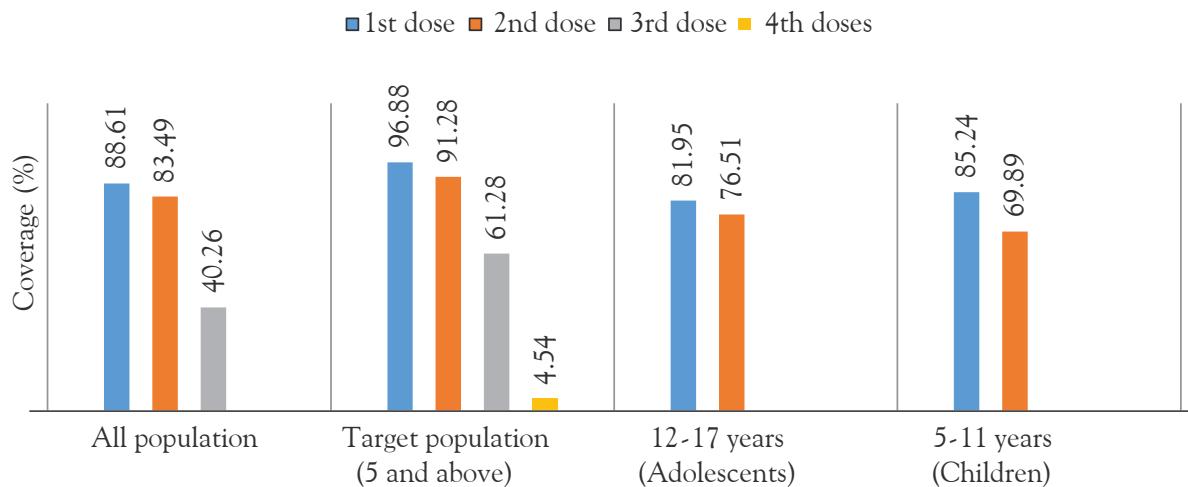


Figure 4.2.10. COVID-19 vaccination coverage by dose, as of 24 March 2024 (source: MIS, DGHS)

HPV Vaccination Campaign in Dhaka Division

The initial phase of the human papillomavirus (HPV) vaccination campaign in Dhaka Division has achieved success, signifying a significant advancement in protecting the health of young girls. The campaign ran from 15 October to 16 November 2023, with an extension till 31

January 2024, to cover those initially missed. It aimed at providing free vaccination to girls aged 10 to 14 years in Class V to IX, and it was led by the Government of Bangladesh, receiving technical and financial support from Gavi, the Vaccine Alliance; WHO Bangladesh; and UNICEF Bangladesh. As of 27 March 2024, around 1,508,183 girls were vaccinated out of 2,023,732, which led the coverage to 74.5%.

Total HPV target girls (Class V to IX and 10-14 years of age) in Dhaka Division: 2,023,732

Total HPV vaccine administered in Dhaka Division: 1,508,183

School girls (Class V-IX) receiving vaccine: 1,392,938

Community girls (aged 10-14 years) receiving vaccine: 115,245

74.5%

HPV vaccination achievement in Dhaka Division

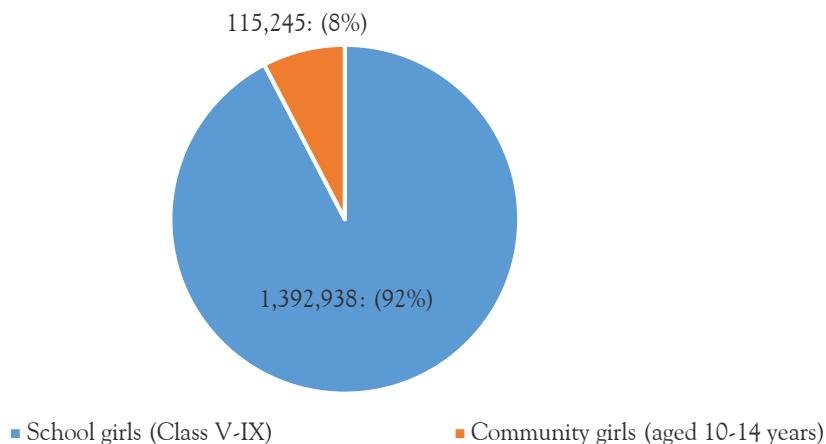


Figure 4.2.11. HPV vaccination administered in schools and communities of Dhaka Division, as of 27 March 2024 (source: DHIS2, MIS, DGHS)

To support EPI, the SBC Section of UNICEF, along with technical support from WHO, developed SBC materials in consultation with other communication agencies and stakeholders. Finally, Bangladesh Television, Radio (Betar), Department of Mass Communication,

Islamic Foundation, and other faith groups, Ministry of Social Welfare, Ministry of Education (Primary and Secondary) and other government departments were engaged to implement the robust HPV vaccination campaign.

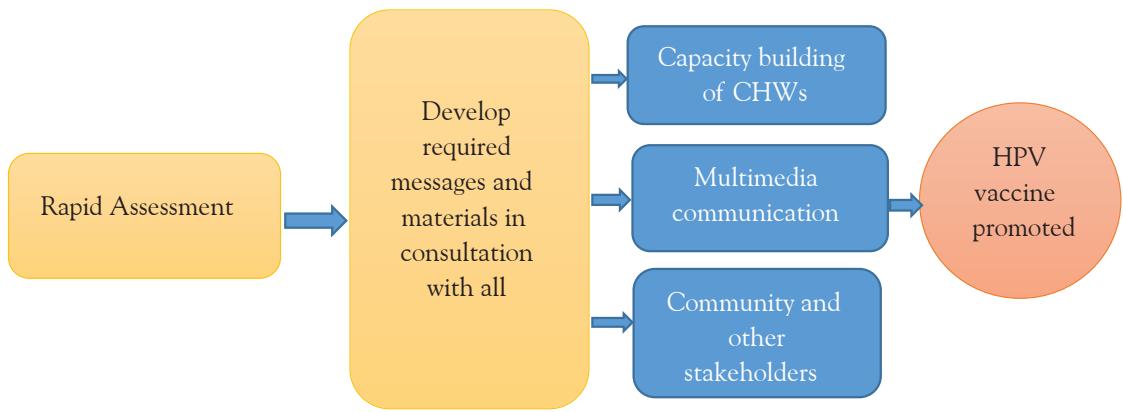


Figure 4.2.12. HPV vaccination flowchart

As it was a new vaccine and only for 9-14 years old girls, EPI followed the SBC campaign that includes multimedia communication,

capacity building, and community engagement for addressing social stigma and other negative factors in HPV vaccination.

Communicable Disease Control

All-out action plan to eliminate some diseases

Bangladesh has done well since the 1990s in reducing sickness and deaths from diseases that can be transmitted from others. These include diseases, like measles, polio, and more. Thanks to the great efforts in vaccination through Expanded Program on Immunization (EPI), supply of clean water, and treating diseases early. Even other diseases, like malaria, filaria, kala-azar, rabies, and worms in the stomach, have been brought under control or eliminated through specific programs.

However, diseases that can spread are still a big problem in Bangladesh and around

More mobility of people across countries, global warming, and environmental problems are causing new diseases

the world. The COVID-19 pandemic is still not completely gone. More mobility of people across countries, global warming, and environmental problems are causing new diseases. So, the Bangladesh Government is still working hard to control these diseases.

The goal is to keep up the work and get rid of filariasis, kala-azar, worms in the stomach, malaria, and rabies as soon as possible. The country also has plans to control other diseases so that people can get rid of these in the near future.

Key Facts

- Causes of death (communicable diseases, maternal, prenatal and nutritional conditions) in Bangladesh were reported at 22.61% in 2019 (WB)
- There was a reduction of 58% in malaria caseloads in 2023 compared to 2015 (There were 39,179 and 16,567 malaria cases in 2015 and 2023 respectively)
- The dengue cases were 217% higher in 2023 than in 2019 ((There were 101,354 and 321,179 dengue cases in 2019 and 2023 respectively)
- Filaria has been declared to be eliminated. A dossier has been submitted to WHO in 2022 for getting elimination certificate for Bangladesh
- Kala-azar-endemic upazilas achieved the target for elimination in 2016
- Two doses of oral cholera vaccines were given to almost 2.3 million people in five high-risk areas of Dhaka city
- TB remains a leading cause of death among patients with communicable diseases and the second-highest cause of disability among the productive age-group

Operational Plan for Communicable Disease Control (OP-CDC) has the following

programs under the 4th Health, Nutrition and Population Sector Program:

1. Program for Malaria and *Aedes* Mosquito-transmitted Diseases
2. Program for Lymphatic Filariasis (LF), Soil-transmitted Helminthiasis (STH) and Little Doctors
3. National Kala-azar Elimination Program
4. Program for Zoonotic Diseases: Rabies, Nipah, Japanese Encephalitis, Leptospirosis, Brucellosis
5. Program for Antimicrobial Resistance Containment
6. Program for International Health Regulation (IHR), Migration Health, Emerging and Re-emerging Diseases; Influenza Control and Prevention Program
7. Disease Burden due to Climate Change

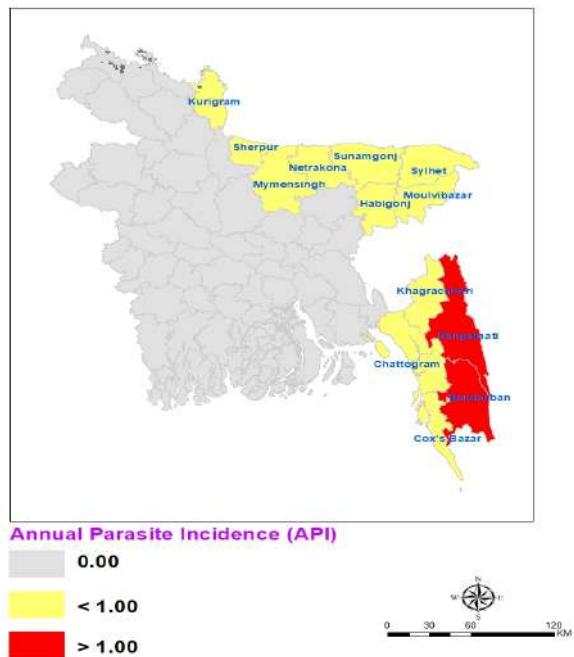


Figure 4.3.1. Map of Malaria Parasite Incidence, 2023 (source: NMEP, 2023)

4.3.1. Program for Malaria and *Aedes* Mosquito-transmitted Diseases

National Malaria Elimination Program

- As in other tropical countries of the region, malaria continues to be one of the major public health problems in Bangladesh, especially in the districts bordering with eastern states of India and part of Myanmar
- Former National Malaria Control Program (NMCP) was restructured as National Malaria Elimination Program (NMEP) in the 4th HPNSP in 2017. Now, it has two sub-components as follows:
 - Malaria Elimination
 - *Aedes* Mosquito-transmitted Disease Control Program
- Considering the lessons learnt from successful implementation of malaria control efforts during the past decade and the recommendations of the recent program evaluation (5th Joint Monitoring Mission), the program has adopted the 'Phased Elimination Strategy'
- The National Strategic Plan (NSP) for Malaria Elimination Program 2021-2025 has been developed with the vision of a 'Malaria-free Bangladesh by 2030', aligning with the 'Global Technical Strategy for Malaria (2016-2030)'
- Over the next five years, Bangladesh aims to eliminate malaria in less-endemic areas while accelerating control efforts in more endemic areas

After 2027, it is expected that all areas will either be targeted for elimination

of malaria or for prevention of re-emergence

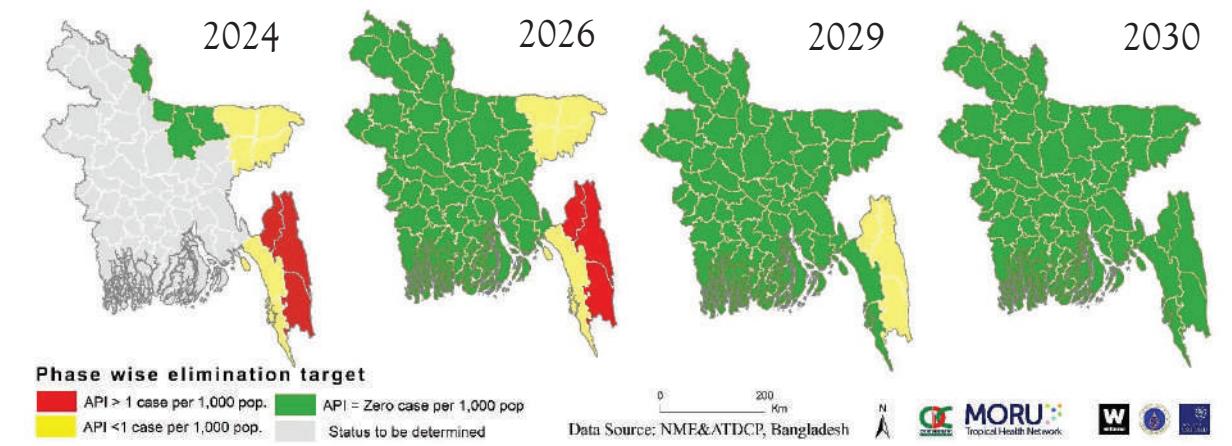


Figure 4.3.2 Targets of phase-wise elimination of malaria (2024-2030) (source: NMEP, 2022)

Malaria cases and deaths

- In the past decade, Bangladesh has made significant progress in reducing malaria-

related morbidity and mortality

- Since 2008, the burden of malaria has been declining each year

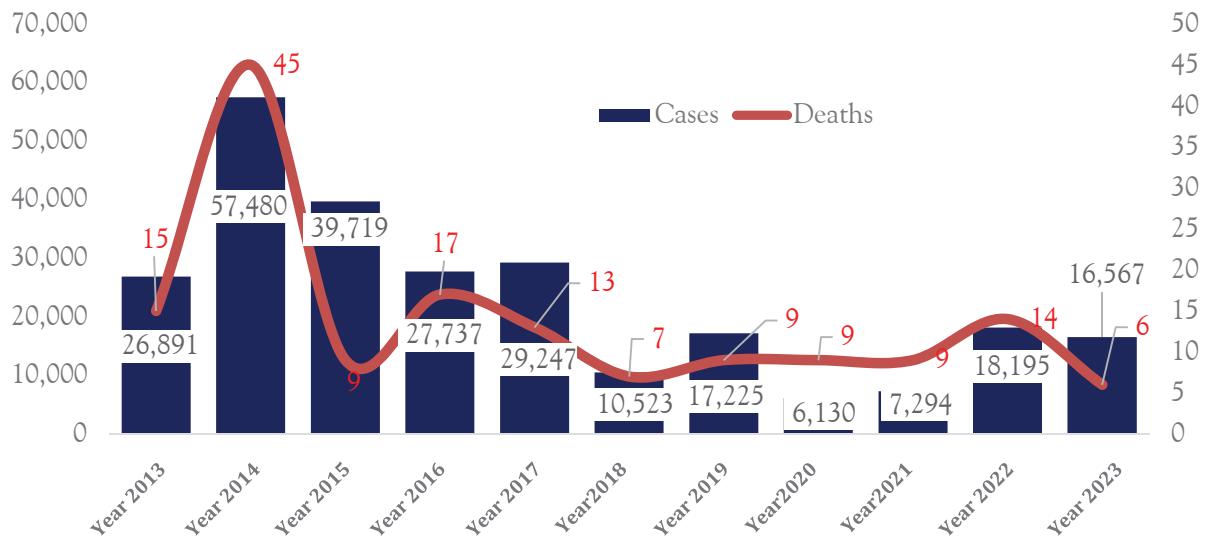


Figure 4.3.3. Malaria cases and deaths from the year 2013 to 2023

- There was a reduction of 58% of malaria caseloads in 2023 compared to 2015 (There were 39,179 and 16,567 malaria cases in 2015 and 2023 respectively)

Malaria incidence by mosquito species

- The vast majority of malaria cases reported in the country are caused by *P. falciparum*.

However, a steady increase in *P. vivax* cases has been observed in the last few years

- Out of the total 16,567 malaria cases reported in 2023, falciparum malaria accounted for 54.7% (including mixed cases). Figure 4.3.4 illustrates species-wise proportion of cases during the period of 2008–2023

Key elements for success in malaria control

- Increasing investment in interventions leading to improved coverage with long-long-lasting insecticidal nets (LLINs) and

community-based case management, expansion of RDT-based diagnosis, use of Artemisinin-based combination therapy (ACT), intensifying surveillance and M&E, advocacy, communication and community engagement, strengthening capacities and systems, fostering partnerships and coordination, and others complemented by advances in overall socio-economic status

- The community-level reporting includes more than 85% of all cases
- Strengthened uncomplicated case referral and management

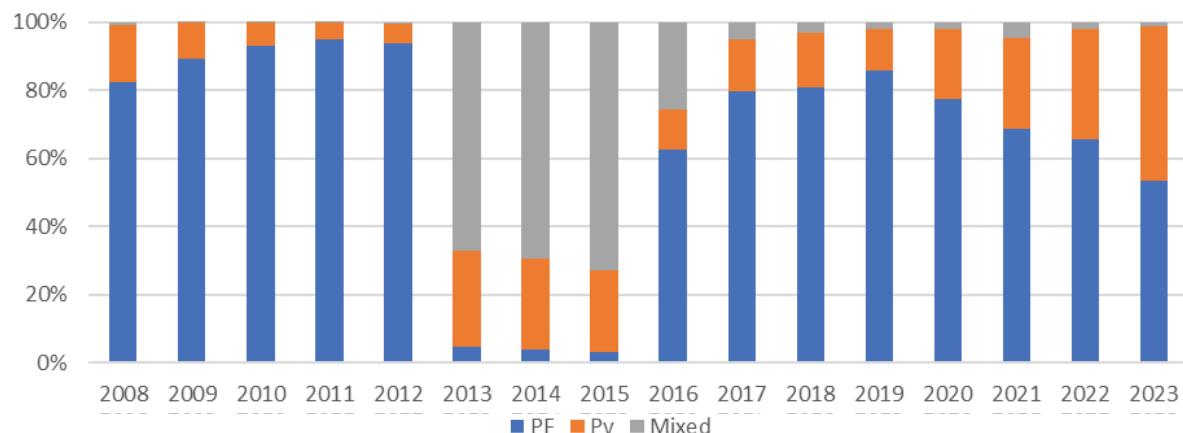


Figure 4.3.4. Proportion of malaria cases by species of mosquito, 2008-2023 (source: NMEP, 2023)

Malaria has become a local and focal disease in Bangladesh, with 3 hill districts contributing about 91.34% of total cases in 2023. Maximum caseloads of 60.37% and 28.45% in 2023 were contributed by Bandarban (10,001) and Rangamati (4,713) district respectively, out of the 13 endemic districts

Seasonality of malaria transmission

The seasonality of falciparum malaria transmission shows a rapid rise in June and peaks in between June and August (Figure 4.3.5). For vivax malaria, the picture is broadly similar.

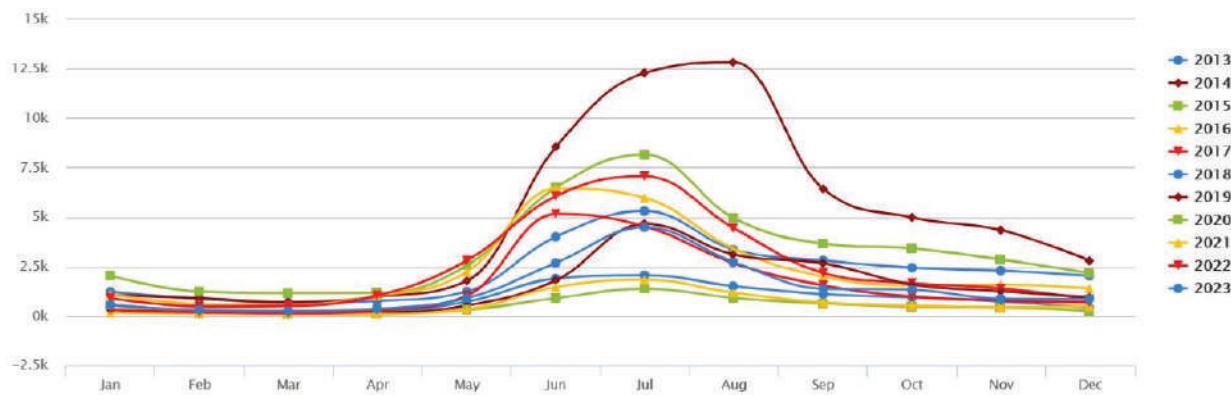


Figure 4.3. 5. Monthly trend of malaria cases (2013-2023) (source: NMEP, 2023)

Incidence of Malaria

Malaria incidence appears to be slightly higher amongst men (10,817) than women (5,750). Malaria occurs more among Jhum cultivators/forest-goers amongst the non-immune adult males. So, it seems to be an 'occupational disease' associated with adult men working in endemic settings.

Control of *Aedes* Mosquito-transmitted Diseases

Dengue, chikungunya, and zika have been included under *Aedes* mosquito-transmitted disease control program.

Dengue

- Dengue occurred sporadically in Bangladesh till 1964; a large epidemic occurred in 2000, which established the virus
- A large number of cases were notified in 2002. Since then, reported outbreaks have generally declined with increased notifications in subsequent years

- However, in 2022, dengue has appeared all over the country in an epidemic form, causing serious health hazards due to the outbreak of a new mutated strain

Dengue prevention and control-related activities in 2023

- ▶ *Aedes* mosquito survey and dissemination of results
- Pre-monsoon, monsoon and post-monsoon survey done in Dhaka City Corporation area
- Other *Aedes* mosquito surveys done in Sylhet, Chattogram, Mymensingh, Chandpur, Madaripur, Barguna, Cox's Bazar, Gazipur and Narayanganj districts
- ▶ A group of doctors (2,012) and nurses (570) were trained according to the national guideline
- ▶ For dengue patient management, the updated National Guideline for Clinical Management of Dengue Syndrome was distributed in all government and private

hospitals and instructions given to follow the guideline

- ▶ For dengue case detection, a total of 4,86,170 Dengue Test-kits were distributed all over the country
- ▶ To control dengue outbreak, Risk Communication and Community Engagement (RCCE) Platform was formed, and different activities were undertaken (miking, leaflet distribution, and awareness-raising meetings in different districts)
- ▶ *Aedes* mosquito surveys (pre-monsoon, monsoon, and post-monsoon) were conducted 3 times last year
- ▶ Cost for dengue test was fixed for one month (from 13 July 2023 to 12 August 2023) in all government hospitals (NS1: BDT 50, IgG: BDT 50, and IgM: BDT 50)
- ▶ A draft of the National Dengue Prevention and Control Strategy (2024-2030) was developed and sent to Health Services Division of the Ministry of Health and Family Welfare
- ▶ Discussion meetings with different stakeholders were conducted on the current dengue situation several times
- ▶ Dengue Death Review Committee was formed with renowned experts, and they gave their valuable opinions on reducing dengue-related deaths
- ▶ A round-table discussion was conducted in presence of the Former Health Minister; and all ministries and stakeholders were requested to take initiatives for the control of breeding sources of *Aedes* mosquito
- ▶ Pocket Guideline for Dengue Clinical Case Management was revised and distributed to all health facilities
- ▶ Sensitization meetings were conducted with all hospital directors/superintendents, divisional directors, civil surgeons, and UHFPOs aimed at preparedness for dengue prevention and control
- ▶ Dengue-related health messages were circulated regularly in different TV channels and also in print media for increasing awareness among the community people
- ▶ The IEC materials were developed and distributed throughout the country
- ▶ Leaflets, posters, stickers, and TV scrolls on dengue were prepared and disseminated
- ▶ Advertisements in newspapers on lifestyle, health education, and promotion were published

Dengue cases and deaths

In the 2023 dengue epidemic season, Bangladesh has been witnessing the deadliest outbreak of dengue fever ever since the first outbreak in 2000. As of 31 December 2023, the Directorate General of Health Services (DGHS) has reported 321,179 hospitalizations and 1,705 deaths due to the *Aedes* mosquitoborne tropical diseases.

Dengue incidence was the highest (110,008) in Dhaka city, followed by other parts of Dhaka (59,313), Chattogram (44,435), Khulna (38,049), Barishal (34,722), Mymensingh (19,409), Rajshahi (8,268), Rangpur (5,540), and Sylhet divisions (1,435).

In Cox's Bazar, the number of total reported cases of dengue in 2023 was 18,132; among them, 13,827 were FDMNs, and 4,305 were Bangladeshi.

Chikungunya

A huge outbreak of chikungunya occurred in Dhaka city in 2017. After that, some cases occurred yearly but no cluster or outbreak has been reported.

Zika

There is no indigenous transmission of zika virus in Bangladesh. Nonetheless, one imported case was reported in 2016.

4.3.2. Program for Lymphatic Filariasis (LF), Soil-transmitted Helminthiasis (STH), and Little Doctors

Filariasis Elimination Program

Bangladesh is one of the major filaria-endemic countries in the South-East Asia region. The parasite and vector species are *W. bancrofti* and *C. quinquefasciatus* respectively. Epidemiological investigations showed that LF burden is very high in the northern districts of Bangladesh.

LF elimination strategy

- As the first step toward launching of the LF Elimination Program, a national task force headed by the Secretary, Health Service Division, MOHFW, was established in 2001. A technical committee formulated the goals and objectives of the program
- The task force recommended converting the then National Filarial Control Program into National Program on Elimination of Lymphatic Filariasis (NPELF), which was later expanded to include soil-transmitted helminthiasis (STH) control activities and redesignated as National Filariasis Elimination and STH Control Program. To understand the distribution of LF and identify the endemic districts that required Mass Drug Administration (MDA), the program reviewed the medical and health records, health reports from districts, filaria survey data, and studies on LF and its vectors
- While these data provided important insights, antigen (Ag) surveys were conducted in different districts of the country, after launching of the LF elimination program, to identify the endemic districts
- After review of all the data in 64 districts, 30 districts were declared non-endemic, 15 as low-endemic, and 19 as endemic (Figure 4.3.6).
- Using the data, the LF map of Bangladesh was prepared (Figure 4.3.6)

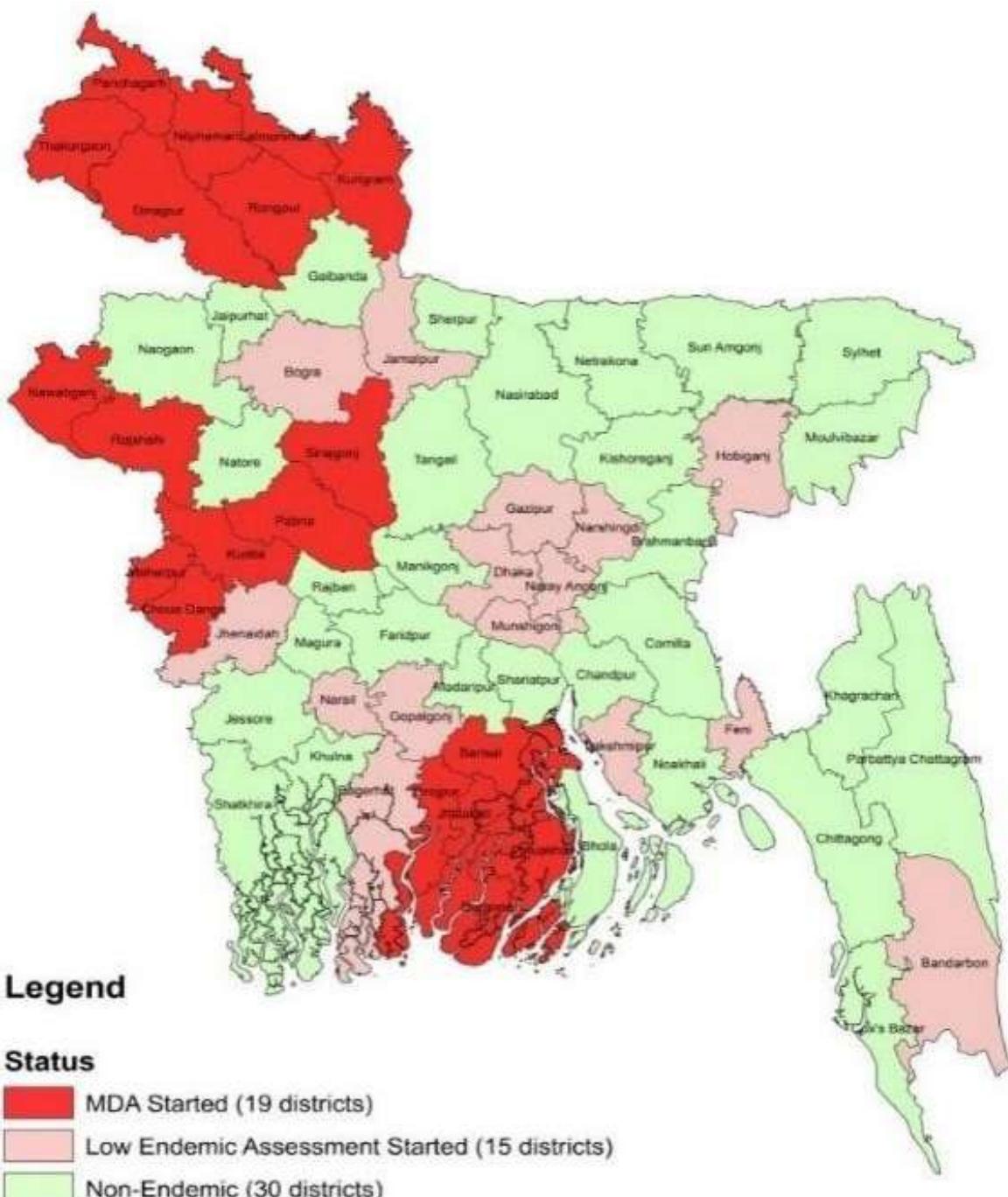


Figure 4.3.6. Map of LF-endemic districts

Availability of Treatment and Morbidity Management and Disability Prevention (MMDP) Services

- Treatment is available for chronic patients at all health facilities up to community clinics, and these are equipped to train lymphedema patients for self-care
- Community clinics have been chosen to play a major role in the implementation of the MMDP
- Health workers assembled batches of lymphedema patients from each community at the community clinics. They taught the patients how to manage their lymphedema condition and improve quality of life. Each patient was given a

copy of the brochure that contains the pictures and explanation of lymphedema management, along with a morbidity management kit that consists of soap, gauze, towel, antifungal cream, and antibiotic cream

- Hydrocele surgeries are undertaken at all upazila- and district-level health facilities on a priority basis

The National Strategic Plan (2018-2025)

Focuses on surveillance and response measures increased to further reduce infection prevalence and incidence, and enhance services to patients to alleviate the suffering due to chronic diseases.

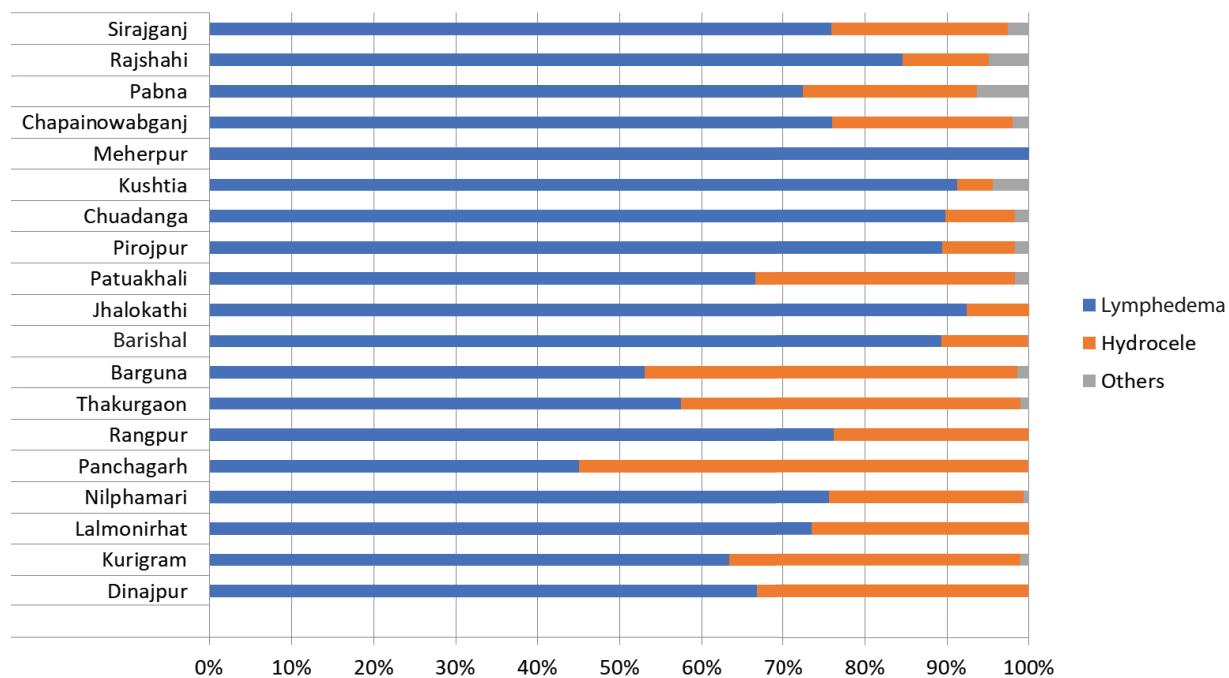


Figure 4.3.7. District-wise graphical view of chronic LF, hydrocele and other patients in 19 endemic districts

Dossier submission for the certificate of elimination

- The LF program has made significant progress during the last 18 years. The country has completed TAS 3 and set up MMDP services in all districts. After that, a dossier was prepared by an international expert with the assistance of program personnel
- In November 2022, the dossier was submitted officially to WHO for validation of the elimination of LF as a public health problem in Bangladesh. Then, sustenance of the status of LF elimination status remains a priority for the program in the coming years.

Soil-transmitted Helminths (STH) Control Program

- Soil-transmitted Helminths (STH) Control Program has been integrated with Filariasis Elimination Program with the aim to minimize operational cost
- Albendazole is a common drug in both programs. It is one of the deworming medicines that match with the round of MDA (Mass Drug Administration) for LF in November each year, particularly in LF-endemic areas

Achievements

- All primary-level institutions of the country were covered under the school-based program to deworm all school-aged children of 5-11 years twice a year (April and October) till 2016 and still continuing

- Children of 12-16 years of age have been covered since October Round of 2017
- Batch-wise training programs have been continuing for head teacher of each school
- Batch-wise training program on STH control and 'Little Doctor' has been completed for district health superintendents, EPI superintendents, district SI, HI, AHI, HA, statistical assistants, and health staff of all municipalities and city corporations
- High treatment coverage (>95%) in each round of deworming
- Worm-load decreased after administering biannual deworming tablets among targeted children
- Worm-load has been reduced to 7.95%

Little Doctors Program

- **Goal:** Child-to-child education on hygiene, healthy lifestyle, prevention of diseases, and promotion of health
- It is estimated that there is a total of 2,250,000 'Little Doctors' selected from among the students in 1,50,000 primary and secondary-level institutions of the country

Role of Little Doctors

- Provide health messages to fellow students and parents
- Demonstrate health and hygiene practices

- Participate in health check-up of students (height, weight, eye sight)
- Take active part in Deworming Week
- Take part in celebrating national health-related days/week, like Deworming Week, World Health Day, Hand-washing Day, Mina Day, etc.



School students as 'Little Doctors'

4.3.3. National Kala-azar Elimination Program

- Visceral leishmaniasis (VL), also known as kala-azar, is prevalent in 100 endemic upazilas of 26 districts
- The National Kala-azar Elimination Program (NKEP) has been working toward interruption of transmission of kala-azar by 2025, followed by kala-azar-free Bangladesh by 2030
- NKEP adopted the following strategies to accelerate this effort:
 - Early diagnosis and prompt treatment
 - Integrated vector control and vector surveillance

- Disease surveillance and response
- Advocacy, communication, and social mobilization
- Operations research
- Multisectoral and cross-border collaboration

Bangladesh has made an impressive successs in reducing the number of cases over the years. All the endemic upazilas achieved the target for elimination of kala-azar as a public health problem (<1 case/10,000 population) in 2016, and the status has been maintained since then (Figure 4.3.8).



Citation

It is with great pleasure that I congratulate the Government of the People's Republic of Bangladesh on achieving the significant milestone of elimination of kala-azar as a public health problem. Bangladesh becomes the first country in the South-East Asia Region and globally to achieve this significant public health triumph.

Bangladesh's success is due to the strong leadership of its Government and the commitment of health-care workers and volunteers working together with WHO partners to ensure effective surveillance, complete case management and vector control, as well as sustained health system capacity for successful post-validation surveillance and response.

The World Health Organization's Regional Office for South-East Asia deems it a great honour to recognize the achievement of the Government of the People's Republic of Bangladesh, and especially its Ministry of Health and Family Welfare, for this remarkable public health success.

A handwritten signature in black ink, appearing to read "Poonam Khetrapal".

31 October 2023
New Delhi

Dr Poonam Khetrapal Singh
Regional Director

Figure 4.3.8. WHO's validation of kala-azar-free Bangladesh

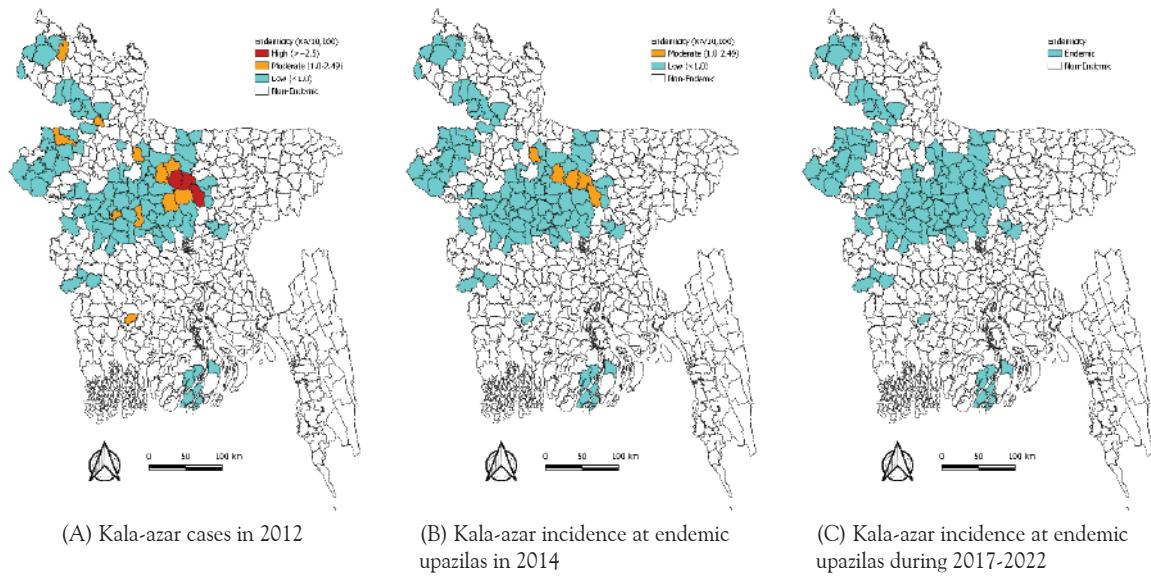


Figure 4.3.9 (A-C). Kala-azar cases and incidence in Bangladesh over time

Achievements in 2023

- The number of cases decreased by 99% compared to that in 2000 (7,640 cases in 2000 and 144 cases in 2023)
- Among the total 144 cases in 2023, 137
- (95%) were from 40 kala-azar-endemic upazilas and 7 (5%) from 6 non-endemic upazilas
- The number of deaths was reduced to 3 in 2023 from 24 in 2000 (Figure 4.3.10).

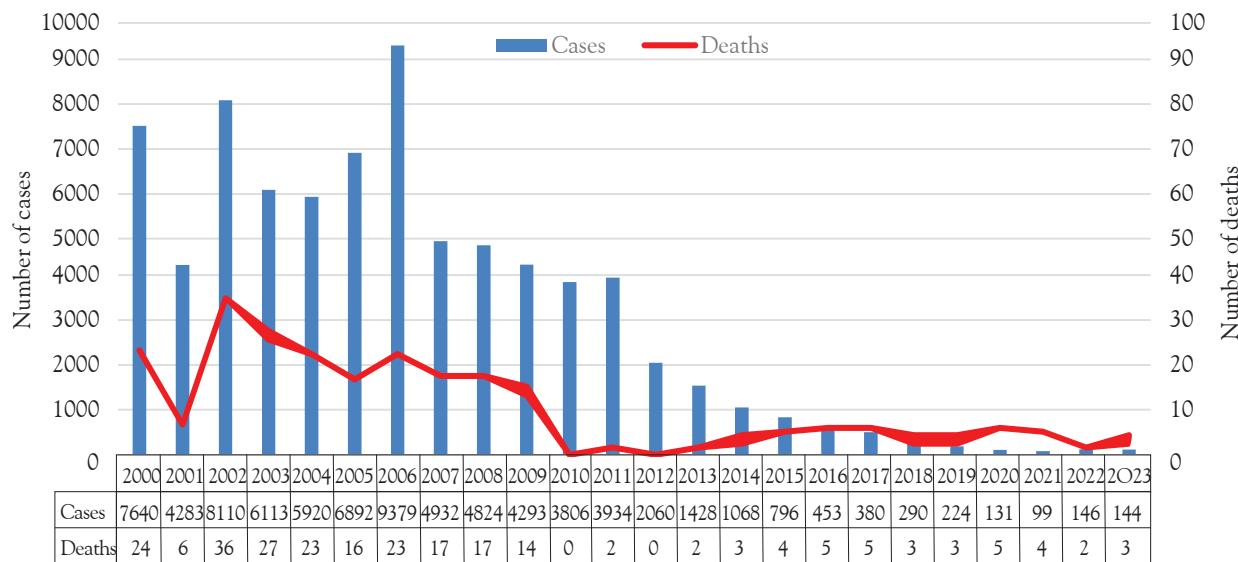


Figure 4.3.10. Trend of all kala-azar cases (new, relapsed, treatment failure, and PKDL) and deaths in Bangladesh from 2000 to 2023

Case detection and treatment for kala-azar

- In 2023, a total of 144 kala-azar cases have been detected and treated as per the National Kala-azar Case Management Guidelines. The cases were detected through both active case search and passive surveillance (Figure 4.3.11).
- In 2022, a total of 146 kala-azar cases have been detected and treated (Figure 4.3.13) as per the National Kala-azar Case Management Guidelines. The cases were detected through both active case search and passive surveillance (Figure 4.3.11)

Diagnostics and drugs for kala-azar

- RDT-rK39 kits available at:
 - UHCs of kala-azar-endemic upazilas: 7,794
 - Tertiary-level hospitals: 421

- Central stores: 12,830
- Injection AmBisome available at:
 - 28 treatment centers and tertiary-level health facilities: 655 vials
 - The central level: 671 vials
- Miltefosine stocked at:
 - UHCs and tertiary-level health facilities: 8,741 caps
 - The central store: 4,774 caps

Capacity building

Three thousand two hundred ninety-nine healthcare providers received training on kala-azar diagnosis, treatment, surveillance, etc. under NKEP with the Government, WHO and ASCEND funds.

Table 4.3.1. Activities for the control of kala-azar

Activity/Indicator	NKEP	ASCEND	Total
No. of cluster searches conducted	2	135	137
No. of case investigations completed	4	8	12
No. of households surveyed during cluster search and case investigation	138	9,336	9,474
No. of people screened during cluster search and case investigation	595	38,122	38,717
No. of people suspected as kala-azar cases (fever for >2 weeks) during cluster search and case assessment	12	1,081	1,093
No. of people suspected as PKDL (PKDL-like skin lesion) during cluster search and case assessment	0	160	160
No. of rK39-positive cases during cluster search and case assessment	0	39	39
No. of people diagnosed with kala-azar during cluster search and case assessment	0	2	2
No. of people diagnosed with PKDL during cluster search and case assessment	0	24	24

Advocacy, communication, and social mobilization

- A total of 72 advocacy meetings were conducted by the NKEP at 72 upazilas of 34 districts to sensitize and reinforce components of Kala-azar Elimination Program at upazila level, with the Government and ASCEND funds
- A total of 1,852 participants from different tires of the society attended the advocacy meetings

Pre- and post-IRS vector survey

- Vector survey was conducted at 15 upazilas of 15 districts during 2022
- A total of 235 households were searched for 360 hours over 90 days at 60 villages where 558 *Phlebotomus argentipes* were found during the survey at a rate of 0.258 per man-hours

Training/workshop/orientation

- Training on the National Kala-azar Vector Control Guideline for entomologists and ento-technicians was given
- Annual program review was done, and planning workshop was held
- Preparatory workshop was held for development of the dossier for validation of kala-azar-free Bangladesh
- Orientation on Kala-azar Surveillance, Outbreak and M&E Guideline was conducted
- IVM Guideline and National Kala-azar Vector Control Guideline were developed and finalized

4.3.4. Zoonotic Disease Control Program

The Government of Bangladesh selected six diseases: anthrax, brucellosis, Nipah virus, rabies, zoonotic influenza, and zoonotic tuberculosis as priority zoonotic diseases based on OneHealth zoonotic disease prioritization.

Zoonotic Disease Control Program (ZDCP) under Communicable Disease Control (CDC) of DGHS has targeted elimination of rabies as a public health problem. Rabies is always a fatal viral zoonotic disease that can infect all mammals; domestic dogs are the sources of over 99% infections in humans.

Mass Dog Vaccination (MDV) found its stability in Bangladesh during November 2011 through a pilot project in Cox's Bazar district. Starting from Cox's Bazar, CDC-DGHS has successfully completed the first round of MDV in 64 districts where approximately 13,80,000 out of estimated 16,95,000 dogs were brought under vaccination with the coverage of around 81%.

Establishing the National Rabies Prevention and Control Center (NRPCC), District Rabies Prevention and Control Center (DRPCC), and Upazila Rabies Prevention and Control Center (URPCC) was a unique feature of the Government for the prevention and control of rabies in Bangladesh where, on average, 300 dog-bite patients are treated daily. After successful implementation of different program activities, the number of rabies cases, both ARV in humans and Mass Dog Vaccination, has been reduced gradually since 2013; 82 in 2012 to 47 in 2023 (Figure 4.3.12).

Goal: To eliminate rabies as a public health problem from Bangladesh by 2030

Objectives

- Reduce dog-mediated rabies mortality in humans to less than 1 per million
- Reduce dog-mediated rabies mortality in animals to less than 10 per million
- Ensure regular reporting and strengthen active surveillance of rabies in humans and animals

National Rabies Elimination Strategy in Bangladesh

Key strategies

- Advocacy, communication, and social mobilization (ACSM)
- Animal-bite management (ABM)

- Mass Dog Vaccination (MDV)
- Dog population management (DPM)
- Surveillance and operations research

Advocacy, communication, and social mobilization: ZDCP conducted nearly 83 advocacy meetings during January to December 2023 at the endemic upazilas to advocate local elected representatives, administrative and technical officers, health managers, local elites, and other relevant people of the upazila.

Mass Dog Vaccination (MDV): Scientifically-proven MDV is a key strategy for elimination of rabies in humans and animals. It helps stop transmission of rabies from dog to dog/from dog to other animals and humans.

Table 4.3.2. Training on rabies control in Bangladesh

No	Title of training	Year	Duration (days)	No. of participants	No. of upazilas covered	Fund
1	Training on animal-bite management and rabies surveillance	January-December 2023	1 day	CS, DCS, Director (Hospital), Assistant Director (Hospital), MOCS, Superintendent, UHFPO, RMO, MO, EMO, SSN, HI, AHI, Statistician, Storekeeper	58	GOB
2	Celebration of World Rabies Day (64 districts)	September 2023	1 day	Different stakeholders of DGHS, DLS, LGD, all districts, and all upazilas	495	GOB
3	Animal control staff training (13 districts and 1 city corporation)	January-December 2023	1 day	HI, AHI, local dog catcher, expert dog catcher, vaccinator, surveyor	83	GOB
4	Mass dog vaccination (13 districts and 1 city corporation)	January-December, 2023	5 days	HI, AHI, local dog catcher, expert dog catcher, vaccinator, surveyor, porter	83	GOB

Activities on rabies control

- Training on animal-bite management was conducted for doctors and health professionals (nurses, storekeepers) at the central and upazila levels (Table 4.3.2)
- By 2023, Zoonotic Disease Control Program has given more than 27 lakh 97 thousand doses of antirabies vaccine to dogs for Mass Dog Vaccination (Figure 4.3.11)

Achievements

1. Reported human rabies cases reduced
2. Above 409 ARV centers were set up, excluding the district centers
3. Collaboration increased among different stakeholders, i.e. DLS, LGD
4. World Rabies Day celebrated in the central, district, and upazila levels
5. Mass awareness building in rural areas strengthened

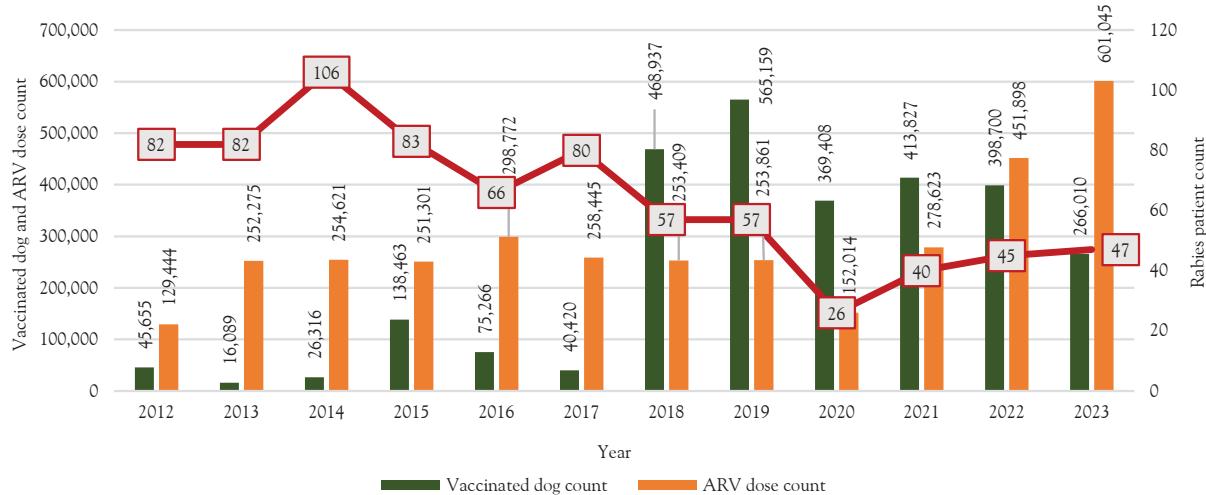


Figure 4.3.11. Dog-bite cases, no. of vaccinated dogs and rabies cases in Bangladesh from 2012 to 2023

Nipah virus

Nipah virus (NiV) infection is a highly-fatal emerging zoonotic disease caused by an emergent henipavirus. More than 300 human cases were reported from 2001 to 2020, and the case-fatality rate was 70%. In Bangladesh, most cases in NiV outbreaks were detected during the winter season (December to March). Nipah virus infection in humans in Bangladesh was mostly due to drinking of raw date palm sap contaminated with NiV by fruit-bats during the winter. Person-to-person transmission also occurred in Bangladesh.

People should avoid drinking of raw date palm sap to prevent NiV transmission.

4.3.5. Program for Antimicrobial Resistance Containment

Antimicrobial Resistance Containment

- Antimicrobial resistance (AMR) is a growing global public health threat that is imposing serious effects on public health management of the infectious diseases. Irrational and inappropriate use of antimicrobials causes AMR, a well-understood natural consequence

- In concordance with the global and WHO activities on ARC, the MOHFW in Bangladesh has come forward and formed different committees, including Inter-ministerial National Steering Committee (NSC) headed by Honorable Minister for MOHFW. The National Technical Committee (NTC) is headed by Director General of Health Services
- Communicable Disease Control (CDC), DGHS, is the national focal point for AMR activities in Bangladesh
- The National Strategy for Antimicrobial Resistance Containment in Bangladesh was developed and approved by the NSC and the NTC with further recommendation of developing the National Action Plan (NAP). A multisectoral working group, representing human health, animal health, drug administration, dept. of fisheries, environment, and agricultural extension, was assigned, and the NAP was developed and costed based on the national strategy covering almost all the areas recommended by WHO and other relevant global agencies

Major activities

- The National Strategic Plan (NSP) and National Action Plan (NAP) on ARC have been updated and approved
- Regular meetings with the National Technical Committee (NTC) on Antimicrobial Resistance Containment (ARC) have been organized in OneHealth approach
- Surveillance of AMR for human health is initiated and now being strengthened
- Five laboratories have been upgraded to modern laboratories in 5 medical colleges
- The National Reference Laboratory for AMR has been strengthened
- Data are being collected from all major private and public microbiology labs
- Training on infection prevention and control provided to over 26,000 healthcare staff members
- IPC Committee has been formed in majority of the healthcare facilities, and IPC monitoring team has been formed at the district level
- Hands-on training on different aspects of AMR is ongoing (e.g. microbiology testing, antimicrobial stewardship, STG app, data analysis, biosafety, and biosecurity)
- Standard treatment guideline on infectious diseases has been developed
- Advocacy, communication, and social mobilization were promoted by festoons, banners, posters, leaflets, stickers, SMS, television scrolls, and social media
- Rallies and seminars were held to celebrate World Antimicrobial Awareness Week
- Inspection and assessment of microbiology laboratories were done all over the country
- From 2019, DGHS has started providing AMR surveillance data (data from 2017 and onward) to WHO GLASS platform as a part of global collaboration
- National AMS Guideline is being drafted
- Regular advocacy meetings, seminars on antimicrobial resistance containment

(ARC) were held with different stakeholders

- To promote research, CDC under the Ministry of Health and Family Welfare has allocated more fund to research projects on AMR

Major achievement

Drug and Cosmetics Act 2023 has been passed, which includes important legislative rules against selling antibiotics without prescription of registered doctors.

4.3.6. International Health Regulation (IHR), Migration Health, Emerging and Re-emerging Diseases; Influenza Control and Prevention Program

The International Health Regulation (IHR) is an international legal instrument

that is binding on 196 countries across the globe, including the Member States of WHO. In May 2005, the Fifty-eighth World Health Assembly (WHA) adopted the International Health Regulation (2005) [IHR 2005] which subsequently entered into force on 15 June 2007, with 123 WHO Member States signing the document.

The purpose and scope of IHR 2005 are “to prevent, protect against, control, and provide a public health response to the international spread of diseases in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade.” State parties are required by IHR 2005 to develop minimum core public health capacities. Attaining the minimum public health core capacity as per IHR 2005 will significantly contribute to the SDG Goal 2, 3, and 6.



Participants in the discussion meeting of IHR Committee and screening of patients in a port during the COVID-19 pandemic

Aim of IHR

The aim of IHR is to help international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.

Another aim is to make the WHO Member States able to detect, assess, notify, and report events, respond to public health risks and public health emergency of international concern (PHEIC) timely.

IHR 2005 State Part Self-assessment Annual Report National Profile 2024

Bangladesh All capacities in average

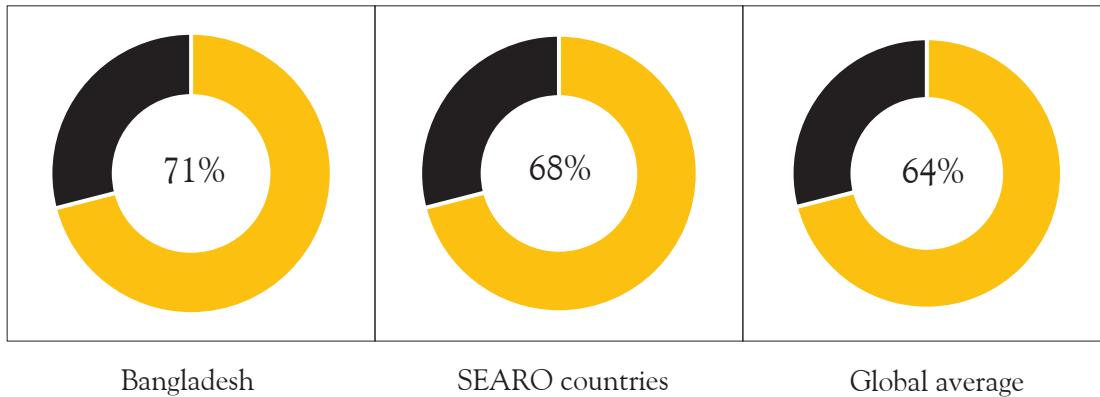


Figure 4.3.12. Progress in achieving minimum core capacities in IHR in Bangladesh compared to SEARO countries and global average

Activities for implementation of IHR in Bangladesh

- For strengthening IHR core capacities, the status was identified for different indicators; analysis was done for the capabilities, gaps, opportunities, and challenges. The information was used for IHR capacity building
- Activities were undertaken to strengthen and establish functional coordination and communication mechanism among the relevant national competent authorities responsible for implementation of IHR in Bangladesh
- Table-top exercise was done with stakeholders and core committee members (for mapping of risk resources for biological and chemical hazards, radioactive events, and threats in Bangladesh). Mapping was done for the risk and resources, and

threats in Bangladesh; resources available to combat those problems were identified. All-hazard Public Health Emergency Contingency Plan for Hazrat Shahjalal International Airport (HSIA), Dhaka, was redeveloped in November 2019, which gave necessary guidelines to follow during pandemics, communicable disease events, and other public health emergencies

- Extended core committee meetings were held with stakeholders (designated PoE): Integrating collaboration among the aviation/navigation departments and custom, and health departments at the PoE reviewed the national legislations/acts/ protocols available for the PoE
- Construction of the third terminal at the airport started in December 2019 and is still under construction. According to the project design, the no. of facilities in the terminal is 26 , of which 12 will be

built in the first phase, and additional 14 bridges will be built at a later phase, with 16 conveyor belts, 115 check-in counters, including 15 self-check-in kiosk machines, 64 departure immigration desks, 59 arrival immigration desks, 3 VIP immigration desks, and 10 automated 'eGates' at the exit. For the convenience of passengers, there will be 12 walkalators, 35 escalators, and 43 elevators. It is important to ensure public health security in this airport during any kind of health emergencies

- Accordingly, the mission was undertaken by IHR Program. CDC, DGHS, with the objective to assess the planned provisions for establishing optimal IHR core capacities and health services at the 3rd terminal of HSIA provided pertinent recommendations
- The global COVID-19 pandemic has put a tremendous strain on overall healthcare system in Bangladesh. Timely decisions and effective actions of the Government have helped us deal with that crisis successfully. The oxygen crisis was one of the most important components in the treatment of corona patients

Health screening at points of entry (PoE)

It is necessary to be prepared beforehand for any outbreak of public health emergencies. Countries shall have core capacity requirements

at the designated airports, sea ports, and ground crossings "for responding to events that may constitute a public health emergency of international concern (PHEIC)." Appropriate response to a public health emergency can be ensured by establishing and maintaining a public health emergency contingency plan, including the nomination of a coordinator and contact points for relevant point of entry. According to IHR 2005, participation and active involvement of multiple ministries are necessary to ensure healthy environment of the ports of entry and delivery of health services to the passengers and airport staff to implement IHR 2005. Moreover, remaining prepared to respond to any health emergencies at the point of entry is essential.

CDC, DGHS has taken initiatives to strengthen capacities at PoE to prevent and control spread of diseases through points of entries (PoE). The activities undertaken in collaboration with and technical support from International Organization for Migration (IOM) and WHO to increase core capacities at PoE are mentioned in IHR 2005 and, thus, ensure the country's better preparedness against public health emergencies (PHEIC).

The IHR capacities in Bangladesh have been improved significantly over the past several years, reaching 71%, and have exceeded both global and regional averages.

Table 4.3.3. Background information on the existing (functioning) PoE in Bangladesh

Type of PoE	Number	Designated number	With core capacity assessed	Designated competent authority (Coordination Committees)
International airport	3	1	2	1
Domestic airport				
STOL	7			
Sea port	2	1	1	1
Ground crossing	23	1	11	1

Training

- Orientation and awareness-raising meetings were held with doctors, nurses, sanitary inspectors, and other related staff members of Hazrat Shahjalal International Airport (HSIA)
- Training was given to doctors, nurses, immigration, customs, airline operators, and related staff members of Hazrat Shahjalal International Airport (HSIA) on the prevention and control of corona virus in Bangladesh
- Awareness-raising and dissemination meetings were held on IHR (2005) and emerging/re-emerging diseases for pilots, crew, and related staff members of different airlines

Risk communication

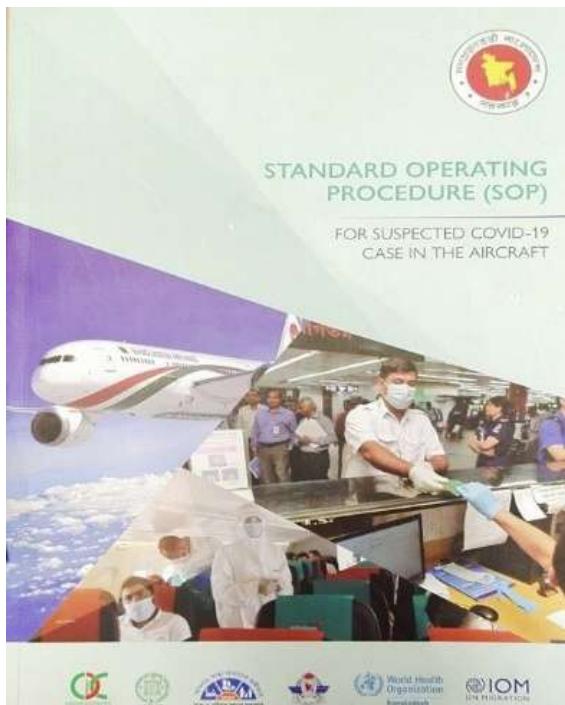
- Materials for risk communication and community engagement were developed by CDC, DGHS, to ensure that people have the right information, delivered in

the right way, to take appropriate and proportionate steps to protect themselves

- Real-time exchange of information, advice, and opinion is needed for experts or officials and the people who face a hazard or threat to their survival, health, or economic or social wellbeing. It is a core capacity of the International Health Regulation (IHR 2005) and is one of the five strategies within the Pandemic Influenza Preparedness (PIP) framework
- Developing relationships and structures that engage communities as equal partners in the creation of acceptable and workable emergency response solutions was completed. Lessons learnt in risk communication and community engagement initiatives during COVID-19 and in every public health emergency have informed the subsequent response efforts, leading to planning that better integrates risk communication into operational activities and brings communities to the

forefront as valued and essential partners for effective, equitable and inclusive emergency preparedness and response

- Health messages were disseminated to passengers through leaflets, X-stand, digital stand, electronic messages, video-clips, etc.



Standard operating procedure for suspected COVID-19 cases in aircraft



Surveillance of larvae of the mosquito vector

Preparation of SOPs and guidelines

Guidelines and SOPs were prepared to ensure treatment, infection prevention, and control at different levels, including the community, to prevent and control emerging and re-emerging diseases and increase mass awareness in the community (These guidelines were given in the DGHS website at: <https://www.dghs.gov.bd>).

Surveillance and control of mosquito vector at Hazrat Shahjalal International Airport

One of the core capacities for points of entry (PoE) is capacity building for vector surveillance and control at PoE and up to (at least) a 400-meter perimeter around them. CDC organizes evidence-based vector control strategies, and if necessary, invoking emergency measures to control the mosquito vector at Hazrat Shahjalal International Airport in collaboration with the airport authority and Dhaka North City Corporation.



Update of Yellow Fever in Bangladesh

- Yellow fever is an epidemic-prone mosquito-borne vaccine-preventable disease that is transmitted to humans by the bites of infected mosquitoes. Principal mosquito vector *Aedes aegypti* is present in Bangladesh
- The entire SEARO region, including Bangladesh, is free from yellow fever till today, unlike dengue, chikungunya and zika viruses, which are also carried by the same *Aedes* mosquito species
- Many people do not experience symptoms in yellow fever. A small percentage of patients enter the second phase which is more toxic. Half of the patients who enter the toxic phase die within 7-10 days. There is no specific antiviral drug for yellow fever

Strategic outline to prevent the potential emergence and outbreak of yellow fever in Bangladesh

The Government of Bangladesh requires proof of yellow fever vaccination, only for anyone of age 1 year and above, coming from a country with risk of yellow fever. The certificate is valid 10 days after vaccination.

Quarantine

- An unprotected person arriving in Bangladesh from a yellow fever-infected area within 10 days after leaving the area will be detained in quarantine for a period not exceeding 10 days
- If an aircraft, which is not disinfected, arrives from any area infected with yellow

fever, all persons on board will be detained in quarantine for a period not exceeding 10 days

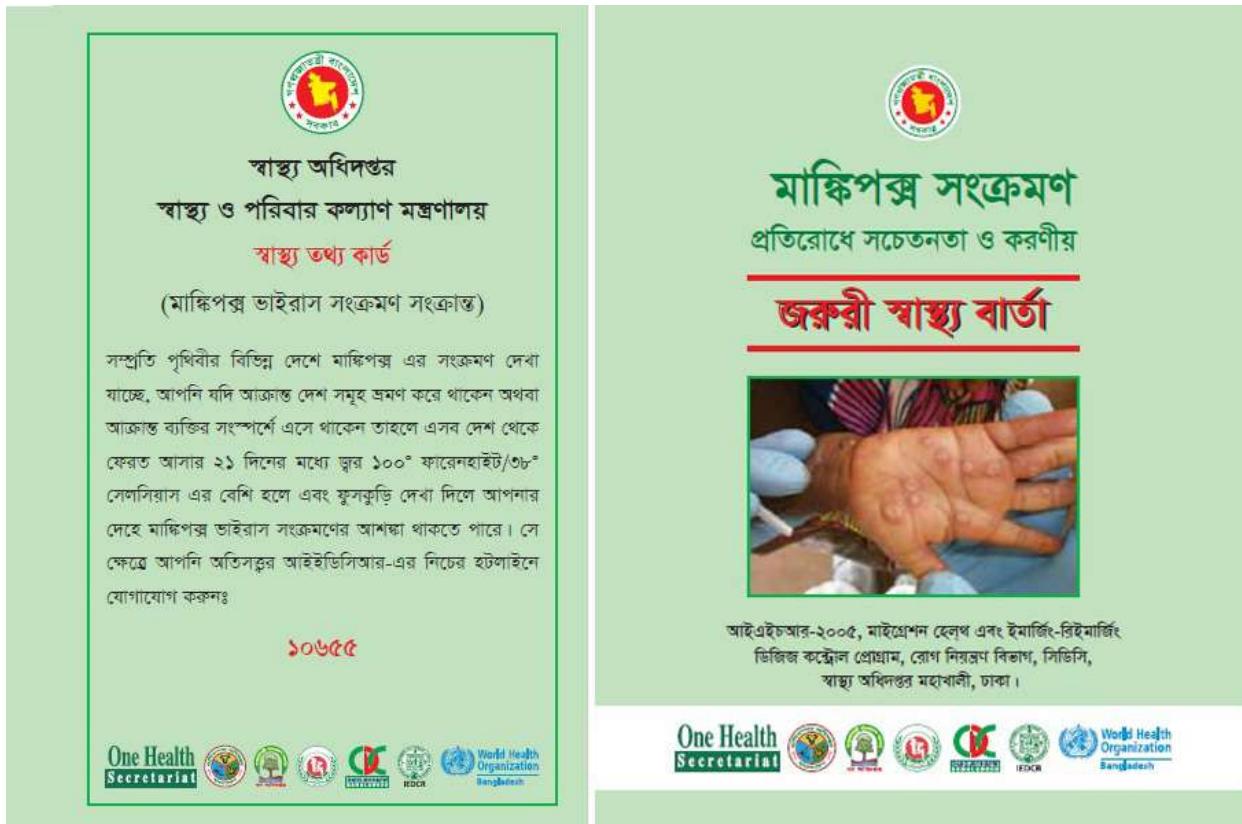
- To avoid detention in quarantine, all crew and passengers should carry International Certificates of satisfactory inoculation against yellow fever

Preparedness for and Response to Monkey Pox by IHR Program, CDC, DGHS

In 2023, health personnel in different institutions were trained on response to monkey pox by CDC, DGHS, in collaboration with IEDCR and other stakeholders. These trained personnel were involved in surveillance and response to outbreak at the national, district and upazila levels with special emphasis on the points of entry (PoE).

Monkey pox surveillance at POE

In response to public health emergency, a health alert was sent to all points of entry, including airports, sea ports, and land ports. Through continued health screening, a suspected monkey pox case was hospitalized on 7 June 2022. On 9 June 2022, the case was discarded as monkey pox. After additional examination, the case was finally found negative for monkey pox. On 11 May 2023, the Emergency Committee on Monkey Pox advised that the multi-country outbreak is no longer a Public Health Emergency of International Concern (PHEIC), given the sustained decline in cases. The WHO Director-General accepted the Committee's advice.



Health information card and awareness-raising poster for monkey pox prevention

Migration Health

Goal

Improve the health status of all categories of migrants and protection of their fundamental right to health

Objectives

1. Establish a strategic monitoring and information system
2. Enhance policy and legal framework and provide support for the health and social protection of migrants
3. Enable the existing health and social welfare systems to be more migrant-sensitive
4. To facilitate multisectoral partnership for migration health at the national and regional levels



Valuable remittance earners of Bangladesh

Strategy

The Government of Bangladesh is committed to improving the health status of all categories of migrants, including inbound, outbound and internal migrants throughout the migration

process and for the progressive realization and protection of their fundamental right to health:

- Establish a strategic monitoring and information system for migrants
- Enhance policy and legal framework of migration health to provide support for health and social protection of migrants
- Enable the existing health and social welfare system to be more migrant-sensitive to facilitate multisectoral partnerships for migration health at the national and regional levels

Future plans

- Assessment and revision of legislation
- Develop a surveillance system to detect radiation and chemical-related events
- Develop a mechanism to share data on surveillance and control of public health events of international concern (PHEIC)
- Conduct national risk assessment to identify potential country-specific urgent public health events

- Mapping available national resources for IHR-relevant hazards

Observance of Neglected Tropical Diseases Day

Each year, CDC-DGHS and other stakeholders observe the Neglected Tropical Diseases (NTD) Day with due importance.

Consultative workshop and meeting

A two-day long central-level consultative workshop was conducted on 23-24 January 2023 for review of validation requirements for kala-azar, availability of data, and drafting the dossier for WHO's validation of kala-azar-free Bangladesh.

A peripheral-level consultative workshop for development of dossier for WHO's validation of kala-azar-free Bangladesh was conducted at Trishal Upazila Health Complex, Mymensingh, to review the documentation procedure, availability of required data, and service delivery mechanism.

A meeting of stakeholders was conducted on 26 January 2023 to review the situation of NTDs in Bangladesh and to review the progress of NTD programs toward the targets set by the NTD roadmap 2021-2030. The day-long meeting was attended by 80 personnel from different NTD programs.



Central-level workshop for development of dossier for validation of kala-azar-free Bangladesh at Sheraton Hotel, Dhaka, on 23 January 2023

National Tuberculosis Control Program

Vision: Tuberculosis-free Bangladesh—zero deaths, disease, and suffering due to tuberculosis

Goal: End the global tuberculosis epidemic

Despite remarkable progress in the health sector, Bangladesh still faces a number of serious health challenges, tuberculosis (TB) being one of them. TB remains a leading cause of death among patients with communicable diseases and the second highest cause of disability among the productive age-group.

Tuberculosis remains a major public health problem in Bangladesh for a long time. Under the Mycobacterial Disease Control (MBDC) Unit of the Directorate General of Health Services, the National Tuberculosis Control Program (NTP) is working with a mission

to eliminate TB from Bangladesh. The goal of the program is to reduce morbidity, mortality, and transmission of TB, through achieving universal access to high-quality care for all people with TB, until it is no longer a public health problem.

The NTP adopted Directly-observed Treatment, Short-course (DOTS) strategy and started its field implementation in November 1993. By 2007, the DOTS services were made available throughout the country, including the metropolitan cities. The NTP also adopted the Stop TB Strategy in 2006. The Government of Bangladesh, together with its many and diverse partners from the public and private sectors, is committed to further intensifying the TB control activities in order to sustain the achieved success and to get the TB

control targets linked with the Sustainable Development Goals (SDGs) by 2030 and WHO's End TB Strategy by 2035.

Government policy and strategies

Bangladesh has been implementing sectorwide approaches (SWAps) in the health sector since 1998. The first SWAp—the Health and Population Sector Program (HPSP) was implemented during 1998-2003. Within the broader context of the Bangladesh National Strategy for Economic Growth, Poverty Reduction and Social Development, the Government of Bangladesh revised its strategic approach and renamed HPSP as Health, Nutrition and Population Sector Program (HNPSP) in the second SWAp. This plan was implemented in 2003-2011.

Since the introduction of Directly-observed Treatment, Short-course (DOTS) in 1993, remarkable progress in TB control has been

made. 'Free of cost' TB services, including quality medicines and diagnostics, have been made available throughout the country since 2006 and are integrated with general health services. It strives to make services equally available to all people in Bangladesh, irrespective of age, sex, religion, ethnicity, social status, or race.

Political commitment to 'End TB'

The Government of Bangladesh is highly committed to fight against tuberculosis. The National Strategic Plan for TB has been updated in line with End TB Strategy and UNHLM targets and commitments. Tuberculosis was declared a mandatory notifiable disease by the Government in 2014. The Government is also procuring the first-line antiTB drugs with domestic funding since 2018 and increased the overall government budget to US\$ 51.89 million for TB control in the operational plan (2017-2022).



Standing rally observing the World TB Day 2023

Table 4.3.4. Targets of the WHO's End TB Strategy

Indicator	Milestone		Target	
	2020	2025	2030	2035
Reduction in the number of TB-related deaths compared to 2015 baseline	35% (43,000)	75% (16,500)	90% (6,600)	95% (3,300)
Reduction in the number of TB incidence compared to 2015 baseline Bangladesh: 225/100,000	20% (180/100K)	50% (112/100K)	80% (45/100K)	90% (22/100K)
TB-affected families facing catastrophic costs due to TB (%)	0	0	0	0

Table 4.3.5. Objectives of the National Strategic Plan 2024–2030

NSP PILLAR 1: FIND
Objective 1: Find all TB cases [drug-susceptible TB (DS-TB), and drug-resistant TB (DR-TB)] by early identification of presumptive TB cases through systematic screening, using sensitive digital chest x-rays and computer-aided detection (CAD) software, and prompt diagnosis for TB, using WHO-approved rapid molecular diagnostic tests to provide universal access to quality TB diagnosis in public and private sectors
NSP PILLAR 2: TREATMENT AND CARE
Objective 2: Initiate and sustain all patients on shorter and patient-friendly treatment regimens for DS-TB, pediatric fixed-dose combination formulations for children with TB, and shorter, safer, injection-free and all-oral treatment regimens for DR-TB, with patient-friendly systems and social support wherever care is sought
NSP PILLAR 3: PREVENT
Objective 3: Prevent the emergence of TB in susceptible populations and progression of TB by early identification of TB infection and its treatment using a combination of biomedical, behavioral, social and structural interventions
NSP PILLAR 4: STRENGTHEN HEALTH SYSTEM, ADDRESS THE POPULATION, SOCIAL DETERMINANTS OF HEALTH AND TB, AND SUSTAIN A SUPPORTIVE ENVIRONMENT TO END TB
Objective 4: Strengthen enabling policies, empower institutions, and develop human resources with enhanced capacities to create a supportive ecosystem to FIND-TREAT-PREVENT TB in the country

National Tuberculosis Prevalence Survey in Bangladesh, 2015-2016

A survey of 98,710 participants, conducted between 2015 and 2016, was designed in accordance with the WHO standards.

The estimated prevalence of bacteriologically-confirmed pulmonary TB cases and smear-positive bacteriologically-confirmed TB cases among the people aged ≥ 15 years were 287 per 100,000 people (95% CI: 244-330) and 113 per 100,000 people (95% CI: 87-139)

respectively. The prevalence was higher among males compared to females and was higher in urban compared to rural clusters. Prevalence increased with age and was much higher among ≥ 65 years age-group. Overall estimated prevalence (all ages, all forms of TB) was 260 per 100,000 people (95% CI 220-301).

WHO estimated the incidence and mortality for all ages and all forms of TB in 2021 in Bangladesh to be 221 (95% CI: 161-291) and 25 (95% CI: 17-35) per 100,000 respectively.

Table 4.3.6. WHO estimates of TB burden, 2022

Estimates of TB burden, 2022	Number (thousand)	Rate (per 100,000 people)
Mortality (excludes HIV+TB)	42 (27-61)	25 (16-35)
Mortality (HIV+TB only)	0.17 (0.11-0.24)	0.1 (0.06-0.14)
Incidence (includes HIV+TB)	379 (276-498)	221 (161-291)
Incidence (HIV+TB only)	0.74 (0.38-1.2)	0.43 (0.22-0.71)
Incidence (MDR/RR-TB)	4.9 (1.7-8.2)	2.9 (0.99-4.8)

Source: Global TB Report 2023

Table 4.3.7. TB case notification and treatment success in 2023

Parameter	Value
Total notified DS-TB cases	301,564
Notified TB/HIV co-infection	58
Laboratory-confirmed MDR/RR-TB cases	2,729
MDR/RR-TB patients started treatment	2,071
Laboratory-confirmed pre-XDR/XDR-TB cases	6
Pre-XDR/XDR-TB patients starting treatment	86
Treatment success of new and relapsed cases registered in 2022 (analyzed in 2023)	95%
Treatment success in MDR/RR-TB cases starting second-line treatment in 2021	74%

Source: NTP-MIS

Achievements of TB control in Bangladesh

Since the introduction of DOTS in Bangladesh in 1993, remarkable progress in TB control has been achieved in terms of DOTS coverage, diagnosis, and treatment of TB cases.

DOTS coverage

Bangladesh adopted the internationally-recommended DOTS strategy in 1993, and DOTS services were made available to all upazilas by June 1998. By 2007, the NTP reached 100% DOTS coverage. Yearly, more than 2 million people with symptoms of TB are being tested, and approximately 1 million lives were saved in the last decade.

TB case notification

After introduction of the DOTS strategy in 1993, the overall progress in case finding was slow but steady until 2001 to reach case notification rate for new smear-positive cases of 59/100,000 people. From 2001 onward, case notification accelerated to reach 103/100,000 people in 2006. As a result, the gap between incidence and notification is narrowing (Figure 4.3.13). In 2022, a total of 261,957 TB cases (all forms) were notified to the NTP and was brought under treatment. During the COVID-19 pandemic in 2020, a total of 230,880 TB cases were notified to the NTP and brought under treatment; 82% cases were detected in 2022, and 31% cases were missing. During 2023, the case notification increased to 301,564.

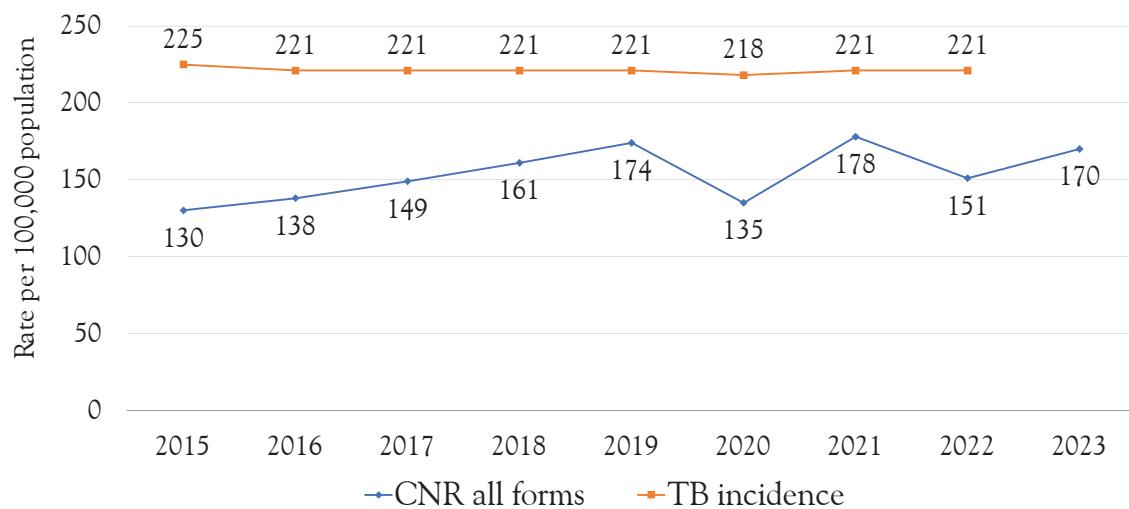


Figure 4.3.13. Trends of incidence and notification rate of TB in Bangladesh

TB treatment outcomes

Treatment success rates with DOTS have been consistently high from the beginning and crossed the global target of 85% in 2003. After strengthening DOTS and ACSM activities,

the unfavorable outcomes have been reduced remarkably. As a result, the treatment success rate has improved, and NTP has been contributing over 92% treatment success rates since 2005.

Mortality due to TB

TB-related deaths in Bangladesh have a declining trend. From 2001, there was 50% reduction in TB mortality. The SDG target is 90% reduction in the number of TB-related

deaths by 2030 compared to that of 2015. In 2015, the absolute number of TB-related deaths was 73,000, which has reduced to 41,000 in 2022; this indicates 56% reduction in TB-related deaths in three years.

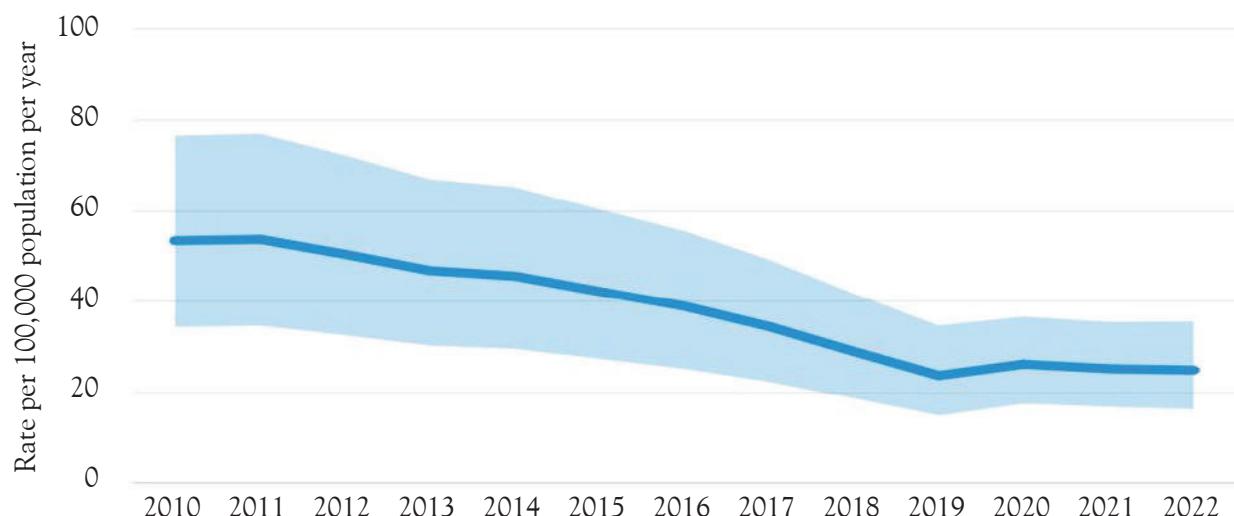


Figure 4.3.14. HIV-negative TB mortality in Bangladesh (Source: World TB Report 2023)

Drug-resistant TB

The NTP started programmatic management of drug-resistant TB with 20-month regimen in August 2008 at the National Institute of Diseases of the Chest & Hospital (NIDCH), Dhaka. By the end of 2013, this service has been made available in Chest Diseases Hospital (CDH) of Chattogram, Khulna, Sylhet, Pabna, and Shyamoli 250-bedded TB Hospital. The CDH (Rajshahi) and the Damien Foundation Hospitals have been managing drug-resistant TB since May 2005, with 9-month regimen under operations research.

Research on shorter treatment regimen for MDR-TB conducted in Bangladesh, popularly known as 'Bangladesh Regimen', has significantly reduced the duration of MDR-TB treatment from 20 months to 9 months, with a better treatment success. Bangladesh has started implementing this shorter treatment regimen from 1 April 2017 under programmatic conditions and scaled up all over the country the same year. By the end of 2023, a total of 20,071 MDR-TB patients were enroled for treatment with second-line antiTB drugs.

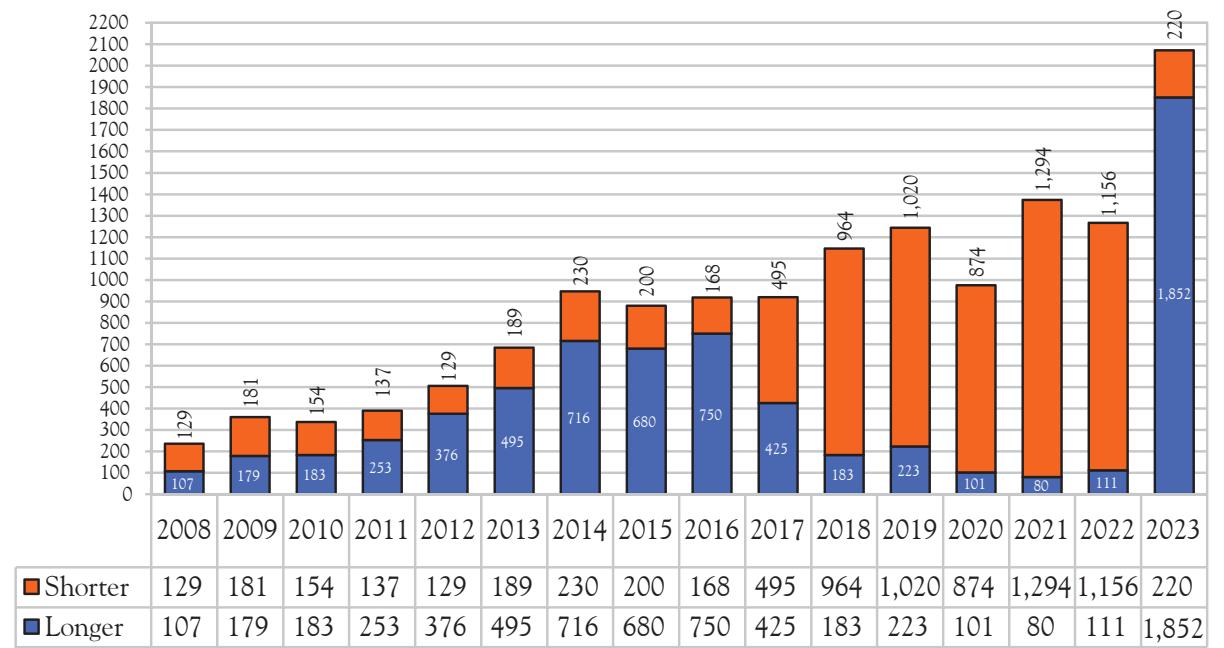


Figure 4.3.15. Number of MDR-TB cases given second-line treatment with different regimens

Bangladesh has maintained a high treatment success rate in MDR-TB over the years. Ensuring the adoption of DOTS, quality-assured second-line drugs free of charge, regular monitoring, addressing adverse events, social support, and community involvement are the key components of programmatic management of drug-resistant TB in Bangladesh.

NTP in Bangladesh introduced new antiTB drugs, i.e. Bedaquiline and Delamanid in 2016 and successfully treated XDR, pre-XDR, and complicated MDR-TB cases.

In total, 86 pre-XDR/XDR-TB cases were diagnosed and given treatment till December 2023.

Childhood TB

In 2023, children below 15 years of age constituted 4.40% of new TB cases. This is an increase from 3.3% in 2014 and from 2.8%

in 2013. Therefore, progress is being made in identifying new pediatric cases; 10,724 childhood TB cases were identified in 2022, which is an increase by 24% compared to 2015.

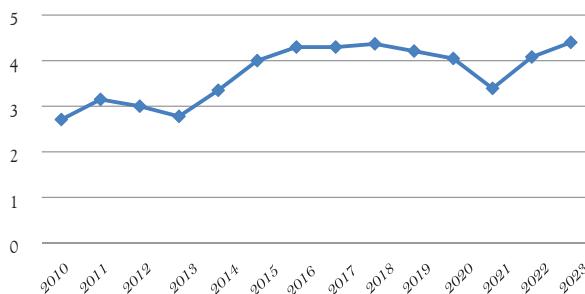


Figure 4.3.16. Childhood TB case notification (percentage) in Bangladesh

TB Preventive Therapy

The NTP introduced TB Preventive Therapy (TPT) for under-5 children and people living with HIV (PLHIV) since 1994. In 2021, the NTP initiated TPT for all age-groups. Training of trainers on TPT was completed in 2022.

District-level training was also completed in 2023. At present, TPT implementation is ongoing all over the country. A total of 165,639 individuals of different age-groups received TB Preventive Therapy during 2023.

The TB laboratory network

The NTP has a well-established network of TB laboratories that are organized in a hierarchical manner from peripheral laboratories to regional TB reference laboratories (RTRLs) and to the national TB reference laboratory (NTRL). The tests

that are available in the TB laboratory network include smear microscopy, Xpert MTB/Rif assay, Xpert MTB/Ultra Assay, Truenat Assays, Line Probe Assay (LPA), *Mycobacterium tuberculosis* culture on solid and liquid media, and phenotypic drug-susceptibility testing. Coverage of testing of the presumptive cases of TB by a WHO-recommended molecular diagnostic test, with drug susceptibility testing, has expanded significantly in recent years. The NTP had 596 GeneXpert machines in 484 sites all over the country in 2023.

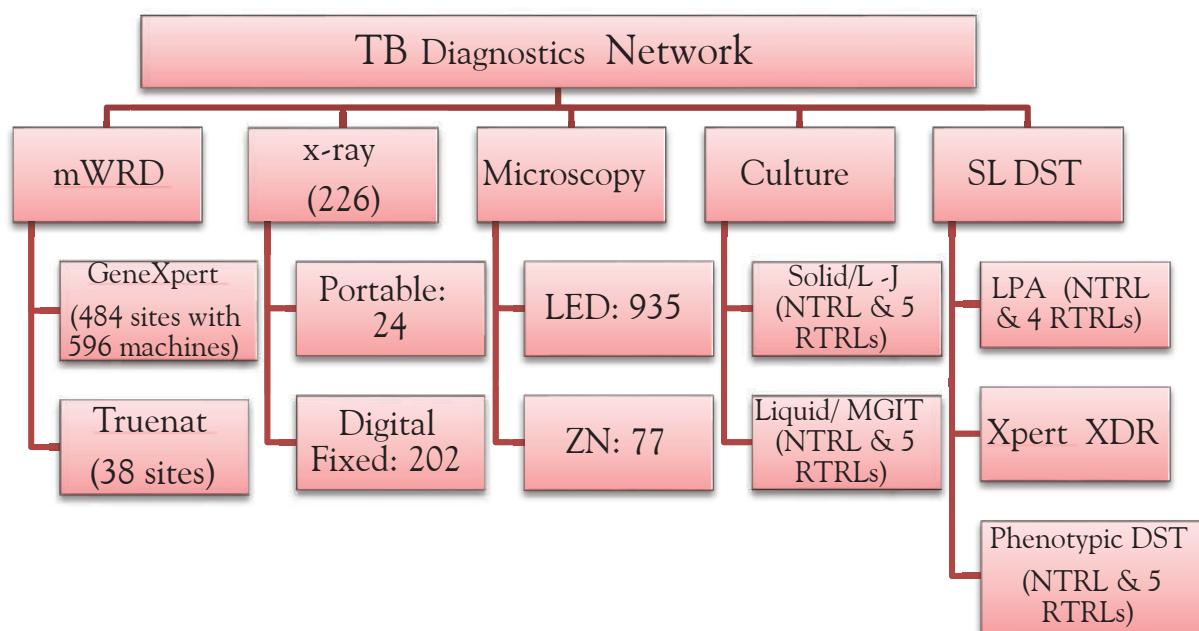


Figure 4.3.17. Laboratory network of the NTP

Multisectoral response with public-private mix

The multisectoral response, including that with public-private mix (PPM), is one of the strengths of the NTP to combat TB in Bangladesh. PPM is a cross-cutting strategy within the National Strategic Plan that contributes to the national TB control goals and objectives.

Currently, the NTP is working with 28 NGOs with the vision of WHO's End TB, which was initiated in 1994. The partners include: BRAC, Damien Foundation, LEPRA, HEED, RDRS, TLMI, LAMB Hospital, PIME Sisters, NATAB, icddr,b, and BGMEA. The strength of the Government includes the physical facilities from community level to the tertiary level and the fact that TB is integrated with

general health services. The strength of the NGOs includes the extensive network from central to the grassroots level.

The existing PPM interventions in Bangladesh include the following:

- Engaging public and private medical college hospitals and selected high-volume hospitals in TB control activities
- Engagement of graduate medical practitioners in TB control
- Using social enterprise model where graduate medical care providers are linked to a designated TB screening center
- Using individual private medical care provider engagement model
- Engagement of the professional bodies
- Engagement of informal healthcare providers
- Promotion and integration of TB services in workplaces
- Introduction of Janao App for notification of TB patients diagnosed in the private sector

Response to TB/HIV co-morbidity

Bangladesh is maintaining a low prevalence and incidence of HIV (below 0.1%) through national response to HIV for the last two decades. National TB Control Program initiated HIV screening among TB patients during 2015. HIV testing among TB patients was adopted during 2021 as one of the core indicators. During 2023, the NTP was able to screen 113,612 TB patients for HIV, among whom, 58 were found HIV-positive.

HIV-positive patients are further confirmed by confirmatory tests and linked with ART centers for treatment.

Monitoring and evaluation

The NTP conducts routine quarterly monitoring meeting in every district, involving all stakeholders to review the TB control activities. Routine supervision and monitoring are being conducted by different stakeholders, e.g. MOHFW, NTP, and partner NGOs. Regular feedback is provided for better program implementation. The NTP is ensuring quarterly TB reports through eTB Manager which is an electronic case-based TB data-recording and reporting system scaled up all over the country. This is inter-operable with DHIS2 to transfer aggregated data. The server of eTB Manager is located and maintained by MIS-DGHS.

Respect for equity, ethics, and human rights

The NTP was specially focused on and designed for the poor, marginalized and vulnerable population groups in the following areas:

- Urban slums
- Prisons (professionals working in 49 prisons with laboratory and DOTS facilities)
- Garments industries
- Tea gardens-sputum campaign
- Stranded Bihari camps
- Refugee camps
- Migrant population

Nearly 1 million displaced people have infiltrated into the southern part of Bangladesh from Myanmar. These Forcibly-displaced Myanmar Nationals (FDMNs) are in a huge threat from all kinds of communicable diseases. The Government of Bangladesh has ensured integrated health services for the FDMNs. With all kinds of health services, specially-designed TB program is also working in the area where the FDMNs are living. Besides the regular health centers and services, the NTP provides additional human resources to extend support to the camps. Fifteen additional microscopy laboratories have been established in that area, and one GeneXpert system has been placed. The NTP will provide an additional portable x-ray machine for diagnosis of TB cases besides the regular x-ray facility in the upazila health complexes. All the diagnosed TB patients are receiving treatment under supervised DOTS.

Multisectoral collaboration and accountability

Bangladesh is a signatory to the ministerial statement for commitment of the high-level meeting in 2021 for renewed TB response in the South-East Asia region. The nation has also pledged to end TB by 2030 during the 'Global Ministerial Conference on Ending TB in Moscow' (2017), the 'Call to Action Ministerial Meeting toward Ending TB in South-East Asia', 2017, and the high-level meeting of the UN General Assembly.

The national-level Multisectoral Accountability Framework (MAF-TB) is an attempt at making national development program an essential component of the elimination of TB. An operational handbook on MAF-TB has been developed. The

framework aims at establishing partnerships and collaborations with stakeholders from all sectors for convergent and integrated actions for a holistic response to the TB epidemic. The framework reinforces the fact that TB can be eliminated only through coordinated efforts across various sectors. It is employed to promote coordination, collaboration, and mutual accountability both within the health sector and among different sectors and stakeholders involved in the response to TB. It is also expected that the MAF-TB will serve as the basis for fulfilment of the political commitments and ensure that the commitments made to end TB are implemented into practice through specific actions which are measurable and could be monitored, reviewed, and reported on.

Program implemented by NGOs and private sector

Bangladesh represents a unique example of close collaboration between the Government and NGOs. BRAC is one of the principal recipients of the Global Fund supporting implementation of TB program. There is a clear geographic assignment from the central level to avoid overlapping. BRAC, Damien Foundation, HEED Bangladesh, LAMB Hospital, NATAB, IMMAGE, MAMATA, Nishkriti, BGMEA, BKMEA, KMSS, NHSDP, PIME Sisters, BADAS, Ashar Alo Society, CWFD, Friends of Bangladesh, UTPS, Dhaka Ahsania Mission, IOM, RDRS, TLMIB, and Salvation Army are implementing their respective TB programs in partnership with the NTP.

Interactive Research and Development Limited, Bangladesh (IRD Bangladesh) started its operations in Bangladesh from

2015 and has been closely working with the National Tuberculosis Control Program. Since inception, IRD Bangladesh has implemented a few comprehensive programs with specific focus on the management and introduction of new drugs for TB and psychosocial support for MDR-TB. The urban TB program focuses on active TB screening among children and adults.

TB program supported by development partners

Funding sources for the Bangladesh TB Control Program are: Bangladesh Government through the MOHFW budget, the Global Fund, and USAID. Apart from this, WHO also extends financial and technical support in some areas as a technical partner. Some major highlights of the roles of development partners in TB control are as follows:

USAID

The USAID supports the National TB Program of Bangladesh to achieve the goals of its National Strategic Plan for TB through different projects, such as Medicines, Technologies and Pharmaceutical Services (MTaPS), Alliance for Combating TB in Bangladesh (ACTB), Infectious Disease Detection and Surveillance (IDDS), and Tuberculosis Implementation Framework Agreement (TIFA).

World Health Organization

WHO is providing support to increase efforts for detection of TB cases, diagnostics; strengthening of laboratories; maintaining high cure-rates; improving the quality of TB control services; strengthening major critical

components of the service delivery system; addressing the issue of drug resistance; setting up norms and standards; assistance in taking evidence-based policy decisions; mobilizing partnerships for TB control; and supporting research, monitoring, and development.

icddr,b

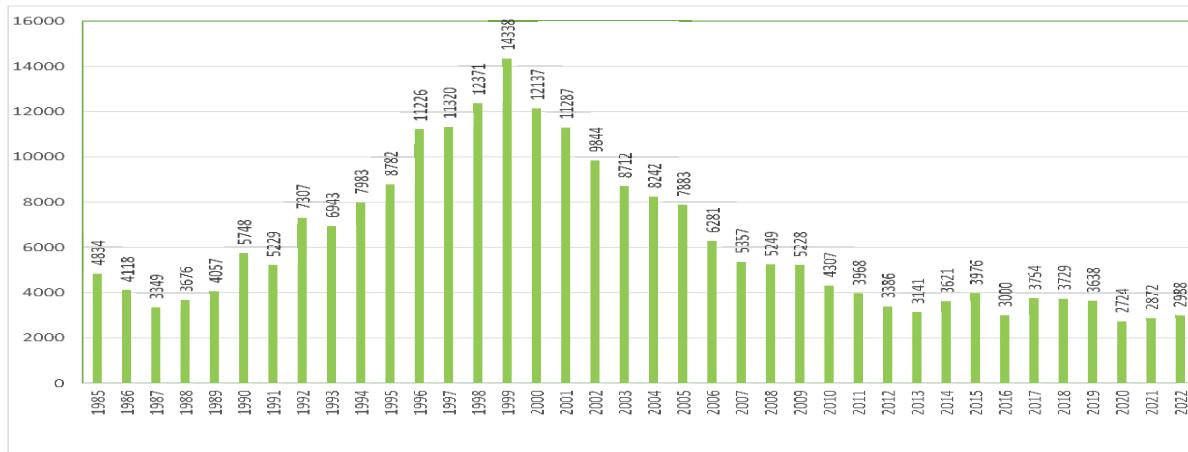
The International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), with unique proximity to the health challenges of the developing world—both urban and rural—provides cutting-edge research that is relevant, rigorously tested, and scalable in resource-limited settings. Tuberculosis remained a focused area of research in icddr,b, which respects and values all national guidelines and policies, and maintains a very highly-esteemed partnership with the NTP. At present, icddr,b is the only sub-recipient (SR) of Global Fund and is implementing their TB Control Program in direct partnership with the NTP.

Conclusions

The National TB Control Program will continue its commitment to and engagement with the global community and country strategy and will undertake all necessary measures in line with Global Strategy and Policy Directions in the coming years.

Leprosy

Among the 23 priority countries, Bangladesh is in the 6th position after India, Brazil, Indonesia, People's Republic of Congo, and Mozambique (in detection of new cases annually) and the 10th position (for new leprosy cases with G2D).



New leprosy cases in Bangladesh

Parameter	2023
Prevalence rate (per 10,000 population)	0.187
New case detection	3639
NCDR=New cases/100,000 population	2.17
Child cases	158
Child case rate	4.34
G2D cases	220
% of G2D	6.04

Figure 4.3.18. New cases of leprosy in Bangladesh over the years

- Bangladesh has achieved elimination of leprosy by 1998 (less than 1 case per 10,000 inhabitants)
- As a disability-friendly Government, Bangladesh emphasizes early identification

of leprosy to prevent disabilities. This requires training for health workers to conduct home visits, organize courtyard meetings, identify, and treat leprosy patients quickly.



- **Long-term vision**
 - ✓ Zero leprosy: zero infection and disease, zero disability, zero stigma and discrimination
- **Goal**
 - ✓ Elimination of leprosy (defined as interruption of transmission)
- **Global targets for 2030**
 - ✓ 120 countries with zero new autochthonous cases
 - ✓ 70% reduction in annual number of new cases detected
 - ✓ 90% reduction in rate per million population of new cases with grade-2 disability (G2D)
 - ✓ 90% reduction in rate per million children of new child cases with leprosy

Figure 4.3.19. Vision, goal, and global targets to end leprosy by 2030



The 2nd National Leprosy Conference 2023

HIV/AIDS

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

As in other countries of the region, HIV prevalence in Bangladesh is higher among the key populations [i.e. female and male sex workers (FSWs and MSWs), men who have sex with men (MSM), PWIDs, and

Hijra/transgender population), with a concentrated epidemic among the PWIDs.

The prevalence rate of HIV among the PWIDs was 5.9% in the intervention and 0.9% among the non-intervention districts in 2020 surveillance. Although it is estimated that less than 0.01% of the total population of 164 million is infected with HIV, the number of HIV cases is increasing rapidly according to a report titled 'World AIDS Day Presentation' which is available in the ASP website.

New reference of 2020 surveillance

HIV and AIDS are beyond the health issues as the economic and social challenges for the most productive age-group are surmounted due to HIV. Bangladesh has an estimated 34,370 PWIDs, 109,624 FSWs, 116,498 MSM, 48,694 MSWs, and 12,629 Hijra (according to the published "Mapping Study and Size Estimation of Key Populations in Bangladesh,

2022-2023: Counting the Numbers of Men Who Have Sex with Men, Male Sex Workers, and Hijra to Provide HIV Prevention Services." Due to various societal barriers, the young people have limited knowledge about HIV and AIDS.

Precautionary measures are being undertaken by the Government of Bangladesh to limit the spread of HIV infection since the detection of the first HIV-positive case in 1989. The National AIDS Committee (NAC) was formed in 1985 and reconstituted in 2017. The MOHFW is playing the leading role in the prevention of HIV and control of AIDS. The AIDS/STD Program (ASP) is implementing HIV and AIDS prevention

activities in Bangladesh with the guidance of three functionaries, namely NAC, MOHFW, and DGHS. The ASP under the DGHS is responsible for coordinating activities of all stakeholders and development partners involved in the areas of concern.

A total of 1,276 new HIV infections have been detected in 2023 (Figure 4.3.20). Until October 2023, the total number of detected cases was 10,984, of whom, 2,086 people living with HIV (PLHIV) have died, leaving 8,898 known people living with HIV. However, 27% infected people to remain undetected among the total national estimate constitute around 15,143 PLHIV (source: World AIDS Day Presentation, 2022).

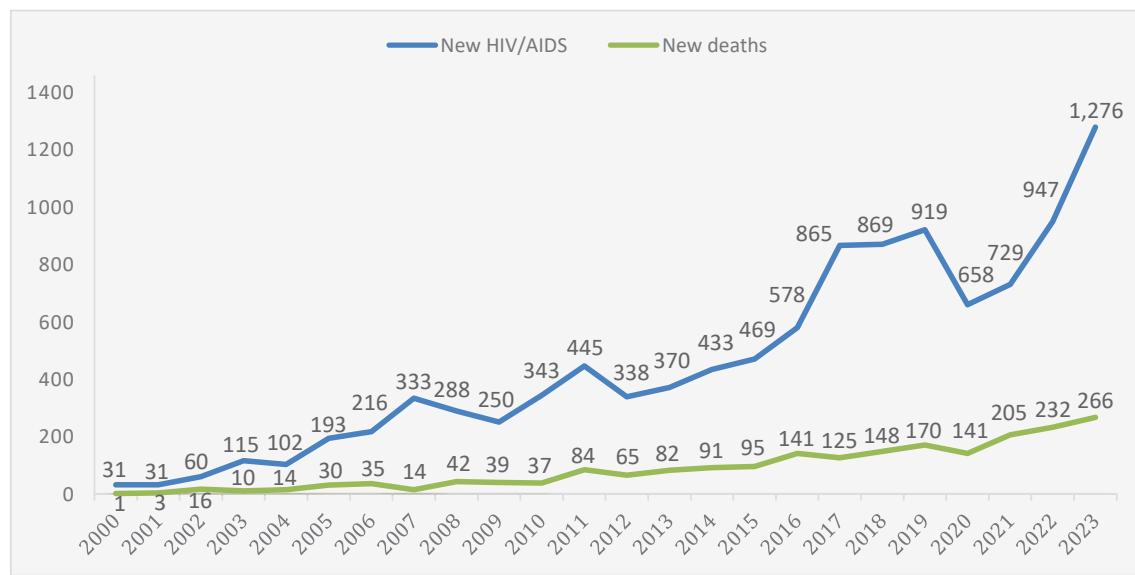


Figure 4.3.20. New HIV/AIDS-positive cases as reported and estimated by year in Bangladesh (1989-2023)

MSM, MSW and transgender population

Data were collected from 2,467 biological males who had anal sex with a male partner within the last six months before data

collection from seven intervention districts. Approximately one in two respondents (51%) was aged between 18 and 24 years, and 23% had education below primary level. Twenty-one percent were married at the time of the survey and were living with their female

spouses. About 33% sold anal sex for money in the past 6 months.

The median number of commercial and casual sex partners with whom they had anal sex in the past 6 months was 2 and 3 respectively. The use of condoms (every time) during the last 6 months with the commercial, casual and regular sex partners was 14%, 23%, and 28% respectively. On the other hand, only 49% reported that they used condoms at the last anal sex work within 6 months before data collection. The figure was 61% in the previous IBBS. Forty-three percent also had female partners with whom they had either vaginal and/or anal sex in the past six months; the consistent (every time) use of condoms during sex work was only 42%.

About half (45%) and two-thirds (67%) knew three or more symptoms of STIs in males and females respectively. Similarly, only 23% could correctly answer all the 5 questions related to HIV transmission and prevention.

About one in four (24%) reported that s/he had symptoms of STIs during the last 12 months, which was the highest in Khulna (38%) and the lowest in Cumilla (7%). Of those who had STI symptoms, 76% received treatment from healthcare providers. In the past three months, 77% received condoms and lubricants while 65% received counseling on condom-use and safer sex from the HIV prevention programs. About 79% of MSM were ever tested for HIV, which was the highest in Dhaka (85%) and the lowest in Gazipur (76%).

The overall prevalence of HIV among MSM was 1.5% (95% CI: 1%-2.1%)-the highest in Dhaka: 3.4% (95% CI: 2%-5.7%); and the lowest in Khulna district 0.1% (95% CI: 0%-0.5%). There was a four-fold increase

in the prevalence of HIV when compared with the previous IBBS on MSM/MSWs and Hijra done in 2015 (0.3%). The overall prevalence of active syphilis was 7.6% (95% CI: 6.5%-8.8%) with the highest prevalence in Chattogram (16.8%; 95% CI: 12.7%-22.0%) and the lowest in Khulna (1.3%; 95% CI: 0.4%-4%). Like HIV, the prevalence of syphilis has also increased by four folds when compared with the previous survey (1.5%). However, the prevalence of HCV was low, only 0.5% (95% CI: 0.3%-1%).

People who inject drugs

Information was collected from 2,376 individuals who injected drugs for non-medical purposes in the past one month before data collection from six intervention districts. Only 4.5% were in the age-group of <25 years (median age was 40 years), and 41% did not have any formal institutional education. Only 13% stayed out of their city of residence for more than one month within the last 12 months before data collection. In the non-intervention areas, 30% were aged <25 years, and all attended schools (73% completed primary and secondary education; and 21% completed higher secondary education).

The most commonly-injected drugs in the six months before the survey were Buprenorphine (89%) and Dextropropoxyphene (32%) while the most commonly-used drugs via non-injectable form were Ganja (73%), Amphetamine (49%), and Heroin (25%). The mean duration of injecting drugs was 8.0 [95% CI: 7.8-8.3] years.

Majority (96% in the intervention compared to 93% in the non-intervention areas) reported the use of sterile injection equipment at the last injection episode in the month

before data collection, which was the lowest (87%) in Gazipur district. However, 46% (compared to 33% in the non-intervention areas) always used new needles and syringes in the past one month preceding the survey. The median number of injecting partners that the respondents shared their injection equipment with in the past month was 2.

In the intervention districts, a very few (3%) PWIDs were under the treatment for drug-use at the time of data collection while another 38% received such treatment in the past. Among those who had ever received treatment, 13% received outpatient counseling, 8% received help from self-help groups, and 4% received maintenance with methadone.

More than two-thirds (67%) of the respondents had sexual intercourse in the past month but only 53% used condoms during the last sex work. Although most (82%) had heard about STIs, only 41% knew three or more STI symptoms in males and females. On the other hand, 68% in the comparison areas had the history of sexual intercourse in the past month, and only 28% used condoms during the last sex work.

Two-thirds (66%) of the respondents obtained condoms and lubricants as well as counseling on condom-use and safer sex from the programs in the past 3 months. On the other hand, almost all (98%) received new needles or syringes from the program in the past 3 months.

About one in five (21%) could correctly answer all the seven questions related to HIV transmission and prevention compared to only 5% in the non-intervention areas. The proportion of respondents who were detained and imprisoned during the last 12 months

was 23% (20% in the non-intervention areas and 10% (9% in the non-intervention areas) respectively.

The overall prevalence of HIV among PWIDs in the intervention areas was 4.1% (95% CI: 2.8%–5.9%). The prevalence was more than 5% in Dhaka (6.4%; 95% CI: 3.7%–10.8%) and Narayanganj (6.7%; 95% CI: 4.5%–9.7%). However, no positive cases were detected in Cumilla, Rajshahi and Chapainawabganj districts. The overall prevalence of HIV, when compared with the previous IBBS (only two sites-Dhaka and Hili), was found to be lower in the present survey (22% vs. 4.1%).

The overall prevalence of active syphilis was similar to HIV—4.7% (95% CI: 3.6%–6.2%)—with the highest prevalence in Narayanganj (7.0%) and the lowest in Rajshahi (1.2%). The current prevalence of active syphilis was, however, higher than in the previous survey (4.7% vs. 2.6%). The prevalence of HCV was 33.2% (95% CI: 30.0–36.5%).

About one in five (21%) could correctly answer all the seven questions related to HIV transmission and prevention compared to only 5% in the non-intervention areas

The overall prevalence of HIV, syphilis, and HCV in the non-intervention districts was 0.2% (95% CL: 0–1%), 0.3% (95% CL: 0.1%–1.2%), and 16% (95% CL: 13%–19%) respectively.

Female sex workers

Data were collected from 2,382 FSWs who sold sex for money or goods within the last 12 months before data collection from seven

intervention and two non-intervention districts. The age of more than a quarter (27%) of the respondents was less than 25 years, and approximately one in two had education up to primary level. Selling sex was their main source of income (91%), and about one in three (30%) sold sex outside the city of their residence within the past 12 months. The socio-demographic characteristics, particularly age and education of FSWs in the non-intervention areas, were similar to that in the intervention areas.

The mean age at first commercial sex was 22 years (median: 21 years) while the mean duration of selling sex was 7.4 years (median: 5 years). Approximately 42% used condoms every time during sex work with their clients within the last 4 weeks, which was the highest in Khulna (83%) and the lowest in Chattogram (15%). The use of condoms every time during sex work within the last 4 weeks in the non-intervention areas was only 0.8%. In the intervention districts, more than 90% received condoms, lubricants, and counseling on condom-use and safer sex in the past three months from HIV intervention programs.

The knowledge of FSWs on HIV was not satisfactory as only 27% could correctly answer all the five questions related to HIV transmission and prevention, which was the case with only 6% in the non-intervention areas. Misconceptions and stigma regarding HIV were present in both the areas. In the intervention areas, 13% (56% in the non-intervention areas) believed that mosquitoes could transmit the disease, and 31% were not willing to share food with a person who is positive for HIV. However, more than 80% did not feel that they were excluded

from family activities because of being a sex worker, and more than 90% reported that they were never arrested because of their sex work. However, a small proportion (6% vs. 4% in the intervention and the non-intervention areas respectively) were arrested during the last 6 months. Among those who were arrested, 49% and 54% were imprisoned in the intervention and the non-intervention areas respectively.

In the intervention areas, 91% were ever tested for HIV ranging from 76% (in Gazipur) to 100% (in Khulna). The majority (86%) received the HIV test within the past 12 months, which was the highest in Khulna (99%) and the lowest in Gazipur (64%). In the non-intervention areas, 25% FSWs were ever tested for HIV, and 44% received the HIV test within the past 12 months.

Overall, the prevalence of HIV was low (0.2%), and no positive cases were detected in the districts of Chattogram, Cumilla, Cox's Bazar, and Khulna. Similarly, the prevalence of HCV was also low (0.3%) among the FSWs. The current prevalence of HIV was lower (0.3% in Dhaka) than that in the previous IBBS in 2016 (0.4% in Dhaka). The overall prevalence of active syphilis was 4.8% (95% CI: 3.8%-6.2%) with the highest prevalence in Gazipur (8.9%) and the lowest in Khulna (0.9%) district. Compared to the previous IBBS in 2016, the current prevalence was found to be higher (2.4% in 2016 vs. 4.8% in 2020).

Data collected from two non-intervention districts (Barishal and Mymensingh) showed the prevalence of HIV, syphilis, and HCV among 0%, 1.6%, and 0% of FSWs respectively.

Geographical and occupational distribution of HIV/AIDS-affected people

It is evident from regular case reporting that the highest number of PLHIV is recorded in Dhaka but Chattogram and Sylhet have the highest concentration of PLHIV [Figure 4.3.21 (a) and (b) show the division-wise case reports].

Geographical distribution of PLHIV

The first map shows the HIV-positive cases in all divisions. A total of 1,276 cases were

identified. Most of the cases (342) were identified in Dhaka Division, 246 cases in Chattogram Division, and 34 cases in Rangpur Division.

The second map shows the cumulative HIV-positive cases in the divisions during 1989 to 2022. The highest number of HIV-positive cases (3,199) was identified in Dhaka Division, the second highest ((2,503) numbers were found in Chattogram Division and the lowest (117) in Rangpur Division (source: AIDS/STD Program (ASP), World AIDS Day Presentation).



Figure 4.3.21 (a). Division-wise HIV-positive cases in 2023



Figure 4.3.21 (b). Division-wise HIV-positive cases in 2022

Estimated size of key populations in regard to HIV/AIDS

A new size estimation of key populations

in regard to HIV/AIDS is being planned in Bangladesh. As per existing information, the estimated sizes of the different key populations are shown in Table 4.3.8.

Table 4.3.8. Estimated sizes of different key populations in regard to HIV/AIDS

Sl. no.	Key population	Estimated size (2022-2023)
1	Street-based FSWs	37,629
2	Residence-based FSWs	47,828
3	Hotel-based FSWs	24,167
Total FSWs		109,624
4	MSM	116,498
5	MSWs	48,694
Total MSM and MSWs		165,192
6	PWIDs (Male)	34,370
Total PWIDs		34,370
7	Transgender/Hijra	12,629

Table 4.3.9. Key populations coverage (in regard to HIV/AIDS) on size estimation, 2023

Key population	Size estimation, 2023	% Covered
FWS	109,624	23.3
MSM and MSWs	165,192	80.0
Transgender/Hijra	12,629	80.0
People who inject drugs (PWIDs)	34,370	73.7

Coverage of the key populations in regard to HIV/AIDS

Estimated size of the FSWs was 109,624, and the program covered 23% of them; estimated size of the MSM and MSWs was 165,192, and the program covered 80% of this population. Estimated size of the Transgender/Hijra population was 12,629, and the program

covered 80.0% of them; estimated size of the PWIDs was 34,370, with 73.7% of them covered by the program.

Investment case study

Bangladesh undertook an initiative from January 2015 to conduct an investment case study to explore how limited resource

could be used in maximizing impact and to help direct a rapid and sustainable increase in domestic and donor investment. With this backdrop, the investment case study in Bangladesh analyzes the HIV status and response, examines the impact and implications of various future scenarios, and establishes priorities that aim to make the response more effective, efficient, and sustainable toward the global goal of “Ending AIDS by 2030.” For developing the study design, the AIDS Epidemic Model (AEM) and programmatic analysis were used.

Care, support, and treatment services for HIV/AIDS

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

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

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

- ASP is procuring 100% ARV drugs from November 2012 onward
- ARV drugs are dispensed through 13 government health facilities and 8 NGO facilities

- Twenty-three government health facilities provided HIV testing-related services
- Five government hospitals and 115 NGO facilities are providing BCC, home-based care, community sensitization, managing drug adherence and opportunistic infections, and capacity building of health service providers
- Five tertiary-level hospitals are supporting Prevention of Mother-to-Child Transmission (PMTCT) among the ANC attendees

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

National reporting system for HIV and AIDS

In 2013, a unified online national reporting system for HIV and AIDS was established.

The package of services aims to take initiative on early detection of HIV through HIV testing and counseling (HTC) to identify more cases and increase the coverage of optimum care for PLHIV

This was a collaborative initiative among ASP, icddr,b, MIS of the Directorate General of Health Services, and UNAIDS. Previously, in assessing the national progress of programs on HIV and AIDS, data were collected manually from each of the organizations conducting

the program, which was time-consuming, infrequent, cumbersome, and prone to errors. Using the existing web portal of MIS-DGHS where the country's overall health information is routinely collected, a unified reporting system for HIV and AIDS was initiated. Through this system, data on HIV and AIDS program relating to key populations are now being collected as output/coverage indicators every six months from all drop-in-centers (DICs) and service delivery points, including HTC centers for the general population. This web-based reporting allows assessment of the national response at a six-month interval, which facilitates ASP to monitor and plan activities in an informed manner. A screenshot of the national online reporting system is shown in Figure 4.3.22. Efforts are being

made to incorporate data on HIV and AIDS programs of all agencies engaged in HIV and AIDS interventions into the online system since June 2013.

PLHIV database

AIDS/STD program recently updated PLHIV database in the DHIS2 platform, supported by MIS and HISB Bangladesh. Detailed information on all HIV-infected people is stored in this database, such as historical information, socio-economic status, follow-up information, ART-related information, TB-related information, viral load status, etc. At the same time, ASP is preparing all treatment-related reports from this database. This is a real-time input database providing information as per clients' needs.

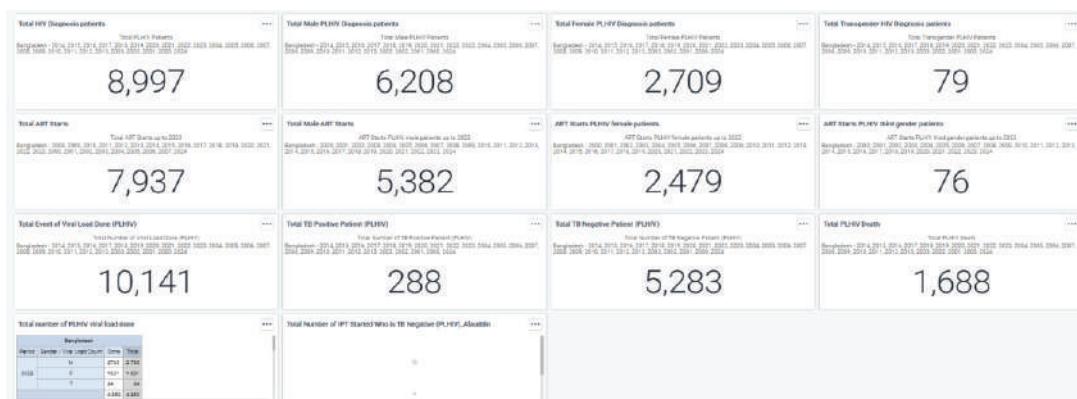


Figure 4.3.22. A screenshot of the national dashboard on PLHIV

Some indicators of HIV/AIDS in Bangladesh

- Estimated people living with HIV (PLHIV) in 2023: 15,143 (AEM 2022)
- Cumulative diagnosis of HIV-positive cases: 10,984 (WAD-2023)
- Number of ART recipients in 2023: 6,703 (WAD-2023)
- New HIV infections reported in 2023 (up to October): 1,276 (WAD-2023)

- Knowledge of HIV status among estimated population: 73% (WAD-2023)
- Antiretroviral treatment (ART) coverage among all HIV-positive cases: 75% (WAD-2023)
- Virally-suppressed persons among ART recipients: 90% (WAD-2023)
- HIV prevalence among key populations in the last published IBBS 2020:

- * PWIDs: 5.1% (Dhaka)
- * FSWs: 0.1%
- * MSM: 3.1%
- * Hijra: 1.2%

4.3.7. Disease Burden due to Climate Change

Viral Hepatitis and Food and Waterborne diseases are discussed below under Section 4.3.7.

Viral hepatitis

- Viral hepatitis is the seventh leading cause of death globally, accounting for 1.3 million deaths per year and 218,000 deaths in the SEARO region
- In Bangladesh, the prevalence of hepatitis B and C viruses has been estimated at 4% and 0.66% respectively

Major activities to control hepatitis B and C

- Hepatitis B and C screening and vaccination for hepatitis B among the healthcare workers are ongoing
- Annually, 20,000 drugs for hepatitis C are being distributed among the patients free of charge
- National guideline on clinical management of hepatitis C has been drafted
- National Operational Plan for Elimination of Viral Hepatitis in Bangladesh (2023-2028) has been finalized and approved

- Awareness building through advocacy, communication, and social mobilization is ongoing
- Training module for hepatitis management has been developed
- Training on hepatitis management for doctors and nurses is a regular activity

Food and Waterborne Diseases

Food and waterborne diseases (F&WBD) are an important cause of morbidity and mortality worldwide; detailed data on the economic costs of food and waterborne diseases in developing countries are largely missing.

Major activities

- Prioritization of the National Cholera Control Plan, 2019-2030 has been done
- Diarrhea hotspot analysis in priority areas for multisectoral interventions (PAMIs) was done all over the country
- Bangladesh has applied for 100 million doses of OCV to GAVI according to the National Cholera Control Plan
- Cholera saline and water purification tablets have been distributed countrywide
- Training on updated diarrhea management and prevention has been conducted for doctors and senior staff nurses
- Awareness campaign was launched through newspapers, miking, posters, television scrolls, and distribution of BCC materials during the OCV campaign

Non-communicable Disease Control

Enhanced services for increasing case-load

Bangladesh is going through a significant epidemiological transition, witnessing a shift from communicable diseases to non-communicable diseases (NCDs) as the major causes of morbidity and mortality. These encompass prevalent conditions, such as diabetes mellitus, cardiovascular diseases, cancer, and chronic obstructive pulmonary disease, among others. It was estimated that non-communicable diseases caused 70.26% of all deaths by 2021 in Bangladesh.

The Government has approved the 'Strategic Plan for Surveillance and Prevention of NCDs in Bangladesh'

In response, the Non-communicable Disease Control (NCDC) Operational Plan (OP) of DGHS has emerged as a pivotal initiative

Infographics

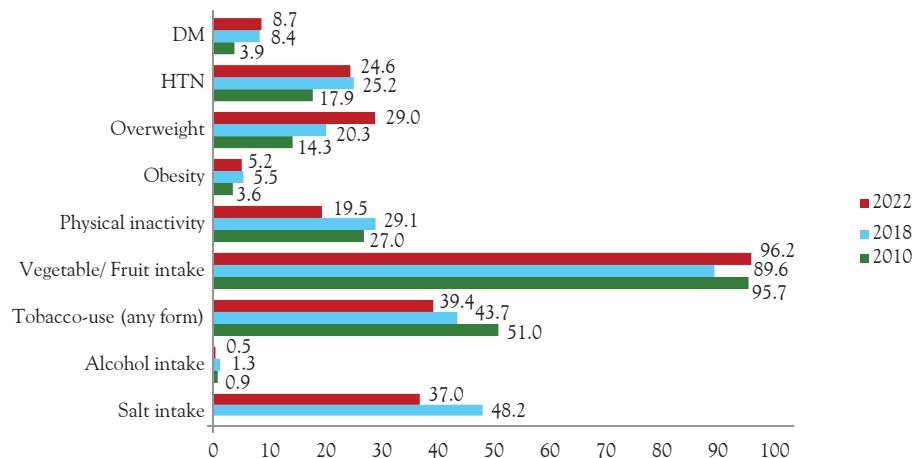


Figure 4.4.1. Changes in NCD risk factors among STEP 2010, 2018, and 2022

spearheaded by the Bangladesh Government. The Government has approved the 'Strategic Plan for Surveillance and Prevention of NCDs in Bangladesh' and has recently undertaken the Multisectoral Action Plan for Prevention and Control of NCDs, 2018-2025.

Component 1: Priority Activities of the Major NCDs (Cardiovascular Diseases, Diabetes, COPD, and Cancer)

- Action area 1: Screening
- Action area 2: Advocacy, partnerships, and leadership
- Action area 3: Health promotion and risk reduction (healthy lifestyle and practices)
- Action area 4: Monitoring and surveillance through strengthening database by creating powerful server/website

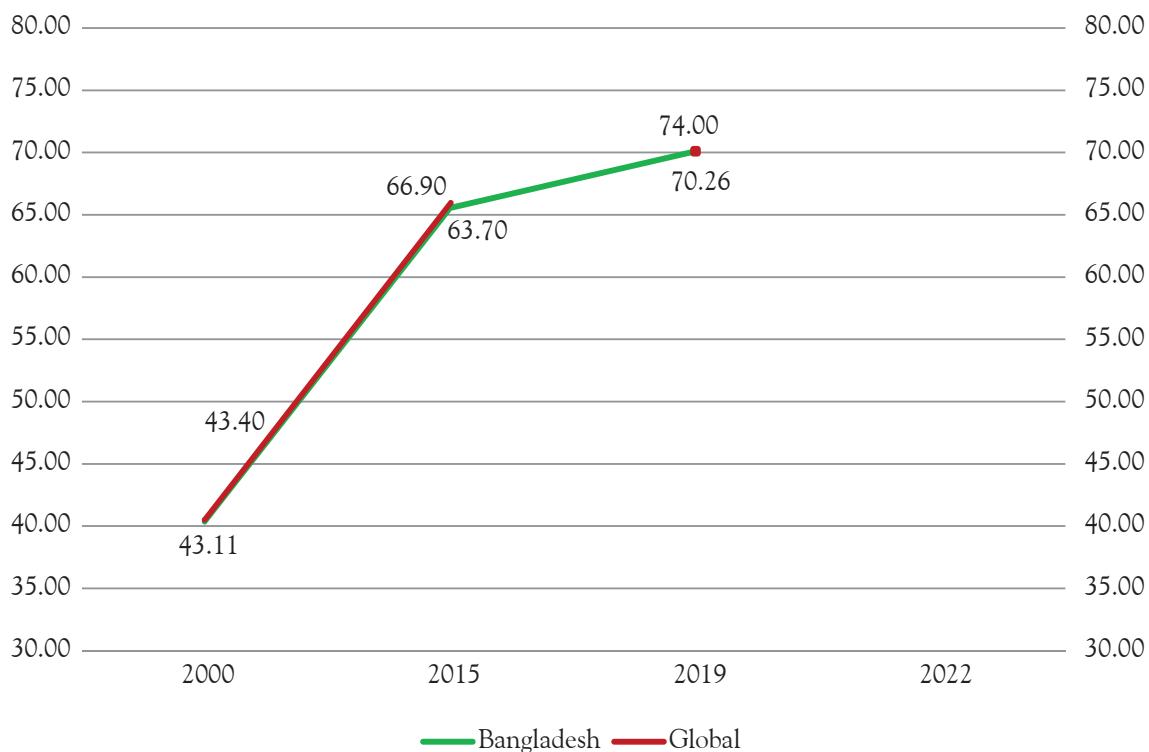


Figure 4.4.2. Deaths caused by non-communicable diseases (% of total): Bangladesh and global scenarios

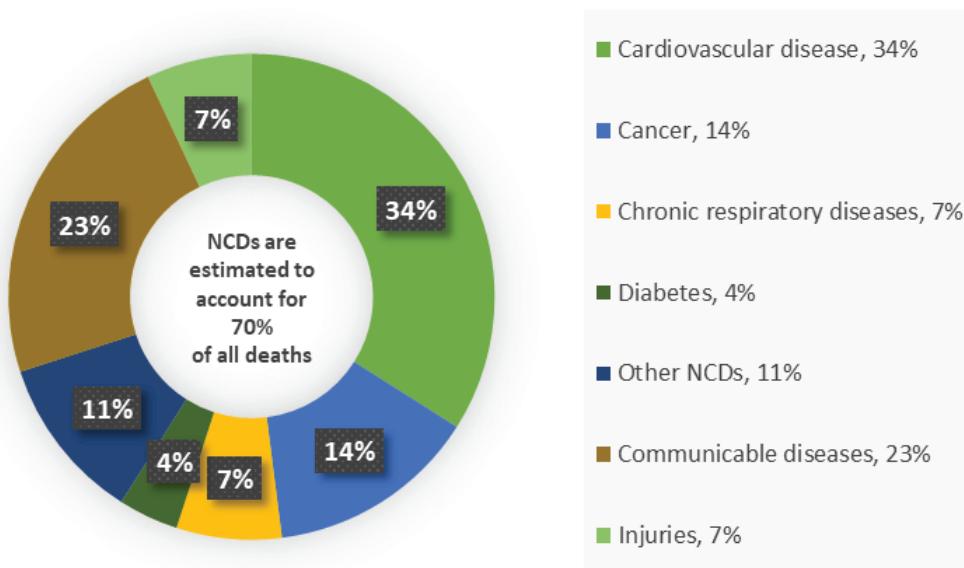


Figure 4.4.3. Major causes of death due to NCDs in Bangladesh

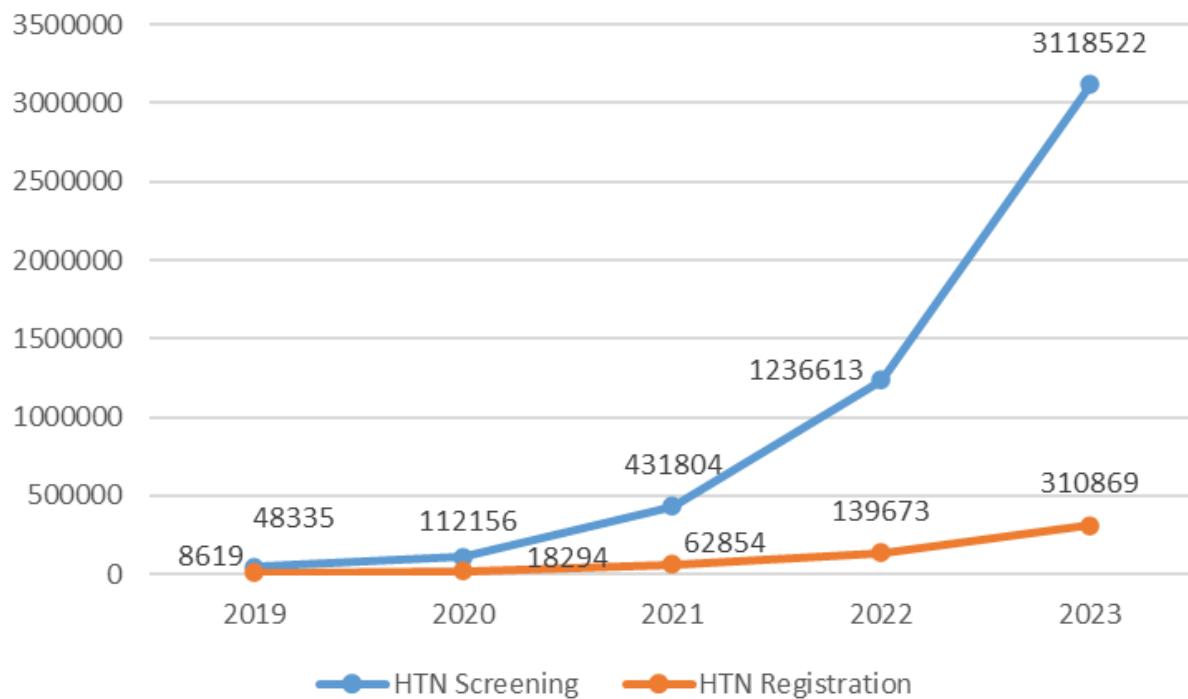


Figure 4.4.4 Screening and registration for hypertension through apps, 2019-2023



Figure 4.4.5. Total no. of patients who have HTN registration in December 2023

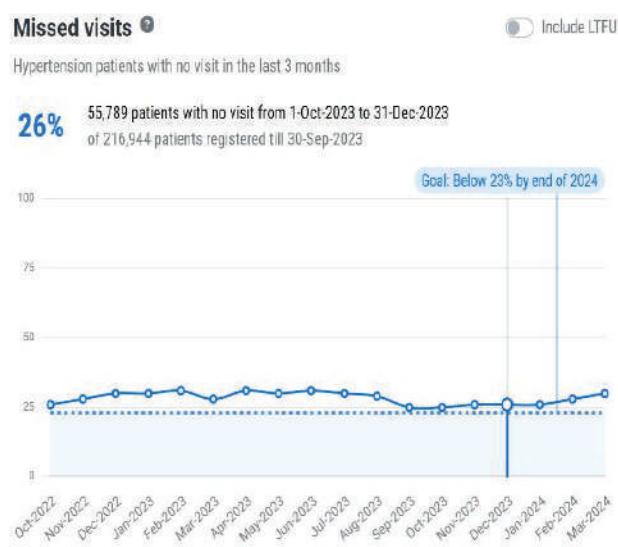


Figure 4.4.6. No. of patients who have missed visit for hypertension in December 2023

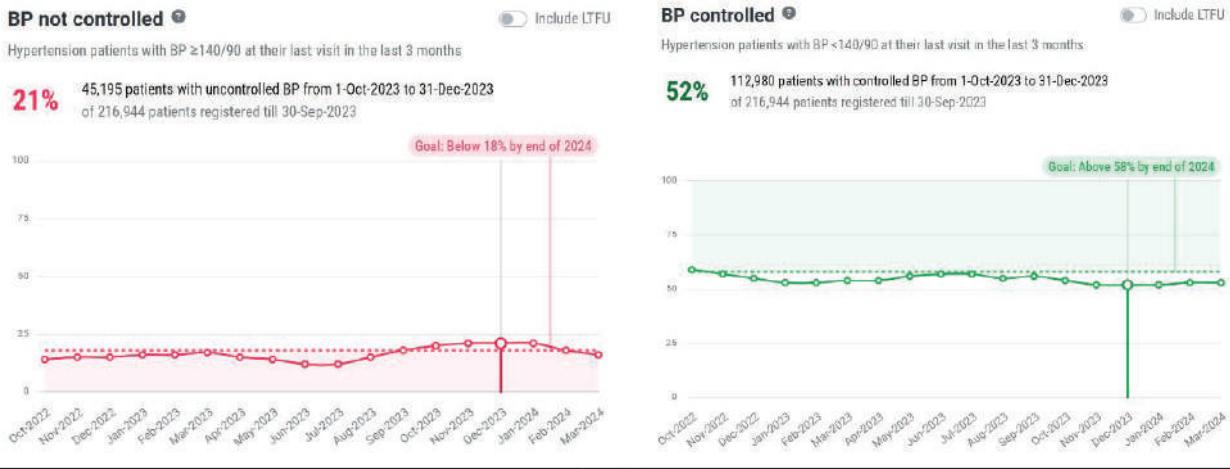


Figure 4.4.7. Data on hypertension from NCD Corner



Figure 4.4.8. Total no. diabetes patients who have DM registered at NCD corner in December 2023

Figure 4.4.9. No. of diabetes patients, who have missed visit for diabetes in December 2023

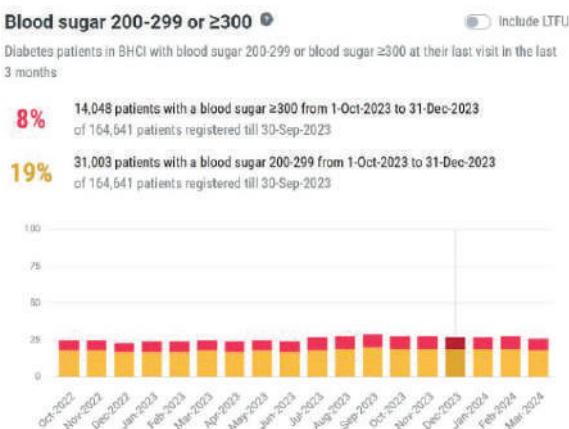


Figure 4.4.10. Data on diabetes mellitus from NCD Corners [Percentage of diabetes patients having their blood sugar controlled or not]

Cancer

Cancer registry in 8 facility- and community-based centers from screening to diagnosis and outcome

A population-based cancer registry in Hossainpur, Kishoreganj and facility-based cancer registry in Chattogram Medical College Hospital, Mugda Medical College Hospital, and Hossainpur Upazila Health Complex were established by BSMMU, with technical assistance from NCDC.

The following data were collected during two months of data-collection period:

Population-based cancer registry

- Number of households=7,821
- Number of participants=32,492 (Male=48.5%, Female=51.5%)
- Total cancer patients registered=34 [Male=15 (47.6%), Female=19 (52.4%)]
- Prevalence of cancer=105 per 100,000 (Male=95, Female=114 per 100,000)
- Top cancers: Lip, oral cavity, and pharynx (C00-C14)=10 (29.4%); Breast (C50)=6 (17.6%); Cervix uteri (C53)=3 (8.8%)

Table 4.4.1. Distribution of cancer patients by age-group

Age (in years)	Registered cancer patients (n=34)
<18	3 (8.8%)
18-60	20 (58.8%)
≥60	11 (32.4%)

Table 4.4.2. Top cancers among male and female

Male		Female	
Site with ICD-O code	n (%)	Site with ICD-O code	n (%)
Lip, oral cavity and pharynx (C00-C14)	7 (46.7%)	Breast (C50)	6 (31.6%)

NCD Management Model and NCD Corner

NCD Corners have provided preventive care since 2012 by building awareness, screening risk factors and diseases, helping in early detection and treatment, and referring patients to UHCs. Currently, 322 NCD Corners are established. Primary healthcare providers identify cases from the community and community clinics and refer them to UHCs; 182 UHCs are functioning in the NCD management model that includes identification and registration at the household level, screening at the community level, diagnosis and management at the UHC level.

NCDC digital surveillance system through DHIS2 and SIMPLE App

NCDC is conducting trial on eMIS system for aggregated data collection and visualization. Moreover, NCDC is developing multiple apps for smoother and hassle-free data-entry from the field workers and for collection of data in a central server.



The Launching Ceremony of the National Guideline on Diabetes Mellitus held on 3 August 2024, at Intercontinental Hotel in Dhaka

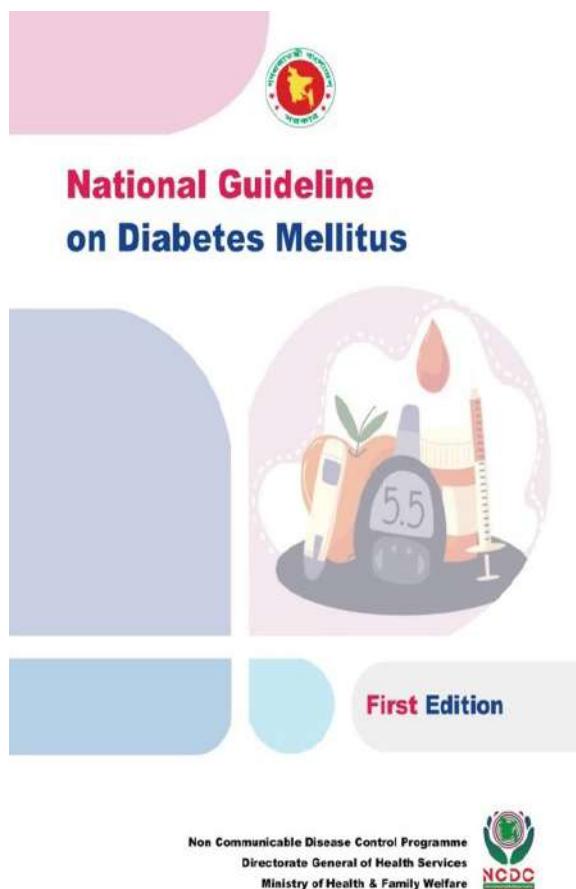


Figure 4.4.11. Cover of the National Guideline on Diabetes Mellitus

Initiatives

First edition of the National Guideline on Diabetes Mellitus was published by NCDC-DGHS. In the first part of the program, the experts associated with the guideline presented various parts of the guideline and, in the second part, the guests presented their views on the guideline at the end of unveiling of the guideline through a colorful program. Experts say that the guideline will help in improving the quality of doctors in Bangladesh and increase the quality of services and awareness programs for diabetes in the country. As a result, 1 crore 31 lakh diabetes patients and their families will derive benefit;; the direct and indirect financial pressures on the health budget will also be reduced, and all the people of the country will be benefited equally.

National Guideline on Hypertension launched by NCDC program

Hypertension is the most common heart disease worldwide. However, in many countries of the world, measures taken to diagnose, treat, or

prevent hypertension are not enough. Although there are several guidelines prepared by various international professional organizations for the treatment of hypertension, no guidelines had been prepared earlier for this country alone, considering the reality of Bangladesh. The need for such a guideline was very important in the treatment of hypertension. In view of this, an initiative was taken in 2013 with the technical assistance of WHO. The Non-communicable Disease Control Program (NCDC) of DGHS, with cooperation of the renowned doctors and experts, played a role at that time. The first edition of the National Guideline was unanimously approved after reviewing the contents and comparing these with various international guidelines for the treatment and prevention of high blood pressure and heart disease.

According to the STEPS Survey of 2010, the prevalence of hypertension was 17.9%, which increased to 21% in 2018 and stood at 24.5% in 2022. With the aim of controlling this increase and realizing the need for a new guideline by 2023, a task force and a working group were formed under the initiative of the Non-communicable Disease Control Program (NCDC) of DGHS, with the technical support of the National Heart Foundation and JICA, and consisting of qualified doctors and experts. The experts unanimously approved the second edition of the National Guideline on Hypertension for Bangladesh after reviewing the latest research and information published in international journals and various internationally-recognized guidelines in the treatment for high blood pressure and heart disease.



The inauguration ceremony on launching of the National Guideline on Hypertension (2nd edition) was held on 29 November 2023 at Pan-Pacific Sonargaon Hotel



UN session on the Global Recognition of Hypertension Control Program in Bangladesh

At the side event of the United Nations General Session in New York (USA), the Global Report on Hypertension was published on 19 September 2023 for the first time under the initiative of the World Health Organization. Various officials of Bloomberg Philanthropies, Resolve to Save Lives, along with WHO Director General Tedros Adhanom Ghebreyesus, participated in the event. The overall situation of high blood pressure in the world was highlighted; measures taken by various countries to control high blood pressure were also mentioned in the report.

Orientation seminar on promoting physical activity by NCDC program, DGHS

At the initiative of the Non-communicable Disease Control Program of DGHS, a seminar titled 'Orientation Seminar on Promoting Physical Activity' was organized on 13 December 2023 at the Grand Ballroom of Pan-Pacific Sonargaon Hotel. The experts highlighted the importance of physical activities through presentations and, later, the participants took part in a detailed discussion.

Additional secretaries of various ministries of the Government, joint secretaries, directors general, and directors of various departments and high-ranking officials of various

government institutions were present on the occasion. Besides, various representatives from various development partners and civil society were present on the occasion.



Orientation seminar on promoting physical activities was organized on 13 December 2023 at the Grand Ballroom of Pan-Pacific Sonargaon Hotel

Events

Dhaka Call to Action on NCD: SEAHEARTS

In the South-East Asia region, NCDs cause an estimated 9 million deaths annually, which

means that 69% of all deaths in the region are due to NCDs. Importantly, almost half of



Participants in the Workshop for Implementing the WHO South-East Asia Regional NCD Roadmap, 2022-2030

the NCD mortality occurs in the age-group of less than 70 years. An estimated 245 million people in the region have high blood pressure. Nearly 100 million are diabetic. The trend of the cancer burden is rising and expected to

rise further. An estimated 2.3 million people developed cancer in 2020, and 1.4 million died of the disease in the region.

Since 2014, preventing and controlling NCDs has been a flagship priority in the region,

and important progress has been made. The region is currently on-track to achieve the target of a 30% relative reduction in tobacco-use between 2010 and 2025. Even with these positive outputs at the current rate of progress, the region will fail to achieve target of the Sustainable Development Goal of reducing premature mortality from NCDs by 2030.

“We are at a history-defining juncture. We have guidance on an expanded set of ‘best buys’ in the form of a menu of policy options and cost-effective interventions for the prevention and control of NCDs. A range of new technologies and digital solutions are available to empower and engage people who are living with or at risk of NCDs.” said Dr. Poonam Khetrapal Singh, Regional Director, of WHO South-East Asia Region in her opening address.

The workshop aimed to support countries having prioritization of NCD prevention and management with a specific focus on accelerating the prevention and control of hypertension and diabetes, identifying the most impactful NCD interventions within their context, closing the gaps in cancer care services through regional collaboration, and integrating NCD services when responding to emergencies.

The workshop witnessed participation of senior officials of the Member States of the SEARO responsible for NCD program management, cancer care-related health systems, persons with technical expertise, representatives of global partners engaged in NCD-related work, and WHO staff from all levels. Participants shared their good country practices for cross-learning and engaged in

lively discussions and hands-on activities; they had an opportunity to be exposed to experiential learning with a visit to an upazila health complex and the attached community center in the Manikganj District to observe how the country has integrated the NCD services into primary healthcare.

The workshop successfully achieved several outcomes. One of the key outcomes was the ‘Dhaka Call to Action’ for accelerating the control of cardiovascular diseases in a quarter of the world’s population. The Dhaka Call to Action represents a set of prioritized actions and interim milestones that are based on the SEAHEARTS Initiative. The SEAHEARTS Initiative, adapting WHO HEARTS elements in the South-East Asia Region, was introduced on the World Heart Day 2022 as a response to accelerate the efforts for the prevention and control of cardiovascular diseases (CVDs). The Call charts a roadmap for scaling up management of hypertension and diabetes in primary healthcare, together with implementing measures for tobacco control, salt reduction, and elimination of trans-fatty acids. The Call also emphasized on the establishment of the platform, namely ‘SEACanGrid’ to facilitate networking among

The Dhaka Call to Action represents a set of prioritized actions and interim milestones that are based on the SEAHEARTS Initiative

institutions, shared learning, resources, stratifying treatment, building capacity of the workforce, technical backstopping, and collaborative research.

Collaboration of NCDC with Bangladesh Diabetes Samity (BADAS)

Table 4.4.3. Activities to control diabetes in Bangladesh	
Item	Outcomes
Prevention of DM through religious leaders	<ol style="list-style-type: none"> 1. Training of 100 Imams in 100 upazilas 2. Established Diabetes Screening Corners in 100 mosques 3. Developed a Khutbah in both Bangla and Arabic and instructions sent to all the 3 lakh registered mosques to use this Khutbah during Friday sermon 4. 30,000 people screened for DM and HTN in Diabetes Corners
Pre-conception care to prevent the onset of gestational diabetes mellitus (GDM) and future DM through religious leader/Kazis	<ol style="list-style-type: none"> 1. Training of 400 marriage registrars/Kazis in 8 divisions (50/ in each division) 2. Starting of 54 Pre-conception Care Centers in 54 BADAS centers 3. 3,000 women of childbearing age were given pre-conception care package
Development of BADAS Guideline for Diabetes Care	<ol style="list-style-type: none"> 1. 1,000 doctors throughout the country were trained
Development of Diabetes Journey App	<ol style="list-style-type: none"> 1. Development of software-based clinical management of diabetic patients 2. 1,000 general practitioners were trained
COVID-19 and diabetes-our initiatives	<ol style="list-style-type: none"> 1. Two guidelines on COVID-19 and DM-one for physicians (in English) and another one for non-doctors (in Bangla) 2. Online courses for physicians and general people, in which 20,000 people were enroled 3. Two online surveys and one hospital-based survey completed 4. Published two papers on COVID-19 and diabetes
Manpower training on diabetes and related NCDs	<ol style="list-style-type: none"> 1. 600 government health professionals, including doctors, nurses, and SACMOs, were trained 2. 200 medical and nursing students were given training
Research related to diabetes and other NCDs	<ol style="list-style-type: none"> 1. A nationwide survey done to screen people with unknown diabetes and related risk factors 2. A nationwide survey done to assess the prevalence of GDM and related risk factors in Bangladesh 3. A nationwide survey to assess the cardio-metabolic risk factors (DM, HTN) among the young adult population in Bangladesh

Strengthening Health Systems through Organizing Communities (SHASTO 2): Collaborative Project with JICA

in July 2017, JICA initiated its support for the Government of Bangladesh to implement the Project for Strengthening Health Systems through Organizing Communities (SHASTO 2). The project aims to improve both NCD-related and maternal health services in an integrated manner in the pilot sites. It has both facility- and community-level interventions, including introduction of standardized package of NCD management (NCD Management Model), improvement of the quality of hospital services, and promotion of healthy behavior and change in lifestyle.

Component 2: Environmental Health, Occupational Health, Arsenicosis, Air, Water and Sound Pollution

SDG 12.4 aims at achieving environmentally-sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water, and soil to minimize their adverse impacts on health and the environment.

Currently, poisoning from heavy metals is a burning issue from the perspective of environmental pollution. Among the heavy

metals, arsenic and lead are very much important in regard to health.

More than two decades ago, poisoning was first regarded as a serious public health problem. Consequently, the number of arsenicosis patients has increased day-by-day. Arsenic contamination has been found at 62 districts out of 64 districts of Bangladesh. In 2003, the total number of patients was 38,412 whereas, in 2012, a household survey found 65,910 arsenicosis cases countrywide. The Government of Bangladesh took the issue seriously, and a robust arsenic mitigation program was implemented; As a result, magnitude of the problem came down. In 2013, the number came down to 57,280 (source: DGHS). Part of data showed that, in 2023, the number of arsenicosis patients was around 8,000. Chattogram Division and Cumilla District had the highest concentration and patients.

“Arsenicosis Patient Diagnosis and Monitoring Manual for Health Practitioners” has been developed in 2023, both in English and Bangla for increasing public awareness and skills of doctors, nurses, and field workers. This module and materials will help the field-level medical practitioners and health workers in correct diagnosis, registration, monitoring and follow-up of arsenicosis patients. An operation plan in the coming (5th) sectorwide program is planning to conduct a situation analysis for arsenicosis.

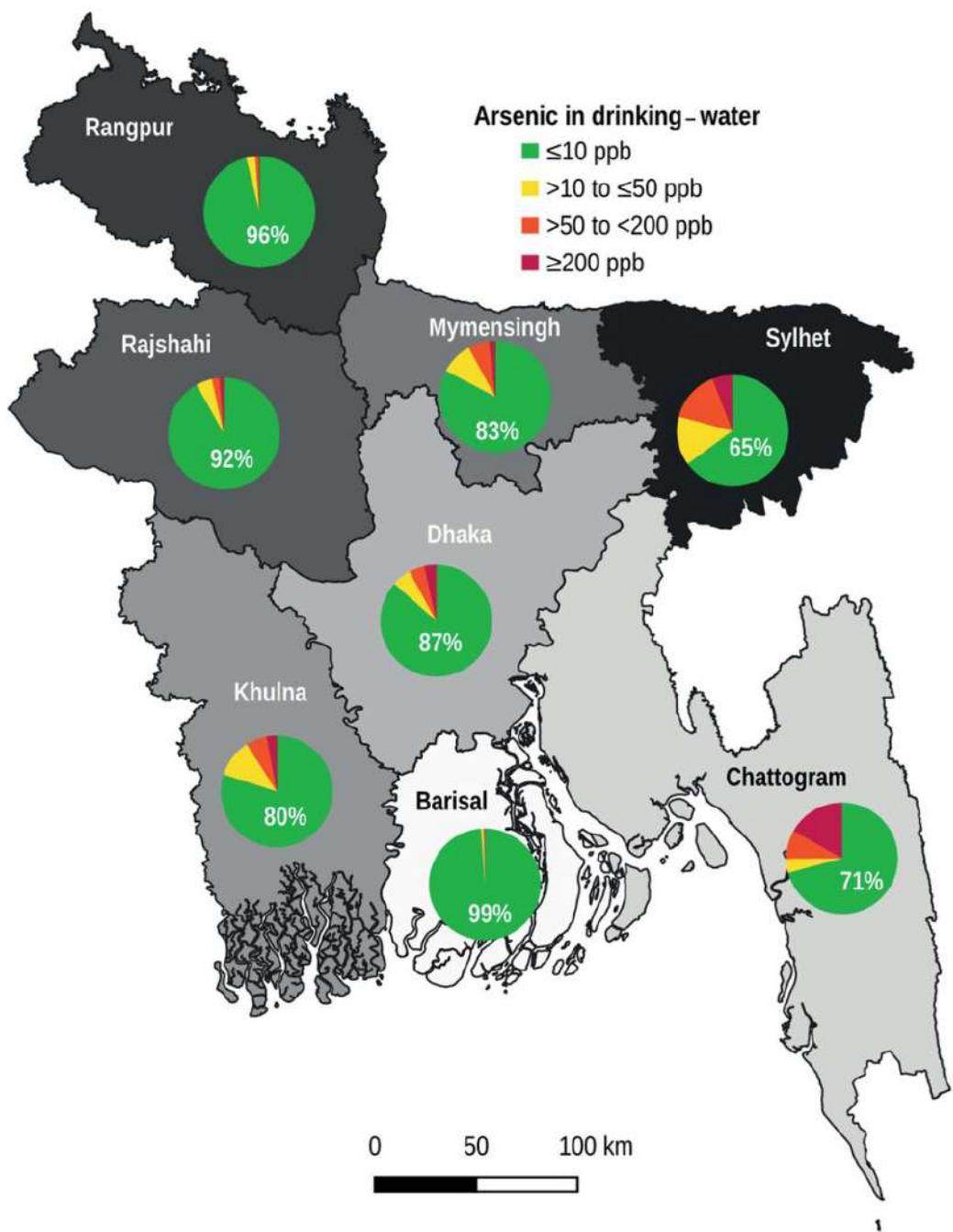


Figure 4.4.12. Division-wise distribution of arsenic in drinking-water in Bangladesh

Lead poisoning

Nowadays, lead poisoning has become a major public health concern for the experts in the field. Lead poisoning is a threat for all age-groups, particularly pregnant women and children. A staggering 35.5 million children in Bangladesh have high levels of lead in their blood. Two recent studies by UNICEF, IEDCR, and icddr,b found lead in the blood of 100% of children tested in Bangladesh—a total of 980 children in four districts and 500 children in Dhaka city. About 40% to 80% of the children had very high levels of lead in blood—above 5 $\mu\text{g}/\text{dL}$. Other studies have also confirmed lead in turmeric, toys, paints, aluminum and ceramic cookware, and some food items in Bangladesh. Recycling used lead acid battery (ULAB), turmeric adulteration, and paints are considered the major sources of exposure to lead in the country.

Lead is an environmental pollutant and has been associated with adverse health outcomes during pregnancy, childhood, and adulthood. Crucially, relative to adults, children have proportionately higher intake and absorption of lead from the environment. Lead absorption is exacerbated in malnourished children who have poor iron and calcium intake. During childhood, the entrance of lead into the brain results in reduced intellectual capacity, increased aggressive and antisocial behavior, and poor educational attainment. Lead exposure during pregnancy has been associated with risks of miscarriage, stillbirth, premature birth, and low-birthweight babies. Lead poisoning has also been associated with increased lifelong risks of cardiovascular, neurological and kidney diseases, reducing quality of life and lifetime earnings in adulthood.

Non-communicable Disease Control (NCDC) program hosts a multisectoral coordination

committee, including Department of the Environment (DOE) that addresses prevention of lead contamination in food and cosmetics. However, the role of the health sector in the committee was limited to advocacy; the health-sector policy documents do not address identification and treatment of lead poisoning.

A seminar on “Lead Poisoning in Bangladesh: Research Evidence for Urgent Action” was organized jointly by DGHS and UNICEF on 25 October 2022. Department of the Environment, other government and non-government organizations concerned, development partners, and other relevant stakeholders were invited there. A policy brief was presented in front of all in an attempt to increase attention to lead poisoning. The seminar invited investments in multisectoral action and strategies in Bangladesh. A total of 152 participants were present, and more than 150 newspapers/V channels covered the event.

Bangladesh Government increased their strength with improved capacity to address environmental health, including lead exposure:

- Country assessment completed jointly with Pure Earth. Findings were shared with national stakeholders
- Formation of Technical Implementation Committee (TIC) completed; 11-membered TIC was formed by Director General of Health Services. The committee has been oriented on PECP activities through several workshops and meetings. It has been facilitating PECP planning, implementation, monitoring and progress review activities through regular meetings, guidance, and support

- Sensitization of stakeholders completed; 2 workshops and several meetings were conducted to sensitize stakeholders on the lead poisoning situation, PECP plans, and activities
- Technical Advisory Committee (TAC) was formed to mainstream environmental health; the concept note was prepared and shared. Technical Advisory Group on broader environmental health was proposed; the concept note is now with DGHS to review and form the Advisory Committee on environmental health
- Development of policy briefs and strategy documents to address environmental health, including lead exposure completed
- Conducted national-level seminar to discuss environmental health and health risks through HSSA (Health-sector Situational Assessment) on Lead Poisoning and results of BLLS (Blood-lead level surveillance) studies presented in a national seminar on 25 October 2022 at Dhaka
- Developed training module and materials for training health service providers: a clinical guideline on lead poisoning management has been developed. Another training module with 3 sub-modules has been developed
- Training of health service providers initiated through TOT from March 2023 and now ongoing
- Development of communication materials on environmental health and lead poisoning initiated; 65 existing communication materials reviewed; Bangla dubbing of 3 animated videos targeting parents, children, and policy-makers completed; 6 SBC draft materials developed; 40 campaign messages finalized, approved, and used in ILPPWs; More communication materials will be developed
- Awareness-raising and advocacy initiated; awareness building through massive social media and local media conducted during ILPPW/WED; several million students, youths, and communities reached through social and local media
- A round-table discussion among stakeholders on the banner of Bangla daily Prothom Alo was conducted; Workshop done with private sector engagement; 1 million SMS; rally, multisectoral engagement promoted



International Seminar on Lead Poisoning in Bangladesh: Evidence for Urgent Action held on 25 October 2022 at Pan-Pacific Sonargaon Hotel, Dhaka

Occupational health is another component of Non-communicable Disease Control (NCDC) program. Major occupations in Bangladesh are farming (two-thirds of the population are farmers producing rice, tea, mango, potato, and onion crops), fishermen, garments workers, migrant workers, cleaners, livestock and poultry workers, forest workers, and healthcare professionals. Workers in ship-breaking industry are at increased risk of injury and death. These occupations have their own unique health-related problems. Industrial workers have different health problems as well. Occupational safety board of Bangladesh (in BUET) identified safety issues in different industries. In order to address

health issues of the major occupations in relation to equity, poverty, and marginalized population, the health hazards of major occupations need to be mitigated. A few observations suggest that important health hazards of common occupations are: injury, pesticide-related harms (self-poisoning and environmental hazards), injury from animals (dog-bite and snakebite), NCD at early age, drowning at sea or river, back pain and sciatica, various infections (hepatitis B, hepatitis C, anthrax, typhoid, leptospirosis, malaria, melioidosis, typhus, TB, and HIV infection). National health policy provided guidance for improvement of health of the farming, industry, livestock and poultry workers.

1. General Characteristics of the Country

- Total population: 169.8 million
- Total working population: 73.41 million (Agriculture Sector: 32.2 million, Service Sector: 26.6 million, Industry sector 12.05 million)
- Population working in the informal economy: 87% involved in informal setting. (2010 Labour Force Survey).

2. Most common occupational health hazards

- Occupational exposure to ergonomic risk factors (Musculoskeletal Disorders like LBP)
- NCD risk factors
- Long working hours (≥55 hrs/Week)
- Occupational exposure to injury risks (fall, burn, cut injury)
- Air and noise pollution

3. Most burdensome or critical health problems of working people

- Musculoskeletal disorders
- Skin Diseases
- Cardiovascular disease (ischemic heart disease, stroke)
- Chronic bronchitis
- Minor and/or major injury
- Mental health issue

OCCUPATIONAL HEALTH WORK in Bangladesh



4. Leadership and coordination

- NonCommunicable Disease Control Programme of DGHS of MOHFW is responsible for occupational health programme, but limited activity.
- MoLE collect some district level health information
- No collaboration between MOHFW and MoLE yet.

5. National systems on collecting data

MOHFW: Health information are collected at health facility level and recorded in DHIS2. But not linked with occupation.

MoLE: Some occupational health related information are collected from district level and monthly paper-based report are published. There is room for improvement to strengthen monitoring system.

6. Specific policy tools, programmes or initiative

- Bangladesh Labour Act 2006 and Bangladesh Labour Rule 2015
- National Plan of Action on Occupational Safety and Health 2021-2030.
- Multisectoral Action Plan (MSAP) for prevention and control of NCD 2018 – 2025.
- NCDC Operational Plan, MOHFW

Upcoming initiative:

- Healthy Workplace Initiative
- National Occupational Safety and Health Training and Research Institute

7. Primary Healthcare Functions

MOHFW

- Generally, provide treatment to all people irrespective of their occupation (Not linked up with specific occupation yet).

MoLE

- Nationwide 32 labour welfare centre (LWC)
- Dedicated mobile app named "Sramiker Swastha Kotha" (Health Query of Labour) for any health-related query of labour and to provide necessary advice by physicians
- Piloting – Model Enterprise Clinic at RMG Sector.

8. FUTURE PLANS AND WAY FORWARD

Strengthen coordination between MOHFW and MoLE.

9. New initiative

Healthy Workplace Initiative



Figure 4.4.13. Elements of occupational health in Bangladesh

Good Practices

- ✓ Dedicated public health departments
- ✓ Strong collaboration between the two ministries (MOLE and MOHFW)
- ✓ Political commitment and strong leadership
- ✓ Capacity building
- ✓ Database
- ✓ Health insurance
- ✓ Updated documents-Policy
- ✓ Set up dedicated occupational safety and health (OSH) unit at government facilities
- ✓ Periodic screening of health of the workers (6 monthly /12 monthly)

Scope of Work

1. The MOLE should take the lead/initiative to call everyone (MOHFW, ILO, WHO, FBCCI, BGME, BKME, BISIC, Enterprises, other DPs, other stakeholders) under one umbrella and formulate a policy brief and knock at the respective points of the Government
2. Strong collaboration between two ministries (MOLE and MOHFW) to make an organogram of the National Occupational Health Program with terms of reference (ToR)
3. Formulation of National Occupational Health Steering Committee and making it proactive
4. National Occupational Health Country Profile
5. National Occupational Health Hazards Database through MIS
6. Formulation of Occupational Safety and Health (OSH) Unit under MOHFW
7. Reviewing and updating the existing laws, policies (National OSH Policy 2013), Action Plan (National Plan of Action on Occupational Safety and Health, 2021-2030), and SOP regarding OSH
8. Formulating a multisectoral coordination committee to ensure the accountability of the owners, welfare of the workers, and addressing compliance among all sorts of workers, and compliance by factories

9. OSH can be linked with the Multisectoral Action Plan (MSAP) for prevention and control of NCDs, 2018–2025
10. Motivational meetings, awareness-building programs in various types of companies, factories, and establishments (large, medium, small) regarding OSH
11. Situation analysis, research, and surveys on OSH-related issues
12. Adopting sustainable and climate-resilient OSH program
13. Allocating adequate budget for the OSH from Ministry of Finance (MOF)

Component 3: Mental Health, Autism, Neurodevelopmental Disorders (NDDs), Substance-abuse including Narcotic Drugs, and Harmful Use of Alcohol

Mental health

The Government of Bangladesh recognizes mental illnesses among the top 10 priority health concerns in the country. The report from national survey on mental health condition conducted by NIMH with technical support of WHO and funded by NCDC, DGHS showed that 18.7% of the adult population and 12.6% of children in Bangladesh are suffering from mental disorders and treatment gaps for mental disorders (92% among adults and 94% among children). Bangladesh passed Mental Health Act in 2018, which replaced the outdated (105 years old) Lunacy Act, 1912. Mental Health Policy 2022 has been approved by the Cabinet. The National Mental Health Strategic Plan, 2020-2030

has also been approved by MOHFW. Besides these, the National Strategic Plan for Neurodevelopmental Disorders, 2016-2030 is being implemented by different ministries. Identification of signs of the most prioritized mental health conditions (autism and neurodevelopmental disorders, epilepsy, and

common mental health disorders, including depression, psychosis, anxiety, and substance-abuse) and their referral to UHCs and DHs are essential for management. Community- and union-level facilities will also participate in the rehabilitation of mental health patients, including fight against stigma.



Former Chairperson of the National Advisory Committee on Autism and NDDs of MOHFW Ms Saima Wazed elected Regional Director of WHO-SEARO; she played a leading role in developing National Mental Health Policy and National Mental Health Strategic Plan of Bangladesh

Table 4.4.4. Current situation of the prevalence of mental health diseases in Bangladesh

Common mental disorder	Percentage
Adults	
• Any mental disorder among adults	18.7
• Anxiety disorder	4.5
• Depression	6.7
• Schizophrenia	1
• Substance-abuse	0.21
Table 4.4.4. contd.	

Table continued...

Common mental disorder	Percentage
Children and adolescents	
• Any mental disorder among children	12.6
• Neurodevelopmental disorders	5.1
• Autism	0.84

The Mental Health Act, 2018 describes benefits of government-sponsored healthcare, including mental healthcare across population groups.

The National Mental Health Policy has already been endorsed by the Cabinet with the vision to ensure mental health and wellbeing of all people through promotion, prevention, treatment, and rehabilitation based on self-empowerment, community and family support, and enhancement of resources. The aim is to ensure participation of individuals in decision-making and inclusion in community life. The National Mental Health Strategic Plan, 2020-2030 has been developed and going to be implemented to ensure the mental health and psychosocial wellbeing of all people in Bangladesh.

Substance-abuse, including narcotic drugs, is an emerging social problem, particularly among the youths. The estimated prevalence of alcohol is 1.5%, and that of drug-abuse disorders is 0.6%. According to WHO, alcohol consumption is one of the four modifiable risk factors for non-communicable diseases. Estimated prevalence of alcohol consumers in general population of Bangladesh is low (1.5%) but binge drinking is on the rise. Cases of alcohol intoxication were reported from all over the country.

Priority activities on mental health

- Implementation of the Mental Health Policy and the National Mental Health

Strategic Plan, with the focus on integration of mental health into primary healthcare

- Implementation of the National Strategic Plan for Neurodevelopmental Disorders, 2016-2030 (cross-cutting issue)
- Conducting periodic mental health surveys at the national level
- Capacity building of CHCPs, HAs, nurses, SACMOs, and medical officers through MhGAP training on screening, identification of and counseling on priority mental health conditions also includes providing first-aid for psychosocial problems
- Screening and counseling, identification, diagnosis, and management of priority mental health conditions [autism and neurodevelopmental disorders, epilepsy, common mental disorders: psychosis (schizophrenia), depression, bipolar mood disorder, anxiety, and substance-abuse] at UHCs and district hospitals
- Public awareness program on priority mental health conditions: preparation, distribution, and use of IEC materials (print and electronic version, flip chart, billboard, leaflet)

- Supplying psychotropic drugs (haloperidol, risperidone, amitriptyline, fluoxetine, procyclidine) and antiepileptic drugs (carbamazepine, barbiturate) in the primary healthcare facilities and district hospitals
- Providing mental healthcare and psychosocial support for disaster-affected population
- Prevention of substance-abuse and suicide in the community to develop helpline for suicide prevention (cross-cutting issue)

Ongoing activities

- Capacity building (training and workshop for doctors, nurses, and other healthcare providers)
- Awareness-raising through seminars, TV fillers, observance of different Days
- Advocacy for Mental Health Policy, National Mental Health Strategic Plan, Strategic Plan for Neurodevelopmental Disorders, 2016-2021
- Publicity through electronic media, banners, posters, electronic billboards, festoons, leaflets, and stickers
- For the prevention of mental health conditions, WHO-supported 'Special Initiative for Mental Health' is piloting activities in 10 districts
- Piloting of telemedicine service for mental health is ongoing in selected facilities.
- Research and survey

Proposed activities

- An operational plan on mental health and disability aligned with Mental Health Policy and Strategic Plan is under development and expected to be launched in the 5th sectorwide program
- Capacity building of healthcare providers on early childhood development (cross-cutting-HSM)
- Screening of priority mental health conditions (autism and neurodevelopmental disorders)
- Capacity building through MhGAP training and counseling of prioritized mental health conditions also includes providing first-aid for psychosocial problems
- Awareness building on mental health, substance-abuse, and suicide in the community
- Mental health and psychosocial support for disaster-affected population and for FDMNs
- Uptake of research outcomes in line with different activities

Component 4: Disability, Physiotherapy, Elderly People and Senior Citizens, Palliative Care, Ear Care, Oral Health, and Prevention of Thalassemia

Disability

When someone has a long-term or permanent physical, psychological, intellectual,

developmental, or sensory impairments or obstacles combined with environmental and behavioral barriers, it limits their ability to participate equally and effectively in the societal activities. This is referred to as a 'disability'. According to the World Report on Disability, more than a billion people worldwide are thought to be disabled in some ways. It underlined the necessity of developing a plan to remove obstacles posed by disability

to work, education, healthcare, and other forms of support services.

Disability is one of the biggest challenges in Bangladesh also. Sheikh Hasina, Honorable Prime Minister of Bangladesh, is deeply troubled by this matter. A key element of the NCDC Operational Plan is primary healthcare that is accessible to people with disabilities.

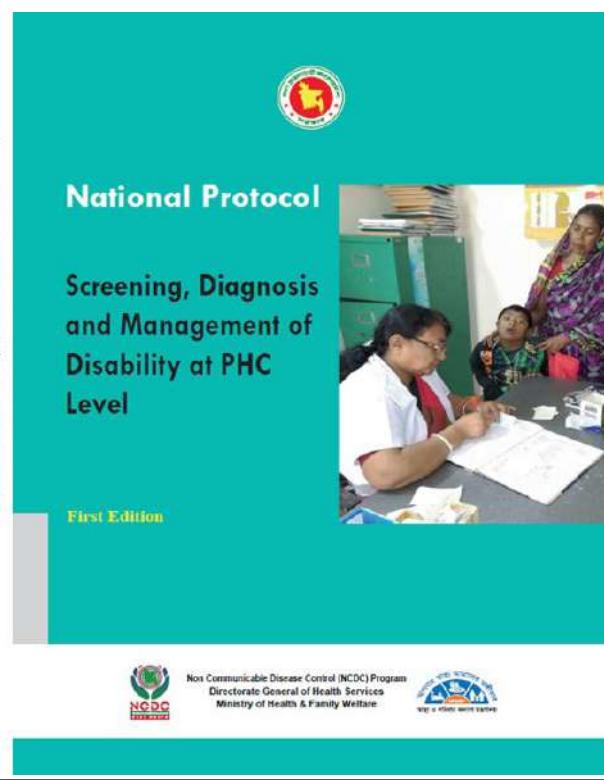
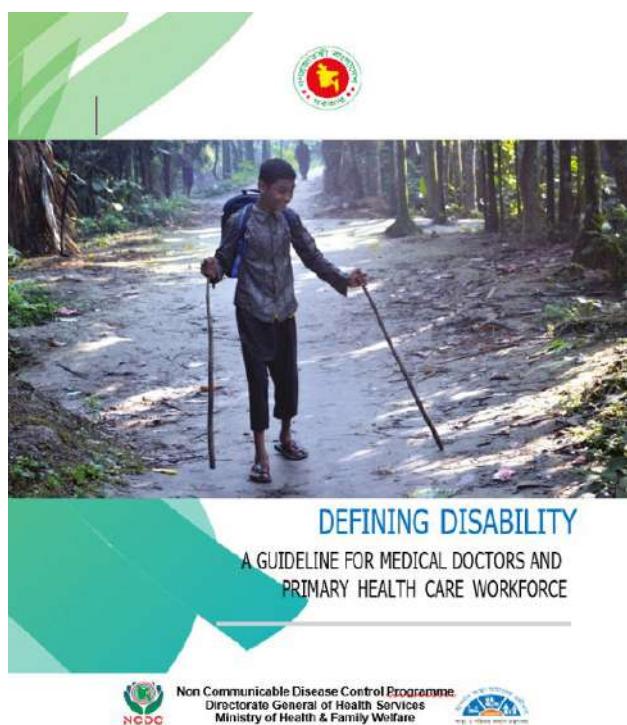


Figure 4.4.14. Covers of two documents: (1) Defining Disability: A National Guideline for Medical Doctors and Primary Healthcare Workforce and (2) National Protocol for Screening, Diagnosis and Management of Disability at the PHC Level

Current status of disability

In Bangladesh, 2.8% of people live with a disability of some kind. Among men, it is 3.29% and, for women, it is 2.34%. In comparison with urban areas (2.45%),

disability is higher in rural areas (2.92%). Just 0.87% of children below the age of 4 years have a disability compared to 9.9% of those aged 65 years and older (Table 4.4.5 and Figure 4.4.21).

Table 4.4.5. Percentage of people with at least one disability, by sex

Age-group (years)	Both sexes	Sex of respondents	
		Male	Female
0-4	0.87	0.96	0.76
5-17	1.99	2.27	1.68
18-49	2.24	2.81	1.71
50-64	4.85	5.55	4.11
65+	9.90	9.67	10.18
Area			
Rural	2.92	3.45	2.38
Urban	2.45	2.71	2.18
Total	2.80	3.29	2.34

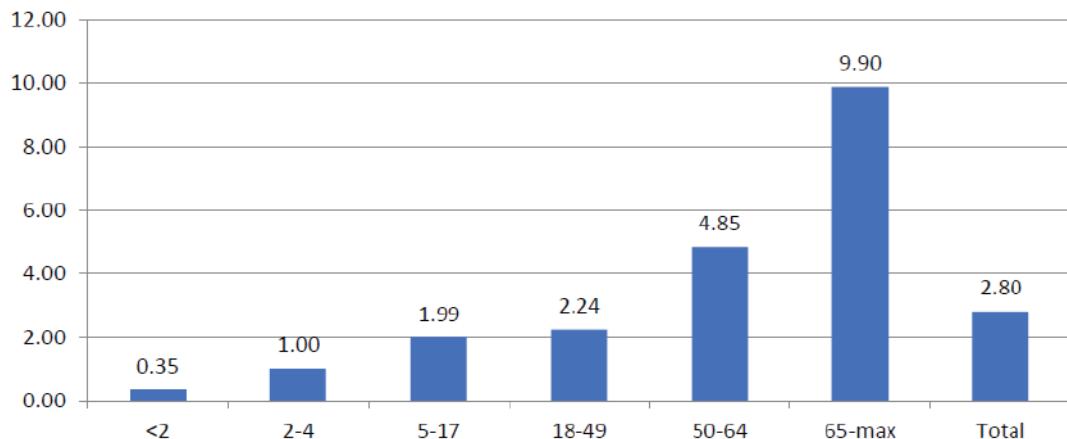


Figure 4.4.15. Percentage of persons with disabilities by age-group

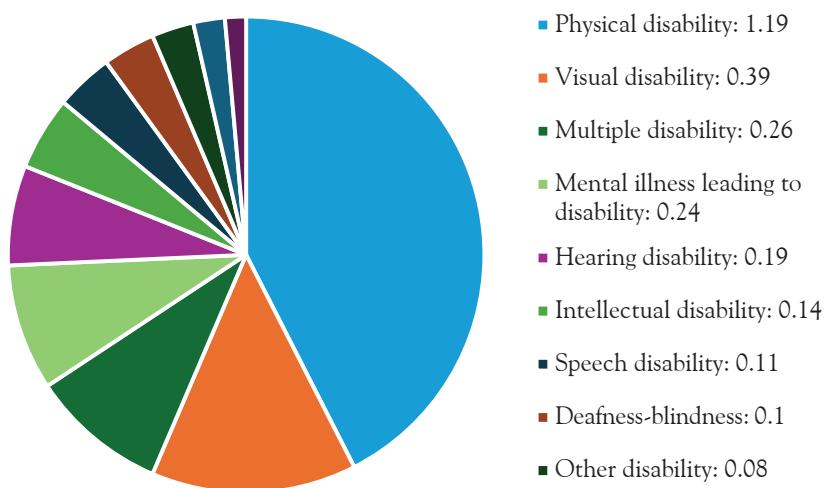
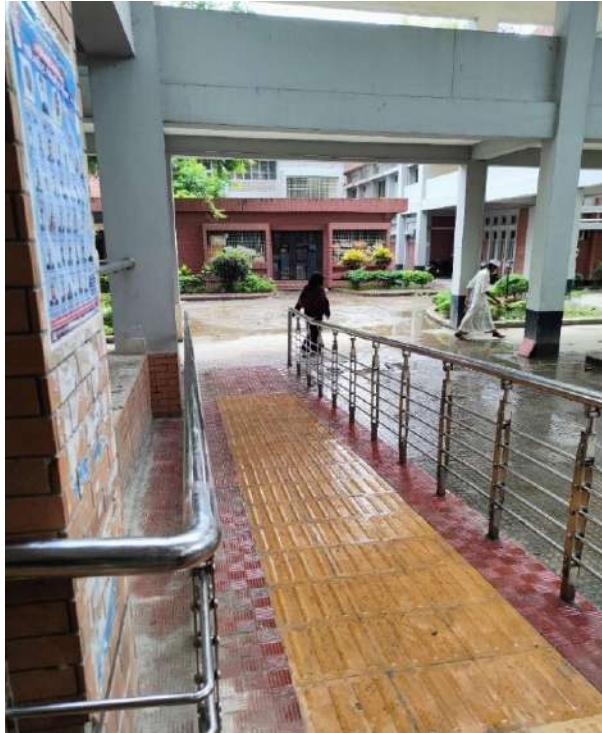


Figure 4.4.16. Percentage of persons with disabilities by type of disability

Common disabilities in Bangladesh are: NDDs, ASD, cerebral palsy (CP), Down Syndrome, intellectual disability, mental disability, physical

disability, visual disability, hearing and speech disability, deafness-blindness disability, multiple disabilities, and others.



Disability-friendly infrastructure development at health facilities

Current activities related to disability

To strengthen the healthcare system and its structures by making these more accommodating, capable, and prepared for individuals with disabilities, DGHS is working to demystify disability for the primary healthcare (PHC) workforce, especially doctors. Among many activities, some of the important ones include the following:

- Development of a national guideline for medical doctors and primary healthcare workforce : defining disability
- 64 districts were oriented according to the above guideline

- Development of the national protocol: screening, diagnosis, and management of disability at the PHC level
- Development of standard operating procedures (SOPs) for disability-friendly healthcare (DFHC) both in Bangla and English
- Development of training manuals for the trainers and the trainees regarding disability-friendly healthcare
- According to manual, capacity was developed at 22 facilities
- Training for doctors was conducted on disability-inclusive primary healthcare at the district level Development of sign language training manuals (50 doctors,

50 nurses, and 50 SACMOs in 50 upazilas were trained on the manuals)

- Orientation seminar on disability for doctors, nurses, para-professionals
- Capacity building/training for doctors, nurses and para-professionals (SACMOs, medical technologists etc.) on disability-inclusive primary healthcare at the district level
- (1-3)-day compulsory training for at least one doctor at upazila level to identify disability
- IEC and BCC materials developed for DFHC
- Disability-friendly toilet established in 39 UHCs
- Wheelchairs for the care of disabled persons distributed to upazila health complexes in all districts
- Research on the nationwide current situation of persons with disability in the context of Sustainable Development Goal
- Development of protocol for screening and diagnosis of disability
- Piloting of disability screening, diagnosis and management protocol through NCD Corners at the upazila- and district-level hospitals in Bangladesh
- Infrastructure development at 2 upazila health complexes and 1 district hospital for disability-friendly healthcare
- A national priority list for assistive technology for persons with disabilities has been completed and in the process of validation and dissemination of findings within 2024

Ear care

Hearing impairment

Services at community clinics, union health centers, upazila health complexes, district hospitals include the following:

- (a) Early identification, diagnosis, and treatment of common ear diseases, like impacted wax, foreign bodies in ear, otitis externa, acute otitis media (AOM), chronic otitis media (COM) and its complications, injuries to ears, deafness, vertigo, etc.
- (b) Behavior change communication— provision of health education and promotion of ear care:
 1. Development of IEC/educational materials for prevention of deafness and hearing impairment
 2. Providing support with ear health education within the community by mobilizing trained volunteers, school teachers, and Imams
 3. Development of primary ear care awareness, using appropriate media
 4. Special campaign in educational institutions for awareness development among students and teachers
 5. Developing a primary ear care booklet and other educational materials to mobilize community resources to improve ear health
- (c) Diagnosis of the causes of sensorineural hearing loss
- (d) Assessment of hearing levels (whispered and conversational voice tests, tuning fork tests, and the use of screening audiometer

- (e) Awareness building about ototoxic drugs and sources of noise-induced hearing loss

Current activities

- A national-level situation analysis on ear and hearing care is completed, which will be validated and disseminated within 2024
- A National Guideline for Common Ear Diseases in Bangladesh at the PHC level is in the process of development and will be completed within 2023-2024 financial year
- Development of training manuals for the capacity building of doctors and other health professionals at the PHC level regarding ear care is in the process

Activities in geriatric care (for the elderly people/senior citizens)

- Prioritization
- Support and assistance with sticks, wheelchairs, etc.
- Approach with respect and dignity
- Development of the National Guideline on Integrated Geriatric Care for primary-care physicians in Bangladesh
- Advocacy and awareness-raising activities, seminars, and workshops regarding elderly care with different stakeholders

Physiotherapy/physical and rehabilitation medicine

- Physical and rehabilitation medicine is needed for people both with or without disability

- Different physical agents, various exercise, devices (wheelchair, crutch, cane, walker, cervical collar, lumbosacral corset, anklet, kneecap, infrared radiation, etc.), and human resources are integral parts of rehabilitation
- Capacity building for healthcare personnel and community/community support groups to provide rehabilitation
- Awareness-building program on hospital- and community-based rehabilitation

Current activities include development of the National Guideline for Management and Prevention of Rheumatic Diseases.

Palliative care

Palliative care services are scarce in Bangladesh. Only six comprehensive palliative care programs—all of which are housed in Dhaka—are offered nationwide. Palliative care is a field about which doctors and other healthcare professionals know relatively little. Initiatives will be made under the 5th HPNSP to enhance the quality of life for patients in Bangladesh by creating a program aimed at medical professionals that will raise knowledge on palliative care and strengthen their competence.

Current activities

- Development of the National Guideline for Palliative Care
- Development of the National Palliative Care Learners' Guideline for physicians
- Development of the National Palliative Care Learners' Guideline for nurses and paramedics

- Advocacy program and workshops with different stakeholders regarding palliative care
- Orientation workshops for doctors, nurses, para-professionals (SACMOs, HAs, FWAs, HIs, AHIs, FPIs, FWVs, FWAs, medical technologists, CHCPs, SIs, etc.), community groups, community support groups, local groups, volunteers, NGO workers, and religious leaders on palliative care
- Capacity building through training for the doctors and nurses are conducted regularly at BSMMU, providing certificates after successful completion of training
- ‘Compassionate Narayanganj’, a pilot project on palliative care at the upazila level is running successfully at Bandar Upazila, Narayanganj
- Ensure supply of essential medicine for palliative care (paracetamol, NSAID, steroid, morphine, etc.)

Activities on oral health and dental care

1. Promotion of oral hygiene by incorporating the topic in school education, School Health Program, community education, and BCC for avoiding unhealthy habits of tobacco consumption/chewing in different forms
2. Managing common dental diseases, including tooth extraction
3. Development of the National Oral Health Policy, incorporating oral health education,

preventive programs, and curative service programs

4. Capacity building for doctors, nurses, paramedics for promotion of oral hygiene practice and dental care

Hemophilia: cross-cutting issue with HSM

1. Awareness-raising about hemophilia
2. Education (patients and families)
3. Counseling on genetics
4. Antihemophilic factor for patients

Current activities include the following:

- Development of the National Guideline for Management of Hemophilia at Primary Healthcare Level (for physicians), which will be completed within the financial year 2023
- Development of the National Guideline for Management of Kidney Diseases in Bangladesh
- Development of the Training Manual on Basics of Medical Genetics and It's Clinical Application
- A pilot project is going on to develop a pediatric NCD management model at upazila health complexes in two districts of Bangladesh
- Development of the national protocols, training modules and SOPs for service delivery at the PHC level regarding six prioritized pediatric NCDs in Bangladesh

Component 5: Injury, including Poisoning and Snakebite

Injury prevention and control program

Injury is one of the leading causes of disability. The WHO estimates that approximately 70,000 deaths in Bangladesh occur annually due to injury (burn, drowning, acid, and accidents at workplace), and about 18,000 deaths occur due to road traffic injury.

Poisoning is also a leading cause of morbidity and mortality across the country, with an approximate annual admission of 64,000 cases. Some 2% of all admissions and 9% of deaths among hospitalized cases are related to injury and poisoning. Snakebite is a rural health

problem among the poor farming community, causing more than 700,000 incidents and over 6,000 deaths every year.

Prevention and emergency management of various injuries under the DGHS include road-traffic injury, drowning, prevention and treatment of poisoning, burns, prevention and treatment of snakebite, occupational injury, intentional injuries, and violence against women.

Road traffic injury

According to the Global Status Report on Road Safety 2024 of the World Health Organization (WHO), an estimated 31,578 people died in 2021 compared to 5,431 reported deaths in collisions on the road in 2020.

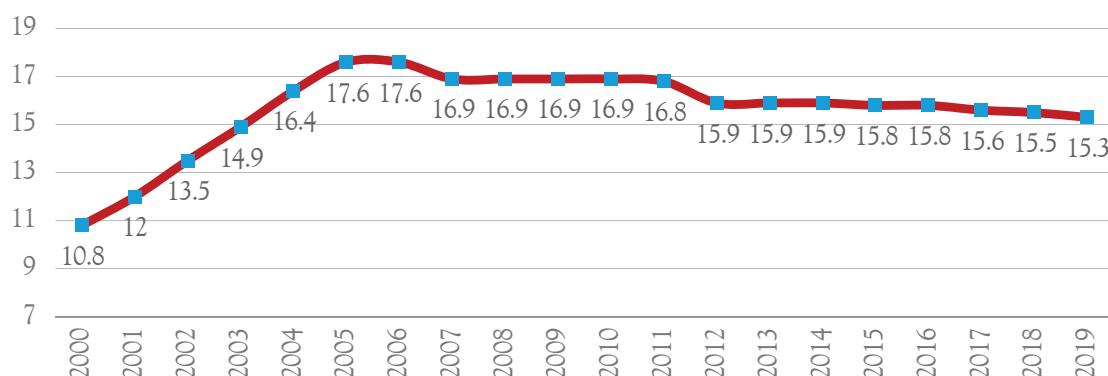


Figure 4.4.17. Mortality caused by road traffic injury (no. of deceased per 100,000 population) (World Bank)

Activities for reducing road traffic injuries and deaths

1. Education and publicity improved knowledge and behavior of road-users and raised awareness about traffic rules and safety. Multisectoral coordination (non-health interventions and stewardship) increased
2. Education of pedestrians regarding the use of road, footpath, and over-bridge,

along with imparting knowledge on traffic signals through schools, community safety program, and media, were prioritized. Multi-sectoral coordination (non-health interventions, and stewardship) was strengthened

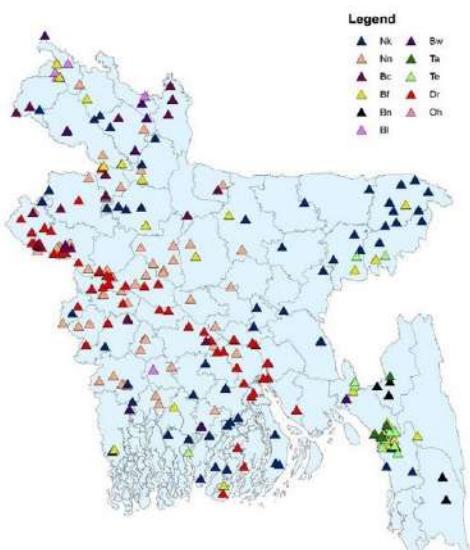
3. Recruitment, training, and testing of drivers were done ensuring minimum standards, such as eligibility in terms of age and physical fitness. The drivers were provided adequate training on safe driving

practices. Multisectoral coordination (non-health interventions, stewardship, and regulatory actions) was emphasized

4. Training of healthcare providers was conducted on pre-hospital care by the first responders, and comprehensive training on trauma case management was also conducted for them. Cross-cutting issues linked to Essential Services Delivery (ESD) and Secondary and Tertiary-level Hospital Management System (HSM) were addressed
5. Legislation and standards of multisectoral coordination (non-health interventions, stewardship and regulatory actions) were formulated
6. Implementing a multisectoral project—Bangladesh Road Safety Project (BRSP)—funded jointly by Government of Bangladesh and World Bank, partnering with NCDC, DGHS, Roads and Highways, Bangladesh Police, and Bangladesh Road Transport Authority. The project implementing area will be the highway stretching from Tangail District to Rajshahi District. The project aims to reduce fatalities due to road traffic accidents
7. Emergency medical care, emergency assistance for rescue and transportation of the crash victims within golden hour were provided. Emergency medical service system, pre-hospital care, and hospital care were strengthened. Treatment of the road-crash victims in public and private hospitals was ensured
8. Other activities included effective coordination and collaboration among the Road Safety Council, which is responsible for planning, implementation, and monitoring of road safety activities; formulating road safety policy; facilitating funding of research and dissemination of information; organizing road safety education, publicity, and training; collaboration among relevant sectors/departments/agencies for injury-related information and reporting; providing emergency medical services; effective collaboration with vehicle owners association and workers association
9. Different new training guidelines were developed to train the health professionals to combat road traffic injuries, such as (1) Training Guideline on Basic Life Support, and (2) Training Guideline on Advanced Life Support

Snakebite

Snakebite is an important public health problem in Bangladesh and many other countries in the world. About 399,653 persons are bitten by snakes, and about 7,447 persons die due to envenomation every year in Bangladesh. Due to its global impact, the WHO has categorized snakebite as one of the most neglected tropical diseases, and the World Health Assembly has passed a resolution urging each Member State to take necessary steps to mitigate the sufferings of millions of people affected by snakebite globally and to reduce deaths to 50% by 2030. The mainstay of the management of snake envenomation is antivenom. Due to the variability of venoms among and within different species of snakes, antivenom is most useful when it is produced against the venom of locally-available snakes.



Map 1: Distribution map of collected snakes from 2018 to 2023 (Nk- *Naja kaouthia*, Nn- *N. naja*, Bn- *Bungarus niger*, Bf- *B. fasciatus*, Bl- *B. lividus*, Bc- *B. caeruleus*, Bw- *B. walli*, Dr- *Daboia russelii*, Ta- *Trimeresurus albolabris*, Te- *T. erythrurus*, and Oh- *Ophiophagus hannah*) throughout Bangladesh

Figure 4.4.18. Species of snakes collected at the Venom Research Center

The Non-communicable Disease Control program, overseen by the Directorate General of Health Services within the Ministry of Health and Family Welfare, Government of Bangladesh, has undertaken several initiatives to address snakebite epidemiology and produce antivenom. These include the establishment of a Venom Research Center (VRC) in 2017, a national survey to assess the annual incidence and epidemiology of snakebites in Bangladesh, and community engagement studies focused on snakebite prevention and first-aid. NCDC also developed various training guidelines and treatment protocol for healthcare professionals, such as Learners' Guideline on Snakebite Treatment (an English version for doctors and a Bangla version for non-professionals). NCDC has also been collecting and distributing antivenom for the treatment of snakebite cases in all upazila health complexes, district hospitals, and medical college hospitals.

Venom Research Center, Chattogram, Bangladesh

Establishment of the Venom Research Center is a scholastic endeavor of the NCDC program of DGHS:

Commencement: 2017-2018 fiscal year

Hosted by: Chattogram Medical College

Aim: To collect and rear up specimens of all the medically-important snakes from different parts of the country and to collect venoms from them

Objectives: To obtain representative samples of venoms, standardize the venoms, use these for venomic and proteomic studies and to make representative, effective and affordable antivenom(s).

Activities and success

- The Venom Research Center has been collecting specimens of snakes from various geographical locations within the country, rearing those up and collecting venoms from the snakes. After nearly four years, the center has specimens of snakes from almost all geographical areas of Bangladesh, representing Cobra (*N. kaouthia*, *N. naja*), Krait (*B. caeruleus*, *B. walli*, *B. niger*, *B. fasciatus*, *B. lividus*), and Viper (*T. albolabris*, *T. erythrurus*, *D. russelii*) and has collected venoms from all these types of snakes. Although the volume of venom differs, this lab is in a position to commence venomic and antivenomic studies to define the effectiveness of currently-available anti-venoms and to start a scientific search to produce antibodies in goat and chicken to

test these against the collected venoms to study the neutralization of venom activities

Venom Research Center is a unique and flagship project of NCDC and addressing a very important public health problem, like snakebite through a scientific approach and creating an enormous opportunity for scientific research in future

- The center is rearing 354 individuals of snakes, including 32% juveniles from 11 species of venomous snakes representing Elapidae and Viperidae family covering 64 districts of Bangladesh (Figure 4.4).
- At the Chittagong University campus, an animal immunization lab (AI Lab) and a state-of-the-art proteomic laboratory have been set up. These facilities are dedicated to fostering antibodies within animal bodies to counteract snake venom as well as researching venom proteomes and animal-derived proteins, such as antibodies
- The AI Lab has started immunizing chickens with *D. russelii* venom, completing the process and confirming its success through 14 hemato-chemical tests. The chickens exhibited the desired immune response. Additionally, the lab purified antibodies from the egg yolks of these immunized chickens, which will undergo pre-clinical efficacy and safety evaluations before clinical trials
- To rear up these snakes, the center developed a mice-breeding facility to feed the snakes

- This facility is also running a registry of all the patients coming with snakebite in the Snakebite Clinic of Chattogram Medical College Hospital. This will create a huge database for future studies on snakebite
- Public awareness program undertaken
- Published several scientific papers on snakebite
- The center provides a unique opportunity for veterinary physicians who never had an organized way of studying snakebite treatment and venom research activity

National survey on snakebite epidemiology: a scholastic endeavor of the NCDC program of DGHS

Aim: To revise the existing knowledge gap regarding snakebites in Bangladesh

Objectives: To estimate the magnitude and consequences of snakebite among humans and animals, this survey was carried out nationally, covering all geographical areas of Bangladesh

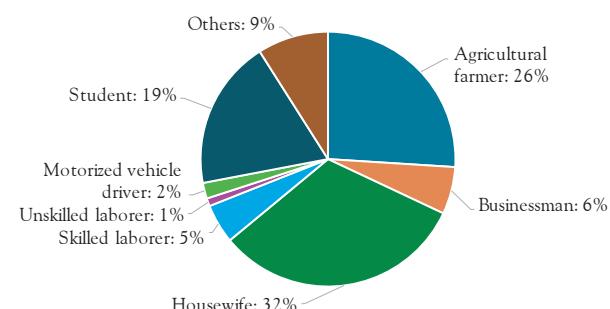


Figure 4.4.19. Snakebite incidence by occupation of the victims

Key findings

- Annual incidence of snakebite in Bangladesh was found to be 242.0/100,000 population, and the rate of death was found to be 4.55/00,000 population
- Annually, an estimated 399,653 people are bitten by snakes and, among them, around 7,447 die due to venomous snakebite in Bangladesh
- Among the snakebite victims, 58.4% were male and 41.6% were female; 95% of the incidence were taken place in the rural areas (324/100,000 population)
- Higher rate of snakebite was found among the age-group of 35-44 years (348/100,000 population)
- The highest rate was found in Khulna Division (616/100,000 population)
- Among all the bites, 24.2% were by venomous snakes
- Annually, around 2,500 cows die due to snakebite in Bangladesh
- Of all snakebite victims, 10.6% reported mild to moderate form of physical disability, and 1.9% were found to develop post-traumatic stress disorder (PTSD)

Community engagement studies focused on snakebite prevention and first-aid

Aim: To utilize the knowledge to develop information, education and communication (IEC) materials for providing health education as a part of community engagement.

Objectives: To understand the community perception on prevention and first-aid following snakebite.

Key output

- In the intervention upazila, 75% people consider that snakebite can be preventable while more than half of the (55%) people under study were not aware about how to prevent themselves from snakebite
- 75.2% of people have knowledge about taking immediate measures. Among the study population, 74% respondents think that applying tourniquet at the bite-site is the immediate measure after getting bitten by snake; only 10% consider immobilizing the wound-site
- 45.4% people visit traditional healers following snakebite. Meanwhile, the reasons found behind visiting traditional healers were: successful treatment (58%), easy accessibility (43%), and inadequacy of treatment in health centers (38%)

Poisoning

Poisoning is a major public health concern and causes significant morbidity and mortality in Bangladesh. It is estimated that poisoning events are responsible for more than one million illness events and approximately 200,000 deaths annually. It is the seventh most common cause of mortality among patients at hospitals in Bangladesh. Pesticide is the most common mode of intentional poisoning in the Asian region whereas OPC toxicity, travel-related poisoning with ultra-short-acting hypnotics, methanol, corrosive agents, parquet, and aluminum phosphate are common in Bangladesh. In Bangladesh, mortality rates of 8% to 10% have been reported in the context of acute poisoning. As the trend of poisoning is changing in the country, expanded knowledge and experience

are important to manage acute poisoning. A guideline is developed for the treatment of poisoning, namely Training Manual on the Management of Poisoning.

Component 6: EPR and Climate Change, Emergency preparedness and Response (EPR), Post-disaster Health Management

Major activities

1. Strengthening the capacity of hospital services (UHC, DH, MCH) for emergency preparedness and response
2. Establishing a system for receiving early warning signs to prepare for health service delivery in disaster-prone area (coordination with the non-health sector)
3. Training of community volunteers on disaster preparedness and response and establishing a network of volunteers
4. Establishing a buffer stock of drugs and logistics for emergency preparedness
5. Electronic database and website, and their maintenance at DGHS (logistics, human resource, IT, and network)
6. Initiating the program on Hospital Preparedness in Emergencies (HOPE) for hospital personnel
7. Developing/updating of promotional material on Health Impact of Community Disaster Preparedness and Response
8. Developing and publishing posters, pamphlets, booklets, and books to spread the message of Emergency Preparedness and Response
9. Training of community-based workers on mass casualty management
10. Increasing capacity in health services on post-disaster health management skills and techniques
11. Coordination between emergency medical service (EMS) and school health promotion to reduce health hazards during disasters and emergencies
12. Developing documentary films/TV spots/radio spots on different health consequences in disasters
13. Strengthening collaboration between DGHS and different stakeholders to increase coverage of Emergency Preparedness and Response at the community level
14. Capacity building among human resources and facilities for effective post-disaster health management and referral
15. Strategic partnership with local bodies and community-based organizations regarding the activities of response and recovery during disasters
16. Dissemination of surveillance data through periodic publication of newsletters, reports, etc.
17. Providing support to different associations, professional bodies, and civil society organizations for comprehensive health management in disasters
18. Countrywide awareness-building campaign through IEC, using different methods and media
19. Awareness-raising workshops and coordination/sensitization meetings for

health service providers, community leaders, teachers, social workers, and other stakeholders on Emergency Preparedness and Response throughout the country

20. Gender-related issues (including gender-based violence)

21. Tackling injury, downing, snakebite, MNCAH issues, communicable diseases, non-communicable diseases (including mental health) of women during disasters

22. Emergency medical services (EMS) on cross-cutting issues (with CBHC and HSM); training of health service providers (doctors, nurses, and field workers) on emergency medical services

23. Reviewing and updating of training/ workshop modules

24. Strengthening emergency services at the district and upazila level to bring quality healthcare closer to the doorsteps of people

2. Increasing community awareness on health consequences of climate change

3. Mass awareness needs to be developed for increased plantation, avoiding carbon emission from vehicles, adopting carbon-free transportation, like bicycle, walking, along with climate-friendly housing and renewable energy

4. Capacity assessment through descriptions of the status of infrastructure and clinical set-up to respond to health impacts of climate-sensitive conditions

5. Resilience of existing health systems needs to be increased against climate change. In view of that, hospitals and health centers should be reinforced to withstand powerful storms, heat waves, and other extreme weather-related events. It also needs to be ensured that water and sanitation services must continue to function under flood and drought conditions. Specific sites will need to address region-specific climate issues, such as drought in North Bengal, salinity in southern coastal areas

Activities on climate change issues

1. Formulating and updating multisectoral national policies and strategies in Bangladesh on greenhouse gas emissions, energy, transport, agriculture, and land-use to address the driving forces and pressures contributing to climate change. Adaptation to climate change (preparedness) and mitigation (prevention) can occur through policies and interventions adapted from treaty under the United Nations Framework Convention on Climate Change

Adaptation to climate change (preparedness) and mitigation (prevention) can occur through policies and interventions adapted from treaty under the United Nations Framework Convention on Climate Change

6. Climate-sensitive injury and disease surveillance may be done to identify direct impacts of extreme weather-related events on public health, systematic reporting of acute morbidity and mortality (e.g. blunt force trauma

and drowning), sub-acute infectious disease impacts, influenza-like illnesses, vectorborne illness, and diarrhea. By using Geographic Information System (GIS), one can map population proximity to flooding risk and health systems capacity, linking disparate sources, such as census estimates, data on hospital beds and evaluation through visits to the healthcare sites. The following specific actions need to be taken:

- Increase capacity in health services for climate change and related disease surveillance skills and techniques
- Training of health service providers at the field level on feasible screening/diagnostic methods of the targeted diseases
- Sensitization and orientation of health facility staff on targeted climate-attributed vectorborne, waterborne and emerging diseases

Partnership in NCDC Program with World Health Organization

WHO is working closely with the Non-communicable Disease Control (NCDC) Unit of the Directorate General of Health Services on strengthening care for major NCDs through a primary-care approach for the following targets:

- Technical support in developing guidelines and protocols
- Capacity building of care providers
- Improving the quality of care through providing drugs and diagnostics
- Generation of evidence through support for surveillance and surveys
- Advocacy and policy development on risk factor mitigation and integration
- Multisectoral engagement to enhance health and wellbeing
- Monitoring and evaluation to support improvement in service delivery

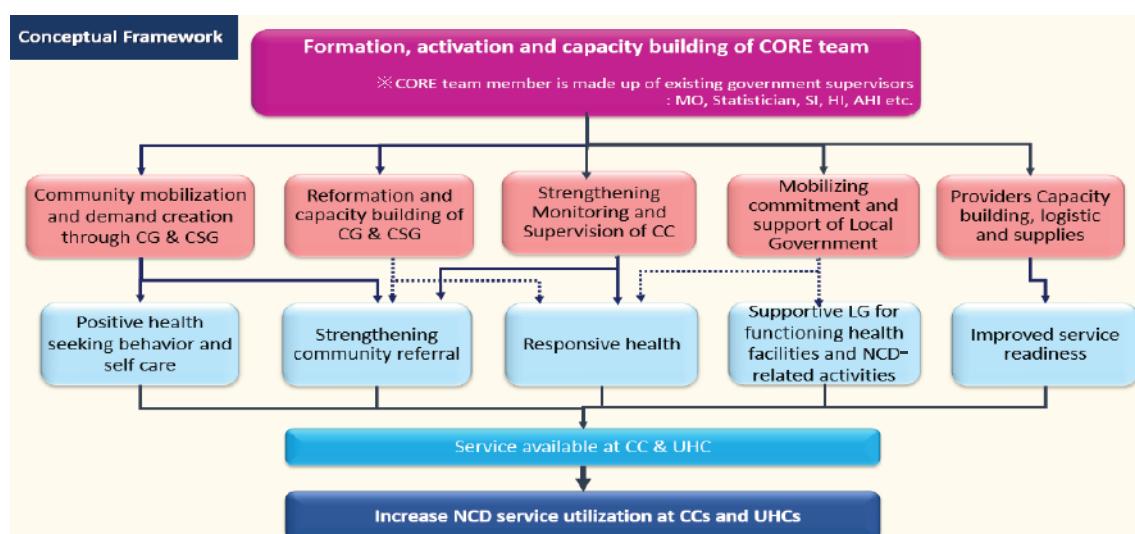


Figure 4.4.20. Conceptual framework for formation, activation, and capacity building of core team for NCDC program

Institute of Epidemiology, Disease Control and Research

Surveillance of emerging and re-emerging diseases

The Institute of Epidemiology, Disease Control and Research (IEDCR) was established in 1976. The Institute aims to: (i) carry out disease surveillance, (ii) investigate and contain disease outbreaks, (iii) carry out public health research, and (iv) train personnel in emergency preparedness and response.

It serves as the nation's focal point for reporting under the International Health Regulations, 2005 (IHR 2005). Biostatistics, Epidemiology, Medical Entomology, Medical Social Science, Microbiology, Parasitology, Virology, and Zoonosis are the eight departments that make up IEDCR. It has five laboratories: (i) Virology, (ii) Parasitology, (iii) Microbiology, (iv) Entomology, and (v) OneHealth laboratory.

IEDCR is the national reference laboratory for Japanese encephalitis, COVID-19, influenza, AMR, and Nipah. IEDCR often participates in external initiatives for quality assurance. These labs are crucial to the diagnosis of newly-developing infectious diseases. As the National Rapid Response Team (NRRT), IEDCR is the designated organization responsible for carrying out outbreak investigations and responses across the nation. By activating NRRT, the Public Health Emergency Operation Center (PHEOC) at IEDCR is able to coordinate and manage national public health emergencies.

In 2007, the WHO declared IEDCR as the National Influenza Center (NIC) and, in

2013, the CDC-USA declared it as the eighth Global Disease Detection (GDD) Center. The dengue virus was identified by IEDCR in 2000; Nipah in 2001; H5N1 in 2008; Chikungunya in 2008; human anthrax in 2010; and COVID-19 in 2020.

The country faced a number of significant outbreaks of new and re-emerging infectious diseases, such as dengue, acute watery diarrhea, avian influenza, pandemic influenza H1N1pdm09, COVID-19, and Nipah virus infection. As a result, IEDCR has started taking steps to increase laboratory capacity and train personnel in order to identify emerging infections of public health emergencies.

As the National Rapid Response Team (NRRT), IEDCR is the designated organization responsible for carrying out outbreak investigations and responses across the nation

IEDCR has more than 114 authorized posts. IEDCR provides hotline service, formal and informal reporting, media monitoring, and media coverage to keep an eye on emergency public health incidents. IEDCR handles each and every public health occurrence by verifying any health emergency.

Surveillance Activities of IEDCR

IEDCR conducts surveillance through cell phone-based, event-based, respiratory event-based and web-based sentinel sites throughout the country.

Nipah Virus Transmission in Bangladesh

Surveillance of the transmission of Nipah virus infection (NiV) in humans was initiated in Bangladesh in 2006.

The objective of this surveillance is to detect outbreaks of Nipah virus infection in Bangladesh to characterize the conditions and risk factors for transmission of NiV. In 2023, a total of 14 cases were detected. Out of 14 cases, 10 died (case-fatality rate 71%).

Surveillance of Japanese Encephalitis

Surveillance of Acute Encephalitis Syndrome (AES), focused on Japanese encephalitis (JE), was initiated in Bangladesh in 2017. The objective of this surveillance is to generate the baseline data about the JE infection status, which will help identify the JE vaccination strategy for policy-makers and the impact of JE vaccination (if administered). In 2023, serum and CSF samples were collected from a total of 5733 AES cases and tested for IgM antibody against JE. Among the tested samples of AES cases, 105 were positive for JE.

National Antimicrobial Resistance (AMR) Surveillance

IEDCR has been conducting AMR surveillance since 2017. The objective of the surveillance is to find out the status of antimicrobial resistance pattern in different

bacterial species and capacity building of the microbiology laboratories at sentinel sites.

At present, two types of surveillance are ongoing. One is case-based surveillance which focuses on the laboratory and epidemiological data collected from the patients in 11 tertiary-care hospitals. Another one is lab-based AMR surveillance where selected public and private laboratories provide data on culture sensitivity. Lab-based surveillance started from June 2022.

As the Sectoral Coordination Center (SCC) for Antimicrobial Resistance Surveillance in Human Health, IEDCR conducts analysis of annual data and subsequently prepares these for submission to the WHO Global Antimicrobial Surveillance System (GLASS) platform. Furthermore, these data are presented visually on the IEDCR website through a public dashboard at: <https://dashboard.iedcr.gov.bd/amr/>.

With the National Reference Laboratory (NRL) for Antimicrobial Resistance Surveillance in Human Health, IEDCR ensures the quality of laboratory activities of all the sentinel sites and acts as biorepository for the isolates. The NRL operates as a biosafety level 2 (BSL-2) laboratory equipped with the latest technology, including automated identification systems: VITEK-2 and MALDI-TOF, alongside facilities for molecular diagnosis of pathogens. Regular participation in external quality assurance programs ensures the NRL's adherence to high standards while efforts are underway to prepare for the provision of EQA panels to all sentinel sites.

In 2023, NRL updated laboratory SOPs, distributed these, and provided training

to personnel from sentinel sites on AMR surveillance.

Three consecutive batches of training sessions were organized by IEDCR for personnel from sentinel sites and different other laboratories across the country, aimed at enhancing their capacity to prepare antibiograms independently at least once a year.

During the World Antimicrobial Awareness Week (WAAW), various activities were conducted both at sentinel sites and centrally at IEDCR.

The Report on National Antimicrobial Resistant Surveillance, Bangladesh, 2016-2023 was unveiled by Md. Jahangir Alam, Secretary of Health Services Division, MOHFW, along with other distinguished participants. The report encompasses insights from both global and national perspectives, details about participating laboratories, crucial findings derived from surveillance data, and trends in resistance patterns. Leading newspapers and television channels covered the events hosted by IEDCR.



One of the get-togethers for dissemination of findings on the National Antimicrobial Resistance Surveillance at IEDCR

Respiratory Event-based Surveillance

The Respiratory Event-based Surveillance (REBS) started in a newly-designed program from April 2022 to enhance the early detection of unknown pathogens with public health importance and rapid reporting of emerging and re-emerging respiratory disease threats.

Activities performed under REBS in 2023 include the following:

- Directors and medical personnel from four departments (Respiratory Medicine, Medicine, Pediatrics, and ICU) and medical technologists from 11 medical college hospitals were trained and given orientation

- Fourteen samples were received from different hospitals for testing

Hospital-based Rotavirus and Intussusception Surveillance

IEDCR has been conducting Hospital-based Rotavirus and Intussusception Surveillance (HBRIS) to detect the implication of

Rotavirus Vaccine in the country since January 2018. In 2023, a total of 1490 suspected samples were collected from the sentinel sites and tested for rotavirus antigen by ELISA at the Virology Laboratory of IEDCR; 944 (63.35%) samples were positive for rotavirus antigen. A total of 71 intussusception cases were also confirmed during this period.

Table 4.5.1. Number of children aged <5 years with acute gastroenteritis (AGE) with evidence of rotavirus positivity by hospital (January 2023 to December 2023)

Hospital/Month/year	Rajshahi MCH		Jahurul Islam MCH		Jalalabad Ragib-Rabeya MCH		Jashore General Hospital		Sher-E-Bangla MCH		Rangpur MCH		Chattogram MCH		Total no. of cases		
	Sampled	Positive	Sampled	Positive	Sampled	Positive	Sampled	Positive	Sampled	Positive	Sampled	Positive	Sampled	Positive	Sampled	Positive	%
Jan'23	29	27	23	18	13	6	35	29	30	24	31	26	36	31	197	161	81.73
Feb'23	20	17	21	16	10	8	24	18	29	21	32	26	16	13	152	119	78.29
Mar'23	18	13	13	10	9	5	31	24	32	20	25	16	22	13	150	101	67.33
Apr'23	17	11	11	4	5	2	15	6	25	15	13	6	21	8	107	52	48.60
May'23	15	6	10	4	5	1	12	6	33	22	12	3	30	7	117	49	41.88
June'23	10	2	12	5	2	0	8	2	26	13	11	1	14	5	83	28	33.73
July'23	12	7	11	7	5	1	5	1	27	3	10	3	20	7	90	29	32.22
Aug'23	15	5	10	4	5	1	5	3	31	16	9	3	26	16	101	48	47.50
Sep'23	12	2	13	12	5	2	5	0	20	15	9	3	20	9	84	43	51.19
Oct'23	16	9	14	10	6	4	11	7	24	16	7	6	22	13	100	65	65.00
Nov'23	19	17	24	19	12	8	15	11	31	24	21	19	30	24	152	122	80.26
Dec'23	14	13	29	26	10	8	20	17	29	23	25	18	30	22	157	127	80.89
Total	197	129	191	135	87	46	186	124	337	212	205	130	287	168	1,490	944	63.35

Activities of Child Health and Mortality Prevention Surveillance (CHAMPS) in 2023

- 3 days' training on manuscript writing on systematic review and meta-analysis was held from 15 to 17 January 2023
- 5 days' training on policy brief writing was arranged during 19-23 March 2023
- Consultative workshop on draft policy briefs and formulation of policy forum was arranged on 25 June 2023
- Dissemination Seminar on the Findings of Systematic Review and Meta-analysis was held on 8 August 2023. Here, the high officials/health managers from different wings of DGHS were present
- CHAMPS Bangladesh website has been developed. Activities and information relating to this surveillance are being updated in this website on regular basis. Visualization of data (DeCoDe, MITS, etc.) relating to CHAMPS Bangladesh are also available in this site. The first policy forum meeting was held on 14 December 2023 at the Bangladesh Secretariat. This

forum will help formulate and finalize policies

Influenza Surveillance

IEDCR is recognized as the National Influenza Center (NIC) of Bangladesh by World Health Organization (WHO) since 2007. The NIC forms the backbone of the WHO's Global Influenza Surveillance and Response System (GISRS) and coordinates the two sentinel site-based influenza surveillance platforms; One is the National Influenza Surveillance Bangladesh (NISB) conducted by IEDCR, and another is Hospital-based Influenza Surveillance (HBIS) conducted by icddr,b. In this sentinel site-based surveillance, samples are collected and tested for types and subtypes of influenza by real-time RT-PCR. As the NIC, IEDCR regularly submits data to Flu Net and FluID of WHO-dedicated website. IEDCR contributes in selection of influenza vaccine strains by sharing the specimens to WHO collaborating centers. IEDCR participates in EQAP for influenza twice a year. The Institute also publishes newsletters regularly to disseminate findings from influenza surveillance and update with the latest global knowledge on influenza on IEDCR website.

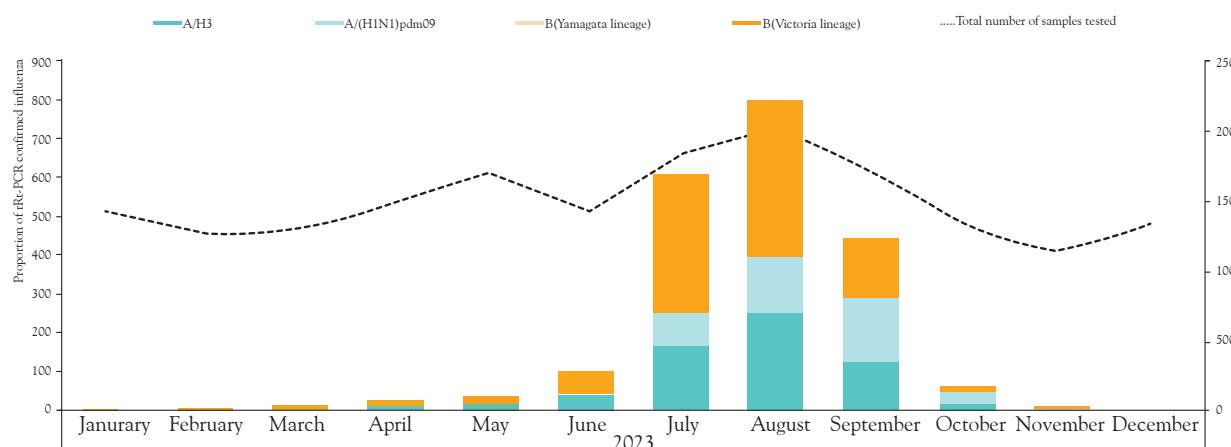


Figure 4.5.1. Monthly detection of different strains of seasonal influenza in 2023 in Bangladesh

Leptospirosis Surveillance

Bangladesh experiences long monsoon seasons, frequent flooding, stagnant water, high temperature, humidity, and a high density and close proximity of animal and human populations, which may create ideal circumstances for zoonotic transmission of *Leptospira* spp. from animals to humans. Based on the available data and findings from IEDCR surveillance during 2013-2015, it is evident that infections of *Leptospira* spp. in humans prevail in Bangladesh

and need immediate attention. Hence, IEDCR has been conducting Leptospirosis Surveillance in 8 sentinel sites since 2019. A team at the surveillance site is responsible for case selection, collection of samples and epidemiological data, and transportation of samples. All samples are stored in IEDCR laboratories. The RDT for IgM antibodies is done at sentinel site while IEDCR is conducting the confirmatory test by PCR. In 2023, about 1,467 samples were selected for RDT, of which 87 (5.93%) cases were positive.

Table 4.5.2. Total samples collected on *Leptospira* spp. in, 2023

Name of hospital	2023							
	Total no. of patients	Line listing	Total no. of serum samples	RDT done	RDT (+)	RDT (-)	Follow-up samples	Urine samples
250-bedded District Sadar Hospital, Habiganj	286,215	422	236	194	2	192	2	2
250-bedded District Sadar Hospital, Cox's Bazar	605,808	684	230	200	-	200	-	-
250-bedded General Hospital, Naogaon	434,031	516	179	147	6	141	-	5
250-bedded Hospital, Patuakhali	159,543	442	210	200	1	199	-	-
District Sadar Hospital, Satkhira	202,505	937	253	253	38	213	1	4
Dhaka Medical College Hospital	1,447,222	1,520	223	196	12	184	1	-
Uttara Adhunik Medical College Hospital	219,882	209	99	99	16	83	2	3
BITID, Chattogram	99,727	284	178	178	12	166	-	-
Total	3,454,933	5,014	1,608	1,467	87	1,378	6	14

Anthrax Surveillance

IEDCR has started active anthrax surveillance, using the OneHealth approach involving services of the Department of Livestock at 9 (nine) sentinel sites (upazilas)

in Sirajganj, Tangail, Rajshahi, Pabna, and Meherpur districts since 2019. Anthrax surveillance protocol was developed by the Anthrax Sub-committee of IEDCR and finalized in consultation with Bacteria Special

Pathogen Branch of CDC-USA. According to the availability of anthrax cases from surveillance sites, a site review was done to consider the potential surveillance sites for anthrax and was reduced to five upazilas. Now this surveillance is going on in three upazilas of Meherpur District. The outbreak

investigation for reporting suspected anthrax cases anywhere in the country has been continued as before. For confirmation of initial findings, PCR was established at IEDCR labs. In 2023, a total of 78 (n=142) were detected as confirmed cases of cutaneous anthrax by PCR.

Table 4.5.3. Total no. of samples collected from Anthrax Surveillance, 2023

Month	Total suspected cases	No. of samples collected	PCR-positive	Percentage
January	0	0	0	
February	53	8	6	75
March	31	7	6	86
April	71	13	6	46
May	108	28	15	54
June	105	13	8	62
July	67	13	7	54
August	28	7	5	71
September	54	13	5	39
October	39	9	2	22
November	56	7	4	57
December	43	24	14	58
Total	655	142	78	56.72

Acute Watery Diarrhea Surveillance

Hospital-based Acute Watery Diarrhea (AWD) Surveillance was initiated from May 2014 in 10 hospitals and further extended to 12 more health facilities (total 22 sites) covering different geographical areas of Bangladesh in collaboration with icddr,b. In 2023, Rapid Diagnostic Test (RDT) in the field site is being carried out for 19,660 collected samples. PCR test was conducted on 10,138 samples while stool cultures were performed on 3,925 samples.

Climate Change and Health

Under the guidance of the Ministry of Health and Family Welfare and Directorate General of Health Services, the Institute of Epidemiology, Disease Control and Research is closely working with World Health Organization (WHO) to implement the project titled 'Building Resilience of Health Systems in Asian LDCs to Climate Change'. Major activities are listed hereafter that are being implemented under the technical support of WHO:

1. Assessment of carbon footprint in selected healthcare facilities
2. Climate-sensitive Disease (CSD) Surveillance and Early Warning and Alert Response System (EWARS)
3. Materials for technical expertise and capacity building include the following:
 - Guideline on Climate-informed Hospital Emergency Preparedness and Response Plan for managers of healthcare facilities
 - Training Manual on Climate-informed Hospital Emergency Preparedness and Response Plan for managers of healthcare facilities
 - Guideline on Climate-sensitive Disease, Early Warning and Alert Response System (EWARS)
 - Training manual on climate change and health for health professionals

Web-based Disease Surveillance System

From July 2009, IEDCR has been collecting weekly data from upazila health complexes (UHCs) on 19 diseases or disorders through the Web-based Disease Surveillance System (WBDSS), using DHIS2 software. The surveillance protocol has been revised where the number of diseases is decreased from 19 to 11 to avoid duplication. The newly-selected diseases or syndromes are: Acute encephalitis syndrome (AES), acute meningitis, acute watery diarrhea (AWD), chickenpox, chikungunya, COVID-19, cutaneous anthrax, dengue, fever unspecified, jaundice, severe acute respiratory illness (SARI) (including pneumonia, RTI, URTI, LRTI). In 2023, statisticians and relevant senior staff nurses from 100 UHCs got hands-on training on updated WBDSS platform.



Figure 4.5.2. Number of dengue fever cases in different divisions in 2023

Contribution of Public Health Emergency Operation Centers at IEDCR in 2023

The Public Health Emergency Operation Center (PHEOC) is located at IEDCR to coordinate and deal with public health emergencies in the country by activating National Rapid Response Team (NRRT). PHEOC monitors emergency public health events through media monitoring, and hotline formal and informal reporting. After verification of any event, PHEOC immediately investigates and responds within 24 hours to public health emergencies across the country through communication with several local health managers and government officials.

In 2023, PHEOC coordinated 30 outbreak investigations at different districts of Bangladesh. Eight of those were Nipah virus outbreaks, followed by three acute diarrhea outbreaks, one acute food poisoning outbreak, one chickenpox outbreak, two cutaneous anthrax outbreaks, two suspected cutaneous anthrax outbreaks, four suspected diphtheria outbreaks, one diphtheria outbreak, one typhoid fever outbreak, one COVID-19 outbreak, one *Neisseria meningitis* outbreak, one outbreak of respiratory illness in newborn babies, one encephalitis outbreak, one suspected H1N1 influenza outbreak, one orbital cellulitis outbreak, and one unknown disease outbreak.



An event of risk communication and community engagement regarding Nipah outbreak among community people, local leaders, and gachhis (date palm juice-collectors) at Naria, Shariatpur

Besides this, PHEOC also conducted several training sessions and workshops. In October and November 2023, PHEOC arranged four

consultative workshops for development of SOPs in collaboration with WHO. In addition, PHEOC covered national events by testing



A scene from the workshop at IEDCR for development of SOPs



Interview with suspected cutaneous anthrax cases in the community in Meherpur, September 2023



Observance of the World Field Epidemiology Day on 7 September 2023 at IEDCR

COVID-19 samples of Honorable President and Prime Minister of Bangladesh.

Field Epidemiology Training Program, Bangladesh

IEDCR started the Field Epidemiology Training Program, Bangladesh (FETPB), in 2013, with the technical support from the CDC-USA. This program follows a similar curriculum which is used in the Epidemic Intelligence Service (EIS) Course of CDC-USA to train fellows for capacity building of public health workforce. This course is governed by Steering Committee where Secretary, Health Service Division is the chairperson. Currently, the Institute of Epidemiology, Disease Control and Research

is hosting three tiers of FETPB programs as follows:

1. FETPB advanced (2 years)
2. FETPB intermediate (1-year on-the-job training program started at IEDCR in 2022)
3. FETPB frontline (2 months)

Fellows get the opportunity of presenting their course deliverables to various national and international conferences.

Activities of FETPB Fellows in IEDCR

1. Participation in outbreak investigations
2. Participation in surveillance platform and research

Health Education, Promotion, and Lifestyle Modification

Innovative tools used for mass awareness-building

Health education is an important part of public health management. The main objectives of health education, promotion, and lifestyle modification are to bring about positive behavioral changes among the mass people in a desired direction conducive to promotion of health. Health education interventions are thereby developed in support of the health programs in order to mitigate health problems prevailing in the country.

The 4th HPNSP has an operational plan, named Lifestyle, Health Education and Promotion (L&HEP) under DGHS. Health education is promoted through multimedia approaches and interpersonal communication and emphasizes intersectoral approaches to challenge the existing health behavior. Activities aim to overcome adverse perceptions that obstruct the adoption of appropriate health practices toward prevention and control of emerging and re-emerging diseases in the country.

Lifestyle, Health Education and Promotion (L&HEP) Operational Plan aims to influence the behavior of individuals and community, working and living conditions that influence health by improving their knowledge, skills, attitude, and practices by creating a health-literate society.

L&HEP-OP integrates activities surrounding the social and behavioral change communication (SBCC), mainly through

advertisement and publicity using electronic and print media, mass campaign, and production of audio-and video-clips. Behavior change communication (BCC) activities, media campaign, design, printing, and distribution of SBCC materials, preparation of annual reports and newsletters, capacity development of HR and others (billboards, festoons, banners, road island decoration, and lightening in office buildings).

General objective

To influence the behavior of individuals and the community, working and living conditions that influence health by improving knowledge,

Health education is promoted through multimedia approaches and interpersonal communication and emphasizes intersectoral approaches to challenge the existing health behavior

attitude, practices, and skills by creating a health-literate society.

Specific objectives

1. Establish legislative framework, communication strategy, implementation

strategy, and intersectoral collaboration for healthy lifestyle and healthy environment

2. Improve the activities for implementation of the operational plan on lifestyle, health education and promotion at the individual- and community levels
3. Identify different target audiences; address communicable and non-communicable diseases, MNCAH issues, and emerging and re-emerging health problems
4. Establish linkage with other OPs/units of DGHS and DGFP for implementation of respective SBCC programs
5. Establish and use linkages with print, electronic and social media, with effective community engagement for SBCC

Table 4.6.1. Routine activities on the promotion of health education, 2023		
Installation of billboards beside highways in different districts		
Number of billboards	Total space of billboards	Number of districts
11	23,000 sq. ft.	11
Telecasting TV scroll on different health issues in different TV channels		
Type of messages	Peak time	No. of days
TV news scroll	2,250 minutes	500
	Off-peak time	
	2,000 minutes	
Broadcasting health messages through FM radio		
Topic	Number of radio jingles	Broadcasting time (minute)
Lightening, thunderbolts, landslides, and flood	1	150 minutes
Importance of healthful food, rest, and exercise for prevention of NCDs	1	120 minutes
Prevention of food adulteration to ensure food safety	1	150 minutes
Grand total		420 minutes

Table 4.6.2. Advocacy meetings on different health issues

Name of campaigns	Number of districts	Number of meeting
Lightening, thunderbolts, land-slides, and flood	40	40
Anemia and malnutrition	28	28
Effect of healthful food, rest, and exercise on the prevention of NCDs	24	24
Prevention of food adulteration to ensure food safety	32	32
Community awareness on tobacco and alcohol consumption and encourage safe motherhood (ANC, PNC, and institutional delivery)	05	44
Control of diabetes and its complications	08	12
Awareness-raising among school students on prevention of exposure to fire	06	06
Total	143	186

Table 4.6.3. Special awareness campaigns all over the country during 2023

Name of special campaign	Type of activities	Number of districts	Number of campaigns
Winter Health Messages Campaign	<ol style="list-style-type: none"> 1. Miking 2. Program in educational institutions 3. Distribution of posters and leaflets 4. Rally 5. Program in hospitals 6. Workshop, seminar, orientation meetings with civil servants, elite society, media, NGOs, private sector, etc. 	64	64

Table 4.6.4. Advertisement and publicity through print media (newspapers) during 2023

Description of the thematic area of messages	Days published	Published in newspapers		
		Bangla	English	Total
Advertise special message for the prevention of dengue	14	95	14	109

Table 4.6.4. contd.

Table continued...

Description of the thematic area of messages	Days published	Published in newspapers		
		Bangla	English	Total
Emergency health messages on Nipah virus	3	28	5	33
Health messages on heat stroke	2	6	3	9
Health messages on safety and quality of foods for Holy Ramadan	11	57	5	62
Publication of supplement on the celebration of World Health Day 2023	1	4	1	5
Advertising campaign on National Deworming Week	1	5	0	5
Advertisement on the prevention of new variant (BF7) of COVID-19	1	6	1	7
Advertising campaign for hygiene on the occasion of Bishaw Istema 2023	6	66	7	73
Advertising campaign on the prevention of COVID-19	1	1	0	1
Advertising campaign on Kangaroo Mother Care	1	8		8
Advertisement congratulating Mrs Saima Wazed for being appointed the Regional Director of WHO	2	8	3	11
Total	44	294	39	333

Table 4.6.5. SBCC materials (posters, leaflets, etc.) developed/printed in BHE Press and distributed in different districts during 2023 (Printed around 11 lakh 90 thousand 9 hundred leaflets, posters, forms on different health issues)

Sl. no.	Short description of the SBCC materials	Type of SBCC materials			
		Leaflet	Poster	Note pad	Book
1	COVID-19 prevention/control	200,000	40,000		
2	World Health Day, 2023	30,000	22,000		
3	Health awareness on diarrhea prevention/control	100,000			
4	Health awareness of dengue prevention/control	300,000			
5	Health awareness during flood	100,000			
6	Health awareness on chikungunya prevention/control	100,000			
7	Health awareness on Nipah virus prevention/control	100,000			

Table 4.6.5. contd.

Table continued...

Sl. no.	Short description of the SBCC materials	Type of SBCC materials			
		Leaflet	Poster	Note pad	Book
8	Official pad for DGHS (Note pad)			5,000	
9	Official pad for L&HEP (Note pad)			700	
10	Annual performance report of L&HEP-related book (180 pages)	980,000	62,000	5700	200

Table 4.6.6. Batches and participants of workshops/seminars/orientation meetings held in administrative divisions on different health issues during 2023

Administrative division	No. of batches	Description of participants								
		MOHFW personnel			Non-MOHFW personnel			Grand total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Barishal	61	884	642	1,526	592	324	916	1,476	966	2,442
Chattogram	159	2,601	1,536	4,137	4,450	1,484	5,934	7051	3,020	10,071
Dhaka	299	3,777	2,223	6,000	5,477	2,200	7656	9,254	4,423	13,677
Khulna	104	1,716	838	2,554	3,002	812	3,814	4,718	1,650	6,368
Mymensingh	59	686	674	1,360	761	372	1,133	1,447	1,046	2,493
Rajshahi	85	813	828	1,641	1,723	692	2,415	2,536	1,520	4,056
Rangpur	86	823	1,030	1,853	1,719	517	2,236	2,542	1,547	4,089
Sylhet	93	1,453	863	2,316	1,610	504	2,114	3,063	1,367	4,430
Total	946	12,753	8,634	21,387	19,334	6,905	26,218	32,087	15,539	47,626

Table 4.6.7. Installation of billboard on different health issues

Sl. no.	Topic	Number of districts, upazilas, and hospitals	Number of billboards
1	Lightening, thunderbolts, land-slides, and flood	40	40
2	Anemia and malnutrition	25	25
3	Importance of healthful food, rest, and exercise for the prevention of NCDs	30	30
4	Prevention of burn	18	18

Table 4.6.7. contd.

Table continued...

Sl. no.	Topic	Number of districts, upazilas, and hospitals	Number of billboards
5	Control and prevention of diabetes	28	28
6	Control of tobacco and alcohol consumption and safe motherhood	22	22
Total		163	163

Table 4.6.8. Production and distribution of leaflets and booklets

SL no	Topic	Number of leaflets	Number of booklets
1	Lightening, thunderbolts, land-slides, and flood	75,000	1,300
2	Anemia and malnutrition	80,000	2,000
3	Importance of healthful food, rest, and exercise for the prevention of NCDs	100,000	1,400
4	Prevention of burn	90,000	11,000
5	Control and prevention of diabetes	50,000	
6	Control of tobacco and alcohol consumption and safe motherhood	50,000	
7	Food safety and safe food practice		11,00
Total		445,000	16,800

Observance of health-related National/International Days/Week

4 February	: World Cancer Day
24 March	: World TB Day
2 April	: World Autism Day
7 April	: World Health Day
10-15 April	: National Health Service Week
28 May	: World Safe Motherhood Day
31 May	: World Tobacco-free Day
1 December	: World AIDS Day

Celebration of World Health Day

Activities performed on the occasion of celebration of the World Health Day on 7 April

included production and distribution of different types of SBCC materials, such as posters, leaflets, folders, banners, festoons, newspaper supplements, etc. The World Health Day has been observed in 64 districts. The following materials were prepared and distributed:

- Road decoration-200
- Auditorium stage decoration-1
- Digital long banner-4
- Gate banner-4
- Festoon-2,100
- Poster-50,000
- Leaflet-100,000
- Folder-800
- Newspaper supplements-5

Observance of other National Days

- 7 March: Historical 7th March
 - Digital banner-2
- 17 March: National Children's Day and Birth Anniversary of the Father of the Nation
 - Digital long banner-10
 - LED screen board-4
 - Light board-4
- 26 March: Independence Day
 - Digital long banner-4
- 2 June: National Health and Welfare Day
 - Stall decoration-1
- 15 August: National Mourning Day
 - Digital long banner-4
 - Gate banner-4
 - Stand banner-15
 - Playcard-50
 - Festoon-200
 - Stage Decoration-1
- 16 December: Victory Day
 - Digital long banner-2

National Nutrition Service

Committed to achieving SDG targets

Along with undernutrition, obesity and nutrition-related non-communicable diseases are major public health problems in Bangladesh. Over the last decades, different nutritional interventions/programs contributed to significant improvement in the country's nutrition situation, although it is yet to reach the expected level. Childhood malnutrition has also been decreasing slowly in Bangladesh.

The current nutritional status of children below five years of age is as follows (BDHS 2022):

- Stunting: 24 % (target was to reduce it to 25% in the 4th HPNNSP)
- Underweight: 22%
- Wasting: 11%

Other parameters of nutritional status among people of different ages are as follows:

- Exclusive breastfeeding in children below 6 months of age: 55%
- Children of 6-23 months of age who are fed with minimum acceptable diet: 29% (target: 45%)
- Children in urban areas are more likely to be fed according to the recommended IYCF practices than those in rural areas (34% vs. 27%) (BDHS 2022)

- Around 10% of adolescent girls (10-18 years) are undernourished (FSNSP 2014)
- Overweight or obesity is more prevalent (24%) among women aged 15-49 years (BDHS 2014)
- While nutritional parameters are mostly better in urban areas compared to rural areas, the situation in the urban slum areas is the worst
- Half of the under-5 children in slums are stunted, which is one-third in non-slum areas
- Among the under-5 children, deficiency in minerals is at high level: zinc deficiency 31%, iodine deficiency 20%, and iron deficiency 15%

Over the last decades, different nutritional interventions/programs contributed to significant improvement in the country's nutrition situation, although it is yet to reach the expected level

- In case of vitamins, 22% of children suffer from vitamin D deficiency, and 7% face moderate vitamin A deficiency
- Hygiene and sanitation standards still remain poor, with only 3% of caregivers

washing their hands before feeding a child (FSNSP 2014)

Achievements of MDG and SDG Targets under National Nutrition Service Operational Plan

Through the National Nutrition Service Operational Plan (NNS-OP), Bangladesh has achieved Millennium Development Goal (MDG) targets for nutrition and is committed to achieving the targets of Sustainable Development Goal (SDG) through Universal Health Coverage. NNS-OP 2017-2023 focused on mainstreaming the nutrition services through DGHS and DGFP during the implementing period 2017-2023 which is further extended up to June 2024 due to COVID-19 situation. In accordance with the National Nutrition Policy 2015, the aim is to reduce malnutrition and improve nutritional status of the people of Bangladesh, with a special emphasis on children, adolescents, pregnant and lactating women, the elderly, the poor, vulnerable, and underserved populations in both rural and urban areas.

Components of NNS-OP

NNS consists of 26 components in total, divided into three categories: system-strengthening, nutrition-sensitive, and nutrition-specific.

Trend of Nutrition Indicators

Stunting rates in people of Bangladesh have shown a declining trend over the years. According to data from the Bangladesh Demographic and Health Survey 2022 (BDHS 2022), the prevalence of stunting among under-five children is 24%, a decrease from

31% in 2017-2018. While the prevalence of underweight among children in Bangladesh has remained unchanged, there has been a slight increase in wasting rates. The BDHS 2022 data indicate that the prevalence of wasting has risen to 11% compared to 8% reported in 2017-2018. This suggests a concerning trend of increased acute malnutrition among children across the country.

The prevalence of exclusive breastfeeding among children aged 0-5 month(s) in Bangladesh has experienced a decline. Between 2017-18 and 2022, the rate dropped from 65% to 55%. This decrease is similar to the decline observed between 2011 and 2014.

Trend of Service Data

Based on data from the DHIS2 source, there has been an overall increase in the number of mothers registered and receiving maternal nutrition counseling over time. The increasing number of mothers receiving this counseling reflects a commitment to improving maternal and child health outcomes by providing valuable information and resources to support optimal nutrition during the pregnancy period.

According to data from the DHIS2 source, there has been an upward trend in the percentage of caregivers of children aged 0-23 month(s), who received age-appropriate nutrition counseling. This indicates a positive improvement in efforts to provide valuable guidance and support to caregivers in promoting appropriate nutrition for their young children.

Based on data from the DHIS2 source, Table 4.7.1 presents the numbers of children with severe acute malnutrition (SAM) and SAM-related admissions.

Table 4.7.1. Number of children with SAM and related admissions in 2020 through 2023

Year	Total number screened	Total no. of children with SAM	SAM-related admissions
2020	1,371,248	9,715	6,571
2021	2,607,303	16,927	11,407
2022	4,362,320	23,340	12,255
2023	5,519,228	35,624	13,609

Innovation in National Nutrition Services

Prioritization of Nutrition Results and Indicators

In 2018, the Nutrition Information Network was formed and has been following extensive engagement; the guiding principles were forged for integrated information system that will align with the national plan and

procedures of data collection and reporting from different delivery platforms in a harmonized manner. The Government, along with nutrition-related stakeholders, agreed on Priority Nutrition Results and Indicators (PNRIs) for NNS-OP. Some key components of PNRI have been selected under the Results Framework (Work Plan and NNS-OP) to track the regular progress and monitoring. The framework highlights priority nutrition interventions to be implemented in all 64 districts through all health facility platforms, by both DGHS and DGFP. Various steps have been taken to operationalize the framework: starting with revision of the DGHS and DGFP facility registers by building capacity of the service providers to establish systematic reporting of nutrition services in register and through DHIS2 online reporting, tracking, and monitoring the progress from national to the upazila and community levels.

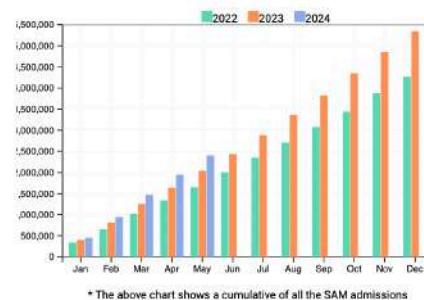
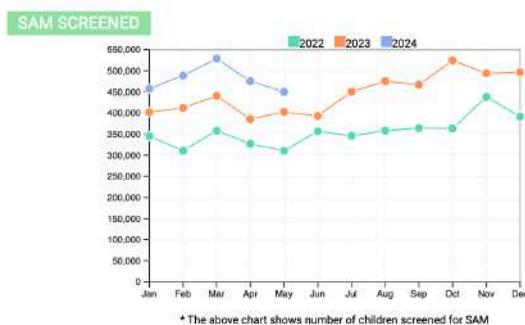
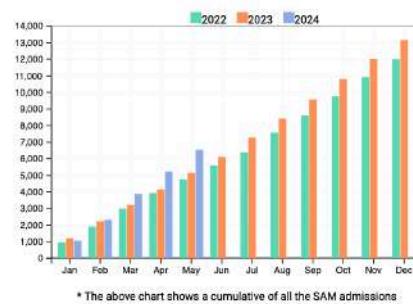
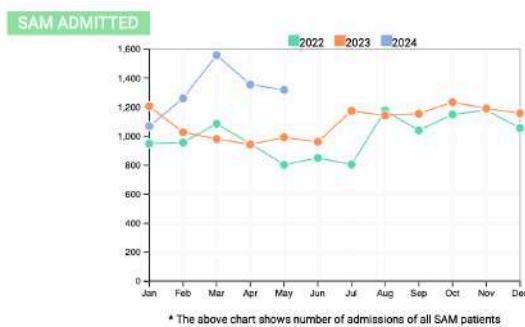


Figure 4.7. Screenshot of the Priority Nutrition Results and Indicators (PNRI) dashboard (Timeline: January 2022-May 2024), leading to data-driven actions for improving overall nutrition status

Trend of Coverage of the National Vitamin A plus Campaign (NVAC) by Round

NNS has launched a real-time monitoring and reporting (RTMR) system by using ODK Collect App on smartphone during the first round of National Vitamin A plus Campaign (NVAC) of 2018.

Table 4.7.2. Trend in the coverage of NVAC by round

Period	Children aged 6-11 months	Children aged 12-59 months	Children aged 6-59 months
June 2022	97.5%	98.5%	98.4%
February 2023	97.4%	98.7%	98.6%
June 2023	98.2%	98.7%	98.7%
December 2023	98.1%	98.8%	98.8%

Bangladesh National Nutrition Council

The Bangladesh National Nutrition Council (BNNC) was founded in 1975 by Father of the Nation Bangabandhu Sheikh Mujibur Rahman as the apex body for formulation and recommendation of policies and strategies, along with providing multisectoral coordination and leadership, for the improvement of overall nutrition scenario in Bangladesh. The BNNC is currently playing a role in implementing

the multisectoral Second National Plan of Action for Nutrition (2016-2025) (NPAN2). The Council was re-invigorated in 2016, with Honorable Prime Minister Sheikh Hasina as Chairperson, recognizing and emphasizing the continued importance of nutrition for the people of Bangladesh as one of the highest priorities of her Government. Additionally, the BNNC has its Executive Committee chaired by Honorable Minister of Health and Family Welfare (MOHFW) and Standing Technical Committee (STC) chaired by Additional Secretary (Public Health), Health Services Division. The Executive Committee provides strategic guidance, technical oversight of relevant policies and programs. It has been coordinating nutrition-related activities among 22 relevant ministries, activating the sub-national-level multisectoral committees: District Nutrition Coordination Committees (DNCC) and Upazila Nutrition Coordination Committees (UNCC). Executive Committee chaired by Honorable Minister of Health and Family Welfare (MOHFW) has members from 18 ministries and provides policy direction. In addition, the BNNC is supported by five thematic platforms to execute the current routine activities.

Major Achievements/Activities by BNNC in 2023

National Nutrition Week 2023 observed

Under the leadership of the Ministry of Health and Family Welfare, the Institute of Public Health and Nutrition (IPHN), and the National Nutrition Council, along with relevant stakeholders, elaborate

programs were undertaken nationwide. The theme of 2023 Nutrition Week was “মজবুত হলে পুষ্টির ভিত, স্মার্ট বাংলাদেশ হবে নিশ্চিত”. The National Nutrition Week 2023 was observed countrywide through rallies, discussions, different programs on thematic areas, with participation of government and non-government officials and representatives from civil society both at the national and sub-national levels. Other events included cooking competition, nutrition fair, school and courtyard meetings.

TOT for divisional multisectoral resource team

In order to activate the District Nutrition Coordination Committees (DNCC) and Upazila Nutrition Coordination Committees (UNCC) across the country, the Divisional Multisectoral Resource Team (DMRT) was formed to conduct training of trainers (TOT) for professionals to work as master trainers at the division level to facilitate the DNCC and UNCC members for appropriate functioning of the committees.

To establish the governance for nutrition across the country, it is very necessary to activate the DNCC and UNCC members and make them accountable. The members of the DMRT will be focusing on how to make nutrition action plan aligned with the Annual Performance Agreement (APA) of the relevant departments, engagement of the communities, civil society, media, and mechanism to monitor the activities of the committees. The BNNC has conducted TOT with the DMRT members in Chattogram, Mymensingh, Sylhet, Rangpur, Barishal and Khulna divisions.

Ministry-wise Annual Nutrition Work Plan (2023-2024)

The Bangladesh National Nutrition Council (BNNC) office, jointly with technical and financial support from different partners, organized workshop on formulation and review of sectoral annual nutrition work plan of 22 nutrition-related ministries for FY 2023-2024. Nutrition focal points, along with alternative focal points from relevant ministries and departments, participated in the workshop. Their full engagement in the processes to prepare the annual work plans and review the progress of last year's plan became a successful one.

Coordination with knowledge-sharing program in Viet Nam

In recent years, as Viet Nam has made a substantial improvement in nutrition indicators through its National Institute for Nutrition, the BNNC has been contemplating to learn the experiences in regard to programs and policies that Viet Nam has experienced through its journey. The knowledge-sharing between both the countries would help in moving forward to establishing bilateral collaboration. In this context, the BNNC visited the National Institute for Nutrition (NIN), Viet Nam and Viet Nam Academy of Agricultural Science (VAAS) and discussed with the officials in order to facilitate learning experiences, sustainability, and collaboration in future between the two countries.

Developing training module for nutrition-related journalism: engaging media in the coverage of nutrition

The BNNC, with the support of Concern Worldwide, developed a training module for the nutrition-related journalism in order to

equip them to search the gaps, techniques of reporting, prioritizing the issues, and reaching out to people. A three-day training from 11 to 13 October 2022 was organized for journalists to cover the said issues. Reporters from various leading national dailies and television channels participated in the course held at the Daily Star Center in Dhaka. The training was held under the Engaging Media in Nutrition Governance Initiative of the Collective Responsibility, Action and Accountability for Improved Nutrition Project of Concern Worldwide.

Mid-term review of the Second Plan of Action for Nutrition (NPAN2) 2016-2025

The mid-term review (MTR) for NPAN2 has been done by BNNC and executed by a third-party evaluator, which becomes a milestone for NPAN2. The mid-term review of NPAN2 has been completed in January 2023. The main purpose of the MTR of NPAN2 was the assessment of the progress of its implementation, finding the challenges, suggesting corrective measures, way forward to accelerating implementation progress, and adjustment required for the remaining implementation period. Broadly speaking, the major findings of the review are the desired improvements in the nutritional situation as targeted in NPAN2, which appeared to be on track. It is also understandable that actions are needed in many sectors, and quite a few of the proposed activities are in the right directions. One of the key recommendations of MTR is that the new NPAN will have to be well-focused, with a prioritized set of actions.

Inauguration of Mujib Corner

Bangladesh National Nutrition Council inaugurated Mujib Corner at the BNNC office on 15 August 2023 on the occasion

of the 47th anniversary of the martyrdom of Father of the Nation Bangabandhu Sheikh Mujibur Rahman. Dr. Rasheda Sultana, Additional Director General (Admin), DGHS, inaugurated the Mujib Corner. Dr. Hasan Shahriar Kabir, Director General, BNCC. Directors, Deputy Directors, Asstt. Directors of BNCC, and other employees were present on the occasion. Books and photo albums of Bangabandhu are kept in the Mujib Corner.

Technical Working Group (TWG) meeting on the development of multisectoral urban nutrition strategy

Dr. Hasan Shahriar Kabir, Director General, Bangladesh National Nutrition Council, attended the workshop of Technical Working Group (TWG) on the Development of Multisectoral Urban Nutrition Strategy as chair on 18 January 2023 at the Conference Room of BNCC office. Representatives from different ministries, departments as well as development partners were present.

Monitoring functionality of DNCC and UNCC online

A monitoring system and IT-based tools have been developed to enable the BNNC office to assess the functionality of DNCC and UNCC.

The system and tools include modules for monitoring, budgeting, and overseeing the implementation and monitoring of multisectoral nutrition activities at the sub-national level. The web link is:
<http://app.bnnc.gov.bd>.

Establishing nutrition governance through implementation of NPAN2

The importance of multisectoral approach to addressing malnutrition is described in

the National Nutrition Policy (NNP) 2015 and was realized in the Second National Plan of Action for Nutrition 2016-2025 (NPAN2). The implementation of NPAN2 involves 22 nutrition-relevant ministries that turned it into a genuine example of multisectoral programming for nutrition. Aligning with the implementation strategy of NPAN2, the BNCC has put remarkable efforts in strengthening nutrition governance through multisectoral coordination, planning, advocacy, and monitoring in recent year.

Institute of Public Health

The Institute of Public Health (IPH) is a national institution working in collaboration with many international organizations. Its main function is to support preventive, promotive and curative healthcare activities through laboratory diagnosis, surveillance, response to disease outbreaks, research, and technical guidance in the field of public health.

IPH is proposed to work as a reference laboratory for National Virological Hub to monitor eight divisional laboratories and will take the lead in performing the different virological tests, analysis of the test results, and organization of data to provide a clear picture of different diseases, including emerging diseases (such as combating chronic diseases in relation to climate, urbanization, and environmental health) and re-emerging diseases (such as TB, malaria, meningitis, STDs, and other bacterial diseases) in Bangladesh.

National focal point

IPH is the national focal point for the following:

- Support for diagnosis, prevention, and control of communicable and non-communicable diseases, including emerging and re-emerging ones
- Laboratory support for detection and surveillance of polio and non-polio enteroviruses, measles, rubella, and Japanese encephalitis
- Food safety and quality control
- Preparedness and response to public health emergencies, including food safety emergencies

Microbiology Laboratory

1. Virology Department

- BSL2 Virology Laboratories:
 - > National Polio and Measles-Rubella and AMES Laboratory (NPML)
 - > General Virology Lab (for HIV, hepatitis, dengue, etc.)

2. Bacteriology Department

- > BSL2 Bacteriology Laboratories
- > Clinical Chemistry Laboratories
- > Clinical Pathology and Immunology Laboratories

3. Epidemiology Department

Table 4.7.3. Laboratories, wings, and units of IPH

Laboratories	Production unit
Microbiology Laboratories (MBL) BSL2++ Virology Laboratories BSL2++ Bacteriology Laboratories Clinical Chemistry Laboratories Clinical Pathology and Immunology Laboratories Public Health Laboratory (PHL) National Food Safety Laboratory (NFSL) Quality Control Laboratory	ORS Diagnostic reagents, etc.
Wing/Unit	Support section
Academic Wing Food Safety Unit Epidemiology Unit ICT Unit	Workshop Section Administrative Section Procurement Section



Mujib Corner at office premises

Activities of Microbiology Laboratory

Surveillance support to EPI is extended through the National Polio, Measles-Rubella and AMES Laboratory (NPML). The NPML is an internationally-recognized and WHO-

supported and accredited national surveillance laboratory with BSL2 standard working for EPI-DGHS for virological investigation of VPD (vaccine-preventable disease) surveillance since 1993.

The NPML has WHO-accredited serology, cell culture, virus isolation and molecular/PCR/sequencing facilities for virological investigation of samples from EPI and other sources (if necessary). It is designated as the national reference laboratory for the detection of polio and non-polio enteroviruses from stool/AFP and environmental sewage samples for the national AFP surveillance system, which is aimed at eradicating wild polio from the country. The NPML is also the reference laboratory to detect antibodies and viruses from serum and nasopharyngeal swabs for measles, rubella, and congenital rubella syndrome surveillance of the EPI program. It is also engaged in the serological and virological studies of emerging viral diseases, including rabies, HIV, Nipah virus, dengue, coronavirus (COVID-19), measles, rubella, and Japanese encephalitis, for their prevention and control.

The laboratory is run by a group of skilled and experienced virologists, scientists, biochemists, and technologists trained at home and abroad. The team has validated all necessary test procedures. The laboratory works as a member of the regional and international lab network, with regular referral mechanisms with the CDC-USA, RRL-Bangkok, and ERC, India. As an ideal and complete virology lab, it provides onsite training support on cell culture and virus isolation to students of MD-Virology courses at BSMMU since 2015. It also supported cell culture-based research activities for some researchers of icddr,b. The Bacteriology Unit is involved in national program for the prevention and control of communicable, emerging and re-emerging diseases, and in the event of public health emergencies.

Since 2015, IPH has reinstated its routine laboratory diagnostic services for general

people. These services of international standard are offered by government-set low-cost rates to the public. The services include serology, immunology, clinical biochemistry, clinical pathology, hematology, microbiology, ultrasonography, and others.

Food Safety and Quality Control Activities

- Public Health Laboratory (PHL)
- National Food Safety Laboratory (NFSL)
- Food Safety Unit (FSU)

Activities of the Public Health Laboratory

The laboratory conducts tests for food and water samples according to the country's laws, regulations, and standards as well as international standards. The food and water samples are sent by the sanitary inspectors working under DGHS, municipalities, and city corporations as well as from other agencies, including private organizations, international organizations, and UN bodies working in the country. The laboratory is also engaged in conducting studies on the safety and quality of food and water. The laboratory conducts routine and regular tests for water samples from the Bangabhaban, Ganabhaban, Office of the Honorable Prime Minister, Parliament, and other important offices.

Activities of the National Food Safety Laboratory

To strengthen the capacity to examine and ensure safety of food and water, the Government established the National Food Safety Laboratory (NFSL) in 2009, with support from the FAO of UN, and it began

Table 4.7.4. Activities of National Polio and Measles-Rubella and AMES Laboratory (NPML), IPH (National Surveillance Laboratories) from 2021 to 2023

Case	Year	Type of sample	No. of samples	Type of tests	Result
Polio (from AFP cases)	2021	Stool	2,562	Cell culture, ITD RT- PCR	18 Sabin-like poliovirus detected
	2022		2,627		24 Sabin-like poliovirus detected
	2023		3,125		20 Sabin-like poliovirus detected
Polio (from environmental samples)	2022	Sewage	148	Cell culture, ITD RT- PCR	37 Sabin like poliovirus detected
	2023		208		74 Sabin-like poliovirus cases detected
Measles and rubella	2021	Serum	3,867 + 3,867	IgM ELISA	125 measles and 133 rubella cases detected
	2022		6,406 + 6,406		234 measles and 169 rubella cases detected
	2023		7,030		259 measles and 163 rubella cases detected
COVID-19	2021	Naso-pharyngeal swab sent	217,106	RT-PCR	24,028 positive cases detected
	2022		465,41		4,049 positive cases detected
	2023		437		44 positive cases detected

Source: Dr. Mahbuba Jamil, Virologist, National Polio and Measles-Rubella and AMES Laboratory (NPML), Institute of Public Health

Table 4.7.5. Achievements of NFSL in 2023

Title	Funded by	Dissemination
Exploring perceptions of healthcare policies in different levels of healthcare facilities in Bangladesh and suggestive implications for policy changes; attitude of clients and health service providers	Planning, Monitoring and Research (PMR), Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MOHW)	Dissemination done in a national research seminar in Hotel Intercontinental on 5 February 2023

functioning in 2012. The laboratory is equipped with HPLC, HPTLC, AAS, GC, GC-MS, LC-MS, and other equipment.

This international-standard laboratory has the capacity to analyze safety and quality of food through detection of pesticides,

colors, preservatives, formalin, mycotoxins, heavy metals, drug residues, and microbials in all food items, beverages, and water. The laboratory is also involved in conducting food contaminant surveys. The laboratory is manned by a group of scientists, chemists,

The Bacteriology Unit is involved in national program for the prevention and control of communicable, emerging and re-emerging diseases, and in the event of public health emergencies

and technologists trained at home and abroad. The team has validated more than 80 methods for different food items. The laboratory has been accredited by the Bangladesh Accreditation Board (BAB) under ISO 17025:2017.

Biological Production Wing

Institute of Public Health is the only government institution that produces intravenous (IV) fluid, blood bag, infusion set, blood transfusion set, reagents, etc.

Diagnostic Reagent Production Unit

This is the only diagnostic reagent production facility in the public health sector, functioning at IPH under DGHS. This production facility creates and provides clinical laboratory services from the ground up to the specialized hospitals and institutions, with 23 various types of high-quality diagnostic reagents, kits, and chemicals. Benedict's Solution, ESR fluid, 20% sulfuric acid solution, 5% acetic acid, WBC fluid, RBC fluid, bilirubin kits, creatinine kits, etc., along with 23 different types of reagents were produced and supplied in 2023.

Oral Rehydration Salt Production Unit

The institute is producing oral rehydration salt (ORS) through its five units, located in Dhaka, Cumilla, Jashore, Barishal, and Rangpur districts. Some 35 million packets of ORS are produced yearly and distributed to the government health facilities free of charge for the patients.

Academic Wing

Human resource development is one of the core elements for the improvement of health services. To achieve the target of improving health services, especially public health, IPH has been conducting academic courses, research activities, short training courses, and continued professional development.

Table 4.7.6. Achievements of Academic Wing of IPH in 2023

Academic courses	Total no. of students
BSc in Health Technology (Laboratory)	118
BSc in Health Technology (Food Safety)	58

Future Plans

The future plans include establishment of an integrated and well-executed National Virological Hub led by IPH's Biosafety Level2 (BSL2++) laboratory facilities to detect and control diseases in an organized and successful way. In addition, a research hub can be established, using these facilities to contribute in the modern therapeutic approach.

Community Clinic—The Sheikh Hasina Initiative

Health services at the doorstep of people



Honorable Prime Minister Sheikh Hasina sent voice call to more than 40 million mobile phone-users all over rural Bangladesh, asking them to get health services from community clinic:

**“কমিউনিটি ক্লিনিকে আসুন,
সেবা নিন, সুস্থ থাকুন”**

The Community Clinic (CC) Initiative, launched by Prime Minister Sheikh Hasina, aims to provide quality primary healthcare (PHC) at the doorstep of people in rural Bangladesh. Initially established during 1996-2001, the Government planned one

clinic for every 6,000 people, resulting in the construction of over 10,000 clinics, with 8,000 becoming operational. However, these were closed in 2001 due to a change in Government and remained so until 2008.

In 2009, the Government revitalized the initiative under the 'Revitalization of Community Healthcare Initiatives in Bangladesh' (RCHCIB), which continued until 2015. Subsequent phases included the Community-based Healthcare (CBHC) Operational Plan under the 3rd Health, Population and Nutrition Sector Development Program (HPNSDP) and the 4th Health,

Population and Nutrition Sector Program (HPNSP), extending activities to upazila health complexes and union health sub-centers through June 2022. Following the separation from UHCs, the CBHC has transitioned to operate as independent community-based healthcare organization.

In 2018, the Community Clinic Health Support Trust Act was passed and, since 2021, clinic activities have been managed by the Community Clinic Health Support Trust under the Community-based Healthcare Operational Plan, continuing till 2023. The initiative exemplifies a public-private partnership (PPP): land is donated by communities, and the Government provides construction cost, medicines, and logistics while management is shared between the community and the Government.

Key Facts

1. *Global Recognition:* The UN adopted its first-ever resolution on community-based healthcare, acknowledging Prime Minister Sheikh Hasina's innovative 'Community Clinic Model'
2. *Extensive Coverage:* 14,318 community clinics are providing primary healthcare across Bangladesh
3. *Model of Excellence:* Community clinics are recognized as a role model for primary healthcare both nationally and internationally
4. *Trained Workforce:* 14,256 Community Healthcare Providers (CHCPs) have received basic training, refresher training, and online training on reporting
5. *Community Engagement:* 243,406 Community Group (CG) members,

730,218 Community Support Group (CSG) members, and 54,980 Local Government Representatives (LGRR) have undergone orientation on clinic services, management, and local maintenance

6. *Maternal Health Services:* Around 4,000 community clinics are conducting normal vaginal deliveries without any casualties
7. *Data Reporting:* All operational community clinics report regularly through the online District Health Information Software 2 (DHIS2)

General Objective of the Community-based Healthcare Initiative

To improve the overall health status of people in the rural areas, the community clinics provide quality primary healthcare, family planning, and nutritional services, with special emphasis on the poor, vulnerable, and disadvantaged groups of people.

Components of CBHC

1. Measuring health outcomes
2. Staffing and supervision of community clinics
3. Community engagement
4. Referral system
5. Sustaining institutionalization

Important Activities of CBHC

- Construction, reconstruction, and renovation of community clinics
- Staffing and capacity building of human resources

- Strengthening the referral system
- Supervision and monitoring of community clinics
- Community engagement through the mobilization of Community Groups and Community Support Groups

Services of Community Clinics

Service providers include the following:

- Community Healthcare Providers
- Family Welfare Assistants
- Health Assistants

Major Services Provided

Health nutrition and family planning

Counseling and education on health, nutrition, and family planning

Maternal and neonatal care services

- Antenatal care
- Postnatal care
- Normal vaginal delivery in selected clinics

Child health services

- Integrated Management of Childhood Illness
- Expanded Program on Immunization and other vaccination programs, including that for COVID-19

Non-communicable diseases (NCDs)

- Management and screening for hypertension, diabetes, cervical cancer (visual inspection with acetic acid)), breast cancer (self-breast examination)

- Management of moderate acute malnutrition and severe acute malnutrition, using growth monitoring and promotion, measurement of mid-upper arm circumference and weight
- Support for autism and clubfoot

Emergency and complicated cases

Identification and initial management of emergency and complicated cases.

Treatment for minor ailment

CCs provide treatment for minor ailments.

Referral and follow-up

CCs refer patients with complications to higher facilities when necessary and make follow-up visits.

Target and Achievements of CBHC

- *Construction target:* 18,000 community clinics by 2023; currently, 14,318 CCs are functioning
- *Staffing:* All CCs are staffed with Community Healthcare Providers (CHCPs)
- *Medicines:* Target is to distribute 9 kits with 27 items per year; currently providing 30 items, including three family planning commodities, antihypertensives, and medicines for diabetes
- *Reporting:* All functioning CCs report services online through DHIS2
- *Community engagement:* Each CC has a Community Group and three Community Support Groups, holding regular meetings
- *Awareness-building activities:* Conducted via posters, leaflets, brochures, flipcharts, flyers, campaigns, and media outreach

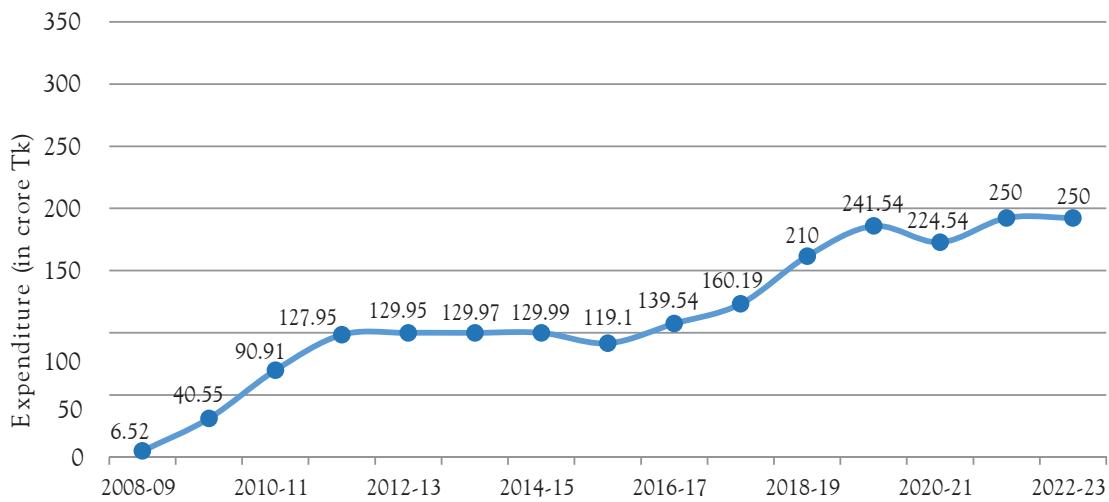


Figure 4.8.1. Government expenditure (in crore Taka) for supply of medicines to CCs over the years

Beneficiaries

- *Rural community:* CCs provide free, quality primary healthcare services, especially to the poor
- *Visits for services:* 1,303,902,785 visits took place during 2009-23 (on average, 7,353,341 monthly visits, 40 daily visits per CC)
- *Service-seekers:* Women and children constitute 80% of service-seekers

- *Normal deliveries:* 125,477 conducted in 3,058 CCs without casualties
- *Immunizations:* Conducted monthly for children and women
- *Growth monitoring:* Regular monitoring is done for under-5 children, using GMP cards and MUAC tapes, to address undernutrition

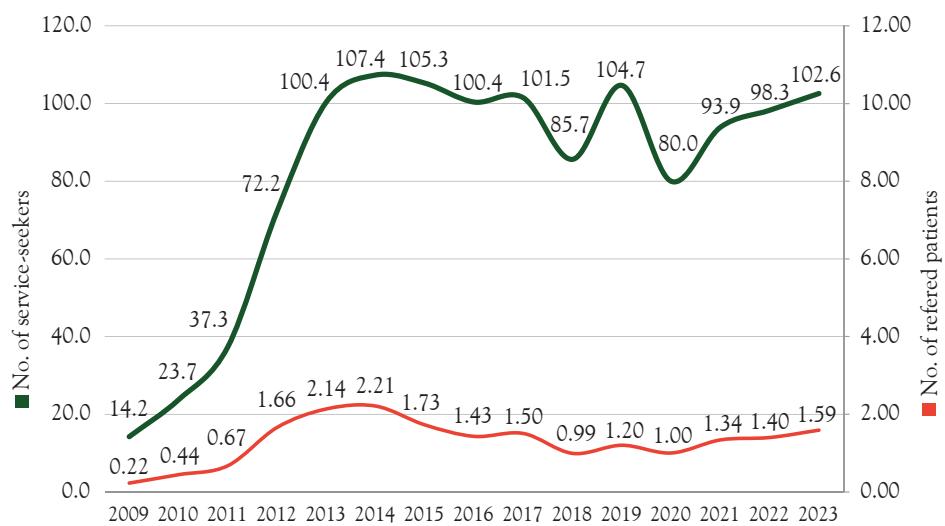


Figure 4.8.2. The number of patients (in million) seeking services at and referred from community clinics over the years

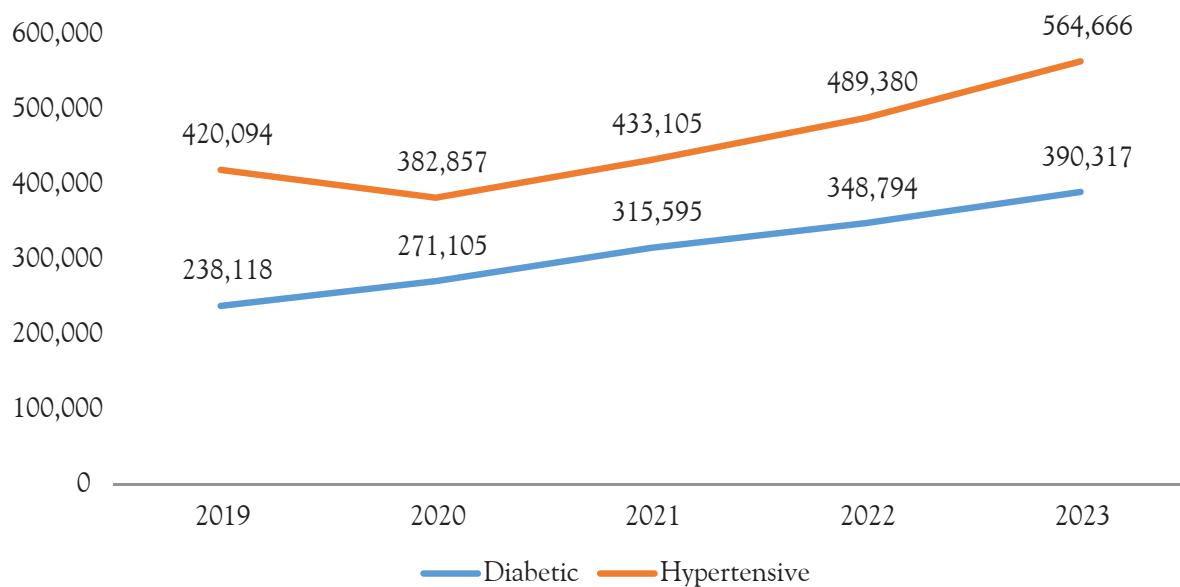


Figure 4.8.3. The number of diabetic and hypertensive patients referred from community clinics over the years

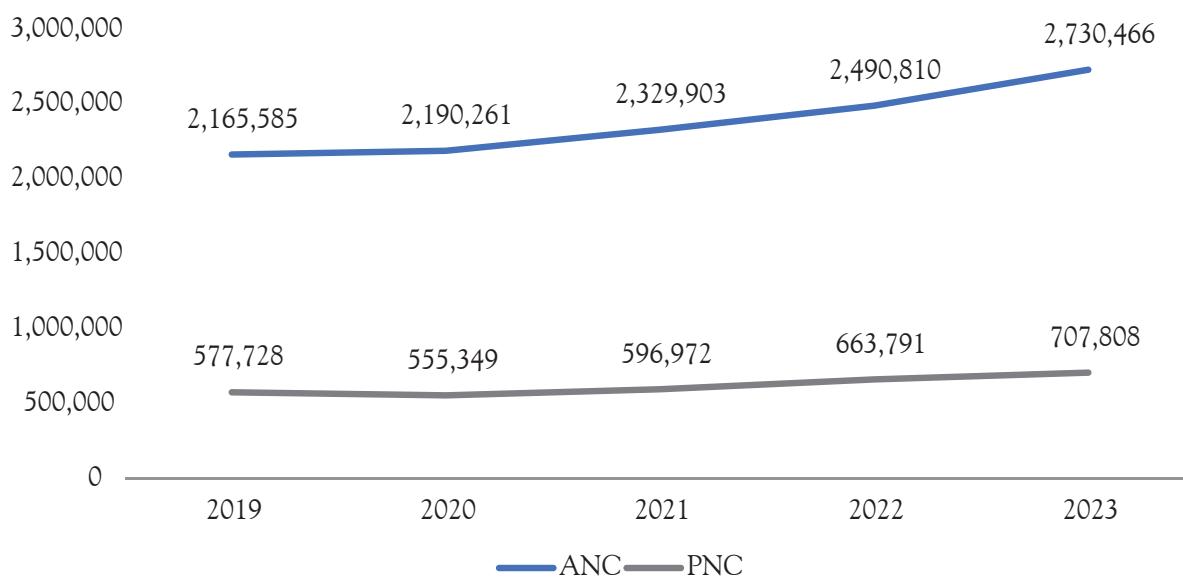


Figure 4.8.4. The number of visits for antenatal and postnatal care provided from community clinics over the years

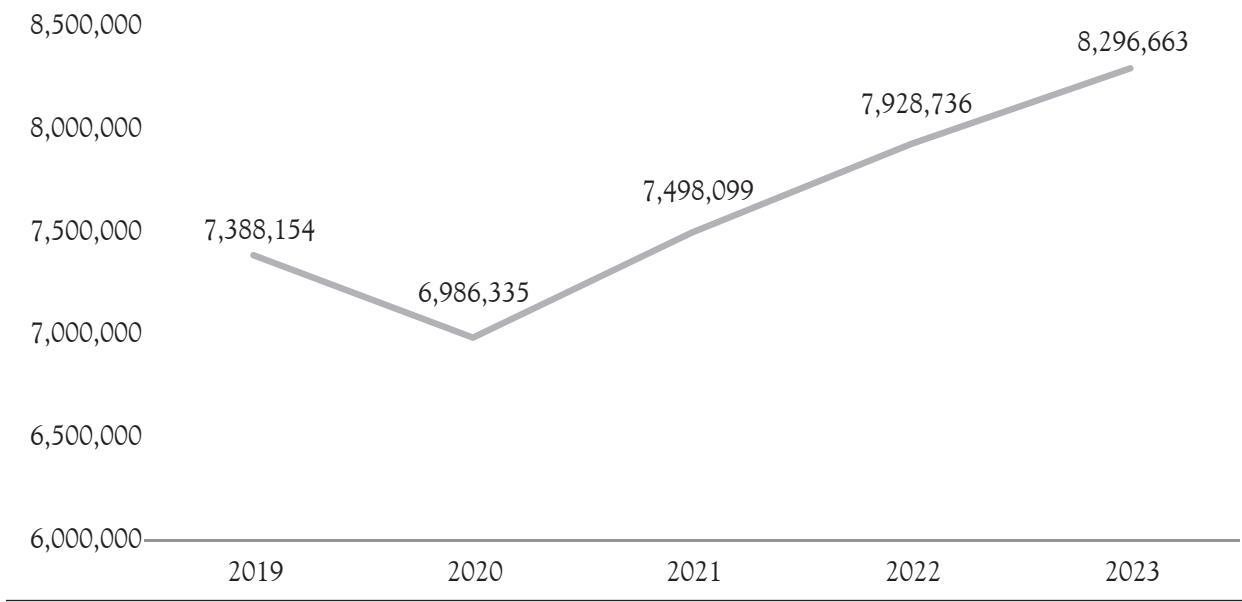


Figure 4.8.5. The number of children below 5 years of age receiving services from community clinics over the years

COVID-19 at a Glance

The 2023 scenario

In 2023, Bangladesh continued to combat COVID-19 with notable progress. A total of 450,830 tests were conducted, with 9,036 samples testing positive. The highest peak of cases was observed in June, followed by a steady decline over the subsequent months. The year saw 37 COVID-19-related deaths. Compared to 2022, the situation has improved significantly, thanks to the advancement in vaccination coverage. As a result, the COVID-19 situation in Bangladesh is now stable and under control.

Testing Laboratories Increased in Number

No. of laboratories at the end of 2023

Total: 885

Government: 655

Private: 230

Types of tests done

RT-PCR: 161; GeneXpert: 57; and Rapid

Antigen: 667

Number of laboratory tests done in 2023

Government facilities: 358,592

Private facilities: 92,238

Total: 450,830

Table 4.9.1. Total no. of COVID-positive cases detected in 2023

Month	Total tests done	COVID-positive cases
January	77,615	431
February	57,292	273
March	48,892	199
April	33,513	204
May	36,928	1,106
June	45,517	3,245
July	42,311	1,865
August	37,554	877
September	23,277	295
October	18,598	196
November	14,593	140
December	14740	205
Total	450,830	9,036

Trend of test-positivity of COVID-19

The highest peak in test-positivity was observed in June, with 3,245 positive cases. This number declined steadily over the subsequent months.

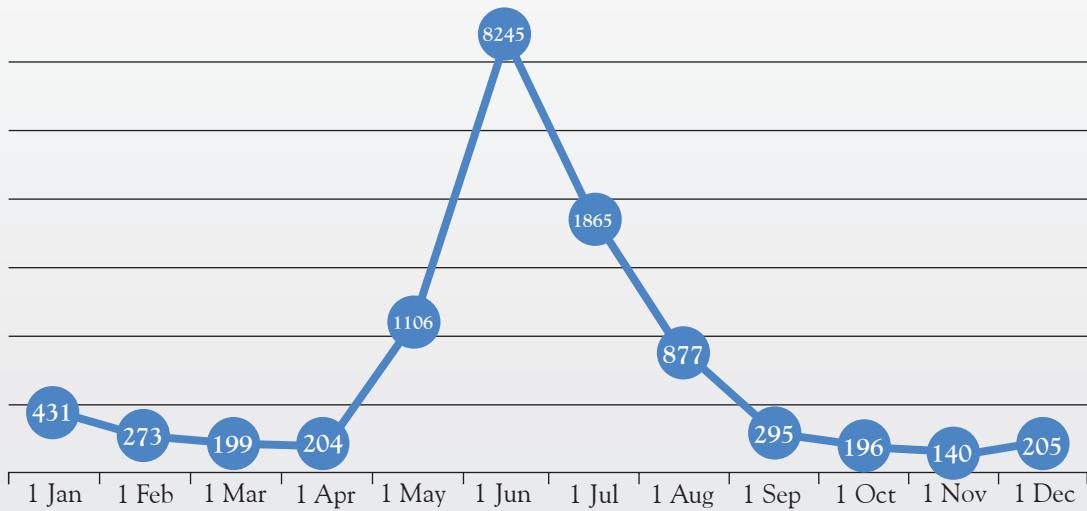


Figure 4.9.1. Test-positivity trend of COVID-19 test at monthly interval in 2023

Deaths due to COVID-19

Total (Male): 18,805

Total (Female): 10,672

Total no. of deaths from beginning of the pandemic till 31 December 2023: 29,477

Male : Female death ratio: 176.20 :100 (from

the beginning of COVID-19 pandemic)

Total no. of deaths in 2023: 37

Male: 19

Female: 18

Male:Female Death Ratio: 105.55:100 (in 2023)

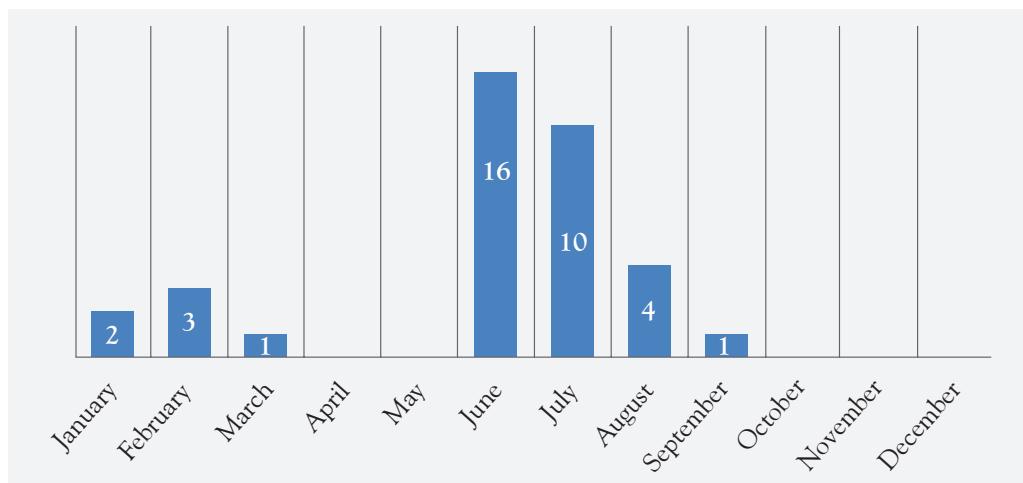


Figure 4.9.2. Deaths due to COVID-19 over the months in 2023

Table 4.9.2. No. of deaths due to COVID-19 by administrative division in 2023

Division	Till January 2023	Till December 2023	Number of deaths
Dhaka	12,944	12,961	17
Chattogram	5,906	5,910	4
Rajshahi	2,161	2,167	6
Khulna	3,735	3,738	3
Barishal	993	993	0
Sylhet	1,361	1,364	3
Rangpur	1,429	1,429	0
Mymensingh	911	915	4
Total	29,440	29,477	37

Table 4.9.3. Division-wise supply of logistics support for facilities hosting COVID-19 patients in 2023

Division	Central oxygen line	Oxygen cylinder	High-flow nasal canula	Oxygen concentrator
Dhaka	62	12,842	1,127	817
Mymensingh	3	1,203	65	49
Chattogram	15	6,411	257	707
Rajshahi	9	4,055	178	496
Rangpur	12	1,913	74	102
Khulna	10	265	191	180
Barishal	6	1,723	106	49
Sylhet	3	1,151	22	77
Total	120	29,563	2,020	2,477

Table 4.9.4. A scenario of COVID-19 vaccination coverage in 2023

Name of vaccine	January 2023 (First)				31 December 2023			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
AstraZeneca	20,769,391	19,503,707	1,596,8643	836	20,769,467	19,505,767	16,004,193	1,341
Pfizer	22,567,024	21,368,713	30,961,783	201,825	22,657,429	21,706,921	33,046,643	3,140,865
Sinopharm	56,673,886	55,022,336	1,559,730	180	56,825,866	55,430,661	1,870,444	22,177
Moderna	3,778,926	3,547,557	8,481,643	0	3,778,926	3,547,557	8,481,643	0
Sinovac	27,591,577	25,593,774	8,120,317	0	27,592,020	25,594,174	8,121,842	343
Janssen	579,925		15,973	0	581,542		26,320	0
Comirnaty	18,141,583	1,268,629	0	0	19,298,231	15,821,673	0	0
All vaccines	149,522,387	126,884,641	65,108,089	202,841	150,922,861	142,193,280	68,558,519	5,050,545

Table 4.9.5. Total no. of COVID-19 vaccine doses administered in 2023

Name of vaccine/Doses	1st	2nd	3rd	4th
AstraZeneca	76	2,060	35,550	505
Pfizer	90,405	338,208	2,084,860	2,939,040
Sinopharm	151,980	408,325	310,714	21,997
Moderna	0	0	0	0
Sinovac	443	400	1,525	343
Janssen		1,617	10,347	0
Comirnaty	1,156,648	14,553,044	0	0
All vaccines	1,400,474	15,308,639	3,450,430	4,847,704

Chapter
4.10

Health Interventions for FDMNs

More intensive international cooperation solicited

The Forcibly-displaced Myanmar Nationals (FDMNs) found their new abode at Cox's Bazar, Bangladesh, bordering with Myanmar. This is now the largest refugee settlement, hosting a total of 954,707 people.

Static health centers in and around the camps are established with close collaboration of the Government, private sector, civil society, and international development agencies. Ongoing rationalization processes aim to optimize the number of health facilities based on the identified needs. One hundred ninety-six health facilities, field hospitals, specialized hospitals, including MOHFW health facilities with a staff comprising 507 doctors, 345 nurses, and 466 midwives are providing services to the FDMNs. The Directorate General of Health Services (DGHS) has developed a public dashboard called the Forcibly-displaced Myanmar Nationals (FDMNs) Health Situation and Intervention in Bangladesh to provide real-time health information on FDMNs. The dashboard is updated every day.

The accomplishments in terms of the service delivery speed and the availability of healthcare amenities have been significant, given the challenges posed by the large population influx and the remote location of FDMN camps.

Key Facts

- Development of referral system and coordinated ambulance mechanism
- Acceptability of immunization among FDMN population increased and VPD surveillance strengthened
- COVID-19 pandemic was managed with the lowest possible damage to FDMN camps
- Institutional delivery practices are established and accepted by FDMN population
- A network of well-trained community health workers is deployed
- Mental health issues are well-accepted, and a network of mental health professionals is in place
- Acceptance of family planning methods increased
- Screening of communicable and non-communicable diseases is strengthened with reporting system and successful completion of various vaccination campaigns

Health Sector Coordination

- In the pursuit of enhanced coordination within the health sector, the Government of Bangladesh inaugurated the DGHS Coordination Center on 15 November 2017. Operations of the center commenced on 25 August 2019 under the new name 'Ministry of Health and Family Welfare Coordination Center'. This transformation was made possible through World Bank support for the Health and Gender Support Project for Cox's Bazar District, emphasizing the reinforcement of the integration of services of HNP and GBV for both host communities and Rohingya refugees
- In 2020, the third-year funds from Additional Financing (AF) of the Health Sector Support Project (HSSP) were redirected in response to the COVID-19 pandemic. Operations under Additional Financing of the Health Sector Support Project have been expanded through funding arrangement of the Health and Gender Support Project (HGSP). The overarching goals of the HSSP include enhancement of government collaboration for mutual benefits of Rohingya refugees and host communities. Additionally, it aims to ensure that all Rohingya refugees have equal access to comprehensive essential healthcare, mental health, and psychosocial support services (MHPSS), along with efficient referral services
- The HGSP has the objective of improving access to and utilization of services by HNP and GBV for both host and displaced Rohingya populations in Cox's Bazar District. Aligned with the objectives of the 7th and 8th five-year plans and the National Health Policy 2011, the HGSP serves as a crucial component of the MOHFW Operational Plan for the Cox's Bazar District under the 4th Health, Population, and Nutrition Sector Program (HPNSP)
- This initiative aims to support a total of 14 contractual staff members out of 25 sanctioned positions. This support is intended to enhance strong coordination and improve health services through monitoring, supervision, and advisory roles. These staff members will be stationed in the Line Director's office at the Ministry of Health and Family Welfare, the Directorate General of Health Services (DGHS), Directorate General of Family Planning (DGFP), and offices of Civil Surgeon and Deputy Director-Family planning in Cox's Bazar. The objective is to ensure more effective oversight and the delivery of improved health services in the region
- The MOHFW's Coordination Center actively engages in various key meetings, such as those held by Health Sector Committee, Strategic Advisory Group, and Emergency Preparedness Program. During these sessions, the center provides necessary directions and recommendations. Additionally, public health specialists from MOHFW's Coordination Center participate consistently in sub-committee meetings, often held weekly or fortnightly, contributing valuable suggestions to enhance health interventions for FDMNs. Furthermore, the MOHFW's

Coordination Center organizes regular coordination meetings with partners, either at its own office or at the Civil Surgeon's office. These sessions are aimed at fostering collaboration and ensuring effective coordination among stakeholders. Another pivotal role of the MOHFW's Coordination Center is to provide support to the Civil Surgeon and Deputy Director of Family Planning in Cox's Bazar on various health and family planning issues. This multifaceted engagement underscores the center's commitment for comprehensive coordination and assistance in addressing health challenges in the region

Healthcare Service Delivery

- To ensure the quality of medical service and to continue coordination among the partners on different health interventions for the host communities and FDMNs, the MOHFW's Coordination Center has been started in August 2019. Family planning service is also included as part of monitoring. The World Bank has provided financial support to the Bangladesh Government to establish and maintain this project. Under this project, there are four UN agencies deployed to ensure the necessary and quality medical service for the FDMNs. The agencies are: WHO, UNICEF, UNFPA, and IOM
- WHO is responsible for establishing the Coordination Center and to recruit all staff members for the center. A total of 25 members constitute the team. Among them, 8 were deployed in Cox's Bazar during the reporting period to provide technical support to the Civil Surgeon's
- office of Cox's Bazar and 3 were in Dhaka to provide support to the Line Director of PMMU (Director General of Health Services), Director General of Family Planning, and to the Ministry office. Other three are UN agencies: UNICEF, UNFPA, and IOM responsible for providing medical health services by establishing different health facilities in FDMN camps and 8 upazilas of Cox's Bazar District. To fulfill the goals of the Health and Gender Support Project in Cox's Bazar, UNFPA has enlisted several implementing partners who are carrying out projects in various community settings and women-friendly spaces (WFS). Early in the project development stage, knowledgeable healthcare providers and field workers were recruited to deliver high-quality care consistently. Community health workers are being deployed to fill the positions of family welfare assistants, allowing for the establishment of district-, upazila-, and union-level facilities that provide integrated and comprehensive SRHR and GVB services, information, and responses. The major part of the infrastructure of the maternal and child welfare center and several union health and family welfare centers is engaged, with the other centers now under construction
- In Ramu Upazila, UNFPA renovated a two-storyed medical warehouse (11,000-square feet) under DGFP. UNFPA also helped DGFP implement an LMIS to track MCH-related medicines and FP supplies, and they assured supplies to the service delivery point (SDP) on a regular basis
- UNICEF built a two-storyed building both at Ramu and Ukhiya. Renovation of

NSU, OT, ANC/PNC Corner, PMTCT Corner, indoor-outdoor, emergency, x-ray room, and meeting/conference room at Ukhia, Kutubdia, Moheshkhali, Pekua, and Chakaria was completed with World Bank program fund. These were handed over to respective health managers

- 71 immunization workers supported the host community so that no one remains unvaccinated; This was assured through the UNICEF-WB funds in all upazilas, except Cox's Bazar Sadar Upazila
- Additional healthcare workers were deployed, particularly at the union and field levels for 24/7 services, availability of MCH and FP supplies, capacity building for healthcare providers, improved quality of care, waste management, renovation and refurbishment of health facilities; these are all aspects of the current World Bank program
- To reduce maternal and infant mortality, HGSP strengthened referral systems with emergency and specialized healthcare by providing comprehensive emergency obstetric care and neonatal care (CEmONC) services at 2 island upazilas, ensuring normal deliveries by the midwives at the union-level facilities all of the time
- IOM keeps an open line of communication with the Civil Surgeon's office, largely through official letters, in order to obtain clearance of construction batches for the purpose of reconstruction and renovation of 100 community clinics (CCs) in Cox's Bazar District. During the reporting period, IOM worked in close collaboration with the upazila health

and family planning office (UH&FPO) to find solutions to problems confronting community clinics. The primary emphasis of this cooperation was placed on shoring up the referral networks between the health complexes and the community clinics. In addition, IOM's coordination with UH&FPO, community healthcare providers (CHCP), and upazila engineers continued in preparation for the handover process of finished clinics. During the reporting time, 27 CCs were handed over to the Government of Bangladesh. The Coordination Cell is responsible for collecting land-related papers and, where necessary, the cell coordinates with the Civil Surgeon, UHFPO, and AC (Land). Additionally, the Coordination Cell is responsible for collaborative field trips in order to resolve complex land issues and to oversee the construction process for compliance with environmental and social regulations

Renovation of NSU, OT, ANC/PNC Corner, PMTCT Corner, indoor-outdoor, emergency, x-ray room, and meeting/conference room at Ukhia, Kutubdia, Moheshkhali, Pekua, and Chakaria was completed with World Bank program fund. These were handed over to respective health managers

- One hundred ninety-six health facilities are established and maintained for the FDMNs. As per necessity of health services to the FDMNs, support has been provided to 47 primary health centers, 71 health posts, 10 community clinics,

5 family welfare centers, 4 union sub-centers, and 2 upazila health complexes. A team comprising medical doctors, medical assistants, nurses, midwives, pharmacy assistants, and medical technologists of lab discipline was deployed in these facilities. The team members in the camp send daily service data through DHIS2 to the FDMN DHIS2 Server. The technical support, patients' registers, and reporting sheets are provided by UNICEF. An HMIS Consultant of UNICEF is providing on-the-job training for capacity building

of the camp-level workers under the leadership of Civil Surgeon, Cox's Bazar

- The MOHFW's Coordination Center coordinates the total process, including recruitment, quality of service, and reporting from the 45 health facilities according to the contract with the Government and UN agencies. Besides these 45 health facilities, the Coordination Center is providing any other relevant and necessary support to the Government, which is required in the health interventions for FDMNs.

Table 4.10.1. Total number of health facilities in and around the FDMN camps supported by health partners

Type of facility	Number
Health Post	71
Primary Health Center	47
Community Clinic (MOHFW)	10
Diarrhea Treatment Center (functional and standby)	10
Field Hospital	04
Health and Family Welfare Center (MOHFW)	05
Secondary health facilities (including surgical and non-surgical)	08
Sub-center (MOHFW)	04
Upazila HC and Sadar Hospital	03
Integrated Women Center	05
Women-friendly Spaces	29
Total	196

Table 4.10.2. Health posts and primary health center sites of MOHFW's Coordination Center, Cox's Bazar, 2023

Sl. no.	Camp	UID	Name	Area	Organization
Primary health center					
1	Camp-2W	HF_023	Kutupalong	UKH	IOM+UNFPA
2	Camp-3	HF_034	Modhurchhora	UKH	IOM+UNFPA

Table 4.10.2. contd.

Table continued...

Sl. no.	Camp	UID	Name	Area	Organization
3	Camp-5	HF_046	RTMI-PHC near CiC	UKH	UNICEF
4	Camp-9	HF_093	Balukhali	UKH	IOM+UNFPA
5	Camp-10	HF_096	PHD Balukhali	UKH	UNICEF
6	Camp-11	HF_143	Moynarghona	UKH	IOM+UNFPA
7	Camp-15	HF_146	Jamtoli	UKH	IOM+UNFPA
8	Camp-18	HF_179	RTMI-PHC, Plongkhali	UKH	UNICEF
9	Camp-13	HF_186	BDRCS Plongkhali	UKH	IOM+UNFPA
10	Camp-19	HF_187	RTMI-PHC, near CiC	UKH	IOM+UNFPA
11	Camp-24	HF_200	Leda PHC	TEK	IOM+UNFPA
Health Post					
1	Camp-1W	HF_013	Kutupalong	UKH	IOM
2	Camp-5	HF_049	Modhuchhora	UKH	IOM
3	Camp-7	HF_065	Friendship Hospital	UKH	IOM
4	Camp-9	HF_078	HAEFA-Balukhali	UKH	IOM
5	Camp-12	HF_117	Balu-Moynarghona	UKH	UNICEF
6	Camp-18	HF_177	IOM Plongkhali	UKH	IOM
7	Camp-18	HF_183	PHD Plongkhali	UKH	UNICEF
8	Camp-2E	HF_294	BDRCS Kutupalong	UKH	IOM
9	Camp-14	HF_499	TRC	UKH	IOM
10	Camp-17	HF_607	RTMI	UKH	UNICEF
11	Camp-22	HF_006	Moynarghona	TEK	IOM
12	Camp-21	HF_191	Chakmarkul HP	TEK	IOM
13	Camp-23	HF_206	Asarbonia	TEK	IOM
14	Camp-26	HF_563	Nayapara (Nhilla)	TEK	IOM

- WHO, along with the health-sector partners, developed an ESP for FDMN camps in 2017 under the guidance of Civil Surgeon's office in Cox's Bazar to ensure quality health service among the FDMNs
- In December 2020, ESP was reviewed and updated by MOHFW's Coordination Center and endorsed by Civil Surgeon, Cox's Bazar and Refugee Relief and

Repatriation Commissioner (RRRC). This ESP enables Civil Surgeon's office and RRRC office to standardize and ensure minimum essential services in health facilities at the camp level.

Development of SOPs and New System

- A standardized protocol for infection prevention and control (IPC) was

developed for health facilities of FDMN camps and endorsed by Civil Surgeon and RRRC. This helped greatly during response to COVID-19

- A referral SOP was developed and approved in September 2022, endorsed by both Civil Surgeon and RRRC with a view to decreasing unnecessary referral and rationalized use of health facilities. Now approval processes to permit displaced Rohingyas to go out of the camps became coordinated, and accountability for refugees who did not return to the camps has decreased. This SOP is, therefore, useful to guide an objective prioritization process to ensure universal coverage of referral healthcare for those most in need
- A unique health card was piloted in various camps and distributed in all camps for implementation. These unique health cards will minimize medicine shopping behaviors, and use of resources will be rationalized

Vaccination

Vaccination is ongoing through special immunization activities, along with routine immunization.

Routine EPI

- Routine EPI has been initiated, targeting <2 years old children, with BCG, Pentavalent, OPV, PCV, IPV, and MR. Routine EPI has started from 3 June 2018 and has been continuing till now in FDMN camps at Ukhiya Upazila

- In total, 77 teams are working to operate 77 outreach centers; 66 teams were funded by GAVI and supported by UNICEF; and the rest 11 are operated by MSF
- Government health inspectors directly supervise them under the oversight of UHFPO, Ukhiya and Teknaf; health field monitor (HFM) and emergency surveillance and immunization medical officers (E-SIMOs) monitor and support the technical side
- The GAVI-funding will end in February 2023 but vaccinators will still be working to continue routine EPI with irregular support from UNICEF
- Besides the outreach sites, 58 fixed sites also have routine immunization service in their facilities operated by development partners. Earlier, there was less coverage by routine EPI; a policy was developed to present BCG vaccination card in case of registration of a new FDMN, which increased routine EPI registration

Table 4.10.3. A scenario of routine EPI

Area	No. of teams	No. of operating outreach centers	No. of fixed sites
Ukhiya	65 (including 11 MSF teams)	65	50
Teknaf	12	12	8

Table 4.10.4. Number of cases reported from DHIS2 in 2023

Reported cases in DHIS2	Jan 23	Feb 23	Mar 23	April 23	May 23	June 22	July 23	August 23	Sep 23	Oct 23	Nov 23	Dec 23	Total
Acute watery diarrhea (AWD)	12,689	10,675	10,140	10,758	12,824	11,152	12,406	12,155	12,194	15,585	12,478	10,052	143,108
Bloody diarrhea (BD)	1,501	1,136	966	697	1,055	963	1,003	815	616	799	679	702	10,932
Other diarrheas (OD)	5,214	4,427	4,133	3,871	4,598	4,680	4,929	4,549	3,725	3,896	3,986	3,212	51,220
Suspected varicella	1,879	7,418	13,679	6,026	887	420	316	232	238	138	209	257	31,699
Acute respiratory infection (ARI)	9,660	9,412	9,364	6,867	7,452	6,583	8,180	10,278	8,666	10,372	9,024	8,555	104,413
Measles/Rubella	55	58	90	55	46	67	115	179	32	38	40	28	803
Acute flaccid paralysis (AFP)	8	3	4	1	32	4	4	1	3		12	2	8
Suspected meningitis	18	3	4	5	20	16	13	10	6	4	5	8	18
Acute jaundice syndrome (AJS)	92	64	131	58	70	69	85	60	47	51	32	39	92
Neonatal tetanus	2	1			1	3	1	1	1	1	4		2
Malaria (conf.)	4	5	28	5	4	14	19	22	4	2	11	12	4
Malaria (susp.)	24	30	32	21	22	15	69	26	23	39	28	12	24
Dengue (conf.)	372	338	376	256	201	461	4,733	6,067	2,250	983	652	457	372
Dengue (susp.)	355	197	277	266	193	228	2,481	3,853	1,225	644	478	232	355

Table 4.10.4. contd.

Table continued...

Reported cases in DHS2	Jan 23	Feb 23	Mar 23	April 23	May 23	June 22	July 23	August 23	Sep 23	Oct 23	Nov 23	Dec 23	Total
Unexplained fever	3,781	2,648	2,728	3,058	2,677	2,985	5,868	6,791	4,409	3,688	2,723	2,299	3,781
Severe malnutrition	341	295	337	229	373	304	430	390	313	353	330	133	341
Injuries/Wounds	11,155	8,878	9,697	8,947	10,435	11,249	12,096	10,585	8,832	9,404	9,975	10,272	121,525

Table 4.10.5. FDMN services data, 2023

Period/Data	Service to under-5 children			Service to people aged over 5 years		
	Female	Male	Female	Male	Male	Total
Jan-23	75,524	85,962	316,173	124,104		601,763
Feb-23	66,655	75,011	269,197	103,942		514,805
Mar-23	66,340	74,257	252,969	100,750		494,316
Apr-23	53,073	59,433	201,871	90,414		404,791
May-23	56,729	63,020	249,773	94,519		464,041
Jun-23	57,781	65,401	247,255	94,433		464,870
Jul-23	71,980	81,042	287,478	123,293		563,793
Aug-23	74,043	83,877	273,217	122,529		553,666
Sep-23	53,601	60,863	219,588	93,185		427,237
Oct-23	59,392	67,383	241,077	98,996		466,848
Nov-23	59,806	66,001	252,026	95,060		472,893
Dec-23	48,133	55,303	219,104	78,932		401,472
Total	743,057	837,553	3,029,728	1,220,157		5,830,495

A total number of 58,30,495 services were received from clinics run by the MOHFW and partner health facilities of all agencies (source: DHIS2)

COVID 19 Outbreak in Cox's Bazar among FDMNs

- First COVID-19 case in FDMN was detected on 14 May 2020. It was speculated that COVID-19 will spread in FDMN camps very quickly as these are very densely populated and housing shelters are very congested. Office of Civil Surgeon and RRRC took this matter very seriously and undertook actions that were very successful
- It was found that case detection rate and case-fatality rate at the end of 2023 was less in FDMN camps than in adjacent host communities of Cox's Bazar
- SARI ITC centers with more than 1,000 bed capacity were deployed for isolation of patients, which made it possible to treat every suspected and confirmed case separately
- Integrated ambulance and referral service system was established, and testing by RT-PCR was made available

Table 4.10.6. COVID-19 status in FDMN camps in Cox's Bazar from 2020 to 2023

COVID-19 status	2020	2021	2022	2023
No. of tests conducted	23,103	57,713	37,346	11,950
No. of confirmed cases	367	2,941	3,280	268
No. of confirmed deaths	10	24	11	1

- Laboratory capacity at Cox's Bazar Medical College was increased
- Referral centers were established in upazila health complex, and development partners helped improve and establish HDU and ICU in Cox's Bazar Sadar Hospital

Other Outbreaks and Responses

FDMN camps are very densely populated. Moreover, FDMNs were not properly immunized back in their county. These, along with healthcare-seeking behavior, made them susceptible to communicable diseases and infections. From the very initiation of the mega camp, numerous disease outbreaks were reported as follows:

1. **Diarrhea:** Number of acute watery diarrhea cases increased several times in FDMN camps with RDT-and culture-positive cases of *Vibrio cholerae*. Significant upsurges occurred in 2017, 2019, 2012, and September 2022. Joint Assessment teams confirmed the sources and took measures to minimize the risk. Oral Cholera Vaccine was administered in 2017, 2019, and 2021 in several rounds
2. **Diphtheria:** A long forgotten disease in Bangladesh came back in FDMN camps in 2017. After response, the number of cases decreased in early 2018. Later in 2021 and 2022, the number of cases increased. A three-round Penta-Td Campaign was launched at the end of 2022 and completed in March 2023. A total of 218,833 children aged 6 months to 7 years received the first dose of Pentavalent Vaccine; 202,492 children received the second dose, and 140,785 children received the third dose of Pentavalent Vaccine. On the other hand, a total

of 190,121 children aged 7 to 15 years received the first dose of Td vaccine, and 174,130 children received the second dose of Td Vaccine

- 3. **Measles:** Measles outbreak was reported in 2019 and 2022. In a Measles-Rubella (MR) Vaccination Campaign, along with Penta-Td Campaign, 183,797 children received MR1 and 102,471 received MR2
- 4. **Dengue and malaria:** In 2023, the Civil Surgeon's office has taken initiative for distribution of the long-lasting insecticide-treated nets (LLIN), BCC activities (including IEC materials, such as posters, signboards, billboards in Myanmar language). Courtyard meetings and advocacy meetings were conducted at the camp level. Measures were taken for capacity building of service providers on patient screening, early diagnosis, and prompt treatment. The World Malaria Day was observed, and awareness campaign in camps continued by government facilities, along with those of partners. A total of 476 confirmed cases out of 471,363 suspected malaria patients were screened up to December 2023 and treated. An expert team conducted the entomological survey in the camps. A huge number of dengue cases were reported from FDMN camps. The camp-level health facilities reported more than 15,000 dengue cases, along with 32 deaths; 127 malaria cases were also reported from FDMN camps, which was also the highest in the last five years

Family Planning, Maternal-Newborn Healthcare Services

- After the initial influx of the FDMNs, emergency control room was opened at the

District Family Planning Office to provide family planning, maternal and newborn healthcare (FP&MNH) services

- Six emergency medical teams (4 in Ukhiya and 2 in Teknaf) were formed to provide departmental services. Provision of services through 6 UH&FWCs, 2 rural dispensaries, 1 registered family planning department, 21 non-registered family planning department and NGOs is also in progress in Ukhiya and Teknaf upazilas
- On the basis of decision at the 28th Meeting of the National Task Force on FDMN, the Family Planning Coordination Cell has been opened
- Other activities have been continued in coordination with the health department. Percentage of institutional delivery is 75% in 2022; contraceptive acceptance rate crossed 66%

Table 4.10.7. MCH and family planning services given to the FDMNs from August 2017 to November 2023 (DDFP office presentation)

Type of services	Number	
Delivery	57,805	
ANC	949,048	
PNC	212,706	
FP method	Condoms	106,672
	Implants	22,997
	Injectable	391,237
	IUD	13,314
	OCP	740,780

Source: DHIS2

The trend of delivery data was observed in primary healthcare centers and field hospitals. Delivery of babies in facilities continued to increase for motivation and referrals by CHWs.

Standardization of Work and Coordination

- Community health workers were working from the initiation of FDMN camps but

their work was not coordinated with the health facilities

- A system was developed to make their work standardized and coordinated. Now, one CHW covers 200 households; he/she has to visit one household two times per month. They provide health education for awareness building, screen verbally for communicable diseases, refer patients to the nearest health facilities, and do verbal autopsy for deceased people

Curative Care Services

Specialized care expanded to lower levels

Primary Healthcare

Primary healthcare addresses comprehensive and interrelated physical, mental and social health and wellbeing. It is an attitude to health and wellbeing centered on the essentials and circumstances of individuals, families, and communities through their active participation and at an affordable cost.

PHC is an integral part of a country's health system and, ideally, its main focus. It is the first level of contact for individuals, families, and communities and enables healthcare to be delivered as close as possible to where people live and work. Primary healthcare is rooted in the commitment to social justice and equity and in the recognition of fundamental rights to the highest attainable standard of health, as echoed in Article 25 of the Universal Declaration on Human Rights: "Everyone has the right to a standard of living adequate for the health and wellbeing of himself and of his family, including food, clothing, housing, and medical care and necessary social services." Primary healthcare is well-positioned to be able to respond to rapid economic, technological, and demographic changes, all of which impact the health and wellbeing. A recent analysis found that approximately half of the gains in reducing child mortality from 1990 to 2010 were due to factors outside the health sector (e.g. water and sanitation, education, economic growth).

The primary healthcare approach draws in a wide range of stakeholders to examine and change policies to address the social, economic, environmental and commercial determinants of health and wellbeing. Treating people and communities as key actors in the production of their own health and wellbeing is critical for understanding and responding to the complexities of our changing world. PHC has been proven to be a highly-effective and efficient way to address the main causes and risks of poor health and wellbeing today as well as handle the emerging challenges that threaten health and wellbeing tomorrow. It has also been found to be a good value investment as there is evidence that quality primary healthcare reduces total healthcare cost and improves efficiency by reducing hospitalization. Stronger primary healthcare is essential for achieving the health-related Sustainable Development Goals (SDGs) and Universal Health Coverage. It will contribute to

Primary healthcare is well-positioned to be able to respond to rapid economic, technological, and demographic changes, all of which impact the health and wellbeing

the attainment of other goals beyond the health goal (SDG3), including those on poverty, hunger, education, gender equality, clean water and sanitation, work and economic growth, reducing inequality, and climate related action.

Table 5.1. Primary healthcare facilities run by DGHS, December 2023

Type of facility	Type of service	Total number of facilities	Total number of sanctioned beds
Upazila health complex (100-bed)	Hospital	8	800
Upazila health complex (50-bed)	Hospital	358	17,900
Upazila health complex (31-bed)	Hospital	52	1,612
Upazila health complex (10-bed)	Hospital	11	110
Sub-total of upazila health complexes		429	20,422
50-bed hospital	Hospital	2	100
31-bed hospital	Hospital	7	217
30-bed hospital	Hospital	3	90
25-bed hospital	Hospital	1	25
20-bed hospital	Hospital	39	780
10-bed hospital	Hospital	15	150
Upazila health office	OPD	60	0
Union sub-center	OPD	1,312	0
Union health and family welfare center (UH&FWC)	OPD	87	0
Urban dispensary	OPD	35	0
School health clinic	OPD	23	0
Tejgaon health complex, Dhaka	OPD	1	0
Grand total of primary-level facilities (except community clinic)		1,975	21,784
Community clinic (functional at present)*	OPD	14,272	0
Grand total of primary-level facilities (including community clinic)		16,247	21,784

*Community clinic services are described in Chapter 4.8

Essential Service Delivery and Urban Primary Healthcare

- There was an operational plan, namely “Essential Service Delivery” (ESD) mainstreamed under DGHS (HPNSDP 2011-2016) to improve services, particularly at upazila level and below and complement urban primary healthcare. ESD will continue under the current HPNSP also
- The areas of services include: limited curative care, support services and coordination, medical waste management, urban health, mental health, and tribal health

• The urban primary healthcare in Bangladesh is principally the responsibility of the Ministry of Local Government, Rural Development and Cooperatives (MOLGRD), carried out through the city corporations and municipalities

• Large-scale primary healthcare activities under the Urban Primary Healthcare Project (UPHCP) and Smiling Sun Franchise Program are run by NGOs in collaboration with the city corporations, municipalities, and with financial assistance from donors



During a visit to the Ukhiya Upazila Health Complex, Honorable Health Minister Dr. Samanta Lal Sen had discussions with the healthcare providers on service delivery

Table 5.2. Secondary and tertiary healthcare institutions under DGHS, December 2023

Type	Level of facilities	No. of facilities	No. of sanctioned beds
Airport health office	Secondary	2	0
Chest disease clinic		42	0
Chest hospital		13	866
District-level office (Civil Surgeon's Office)		65	0

Table 5.2 contd.

Table continued...

Type	Level of facilities	No. of facilities	No. of sanctioned beds
District-level hospital (250-bed) (district/general hospital)		53	13,250
District-level hospital (250-bed) (district/general hospital)		6	600
Infectious disease hospital		5	180
Leprosy hospital		3	130
Port health office		2	0
Trauma center		9	170
Other hospitals		5	1,000
Sub-total of secondary-level hospitals		205	16,196
Division-level office (divisional health office)		8	0
Dental college hospital		1	200
Hospital of alternative medicine	Tertiary	2	200
Medical college hospital		35	25,550
Specialized health center		3	0
Specialized hospital		2	750
Specialty postgraduate institute and hospital		12	5,920
Other hospitals		1	500
Total no. of tertiary-level facilities		64	33,120
Total no. of secondary and tertiary-level facilities		269	49,316

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

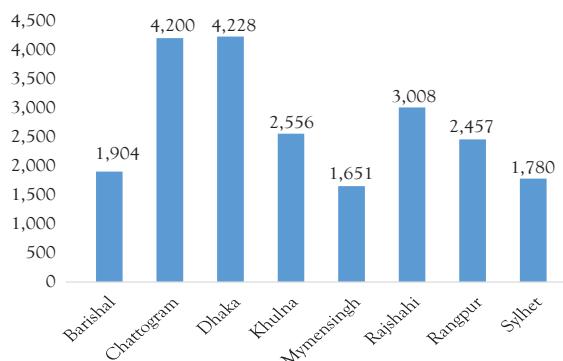


Figure 5.1. Number of beds in all primary-care hospitals by administrative division, up to December 2023

different geographic areas. These are run under the administrative control of DGHS

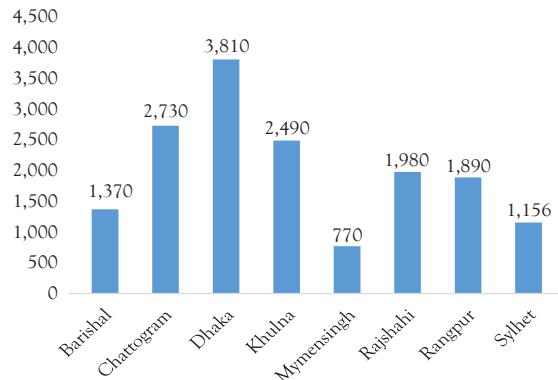


Figure 5.2 Number of beds in all secondary-care hospitals by administrative division, up to December 2023

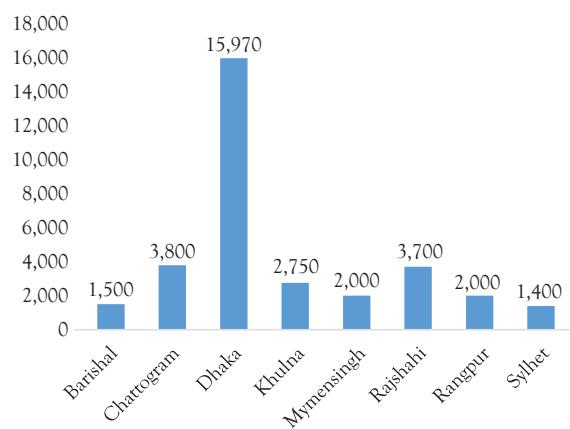


Figure 5.3. Number of beds in all tertiary-level hospitals by administrative division of Bangladesh, up to December 2023

- As of June 2023, DGHS provided licenses to 8,710 private hospitals, clinics,

diagnostic centers, and blood banks in Bangladesh

- The number of licensed private hospitals and clinics is 2,898, number of private diagnostic centers is 5,592, and number of blood banks is 220. The total number of beds in these registered private hospitals and clinics is 87,494

Utilization of Public Health Facilities

The information is based on hospital statistics available from the DHIS2 of 2023 data, which should be interpreted with caution due to incomplete progress reporting. Some facilities included in the numbers above are not functioning yet, thus, not reporting in DHIS2.

Hospital Outpatient, Emergency Visit and Inpatient

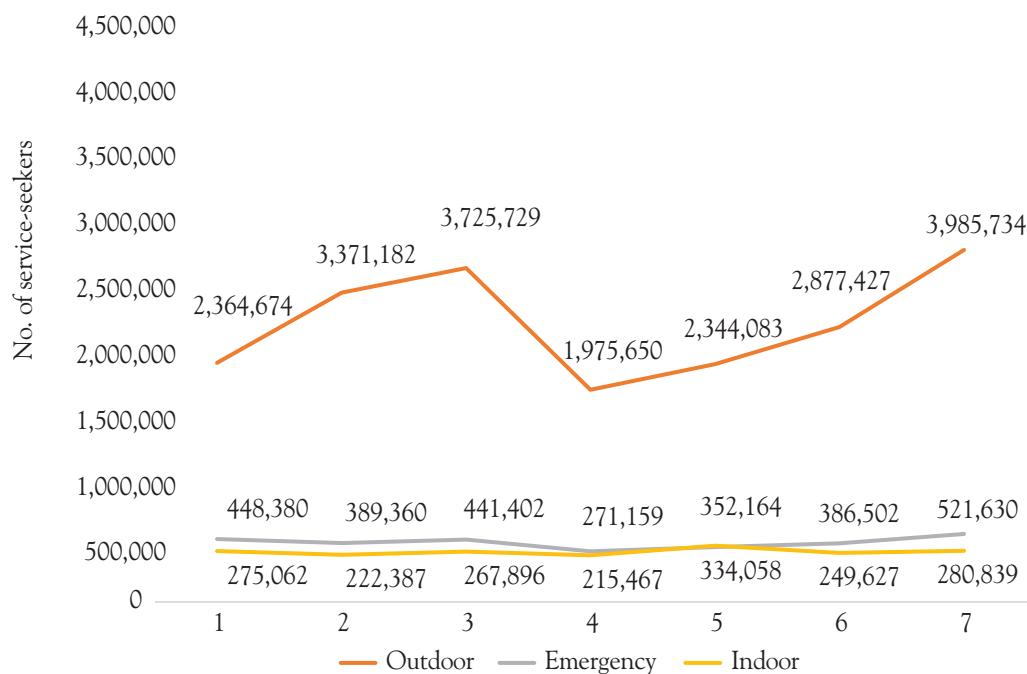


Figure 5.4. Last 7 years' service trends in government specialized and general hospitals (outdoor, emergency, and indoor)



Figure 5.5. Last 7 years' service trends in government medical college hospitals

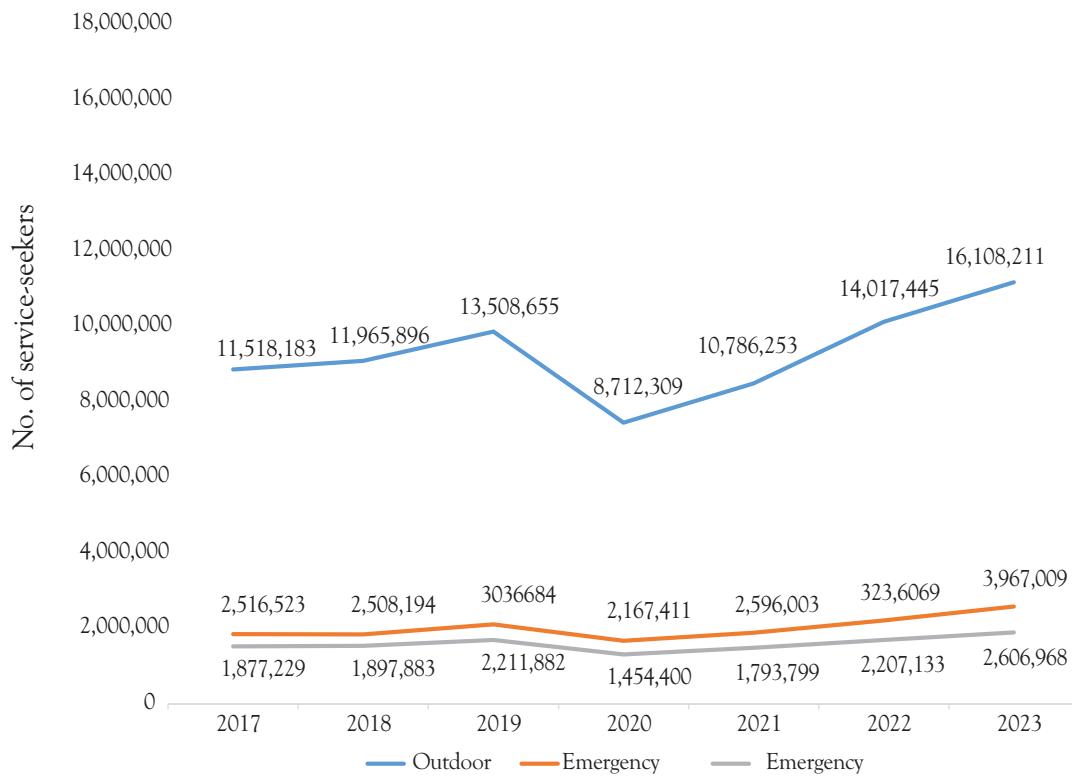


Figure 5.6. Last 7 years' service trends in government district hospitals and other district-level hospitals

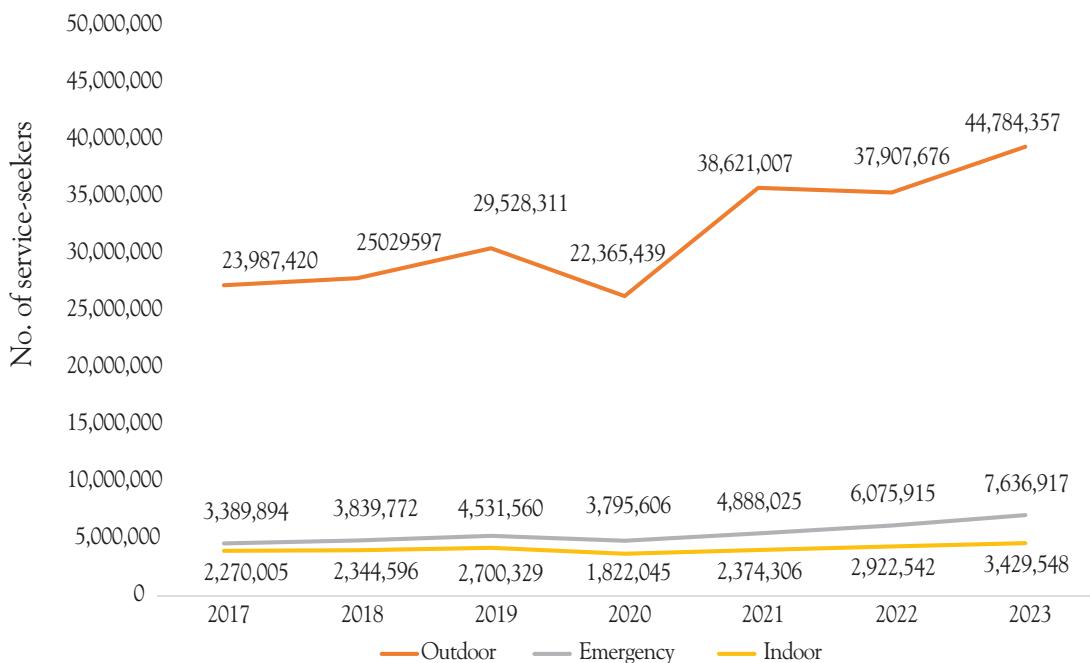


Figure 5.7. Last 7 years' service trends in government upazila health complexes

The above figures illustrate the trends in the number of services provided by different types of government hospitals over a period of time. It is evident that the COVID-19 pandemic significantly impacted these services in 2020, leading to a noticeable decline. However, the data also indicate a subsequent recovery, with the number of services improving in the following years.

Outpatient attendance at different hospitals reporting through DHIS2 in 2023 is highlighted below:

- At specialized/general hospitals, the attendance ranged from 36,734 at Pabna Mental Hospital to 1,146,448 at Kurmitola 500-bed General Hospital (Table 5.3)
- At medical college hospitals, the number of patients ranged from 22,357 at Sheikh Sayera Khatun Medical College Hospital to 1,518,543 at Rajshahi Medical College Hospital (Table 5.4)

- At district/general hospitals, the figure ranged from 72,806 at Bandarban 250-bed District Hospital to 627,821 at Jashore 250-bed General Hospital (Table 5.5)
- 431 upazila health complexes reported OPD attendance data, which could not be shown in graph.

Hospital emergency ward attendance at different hospitals reporting through DHIS2 in 2023 had the following scenario:

- At specialized hospitals, the number ranged from 1,015 at 250-bedded TB Hospital, Shyamoli, Dhaka to 148,517 at the National Institute of Cardiovascular Disease (Table 5.3)
- At medical college hospitals, the data ranged from 2,148 at Satkhira Medical College Hospital to 487,328 at Dhaka Medical College Hospital (Table 5.4)

- At district/general hospitals, attendance ranged from 1,948 at Sylhet Shahid Shamsuddin Ahmed District Hospital to 215,093 at Narsingdi District Hospital (Table 5.5)
- 431 upazila health complexes reported emergency attendance data, which could not be shown in graph.

Hospital inpatient attendance at different hospitals reporting through DHIS2 in 2023 is highlighted below:

- At specialized hospitals, the attendance ranged from 2,400 at Pabna Mental Hospital to 967,20 at the National

Institute of Cardiovascular Disease (Table 5.3)

- At medical college hospitals, the figures ranged from 19,612 at Sheikh Hasina Medical College Hospital, Tangail to 313,581 at Mymensingh Medical College Hospital (Table 5.4)
- At district/general hospitals, the data ranged from 3,103 at Sylhet Shahid Shamsuddin Ahmed District Hospital to 105,624 at Pabna 250-bed General Hospital (Table 5.5)
- 431 upazila health complexes reported inpatient attendance data, which could not be shown in graph

Table 5.3. Outpatient, emergency and indoor attendance at government specialized hospitals, 2023

Sl. no.	Name of specialized hospital	OPD visit		Emergency visit		Admission		ALS	BOR	No. of beds
		Male	Female	Male	Female	Male	Female			
1	250-bedded TB Hospital Shyamoli, Dhaka	53,534	39,126	590	425	2,700	1,782	10	73	250
2	Bangladesh Institute of Tropical and Infectious Disease (Fouzderhat)	37,695	40,695	11,544	9,783	4,991	5,139	2.48	64.11	100
3	Kurmitola 500-bed General Hospital	489,979	656,469	57,665	55,266	15,035	14,266	6.31	92.98	500
4	National Institute of Cancer Research and Hospital (NICR&H)	58,770	64,401	5,161	5,257	8,025	8,031	10.42	87.95	500

Table 5.3 contd.

Table continued...

Sl. no.	Name of specialized hospital	OPD visit		Emergency visit		Admission		ALS	BOR	No. of beds
		Male	Female	Male	Female	Male	Female			
5	National Institute of Cardiovascular Disease (NICVD)	124,026	76,724	97,332	51,185	66,268	30,452	4.78	100.06	1,250
6	National Institute of Diseases of the Chest & Hospital (NIDCH)	86,488	59,981	8,741	3,856	12,115	4,214	13.04	86.70	870
7	National Institute of ENT	107,322	83,961	5,657	3,836	2,123	1,358	12.96	89.33	100
8	National Institute of Kidney Disease and Urology (NIKDU)	108,555	64,595	6,088	3,605	4,502	2,652	10.12	95.89	500
9	National Institute of Mental Health (NIMH)	46,603	37,477	4,077	3,255	2,320	1,784	16.33	95.26	400
10	National Institute of Neurosciences & Hospital (NINS & H)	191,512	168,008	39,380	37,506	11,504	7,945	8.47	100.00	500
11	National Institute of Ophthalmology (NIO)	357,397	287,884	6,966	3,681	6,704	6,840	6.53	94.53	250
12	National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR)	149,200	98,460	57,325	21,244	25.243	5,993	10.49	94.84	1,000
13	Pabna Mental Hospital	17,211	19,523	0	0	1,843	557	57.93	77.20	500

Table 5.3 contd.

Table continued...

Sl. no.	Name of specialized hospital	OPD visit		Emergency visit		Admission		ALS	BOR	No. of beds
		Male	Female	Male	Female	Male	Female			
14	Shaheed Sheikh Abu Naser Specialized Hospital	56,748	66,058	935	659	2,967	1,856	11.15	73.23	250
15	Sheikh Fazilatunnessa Mujib Eye Hospital and Training Institute	69,140	71,156	2,023	1021	4,256	4,099	2.39	55.12	100
16	Sheikh Hasina National Institute of Burn and Plastic Surgery	36,073	36,079	6,571	6,341	3,094	2,971	29.33	100.00	500
17	Sheikh Russel Gastroliver Institute & Hospital	69,019	55,865	2,721	1,934	4,027	3,183	11.46	90.03	250
	Total	2,059,272	1,926,462	312,776	208,854	177,717	103,122	13.19	86.48	7,820

Table 5.4. Outpatient, emergency and indoor attendance at government medical college hospitals, 2023

Sl. no.	Name of medical college hospital	Outpatient visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
1	Bangabandhu Sheikh Mujib Medical College Hospital, Faridpur	162,968	252,137	5,721	6,051	51,775	52,653	3.4	183.8	1,000
2	Chattogram Medical College Hospital	555,994	534,051	195,785	159,614	150,072	120,227	4.6	139.6	2,200
3	Colonel Malek Medical College Hospital	127,803	156,687	2,804	1,909	15,744	193,21	2.8	69.9	500

Table 5.4 contd.

Table continued...

Sl. no.	Name of medical college hospital	Outpatient visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
4	Cumilla Medical College Hospital	212,184	219,195	50,316	51,778	49,727	515,26	4.0	212.9	500
5	Dhaka Medical College Hospital	507,960	584,525	250,982	236,346	97,278	89,139	8.2	139.9	2,600
6	Khulna Medical College Hospital	181,626	259,875	3,557	3,430	56,088	58,558	5.2	283.2	500
7	M. Abdur Rahim Medical College Hospital	125,875	148,889	34,832	38,229	34,206	37,875	4.1	160.3	500
8	Mugda Medical College Hospital, Dhaka	327,930	349,526	32,051	30,273	182,75	21,081	4.7	153.9	500
9	Mymensingh Medical College Hospital	595,259	557,335	35,407	34,183	150,026	163,555	3.9	326.5	100
10	Rajshahi Medical College Hospital	726,422	792,121	156,200	158,227	139,381	148,208	3.5	208.2	1,200
11	Rangpur Medical College Hospital	288,183	244,111	75,922	71,502	77,307	72,242	3.8	152.7	1,000
12	Satkhira Medical College Hospital	71,945	88,908	1,245	903	15,548	14,029	4.5	124.1	500
13	Shaheed M. Monsur Ali Medical College Hospital	85,088	111,296	10,057	9,753	10,334	10,411	5.0	54.3	500

Table 5.4 contd.

Table continued...

Sl. no.	Name of medical college hospital	Outpatient visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
14	Shaheed Suhrawardy Medical College Hospital	294,102	310,755	53,282	42,153	14,794	17,843	6.3	102.4	1,350
15	Shaheed Taj Uddin Ahmad Medical College Hospital	241,763	270,445	73,816	76,733	33,814	37,219	3.2	117.8	500
16	Shaheed Ziaur Rahman Medical College Hospital, Bogura	243,670	328,022	60,484	50,033	62,163	53,265	4.6	283.2	500
17	Shahid Syed Nazrul Islam Medical College Hospital	154,114	169,187	38,298	42,032	30,153	34,366	3.3	108.7	500
18	Sheikh Hasina Medical College Hospital, Tangail	78,027	80,367	2,553	2,957	10,384	9,228	2.9	167.0	500
19	Sher-e-Bangla Medical College Hospital	233,785	279,761	101,124	94,021	98,101	90,520	3.8	193.1	1,000
20	Sir Salimullah Medical College Hospital	313,968	445,290	155,793	157,312	36,234	47,189	5.0	122.5	900
21	Sylhet MAG Osmani Medical College Hospital	419,492	508,625	86,750	88,640	84,008	88,246	4.7	238.9	900
	Total	5,957,996	6,703,627	1,426,979	1,356,079	1,235,412	1,236,701	4.2	161.0	18,250

Table 5.5. Outpatient, emergency and indoor attendance at district sadar/general/district-level hospitals, 2023

Sl. no.	Name of district- kevel hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
1	Bagerhat District Hospital	82,800	143,068	10,860	10,484	10,777	14,311	3.6	225.0	250
2	Bandarban 250-bed District Hospital, Bandarban	32,051	40,755	7,854	4,945	4,419	4,963	3.5	78.0	250
3	Barguna District Hospital	72,717	120,652	27,925	27,669	12,839	16,579	2.9	209.7	250
4	Barishal General Hospital	39,568	48,857	7,607	8,365	4,640	6,110	3.7	110.0	100
5	Bhola 250- bed District Sadar Hospital	118,622	174,517	14,526	12,248	36,422	30,183	2.0	134.8	250
6	Bogura 250-bed Mohammad Ali District Hospital	178,337	204,352	25,808	26,134	10,782	12,835	4.4	110.9	250
7	Brahmanbaria 250-bed District Sadar Hospital	255,027	221,682	68,413	58,490	22,504	24,554	2.5	129.9	250
8	Chandpur 250-bed General Hospital	145,559	156,159	44,921	42,154	22,014	26,529	2.6	139.6	250
9	Chapai- nowabganj 250-bed District Hospital	1877,90	235,813	24,058	23,847	26,575	28,747	2.6	370.2	250
10	Chittagong 250-bed General Hospital	154,334	172,093	21,214	11,928	4,517	5,629	3.1	47.3	250
11	Chuadanga District Hospital	124,953	97,033	42,712	42,297	24,120	30,044	2.1	309.3	250

Table 5.5 contd.

Table continued...

Sl. no.	Name of district-kevel hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
12	Cox's Bazar 250-bed District Sadar Hospital	185,868	290,297	68,365	73,021	37,676	45,995	2.9	272.5	250
13	Cumilla General Hospital	134,308	200,031	21,604	13,837	4,527	5,387	2.2	116.7	100
14	Dinajpur 250-bed General Hospital	89,346	116,543	22,085	18,964	8,559	11,097	3.7	78.4	250
15	Faridpur General Hospital	70,704	63,380	32,544	25,921	12,728	9,537	2.3	123.5	100
16	Feni 250-bed District Sadar Hospital	1,194,99	123,380	42,738	46,369	24,235	35,079	2.7	161.4	250
17	Gaibandha 250-bed District Hospital	99,082	107,899	43,346	41,811	17,302	20,147	2.4	98.8	250
18	Gopalganj 250-bed General Hospital	88,086	94,548	31,441	30,539	23,028	26,184	2.8	136.1	250
19	Habiganj 250-bed District Hospital	82,674	104,661	57,173	53,384	31,850	34,118	3.6	284.7	250
20	Jamalpur 250-bed General Hospital	176,325	177,922	51,072	52,750	37,166	38,396	2.7	217.5	250
21	Jashore 250-bed General Hospital	228,016	399,805	8,576	11,168	43,140	49,143	3.0	251.6	250
22	Jhalokathi District Hospital	65,560	104,874	36,618	35,612	6,663	9,116	2.5	105.1	250

Table 5.5 contd.

Table continued...

Sl. no.	Name of district-level hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
23	Jhenaidah 250-bedded General Hospital	115,984	163,089	22,873	14,064	22,493	31,362	2.5	143.9	250
24	Joypurhat 250-bed District Hospital	148,392	167,396	9,302	9,608	22,039	23,759	3.1	269.8	250
25	Khagrachhari District Hospital	75,301	101,020	8,698	6,478	9,215	12,005	2.9	161.1	250
26	Khulna 250-bed General Hospital	103,214	149,201	14,601	12,196	2,928	4,707	5.5	41.9	250
27	Kishoreganj 250-bed District Sadar Hospital	149,330	288,471	39,180	26,861	29,028	40,355	1.5	113.6	250
28	Kurigram 250-bed District Hospital	123,781	137,046	35,550	39,133	22,093	27,151	2.9	285.7	250
29	Kushtia 250-bed General Hospital	197,353	294,254	20,717	16,548	38,903	44,389	3.5	309.8	250
30	Lakshmipur District Hospital	101,601	128,242	30,427	27,484	19,857	22,641	2.6	311.0	250
31	Salmonirhat District Hospital	155,583	147,684	19,806	21,223	10,974	13,070	2.7	70.9	250
32	Madaripur District Hospital	68,346	111,917	29,181	29,126	21,575	22,775	1.7	155.8	250
33	Magura 250-bed District Hospital	121,902	135,784	28,263	22,244	28,073	32,792	2.5	167.1	250

Table 5.5 contd.

Table continued...

Sl. no.	Name of district-level hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
34	Manikganj 250-bed District Hospital	81,664	98,958	13,219	11,729	16,589	20,757	2.4	107.4	250
35	Meherpur 250-bed District Hospital	168,778	20,4318	40,858	42,367	28,401	29,569	2.0	125.5	250
36	Maulvibazar 250-bed District Sadar Hospital	103,091	108,130	46,614	47,751	20,806	25,087	2.7	132.9	250
37	Munshiganj 250-bed District Hospital	186,197	192,963	28,978	31,787	11,753	15,051	2.3	80.6	250
38	Naogaon 250-bed District Hospital	141,411	197,462	47,658	47,460	23,187	28,561	1.7	233.0	250
39	Narail District Hospital	81,146	135,017	29,297	30,369	15,856	21,086	2.8	280.5	250
40	Narayanganj 300-bed Hospital	158,451	176,128	32,231	27,106	4,656	4,517	6.2	75.1	300
41	Narayanganj General (Victoria) Hospital	132,377	178,983	104,631	108,358	16,203	16,462	2.0	169.9	100
42	Narsingdi 100-bed Zila Hospital	100,805	138,562	26,328	27,843	6,958	7,321	4.0	154.9	100
43	Narsingdi District Hospital	135,038	199,415	106,973	108,120	7,004	7,581	3.2	107.9	250
44	Natore District Hospital	145,375	153,805	18,425	20,175	22,889	25,234	2.6	297.3	250

Table 5.5 contd.

Table continued...

Sl. no.	Name of district-level hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
45	Netrakona District Hospital	76,212	95,999	73,667	77,488	16,691	26,894	1.9	223.1	250
46	Nilphamari 250-bed District Hospital	115,622	156,665	44,693	53,552	22,479	31,174	2.0	116.2	250
47	Noakhali 250-bed General Hospital	129,844	161,863	50,354	47,270	34,289	30,913	3.3	218.2	250
48	Pabna 250-bed General Hospital	107,571	88,491	29,238	29,173	49,602	56,022	1.8	181.2	250
49	Panchagarh District Hospital	61,436	122,259	8,271	6,555	13,540	19,759	2.2	192.2	250
50	Patuakhali 250-bed Sadar Hospital	48,138	62,418	24,619	26,111	23,777	25,261	3.6	191.4	250
51	Pirojpur District Hospital	57,783	83,993	39,495	37,370	11,949	15,848	2.7	172.6	250
52	Rajbari District Hospital	119,693	146,292	51,020	52,481	14,548	23,678	1.9	201.9	250
53	Rangamati General Hospital	59,976	72,915	5,986	3,460	9,222	12,240	2.8	161.6	100
54	Satkhira District Hospital	93,167	92,875	8,510	8,787	9,673	11,640	3.0	174.5	100
55	Shaheed Ahsan Ullah Master General Hospital	64,168	64,730	28,372	21,342	6,040	6,536	4.2	62.4	250
56	Shariatpur District Hospital	59,669	81,961	20,004	23,704	13,241	17,520	2.7	223.1	250

Table 5.5 contd.

Table continued...

Sl. no.	Name of district-level hospital	OPD visit		Emergency visit		Admission		ALS	BOR	Sanctioned beds
		Male	Female	Male	Female	Male	Female			
57	Sherpur 250-bed District Sadar Hospital	114,569	173,110	42,068	57,181	24,514	34,593	2.6	176.9	250
58	Sirajganj 250-bed Bangama-ta Sheikh Fazilatunnesa Mujib General Hospital	81,893	74,963	34,997	35,979	24,379	25,675	2.5	126.2	250
59	Sunamganj 250-bed District Sadar Hospital	92,588	117,306	47,459	53,373	26,139	30,824	3.0	117.8	250
60	Sylhet Shahid Shamsuddin Ahmed District Hospital	65,378	85,573	1,149	799	1,446	1,657	7.4	60.0	250
61	Tangail 250-bed District Hospital	171,095	178,856	15,762	10,675	42,340	39,163	2.3	191.8	250
62	Thakurgaon District Hospital	83,963	112,665	17,134	13,674	29,682	35,142	3.1	220.9	250
	Total	7,129,111	8,979,100	2,008,068	1,958,941	1,201,514	1,405,454	2.9	169.6	14,500

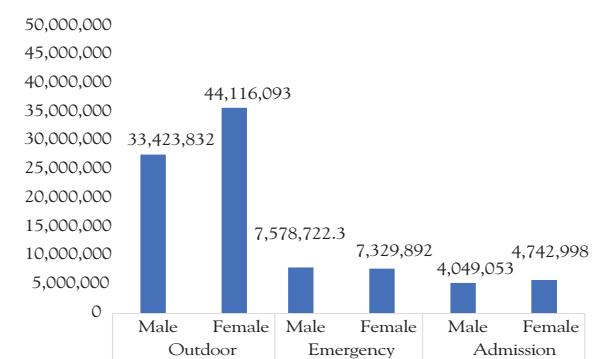


Figure 5.8. Total number of outpatient, emergency and inpatient attendance according to gender in 2023

Average length of stay

Figure 5.9 shows the average length of stay (ALS) in various types of hospitals over a period of five years. Notably, in 2023, there is a reduction in ALS within specialized hospitals whereas the ALS in other types of hospitals has remained consistent.

Average length of stay at different hospitals reporting through DHIS2 in 2023 is presented below:

- At specialized hospitals, ALS ranged from 2.39 days at Sheikh Fazilatunessa Mujib Eye Hospital and Training Institute to 57.93 days at Pabna Mental Hospital (Table 5.3)
- At medical college hospitals, ALS ranged from 2.8 days at Colonel Malek Medical College Hospital to 8.2 days at Dhaka Medical College Hospital. (Table 5.4)
- At district/general hospitals, ALS ranged from 1.5 days at Kishoreganj 250-bed District Sadar Hospital to 7.4 days at Sylhet Shahid Shamsuddin Ahmed District Hospital (Table 5.5)
- At upazila health complexes, ALS ranged from 1 day at Kamalganj Upazila Health Complex, Maulavibazar to 6.7 days at Indurkani Upazila Health Complex, Pirojpur (Figure 5.10 and 5.11).

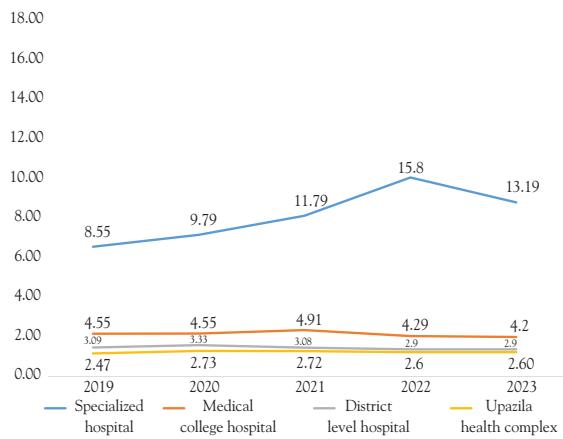


Figure 5.9. Average length of stay in different levels of government hospitals during the last five years

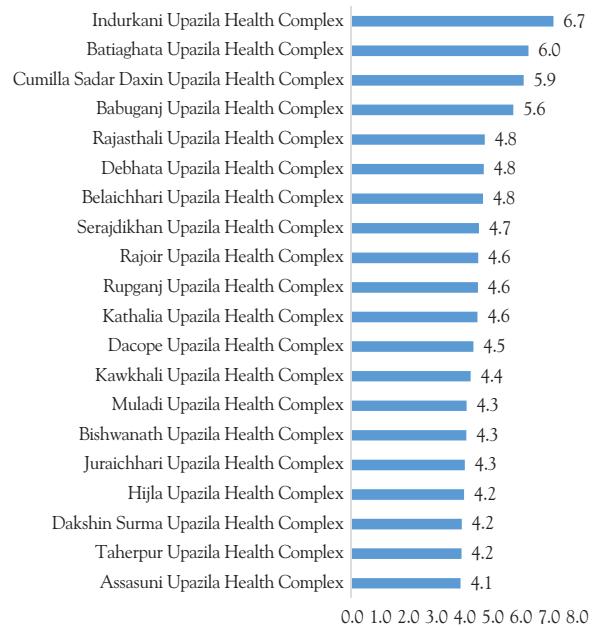


Figure 5.10. Twenty upazila health complexes with the highest average length of stay of inpatients, 2023

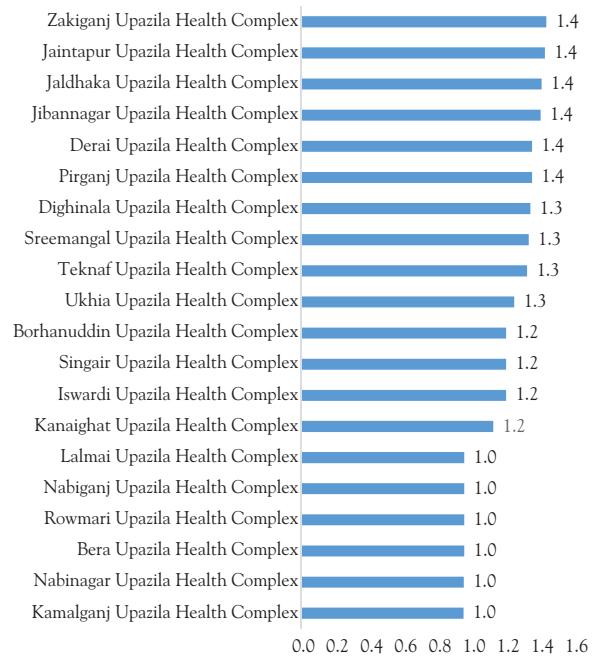


Figure 5.11. Twenty upazila health complexes with the lowest average length of stay of inpatients, 2023

Bed-occupancy ratio

Figure 5.12 shows the trend in bed-occupancy ratios (BOR) across different types of government hospitals over a time period. It is clear that the COVID-19 pandemic significantly affected these rates in 2020, causing a notable decline. However, the data indicate a recovery in the following years, with occupancy rates improving after the pandemic.

Bed-occupancy ratios at different hospitals reporting through DHIS2 in 2023 are as follows:

- At the specialized hospitals that report through DHIS2 on hospital beds, the bed-occupancy ratio ranged from 55.12% in Sheikh Fazilatunnessa Mujib Eye Hospital and Training Institute to 100.06% in

the National Institute of Cardiovascular Disease, Dhaka (Table 5.3)

- At medical college hospitals, it ranged from 54.3% in Shaheed M. Monsur Ali Medical College Hospital to 326.5% in Mymensingh Medical College Hospital (Table 5.4)
- At the district/general hospitals, BOR ranged from 41.9% at Khulna 250-bed General Hospital to 370.2% at Chapainawabganj 250-bed District Hospital (Table 5.5)
- BOR ranges within the highest 20 upazila health complexes were 11.0% at Lalmai Upazila Health Complex, Cumilla to 220.9% at Phulpur Upazila Health Complex, Mymensingh (Figure 5.13 and 5.14)

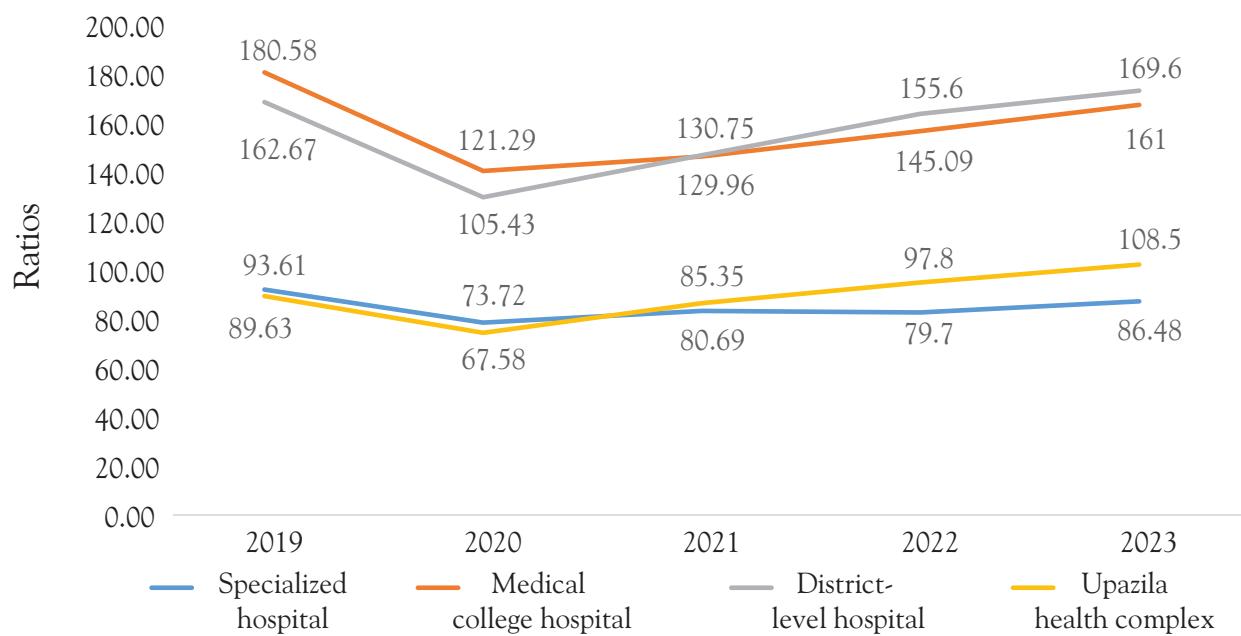


Figure 5.12. Bed-occupancy ratios in different levels of government hospitals during the last five years

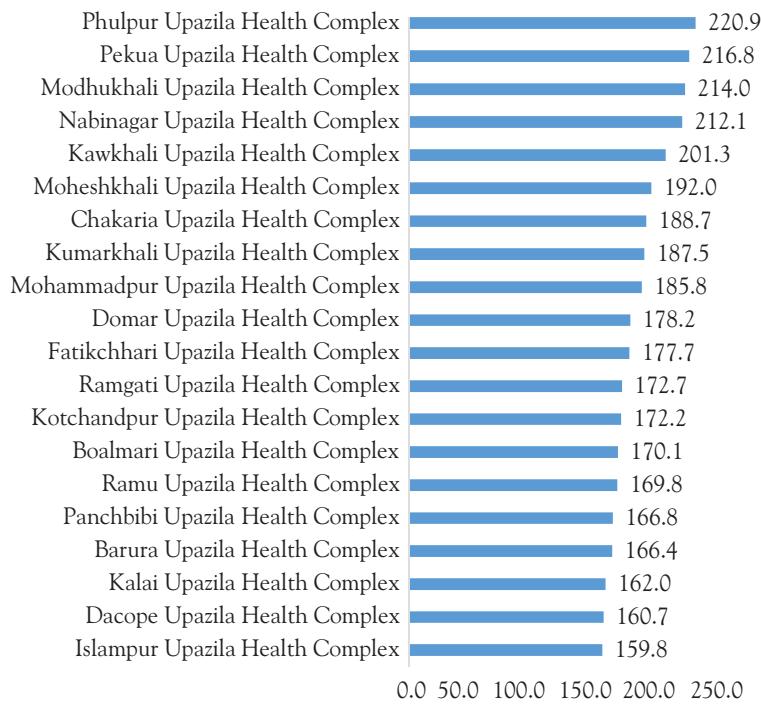


Figure 5.13. Twenty upazila health complexes with the highest BOR, 2023

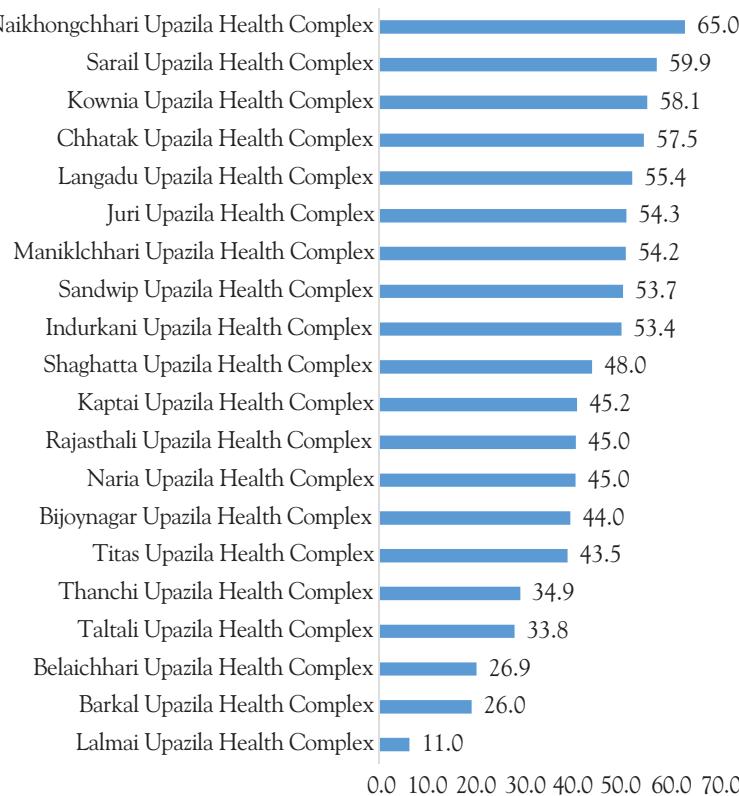


Figure 5.14. Twenty upazila health complexes with the lowest BOR, 2023

Surgeries

Total number of major surgeries performed was 479,038 and total number of minor surgeries was 2,912,183, including all government health facilities.

Facility	Major surgery	Minor surgery
Kurmitola 500-bed General Hospital	3,262	19,757
National Institute of Cancer Research and Hospital (NICR&H)	2,477	522
National Institute of Cardiovascular Disease (NICVD)	3,606	16,851
National Institute of Diseases of the Chest & Hospital (NIDCH)	842	1,530
National Institute of ENT	1,925	6,811
National Institute of Kidney Disease and Urology (NIKDU)	2,053	2,845
National Institute of Neurosciences & Hospital (NINS&H)	3,972	1,579
National Institute of Ophthalmology (NIO)	19,893	1,545
National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR)	25,771	20,304
Shaheed Sheikh Abu Naser Specialized Hospital	725	212
Sheikh Fazilatunnessa Mujib Eye Hospital and Training Institute	8,355	22,526
Sheikh Hasina National Institute of Burn and Plastic Surgery	5,544	5,483
Sheikh Russel Gastroliver Institute & Hospital	795	769
Total	79,220	100,734

Table 5.7. Number of major and minor surgeries performed at government medical college hospitals, 2023

Facility	Major surgery	Minor surgery
Bangabandhu Sheikh Mujib Medical College Hospital, Faridpur	7,340	4,993
Chattogram Medical College Hospital	37,634	87,097

Table 5.7 contd.

Table continued...

Facility	Major Surgery	Minor Surgery
Colonel Malek Medical College Hospital*	77	102
Cumilla Medical College Hospital	17,513	21,226
Dhaka Medical College Hospital	35,097	74,647
Khulna Medical College Hospital	7,140	8,343
M. Abdur Rahim Medical College Hospital	5,747	4,808
Mugda Medical College Hospital, Dhaka	8,368	3,839
Mymensingh Medical College Hospital	20,047	98,551
Rajshahi Medical College Hospital	20,983	26,568
Rangpur Medical College Hospital	11,012	33,712
Satkhira Medical College Hospital	411	622
Shaheed M. Monsur Ali Medical College Hospital	1,603	2,961
Shaheed Suhrawardy Medical College Hospital	12,394	9,808
Shaheed Taj Uddin Ahmad Medical College Hospital	2,359	6,941
Shaheed Ziaur Rahman Medical College Hospital, Bogura	10,726	17,578
Shahid Syed Nazrul Islam Medical College Hospital	3,572	6,388
Sheikh Hasina Medical College Hospital, Tangail	54	82
Sheikh Sayera Khatun Medical College Hospital	-	-
Sher-E-Bangla Medical College Hospital, Barishal	12,129	18,489
Sir Salimullah Medical College Hospital	11,807	17,050
Sylhet MAG Osmani Medical College Hospital	26,891	38,767
Total	252,904	482,572

*Total number of surgeries in Colonel Malek Medical College Hospital is low due to less reporting

Table 5.8. Number of major and minor surgeries performed at district/general hospitals, 2023

Facility	Major surgery	Minor surgery
Bagerhat District Hospital	1,121	12,556
Bandarban 250-bed District Hospital	377	2,959
Barguna District Hospital	240	3,768
Barishal General Hospital	289	5,368
Bhola 250-bed District Sadar Hospital	687	1,525
Bogura 250-bed Mohammad Ali District Hospital	3,473	9,810
Brahmanbaria 250-bed District Sadar Hospital	1,682	17,059
Chandpur 250-bed General Hospital	1,514	3,591
Chapainowabganj 250-bed District Hospital	792	4,035
Chittagong 250-bed General Hospital	1,107	4,899
Chuadanga District Hospital	1,311	11,239
Cox's Bazar 250-bed District Sadar Hospital	2,672	52,641
Cumilla General Hospital	2,187	5,351
Dinajpur 250-bed General Hospital	2,680	9,097
Faridpur General Hospital	174	7,149
Feni 250-bed District Sadar Hospital	1,779	12,836
Gaibandha 250-bed District Hospital	1,292	9,335
Gopalganj 250-bed General Hospital	11,895	17,495
Habiganj 250-bed District Hospital	404	1,369
Jamalpur 250 bedded General Hospital	3,449	5,237
Jashore 250-bed General Hospital	5,189	35,292
Jhalokathi District Hospital	415	5,038
Jhenaidah 250-bedded General Hospital	2,529	10,935
Joypurhat 250-bed District Hospital	4,314	10,982
Khagrachhari District Hospital	1,683	7,022
Khulna 250-bed General Hospital	700	16,395

Table 5.8 contd.

Table continued...

Facility	Major surgery	Minor surgery
Kishoreganj 250-bed District Sadar Hospital	1,233	20,827
Kurigram 250-bed District Hospital	1,824	5,979
Kurmitola 500-bed General Hospital	3,262	19,757
Kushtia 250-bed General Hospital	7,337	10,592
Lakshmipur District Hospital	1,141	10,495
Salmonirhat District Hospital	1,313	9,348
Madaripur District Hospital	245	16,063
Magura 250-bed District Hospital	1,953	15,320
Manikganj 250-bed District Hospital	1,410	510
Meherpur 250-bed District Hospital	313	2,686
Maulvibazar 250-bed District Sadar Hospital	3,298	14,148
Munshiganj 250-bed District Hospital	643	2,777
Naogaon 250-bed District Hospital	792	15,349
Narail District Hospital	818	14,341
Narayanganj 300-bed Hospital	1,554	13,972
Narayanganj General (Victoria) Hospital	800	7,656
Narsingdi 100-bed Zila Hospital	684	7,996
Narsingdi District Hospital	1,126	9,245
Natore District Hospital	2,801	4,522
Netrakona District Hospital	895	35,020
Nilphamari 250-bed District Hospital	1,363	10,612
Noakhali 250-bed General Hospital	4,980	16,164
Pabna 250-bed General Hospital	3,661	20,450
Panchagarh District Hospital	911	11,597
Patuakhali 250-bed Sadar Hospital	1,607	9,334
Pirojpur District Hospital	152	4,501

Table 5.8 contd.

Table continued...

Facility	Major surgery	Minor surgery
Rajbari District Hospital	1,294	3,956
Rangamati General Hospital	874	4,289
Satkhira District Hospital	1,594	15,369
Shaheed Ahsan Ullah Master General Hospital	319	2,471
Shariatpur District Hospital	1,319	4,697
Sherpur 250-bed District Sadar Hospital	1,575	9,300
Sirajganj 250-bed Bangamata Sheikh Fazilatunnesa Mujib General Hospital	1,391	13,834
Sunamganj 250-bed District Sadar Hospital	932	18,420
Sylhet Shahid Shamsuddin Ahmed District Hospital	795	1,711
Tangail 250-bed District Hospital	3,422	19,504
Thakurgaon District Hospital	1,174	9,569
Total	114,760	695,364

Table 5.9. Number of major and minor surgeries performed at upazila health complexes, 2023

Facilities	Major Surgery	Minor Surgery
Upazila health complexes	32,154	1,633,513



Honorable Health Minister Dr. Samanta Lal Sen, briefing the press on successful surgical treatment given to Miss Karma Dama, a citizen from Tashiganj, Bhutan, who was unsuccessfully treated for her illness in several countries

Hospital-reported deaths

The mortality data among admitted patients were recorded across four categories of hospitals and are presented below.

Table 5.10. Number of deaths in different health facilities, 2023

Level of care	Type of facilities	Number of facilities reporting deaths	Total number of deaths	Age-group 0-4 year(s)		Age-group 5-14 years		Age-group 15-49 years		Age-group 50+ years	
				Male	Female	Male	Female	Male	Female	Male	Female
Primary	Upazila health complex	431	7,612	385	377	84	84	704	805	3,115	2,058
Secondary	District hospital/general hospital	62	32,052	4,417	3,770	176	161	2,368	2,376	11,197	7,587
	Medical college hospital	22	107,230	12,262	9,504	1,375	1,145	13,902	12,747	34,450	21,845
Tertiary	Other tertiary hospitals (national institutes)	17	15,807	268	129	170	196	2,304	1,729	7,261	3,750
	Total	532	162,701	17,332	13,780	1,805	1,586	19,278	17,657	56,023	35,240

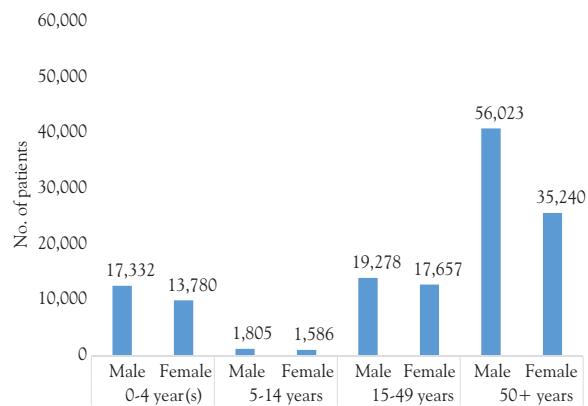


Figure 5.15. Number of deaths according to age and sex, reported from four types of government health facilities, 2023

National Eye Care

Sponsoring ministry/division: Health Services Division, MOHFW

Implementing agency: Directorate General of Health Services (DGHS)

Implementation period: January 2017-June 2022 (original); January 2017-June 2023 (1st revision); January 2017-June 2024 (2nd revision)

General objective

Improve eye care service delivery at all levels of health facilities in Bangladesh

Specific objectives

1. Improve eye care facilities at the primary and secondary-care levels with needed infrastructure development, appropriate equipment, and MSR
2. Establish Community Vision Centers all over the country at upazila health complexes phase by phase
3. Improve capacity of HR related to eye care services (ophthalmologists, nurses, and paramedics)

4. Expand and sustain demand-side financing (DSF)/Voucher scheme to increase accessibility to the poor, marginalized and disadvantaged population
5. Control childhood blindness and increase awareness of mass population on blindness prevention
6. Reduce avoidable blindness due to cataract, refractive error, diabetic retinopathy, glaucoma, ocular injury, and corneal diseases
7. Strengthen coordination among GO-NGO and private eye care providers

The Community Eye Care (CEC) Centers constitute a vital component of the National Eye Care (NEC) program, strategically situated within upazila health complexes. These centers are dedicated to providing comprehensive, high-quality eye care services to rural populations entirely free of charge while concurrently raising awareness about various eye diseases among villagers. NEC equips these Community Eye Care Centers with state-of-the-art ophthalmic instruments and provides training to nurses to conduct thorough ophthalmic examinations.

The primary goal of Community Eye Care Centers is to deliver integrated, cost-free comprehensive eye care services directly to the doorsteps of the marginalized communities. Ophthalmologists stationed at base hospitals (such as medical college hospitals) extend their services remotely via the Internet and advanced software, thereby supporting patients at the Community Eye Care Centers. These centers are responsible for handling referrals from base hospitals and offering comprehensive care for a wide range of conditions, including cataracts, glaucoma, diabetic retinopathy, pediatric

ophthalmology, corneal ulcers, and eye injuries. This approach has significantly expanded the

scope of the ophthalmology department at medical college hospitals.



Honorable Former Health Minister Mr. Zahid Maleque, MP, attending the ceremony on completion and handing over of a program by a development partner for eye health promotion and prevention of blindness in selected areas of Bangladesh

The procedures within the Community Eye Care program follow a systematic process, starting with online patient registration, followed by visual acuity tests, disease detection using slit lamps, eye power determination via auto-refractometers, and assessment of power delivery for glasses. Additionally, nurses capture images of the back of the eye, including the retina, using digital fundus cameras, and measure eye pressure using applanation tonometers. All test data are electronically transferred from the Community Eye Care Center to the on-duty ophthalmologists at the base hospitals, enabling video-consultations for diagnosis. Ophthalmologists then forward electronically-signed prescriptions from the base hospital to the Community Vision Center. Patients at Community Vision Centers receive free prescriptions and glasses, along with necessary follow-up and treatment as per the advice of ophthalmologist at the base hospital.

Between August 2018 and August 2023, a total of 1,775,558 patients were registered at the Community Eye Care Centers, with 252,717 pairs of spectacles distributed, and 16,241 patients referred to base centers.

Base hospitals, including government medical college hospitals, specialized eye hospitals, or district sadar hospitals, are pivotal within this network. They provide medical services, surgical facilities, ophthalmologists, ophthalmic equipment, and investigative resources. A team of ophthalmologists is available in the teleconsultation room of base hospitals to provide medical services to patients visiting Community Eye Care Centers, utilizing medical records sent by senior staff nurses working at these centers and conducting video-consultations with senior staff nurses and patients when necessary. To enhance the capacity of the eye department at each medical college hospital (base hospital) affiliated with Community Eye Care Centers, National Eye Care ensures the provision of heavy equipment, specialized training for expert doctors and nurses, and all necessary resources, including medicines and lenses for operations.

The Community Eye Care (CEC) Centers constitute a vital component of the National Eye Care (NEC) program, strategically situated within upazila health complexes. These centers are dedicated to providing

comprehensive, high-quality eye care services to rural populations entirely free of charge while concurrently raising awareness about various eye diseases among villagers. NEC equips these Community Eye Care Centers with state-of-the-art ophthalmic instruments and provides training to nurses to conduct thorough ophthalmic examinations.

Table 5.11. Yearly statistics of Community Eye Care Centers

Year	District	No. of CECs
2018	8	20
2021	18	70
2023	13	45
Total	39	135

Table 5.12. Yearly report of Community Eye Care Centers

Year	No of patients registered	Spectacles provided	Referred to base center
2021	546,664	56,454	3,233
2022	602,489	42,357	4,328
2023	436,927	40,069	9,896

Table 5.13. Report of Mega Eye Camp from 2017 to 2023

Free consultation and medicine supply for eye care	85,955
Cataract surgery	6,756
Spectacle supply	22,613
Glaucoma screening	1,758
Diabetic retinopathy screening	1,578

Alternative Medical Care

The Government of Bangladesh pledges modernization of the Unani, Ayurvedic and Homeopathic medical care as an alternative to the widespread allopathic practice. Alternative medicines have been playing a significant role in the healthcare delivery system in Bangladesh.

There are two medical colleges for alternative medicines in Dhaka: Government Unani and Ayurvedic Medical College and Government Homeopathic Medical College. Each college has a 100-bed hospital, and people receive medical services from these hospitals.

Table 5.14. Total number of patients attending government-run Homeopathic Medical College Hospital, 2023

No.	Tape of care	Male patients	Female patients	Child patients	Total patients
1.	Outdoor	20,845	26,445	20,155	67,449
2.	Emergency	1,785	1,456	668	3,909
3.	Indoor/admitted patients	203	340	129	672
4.	Pathology	701	838	31	1,570
5.	Antenatal care	-	527	-	527

Table 5.15. Total number of patients at government-run Unani and Ayurvedic Medical College and Hospital for unani treatment, 2023

Sl. no.	Type of care	Male patients	Female patients	Child patients	Total patients
1.	Outdoor	4,898	13,494	2,621	21,013
2.	Pathology	2,380	1,538	00	3,918
3.	Emergency	248	571	990	1,809
4.	Indoor/Admitted patients	2,628	3,128	1,219	6,975
5.	Antenatal care	-	-	-	-

Table 5.16. Total number of patients at government-run Unani and Ayurvedic Medical College and Hospital for ayurvedic treatment, 2023

Sl. no.	Type of care	Male patients	Female patients	Child patients	Total patients
1.	Outdoor	12,459	6,893	3,252	22,604
2.	Pathology	2,433	1,737	00	4,170
3.	Emergency	259	557	1,045	1,861
4.	Indoor/Admitted patients	4,441	3,190	1,810	9,441
5.	Antenatal care	-	-	-	-

Morbidity and Mortality Status

Non-communicable diseases dominate other causes

This chapter provides a comprehensive analysis of morbidity and mortality trends in Bangladesh's health facilities over the past year. It describes the leading causes of admission, leading causes of death, sex and age-group distributions, and monthly admission and trends of death.

Morbidity refers to the state of being diseased or unhealthy within a population, with incidence and prevalence rates serving as primary indicators. The analysis includes an overview of the top causes of admission across different age-groups, including maternal morbidity.

Mortality trends are examined, focusing on gender-specific differences and age-groups. In Bangladesh, the medical certificate for cause of death (MCCoD) is used for deaths in facilities while verbal autopsy is employed for deaths in communities. The findings are contextualized with population data from the 2022 Census and vital statistics from the Bangladesh Bureau of Statistics (BBS).

Key Facts

- Diarrhea remains a predominant cause of hospital admissions
- The rate of normal deliveries is on the rise in government health facilities; conversely, this trend is declining in private hospitals

- There is a notable prevalence of non-specific obstetric complications that necessitates immediate attention
- The age-group experiencing the highest number of deaths within facilities is 0-4 year(s) comprising 18% of the total, indicating the need for better maternal and child healthcare
- Young adult mortality associated with injuries and non-communicable diseases is the key to be prioritized, especially among females
- Non-communicable diseases account for the majority (64%) of deaths, followed by communicable diseases, maternal, neonatal and nutritional causes (25%), with external causes and injuries contributing to 5% of mortality
- While the overall pattern of major causes of death remains consistent across genders,

Age remains a critical determinant of mortality risk, with distinct epidemiological patterns observed across different age-groups

there are notable differences in specific causes, such as the prevalence of cancer in males and maternal causes and asthma in females

- Age remains a critical determinant of mortality risk, with distinct epidemiological patterns observed across different age-groups
- In case of community death, the data for males (67.6%) recorded at nearly twice as the data for females (32.4%), and about 57.2% of the deaths were recorded in the age-group of 60+ years, followed by the age-group of 12-59 years (41.4%)
- Ischemic heart disease, chronic respiratory disease, stroke, diabetes, and pneumonia are top 5 causes of deaths in VA dataset (N=10459)

Morbidity Profile

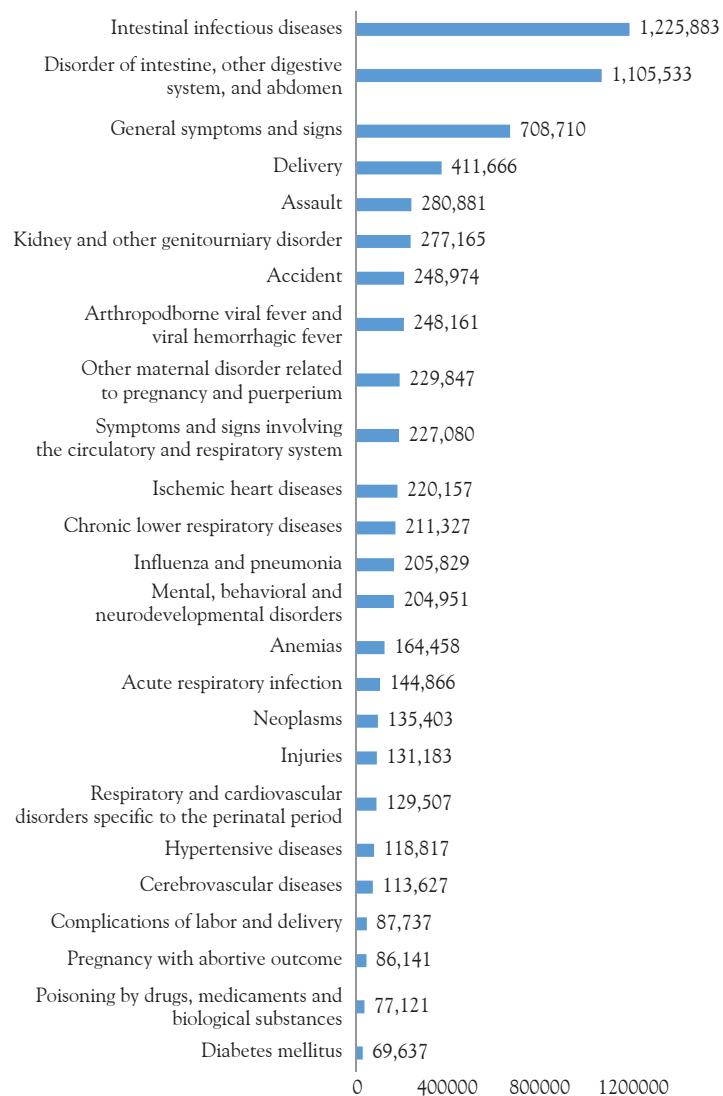


Figure 6.1. Top 25 causes of admission by age-group and sex in 2023

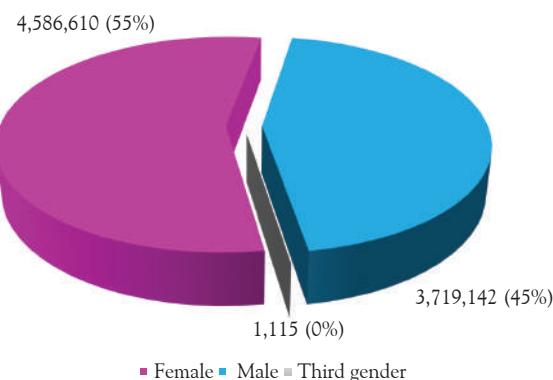


Figure 6.2. Sex ratio of admitted patients in 2023

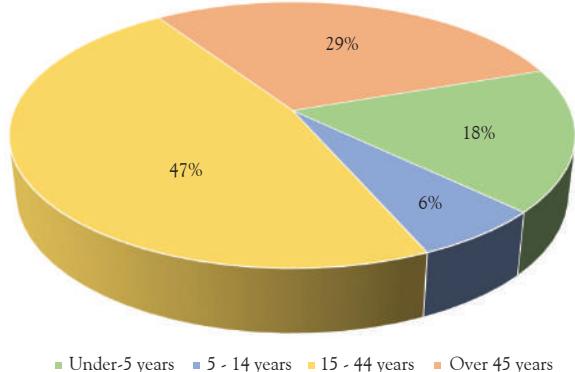


Figure 6.3. Age-group distribution of patients admitted in 2023



Figure 6.4. Month-wise total number of admissions in all health facilities in 2023

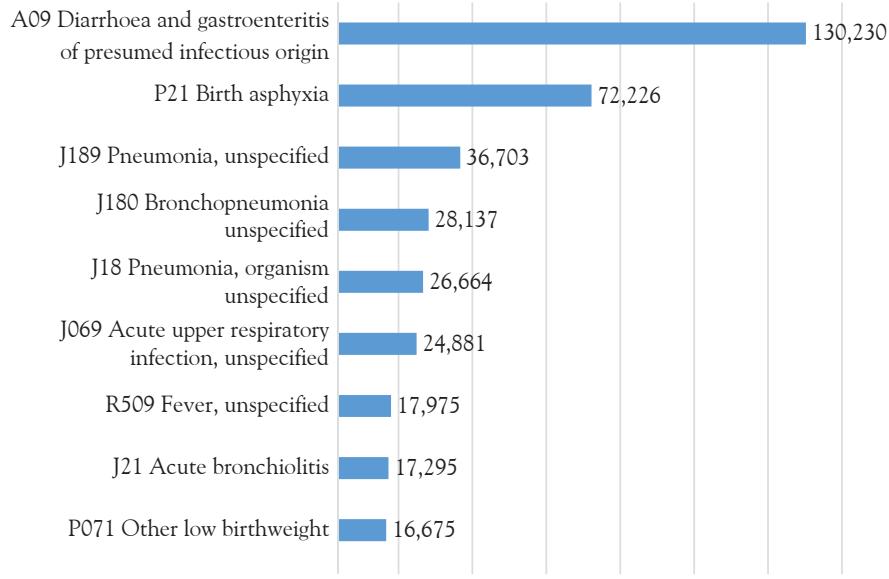


Figure 6.5. Top 10 causes of admission among patients aged under-1 year in all health facilities of Bangladesh, 2023

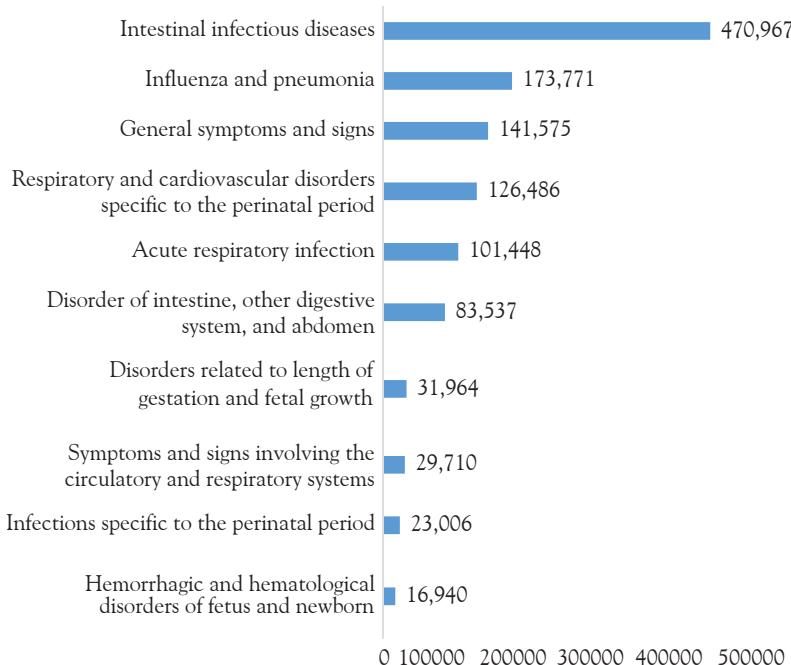


Figure 6.6. Top 10 causes of admission among patients aged under-5 years in all health facilities of Bangladesh, 2023

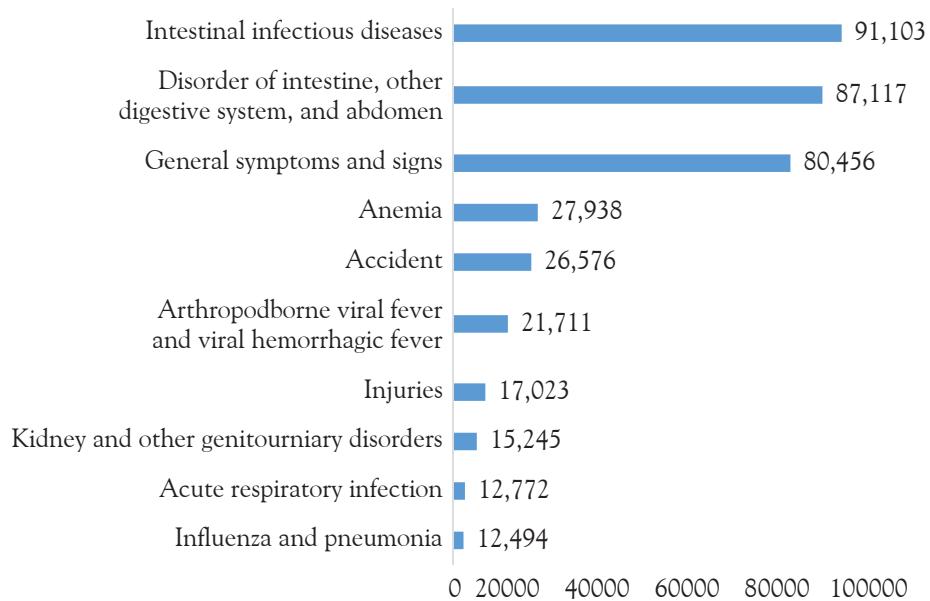


Figure 6. 7. Top 10 causes of admission among patients aged 5-14 years in all health facilities of Bangladesh, 2023

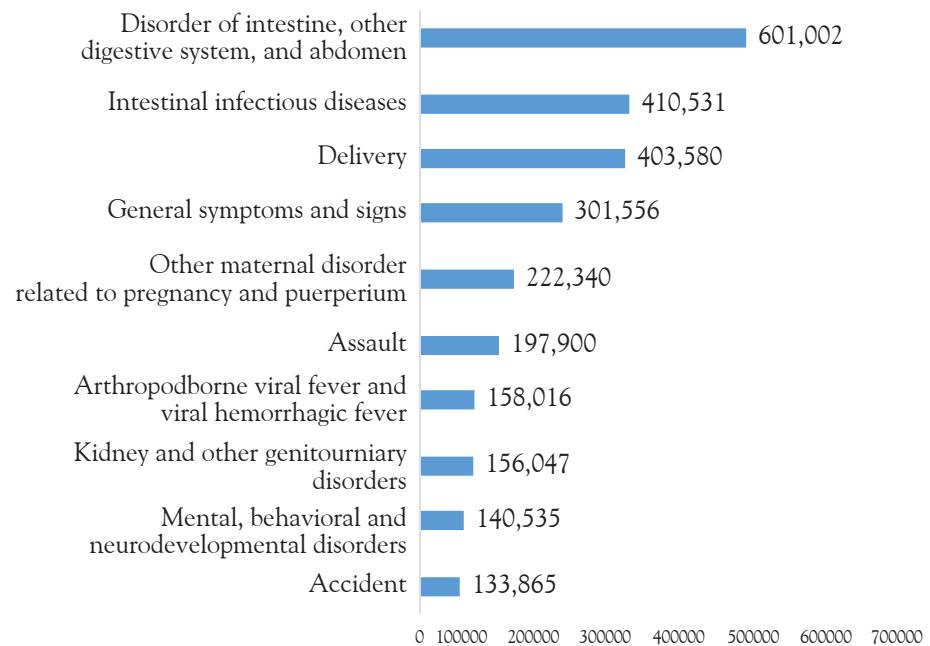


Figure 6. 8. Top 10 causes of admission among patients aged 15-44 years in all health facilities of Bangladesh, 2023

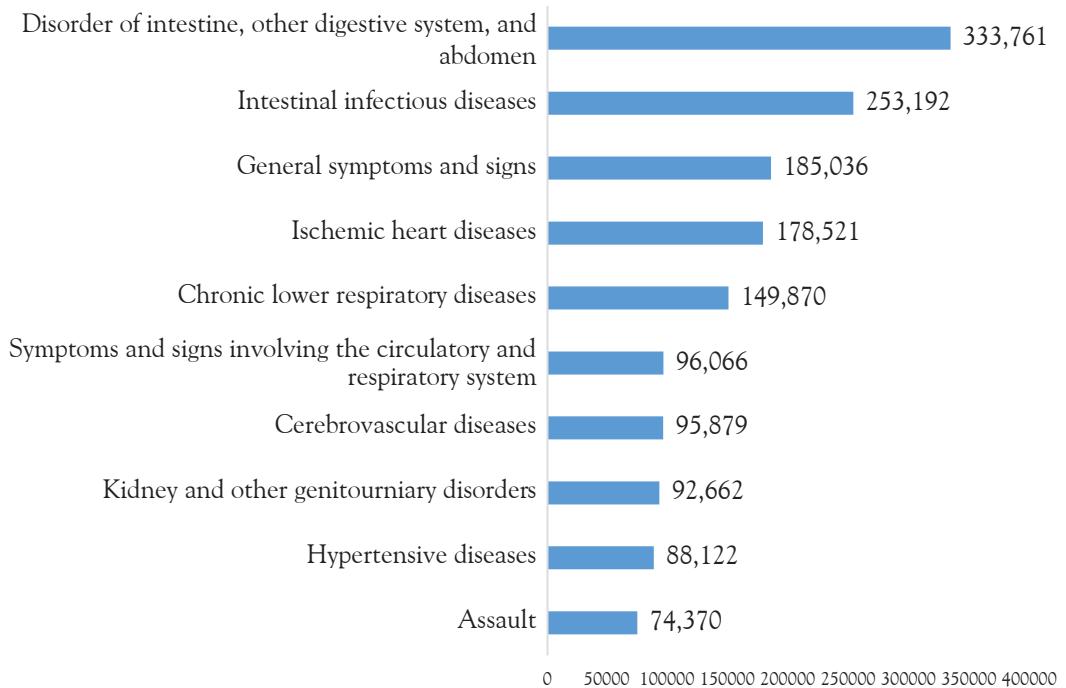


Figure 6.9. Top 10 causes of admission among patients aged over 45 years in all health facilities of Bangladesh, 2023

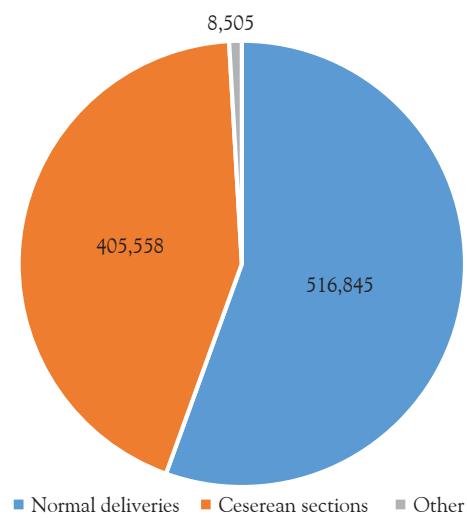


Figure 6.10. Number of different types of deliveries in all reporting facilities (govt. and pvt.) in 2023

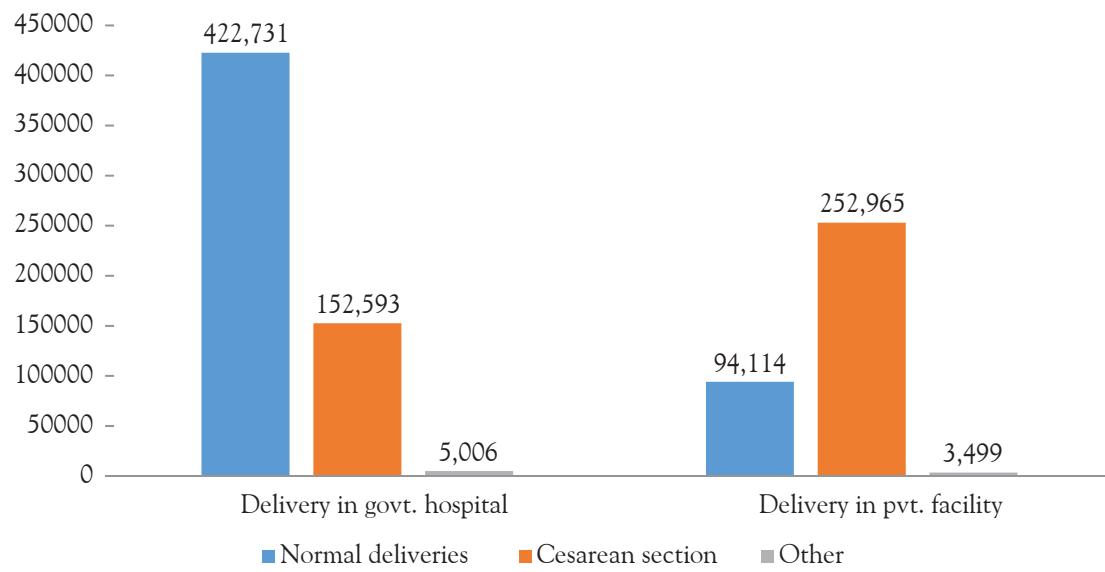


Figure 6.11. Facility-wise deliveries in 2023

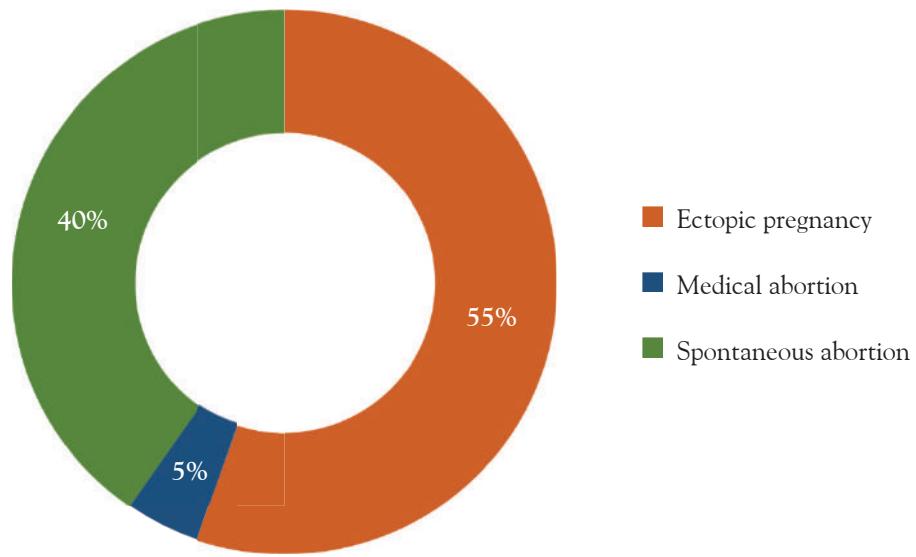


Figure 6.12. Percentage of different abortion outcomes at reporting facilities in 2023

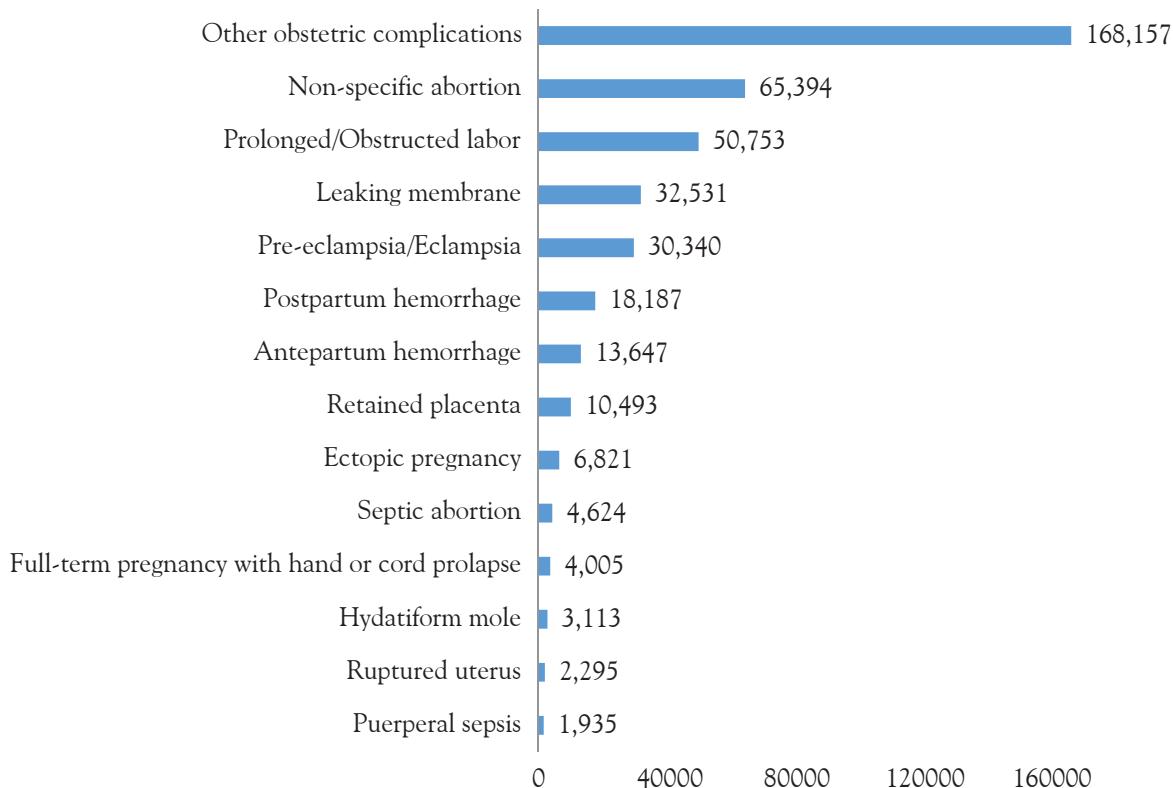


Figure 6.13. Top 14 complications of labor in 2023

Mortality Profile (Deaths at Facilities)

In 2023, a total of 162,701 deaths in 532 health facilities were recorded in DHIS2, representing 21.2% of the expected total deaths based on the 2022 crude death rate. Of these, 80.7% had a medical certificate for cause of death. The data highlight the key mortality trends, such as the high number of deaths among children aged 0-4 year(s) and

the dominance of non-communicable diseases as the leading cause of death.

The analysis underscores the necessity of tailored public health strategies that account for gender-specific needs and age-related vulnerabilities to mitigate mortality risks and enhance public health outcomes in Bangladesh. Improved data-collection mechanisms and standardized coding practices are essential to address the challenge of ill-defined causes of death.

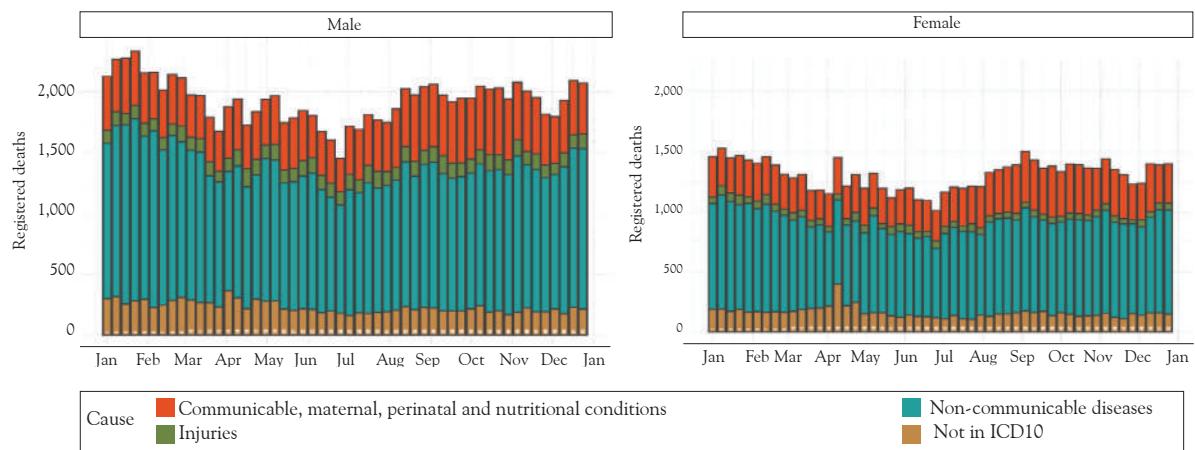
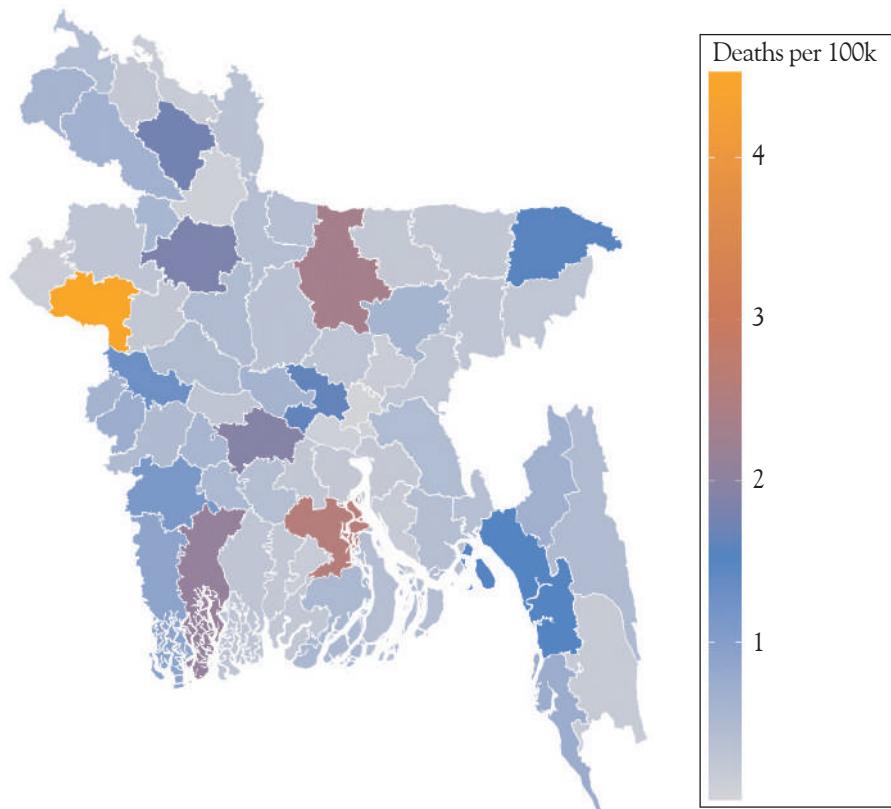


Figure 6.14. Weekly-recorded number of deaths with a medical certificate for cause of death by disease-group and sex, Bangladesh, 2023



District represents the district of report, not of residency

Figure 6.15. Reported medical certificates for cause of death per 100,000 population by district, Bangladesh, 2023

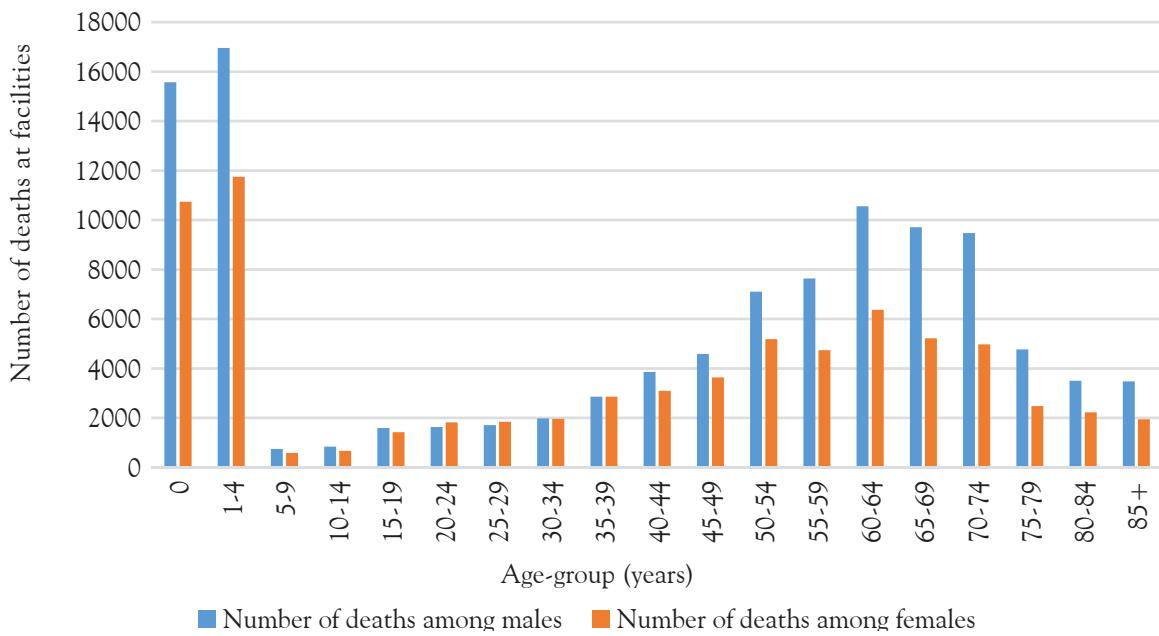


Figure 6.16. Distribution of facility death by age and sex, Bangladesh, 2023

The bar chart shows that the highest mortality occurs in early childhood (ages 0 and 1-4

years), and generally, males have higher death counts than females.

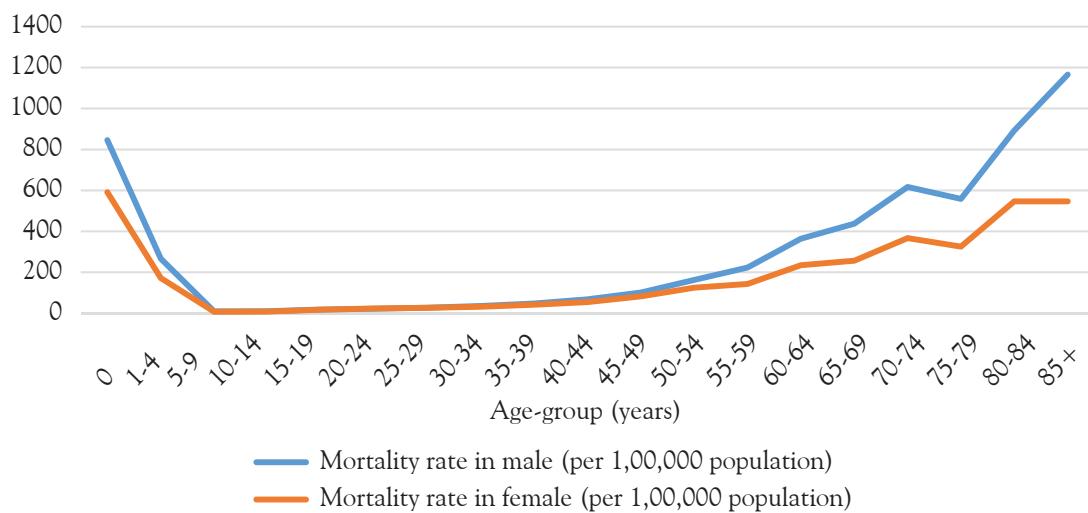


Figure 6.17. Age- and sex-specific mortality rates of recorded institutional death by 100,000 population, Bangladesh, 2023

Medically-certified cause-of-death profiles, 2023

Analysis based on the Global Burden of Disease Classification of ICD codes by WHO reveals that non-communicable diseases (Group 2: 64%)

dominate mortality at DGHS facilities, followed by communicable, maternal, neonatal, and nutritional causes (Group 1: 25%), with external causes and injuries (Group 3) contributing 5% (excluding invalid codes). Notably, this pattern varies by sex and age-group.

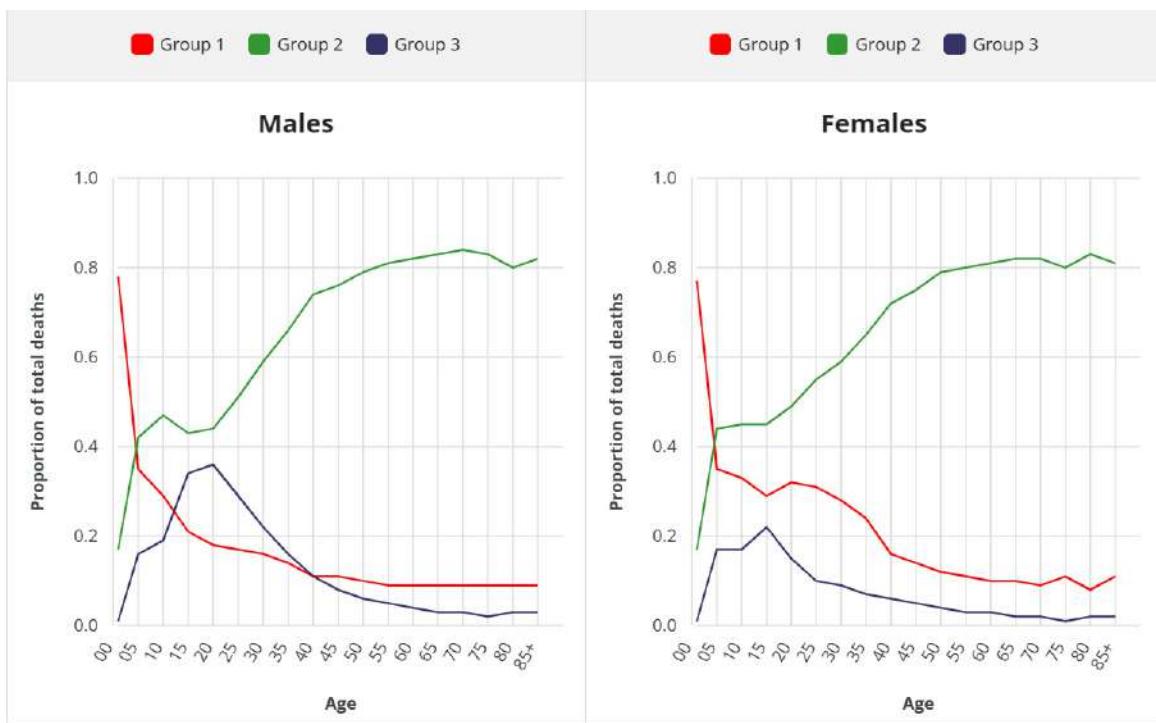


Figure 6.18. Proportion of total registered, certified deaths by 3 disease-groups, sex, and age, including unusable and insufficiently-specified codes, DGHS facilities, Bangladesh 2023

Table 6. Top 20 causes of registered certified causes of death, DGHS facilities, Bangladesh, 2023

Disease category GBD WHO	Name of the Disease	Total
Non-communicable diseases	Cardiovascular diseases	60,978
Communicable, maternal, perinatal and nutritional conditions	Conditions arising during the perinatal period	19,055
Communicable, maternal, perinatal and nutritional conditions	Other infectious and parasitic diseases	13,500
Non-communicable diseases	Respiratory diseases	11,363
Non-communicable diseases	Other non-communicable diseases	8,129
Non-communicable diseases	Genito-urinary diseases	6,014
Non-communicable diseases	Digestive diseases	5,183
Communicable, maternal, perinatal and nutritional conditions	Respiratory infections	4,926
Non-communicable diseases	Malignant neoplasms	4,841
Injuries	Other injuries	4,388

Ill-defined diseases: 19,105 | Deaths with invalid codes: 34

M<1	M1-4	M5-14	M15-24	M25-49	M50-74	M75+
Birth asphyxia and birth trauma	Other infectious diseases	Other infectious diseases	Ill-defined injuries/accidents	Other cardiovascular diseases	Ischaemic heart disease	Other cardiovascular diseases
Prematurity and low birth weight	Lower respiratory infections	Other cardiovascular diseases	Other cardiovascular diseases	Ischaemic heart disease	Other cardiovascular diseases	Ischaemic heart disease
Other conditions arising during the perinatal period	Other cardiovascular diseases	Ill-defined injuries/accidents	Road traffic accidents	Cerebrovascular disease	Cerebrovascular disease	Cerebrovascular disease
Lower respiratory infections	Ill-defined injuries/accidents	Road traffic accidents	Other infectious diseases	Ill-defined injuries/accidents	Other respiratory diseases	Chronic obstructive pulmonary disease
Other infectious diseases	Other digestive diseases	Lower respiratory infections	Nephritis and nephrosis	Road traffic accidents	Chronic obstructive pulmonary disease	Other respiratory diseases
Other cardiovascular diseases	Other respiratory diseases	Other digestive diseases	Other digestive diseases	Other infectious diseases	Nephritis and nephrosis	Other infectious diseases
Other digestive diseases	Meningitis	Leukaemia	Cerebrovascular disease	Nephritis and nephrosis	Other infectious diseases	Nephritis and nephrosis
Other respiratory diseases	Prematurity and low birth weight	Cerebrovascular disease	Other respiratory diseases	Other infectious diseases	Diabetes mellitus	Diabetes mellitus
Other neuropsychiatric disorders	Other neuropsychiatric disorders	Other respiratory diseases	Dengue	Other respiratory diseases	Other digestive diseases	Other digestive diseases
Endocrine disorders	Endocrine disorders	Nephritis and nephrosis	Other unintentional injuries	Diabetes mellitus	Road traffic accidents	Lower respiratory infections

F<1	F1-4	F5-14	F15-24	F25-49	F50-74	F75+
Birth asphyxia and birth trauma	Other infectious diseases	Other infectious diseases	Other cardiovascular diseases	Other cardiovascular diseases	Other cardiovascular diseases	Other cardiovascular diseases
Prematurity and low birth weight	Lower respiratory infections	Ill-defined injuries/accidents	Ill-defined injuries/accidents	Cerebrovascular disease	Cerebrovascular disease	Cerebrovascular disease
Other conditions arising during the perinatal period	Other cardiovascular diseases	Other cardiovascular diseases	Other infectious diseases	Ischaemic heart disease	Ischaemic heart disease	Ischaemic heart disease
Lower respiratory infections	Ill-defined injuries/accidents	Lower respiratory infections	Hypertensive disorders of pregnancy	Other infectious diseases	Diabetes mellitus	Other respiratory diseases
Other infectious diseases	Other respiratory diseases	Other digestive diseases	Nephritis and nephrosis	Diabetes mellitus	Other infectious diseases	Other infectious diseases
Other cardiovascular diseases	Meningitis	Other respiratory diseases	Other maternal conditions	Nephritis and nephrosis	Nephritis and nephrosis	Nephritis and nephrosis
Other respiratory diseases	Other digestive diseases	Road traffic accidents	Other digestive diseases	Ill-defined injuries/accidents	Other respiratory diseases	Diabetes mellitus
Other digestive diseases	Other neuropsychiatric disorders	Cerebrovascular disease	Other respiratory diseases	Other digestive diseases	Other digestive diseases	Lower respiratory infections
Congenital heart anomalies	Leukemia	Dengue	Cerebrovascular disease	Other respiratory diseases	Endocrine disorders	Other digestive diseases
Other neuropsychiatric disorders	Endocrine disorders	Leukemia	Endocrine disorders	Dengue	Lower respiratory infections	Endocrine disorders

□ Communicable, maternal, perinatal and nutritional conditions □ Injuries □ Non-communicable diseases

Figure 6.19. Top 10 causes of death by age-group, 2023 (F=Female, M=Male)

As previously stated, age remains one of the most important predictors of the risk of death, with epidemiological patterns of diseases well-established at different ages. As such, understanding and showing the disease pattern of mortality by age-group provide a relatively simple method of both checking the plausibility of the input data and showing the disease pattern in a country.

The leading causes of death among males and females by age-group, demonstrate expected patterns of non-communicable diseases, perinatal and maternal causes in appropriate age brackets, while injuries prevalent in young

adults diminish with age; 'll-defined injuries/accidents' are unexpectedly high among females in age-group of 1-4, 5-14, and 15-24 years; these should be further investigated. Also, a considerable proportion of deaths fall under 'poorly-defined' categories, complicating efforts to address specific causes effectively.

There are unexpected findings that need to be further investigated to understand the root cause, including inadequate medical certification. For instance, 'other neuropsychiatric disorders', which is a rare occurrence, are listed among the top ten

causes of death for children under one year. The group of 'other cardiovascular diseases' is likely to be distributed among the major causes, like ischemic heart disease and cardiovascular disease and may even be

hiding maternal deaths among young women. Common causes of death in children, like drowning and diarrhea, are not reflected; this may be due to the facility profile compared to the deaths that happen in the community.

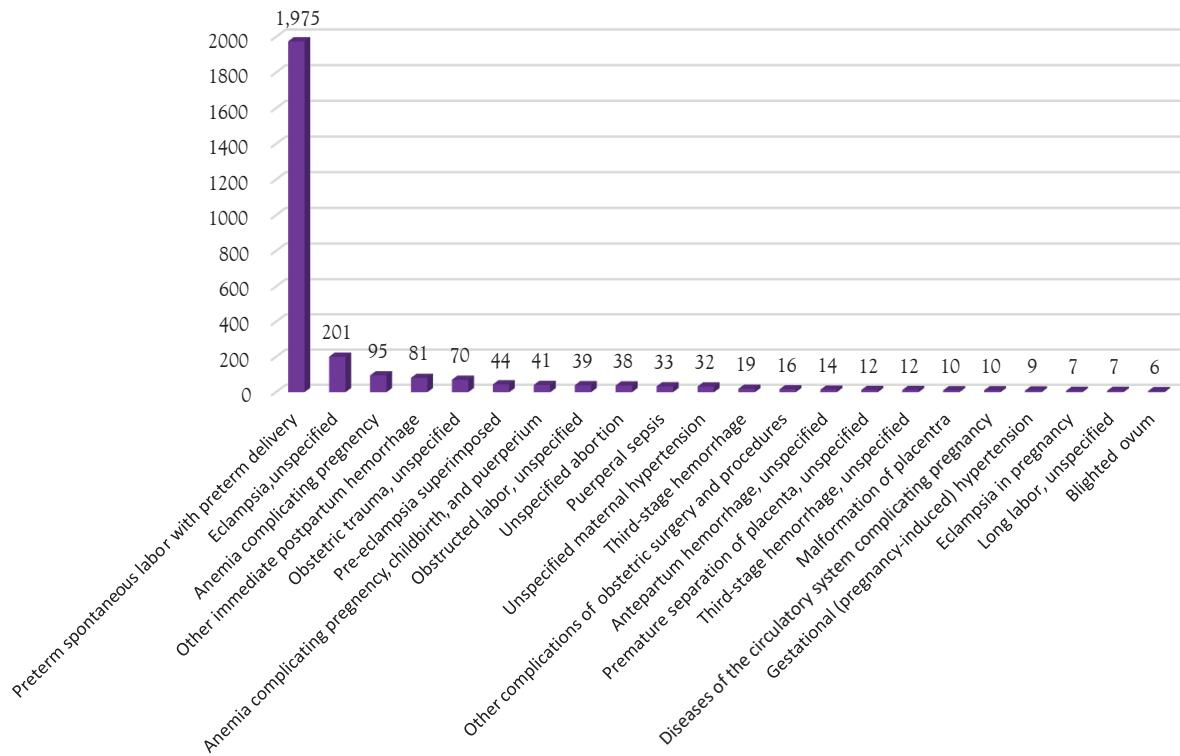


Figure 6.20. Top 22 maternal causes of death

Mortality profile (Deaths in community)

The scale-up of initiative is progressing in 46 sub-districts, including Kaliganj Sub-district where the Verbal Autopsy (VA) Pilot Project was initially launched. A total of 193 health officials have been trained as master trainers, and 2,028 interviewers and

supervisors have been trained across 54 sub-districts. Since March 2017 until December 2023, a total of 57,191 VAs have been completed. Additionally, an ODK server has been installed at the MIS-DGHS, which is actively receiving VA data, and VA Manager Tools have been established to support this initiative.

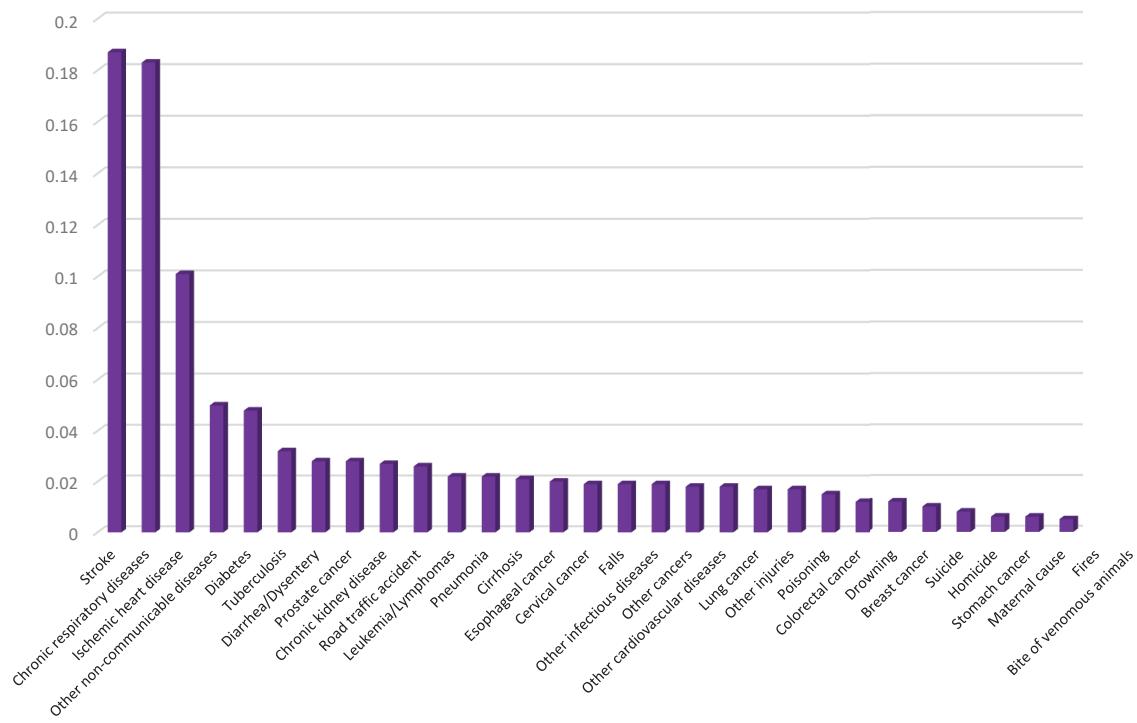


Figure 6.21. Cause-specific mortality fractions among adults (12+ years)

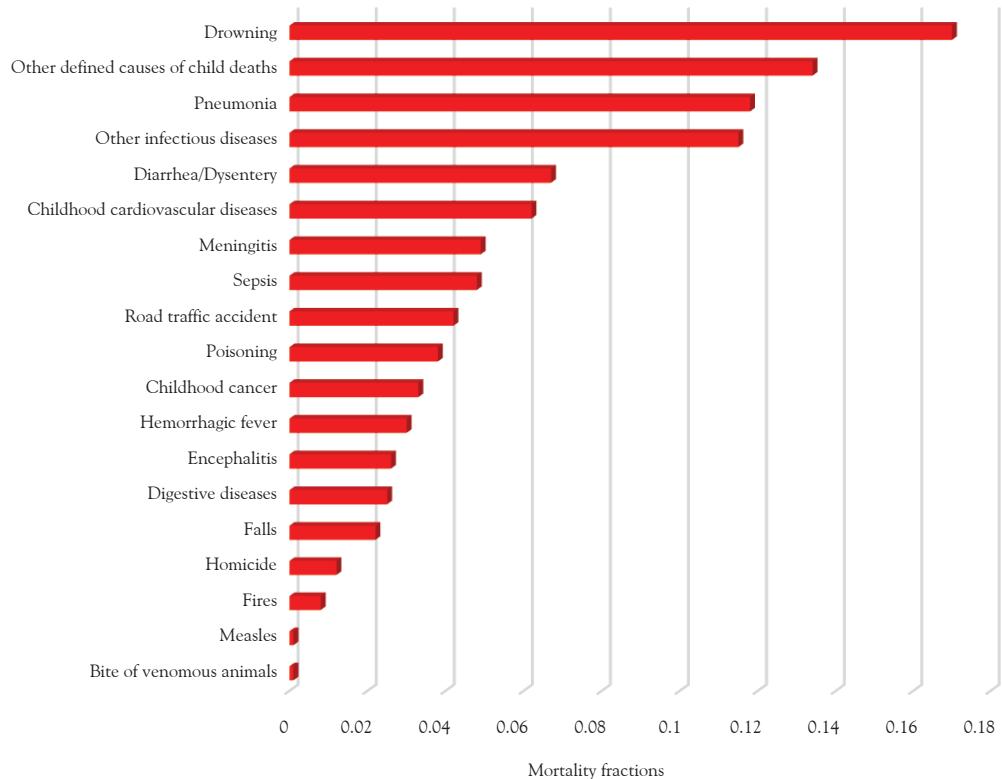


Figure: 6.22. Cause-specific mortality fractions among children (29 days-11 years)

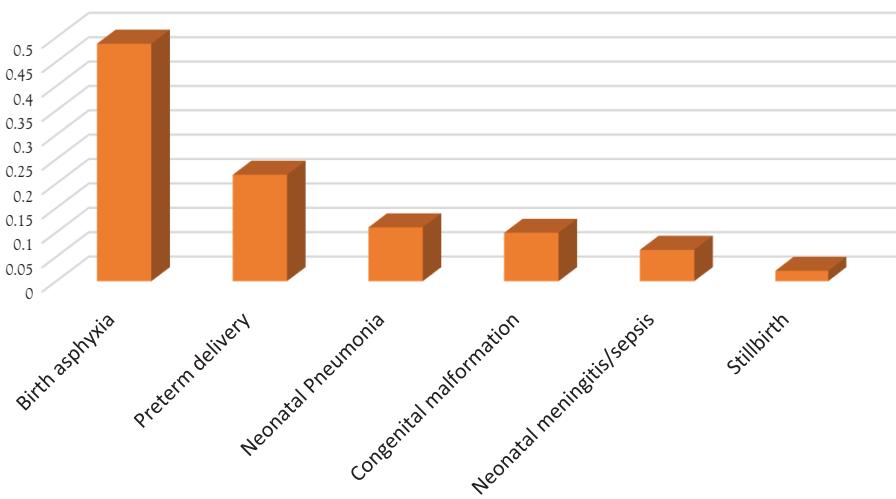


Figure 6.23. Cause-specific mortality fractions among neonates (<28 days)

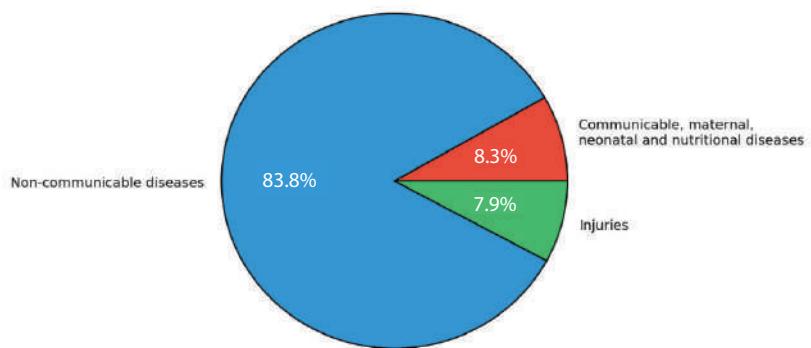


Figure 6.24. Disease burden

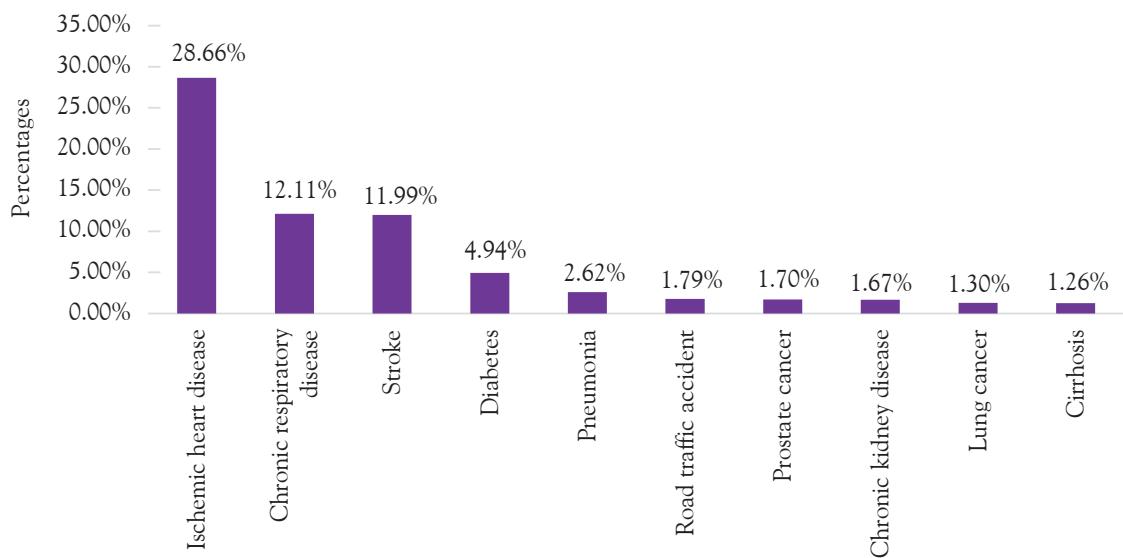


Figure 6.25. Top 10 leading causes of deaths from verbal autopsy report, 2023

The mortality profile presented in the Health Bulletin 2023 offers a detailed analysis of mortality trends in Bangladesh's health facilities. Key findings indicate that the highest mortality rate is among the children aged 0-4 years, highlighting the urgent need for improved maternal and child healthcare. Non-communicable diseases (NCDs) are the leading causes of death, accounting for 64%, followed by communicable, maternal, neonatal, and nutritional causes at 25%. Gender-specific differences are evident, with males having higher mortality rates and distinct causes, such as cancer being more prevalent in males and maternal causes in females. The chapter also emphasizes the importance of precise data collection and the necessity of formulating gender-specific public health strategies.

Conclusions and Recommendations

The analysis underscores the evolving demographic profile of morbidity and mortality at health facilities in Bangladesh, with a pattern of high infant mortality and toward higher percentages of deaths among older age-groups, with a clear burden from non-communicable diseases.

Further investigation into the risk factors associated with neonatal, infant, and child

mortality within these facilities is crucial as is the formulation of specific recommendations to address these. Similarly, the prevalence of injuries and non-communicable diseases among adolescents and young adults warrants thorough investigation to implement preventive measures effectively. This is particularly the case for females of reproductive age.

Of paramount importance is the looming burden of non-communicable diseases, anticipated to escalate in the coming years. As such, public health planning must prioritize efforts to strengthen healthcare infrastructure and promote preventive measures, particularly among vulnerable populations.

To confront the challenge posed by ill-defined causes of death and the categorization of deaths under 'other', there is an urgent need for improved data-collection mechanisms and standardized coding practices.

In summary, the findings underscore the necessity of tailored public health strategies that account for gender-specific needs and age-related vulnerabilities. By doing so, we can effectively mitigate mortality risks and enhance public health outcomes in Bangladesh.

Health Workforce

Healthcare workforce density is on the rise

This chapter provides an overview of the health workforce situation in DGHS, emphasizing the number of sanctioned and filled-up posts, along with vacancies. DGHS has a total of 121,613 sanctioned positions available with 34.3% vacancies. Grade 1-9 comprising Doctor (MBBS and Dental) category has a low vacancy rate of 19.2% but will require a large effort to fill 7,345 vacant positions. Grade 11-16 comprising Field Workers and others have 34.9% and 44.4% vacancy rates, with 9,275 and 6,675 vacant posts respectively, where most vacancies are among domiciliary staff working closely with the communities to ensure successful implementation of programs. The effort of filling up positions will require a recruitment effort to close the gender gap that is especially wide among non-medical and administrative positions. Measures to improve equitable recruitment, deployment, and retention across diverse disciplines of healthcare professionals need to be taken, with strategies that include financial and non-financial incentives, career development opportunities, and improved working conditions.

An Overview of the Health Workforce in Bangladesh

The foundation of a resilient healthcare system lies in its workforce. The availability of health workers is strongly correlated with health service coverage and health outcomes(1). Optimizing health workforce management

is necessary for realizing Universal Health Coverage (UHC) by 2030 (2).

According to data from the Bangladesh Medical and Dental Council (BMDC), as of 31 December 2023, Bangladesh boasts of a substantial medical workforce of 141,999 registered physicians, including both MBBS and BDS (details are available in Chapter 8). With a population nearing 171.0 million(3), this is equivalent to approximately 0.83 doctors per 1,000 population, well off compared to 0.6 per thousand population in the South East-Asia region but far behind compared to the WHO estimates of the minimum threshold of 1.5 physicians per 1,000 population to meet the SDG targets(4). This threshold is based on the current global-nurse-to-physician ratio of 2:1, with the estimate of 44.54 healthcare workers per 10,000 population.

The effort of filling up positions will require a recruitment effort to close the gender gap that is especially wide among non-medical and administrative positions

The Government's commitment to enhancing the healthcare workforce is evident in the remarkable increase in health worker density over the past five years, rising from 7.4 to 9.9 per 10,000 population(5).

Health Workforce Situation under DGHS

DGHS, keen on developing a strong workforce that contributes to achieving UHC, has a total of 121,613 sanctioned positions available. However, despite this manpower, vacancies persist with 65.7% of sanctioned positions filled up (Figure 7.1).

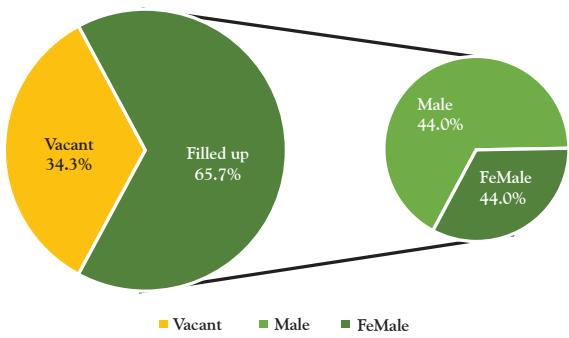


Figure 7.1. Status of the total sanctioned posts under DGHS as per record on 31 December 2023 (HRIS, MIS, DGHS)

The vacancy rate varies among positions, Grade 1-9 that include doctors, alternative physicians, and non-medical

posts have lower vacancy rate of 20.8%. On the other hand, Grade 10 comprising Sr. Medical Technologist, Administrative Officer, Instructor, Nutritionist, Accounts Officer and Grade 17-20 comprising Lab Assistant, Cook, Dome, Instrument Caretaker, Office Sohayok (previously designated as MLSS) have the highest vacancy rate with only half of the posts filled up (50.2% and 48.3% respectively). Finally, Grade 11-16 comprising Health Educator, Sub-Assistant Community Medical Officer, Domiciliary Staff, Medical Technologist (MT), Pharmacist, Computer Operator, Accountant, Assistant Nurse, Driver, Support Personal, Ticket Clerk, Ward Master have a vacancy rate of 36.5%. Nursing staff exclusively managed by the Directorate General of Nursing and Midwifery (DGNM) is excluded, and their data are not presented here, leaving out the scope of any speculation in this bulletin (Figure 7.2).

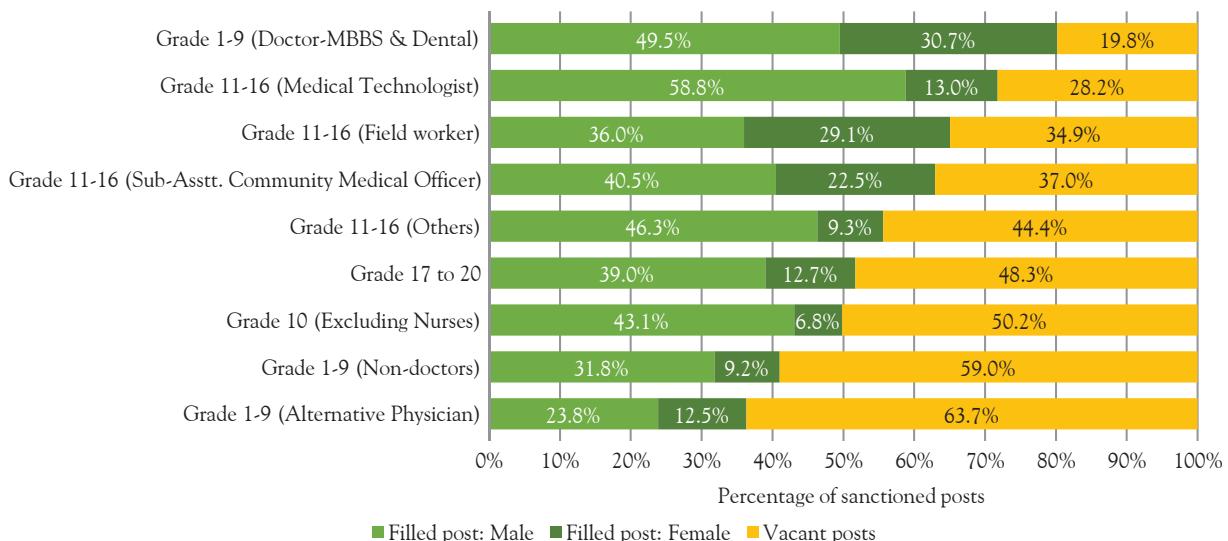


Figure 7.2. Status of filled-up and vacant posts in all categories of employees under DGHS with gender division as per record on 31 December 2023 (Bangladesh SDG Tracker: Indicator 3c.1).

When looking at the specific professional categories, we can see that even when the Grade 1-9 Doctor (MBBS and Dental) category has a low vacancy rate of 19.2%, it will require a large effort to fill 7,345 vacant positions. The same is true with Grade 11-16 comprising field workers and others that have a lower than 50% vacancy rate (34.9% and 44.4% respectively) but have 9,275 and 6,675 vacant posts respectively, where most vacancies are among domiciliary staff working closely with the communities to provide preventive and curative services, conduct health education programs, and ensure successful implementation of immunization programs. (Figure 7.3)

The biggest gap of vacancy rate and positions to be filled is in Grade 17-20 where the vacancy rate is close to 50% (48.3%) and 12,585 positions need to be filled up. On the contrary, Grade 1-9 comprising Alternative Physician and non-doctors have the highest vacancy rate of 63.7% and 59% respectively but lower number of positions is to be filled up (235 and 345).

The effort of filling positions will require a recruitment effort to close the gender gap that is especially wide among non-medical and administrative positions. Although this gap is smaller among Grade 1-9 Doctors (MBBS & Dental) category, the distribution of positions needs to be evaluated since there are categories with more hired personnel than sanctioned (Director/ Principal/ Vice Principal, Deputy Director, Assistant Director/ Civil Surgeon, Deputy Civil Surgeon/ UHFPO), and others with more than half of the posts or a high number of posts that need to be filled up (e.g. Professor, Consultants, Assistant Surgeon/ OSD/ Equivalent). The detailed situation of the health workforce in DGHS is shown in Table 7; an ongoing process of health workforce deployment and redeployment is affected by factors, such as death, retirement, resignation, termination, migration, transfer, replacement, and filling-in. The status of the health workforce in this report may change before publication due to these constant dynamics.

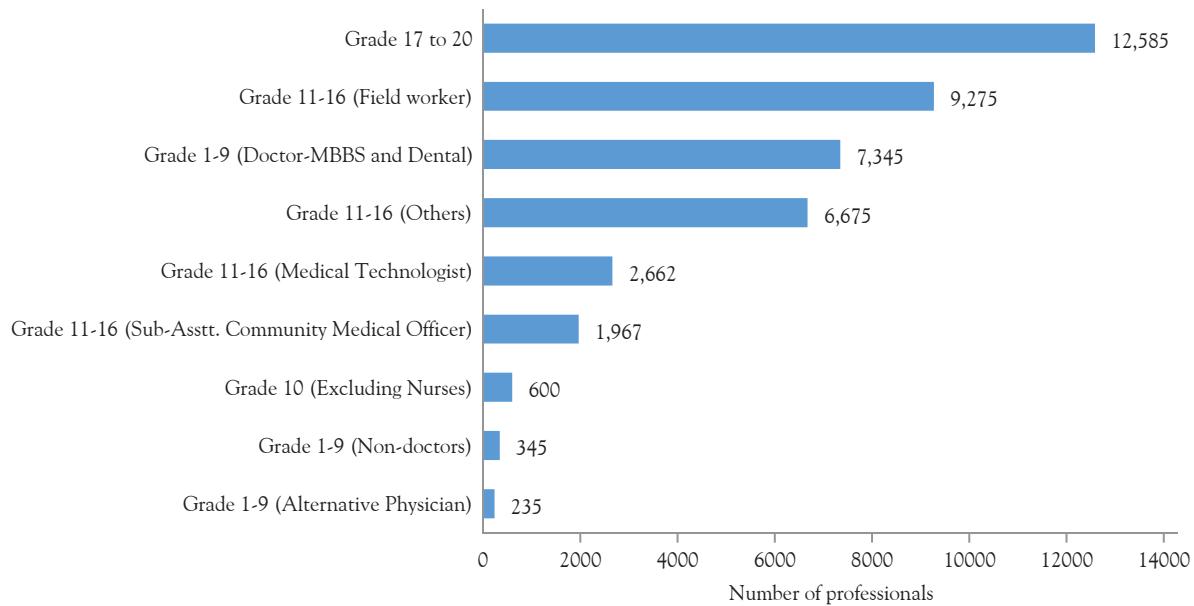


Figure 7.3. Number of professionals needed to be recruited in sanctioned posts under DGHS by category as per record on 31 December 2023) (HRIS, MIS, DGHS)

Table 7. Number of sanctioned, filled-up and vacant posts under DGHS as per record on 31 December 2023 (HRIS, MIS, DGHS)

Category	Total posts	Filled (Male)	Filled (Female)	Filled total	Vacant	Rate of vacancy (%)
Grade 1-9						
Doctors	37,088	18,350	11,393	29,743	7,345	19.8
Director General	1	1	0	1	0	0.0
Addl. Director General/OSD/Equivalent	13	8	3	11	2	15.4
Director/ Principal/Vice Principal/OSD/Equivalent	134	157	32	189	-55	-41.0
Deputy Director/OSD/Equivalent	156	249	65	314	-158	-101.3
Assistant Director/Civil Surgeon/OSD/Equivalent	280	407	80	487	-207	-73.9
Deputy Civil Surgeon/UHFPO/OSD/Equivalent	1,170	2,238	961	3,199	-2,029	-173.4
Professor	1,003	289	107	396	607	60.5
Associate Professor	1,789	766	240	1,006	783	43.8
Assistant Professor	2,844	1,047	466	1,513	1,331	46.8
Senior Consultant	793	246	60	306	487	61.4
Senior Lecturer	8	4	2	6	2	25.0
Junior Consultant	5,045	1,393	702	2,095	2,950	58.5
Junior Lecturer	32	15	15	30	2	6.3
Other posts (pay scale 7 and 8)	576	339	192	531	45	7.8
Assistant Surgeon/OSD/Equivalent	23,244	11,191	8,468	19,659	3,585	15.4
Alternative Physician (homeopathy, unani and ayurvedic)	369	88	46	134	235	63.7
Non-doctors	585	186	54	240	345	59.0
Sub-total	38,042	18,624	11,493	30,117	7,925	20.8
Grade 10*	1,196	515	81	596	600	50.2
Grade 11-16						
Sub Asstt. Community Medical Officer	5,310	2,149	1,194	3,343	1,967	37.0
Field Worker	26,543	9,553	7,715	17,268	9,275	34.9
Health Inspector	1,411	553	147	700	711	50.4
Assistant Health Inspector	4,223	1,257	1,743	3,000	1,223	29.0
Health Assistant	20,909	7,743	5,825	13,568	7,341	35.1
Medical Technologist	9,425	5,540	1,223	6,763	2,662	28.2
Table 7 contd.						

Table continued...

Category	Total posts	Filled (Male)	Filled (Female)	Filled total	Vacant	Rate of vacancy (%)
Pharmacy	2,950	1,751	452	2,203	747	25.3
MT (Dental)	662	456	113	569	93	14.0
MT (EPI)	515	428	30	458	57	11.1
MT (Lab)	2,636	1,632	411	2,043	593	22.5
MT (Physiotherapy)	452	164	51	215	237	52.4
MT (Radiography)	874	626	45	671	203	23.2
MT (Radiotherapy)	86	58	15	73	13	15.1
MT (SI)	484	350	87	437	47	9.7
MT (Other disciplines)	49	20	2	22	27	55.1
MT (without discipline)	717	55	17	72	645	90.0
Others	15,048	6,969	1,404	8,373	6,675	44.4
Sub-total	56,326	24,211	11,536	35,747	20,579	36.5
Grade 17 to 20	26,049	10,156	3,308	13,464	12,585	48.3
Total	121,613	53,506	26,418	79,924	41,689	34.3

*Excluding nursing and midwifery posts: information about nurses and midwifery service is not included here as they are maintained by the Directorate General of Nursing and Midwifery (DGNM)

Recommendations

Filling vacant positions in the health sector is a top priority for the Government of Bangladesh. There are substantial vacancies across diverse categories, including positions for doctors, non-medical professionals, and technical and support staff. The evident vacancy ratios among these categories underscore the critical need to fill up these positions, fortifying the healthcare workforce. Some factors that have been identified to contribute to this phenomenon are: poor working conditions for healthcare workers, including safe working environment, low salaries, inadequate equipment and supplies,

long working hours, and lack of supportive supervision. These can lead to burnout, stress, and migration, exacerbating workforce shortages (6).

It is vital for Bangladesh to address these shortcomings and maintain gender balance to develop a strong healthcare system that meets the needs of its people effectively. Ensuring fair access to healthcare across the country requires more than just filling of the job openings; it also means tackling regional differences and ensuring that everyone is adequately represented. This involves measures to improve equitable recruitment, deployment, and retention of healthcare

professionals across diverse disciplines, with strategies that include financial and non-financial incentives, career development opportunities, and improved working conditions (7,8). Increased investments in education and training of the health workforce are imperative, with a focus on producing the right skill-mix to meet health needs of the population (9). The 9,275 vacant positions in Grade 11-16 belong to professionals responsible for domiciliary services, which help in the early detection of illnesses, provision of timely care, and health promotion, such as administering EPI vaccines to prevent the spread of diseases and protecting the health of children and vulnerable individuals and conducting activities that contribute significantly to public awareness campaigns, educating communities about proper hygiene practices, disease prevention, and family planning.

Increased investments in education and training of the health workforce are imperative, with a focus on producing the right skill-mix to meet health needs of the population

Essential for this effort is the recruitment and retention of healthcare professionals in various disciplines, by providing necessary resources to strengthen the healthcare workforce. By addressing these challenges, Bangladesh can make significant strides in enhancing access to healthcare, improving services, and promoting the overall wellbeing of its population.

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Medical Education

High-quality services emphasized

The Government of Bangladesh recognizes the importance of competent human resources for health as a prerequisite for achieving Universal Health Coverage (UHC) and SDG 3 by 2030. For expanding access and improving quality of health, nutrition, and population services both in public and private sectors, strengthening institutions for production of competent health workforce is crucial for ensuring efficient and essential medical service delivery. DGME, through its Medical Education (ME) Unit, is the focal point and has been continuing efforts to produce motivated health professionals, like medical doctors, sub-assistant community medical officers (medical assistants), medical technologists with diploma and graduate-level education, and alternative medical care professionals.

Both government and private medical colleges introduced automatic online procedures for admission from session 2021-2022 onward. Foreign students submit their online applications with relevant documents through DGME portal. Students facility registry, students information portal, eLibrary setting up of simulation lab in 16 government medical colleges, and 1 dental college are already established.

Some of the innovative concepts (listed hereafter) will be implemented later under direct oversight of DGME:

- Blended learning
- Establishment of digital classrooms and initiative for online lecture classes

- Online hostel seat allotment
- ePortfolio
- Questions preparation for exams, using artificial intelligence
- Vision 2021 and 2041 as well as the Sustainable Development Goals (SDGs) set the guiding principles of medical education in Bangladesh
- The ME Unit of DGME oversees the in-service training of the existing health

DGME, through its Medical Education (ME) Unit, is the focal point and has been continuing efforts to produce motivated health professionals, like medical doctors, sub-assistant community medical officers, medical technologists with diploma and graduate-level education, and alternative medical care professionals

workforce and leads all activities toward implementation of the medical education operational plan within the 4th health sector program (HPNSP 2017-2024). Development of both institutional and individual capacity of the health professionals is the prime focus of the curricula.

Current Status

- Medical Colleges:
 - > Public: 37
 - > Private: 67
- Medical Universities: 5
- Postgraduate Medical Teaching Institutes: 39
- Armed Forces Medical College: 1
- Army Medical Colleges: 5
- Medical Assistants Training Schools (MATS):
 - > Public: 20
 - > Private: 200
- Institutes of Health Technology (IHT):
 - > Public: 23
 - > Private: 97

Goal

To provide quality medical education in medical teaching institutes for Universal Health Coverage

Objective: To strengthen medical education system for developing medical professionals

and health workforce to deliver standard and high-quality services in achieving Universal Health Coverage

Major Activities

- Streamlining postgraduate medical education
- Ensuring qualitative graduate-level medical education
- Ensuring qualitative para-professionals education
- Ensuring need-based proper health manpower development
- Conducting admission tests for MBBS, BDS, BAMS, BUMS, and BHMS, IHT, and MATS
- Procurement of furniture, machinery, and equipment for all government medical and dental colleges
- Strengthening libraries with journals and books and establishing a unique electronic library
- Establishment of simulation labs in different government medical colleges, BCPS, IHT, and MATS



Officials of the Directorate General of Medical Education (DGME)

Major Achievements

- Restructured the position of Director, ME&HMD, for Directorate General of Medical Education
- Strengthening quality medical education is concerned with streamlining postgraduate medical education, ensuring qualitative graduate-level medical education, and para-professional education, with need-based proper health manpower development as well as supporting infrastructure development of medical institutes, strengthening libraries with journals and books, and establishing a unique electronic library
- Training of the health workforce became a major activity of ME Unit

Innovation

- DGME conducts national-level admission tests for MBBS, BDS, IHT, MATS and alternative medical care courses
- Digital system is applied from online submission of applications up to declaration of results
- Global positioning system (GPS) is used during the transportation of question papers and the dispense of examination materials

- Online submission of applications from foreign students for enrolment in MBBS/BDS courses in session 2022-2023 has been started
- After evaluation, examination results are informed to the examinees through SMS by Teletalk
- Selection of students for private medical colleges/dental colleges/dental units has been automatically done according to their merit and choices since session 2022-2023

Recommendations

- Procurement and supply of machinery and equipment, furniture and fixtures, and provision of logistic support in medical/dental colleges and other medical institutes, seven medical colleges, especially newly-established in Netrakona, Chandpur, Naogaon, Nilphamari, Magura, Habiganj, and Sunamganj districts, are to be ensured
- Training on professional teaching within different programs at home and abroad should be arranged
- A separate medical research institute should be established
- A residential training institute should be established
- Establishment of institutes to teach about health management is needed

Table 8.1. Number of institutions, enrolment capacity of the government and private medical colleges, including dental colleges, and dental units during academic year 2023-2024

Type of institutions	Number of institutions	Estd. year	Enrolment capacity (No. of seats)
Government Medical College	37	1946-2023	5,380
Armed Forces Medical College and Army Medical Colleges	6	1999-2023	385
Private Medical College	67	1985-2023	6,293
Government Dental College and Unit	9	1960-2023	565
Private Dental College and Unit	26	1995-2023	1,405
Total	145		14,028

Academic activities of the following medical colleges are suspended by MOHFW and BM&DC (Source: Administrative data, Medical Education, DGME):

1. Aichi Medical College, Uttara, Dhaka
2. Northern International Medical College, Dhanmondi, Dhaka
3. Northern Private Medical College, Rangpur

4. Shah Makhdum Medical College, Rajshahi

The following medical colleges are closed by MOHFW:

1. Nightingale Medical College, Ashulia, Dhaka
2. Care Medical College, Mohammadpur, Dhaka



Signing Ceremony of Annual Performance Agreement (APA) between DGME and its 41 institutes

Table 8.2. Enrolment capacity of the government medical colleges in academic year 2022-23

Sl. no.	Name of institution	Estd. year	No. of seats
1	Dhaka Medical College, Dhaka	1946	250
2	Sir Salimullah Medical College, Mitford, Dhaka	1972	250
3	Shaheed Suhrawardy Medical College, Sher-e-Bangla Nagar, Dhaka	2005	230
4	Mymensingh Medical College, Mymensingh	1962	250
5	Chattogram Medical College, Chattogram	1962	250
6	Rajshahi Medical College, Rajshahi	1962	250

Table 8.2 contd.

Table continued...

Sl. no.	Name of institution	Estd. year	No. of seats
7	MAG Osmani Medical College, Sylhet	1966	250
8	Sher-e-Bangla Medical College, Barisal	1968	250
9	Rangpur Medical College, Rangpur	1972	250
10	Cumilla Medical College, Cumilla	1992	200
11	Khulna Medical College, Khulna	1992	200
12	Shaheed Ziaur Rahman Medical College, Bogura	1992	200
13	Bangabandhu Sheikh Mujib Medical College, Faridpur	1992	200
14	M. Abdur Rahim Medical College, Dinajpur	1992	200
15	Pabna Medical College, Pabna	2008	100
16	Abdul Malek Ukil Medical College, Noakhali	2008	100
17	Cox's Bazar Medical College, Cox's Bazar	2008	100
18	Jashore Medical College, Jashore	2010	100
19	Satkhira Medical College, Satkhira	2011	100
20	Shaheed Syed Nazrul Islam Medical College, Kishoreganj	2011	100
21	Kushtia Medical College, Kushtia	2011	100
22	Sheikh Sayera Khatun Medical College, Gopalganj	2011	125
23	Shaheed Taj Uddin Ahmed Medical College, Gazipur	2013	100
24	Sheikh Hasina Medical College, Tangail	2014	100
25	Sheikh Hasina Medical College, Jamalpur	2014	100
26	Colonel Malek Medical College, Manikganj	2014	125
27	Shaheed M. Mansur Ali Medical College, Sirajganj	2014	100
28	Patuakhali Medical College, Patuakhali	2014	75
29	Rangamati Medical College, Rangamati	2014	75
30	Mugda Medical College, Dhaka	2015	100
31	Sheikh Hasina Medical College, Habiganj	2017	100
32	Netrakona Medical College, Netrakona	2018	75
33	Nilphamari Medical College, Nilphamari	2018	75
34	Naogaon Medical College, Naogaon	2018	75
35	Magura Medical College, Magura	2018	75
36	Chandpur Medical College, Chandpur	2018	75
37	Bangabandhu Medical College, Sunamganj	2020	75
Total seats			5,380

Data source: Administrative data, ME, DGME

Table 8.3. Enrolment capacity of Armed Forces Medical College and Army Medical Colleges in 2022-2023 academic year

Sl. no.	Name of institution	Estd. year	No. of seats
1	Armed Forces Medical College, Dhaka	1999	125
2	Army Medical College, Chattogram	2014	50
3	Army Medical College, Jashore	2014	50
4	Army Medical College, Cumilla	2014	50
5	Army Medical College, Rangpur	2014	50
6	Army Medical College, Bogura	2014	60
Total seats			385

Source: Administrative data, Medical Education, DGME

Foreign Students' Enrolment in MBBS and BDS Courses

- There are 2119 foreign students in MBBS and BDS courses in different institutions of Bangladesh
- Foreign students in private medical colleges saw the biggest rise in the number

Table 8.4. Changes in foreign students' enrolment from 2009 to 2022

Name of institution	2009 (No. of students)	2022 (No. of students)	Change in the number of foreign students
Government Medical Colleges	50	137	87
Private Medical Colleges	474	1,970	1,496
Government Dental Colleges and Units	2	5	3
Private Dental Colleges and Units	40	7	-33
Total	566	2,119	1,553

Source: Administrative data, (ME, DGME)

Bangladesh Medical and Dental Council (BM&DC)

- The Bangladesh Medical and Dental Council (BM&DC) is a statutory body with the responsibility of establishing and maintaining high standards of medical education and recognition of medical qualifications in Bangladesh
- BM&DC registers doctors to practise in Bangladesh in order to protect and promote the health and safety of the public by ensuring proper standards in the practice of medicine

Table 8.5. Number of graduate and postgraduate doctors in Bangladesh registered in BM&DC (up to December 2023)

Sl. no.	Category	Total	Male	Female
1	Registered doctor (MBBS)	128,411	71,600	56,811
2	Registered doctor (BDS)	13,588	7,014	6,574
3	Postgraduate doctor	20,683	12,723	7,960
4	Degree-wise postgraduate doctor	(a) Diploma	4,683	3,235
		(b) FCPS	5,218	2,916
		(c) FRCS	8	8
		(d) MCPS	1,193	665
		(e) MD	3,727	2,545
		(f) MPH	692	352
		(g) MPhil	1,613	548
		(h) MRCP	80	66
		(i) MS	2,651	1,937
		(j) PhD	75	55

Source: Bangladesh Medical and Dental Council (BM&DC)

Status of Degree on Health Technology

- There are 23 government institutes of technology, with an enrolment capacity of 3,719. There are 97 private institutes for
- technology with an enrolment capacity of 8,940.
- These institutes offer both BSc and diploma courses in health technology and physiotherapy

Table 8.6. Enrolment capacity of government and private institutes of health technology (IHT) in 2022-2023 academic year by discipline

Sl. no.	Type of institution	Estd year	Total seats by discipline										
			LAB	RDL/IM/ Radiography	PTY	DENT	Pharmacy	Radiotherapy	OTA	ICA	SIT	Total	
1	Enrolment capacity of the government institutes of health technology (IHT)-23	1962-2022	990	730	400	455	755	140	25	25	99	100	3,719
2	Enrolment capacity of private institutes of health technology (IHT)-97	2001-2022	4,127	935	920	2123	60	235	255	180	5	100	8,940
Total			5,117	1,665	1,320	2,578	815	375	280	205	104	200	12,659

LAB=Laboratory; RDL=Radiology; PTY=Physiotherapy; SI=Sanitary inspection; DENT=Dentistry; PHAR=Pharmacy;

RTY=Radiotherapy

Source: Administrative data (ME, DGME)

Table 8.7. Enrollment capacity of the government institutes of health technology (IHT) in 2022-2023 academic year by discipline

Division	Name of institute with location	Estd. year	Discipline						Total		
			RDL & IMG/ Radiography	PTY	DENT	Pharmacy	Radiotherapy	OTA			
Dhaka	IHT, Dhaka	1962	50	50	50	50	20	25	7	50	377
	IHT, Tungipara	2019	50	0	0	50	0	0	3	0	103
	IHT, Gazipur	2019	50	0	0	50	0	0	3	0	103
	IHT, Kashiani, Gopalganj	2022	50	0	0	50	0	0	0	0	3
	IHT, Madaripur	2022	50	50	0	50	0	0	0	0	155
	IHT, Manikganj	2022	25	25	0	0	0	0	0	0	52
	IHT, Munshiganj	2022	25	25	0	0	0	0	0	0	52
	IHT, Shibchor, Madaripur	2022	25	25	0	0	0	0	0	0	52
	IHT, Rajshahi	1962	50	50	50	50	20	0	0	7	50
	IHT, Bogura	2007	65	55	55	55	20	0	0	7	307
Rajshahi	IHT, Sirajganj	2017	50	0	0	50	0	0	0	3	103
	IHT, Joypurhat	2022	50	0	0	50	0	0	0	0	103
	IHT, Naogaon	2022	25	25	0	0	0	0	0	2	52

Table 8.7 contd.

Table continued...

Division	Name of institute with location	Estd. year	Discipline							Total
			RDL & IMG/Radiography	PTY	DENT	Pharmacy	Radiotherapy	OTA	ICA	
Chattogram	IHT, Fouzdarhat, Chattogram	2011	50	50	50	50	20	0	0	277
	IHT, Noakhali	2022	25	25	0	0	0	0	0	52
Barishal	IHT, Barishal	2011	50	50	50	50	20	0	7	277
	IHT, Rangpur.	2011	50	50	50	50	20	0	7	277
Rangpur	IHT, Kurigram	2022	25	25	0	0	0	0	0	52
	IHT, Jhenaidah	2011	50	50	50	50	20	0	7	277
Khulna	IHT, Satkhira	2018	50	50	0	0	0	0	3	103
	IHT, Sylhet	2011	50	50	50	50	0	0	7	257
Mymensingh	IHT, Jamalpur	2018	50	50	0	50	0	0	6	206
	IHT, Mymensingh	2022	25	25	0	0	0	0	2	52
Total			565	505	400	405	455	140	25	65
Total no. of institutions: 23										3,719
										Total seats

LAB=Laboratory; RDL=Radiology; IMG=Imaging; PTY=Physiotherapy; DENT=Dentistry; OTA=Operation Theatre Assistant; ICA=Intensive Care Assistant; SIT=Sanitary Inspectorship Training; PHAR=Pharmacy.

Source: Administrative data (ME, DGME)

Status of Medical Assistant Training School

- There are 20 government medical assistant training schools with an enrolment capacity

of 1390. (ME, DGME, December 2023)

- There are 200 private medical assistant training schools with an enrolment capacity of 13,540

Table 8.8. Enrolment capacity of the government and private medical assistant training schools (MATS) in 2023-2024 academic year

Sl. no.	Name of institution	Estd. year	Enrolment capacity (No. of seats)
1	Enrolment capacity of the government medical assistant training schools (MATS)-20	1976-2022	1,390
2	Enrolment capacity of the private medical assistant training schools (MATS)-200	2008-2022	13,540
Total			14,622

Source: Administrative data (ME, DGME)

Table 8.9. Enrolment capacity of the government medical assistant training schools (MATS) in 2022-2023 academic year

Sl. no.	Name of institution	Estd. year	Enrolment capacity
1	Medical Assistant Training School, Cumilla	1979	52
2	Medical Assistant Training School, Noakhali	1976	102
3	Medical Assistant Training School, Faridpur	1979	102
4	Medical Assistant Training School, Tangail	1979	102
5	Medical Assistant Training School, Bagerhat	1979	152
6	Medical Assistant Training School, Kushtia	1976	102
7	Medical Assistant Training School, Sirajganj	1979	102
8	Medical Assistant Training School, Jhenaidah	2011	52
9	Medical Assistant Training School, Satkhira	2018	52
10	Medical Assistant Training School, Tungipara	2020	52
11	Medical Assistant Training School, Naogaon	2020	52
12	Medical Assistant Training School, Manikganj	2022	52
13	Medical Assistant Training School, Gazipur	2022	52
14	Medical Assistant Training School, Rajbari	2022	52
15	Medical Assistant Training School, Madaripur	2022	52

Table 8.9 contd.

Table continued...

Sl. no.	Name of institution	Estd. year	Enrolment capacity
16	Medical Assistant Training School, Kazipur, Sirajganj	2022	52
17	Medical Assistant Training School, Tangail*	2023	52
18	Medical Assistant Training School, Jhalokhathi*	2023	52
19	Medical Assistant Training School, Bhola*	2023	52
20	Medical Assistant Training School, Joypurhat*	2023	52
Total seats			1,390

*Administrative approval given by Medical Education and Family Welfare Division of MOHFW

Source: Administrative data (ME, DGME)

Postgraduate Education

- There are 39 institutions providing postgraduate degree courses for MBBS and BDS in various disciplines
- BCPS provides postgraduate fellowship courses in various disciplines

Table 8.10. Postgraduate medical institutions in Bangladesh

Sl. no.	Type of medical institutions	Number of institutions	Number of seats	Provided degree
1	Government	22	1,048	Postgraduate Diploma, MPhil., MD, MS, MPH, MMED, FCPS, MCPS
2	Autonomous	7	1,112	
3	Non-government	10	112	
Total		39	2,272	

Source: Administrative data (ME, DGME)

Progress in Medical Education

Over the past decade, there has been a significant increase in both number of medical education courses and enrolment capacity. National-level admission tests for MBBS, BDS, IHT, MATS, and alternative medical care courses have transitioned to a digital format, starting from online submission of applications up to declaration of results.

In this digital transformation, Global Positioning System (GPS) technology is employed during the transportation of question papers and the distribution of examination materials. After the evaluation process, examination results are communicated to the examinees through SMS using the Teletalk telecom network.

Table 8.11. Infrastructural progress during 2009 to 2023

Type of institution	Year		Increase in numbers
	2009	2023	
Medical University	1	5	4
Government Medical College	17	37	20
Private Medical College	40	67	27
Army and Armed Forces Medical College	1	6	5
Government Dental College and Unit	3	9	6
Private Dental College and Unit	11	26	15
Government Institute of Health Technology (IHT)	3	23	20
Private Institute of Health Technology (IHT)	38	97	59
Government Medical Assistant Training School (MATS)	7	20	13
Private Medical Assistant Training School (MATS)	23	200	177
Total number of institutions	144	490	346

Source: Administrative data (ME, DGME)

Center for Medical Education

Curriculum

Necessary assessment was conducted by the Center for Medical Education (CME) to update the MBBS Curriculum 2012 in Bangladesh. Out of 112 medical colleges, views of the academic council on 102 medical colleges were collected, and the report was prepared and disseminated among the relevant stakeholders.

Quality Assurance Scheme

- Assessment and dissemination of the implementation status of the National Quality Assurance Scheme (NQAS) at different medical colleges (2nd phase) were done
- National Guidelines and Tools for Quality Assurance Scheme (QAS) for Dental

Colleges/Units in Bangladesh were formulated

Conduction of Courses

- Masters in Medical Education (MMEd) for two-year duration continued
- Six students have acquired MMEd degree from the 14th batch and 6 students from the 15th batch; they have been enroled in the Thesis Part, and 14 new students have been enroled in Part I of two-year MMEd course at CME. All the students are teachers of different medical and dental colleges, including army personnel
- Till today, a total of 102 students have passed the MMEd degree
- Diploma in Health Professional Education (DHPEd) course of one-year duration has been approved and introduced



Briefing on MBBS admission procedures

Training

Six sessions of the five-day long workshops on teaching methodology and assessment were conducted for the teachers of different government and non-government medical colleges, and postgraduate institutes. A

total of 150 teachers of different levels were awarded certificates.

eLearning Studio

The eLearning Studio for web-based education was developed.

Health Research

Local problems prioritized

Health research can provide important information about trends of diseases and risk factors, outcomes of treatment or public health interventions, functional abilities, patterns of care, healthcare costs, and use of services. Along with clinical services, research in the health sector of Bangladesh is being expanded to improve the overall health scenario.

Bangladesh Medical Research Council (BMRC) is the prime body of the government-led health research in the country. Several organizations, both in the private and public sectors, are conducting health research on a regular basis, along with BMRC. Significant research works are carried out in various public medical colleges, all the national medical institutes, BSMMU, autonomous research organizations, such as BIRDEM, universities, and other academic institutions. The Directorate General of Health Services plays a coordinating role for most of these research works. The highlights of the research done by various departments of DGHS, BMRC, IEDCR, etc. during the period of 2022-23 are depicted here.

Research Funded by PMR and Conducted by BMRC

- Genetic profile of neuromuscular disorder in a tertiary care center in Bangladesh
- Assessment of estrogen (ER), progesterone (PR), P53 and Ki 67 receptors from

curettage materials in endometroid-type endometrial carcinoma and their association with lymph node metastasis

- Evaluating the impact of Leptin receptor gene and Melanocortin-4 receptor gene mutation on childhood obesity in Bangladesh: a cross-sectional study
- Analyzing the effectiveness of policies on air pollution and identify its health outcome in urban areas of Bangladesh
- Unveiling the prevalence of burnout among postgraduate trainees in selected tertiary care hospital: a cross-sectional investigation
- The effect of vitamin D replacement on patients with subclinical hypothyroidism (SCH): a randomized clinical trial
- Investigating mechanisms and mitigation strategies for antibiotic resistance in *Staphylococcus aureus*
- Reluctance to service in remote and rural areas: a study on Bangladeshi doctors
- Assessment of knowledge and behavior of service providers on infection control for palliative care patients in Bangladesh: a mixed-method study
- Epidemiology and etiology of industrial burns in Bangladesh: an industrial burn burden analysis

- Perception and knowledge of mental health issues among adolescents in urban slum areas of Bangladesh
- Study on the association between arsenic exposure and idiopathic infertility in both males and females in Bangladesh to identify prevalence and molecular etiology by analyzing the associated gene polymorphisms and their expression
- Impact and implications of redirecting patients from government hospitals to private healthcare facilities
- Mental health literacy and help-seeking behaviors among adolescent students in urban and rural areas of Bangladesh: a cross-sectional study
- Variation in evaluating renal function among patients with ischemic heart disease (IHD) by different GFR estimating equations
- Clinical profile of congenital heart diseases and its associated factors in children admitted in tertiary hospital
- The scenario of improper use of antibiotics and increasing antimicrobial resistance (AMR) in the urban areas of Bangladesh
- Assessment of knowledge, attitude and practice about biomedical waste management and related predictors among the healthcare providers at tertiary-level hospital in Dhaka City
- Primary healthcare service of community clinic and impact analysis
- hospitals: a mixed-method survey on health system strengthening
- Health research for policy-making: prospects and challenges
- Assessment of disabilities of two major neglected tropical diseases in Bangladesh: a hospital-based study
- Effect of intervention to improve infection prevention and control standard in tertiary care hospitals in Bangladesh
- Household food security, dietary diversity, and nutritional status of the elderly population in Bangladesh
- A comparative study on early diagnosis of dengue fever by NS1 ICT, NS1 ELISA, and confirmatory RT-PCR
- Impact on improvement of health service delivery on authentic data source: Bangladesh perspective
- Scenario of exclusive breastfeeding practices and policy landscape analysis with action framework development in Bangladesh
- Human resource management in upazila health complexes of Bangladesh: current scenario and future challenges
- Understanding the factors contributing to suicide attempt among the patients attending hospitals of Rajshahi Division in Bangladesh: implication for policy and prevention strategies
- Evaluation of public Health Surveillance System in Bangladesh

Planning, Monitoring and Research Operational Plan (PMR OP)

- Accessibility and utilization of healthcare services for rural elderly at primary-level

Researches Funded and Conducted by Medical Research Council (BMRC)

- Health-related quality of life (HRQoL) and advanced treatment in diabetic foot ulcer patients

- Safety and efficacy of bicycle stress echocardiographic assessment of diastolic function of patients as diagnosis in tertiary-level hospital
- Knowledge, attitudes, and willingness to use emergency contraception among female sophomore in Bangladesh: a psycho-social study
- Parents' mental health and the occurrence of child behavioral problems: the mediating role of parental stress and child maltreatment
- Pattern of pain medications in geriatric patients attending a tertiary care hospital
- The effect of prenatal counseling to grandmothers on breastfeeding: an interventional study
- Factors associated with patient satisfaction toward pharmacy services in tertiary-level hospitals at Dhaka City of Bangladesh: a mixed-method study
- Frequency of parathyroid insufficiency after total thyroidectomy
- Frequency of mycobacterium tuberculosis in children with clinically-suspected pulmonary tuberculosis by stool sample in tertiary care hospitals of Bangladesh
- Exploring household health-seeking behavior of low-income population
- Molecular characterization and genotyping of virulence factor gene and multidrug resistance test of *E. coli* isolated from shrimp processing industry and local market
- Identify the association of single nucleotide polymorphisms (SNPs) of cognitive neuro-developmental gene SCN1A with epilepsy and autism spectrum disorder in Bangladeshi population
- A case-control study to investigate the profound impact of MYH7 and TNNT2 gene mutations on the prevalence of hypertrophic cardiomyopathy (HCM) among Bangladeshi patients
- Analysis of PKD1 and PKD2 gene mutations in individuals suffering from autosomal dominant polycystic kidney disease (ADPKD) in Bangladesh: identifying new genetic variations and evaluation of their viability as molecular diagnostic biomarkers
- Dyslipidemia, insulin resistance, and type 2 diabetes mellitus: an observational and mendelian randomization study
- Association between pain severity and malnutrition with disability: a case-control study in Dhaka city
- Artificial lighting and health problems among the Dhaka city dwellers
- Association of non-alcoholic fatty liver disease with angiographic severity of coronary artery disease in patients undergoing coronary angiogram
- Enhancing diagnostic precision for different DEN virus type based on insights from clinico-epidemiological variation, sero-immunological patterns, and genetic diversity
- Classical and molecular approach for rapid detection of *Pseudomonas aeruginosa* in burn wounds
- Analysis of prevalence, risk factors, and mitigation strategies of workplace violence against doctors in Bangladesh

Research by Non-communicable Disease Control (NCDC) OP

- Implementation research on NCD management in primary and secondary healthcare settings by integrating electronic health record system in patients care with and approach of strengthening the healthcare system
- Research on designing a digital model for catchment-based intervention in reducing hypertension, diabetics and their risk factors in alignment with WHO PEN protocol in a general practitioner (GP)-based healthcare settings in urban areas
- Research on digitized system of cancer registry in 8 facility-based centers and 2 community-based centers in Bangladesh from screening to diagnosis and outcome
- Research on determinants and influencing factors of health literacy and health behavior related to SNAPW (smoking, poor nutrition, alcohol consumption, physical activity and weight) risk factors in rural areas of Bangladesh
- Evaluation of strengthening of key NCD services by NCD management model in three sub-districts of one border-based districts in Bangladesh
- Research on implementing research on testing the feasibility, acceptability, and effectiveness of wellbeing corners relating mental health at the district- and subdistrict-level facilities
- Research on prospects of hemodialysis in diabetic kidney disease vs non-diabetic kidney disease in end stage renal failure patients: a multicenter study in Bangladesh
- Research on scopes of digital health and telemedicine services for NCDs in Bangladesh
- Research on national situation analysis of elderly care in Bangladesh and creation of priority-based elderly care model in primary healthcare in Bangladesh
- Research on provision of improved anti-venom (AV): collection, processing ,and preservation of snake venom from the major venomous snake species that are medically relevant in Bangladesh
- Research on digitalization of NCD management model (WHO PEN) through NCD digital system in subdistricts of Bangladesh
- Research on implementing NCDs tackling model covering hypertension and diabetes mellitus centering the vulnerable community in southern part of Bangladesh
- Survey on preconception care and its effect on the prevention of gestational diabetes in Bangladesh
- Survey on non-communicable disease control management: addressing the social determinants of health with whole society approach
- Survey on assessment of the individual and synergistic health impacts of saltwater intrusion of climate change on human health
- Survey on strengthening capacity of community clinics for enhancing primary health services for hypertension and diabetes in a sub-district in Bangladesh: a feasibility study

- Establishment of facility-based registry of acute coronary syndrome (AMI and unstable angina) in selected metropolitan cities of Bangladesh
- Vision impairment and diabetic eye disease in Bangladesh: a population-based prevalence and programmatic intervention for reducing the complication
- Prevalence and risk factors for mortality and morbidity in relation to national health injury survey of Bangladesh 2022-2023
- Piloting of disability screening, diagnosis and management protocol through NCD corner at upazilla and district-level hospitals in Bangladesh
- Health systems preparedness for responding to the growing burden of hypertension and type 2 diabetes mellitus and their risk factors: a facility-based survey among different tiers of healthcare providers in Bangladesh
- Community based epidemiology, causes, risk factors, and outcome of acute kidney injury in Bangladesh
- Potential determinants in health sector influencing healthcare expenditure of the households: a mixed-method study in Bangladesh



Former Health Minister Mr. Zahid Maleque, MP, receiving a crest from the DGHS officials in the NCDC Research Dissemination Program

Research by IEDCR

The Institute of Epidemiology, Disease Control and Research (IEDCR) was established in 1976 through a bill approved by the Bangladesh Parliament. The Institute was established for conducting epidemiological disease surveillance as well as medical research in the country.

Research works by IEDCR: understanding the ecology of Nipah virus transmission at high-risk communities in Bangladesh

IEDCR has been implementing this research project in collaboration with EcoHealth Alliance since 2020. The overarching aim of this project is to compare exposure to Nipah

virus and its behavioral determinants among human populations by community behavioral survey and investigate the repeated NiV outbreaks across western and eastern regions in Bangladesh. This multidisciplinary project was carried out across six diverse sites in Bangladesh: Dinajpur, Faridpur, Rajshahi, Sylhet, Cumilla, and Cox's Bazar.

Evaluation of an intervention to prevent zoonotic spillover from bats in Bangladesh

IEDCR has been implementing this research project in collaboration with EcoHealth Alliance. This project aims to conduct an outcome evaluation of a 'Bat Book' intervention under different scenarios. Specifically, the study will evaluate the effectiveness of behavior change communication intervention in changing knowledge, attitudes, skills, behaviors, and health related to bat-borne disease risk. Two workshops were held aimed at refining the 'Bat Book' with illustrations (How to Live Safely with Bats) culminating in the translation of the finalized version into Bangla.

Respiratory pathogen genomic surveillance

Respiratory Pathogen National Genomic Surveillance in Bangladesh is conducted by a consortium of three institutions: (1) Institute of Epidemiology, Disease Control and Research (IEDCR), International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b); and Institute for Developing Science and Health Initiatives (ideSHi). Leveraging existing influenza virus surveillance platforms, the consortium has been working to scale up whole genome sequencing (WGS) capacity

not only for SARS-CoV-2 but also for other respiratory pathogens, most importantly, RSV and influenza virus to support the country's epidemic and pandemic preparedness.

OneHealth Poultry Hub research activity

The UKRI GCRF OneHealth Poultry Hub, an international collaborative research initiative launched in March 2019, aims to enhance poultry production and address public health concerns associated with poultry in Bangladesh, India, Sri Lanka, and Viet Nam. The hub has been closely working with the Institute of Epidemiology, Disease Control, and Research (IEDCR), Bangladesh Livestock Research Institute (BLRI), and Chattogram Veterinary and Animal Science University (CVASU).

Activities of OneHealth Secretariat in 2023

OneHealth Secretariat (OHS), Bangladesh, established in June 2016, hosted by IEDCR provides a formal mechanism of collaboration, coordination, and ownership among different stakeholders and institutions for implementation of OneHealth Strategies in Bangladesh.

Activities done

- 11th OneHealth Bangladesh Conference on 12-14 June 2023
- OneHealth Day, 2023 celebration on 5 November 2023

Achievements of IEDCR in 2023

1. Detection of re-emergence of DENV-2 serotype in the circulation

2. Whole genome sequencing of dengue virus serotype of DENV-2
3. Detection of Omicron sublineage Variant of Concern (VOC) JN.1
4. IEDCR has been awarded a project titled “Characterizing the Epidemiological Diversity of Nipah Strains from Bangladesh” by Coalition for Epidemic Preparedness Innovation (CEPI)
5. IEDCR has been awarded a project titled “Health-facilitating, Health Security through Disease Surveillance: Laboratory Capacity Workforce Readiness and Emergency Management” by US-CDC
6. A poster was presented by one of the IEDCR officials in the 14th International Rotavirus Symposium in Bali, Indonesia
7. Two posters were presented by one of the IEDCR officials in the 9th ESWI, Valencia and Spain
8. *Bacillus anthracis* was detected from tissue sample of orbital cellulitis by real-time PCR through outbreak investigation
9. Achievement of Field Epidemiology Training Program, Bangladesh (FETP, B) in 2023
 - First SAFETYNET Scientific Conference, Canberra, Australia
 - a. Seven abstracts were selected for presentation
 - b. Dr. Abir Shaqrana Mahmood, FETP, B Fellow (9th cohort) was awarded the first place in Poster Presentation category for his work regarding Nipah Outbreak in OneHealth Approach
 - c. Two photos captured by Dr. Md. Omar Qayum, FETP, B Graduate (2nd cohort) and Dr. Abir Shaqrana Mahmood, FETP, B Fellow (9th cohort), were selected for photography contest
 - d. Dr. Jafrin Jaled Jithi, FETP, B Graduate (6th cohort), achieved an award for outbreak escape room game during the conference



FETP Advanced Fellow Dr. Abir Shaqrana Mahmood was awarded the first prize in poster presentation at the First SAFETYNET Scientific Conference, Canberra, Australia

8th EMPHNET Conference, Jordan

Three abstracts from FETP, B Fellows were selected.

Mini Grant

Dr. Sabrina Mohona, FETP, B Fellow (7th cohort) and Dr. Foyjul Islam, FETP, B Fellow (9th cohort) won the NCD Mini Grant from Eastern Mediterranean NCD Research and Prevention Center (NCDsRC) at GHD|EMPHNET.

Dr. Foyjul Islam, FETP, B Fellow (9th cohort), achieved research fellowship of Civil Registration and Vital Statistics Applied Research (CART) Initiative, Economic and Social Commission for Asia and the Pacific.

A poster was presented by Dr. Foyjul Islam, FETP, B Fellow, at the 6th Annual General Meeting and International Scientific Conference of the Bangladesh Society of Colposcopy and Cervical Pathology.

Health Information System, eHealth, and MBT

Transforming lives through Smart Health Management

Bangladesh has attained a notable advancement in the health sector through the implementation of eHealth in the journey to build 'Digital Bangladesh' in line with Vision 2021. The Ministry of Health and Family Welfare (MOHFW) drives numerous initiatives to deliver digital health services to doorsteps of the citizens, aiming at a 'Smart Bangladesh' aligned with Vision 2041. Management Information System (MIS) under the Directorate General of Health Services (DGHS) is proactively and diligently working to ensure a sustainable, knowledge-based, and integrated Smart Health Management and Information System through digital transformation of the traditional health system since 2010. Core missions of MIS are as follows:

- Establishing a centralized health data warehouse to securely store the complete medical records of each patient throughout their lifetime by a unique health ID card
- Improving the quality of patient-centric healthcare services in less time and with fewer hassles from anywhere anytime by implementing Telehealth
- Contributing to the formulation of national health policies and aiding administrators through data-driven decision-making
- Establishing smart health management and governance aligned with Vision 2041

Key Achievements in 2023

- Successful implementation of Shared Health Record (SHR) in different facilities
- Expansion of Hospital Automation activities
- Launching of mobile apps-based Community Health Management System (OpenSRP)
- Successful implementation of HPV vaccination via online registration through the Citizen Vaccine Portal (www.vaxepi.gov.bd)
- Establishment of 123 new Telemedicine Centers
- Release of a new version of the Human Resource Information System (HRIS)

The Ministry of Health and Family Welfare (MOHFW) drives numerous initiatives to deliver digital health services to doorsteps of the citizens

- Launching Online Microplanning
- Piloting of Indoor Patient Tracker in 3 health facilities

Overview of Key Activities of HIS and eHealth Program under MIS-DGHS

Shared Health Record

- To establish a smart, interoperable and interconnected healthcare ecosystem in Bangladesh, Shared Health Record (SHR) technology has been implemented by MIS-DGHS
- This initiative aims to integrate various healthcare services and systems to enhance the efficiency and effectiveness of healthcare delivery
- Main components of SHR are: Facility Registry, Provider Registry, Central Patient Profile, Geo-location Registry, and Hospital Automation System
- A lifetime health profile is being created for each citizen, identified by a NID/BRN-verified unique health ID card. Distribution of the system-generated health ID card for each citizen is the main goal of this system



Figure 10.1. A sample of health ID card

- It is a central health record repository which stores all medical history of a citizen from his/her birth to death in electronic format and can be accessed from any healthcare facility anytime

- It has been developed by following Open Health Information Exchange (OpenHIE) framework. It also maintains healthcare standards, like CCDS, FHIR, Snomed CT, Loinc, ICD, AICHI, CDSS to ensure seamless communication and information exchange across the entire healthcare ecosystem
- Effective digital referral system is a notable feature of SHR
- Patients no longer need to carry any medical files while visiting medical facilities or doctors anywhere

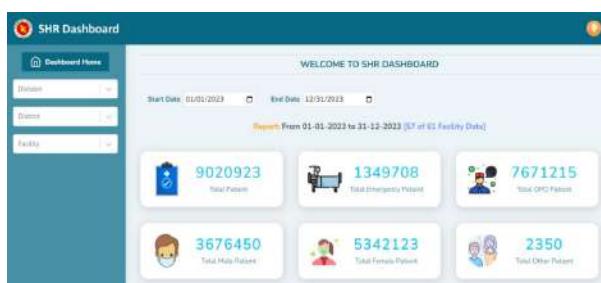


Figure 10.2. Shared Health Record (SHR) dashboard

- In total, 52,589 Health ID Cards were generated in the SHR during 2023
- The purpose of Shared Health Record is to develop a comprehensive electronic health record by ensuring data privacy which will help doctors to make more accurate decisions at the fastest time and to provide better medical care

Hospital Automation System

- Hospital Automation System started its journey in 2012 to implement Shared Health Record

- Hospital Automation System refers to a comprehensive solution designed to automate tasks, improve efficiency, enhance patient care, and facilitate better decision-making
- Open Medical Record System or open-MRS, open ELIS, and Odoo have been integrated with central human resource management to provide a hospital automation system capable of sharing information with various health-related electronic systems through SHR
- This system is being gradually implemented in various healthcare facilities
- Presently, Hospital Automation System is running in 44 upazila health complexes, 11 district hospitals, 2 medical college hospitals, and 9 specialized hospitals
- Major modules of this system are:
 - i. Patient Management System
 - ii. eBill and Online Payment
 - iii. ePrescription
 - iv. ePharmacy
 - v. Laboratory Information System
 - vi. Indoor Bed Management
 - vii. Radiology Information System
 - viii. Inventory Management
 - ix. Human Resource Management

To minimize crowding in patients' queue and save time, the system also includes features, such as online appointments, kiosks for auto-ticketing, and Patients' Queue Display Boards.



Figure 10.3. A patient is collecting serial token from Kiosk machine



Figure 10.4. A sample of eTicket

Doctors can see the previous health record of patients, make online prescription, and then bills are generated automatically through a system.



সাম্প্রদায়ক বাংলাদেশ সরকার
উপজেলা রাশ্য কমিশনের, সিংগাইর, মানিকগঞ্জ
ই-প্রেসক্রিপশন

Name: SAIFUL ISLAM | Gender: Male | Age: 27 Y
Patient Type: General | Mobile: 01767712264
Patient ID: 8DH807655

Chief Complaints

- Generalized weakness for 5 Weeks
- Tingling and numbness on hand and foot for 1 Months
- Heart burn for 2 Days

General Examination

- Lymph Node: Normal
- Thyroid: Normal
- Clubbing: Absent
- Liver: Normal
- Spleen: Normal

Diagnosis

- Generalized weakness

Investigations

- CBC
- Urine RME Strip
- HBsAg

Rx

- Vitamin B-Complex Tablet
0+0+2 (Tablet dose form) (ষষ্ঠিতার পর্যন্ত) - ১যাস
- Rebeprazole 20 mg Tablet
১+০+১ (Tablet dose form) (ষষ্ঠিতার পর্যন্ত) - এক্সিম
- Calcium Carbonate 500 mg Tablet
১+০+০ (Tablet dose form) (ষষ্ঠিতার পর্যন্ত) - ১যাস

Follow Up

- 1 মাস পর বায়ুপ্রস্থ দেখা দরবেন

Referred to

- Room No : 05(B) Cardiology

Dr. Rokeya Arefin
02 Apr 24 11:18 am

যে কোনো জরুরী রাস্তামেরা প্রেকে ঘৰে রাখে কৰন ১৬২৯৬ নম্বৰে।
Technical assistance by: Crystal Technology Bangladesh Ltd.

Figure 10.5. A sample of ePrescription

Community Health Management System

- OpenSRP (Open Smart Register Platform) is an open-source mobile platform, namely Smart Health BD for community-based health management
- OpenSRP is designed to support frontline health workers in delivering high-quality healthcare services
- OpenSRP provides a suite of digital tools and workflows to help manage health programs, track patient data, and improve health outcomes, with a focus on maternal and child health
- Smart Health BD mobile apps has been deployed for data collection from field level

- Household registration, member import, registration of pregnant women, follow-up of members, vaccination updates of mothers and children,, import of external members are the key modules of OpenSRP platform

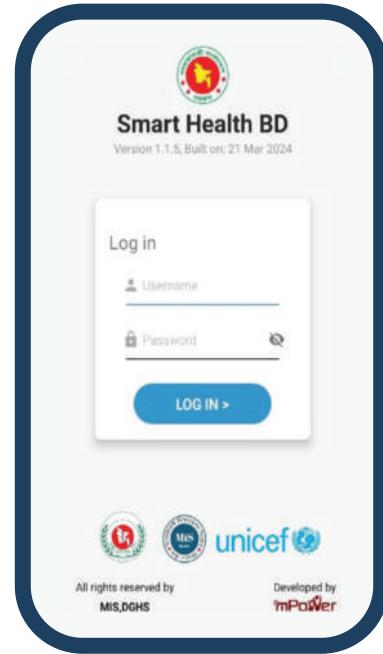


Figure 10.6. Smart Health BD mobile app

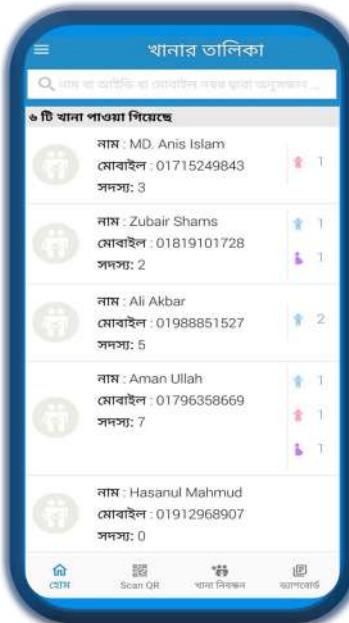


Figure 10.7. List of households

- First, the household chiefs should be registered, and all family members are imported with the help of them
- Like Figure 10.7, a list of all households is available in the Smart Health BD app
- Registration of pregnant women and children can be done easily
- List of pregnant women for routine follow-up and list of children requiring vaccination are automatically generated



Figure 10.8. List of pregnant women

- In this system, Shared Health ID is generated automatically while a member is registered



Figure 10.9. List of children for vaccination

- OpenSRP is also integrated with SHR
- Overall, OpenSRP is intended to strengthen health systems in resource-constrained settings by leveraging mobile technology to improve access to quality healthcare services, enhance data-driven decision-making, and, ultimately, improve health outcomes for communities

Citizen Vaccination Portal (VaxEPI)

- A new dimension has been added to the vaccination program of Bangladesh through Online Vaccination Platform (<https://vaxepi.gov.bd/>)
- This system enables every citizen to create a personalized profile for vaccination



Figure 10.10. Citizen Vaccine Portal (VaxEPI)

- Only valid birth registration numbers are accepted for registration on the platform, ensuring accuracy and reliability
- Once registered, Bangladeshi citizens can easily get the vaccinations applicable to them through a streamlined process



Figure 10.11. Unique Citizen Profile

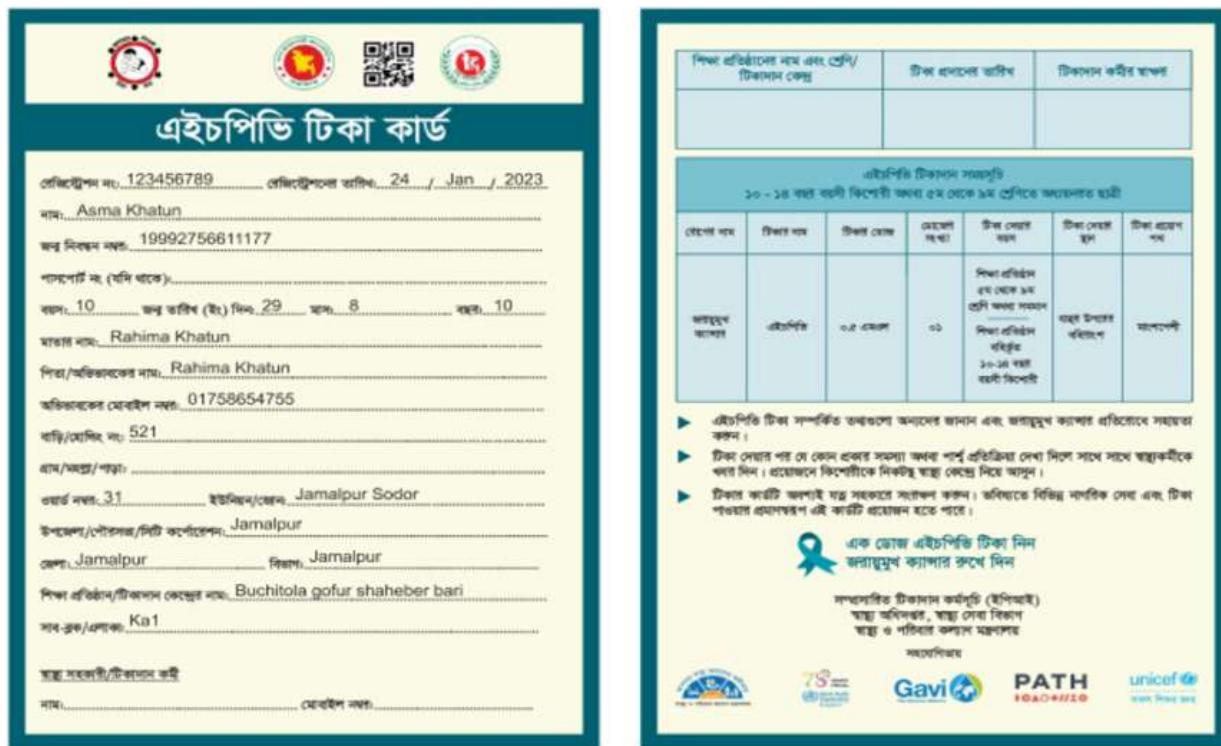


Figure 10.12. Automated vaccine card

- Using this platform, citizens are also able to collect vaccine cards and certificate
- Initially, HPV vaccination program for 10-14 years old girls or female students of Class V to IX in Dhaka Division has been completed successfully through this online platform in 2023
- In total, 1,367,547 citizens are registered and 1,229,889 are vaccinated through this platform

Birth and Death Notification to BDRIS System

- MIS plays an important role in registering birth and death as a part of the Civil Registration and Vital Statistics (CRVS) conducted by the Cabinet Division to expedite and simplify the birth and death registration processes conducted by the

Office of the Registrar General, Birth and Death Registration

- MIS created a system to send livebirth and death notifications to the Birth and Death Registration Information System (BDRIS) of the Office of Registrar General
- Birth and death notifications are sent to BDRIS server from DHIS2 for every live birth and Medical Certificate for Cause of Death (MCCoD) entry through DHIS2 since November 2023
- It helps the Birth and Death Registration authority under the Local Government Division in birth and death registration
- A form to write Medical Certificate for Cause of Death has been introduced in which underlying cause of death is included

- Based on MCCoD Form, information on every death is collected through DHIS2
- In total, 2,068 birth and 8,900 death notifications have been successfully sent

through BDRIS notification system in 2023

- Dispense of birth and death notifications from DGHS to BDRIS system is shown in Figure 10.13 and 10.14

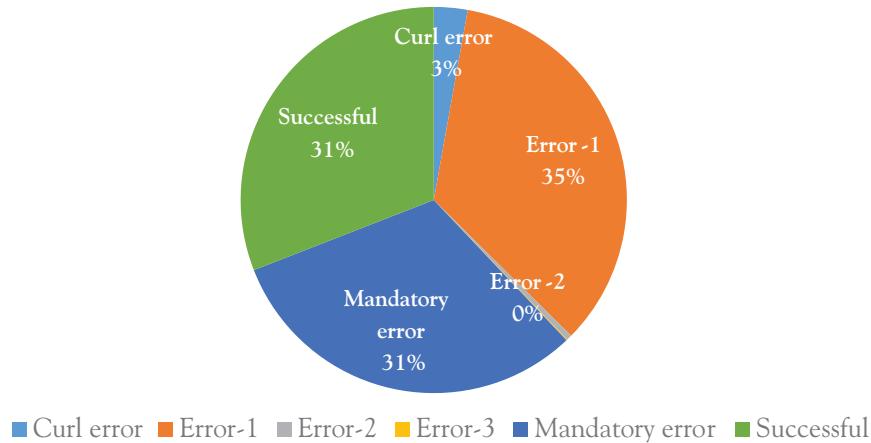


Figure 10.13. Dispense rate of successful and failed birth notifications

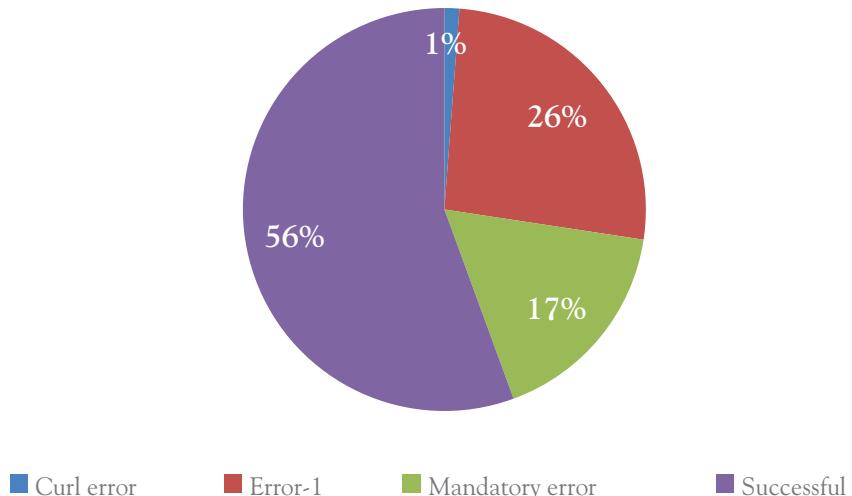


Figure 10.14. Dispense rate of successful and failed death notifications

Approval/Renewal of Private Hospital/ Diagnostic Center/Blood Bank

- The Directorate General of Health Services (DGHS) under the Ministry of Health and Family Welfare (MOHFW) is

working to ensure the health services at all levels for the people in Bangladesh

- To ensure the quality of health services by issuing new/renewed licenses for all private hospitals, clinics, diagnostic centers, and

blood banks. the Hospitals and Clinics Department of DGHS is working as a regulatory authority

- Since FY 2018-2019, MIS-DGHS developed a robust digitized platform for online license service for private hospitals, clinics, diagnostic centers, and blood banks
- In the financial year 2022-23, a total of 8,444 private health institutions were registered through this system
- A total of 15,468 private health institutions have been registered since 2018, using this online platform



Figure 10.15. Private hospitals and clinics facility registration website

- Each license will remain valid for the maximum period of one year, up to 30 June



Figure 10.16. System-generated sample license

of that year. For renewal, the organization must submit the application again the next year

Human Resource Information System (HRIS)

- HRIS (<https://hrm.dghs.gov.bd>) is a vital component of MOHFW's software ecosystem. Different web-based systems of DGHS are integrated with it
- Award-winning Software Platform is covering 35,111 facilities, 181,445 service providers and staff with 175,804 active users
- It is based on 4 registries; Geo-location Registry, Health Facility Registry, Sanctioned Post Registry, and Provider Registry

- 1,81,150 service providers under the MOHFW are enroled in the HRIS system
- All human resource-related activities, including transfer, promotion, deputation, leave, annual confidential report (ACR), and other activities have been automated through this system
- Recently, its version has been upgraded from 3.3.35 to 4.0
- New version introduces the opportunity to send system notification to service providers, facilities, create auto-promotion listing according to eligibility, and auto-retirement list
- Under the intensive supervision of the MOHFW, DGHS conducts human resource administration effectively through HRIS

Health Facility Registry and Geographical Information System (GIS)

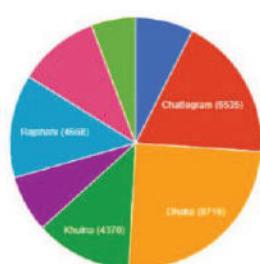
- Health Facility Registry can also be accessed publicly through the DGHS dashboard (<https://facilityregistry.dgbs.gov.bd>)



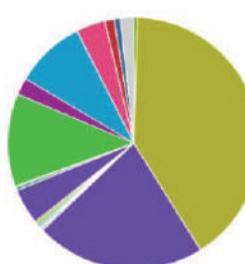
FACILITY REGISTRY | স্বাস্থ মন্ত্রণালয়ের অধীনস্থ প্রতিষ্ঠান সমূহের তালিকা

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

Division-Wise Facility Distribution (Total: 35156)



Type Wise Facility Distribution (Total: 35156)



Function Wise Facility Distribution



Figure 10.17. Health Facility Registry

District Health Information Software2 (DHIS2)

- DGHS has been utilizing the District Health Information Software2 (DHIS2) since 2010 for data collection, analysis, visualization, and reporting of both aggregated and individual data, spanning from health facilities at the upazila level to those at the division level as well as community clinics
- Current version is 2.39

	EmOC	IMCI	EPI	SCANU/NSU	KMC	eLMIS	Adolescent
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barishal Division	87.7	74.5	96.2	98.8	100.0	71.7	89.8
Chattogram Division	74.6	69.8	98.4	98.0	98.1	54.1	95.0
Dhaka Division	81.0	80.8	97.3	84.4	93.8	67.0	82.8
Khulna Division	88.4	96.0	100.0	91.6	97.6	92.5	87.8
Mymensingh Division	80.0	98.9	98.8	100.0	100.0	94.7	95.8
Rajshahi Division	98.2	99.8	99.4	100.0	100.0	97.2	97.3
Rangpur Division	78.9	80.0	100.0	88.8	97.5	36.1	76.8
Sylhet Division	84.4	51.4	100.0	84.6	93.6	58.8	85.4

Figure 10.18. Reporting rate of facilities at DHIS2

Routine Service Data via DHIS2

- Live routine health data from different facilities based on datasets, data elements, indicators, event data items and program indicators are being generated daily

- Maternal health and child immunization-related data are collected and analyzed by E-Tracker under DHIS2
- Online microplanning and indoor patient tracker have also been begun in 2023

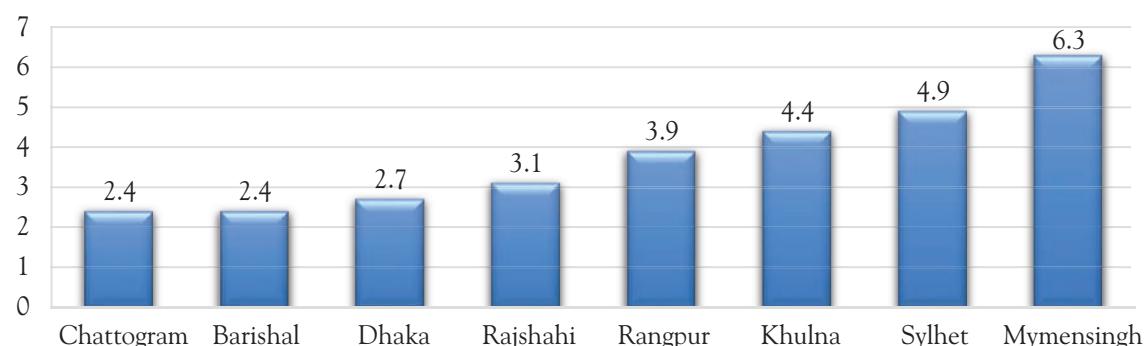


Figure 10.19. Division-wise neonatal mortality rate in 2023

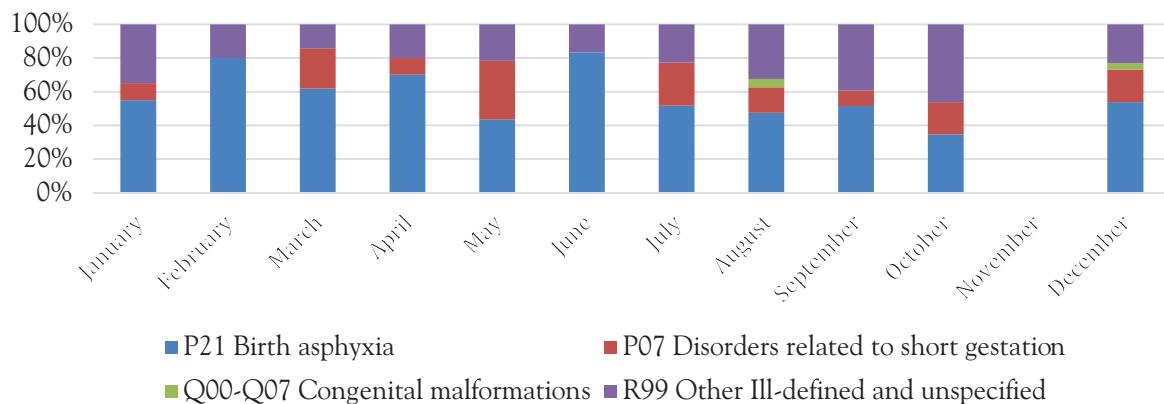


Figure 10.20. Major causes of neonatal deaths in 2023

Telemedicine Service

- Telemedicine is a breakthrough innovation in the 'Digital Health' transformation from traditional healthcare system. Consequently, 123 new Telemedicine Centers were deployed in 2023
- Telemedicine service refers to remote medical consultation through the video-capable or other telecommunication devices and specialized equipment

- At present, a total of 232 Telemedicine Centers are operational in 13 specialized hospitals, 13 medical college hospitals, 12 district hospitals, and 194 upazila health complexes across the country
- Among these, 38 service providers and 194 service receivers are recorded
- Through this service, patients admitted to the upazila health complex and referral patients can seek treatment from specialist doctors of any other hospital free of cost



Specialized doctors of a medical college hospital are providing Telemedicine services at upazila level

- Telemedicine Centers are equipped with telegadgets, like telestethoscope, teleECG, telemicroscope, teleglucometer, etc., along with advanced cameras, large screen

monitors, and computers. Each individual consultation is recorded in DHIS2, and disease profile can be obtained from the system

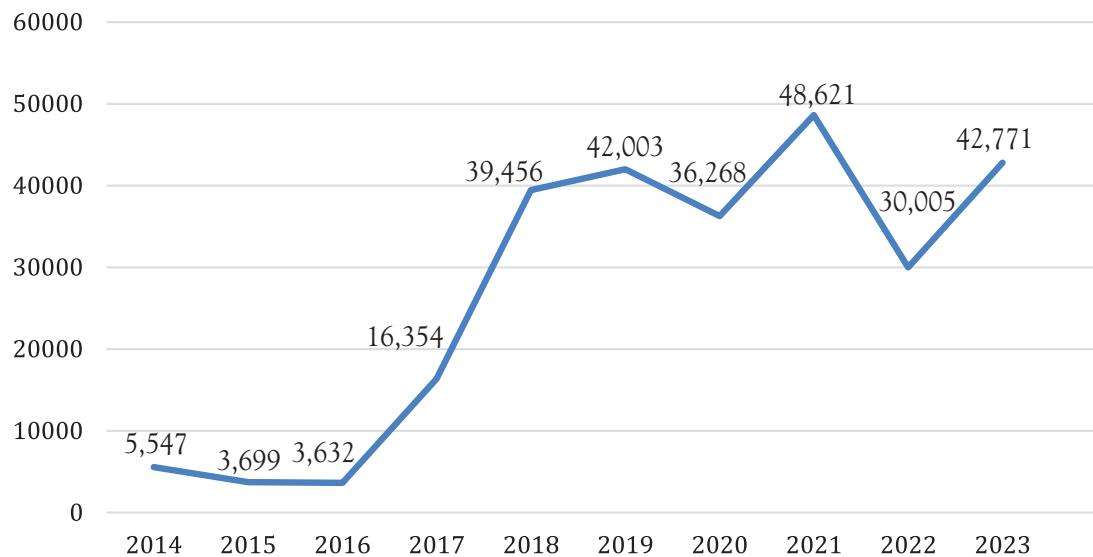


Figure 10.21. Year-wise number of patient consultations through Telemedicine service from 2014 to 2023 (Source: DHIS2, MIS, DGHS)

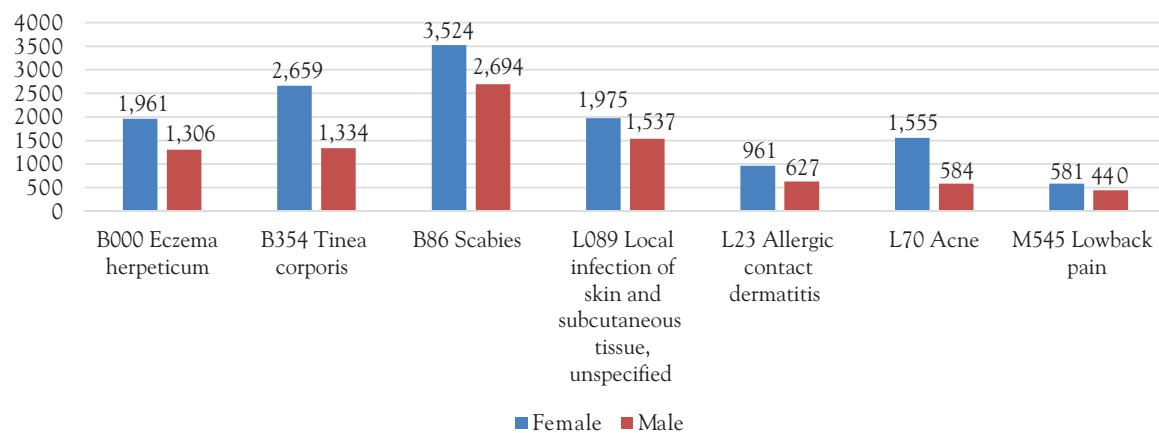


Figure 10.22. Disease profile obtained from Telemedicine service in 2023 (Source: DHIS2, MIS, DGHS)

ICT Equipment Management

- For allocating and monitoring ICT equipment to healthcare facilities at different levels, MIS-DGHS launched an

effective system called ICT Equipment Distribution & Tracking System

- ICT Equipment Distribution & Tracking System emerges as a solution to streamline

- processes, enhance accountability, and optimize resource utilization
- This system allows individual facilities to send equipment demands and helps plan procurement for the next budget year
- It also facilitates the listing of various ICT equipment and assigning equipment to designated officers/staff
- 1,383 demands for IT equipment have been received and allocated via system in 2023

- The distribution and tracking of ICT equipment in each health facility through this system ensure seamless management and accountability throughout the entire process

Supply of ICT Equipment and Computer Stationeries

MIS-DGHS procured various hardware and ICT equipment and supplied those to other offices at different levels during the reporting period.

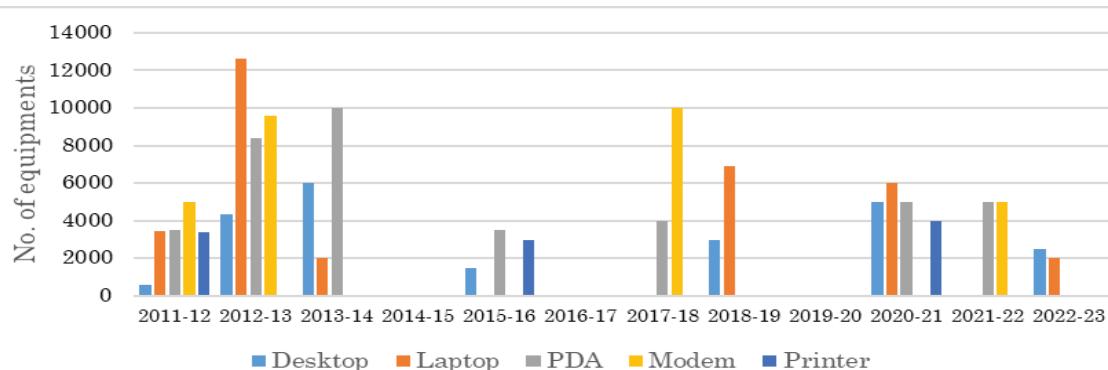


Figure 10.23. Number of ICT equipment distributed by MIS from 2011 to 2023

Supply Chain Management Portal

Under the Supply Chain Management Portal (SCMP), there are electronic Asset Management System (eAMS) and electronic Logistics Management Information System (eLMIS). This comprehensive system contains the features of product catalog, procurement planning of goods and services, package development, and tracking of procurement packages.

Electronic Asset Management System

- To mitigate wastage and ensure the proper utilization of medical equipment and

assets through robust monitoring and control measures, safeguarding valuable resources, eAMS has been launched under the supervision of a high-level Technical Working Committee (TWC) formed by MOHFW

- Now it works as the central electronic Master Register of Medical Equipment (MRME)
- This system empowers higher authorities to accurately assess and procure materials based on realistic needs, thus. minimizing unnecessary purchases

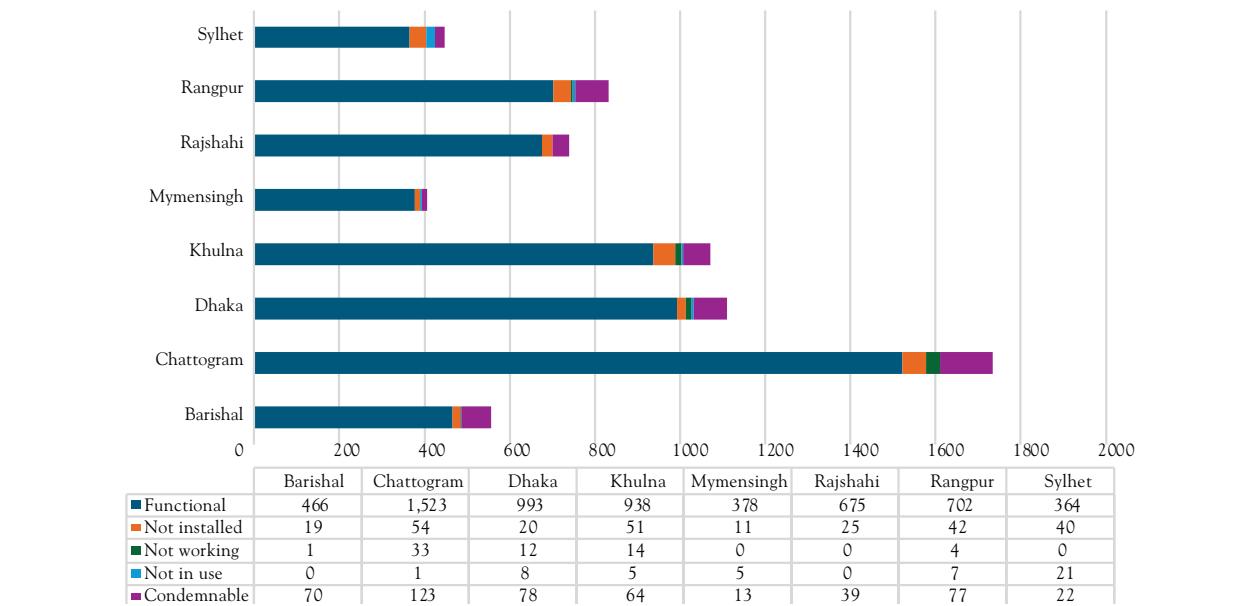


Figure 10.24. Status of assets entry in district hospitals and upazila health complexes in 2023

- Assets with a purchase price of Tk 30,000 or more and a lifespan of 2 years or more are included
- Besides MOHFW and DGHS, Central Medical Stores Depot(CMSD), National Electro-medical Equipment Maintenance Workshop & Training Center (NEMEMW) are also the stakeholders of this system
- Health facilities can request NEMEMW for maintenance and repair of medical equipment, for which the warranty period expired
- eAMS is currently operational in all district hospitals and upazila health complexes

Electronic Logistics Management Information System

- Electronic Logistics Management Information System (eLMIS) plays a vital role in streamlining product procurement, distribution, and decision-making

processes, empowering stakeholders with real-time insights for informed actions

- This transformative system now serves as the backbone of all logistics operations within CMSD, facilitating seamless management of product inventory
- Presently, the eLMIS boasts of an impressive database of 1,136 product entries, with 311 of these products currently available in stock at CMSD

Ongoing Activities of HIS and eHealth Program under MIS-DGHS

- The MIS-DGHS has played a pivotal role in revolutionizing healthcare services in Bangladesh
- MIS has already launched and implemented various eSystems
- For facilitating efficient administration, Human Resource Management Information System (HRIS), and Biometric Attendance System are running

- To ensure comprehensive monitoring across primary- to tertiary-level health facilities, District Health Information System 2(DHIS2) is used. There is also a Real-time Online Dashboard which shows routine health data and provides an overview of actual performance of facilities
- Different surveillance systems, such as COVID-19 surveillance system, Survey of Cervical and Breast Cancer, and Vaccine-preventable Diseases and AEFI are providing useful and relevant information
- The Health Minister National Award is arranged under the Health Strengthening System (HSS), based on online HSS scoring and evaluation of onsite visits, to increase competition among facilities and improve their service quality
- Medical logistics equipment and ICT equipment are distributed and monitored at the national and sub-national levels via online supply chain management system, such as eLMIS, eAMS, and ICT Equipment Distribution & Tracking System
- Citizens can avail healthcare services and consultative suggestions from anywhere anytime by dialing at the National Health Call Center-16263' (Shastho Batayan)
- It is possible to receive public complaints through SMS and take specific measures according to the grievances through the Grievance Redress System (GRS) in government hospitals
- Advanced Telemedicine services are being provided in hospitals and upazila health complexes
- Hospital Automation System through OpenMRS+ and Community Health

Management System through OpenSRP has been developed with the aim of creating Shared Health Records (SHR) and providing unique Health ID Card to all citizens. MIS is working continuously to implement SHR nationwide

- To capacitate health personnel, MIS arranges different types of training and workshops
- There is a Health Emergency Operation Center (HEOC) and Control Room. The Control Room is basically responsible for Emergency Health Crisis Management. Nowadays, it also collects, compiles, and analyzes data related to emergency health situations, like dengue, COVID-19, ARI, diarrhea, cold wave, and road traffic accidents
- By means of the 4th sectorwide program called Health, Population and Nutrition Sector Program (HPNSP) 2017-2023, all these activities persist under the HIS and eHealth Operation Plan
- In-depth information and analysis of healthcare metrics and trends through 2022 can be found in Health Bulletin 2022

Technical Partners

Along with the MOHFW, other technical partners assisted MIS-DGHS in finding technology-related solutions, training, and capacity-building; these include the a2i Project, World Bank, WHO, UNICEF, DFID, UNFPA, Rockefeller Foundation, JICA, USAID, icddr,b, Measure Evaluation, CIDA, UNESCAP, JPGSPH-BRAC University, BRAC, JHU, MSH (SIAP), Save the Children, DNet, CIPRB, CIDA, and others.

Challenges

- *Ensuring data quality:* Till now, it is difficult to ensure quality of data coming through DHIS2 from different facilities. Inaccurate, incomplete or inconsistent data-entry and management lead to compromised data quality
- *Switchable technology:* Day-by-day, technology is growing faster. To keep pace with rapid technological advancements by integrating AI-powered analytics, IoT devices, blockchain for data security, cloud-based solutions, mobile applications, virtual assistants, robotic process automation, etc. is challenging
- *Human resource constraints:* To have skilled personnel with expertise in MIS management, data analysis, and IT support is one of the important targets
- *Interoperability among different systems:* MIS is working to establish interoperability among different health information systems and databases. Ensuring similar data formats and structures, data exchange format, etc. are tough
- *Security concerns:* Risks relating to data security, including unauthorized access, data breaches, and loss of sensitive health information are increasing with the advancement of technologies
- *Data standardization:* Lack of standardized data-collection protocols and formats across various health facilities and programs complicates aggregation of data and analysis. Furthermore, the absence of Standard Operating Procedures (SOPs) and a data privacy policy for health information exacerbates this challenge

Future Plan

- Enhancing data security measures to protect sensitive healthcare information
- Implementing advanced analytics tools to derive actionable insights from healthcare data
- Expanding Telehealth capabilities to increase access to healthcare services remotely via launching Telemedicine software
- Management of all immunization activities through registration in Online Citizen Vaccine Portal (VaxEPI)
- Integrating emerging technologies, like AI and IoT to improve healthcare delivery and patient outcomes
- Strengthening interoperability among different healthcare systems to enable seamless data exchange
- Launching OP dashboard to monitor and evaluate the OP activities

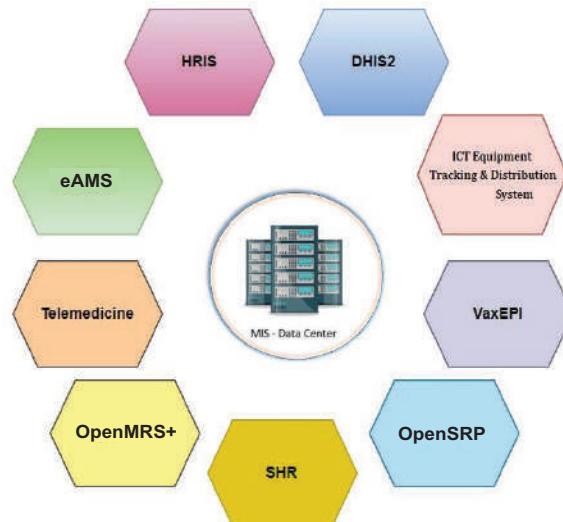


Image 10.25. Components toward Smart Health Management

- Investing in ongoing training and development programs to ensure staff proficiency in MIS usage
- Collaborating with stakeholders to align MIS initiatives with broader healthcare goals and objectives
- Continuously evaluating and refining MIS processes to adapt to evolving healthcare needs and technological advancements

Center for Medical Biotechnology

- Center for Medical Biotechnology is working continuously to create a proper environment for the expansion of medical biotechnology in Bangladesh, preliminarily in the government sector, by providing both technical and resource support in collaboration with other stakeholders since 2012
- Till today, over 3,000 stakeholders, including medical professionals from various disciplines, journalists,

entrepreneurs, scientists, and members of Medical Curriculum Committee have been trained through various training sessions and workshops. These include core committee meetings, consultative workshops for updating medical curriculum, training workshops for journalists, sensitization workshops, and a 7-day hands-on training for medical teachers and scientists

- MBT-related books were distributed among medical universities, medical colleges, and other health science institutions, and necessary equipment for setting up biotechnology labs were distributed among different institutions
- According to the deliverables for short and medium-term goals mentioned in the National MBT Guidelines, the CMBT is conducting its activities under the operational plan of HPNSP 2017-2022 from July 2017



Part of HIV viral load detection procedure at CMBT laboratory

Activities of the Center for Medical Biotechnology

The following activities have been conducted in the area of medical biotechnology:

Human resources capacity building

- More than 3,500 physicians and researchers have been provided training in medical biotechnology up to 2023 under the 4th sector-wide program
- A two-day training session is organized each year to disseminate the profound impact of biotechnology on medical science to promote research work
- Participants can get hands-on training on microbiology, pathology, and biochemistry on a seven-day training program



Visit to the Center for Medical Biotechnology Laboratory as part of a seven-day hands-on training



A day-long visit to the R&D section of a pharmaceutical company to gather knowledge about private sector engagement in biotechnology

Institutional capacity building

- Machines have been provided to 12 institutions. Various studies are underway with the use of these machines
- Medical biotechnology-related books have been provided to 4 medical colleges

Meeting of the National Technical Committee

- The 10th Meeting of the National Technical Committee on Medical Biotechnology was held in the presence of committee members in Mini Conference Room of the Ministry of Health and Family Welfare under the chairmanship of the Secretary of Health Services Division
- The drafts of DPP and National Biotechnology Commission Act for setting up the Center for Medical Biotechnology were presented in the meeting



The 10th meeting of the national technical committee on medical biotechnology

Research Grant Assistance

- Regular grants are issued from different operational plans and Bangladesh Medical Research Council (BMRC) for conducting researches under CMBT
- Two proposals have been submitted from CMBT for BMRC grants in 2023

Research Support

- Research work is ongoing as part of theses in MPhil, PhD courses and at the Bangladesh Medical Research Council (BMRC) projects
- Faculty from National Institute of Preventive and Social Medicine (NIPSOM) got logistic support from CMBT for accomplishing a research project on antimicrobial resistance in 2023

Internship

- Students from different medical colleges and universities enrol their internship under CMBT
- In 2023, three students from Bangladesh University of Professionals (BUP) and 1 student from BRAC University completed their internship in CMBT

Table 10.1. Training and workshops on biotechnology-related issues conducted in CMBT, 2022-2023

Type of training/workshops	Venue	Duration and participants per batch	Batch and participants 2022	Batch and participants 2023
Hands-on training for medical teachers and scientists	Dhaka	7 days and 10 per batch	2 batches and 20 participants	9 batches and 90 participants
Training/workshop for medical teachers	Dhaka	2 days and 25 per batch	4 batches and 100 participants	7 batches and 175 participants

Table 10.2. Diagnostic services provided by CMBT

Name of service	2019	2020	2021	2022	2023	Till date
PRP therapy	123	-	-	-	-	123
Hb-electrophoresis	-	300	-	-	-	300
COVID-19 RT-PCR (GeneXpert)	-	153	394	184	04	737
HIV viral load	91	74	375	892	219	1648
COVID-19 IgG antibody	Nil	485	95*	-	-	580
TSH (Thyroid-stimulating hormone)	-	-	-	200 (ELISA) + 300 (Device)	-	500
HBV viral load	-	-	48	-	-	48

* Due to disruption of reagent supply, further COVID-19 IgG Antibody tests could not be performed

Research Conducted and Scientific Papers Published in International Journals from CMBT

- Prognosis of AIDS patients in a tertiary specialized hospital by measuring HIV viral load in blood, using GeneXpert machine

- A pilot study on neonatal congenital hypothyroidism screening
- Coding the complete genome sequence of SARS-CoV-2 isolate from Bangladesh by Sanger Sequencing

Ongoing functions

- Detection of HIV virus load, using RT-PCR (GeneXpert) machine
- Detection of HBV virus load via RT-PCR
- COVID-19 RT-PCR (GeneXpert) test within 45 minutes
- Regular training provided to physicians to improve the quality of research
- Newborn screening for congenital hypothyroidism in collaboration with ideSHI and CHRF
- Capacity building for viral and microbial genome sequencing, using next-generation sequencer platforms
- Preservation and distribution of 100,000 vials of Pfizer vaccine to different parts of the country

Future Work Plan

- Genetic analysis of congenital diseases with the help of Sanger Sequencer machine
- Provision of grants to students studying in related subjects in medical colleges for research assistance
- Contribute to WHO's goal by determining HPV viral load, HBV and HCV screening, diagnosis, and prognosis

- Provision of free delivery of electrophoresis testing to thalassemia patients
- Provision of free delivery of cancer molecular biomarker tests for poor patients
- Capacity building of medical students in the field of medical biotechnology
- Arrangement of National Technical Committee on Medical Biotechnology and core group meetings at regular intervals
- Inclusion of medical biotechnology in fifth sectorwide program

Health Management integrated with eHealth, health information technology, and medical biotechnology will be completely people-friendly. By ensuring health services based on

Health Management integrated with eHealth, health information technology, and medical biotechnology will be completely people-friendly

AI, IoT, and nanotechnology, smart health management and smart health governance will be developed. This will play a crucial role in building a 'Smart Bangladesh' by 2041 and will uphold Bangladesh's prestige in the global arena.

Health Financing

Progressing toward Universal Health Coverage

The Ministry of Health and Family Welfare (MOHFW) has established the Healthcare Financing Strategy (HCFS) for 2012-2032, with the Health Economics Unit (HEU) designated as the central body to drive the progress toward Universal Health Coverage (UHC) by 2030.

In its crucial role of propelling UHC, the HEU conducts comprehensive assessments through the National Health Accounts (NHA) and Public Expenditure Review (PER). The NHA provides a detailed analysis of health sector expenditure across various entities, including public, private, NGO and development partners. The PER, on the other hand, focuses on examining trends in government budgets and expenditure, offering vital insights for policy-makers. Furthermore, the HEU undertakes research projects to enhance the understanding of UHC and to support evidence-based policy-making.

Key Facts

- Budget allocated to MOHFW in FY 2023-2024 is 3.23% higher than in previous FY
- The Total Health Expenditure (THE) is 2.8% of GDP in 2020, 0.66% share of public spending

- Household out-of-pocket (oop) expenditure has become the largest financing area, 68.5% of THE in 2020
- The oop payments by households are largely made at pharmacies/retail drug outlets (64.6%) next to medical and diagnostic laboratories (11.7%)
- Total Pharmaceutical Expenditure (TPE) is Tk 389 billion, 50% of THE
- In 2020, Bangladesh spent a total of Taka 380 billion on Essential Service Package (ESP) services
- The percentage of social security program beneficiaries increased exponentially to 50% in 2022

Bangladesh National Health Accounts

National Health Accounts (NHA) summarizes, describes, and analyzes the financing of national health systems. The NHA uses an internationally-comparable methodology for measuring total national health expenditure on an annual basis. It includes both public and private sector health spending in terms of where they come from, how they are organized among the financing institutions in the national health systems, and how they are used, according to a set of policy-relevant classifications.

Budget Data (2023-24)

MOHFW budget allocation and utilization (2023-2024)

- Proposed national budget: BDT 7,61,785 crore
- MOHFW budget: BDT 38,052 crore
- MOHFW budget compared to national budget: 5.00%

- Budget of the Health Services Division: BDT 29,282 crore
- Budget of Medical Education and Family Welfare Division: BDT 8,620.91 crore
- Increment of allocation in the MOHFW compared to the previous FY: 3.23%

Table 11.1. Budget from 2011-2012 fiscal year to 2023-2024 fiscal year (source: BNHA)

Fiscal year	National budget (in crore)	MOHFW budget (in crore)	MOHFW budget as % of national budget	% Increase of MOHFW budget compared to previous FY	% Increase of total gvt. budget compared to previous FY
2011-12	161,213	8,150	5.06	7.00	24.00
2012-13	189,326	9,130	4.82	12.02	17.44
2013-14	222,491	9,495	4.27	4.00	17.52
2014-15	239,668	11,537	4.81	21.51	7.72
2015-16	295,100	12,695	4.30	10.04	23.13
2016-17	340,605	17,486	5.13	37.74	15.42
2017-18	400,266	20,679	5.17	18.26	17.52
2018-19	464,573	23,394	5.04	13.13	16.07
2019-20	523,190	25,733	4.92	10.00	12.62
2020-21	568,000	29,247	5.15	13.66	8.56
2021-22	603,681	32,730	5.42	11.91	6.28
2022-23	678,064	36,863	5.44	13.63	12.32
2023-24	761,785	38,052	5.00	3.23	12.35

Total Health Expenditure

- Total Health Expenditure (THE) includes all expenditure for the provision of health services, family planning activities, nutrition activities, and emergency aids designated for health but it excludes the provision of

drinking-water and sanitation (NLiS, WHO)

- BNA defined Total Health Expenditure for Bangladesh as the summation of Current Health Expenditure (CHE) and expenditure made on gross capital formation, health education, and research

Summary of expenditure data (2020)

- Total Health Expenditure
 - BDT 777 Billion
 - 2.8% of GDP
 - Per-capita THE: BDT 4,578 (\$54)
- Current Health Expenditure (CHE)
 - BDT 719 billion
 - 2.6% of GDP
 - Per-capita CHE: BDT 4,239 (\$50)
- Purchasing Power Parity (PPP)
 - Adjusted (for cost of living): BDT 11,851 (Based on 2020)



Hon'ble Health Minister Dr. Samanta Lal Sen at Health Services Division of the MOHFW

Trend of THE as % of GDP

- Though per-capita THE increased from USD 10 to USD 54 in the last 20 years,

THE remained steady between 2.8% and 3% of GDP during the last one decade

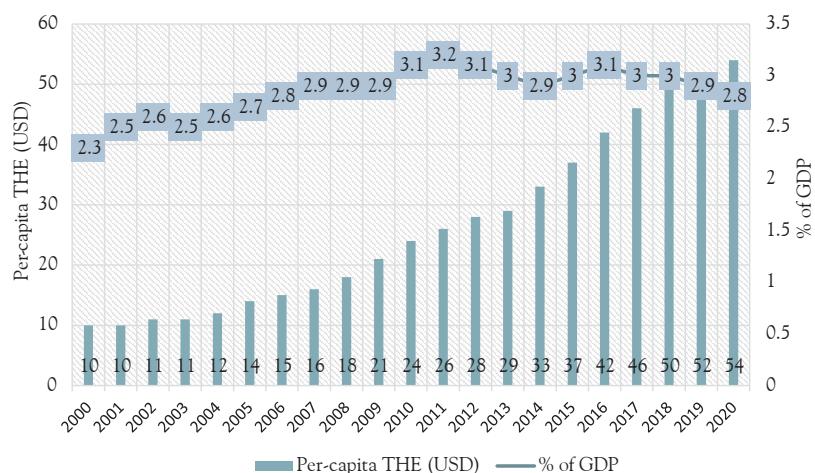


Figure 11.1. Trends of per-capita THE and percentage of GDP (source: BNHA)



Figure 11.2. Real growth of GDP, THE, and CHE, 1998-2020 (source: BNHA)

- Over time, growth of THE in real term outpaced the growth of GDP. Since inception of NHA in 1997, real growth in THE and CHE averaged around 7% while it is 5.9% of GDP
- The highest percentage of real growth rate of THE (10.9%) was observed in 2006
- CHE reports the final consumption of healthcare goods and services by the resident units. The highest percentage of CHE (13.3%) was reported in 2002
- In 2020, the growth rate of THE in current price was 13% and 7% when adjusted for inflation

Disease-specific accounts 2020

[Fact Sheet (All data refer to the year 2020/ FY-2019-2020)]

- In 2020, the total recurrent expenditure directly linked with diseases and

conditions was estimated at Tk 69 thousand crore

- The highest expenditure is attributed to diseases of the musculoskeletal system and connective tissue, totalling Tk 9,461 crore, followed by diseases of the digestive system (Tk 8,872 crore), diseases of the circulatory system (Tk 8,865 crore), symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (Tk 8,010 crore), diseases of the respiratory system (Tk 5,395 crore), and certain infectious and parasitic diseases (Tk 4,149 crore)
- Together, the above six disease categories account for 65% of the total disease burden, with the remaining 35% stemming from 16 other categories. (Figure 11.3 presents the recurrent healthcare expenditure on key selected diseases and conditions by ICD-10 Classification, 2020)

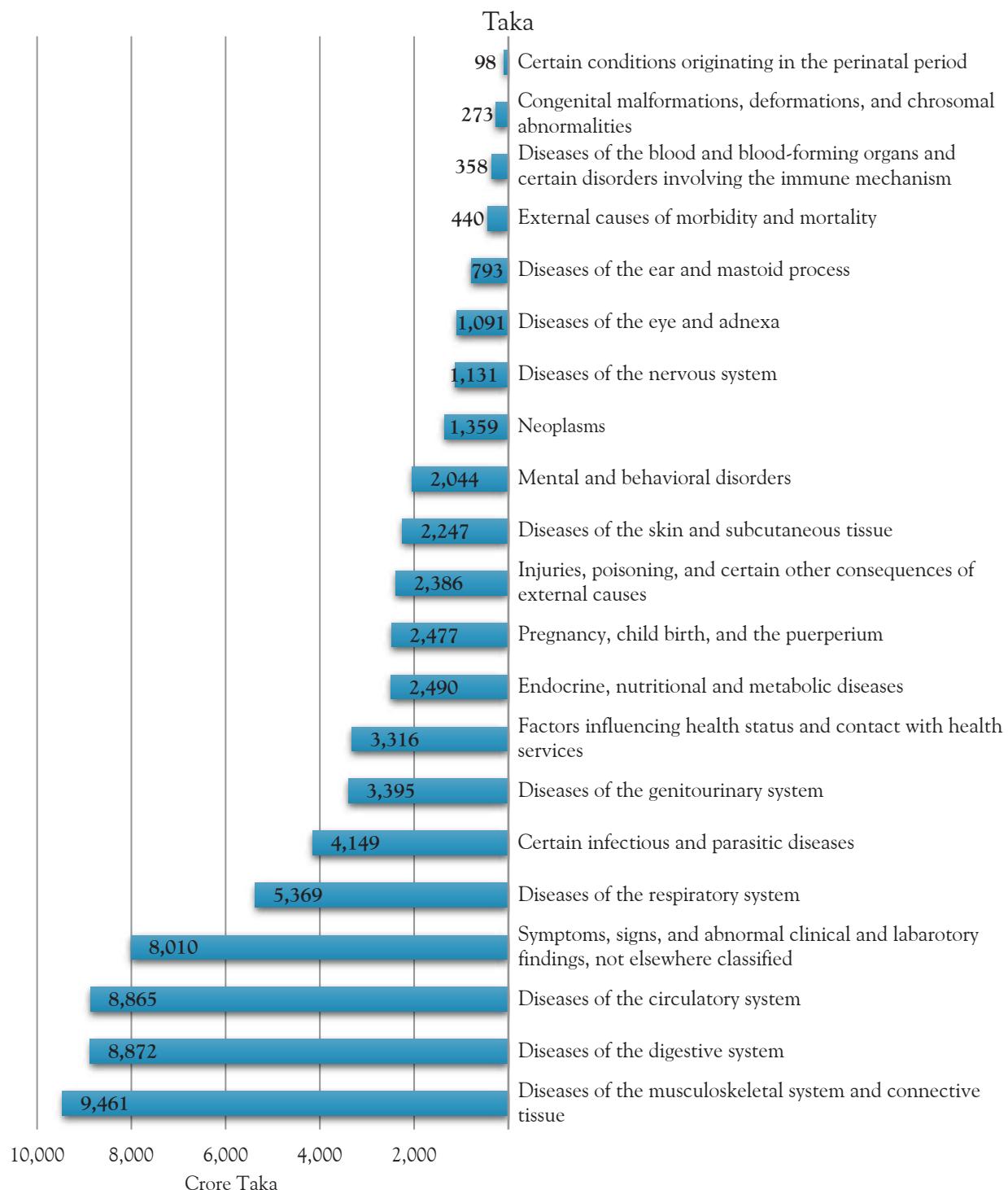


Figure 11.3. Recurrent healthcare expenditure for selected diseases and conditions by ICD-10 Classification, 2020

Comparison of DSA 2020 and DSA 2015 estimates

- In assessing expenses in relation to shifts in the trends of disease prevalence, an analysis compared expenditure between 2015 and 2020 based on the ICD-10 Chapter. Diseases linked to the musculoskeletal system and connective tissue consistently accounted for the highest expenditure in both 2015 and 2020 (Table 11.2)
- Only six out of 22 broader disease categories retained their proportional spending share from 2015 to 2020

The ranking of the top five categories representing the financial burden of diseases and conditions in 2020 is compared with 2015:

- Diseases of the musculoskeletal system and connective tissue (1 in 2020; 1 in 2015)
- Diseases of the circulatory system (2 in 2020; 2 in 2015)
- Diseases of the digestive system (3 in 2020; 4 in 2015)
- Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (4 in 2020; 9 in 2015)
- Diseases of the respiratory system (5 in 2020; 3 in 2015)

Table 11.2. Comparison of expenditure by ICD-10 Chapter: 2020 and 2015							
ICD-10 Chapter	Classification of diseases and conditions	2015			2020		
		Expenditure (BDT in crore)	Expenditure (Percentage)	Rank	Expenditure (BDT in crore)	Expenditure (Percentage)	Rank
A00-B99	Certain infectious and parasitic diseases	3,110.5	8.0	5	4,149.3	6.0	6
C00-D48	Neoplasms	889.3	2.3	15	1,359.0	2.0	14
D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	127.8	0.3	19	358.1	0.5	19
E00-E90	Endocrine, nutritional and metabolic diseases	2,011.4	5.2	8	2,489.5	3.6	9
F00-F99	Mental and behavioral disorders	1,491.3	3.8	11	2,043.6	3.0	13
G00-G99	Diseases of the nervous system	963.5	2.5	14	1,130.6	1.6	15
H00-H59	Diseases of the eye and adnexa	1,008.4	2.6	13	1,090.5	1.6	16
H60-H95	Diseases of the ear and mastoid process	734.8	1.9	18	793.4	1.2	17

Table 11.2 contd.

Table continued...

ICD-10 Chapter	Classification of diseases and conditions	2015			2020		
		Expenditure (BDT in crore)	Expenditure (Percentage)	Rank	Expenditure (BDT in crore)	Expenditure (Percentage)	Rank
J00-J99	Diseases of the respiratory system	3,645.4	9.3	3	5,369.4	7.8	5
K00-K99	Diseases of the digestive system	5,098.3	13.1	2	8,872.1	12.9	2
L00-L99	Diseases of the skin and subcutaneous tissue	1,499.2	3.8	10	2,247.1	3.3	12
M00-M99	Diseases of the musculoskeletal system and connective tissue	5,507.6	14.1	1	9,460.9	13.8	1
N00-N99	Diseases of the genitourinary system	2,421.7	6.2	6	3,394.9	4.9	7
O00-O99	Pregnancy, child birth and the puerperium	884.6	2.3	16	2,476.9	3.6	10
P00-P96	Certain conditions originating in the perinatal period	19.4	0.0	21	98.0	0.1	21
Q00-Q99	Congenital malformations, deformations, and chromosomal abnormalities	117.1	0.3	20	273.3	0.4	20
R00-R99	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified	1,600.5	4.1	9	8,009.6	11.7	4
S00-T98	Injuries, poisoning, and certain other consequences of external causes	2,166.4	5.6	7	2,386.5	3.5	11
U00-U99	Codes for special purposes	-	0.0	22	6.0	0.0	22
V01-Y98	External causes of morbidity and mortality	756.0	1.9	17	439.6	0.6	18
Z00-Z99	Factors influencing health status and contact with health services	1,412.4	3.6	12	3,316.1	4.8	8
Total		39,007.1	100		68,628.9	100	

Comparison of expenditure by gender

- In 2020, total recurrent spending on diseases and conditions in Bangladesh amounted to Tk 26,688 crore for males and Tk 41,179 crore for females
- Six diseases within the 22 ICD-10 Chapters constituted approximately 66% of healthcare expenditure for both genders. Comparing the prevalence of these six diseases between males and females reveals that females exhibit a
- Conversely, males exhibit a greater proportion of funds toward certain infectious and parasitic diseases compared to females

Table 11.3. Recurrent healthcare expenditure by gender (Values in crore Taka)

ICD-10 Chapter	Classification of diseases and conditions	Male	Male (Percentage)	Female	Female (Percentage)
A00-B99	Certain infectious and parasitic diseases	1,519	45	1,867	55
C00-D48	Neoplasms	701	52	658	48
D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	101	28	257	72
E00-E90	Endocrine, nutritional and metabolic diseases	888	36	1,596	64
F00-F99	Mental and behavioral disorders	929	45	1,115	55
G00-G99	Diseases of the nervous system	487	43	644	57
H00-H59	Diseases of the eye and adnexa	439	40	652	60
H60-H95	Diseases of the ear and mastoid process	314	40	479	60
I00-I99	Diseases of the circulatory system	3,249	37	5,608	63
J00-J99	Diseases of the respiratory system	2,633	49	2,736	51
K00-K99	Diseases of the digestive system	3,851	43	5,018	57
L00-L99	Diseases of the skin and subcutaneous tissue	1,142	51	1,104	49
M00-M99	Diseases of the musculoskeletal system and connective tissue	3,459	37	6,001	63
N00-N99	Diseases of the genitourinary system	994	29	2,401	71
O00-O99	Pregnancy, child birth, and the puerperium	-	0	2,477	100
P00-P96	Certain conditions originating in the perinatal period		28	70	71
Q00-Q99	Congenital malformations, deformations, and chromosomal abnormalities	63	23	211	77
R00-R99	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified	3,758	47	4,251	53

Table 11.3 contd.

higher vulnerability to diseases of the musculoskeletal system and connective tissue, diseases of the circulatory system, diseases of the respiratory system, diseases of the digestive system, and symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified

Table continued...

ICD-10 Chapter	Classification of diseases and conditions	Male	Male (Percentage)	Female	Female (Percentage)
S00-T98	Injuries, poisoning, and certain other consequences of external causes	1,350	57	1,036	43
U00-U99	Codes for special purposes	5	81	1	19
V01-Y98	External causes of morbidity and mortality	306	70	134	30
Z00-Z99	Factors influencing health status and contact with health services	472	20	1,864	80
Total		26,688	40	40,179	60

Expenditure by age

- An examination of expenditure across different age-groups for various diseases and conditions indicates that 58% of the recurrent spending allocated to patients is aimed at treating the reproductive age-group, spanning 15 to 49 years if age
- A closer look highlights that 64% of healthcare expenses for females and 50% for males are attributed to individuals within 15 to 49 years age range

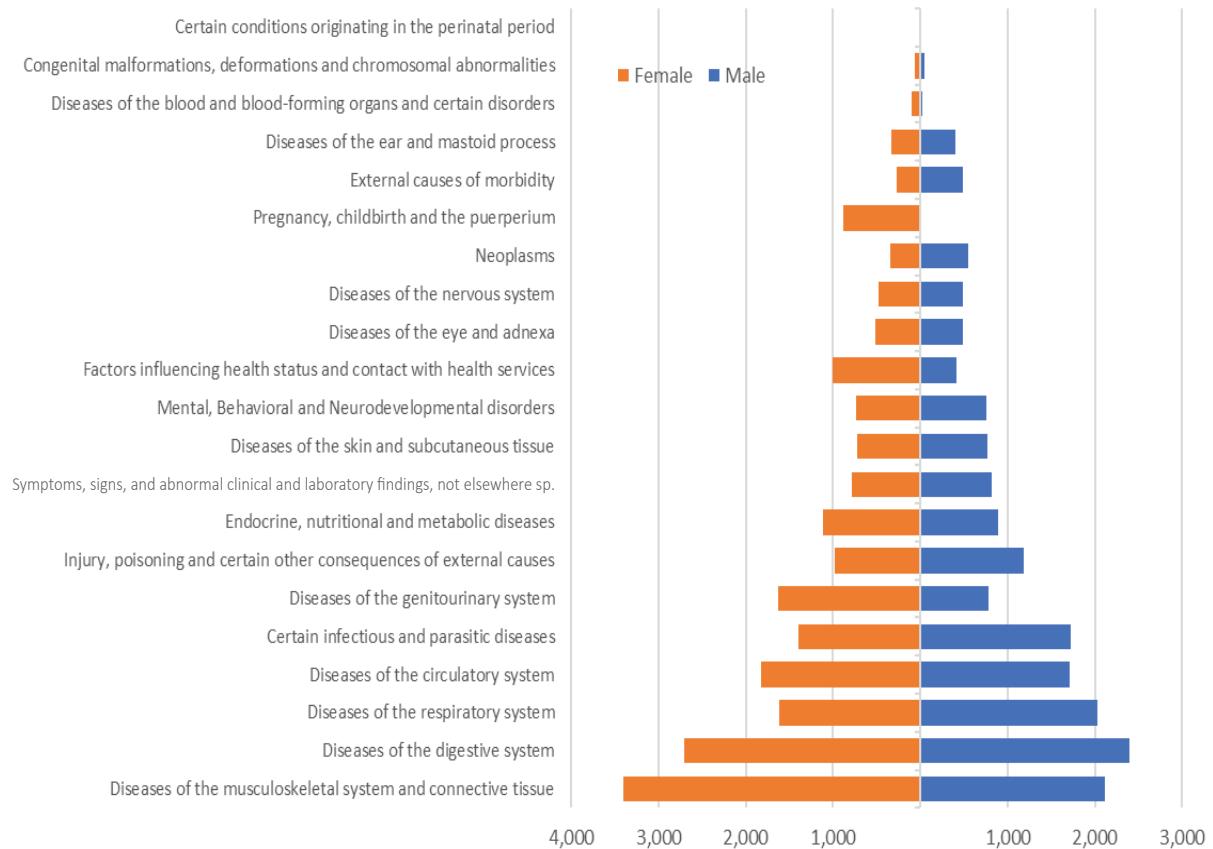


Figure 11.4. Recurrent healthcare expenditure in 2020 by gender and ICD-10 code

Pharmaceutical Expenditure Tracking 2020

[All data refer to the year 2020/FY-2019-2020 according to BNHA]

- It is the first attempt done by HEU to estimate total expenditure on pharmaceuticals for the year 2020 that provides a breakdown of drugs sold by retail drug stores and healthcare facilities
- Total Pharmaceutical Expenditure (TPE): Tk 389 billion, 50% of THE
- Share of TPE: For male: 39%
For female: 61%
- Total Pharmaceutical Expenditure (TPE) financing source in percentage:
 - Households: 93.89%
 - Government: 5.62%
 - Development partners: 0.37%
 - NGOs: 0.12%
- Household share of financing pharmaceutical expenditure is dominant across all 22 ICD-10 categories of diseases and conditions
- Top three pharmaceutical outlays for either gender are: (i) diseases of the musculoskeletal system and connective tissue; (ii) diseases of the circulatory system, and (iii) diseases of the digestive system

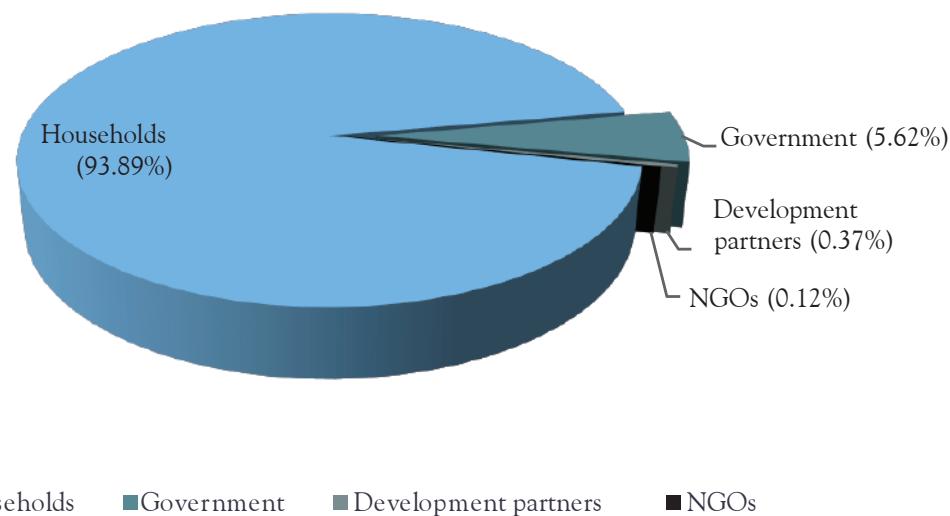


Figure 11.5. Percentage of Total Pharmaceutical Expenditure (TPE) by financing source

When combined, share of the Total Pharmaceutical Expenditure for these three

disease categories is 47.1% (Tk 18,329 crore)

Table 11.4. Pharmaceutical expenditure by service providers in 2020

HP	Service provider	Expenditure (BDT in crore)	Expenditure (Percentage)
HP1.1	General hospitals	1,518	3.9
HP1.3	Specialized hospitals (other than mental health hospitals)	1,103	2.8
HP3.4	Ambulatory healthcare centers	774	2.0
HP4	Providers of ancillary services	1,025	2.6
HP5.1	Pharmacy	34,437	88.5
HP6	Providers of preventive care	40	0.1
Total		38,897	

Bangladesh Essential Service Package Expenditure 2020

- Bangladesh is committed to achieving Universal Health Coverage (UHC) by 2030 as part of the United Nations' Sustainable Development Goal (SDG). UHC includes a full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care for all without suffering financial hardship. Essential Health Service Package (ESP) developed by the Ministry of Health and Family Welfare (MOHFW) is in congruence with UHC
- Since 1998, the MOHFW is maintaining a list of essential health services and making periodic updates of the listing considering changes in the trends of disease burden and population needs. The MOHFW last updated its listing of ESP in 2016 for its Fourth Health, Population, and Nutrition Sector Program (HPNSP) 2017-2022. In broader term,

ESP for Bangladesh comprises five core services: (i) maternal, neonatal, child and adolescent health; (ii) family planning (FP); (iii) nutrition; (iv) communicable diseases; (v) non-communicable diseases. ESP is complemented by services to treat and manage several common conditions. Services through ESP in Bangladesh are provided through different types of healthcare facilities starting from community clinics to tertiary-level hospitals, like medical college hospitals or super specialty hospitals

- HEU conducted this study which considered expenditure related to Bangladesh Essential Service Package (ESP) of the Ministry of Health and Family Welfare (MOHFW) as proxy for the primary healthcare services in the country
- In 2020, Bangladesh spent a total of Tk 380 billion on ESP services. It amounts to almost half of the Total Health Expenditure (48.8%). THE includes all healthcare goods and services, including

gross capital formation for a year. A breakdown of ESP expenditure by public and private sector shows that 27% of ESP

expenditure is paid by the Government while remaining 73% is paid by the private sector, including NGOs

Table 11.5. Core ESP expenditure and per-capita spending by public and private sector, 2020

Core ESP classification	Public		Private		Total	
	Million Tk	Per-capita	Million Tk	Per-capita	Million Tk	Per-capita
Maternal, neonatal, child and adolescent health	49,905	294	110,274	649	160,179	943
Family planning	12,347	73	1,508	9	13,855	82
Nutrition	1,525	9	9,721	57	11,247	66
Communicable diseases	9,786	58	12,974	76	22,761	134
Non-communicable diseases	4,438	26	90,368	532	94,806	558
Management of other common conditions	22,756	134	53,934	318	76,691	452
Total ESP	100,757	593	278,780	1,642	379,537	2,235
Total THE	179,742	1,058	597,605	3,519	777,347	4,578
ESP as % of THE	56.1%		46.6%		48.8%	

- In 2020, per-person ESP expenditure was Tk 2,235. Per-capita ESP spending by public and private sector for the year were Tk 593 and Tk 1,642 respectively
- Analysis of per-capita spending by core ESP

services shows that the highest per-capita spending is made on maternal, neonatal, child and adolescent interventions where the Government spent Tk 294, and the private sector spent Tk 649

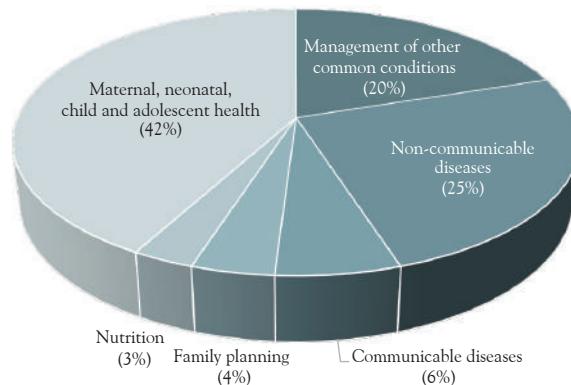


Figure 11.6. Percent share of core ESP services, 2020

- A breakdown of ESP expenditure by core services and management of other common conditions reveals that expenditure on maternal, neonatal, child and adolescent health (MNCAH) accounts for the largest share of ESP (42%), followed by non-communicable diseases (25%)
- A key component of non-communicable diseases (NCDs) is sexual and gender-based violence, which includes treatment for minor injuries, making it the largest component of NCD-related ESP expenditure

Shasthyo Surokhsha Karmasuchi

[A social health protection scheme]

- Shasthyo Surokhsha Karmasuchi (SSK) has been developed by Health Economics Unit aiming to deliver quality healthcare free of cost to households living below the poverty line (BPL) by eliminating the burden of out-of-pocket expenditure. This initiative safeguards vulnerable population from the risk of impoverishment resulting from catastrophic cost for illnesses
- Initially, SSK was planned to provide healthcare services to BPL households at the upazila level through public hospitals, specifically through the upazila health complexes. Thus, BPL households holding an SSK card would be entitled to services of the complimentary in-patient department (IPD) for 110 specific diagnoses, with a plan to gradually expand the scope of the benefit package
- SSK was inaugurated on 24 March 2016 in Kalihati Upazila of Tangail District by the Honorable Minister, MOHFW. It was

subsequently expanded to all 12 upazilas of Tangail District, and then to six more districts, including Lakshmipur, Barguna, Barishal, Kurigram, Lalmonirhat, and Manikganj

- SSK has begun its piloting in Dhaka North and South City Corporations where the services would be provided to urban BPL households through four hospitals, such as Mugda Medical College Hospital, Sir Salimullah Medical College & Mitford Hospital in Dhaka South, Shaheed Suhrawardy Medical College Hospital, and Kurmitola General Hospital in Dhaka North City Corporation areas

Innovation in SSK

- Shift from supply-side financing to demand-side financing
- Split functions of provider and purchaser
- Provide biometric SSK card to BPL households
- Give free medicines of top 10 pharmaceutical companies through SSK pharmacy to BPL households
- Develop clinical protocols for benefit package
- Use of IT for Electronic Health Record (EHR) and cashless digital transaction through claim management to achieve the target of Smart Bangladesh
- Ensure administrative and financial autonomy for health managers
- Improve structured referral system in healthcare

Table 11.6. SSK service delivery status (till 31 March 2024)

Indicator	Till 31 March 2024	Target by June 2028
Number of districts	3	7
Number of upazilas	16	24
Number of households registered	307,593	456,000
Number of patients visiting SSK booth	193,341	229,908
Number of IPD patients released	54,056	64,250

Social Security Programs

[Source: SSPS program factsheet]

- Social security accounts for 17.81% of government expenditure which is equivalent to 2.65% of the GDP
- Coverage of program has increased, HIES 2010 shows coverage of 24.5% of the poor

Social Security Programs (SSP) in Bangladesh Budget

Social Security Programs in Bangladesh's health sector are vital for providing medical

support to vulnerable populations, including the elderly, women, children, and low-income groups. These programs aim to improve healthcare access, ensure medical security, and promote health equity, reflecting the Government's commitment to enhancing public health through substantial budget allocations and targeted health interventions.

Households and beneficiaries receiving benefits (2022-2023)

- HIES 2022 reveals that 37.6% of the households have received benefits during

Table 11.7. Social security programs implemented by MOHFW in FY 2022-2023

Social Security Programs	Ministry/ Division	Beneficiaries (Persons in lakh)	Budget (BDT in crore)
		Revised (22-23)	Revised (22-23)
Maternal, neonatal, child and adolescent health/ National Nutrition Services*	HSD	735.76	895.44
Essential services delivery and community-based healthcare	HSD	1,100.00	1,067.21
TB, leprosy, communicable and non-communicable disease control	HSD	501.84	751.49
Maternal, child, reproductive and adolescent health	MEFWD	9.95	178.10
Clinical contraception service delivery/family planning field services delivery*	MEFWD	9.06	431.84

*Beneficiary coverage under schemes/projects of HSD and MEFWD of MOHFW is shown. It is to be noted that the account of receiving multiple services of one service-recipient has been taken into consideration; HSD=Health Services Division; MEFWD=Medical Education and Family Welfare Division (Source: Social Security Programs: Fiscal year 2022-23, Finance Division, Ministry of Finance)

the last 12 months from SSP. In contrast, 27.8% of households in 2016 and 24.6% of households in 2010 receive benefits from SSP

- In rural areas, 44.0% of households received benefits from SSP against 34.5% and 30.1% of households in 2016 and 2010 respectively. In urban areas, it was 23.9% in 2022 compared to 10.6% in 2016 and 9.4% in 2010
- The percentage of program beneficiaries increased exponentially in 2022

compared to 2016 and 2010. In 2016, the percentage of program beneficiary households was 28.7%, which increased to 50.0% in 2022

4th Health, Population and Nutrition Sector Program

Summary data of the 4th Health, Population and Nutrition Sector Program (HPNSP) 2017-2022, revised in 2024, are shown in the Table 11.8.

Table 11.8. Data of the 4th HPNSP: total allocation and expenditure (in lakh Taka)

Fiscal year	Allocation	Release	Expenditure	Progress by allocation	Progress by release
2017-2018	345,137	339,031.58	321,090.681	93.03	94.71
2018-2019	382,179.7216	384,570.19	340,356.906	89.06	88.50
2019-2020	411,782	389,223.168	313,722.099	76.19	80.60
2020-2021	370,846.25	324,388.7803	252,703.555	68.14	77.90
2021-2022	423,781	411,112.7382	353,195.073	83.34	85.91
2022-2023	397,931.11	382,319.6735	340,519.724	85.57	89.07
2023-2024	302,236.38	180,368.116	128,650.698	42.57	71.33
Total	2,633,893.5	2,411,014.25	2,050,238.7	77.84	85.04

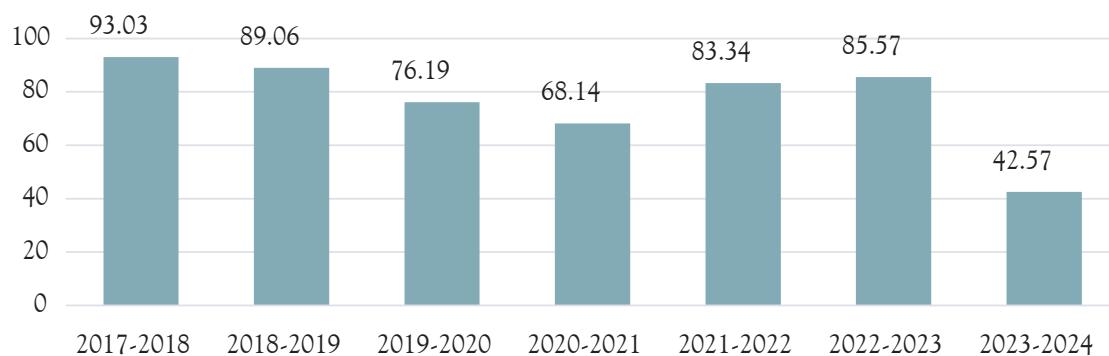


Figure 11.7. Yearly progress based on allocation

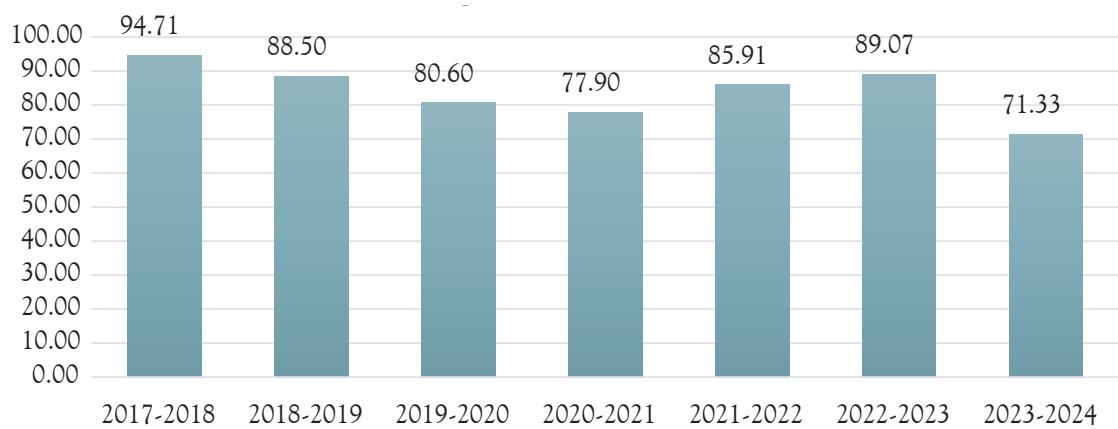


Figure 11.8. Yearly progress based on release (percentage)

Health-related SDG

Committed to achieving targets by 2030

Health-related Sustainable Development Goal (SDG) is aimed to “ensure healthy lives and promote wellbeing for all at all ages.”

Bangladesh successfully achieved the Millennium Development Goals (MDGs) and is on track in attaining targets of the Sustainable Development Goals (SDGs). Sheikh Hasina, Honorable Prime Minister of Bangladesh, received the SDG Progress Award in September 2021 from the UN-sponsored Sustainable Development Solutions Network (SDSN). This accolade marks a global recognition of the remarkable success of Bangladesh in leading the ways to SDG implementation.

For prioritizing the most marginalized and disadvantaged populations, Bangladesh adopted a ‘whole-of-society’ approach with an

Bangladesh successfully achieved the Millennium Development Goals (MDGs) and is on track in attaining targets of the Sustainable Development Goals (SDGs)

agenda of ‘leaving no one behind’. Due to a heightened frequency and severity of both human-made crises and natural disasters in the global landscape, such as the COVID-19 pandemic, persistent global vaccine inequality, surging inflation, disruptions in supply

chains, uncertainties in policy, and the global ramifications of the Russia-Ukraine conflict, the task of achieving the SDGs has become challenging since 2020.

Health-related SDG (SDG3) has 13 targets and 28 indicators to measure progress toward the targets. The first nine targets are outcome targets. The 2030 agenda of the SDGs are reflected in the current 8th Five-year Plan (2017-2021) as well as the 4th Health, Population and Nutrition Sector Program (HPNSP) (2017-2022).

This chapter offers an in-depth examination of the advancements made in Bangladesh regarding health-related goal and its associated targets and indicators. Bangladesh faces distinctive challenges, possesses unique resources, and encounters opportunities for progress in the pursuit of these targets.

Target 3.1

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

Indicator 3.1.1. Maternal mortality ratio (per 100,000 livebirths)

Maternal mortality ratio (MMR) has dropped to 156 per 100,000 livebirths in 2022 from 181 per 100,000 livebirths in 2015 and 447 per 100,000 livebirths in 1995. In rural areas, the ratio is considerably less than in urban areas

by 17 deaths per 100,000 livebirths. In rural areas, MMR is improved than in the previous years (source: SVRS, BBS; SDGs Progress Report, GED)

Bangladesh needs to reduce MMR to 100 per 100,000 livebirths by 2025, and 70 per 100,000 livebirths by 2030 for achieving the SDG target.



Figure 12.1. Maternal mortality ratio (MMR) per 100,000 livebirths

Indicator 3.1.2. Proportion of births attended by skilled health personnel

The number of births attended by skilled health personnel has remarkably improved from 10% in 1995 to 75.3% in 2020. However, evidence suggests that around 85.8% of the

population in the urban areas has access to skilled health personnel compared to around 68.8% in the rural areas (MICS, BBS, SID; SVRS, BBS, SID and HMSS, BBS, SID). The SDG target is unspecified, encourages to achieve as high as possible as a key initiative to achieve Goal 3.1.

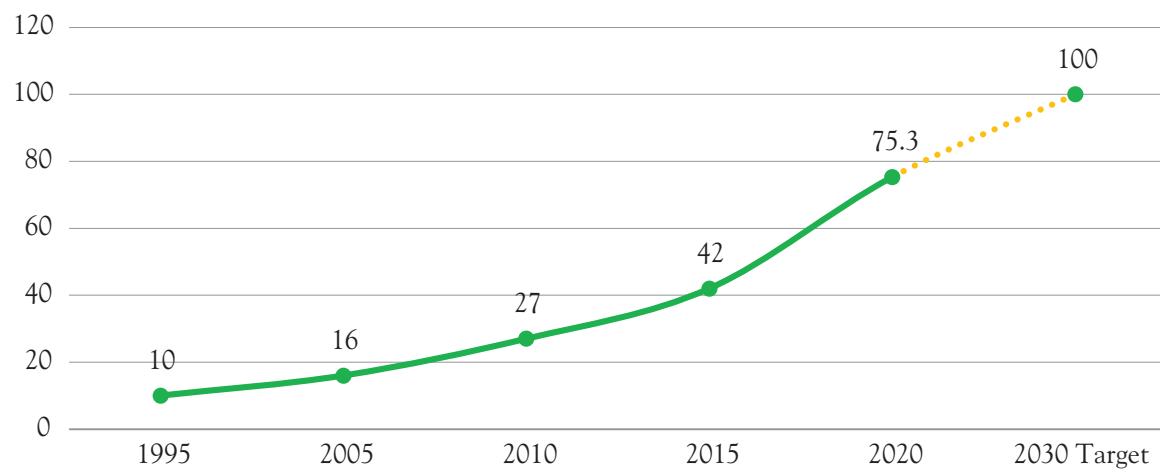


Figure 12.2. Proportion of births attended by skilled health personnel

Target 3.2

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

Indicator 3.2.1. Under-five mortality rate (per 1,000 livebirths)

Under-5 mortality rate has decreased from 125 per 1,000 livebirths in 1995 to 36 in 2015 and further decreased to 31 per 1,000 livebirths in 2022, putting Bangladesh on track toward achieving the target (SVRS, BBS, SID and PHC, BBS, SID). The SDG target is 27 per 1,000 livebirths by 2025, 25 per 1,000 livebirths by 2030.

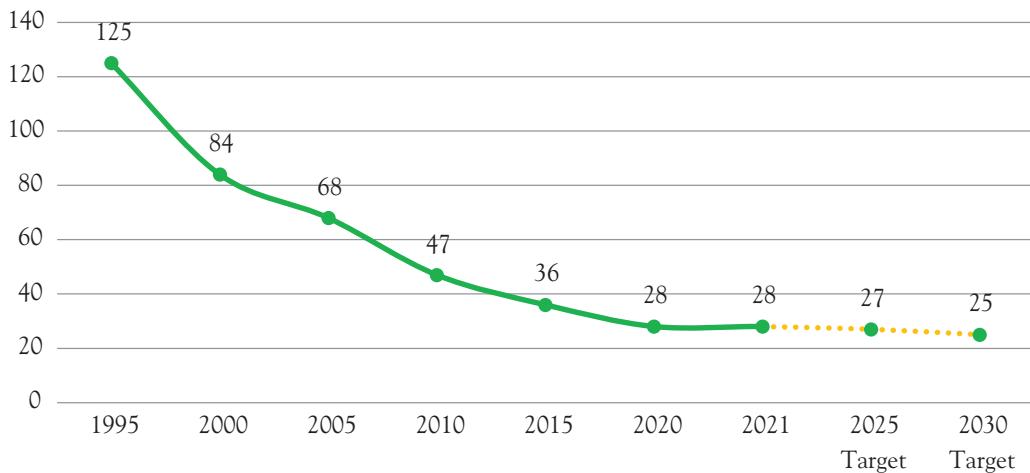


Figure 12.3. Under-5 mortality rate per 1,000 livebirths

Indicator 3.2.2 Neonatal mortality rate in Bangladesh (per 1,000 livebirths)

Recent evidence shows that the neonatal mortality rate has declined from 39 per 1,000 livebirths in 2000 to 15

per 1,000 livebirths in 2020, and 17 per 1,000 livebirths in 2022 (SVRS, BBS, SID, PHC, BBS, SID). The SDG target is 14 per 1,000 livebirths by 2025 and 12 by the year 2030.

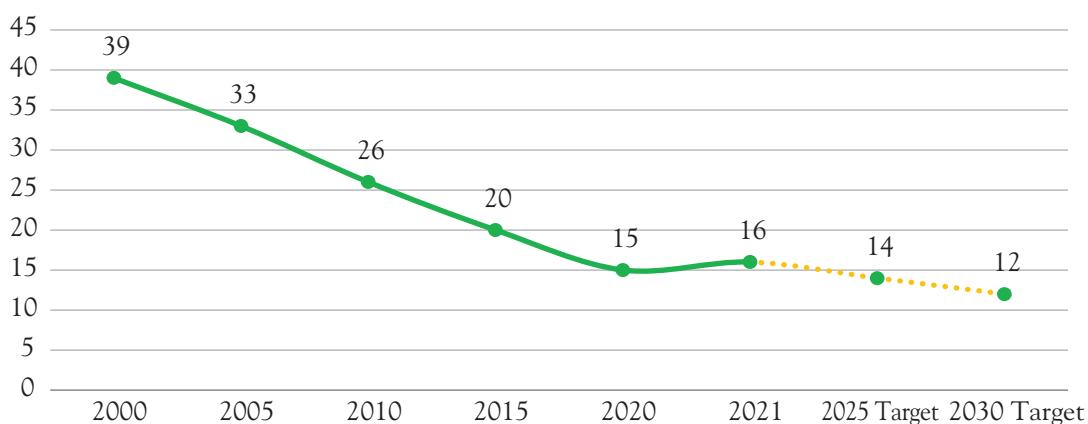


Figure 12.4. Neonatal mortality rate (per 1,000 livebirths)

Target 3.3

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

Indicator 3.3.1. Number of new HIV infections per 1,000 uninfected population by sex, age, and key populations

Bangladesh is a country with a low HIV/AIDS prevalence and incidence. As per UNAIDS, the incidence of HIV was 0.015 per 1,000 uninfected population at the national level in

2018. The SDG target is to reduce it to 0.01 per 1,000 uninfected population by 2025.

Indicator 3.3.2. Tuberculosis incidence per 100,000 population

According to the Bangladesh SDG tracker, the incidence of tuberculosis has decreased from 225 per 100,000 population in 2015 to 218 in 2020 (source: DGHS, 2016-18 and WB, 2020).

The SDG target for Bangladesh is to reduce the incidence to 112 per 100,000 by 2025 and 45 per 100,000 in 2030.

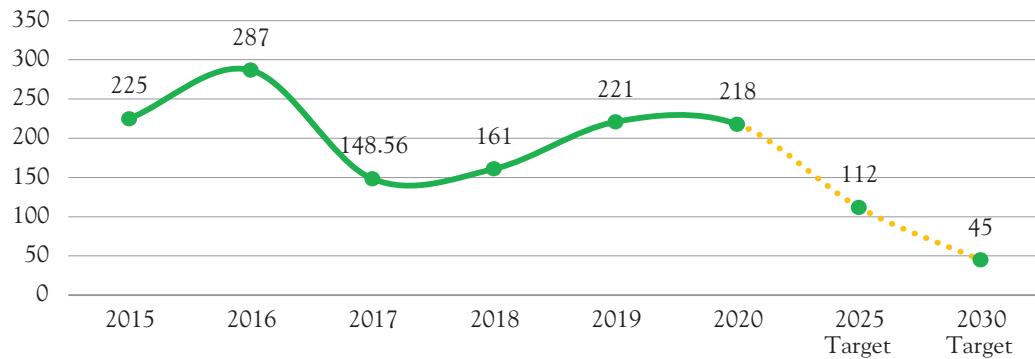


Figure 12.5. Tuberculosis incidence rate per 100,000 population

Indicator 3.3.3. Malaria incidence per 1,000 population

Bangladesh is considered one of the major malaria-endemic countries in South Asia. As per the National Malaria Elimination Program

(NMEP), DGHS, and HSD, the incidence of malaria has dropped down to 0.5 per 1,000 population in 2022 from 2.68 in 2015. The SDG target is to reduce the incidence to 0.09 per 1,000 population in 2025 and to zero by 2030.

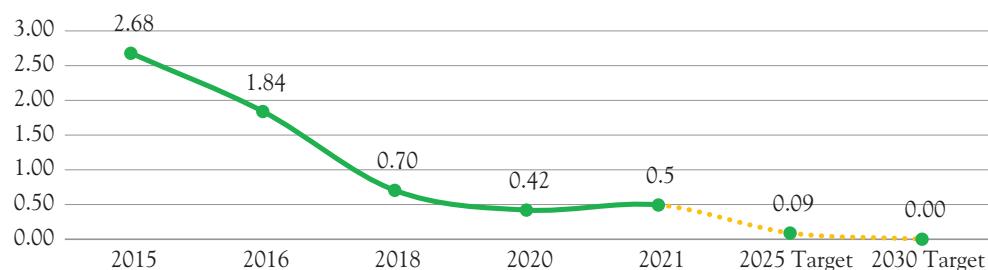


Figure 12.6. Malaria incidence per 1,000 population

Indicator 3.3.4. Hepatitis B incidence per 100,000 population

As per the World Health Statistics by WHO, the incidence of hepatitis B was 0.51 per 100,000 population in 2022.

The SDG target is to reduce it to 0.7 per 100,000 population by 2025.

Indicator 3.3.5. Number of people requiring interventions against neglected tropical diseases (NTDs)

As per the latest update from the Bangladesh Health SDG Profile (2019) by WHO, there were around 56.34 million people requiring interventions against NTDs in 2019. The SDG target is to reduce the number to 40 million in 2025 and to decrease toward the end of NTDs by 2030.

Target 3.4

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

Indicator 3.4.1. Mortality rate attributed to cardiovascular disease, cancer, diabetes, or chronic respiratory disease among people between 30 and 70 years of age

Cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases are the main causes of NCD burden in the country. The Bangladesh Health SDG Profile (2019) by WHO shows that the mortality rate due to NCDs has remained relatively unchanged in recent years. It was 21% in 2015, which was 24.5% in 2022. The SDG target is to reduce the mortality rate due to NCDs to 10% by 2025.

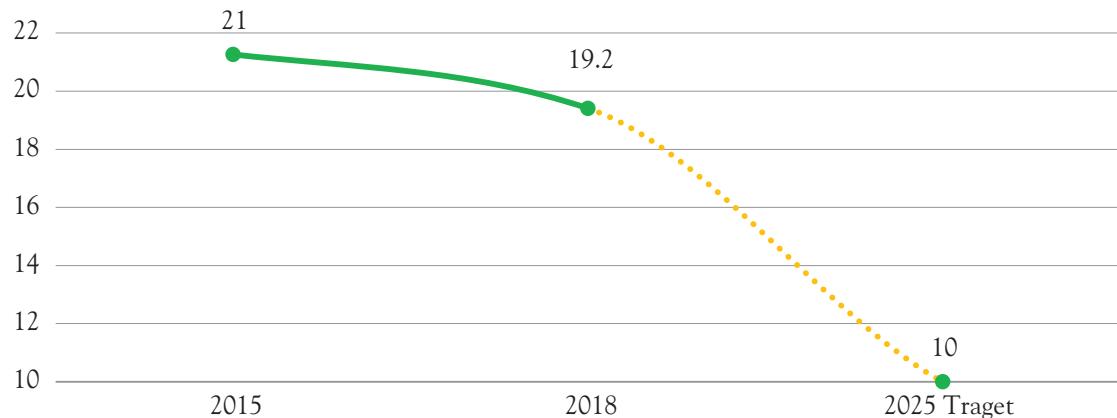


Figure 12.7. NCD burden in Bangladesh against the SDG target

Indicator 3.4.2. Suicide mortality rate (per 100,000 population)

The suicide mortality rate (per 100,000 population) shows a consistent figure hovering

around 7 per 100,000 population. However, in 2017, it declined to around 4 per 100,000 population but rose again to 8.99 in 2022 as per BP, MOHA (2019). The SDG target is to reduce suicide mortality rate to 3.5 by 2025.

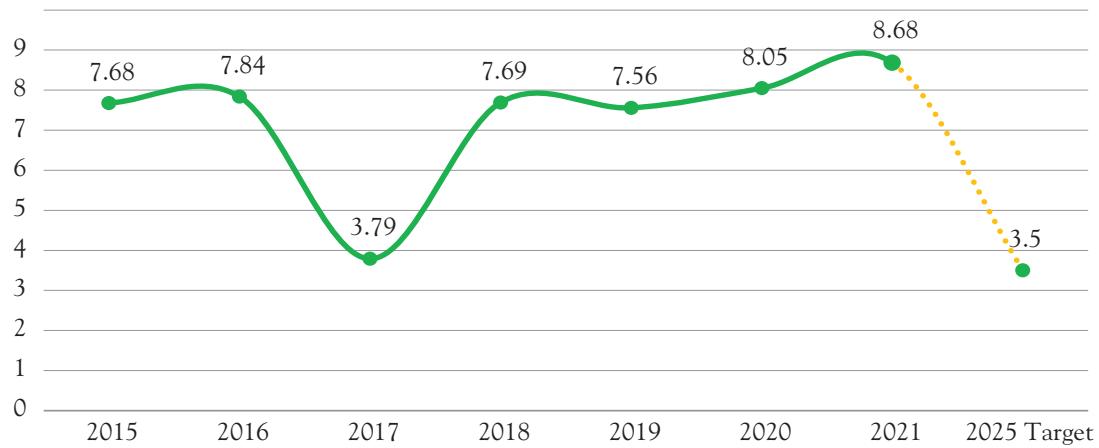


Figure 12.8. Suicide mortality rate in Bangladesh against SDG target

Target 3.5

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

Indicator 3.5.1. Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation, and aftercare services) for substance-abuse disorders

The treatment facilities for substance-abuse disorders indicate the status of treatment and support to the people using drugs, and their families and friends.

According to the Bangladesh SDG Tracker, 30,133 persons received treatment in 2020 for substance-abuse disorders.

Indicator 3.5.2. Harmful use of alcohol, defined according to the national context as per-capita consumption of alcohol within a calendar year in liters of pure alcohol among people aged 15 years and older

Bangladesh has always been a country with very low use of alcohol due to its cultural and religious practices. Hence, the harmful use of per-capita

The treatment facilities for substance-abuse disorders indicate the status of treatment and support to the people using drugs, and their families and friends

consumption of alcohol among people aged 15 years and older is observed to be 0.0560 in 2020. (source: DNC, SSD, MOHA).

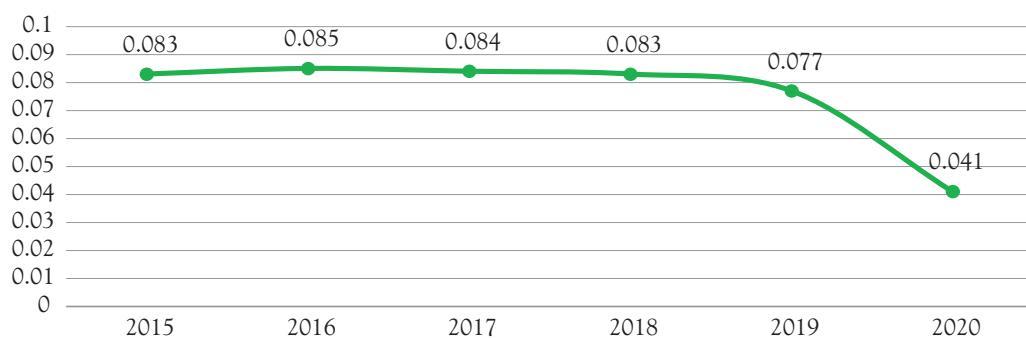


Figure 12.9. Alcohol consumption per capita in liter of pure alcohol per year

Target 3.6

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

Indicator 3.6.1. Death rate due to road traffic injuries (per 100,000 population)

The death rate due to road traffic injuries is defined as the number of road traffic fatal injury-related deaths per 100,000 population. In SVRS, BBS, 2022, the figure was 10.7 per 100,000 in Bangladesh. The SDG target for 2022 is 2 and 1.5 and 1.2 by 2025 and 2030 respectively.

Target 3.7

By 2030, ensure universal access to sexual and reproductive healthcare services, including for family

planning, information and education, and the integration of reproductive health into national strategies and programs

Indicator 3.7.1. Proportion of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods

If modern methods satisfy 75% or more of the demand, it is treated as 'high' while 50% or less is termed as 'low'. In 2020, around 62% of women of reproductive age (15-49 years) met their need for family planning, using one of the modern methods; they report that they are satisfied with the method (BDHS, NIPORT, MEFWD; MICS, BBS, SID and SVRS, BBS, SID). The SDG target is to increase the figure to 80% by 2025.

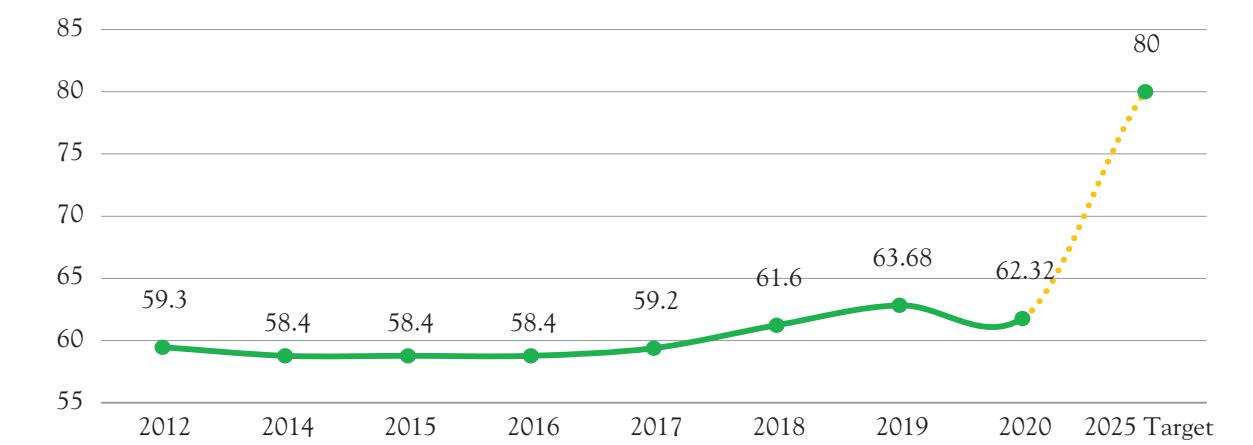


Figure 12.10. Proportion of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods

Indicator 3.7.2. Birth rate per 1,000 women among adolescents aged 15-19 years

The birth rate per 1,000 women among adolescents in the 15-19 age-group has significantly declined in Bangladesh from 144

in 1999 to 74 in 2020 (source: SVRS 2020, BDHS, NIPORT, MEFWD; MICS, BBS, SID and SVRS, BBS, SID). The SDG target is to reduce it to 60 by 2025 and 50 by the year 2030.

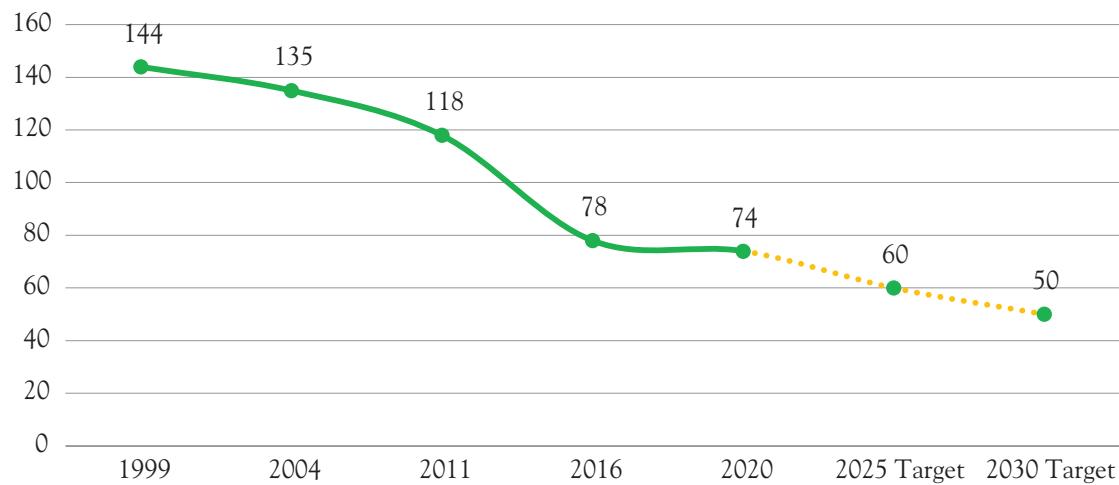


Figure 12.11. Birth rate per 1,000 women among adolescents aged 15-19 years)

Target 3.8

Achieve Universal Health Coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Indicator 3.8.1. Coverage of essential health services

The indicator is an index ranging between the scales of 0 and 100, which is computed as

the geometric mean of 14 tracer indicators of health service coverage. The tracer indicators are organized by four components of service coverage: (i) reproductive, maternal, newborn, and child health; (ii) infectious diseases; (iii) non-communicable diseases; and (iv) services capacity and access.

According to the Bangladesh Health SDG Profile (2022) by WHO, it is 57 in 2021, which was 38 in 2010. The SDG target is to increase it to 80 by 2025.

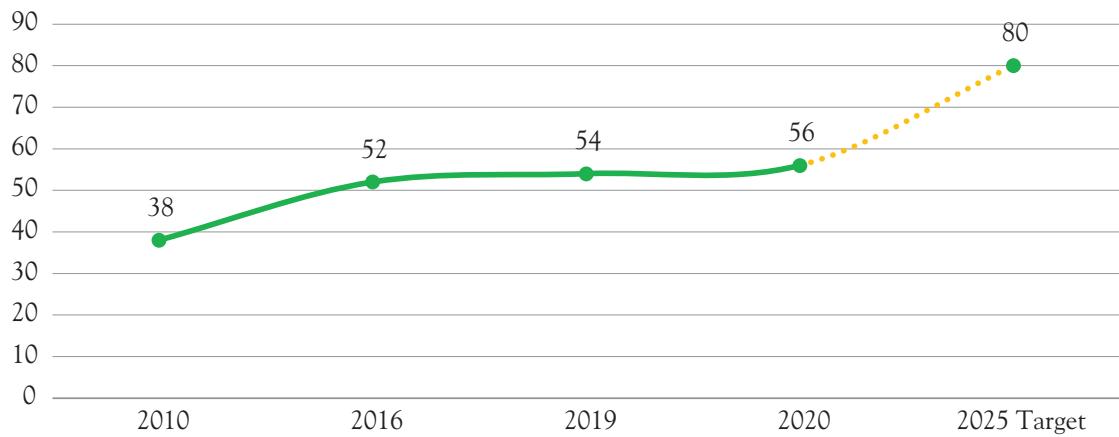


Figure 12.12. UHC index of essential health services

Indicator 3.8.2. Proportion of the population with large household expenditure (>10% of the total household expenditure or income) on health as a share of total household expenditure or income

Within the SDG monitoring framework (SDG indicator 3.8.2), the proportion of the population facing catastrophic expenditure is measured as the population-weighted average of the number of households with large household expenditure on health as a share

of total household expenditure or income (household's budget). In Bangladesh, the number is rising at a high rate.

According to the Bangladesh Health SDG Profile by WHO (2019), around 24.67% of the population (26.05% of the rural population and 21% of the urban population) had to spend more than 10% of their total income on health services in 2019 compared to about 15% in 2000 (source: Health SDG Profile by WHO, 2019 HIES, and BBS).

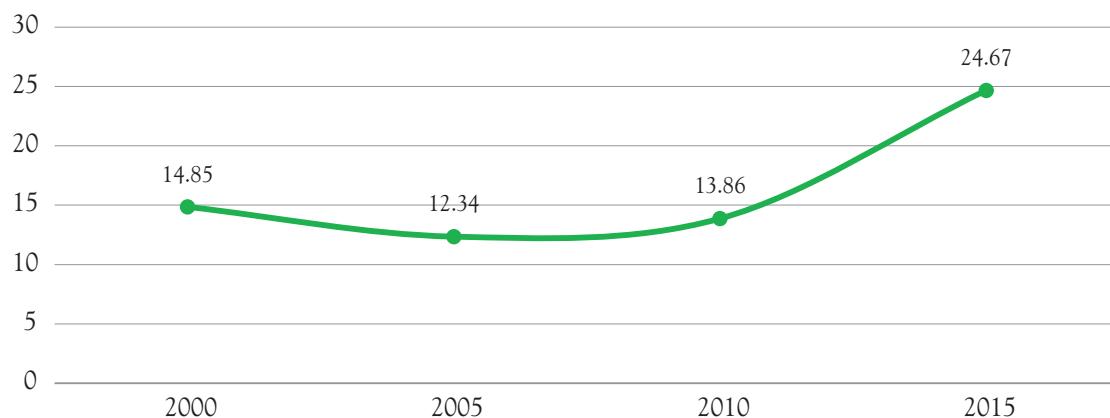


Figure 12.13. Proportions of population with large household expenditure on healthcare

Target 3.9

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

Indicator 3.9.1. Mortality rate attributed to household and ambient air pollution (per 100,000 population)

The mortality as a consequence of exposure to ambient (outdoor) and household (indoor) air pollution from polluting fuels used for cooking is rising in Bangladesh. Mortality rates are calculated by dividing the number of deaths by the total population and then multiplied by

100,000, which stood at 68.6 in 2012 (WHO, 2012). In 2016, around 149 per 100,000 population died as a result of air pollution in Bangladesh (UNSTAT: SDG Indicators, DGHS, HSD; DIFE, MOLE, and WHO).

Indicator 3.9.2. Mortality rate attributed to unsafe water, unsafe sanitation, and lack of hygiene (exposure to unsafe water, sanitation, and hygiene for all WASH services)

The mortality rate attributed to exposure to unsafe WASH services per 100,000 population was estimated at 5.96 in 2012. In 2022, 167 per 100,000 people died due to unsafe water,

unsafe sanitation, and lack of hygiene (SVRS). The SDG target is to reduce it to 5 by 2025.

Indicator 3.9.3. Mortality rate attributed to unintentional poisoning (per 100,000 population)

According to Health SDG Profile by WHO (2019), the mortality rate attributed to unintentional poisoning in 2019 was 0.3 per 100,000 population in Bangladesh. The SDG target is to reduce it to 0.25 by the year 2025.

Target 3a Strengthen the implementation of the World Health Organization Framework

Convention on Tobacco Control in all countries as appropriate

Indicator 3a.1 Age-standardized prevalence of current tobacco-use among persons aged 15 years and older

The Global Adult Tobacco Survey (GAT Survey, BBS, SID) shows that the age-standardized prevalence of current tobacco-use among persons aged 15 years and older has declined from 43.3% in 2009 to 35.3% in 2017. The target is to reduce it to 30% by 2025. Bangladesh aims to become a tobacco-free country by 2040.

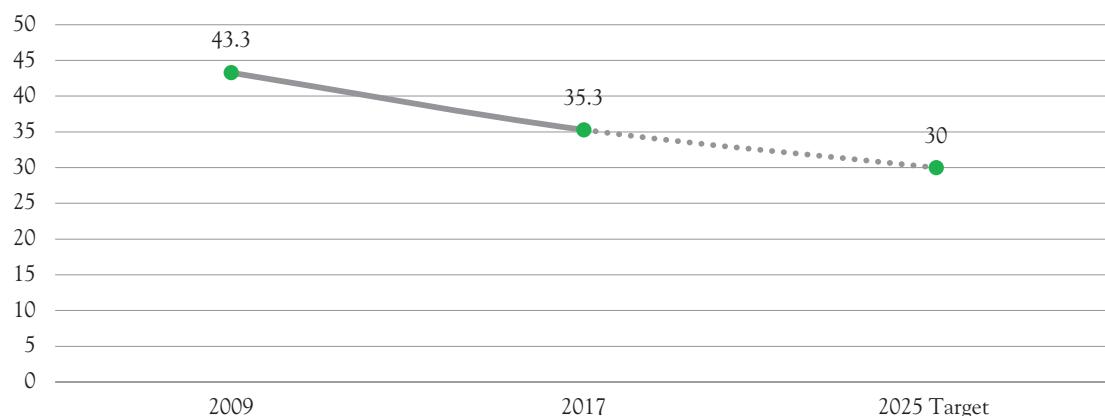


Figure 12.14. Age-standardized prevalence of tobacco-use among persons aged 15 years and older

Target 3b

Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of

developing countries to use to the full the provisions in the Agreement on Trade-related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

Indicator 3b.1 Proportion of the target population covered by all vaccines included in their national program

Bangladesh has developed an effective

national immunization program starting in 1979 with the implementation of the Expanded Program on Immunization (EPI) of the World Health Organization (WHO). The program consists of vaccination against 10 childhood diseases: polio, diphtheria, pertussis, tetanus, hepatitis B, *Haemophilus*

influenzae B, pneumococcus, measles, rubella, and tuberculosis.

According to EPI Coverage Evaluation Survey, DGHS, and HSD, and from both vaccination cards and mothers' reports, 86% of all children were fully vaccinated in 2018. The SDG target is to increase the coverage to 98% by 2025.

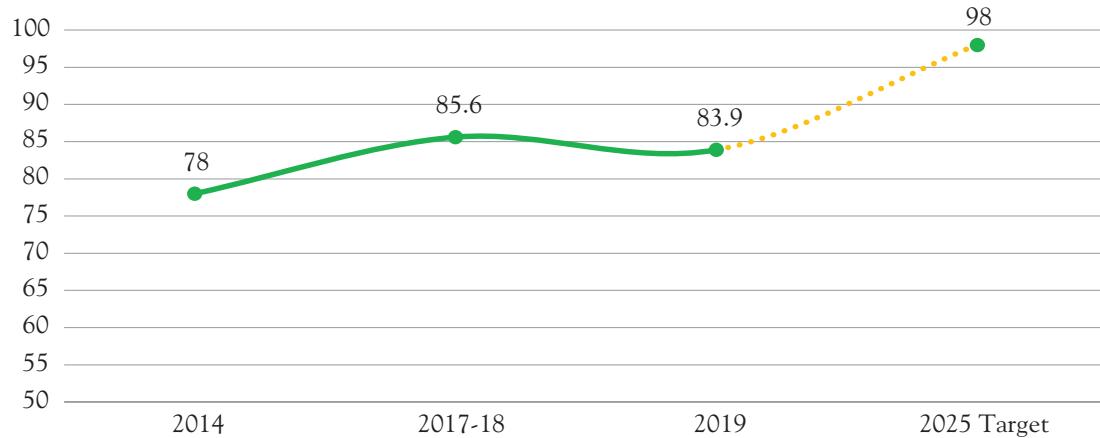


Figure 12.15. Coverage of fully-vaccinated children (%)

Indicator 3.b.2. Total net official development assistance to the medical research and basic health sectors

Data from ERD, HSD, and MEFWD show that the total net official development assistance to the medical research and basic health sectors has risen from US\$ 177.4 million in 2015 to US\$ 1748.68 million in 2022. This indicator is on the right track to achieve the target of US\$ 400 million in 2025.

Target 3c

Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries,

especially in least developed countries and small island developing states

Indicator 3c.1 Health worker density (per 10,000 population) and distribution (physician : nurse : health technologist)

Resources for health (HRH) constitute a key component of the health system. In the past, Bangladesh suffered from a shortage and misdistribution of health workers. Health worker density per 10,000 population stood at 7.4 in 2016. Physicians, nurses, and health technologists were distributed in the proportion of 1 : 0.5 : 0.2, indicating imbalances in the composition of the workforce.

The Government has taken remarkable steps to improve the situation by appointing a large number of doctors, nurses, and health

technologists in the last 5 years. In 2021, the density has increased to 9.9 per 10,000

population (MIS, DGHS, HSD). The WHO norm is 45/10,000 population.



Figure 12.16. Health worker density per 10,000 population

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

Indicator 3d.1 International Health Regulations (IHR) capacity and health emergency preparedness

The 13 core capacities of the International Health Regulations (IHR) are: (i) national

legislation, policy, and financing; (ii) coordination and national focal point communications; (iii) surveillance; (iv) response; (v) preparedness; (vi) risk communications; (vii) human resources; (viii) laboratory; (ix) points of entry; (x) zoonotic events; (xi) food safety; (xii) chemical events; and (xiii) radio-nuclear emergencies. According to Bangladesh SDG Tracker, the index has dropped to 58 in 2019 from 78 in 2016, and it is much below the 2025 milestone of 95.



Figure 12.17. International Health Regulations (IHR) capacity and health emergency preparedness: status against 2025 milestone

Health Status in Bangladesh: Achievements and Developments

Many health indicators excelled the WHO targets and global scenario

Healthcare in Bangladesh is one of the sectors achieving astonishing developments in the five decades since Independence, earning the admiration of the developed world in the process. Bangladesh provides healthcare services to about 171.0 million people with limited resources.

Over the past two decades, Bangladesh has made significant progress in the health sector by expanding health service network, prioritizing development of infrastructure, increasing health worker density, providing essential service delivery and achieved notable improvements in various health indicators. Several mega projects have already been completed in the past years. This year, about 13 large-scale projects, such as establishment of new medical and dental colleges, cancer hospitals, burn and plastic surgery units,

community clinics, etc. are still in progress, and 3 projects have come to light (Table 13.1). Along with infrastructure development, the Government has a keen eye on developing new healthcare units, such as operation theater, different life-support units, and procuring highly-sophisticated advanced instruments used in modern health-service delivery, such as MRI Machine, Brachytherapy Machine, Cobalt Machine, etc. (Table 13.2).

The Government has a keen eye on developing new healthcare units, such as operation theater, different life-support units, and procuring highly-sophisticated advanced instruments used in modern health-service delivery

Table 13.1. Structural development in health sector (Planning and Research, DGHS, 2023)

Sl. no.	Completed project (June 2023)
1	Establishment of Sheikh Sayera Khatun Medical College Hospital and Nursing College, Gopalganj (2nd Revised)
2	Eye Health Promotion and Prevention of Blindness in Selected Areas of Bangladesh, Sher-e-Bangla Nagar, Dhaka
3	Establishment of Shaheed M. Monsur Ali Medical College and 500-bedded Medical College Hospital
Ongoing project	
1	Establishment of Sheikh Lutfar Rahman Dental College and Hospital, Gopalganj (2nd revision)
2	Sheikh Hasina Medical College Hospital and Nursing College, Jamalpur (2nd revised)
Table 13.1 contd.	

Table continued...

Sl. no.	Ongoing project
3	Establishment of Patuakhali Medical College and Hospital, Patuakhali
4	Maternal and Child Health and Health System Improvement (Component 2: Modernization of Diagnostic Imaging System of Eight Divisional Medical College Hospitals) (First revision)
5	Expansion of National Institute of Neurosciences and Hospital (2nd revision)
6	Establishment of 500-bedded Hospital and ancillary buildings in Jashore, Cox's Bazar, Pabna; Abdul Malek Ukil Medical College and Jononeta Nurul Haque Modern Hospital, Noakhali (First revision)
7	Bangabandhu Medical College and Hospital, Sunamganj (First revision)
8	Establishment of 100-bedded Cancer Unit in 8 Divisional Medical College Hospitals
9	Establishment of 50 Beds in Medical Colleges and 10 Beds in District Sadar Hospitals for Kidney Dialysis
10	COVID-19 Emergency Response and Pandemic Preparedness (2nd revision))
11	COVID-19 Emergency Response Assistance (First revision)
12	Establishment of Burn and Plastic Surgery Unit in 5 Medical College Hospitals (Sylhet, Barishal, Rangpur, Rajshahi, and Faridpur)
13	Hospital-based Medical Waste Management in 15 Government Hospitals (First revision)

Table 13.2. Establishment of new healthcare units and procurement of modern equipment during 2014–2023 (HSM, DGHS, 2023)

New healthcare unit	Number	Modern medical equipment	Number
Operation theater	186	MRI Machine	15
ICU ventilator	455	CT Scan Machine	20
ICU bed	728	Auto-analyzer Machine	348
CCU bed	619	Echo Color Doppler Machine	93
HDU bed	150	Bronchoscope Machine	17
NICU bed	60	Brachytherapy Machine	5
SCANU	73	Cobalt Machine	4
Dialysis bed	447	Ultrasound Machine	169
Dialysis ventilator	169	X-ray Machine	190
Cath lab	20		
Burn unit	8		
Medical waste management	37		

The current Government led by Hon'ble Prime Minister Sheikh Hasina declared to build 'Smart Bangladesh' by 2041. MIS-DGHS is working to implement some reforms in the health system to build 'Smart Health Information Management'.

Reforms in Health System

1. Shared Health Record and Hospital Automation
2. Unique Health ID Card
3. Sending birth and death notification to BDRIS through DHIS2
4. Incorporation of NID/BRN (NID: National Identity Document; BRN: Birth Registration Number), with detailed address, mobile number in patient admission form at hospital
5. Incorporation of NID/BRN of deceased person in MCCoD form
6. Smart verbal autopsy for death in community

7. Digitalization of supportive supervision checklist of EPI outreach center, community clinic, upazila health complex, district/general hospital, and national nutrition program
8. 'Smart Health BD' application for ensuring service at doorstep

This chapter made an effort to compare the recent achievements and developments in the health sector with those in the year 2006 where possible. It is clearly evident that enormous development has occurred in between these years. The number of teaching and service institutes has been increased 2 to 3 times, and even 6 times. There is a significant increase (more than 2 times) in the number of beds in different types of facilities. Table 13.3 shows significant increase in health workforce of frontliners. The number of registered doctors and nurses is increased due to establishment of new educational facilities; the number of physicians and nurses for the government services has also increased, which is more than 3 times over the period.

Table 13.3. Comparison of structural development and workforce in the health sector in between 2006 and 2023

Sl. no.	Sector/Topic	Benchmark year 2006*	Assessed year 2023**	Remarks
Structural Development				
1	Number of beds in government hospitals	33,579	71,100	212% 
2	Number of community clinics	10,723	14,318	134% 
3	Number of community eye care centers	0	135	
4	Number of medical universities	1	5	500% 
5	Number of specialized hospitals	8	17	213% 

Table 13.3 contd.

Table continued...

Sl. no.	Sector/Topic	Benchmark year 2006*	Assessed year 2023**	Remarks
6	Number of medical colleges and hospitals	39	110	282% 
	Public	14	37	264% 
	Private	24	67	279% 
	AFMC & AMC	1	6	600% 
7	Number of upazila-level hospitals	208	431	207% 
8	Number of nursing colleges and institutes	31	99	319% 
	Workforce	2006*	2023***	
9	Doctors in government services	9,338	29,743	319% 
10	Nurses in government services	13,602	40,831	300% 
11	Medical technologists in government services	1,988	6,763	340% 
12	Total no. of registered doctors	45,723****	141,999	311% 
13	Total no. of registered nurses	21,715****	87,933	405% 

*A Changing Scenario; 2006 to 2023, Prime Minister's Office; **Operational Plans, DGHS, MOHFW; ***MIS-DGHS; ****Health Bulletin 2007, MIS, DGHS

The positive impact of this tremendous development of infrastructure and human resource is evident in Table 13.4. The number of service-seekers in outpatient and emergency

department in all facilities has increased nearly 2 folds while the number of admitted patients in indoor department has increased more than 3.5 times in the given time period.

Table 13.4. Comparison of facility-based health services in the health sector in 2005 and 2023

Sl. no.	Sector/Topic	Benchmark year 2005*	Assessed year 2023**	Remarks
Facility-based health services (in million)				
1	Services taken at outpatient department	42.55	77.5	182% 
2	Services taken at emergency department	7.94	14.9	188% 
3	Services taken at indoor department	2.48	8.78	354% 
4	Services taken at community clinic	***	102.6****	
5	Services taken at community eye center	-	1.77	

*Health Bulletin 2007, MIS, DGHS; **MIS-DGHS; ***Community Clinic was declared abandoned in 2001 by the then Government and then resumed in June 2006; ****Community-based Healthcare (CBHC), DGHS

Community clinic, a participatory and inclusive approach to Universal Health Coverage, plays important roles in promoting primary healthcare, women's empowerment, community engagement and mobilization toward achieving universal access to health. It has contributed substantially to the achievement of MDGs and has been contributing further in achieving SDGs

directly and indirectly. This great initiative of Hon'ble Prime Minister has been recognized as "The Sheikh Hasina Initiative" by the United Nations, an exemplary innovative model of public-private partnership. It reflects Bangladesh's commitment to improving health and wellbeing of citizens and contribution in global health equity (Permanent Mission of Bangladesh to the United Nations).



Hon'ble Prime Minister Sheikh Hasina was accorded special honor by the Brown University as the United Nations recognized her brainchild community clinic model to reach healthcare services to the doorsteps of the people of Bangladesh

Bangladesh has achieved high immunization coverage rates through EPI, with over 83% of children receiving the full course of basic vaccines, including BCG, Measles, Polio, and Penta (diphtheria, pertussis, tetanus, hepatitis-B, Hib) (Table 13.5). The country is maintaining a polio-free status since 2006 and maternal and neonatal tetanus-free status since 2008 (WHO/Bangladesh/Immunization). Bangladesh has achieved rubella control

goal in 2018 (WHO/Bangladesh/achieving-measles-and-rubella-elimination). In 2022, a reactive oral cholera vaccination campaign was organized in five highly cholera-affected areas of Dhaka city (Public Health Practice; vol 7, 2024). Vaccination against HPV has been launched in Dhaka in 2023 and achieved 74.5% success rate (EPI, DGHS). The Government has a plan to introduce Rota Vaccine in near future.

Table 13.5. Comparison of valid vaccination coverage by 12 months of age in 2006 and 2023

Sl. no.	Sector/Topic	Benchmark year 2006*	Assessed year 2019**	Remarks
EPI coverage (crude)				
1	BCG	98%	99.8%	
2	MCV1/MR1***	78%	91.7%	
3	MCV2/MR2***	94%	98.1%	
4	TT2/Td2***	94%	97.1%	
5	TT3/Td3***	19%	87.7%	
6	OPV3	92%	93.3%	
7	Fully-immunized children	71%	83.9%	Last CES was done in 2019; CES 2023 is ongoing

*Bangladesh EPI Coverage Evaluation Survey 2006, DGHS; **Bangladesh EPI Coverage Evaluation Survey 2019, DGHS; *** MR replaced MCV in 2012, TT switched to Td in 2019

Bangladesh received a UN award for its remarkable achievements in attaining the Millennium Development Goals (MDGs) in 2010 and the Vaccine Hero Award from Gavi,

the Vaccine Alliance in 2019 in recognition of the efforts in immunizing its citizens (Bangladesh at Fifty: Progress in Health, Researchgate, 2021).



Her Excellency Sheikh Hasina was recognized for championing immunization both nationally and globally

The population of Bangladesh has increased by nearly 22% compared to the year 2006. All the mortality indicators have reduced to almost half within 2023. Although crude death rate shows

an uprising pattern, life-expectancy in Bangladesh has increased from about 66.5 years in 2006 to 72.3 years in 2023, reflecting improvements in overall health and living conditions (Table 13.6).

Table 13.6. Comparison of indicators from vital statistics in the health sector in between 2006 and 2023

Sl. no.	Sector/Topic	Benchmark year 2006*	Assessed year 2023**	Remarks
Indicators from vital statistics				
1	Population (million)	140.6	171.0	122% 
2	Growth rate	1.41	0.69	49% 
3	Maternal mortality ratio	337	136	40% 
4	Neonatal mortality rate	31	20	65% 
5	Infant mortality rate	45	27	60% 
6	Under-5 mortality rate	62	33	53% 
7	Total fertility rate	2.41	2.17	90% 
8	Crude birth rate	20.6	19.6	95% 
9	Crude death rate	5.6	6.1	109% 
10	Life-expectancy at birth (years)	66.5	72.3	109% 

*Sample Vital Registration System 2010, BBS; **Bangladesh Sample Vital Statistics: Key Findings 2023, BBS

The country has made strides in controlling infectious diseases, such as tuberculosis, malaria, filaria, and kala-azar. Filaria has already been eliminated. Kala-azar is now on-track for elimination as the case-loads remained less than 1 per 10,000 population since 2016 and has been maintained since then.

Bangladesh is the first country in the world to achieve this significant public health triumph and as recognized by WHO (The LANCET, Volume 5, Issues 5, 2024). The TB incidence rate has decreased significantly, and malaria

cases have been substantially reduced (66% dropped in 2023 compared to 2006) due to effective vector control and treatment programs (National Malaria Elimination and *Aedes*-transmitted Disease Control Program (NME&ATDCP, DGHS). While making these efforts in combating communicable diseases, Bangladesh has witnessed the deadliest outbreak of dengue fever in 2023 ever since the first outbreak in 2000. As of 31 December 2023, the NME&ATDCP, DGHS has reported 321,179 hospitalizations (Figure 13) and 1,705 deaths due to the *Aedes* mosquito borne tropical disease in the 2023 outbreak year.

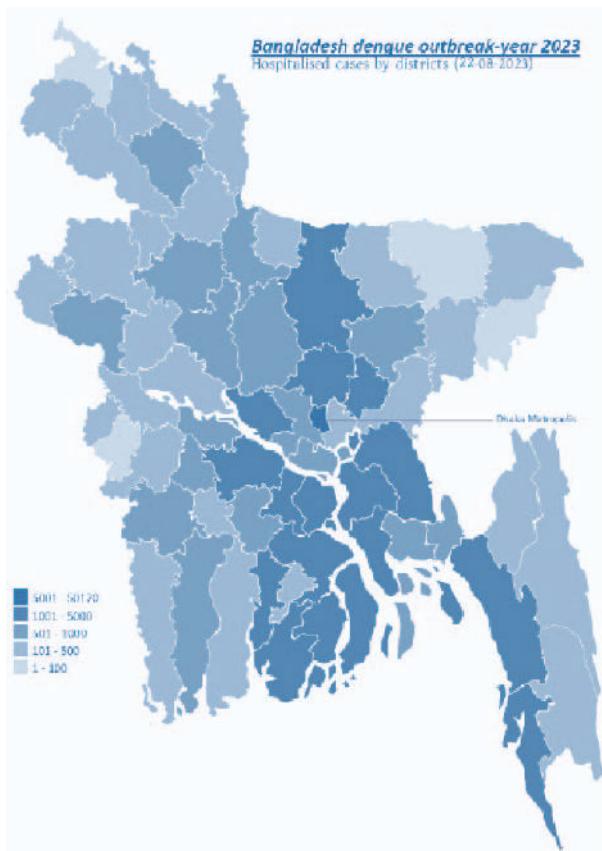


Figure 13. Hospitalized cases by district in 2023 due to dengue (up to 22 August 2023)

Bangladesh has started to address the rising burden of non-communicable diseases, such as diabetes, hypertension, cancer, and cardiovascular diseases, through various public health campaigns and healthcare initiatives. According to STEP Survey

2022, the prevalence of DM, HTN, and overweight showed an increasing pattern compared to 2010, although salt intake and tobacco-use were diminished (WHO STEPS Approach 2022). Launching of digital surveillance system, cancer registry systems, establishment of NCD Corners, publication of national guideline on DM and HTN, conducting researches and surveys are the major milestones by the NCD program of DGHS (details in Chapter 4.4). In 2022, Hon'ble Prime Minister Sheikh Hasina has been nominated as the First IDF Global Ambassador for Diabetes in recognition of her role in ensuring affordable access to healthcare for people with diabetes and other non-communicable diseases (idf.org/news).

Malnutrition rates, such as stunting, underweight, and wasting among children below 5 years of age, have decreased in 2022 with a range of 59% to 69%, compared to the year 2011 (Table 13.7) (BDHS 2022, NIPORT). The target to reduce stunting rate below 25% is already achieved due to constant and enthusiastic focus of the Government on improving nutritional status of the people of Bangladesh (National Nutrition Service-OP, DGHS).



IDF President-Elect Prof. Akhtar Hussain presented an invitation to Hon'ble Prime Minister Sheikh Hasina to accept the honorary position titled Global Ambassador for Diabetes

Table 13.7. Comparison of nutritional indicators from BDHS 2011 to 2022 (BDHS 2022, NIPORT)

Sl. no.	Sector/Topic	Benchmark year 2011	Assessed year 2022	Remarks
Nutritional indicator				
1	Stunting (%)	41	24	59% 
2	Underweight (%)	36	22	61% 
3	Wasting (%)	16	11	69% 

The world has observed the skilled management of COVID-19 pandemic in Bangladesh under the great leadership of Hon'ble Prime Minister Sheikh Hasina. With adequate and equitable measures, Bangladesh has seen fewer losses compared to other developed and developing countries. Another achievement of this Government is full vaccination of more than 142 million people of the country against coronavirus (EPI, DGHS).

Demand-side financing (DSF), implemented by the Ministry of Health and Family Welfare, is a tool to improve healthcare services and health-related behaviors among the needy and the under-served population. The number of DSF beneficiary pregnant women in 2023 has increased more than 3 folds (88,333) compared to the year 2006 (A Changing Scenario; 2006 to 2023, Prime Minister's Office).

Bangladesh is now self-sufficient in producing life-saving generic medicines as it prepares to become a vaccine-producing country. The production of medical equipment is also getting some much-deserved notice.

In 2019, among the South Asian countries for which data on Global Burden of Diseases (GBD) are available (Bhutan, India, Bangladesh, Nepal, and Pakistan), Bangladesh

has been the top performer in terms of reducing mortality, years of life lost, years lived with disability, and improving life-expectancy at birth and healthy life-expectancy (Sustaining Progress in the Health Landscape of Bangladesh, The Lancet, 2023). Over the past 30 years, mortality rates have reduced by more than half in Bangladesh (The Burden of Diseases and Risk Factors in Bangladesh, 1990-2019, The Lancet, 2023).

The Government has implemented several health policies and strategic plans aimed at improving healthcare delivery, quality, and equity. Initiatives, like the Health, Nutrition, and Population Sector Program (HNPSP), have been instrumental in driving sectorwide

Among the South Asian countries, Bangladesh has been the top performer in terms of reducing mortality, years of life lost, years lived with disability, and improving life-expectancy at birth and healthy life-expectancy

reforms. These achievements highlight Bangladesh's commitment to improving health outcomes and reflect the concerted efforts of the Government, non-governmental organizations, and international partners in the health sector.