



Strategic Investment Plan (SIP) for 5th Health, Population and Nutrition Sector Program (2024 – 29)

Towards a healthier and happier Bangladesh

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**PLANNING WING
HEALTH SERVICES DIVISION
MINISTRY OF HEALTH AND FAMILY WELFARE
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH**

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List of Abbreviations/Acronyms

ADE	Adverse Drug Events	CPTU	Central Procurement Technical Unit
ADP	Annual Development Program	CS	Civil Surgeon
ADR	Adverse Drug Reaction	CSBA	Community Skilled Birth Attendant
AIDS	Acquired Immune Deficiency Syndrome	CSR	Corporate Social Responsibility
AMC	Alternative Medical Care	DCC	Dhaka City Corporation
AMR	Antimicrobial Resistance	DG	Director General
AMS	Asset Management System	DGDA	Directorate General of Drug Administration
ANC	Antenatal Care	DGFP	Directorate General of Family Planning
APIR	Annual Program Implementation Report	DGHEU	Directorate General of Health Economics Unit
APR	Annual Program Review	DGHS	Directorate General of Health Services
BBS	Bangladesh Bureau of Statistics	DGME	Directorate General of Medical Education
BCC	Behavior Change Communication	DGNM	Directorate General of Nursing and Midwifery
BCPS	Bangladesh College of Physicians and Surgeons	DGNNC	Directorate General of National Nutrition Council
BCS	Bangladesh Civil Service	DH	District Hospital
BDHS	Bangladesh Demographic and Health Survey	DHIS2	District Health Information System Software version 2
BHB	Bangladesh Homeopathy Board	DLI	Disbursement Linked Indicator
BHFS	Bangladesh Health Facility Survey	DP	Development Partner
BMDC	Bangladesh Medical and Dental Council	DPA	Direct Project Aid
BMMS	Bangladesh Maternal Mortality Survey	DPs	Development Partners
BMPI	Bangladesh Model Pharmacy Initiative	DSF	Demand Side Financing
BMRC	Bangladesh Medical Research Council	e-GP	e-Government Procurement
BNHA	Bangladesh National Health Accounts	EML	Essential Medicines List
BNMC	Bangladesh Nursing and Midwifery Council	EPI	Expanded Program of Immunization
BSMMU	Bangabandhu Sheikh Mujib Medical University	ESP	Essential Service Package
BU&AB	Bangladesh Unani and Ayurvedic Board	ETP	Effluent Treatment Plant
CBHC	Community Based Healthcare	FDMN	Forcefully Displaced Myanmar Nationals
CC	Community Clinic	FMA	Financial Management and Audit
CCPHU	Climate Change and Health Promotion Unit	FMAU	Financial Management and Audit Unit
CD/VAT	Customs Duty/ Value Added Tax	FP	Family Planning
CDC	Communicable Disease Control	FWA	Family Welfare Assistant
CEID	Communicable and Emerging Infectious Diseases	FY	Fiscal Year
CHCP	Community Healthcare Provider	FYP	Five Year Plan
CHW	Community Health Worker	GATS	Global Adult Tobacco Survey
CKD	Chronic kidney disease	GBV	Gender Based Violence
COPD	Chronic Obstructive Pulmonary Diseases	GCF	Global Climate Fund
COVID-19	Corona virus disease 2019	GCP	Good Clinical Practice
CPR	Contraceptive Prevalence Rate	GDP	Gross Domestic Product
		GEF	The Global Environment Facility
		GFF	Global Financing Facility

GMP	Good Manufacturing Practice	LCG	Local Consultative Group
GOB	Government of Bangladesh	LD	Line Director
GOD	Government Outdoor Dispensaries	LDC	Least Developed Country
HCFS	Healthcare Financing Strategy	LMIS	Logistic Management Information Systems
HED	Health Engineering Department	M&E	Monitoring and Evaluation
HEU	Health Economics Unit	MA	Medical Assistant
HFS	Health Facility Survey	MATS	Medical Assistant Training School
HIS	Health Information System	MCs	Medical Colleges
HIV	Human Immunodeficiency Virus	MCH	Maternal and Child Health
HMIS	Health Management Information System	MCH-FP	Maternal Child Health and Family Planning
HNAP	National Adaptation Plan for Health	MCRAH	Maternal, Child, Reproductive and Adolescent Health
HNP	Health, Nutrition and Population	MCWC	Maternal and Child Welfare Centre
HNPSP	Health, Nutrition and Population Sector Program	MDG	Millennium Development Goal
HPNSDP	Health, Population and Nutrition Sector Development Program	MDR	Multi Drug Resistant
HPNSP	Health, Population and Nutrition Sector Program	ME	Medical Education
HPSP	Health and Population Sector Program	MED	Medical Education & Development
HPV	Human Papilloma Virus	MEFWD	Medical Education and Family Welfare Division
HR	Human Resource	MFI	Micro Finance Institutions
HRD	Human Resource Development	MHM	Menstrual hygiene management
HRH	Human Resources for Health	MHVS	Maternal Health Voucher Scheme
HRIS	Human Resource Information System	MICS	Multiple Indicator Cluster Survey
HSD	Health Services Division	MIS	Management Information System
HTA	Health Technology Assessment	MMR	Maternal Mortality Ratio
HWF	Health Workforce	MNCAH	Maternal, Neonatal, Child and Adolescent Health
iBAS	Integrated Budget and Accounting System	MNCH	Maternal, Newborn and Child Health
ICT	Information and communication technologies	MNH	Maternal and Neonatal Health
IDH	Infectious Disease Hospital	MO	Medical Officer
IEC	Information, Education and Communication	MOF	Ministry of Finance
IEDCR	Institute of Epidemiology, Disease Control and Research	MOHFW	Ministry of Health and Family Welfare
IFA	Iron, Folic Acid	MOLGRD	Ministry of Local Government, Rural Development and Cooperatives
IHT	Institute of Health Technology	C	
IMCI	Integrated Management of Childhood Illness	MOSW	Ministry of Social Welfare
IMED	Implementation Monitoring and Evaluation Division	MOCHTA	Ministry of Chittagong Hill Tract Affairs
IPC	Infection Prevention and Control	MOWCA	Ministry of Women and Children Affairs
IRT	Independent Review Team	MPDR	Maternal Perinatal Death Review
IT	Information Technology	MPDSR	Maternal and Parental Death Surveillance & Review
IUD	Intra Uterine Device	MR	Measles Rubella
JICA	Japan International Cooperation Agency	MSR	Medical and surgical requisites
KMC	Kangaroo Mother Care	MT	Medical Technologist
LARC	Long Acting Reversible Contraceptive	MTBF	Medium-Term Budget Framework
		MTR	Mid Term Review
		MWM	Medical Waste Management

NCD	Non-communicable diseases	PPR	Public Procurement Rule
NCDC	Non-Communicable Disease Control	PW	Planning Wing
NCD-RF	Non-Communicable Diseases Risk Factor	PWD	Public Works Department
NCL	National Control Laboratory	QI	Quality Improvement
NDD	Neurodevelopmental Disorder	RADP	Revised Annual Development Program
NEC	National Eye Care	RFW	Results Framework
NEMS	Nurse-Midwife Education Management System	RMNCAH	Reproductive, Maternal, Neonatal, Child and Adolescent Health
NGO	Non-Government Organization	RPA	Reimbursable Project Aid
NHA	National Health Account	RPIP	Revised Program Implementation Plan
NHP	National Health Policy	SBA	Skilled Birth Attendant
NHSO	National Health Security Office	SBCC	Social Behavior Change Communication
NIPORT	National Institute of Population Research and Training	SCANU	Special Care Newborn Unit
NIS	Nutritional Information System	SCMP	Supply Chain Management Portal
NMES	Nursing and Midwifery Education and Services	SDG	Sustainable Development Goals
NMR	Neonatal Mortality Rate	SHR	Shared Health Record
NNS	National Nutrition Services	SIP	Strategic Investment Plan
NSV	No-Scalpel Vasectomy	SMF	State Medical Faculty
NTC	National Technical Committee	SmPR	Six-monthly Progress Report
NTCP	National Tobacco Control Program	SRH	Sexual and Reproductive Health
NTD	Neglected Tropical Disease	SRHR	Sexual and Reproductive Health and Rights
OCAG	Office of the Comptroller and Auditor General	SSK	Shasthyo Shuroskha Karmasuchi
OGSB	Obstetrical and Gynecological Society of Bangladesh	STD	Standard Tender Document
OOP	Out of pocket	SVRS	Sample Vital Registration System
OOPE	Out-of-Pocket Expenditure	SWAp	Sector Wide Approach
OP	Operational Plan	SWPMM	Sector-Wide Program Management and Monitoring
OPD	Outpatient Department	TA	Technical Assistance
OPs	Operational Plans	TAC	Technical Advisory Committee
PA	Project Aid	TAST	Technical Assistance Support Team
PAC	Post-Abortion Care	TB	Tuberculosis
PCB	Pharmacy Council of Bangladesh	TFR	Total Fertility Rate
PFD	Physical Facilities Development	TG	Task Group
PFM	Public Financial Management	THE	Total Health Expenditure
PHC	Primary Healthcare	TIC	Training Implementation Committee
PIP	Program Implementation Plan	TOR	Terms of Reference
PLMC	Procurement and Logistics Management Cell	TWG	Technical Working Group
PM _{2.5}	Particulate Matter (2.5 microns)	U5MR	Under 5 Mortality Rate
PMMU	Program Management and Monitoring Unit	UESD	Utilization of Essential Service Delivery
PMO	Prime Minister's Office	UFPO	Upazila Family Planning Officer
PNC	Post-natal Care	UHC	Universal Health Coverage
PPA	Public Procurement Act	UzHC	Upazila Health Complex
PPH	Post-Partum Hemorrhage	UHCC	Urban Health Coordination Committee
PPP	Public Private Partnership	UHFPO	Upazila Health and Family Planning Officer

UHFWC	Union Health and Family Welfare Center
UHWG	Urban Health Working Group
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UP	Union Parishad
USAID	United States Agency for International Development
USC	Union Sub-center
UzHC	Upazila Health Complex
VAT	Value Added Tax
WASH	Water, Sanitation, and Hygiene
WB	World Bank
WHO	World Health Organization

EXECUTIVE SUMMARY

The Ministry of Health and Family Welfare (MOHFW) adopted a sector wide approach (SWAp) in 1998 and implemented three SWAps between 1998 and 2016. MOHFW is currently implementing the fourth SWAp titled 4th Health, Population and Nutrition Sector Program (HPNSP), spanning seven and a half years (Jan 17-Jun 24). The MOHFW decided to develop the 5th HPNSP for a period of five years beginning in July 2024. The Strategic Investment Plan (SIP) is an integral part of the health, nutrition and population (HNP) sector program development process. For development of the SIP, the MOHFW prepared a Concept Note outlining the key principles and components of the 5th HPNSP. The MOHFW identified 11 thematic areas, subdivided into 17, on which thematic reports were prepared. Elaborate stakeholder consultations were held at national and local levels in which representatives of Government of Bangladesh (GOB), Development Partners (DP)s, Non-Governmental Organizations (NGOs), private sector, civil society and professionals participated. The SIP was developed with contributions from all these stakeholders. The SIP lays out a strategic framework to guide investments in the Health, Nutrition and Population (HNP) sector and for development of a Program Implementation Plan (PIP) for the 5th HPNSP. The SIP also contains results framework (RFW) indicators for assessing progress against key program targets.

Challenges in the HNP sector

Bangladesh achieved significant improvements in the HNP sector over the previous three and the ongoing SWAps. However, there remain some broad challenges and issues. Due to bifurcation of MOHFW some intra-organizational (as well as inter-organization) issues have cropped up impacting performance of the MOHFW as well as Operational Plan (OPs). Government needs to address the challenges arising from the rural-urban divide to provide primary health care (PHC). There are unfinished Millennium Development Goal (MDG) agendas of maternal and child mortality and TB. Due to epidemiologic changes, demand is great for more provisions of Non-communicable diseases (NCDs) services while implementing policies addressing modifiable risk factors. There is a need for regulation of the private sector as well. Major inequities in health outcomes still exist and need to be addressed for achieving Universal Health Coverage (UHC) by 2030. Bangladesh remains vulnerable to climate change associated disasters, and acting on environmental issues could be a major challenge due to weak intra-sectoral and multi-sectoral coordination along with inadequate resource allocation for mitigation measures. Human resources management continue to be a huge challenge. Moreover, ensuring increased funding for the HNP sector is an issue of concern. Effective monitoring system supported by organization-wide digitalization at all levels is necessary. Lessons learnt from the previous SWAps have been evaluated and utilized when developing the SIP for the 5th HPNSP.

Policy Context

The SIP identifies key investment areas for HNP sector development, in line with the longer-term development goals of the country, e.g., the Perspective Plan 2021-41, the 8th FYP (2020-25); national policies on health, population, nutrition and drug and also relevant strategies; and in accordance with GOB commitments for the Sustainable Development Goals (SDGs) and UHC. The 5th HPNSP reaffirms the stewardship role of the MOHFW in the HNP sector and emphasizes coordination between the MOHFW and government stakeholders including the private sector and NGOs to explore feasible new models for maximization of available resources. The 5th HPNSP aims to improve collaboration for resource sharing, program planning, implementation and review of SWAp performance; avoid duplication of parallel projects (both GOB and DP); and NGO/private sector for providing services in hard-to-reach areas or for exploring feasibility of new services/technology, etc.

Strategic Objectives

The vision, mission and goal of the 5th HPNSP would be achieved through a total of 15 of strategic objectives (SO) organized into two components in the areas of service improvement and system strengthening. Themes included in the **Component A (Services Improvement)** are: primary healthcare (PHC), Sexual, Reproductive, Maternal, Newborn, Child and Adolescent Health (SRMNCAH), family planning, nutrition, communicable diseases and pandemic preparedness including climate change, non-communicable diseases including mental health and finally, secondary, tertiary and specialized facilities. Those included in the **Component B (systems strengthening)** are: sector management and governance, medical education and development, human resource planning and management, health financing and UHC, financial management and audit, procurement and supply chain management, quality and affordable drugs and health information management and digitalization. It may be mentioned that governance related issues have been incorporated in both the components.

COMPONENT A: Services Improvement

Component A includes seven services related SOs.

The SO on **Primary Healthcare** is *“Increase coverage along with access to and utilization of quality PHC services in both rural and urban areas.”* The 5th HPNSP identifies the weaknesses of primary healthcare provisions in the urban area and suggests the MOHFW’s greater involvement in the urban space which mainly rests with the local government institutions currently. While the MOHFW have elaborate but fragmented structures in the rural areas for delivering PHC, such structures are minimal or absent in the urban areas. Due to migration of rural population to urban areas, it is projected that urban population would achieve parity with rural by mid-30s and continue to increase thereafter. Facility readiness is a challenge in providing quality services from PHC facilities. Weak referral system is increasing the burden on tertiary and specialized facilities. Healthcare expenditure at PHC levels is inadequate and need to be increased. The 5th HPNSP will utilize community health workers (CHWs) for the whole gamut of PHC services; expand the coverage of PHC services for NCDs, mental health and geriatric care; and introduce a structured referral model from Community Clinics (CCs) and union facilities to Upazila Health Complexes (UzHC). Support systems for PHC delivery at facilities will be strengthened by ensuring adequate Human Resources (HR), equipment and logistics, essential medicines, etc. Quality of supportive supervision will be strengthened and regular refresher trainings would be provided on quality of care. The ESP will be revised and expanded in its coverage. CHWs will be encouraged to engage with communities for meaningful public health outcomes and increase their accountability.

The SO on **Sexual, Reproductive, Maternal, Newborn, Child and Adolescent Health (SRMNCAH)** is *“Strengthen availability and utilization of SRMNCAH services to reduce newborn, infant, child and maternal mortality.”* Rate of reduction in the Maternal Mortality Ratio (MMR) and Neonatal mortality rate (NMR) have slowed down. Priority will be given to increase quality of SRMNCAH services for ending preventable deaths through full facility readiness by ensuring a continuum of care equitably and removing gaps in skilled HR. Newborn Health services will be improved through an increase in coverage of essential newborn care at facility and community levels including strengthening of public and private sector facilities. Adolescents have the highest fertility rate, violence against adolescent boys and girls are increasing. Adolescent, sexual and reproductive health services will be strengthened and access to standard SRMNCAH information and services via digital media will be enhanced. School health program will be expanded. Collaboration with relevant actors for dissemination of standard information, health education and counselling, and health sector response to gender-based violence will be strengthened.

The SO on **Family Planning** is *“Increase access and availability along with improving quality of FP services.”* Addressing the potentiality for further fertility decline will be a major focus for FP services in the 5th HPNSP. In doing so, the relevant FP policies and strategies will be updated. At the same time, availability and quality of FP services will be increased, with a particular emphasis on access to services for the poor, vulnerable and those living in hard-to-reach areas. Availability, accessibility, and utilization of modern contraceptives will be increased with a special focus on adolescents, postpartum, and menstrual regulation/post abortion care (MR/PAC) users in both public and private facilities and at community level. Awareness about the safe use of all FP methods, particularly the MR and Emergency Contraceptive Pills (ECP) will be increased. DGFP’s digital footprint across the country would be increased.

The SO on **Nutrition** is *“Increase coverage and improve quality of nutrition services through the life cycle approach.”* The 5th HPNSP would focus on addressing the triple burden of malnutrition across the life cycle of the citizens. Coverage of quality nutrition services would be expanded in a uniform manner to ensure equity in both rural and urban areas. A harmonized approach will be adopted to ensure integrated nutrition service delivery through PHC. HR capacity will be improved for implementation of nutrition components of the ESP along with strengthening supply chain management for essential nutrition commodities. The Nutrition Information System (NIS) will be strengthened. Essential nutrition services will be ensured following relevant regulatory instruments. Community-based prevention activities including integration of GMP with EPI services will be prioritized. Community-based management of acute malnutrition will be scaled up. Multisectoral collaboration will be promoted for appropriate operationalization of nutrition-sensitive interventions.

The SO on **Communicable Disease, Pandemic Preparedness and Climate Change** is *“Manage existing and new communicable diseases effectively and improve pandemic preparedness through strengthening necessary capacity.”* Bangladesh has been successful in eradicating or near eliminating some communicable diseases, while some remain with challenges. Shortage of HR, inadequate physical infrastructure, inadequate integrated laboratory testing services at the facility level are critical shortcomings. Increased emphasis would be required on prevention and control of emerging and reemerging infectious diseases. While Bangladesh managed COVID-19 pandemic well, challenges were faced in supply chain management at early stages. MOHFW lacks HR capacity for public health emergency (PHE) management and need to increase preparedness for future pandemics or PHEs. Capacity in containment of antimicrobial resistance will be another priority. Public health infrastructures need to be strengthened for surveillance, prevention and control of infectious and emerging diseases with emphasis on respiratory surveillance and rapid laboratory identification. Climate change is affecting human health adversely. Health systems need to be strengthened to address potential climate-sensitive disease outbreaks for service delivery. Building climate resilient health infrastructures with reduced energy usage in the existing facilities need to be prioritized.

The SO on **Non-Communicable Disease (NCD) and Mental Health** is *“Expand and improve NCD including mental health services while ensuring equitable access for the vulnerable.”* NCD risks will be reduced by adopting a life cycle approach through implementing strong policies to address modifiable behavioral risk factors of NCDs; expansion of promotive, preventive, curative and rehabilitative services and integrating NCD services at PHC facilities. Provisions of adequate drugs, diagnostics, logistics and devices at all facilities will be ensured while strengthening secondary, tertiary and specialized facilities for NCD care. National and hospital-based cancer registry would be developed. Comprehensive geriatric care will be introduced by updating ESP with facility-based routine screening, diagnostics, essential medicines, referral services and follow-up. School health programs will be expanded. Awareness will be increased on adverse health outcomes of tobacco, trans fat, junk food

and sugary diet, especially for the young. In the 5th HPNSP, mental healthcare will be strengthened in district hospitals and above along with referral and provisions of screening, identification and counselling at the PHC level. Emphasis will be given on effective leadership and governance for mental health professionals with development of a balanced workforce. Early detection and management of mental health in UzHC and union facilities will be introduced. Mental health support programs for the prevention of suicide will be implemented including awareness programs. Autism and child development corners will be developed at district hospitals and medical college hospitals.

The SO on Secondary, Tertiary and Specialized Care Facilities is *“Improve readiness of secondary, tertiary and specialized care facilities including management of medical waste.”* Improving the quality and efficiency of health services across different levels of hospital facilities will be a priority in the 5th HPNSP. This will include strengthening quality management systems at all facilities whether public or private, reviewing the current law for the registration of private sector hospitals and clinics, expediting the approval of the draft Healthcare Institutions Accreditation Act and ensuring routine maintenance of all medical equipment at public facilities through recruitment of biomedical/electro-medical engineers and technicians. Additional provision of HR, Medical and Surgical Requisite (MSR) and other resources will be ensured in upgraded facilities, and vacant positions will be filled up on a priority basis. Patients’ and healthcare providers’ safety will be ensured through appropriate training programs as well as improved communication with clients based on gender sensitization. A functional referral system will be established. An appropriate medical waste management system will be established at all facilities for ensuring health and environmental safety. An emergency ambulance service would also be piloted.

COMPONENT B – Systems Strengthening

Eight SOs relating to systems strengthening are included in component B.

The SO for **Sector Management and Governance** is *“Improve stewardship and coordination through strengthening HNP sector management and governance”*. The 5th HPNSP recommends resolving the issues regarding OPs for proper functioning of both HSD and MEFWD, review the positions of Line Director vs Director in the DGHS OPs, and continue Program Management and Monitoring Unit (PMMU) with additional GOB staffing as well as external Technical Assistance team for effective monitoring of the program. Institutional capacities will be strengthened for their enhanced role in monitoring, supervision and coordination. The roles and responsibilities of all regulatory Bodies will be reviewed and strengthened. Gender, Equity, Voice and Accountability (GEVA) issues will be mainstreamed in the OPs with clear policy direction, budgetary allocation and governance structures. Grievance Redressal System will be strengthened. Inter-Ministerial coordination will be ensured.

The SO for **Medical Education (ME) and Development** is *“Improve health professional and parahealth professional education in the context of future needs of the health workforce.”* The 5th HPNSP aims to cater to the needs of the future health workforce by introducing a regular process of reviewing of medical education. Strategies would include: improving curriculum, enhancing quality of educators, assuring quality of education institutes and ensuring well-being for the educators and students. The 5th HPNSP would seek to complete the reorganization of the MOHFW by sorting out the HR issues, clarifying the role of DGME in managing its own HR with career prospects and progression, reviewing and updating curriculum with emphasis on social and humanistic missions of health professionals, developing need-based projections for medical specialists it requires and offer such courses on the basis of competition, aptitude and qualifications of the applicants. In addition, licensing examination for registered physicians will be introduced through Bangladesh Medical and Dental Council (BMDC), and implementation of the National Quality Assurance Scheme (NQAS) will be ensured to improve the

quality of health and parahealth professionals' education. A law for private sector Institute of Health Technology (IHT)/Medical Assistant Training School (MATS) will be introduced.

The SO on **Human Resource Planning and Management** is “Ensure availability of a quality health workforce through reorganization and effective HR policy, planning and management.” A number of short and medium term strategies will be adopted for improving the HRH in the country. These will include reorganization of HR structure, updating organograms and updating relevant policies and regulatory instruments and most importantly developing a long-term HR plan for all kinds of HWF.

The SO on **Health Financing and Universal Health Coverage** is “*Ensure sustainable financing to achieve UHC with special emphasis on targeting the poor and vulnerable.*” The 5th HPNSP aims to increase the total health funding available for essential healthcare services. Efficiency in resource utilization will be improved through capacity building of relevant personnel and identifying feasible modalities of needs-based resource allocation across the districts and upazilas. Moreover, the 5th HPNSP will prioritize channeling adequate resources to strengthen PHC in urban areas, increasing the quantity of NCD-related medicines for distribution at the PHC level, and introducing distribution of free NCD medicines to urban poor through Government Outdoor Dispensaries (GODs) and NGO-facilities. Health insurance starting with the public sector will be explored. Existing health protection schemes including Shasthyo Shuroksha Karmasuchi (SSK) and maternal health vouchers would be sustained based on their benefits and rectifying design flaws, if any. Public Private Partnership (PPP) or other forms of strategic purchasing will be explored.

The SO on **Financial Management and Audit (FM&A)** is “*Reduce fiduciary risks through strengthening the Public Financial Management (PFM) and audit systems and improving accountability and transparency.*” The 5th HPNSP will emphasize on overcoming existing challenges and make the FM&A more transparent while reducing the financial and fiduciary risks by way of strengthening the PFM capacities of the relevant personnel, strengthening fiduciary monitoring and internal control system and strengthening.

The SO on **Procurement and Supply Chain Management** is “*Strengthen Procurement and Supply Chain Management (PSCM) for increasing availability of HNP commodities.*” The 5th HPNSP would engage NGOs and the private sector in healthcare service delivery by using strategic purchasing for which relevant rules of procurement need to be updated, especially for NGO engagement in the public procurement process in consultation with Implementation, Monitoring and Evaluation Division (IMED)/Central Procurement Technical Unit (CPTU). Use of technology will be enhanced to increase efficiency in procurement process while increasing the capacities of the relevant stakeholders. Framework contracting would be introduced. Asset management will be strengthened. Upgrading the delegation of powers would also be sought.

The SO on **Quality and Affordable Drug** is “*Improve regulation and management of the pharmaceutical sector for ensuring quality and affordable medicines.*” As part of achieving the UHC, the 5th HPNSP will focus on ensuring access to safe, effective, quality and affordable essential medicines and vaccines for all. Emphasis will be given on containing the risks of antimicrobial resistance. Improving the regulation and management of the pharmaceutical sector for quality and affordable medicines and promoting good pharmacy practices would also be prioritized.

The SO for **Health Information Management and Digitalization** is “*Create platforms for digital transformation and increase use of digital technologies for evidence-based decision making*”. The 5th HPNSP emphasizes making optimum use of Information and Communication Technologies (ICTs) for improvement of the HNP sector and suggests implementing Electronic Health Records for all the citizens. Establishment of a National Digital Health Information Exchange (NDHIE) and expanding

coverage of Health Information System (HIS) and eHealth will be prioritized. Evidences will be generated through the use of digital technology and a culture of data for decision-making will be developed. Digital technology will also be used for expansion of HNP services in hard-to-reach and underserved areas.

Indicative Budget for the 5th HPNSP

Over the years, the stable economic growth of Bangladesh has led to increased funding in health in absolute terms. However, the combined public and private sources of health financing are inadequate to achieve UHC. The health system of Bangladesh needs to increase the service coverage to the entire population with adequate quality of care especially for expanding service coverage to underserved groups including adolescents, the poor, the geriatric populations, transgender, people living with disability, and those in urban and hard to reach areas. Stabilizing population growth, ensuring maternal, newborn and child care, promoting nutrition services, and tackling TB still remain priorities. The ESP needs to be updated appropriately in order to ensure service provision at different tiers, especially to include NCDs including mental health. Enhanced focus on NCDs prevention and cure, geriatric health, medical waste management and life-style change would require significant increase of resources for the 5th HPNSP. Additional GOB funding would require to fill the gap with gradual exit of DPs, like GAVI and GFATM for vaccinations and EPI program. Additional investments would also be required to expand the coverage of urban PHC, which are largely inadequate now.

The SIP projects funding requirement of the 5th HPNSP based on three scenarios. Using the average growth rate of 10% of the operating budget as static, and increased allocations at the rate of 15%, 20% and 25% in the development budget respectively, three scenarios of resource envelope (low, moderate and optimistic) have been estimated for the 5th HPNSP (2024-29) as shown below:

Table: Resource Envelope for the 5th HPNSP under three scenarios (Taka in crores)

Type of Budget	Low (15% growth rate)	Moderate 20% growth rate)	Optimistic (25% growth)
Operating budget	134,436.81	134,436.81	134,436.81
Development budget for SWAp	128,105.24	141,390.40	155,933.59
Total budget of 5th HPNSP	262,542.05	275,827.21	290,370.40

Out of the total requirement in the SWAp development budget, about 60% is expected to be available from GOB, and the remaining 40% from external sources. The World Bank, Asian Development Bank and Asian Infrastructure Investment Bank are expected to provide up to US\$ 1.9 billion. This indicates there could be a considerable resource gap in 5th HPNSP. It may be mentioned that many activities suggested in SIP would not be possible to implement without sufficient allocation of resources and MOHFW needs to ensure steps for minimizing the resource gap.

Conclusion

The 5th HPNSP would strive for moving towards UHC and achieving the SDGs. The SIP proposes significant increase of resources for which strong political commitment would be required. Health service delivery process as well management functions need to be improved. Alignment of funding to agreed priorities and reducing fragmentation between OPs or discrete projects would also be required while increasing the capacities of organizations for utilizing funds backed up by a strong accountability mechanism. The DPs are also expected to continue with technical and financial support in the process of HNP sector development of Bangladesh.

Chapter 1: Development of SIP for the 5th HPNSP

Bangladesh has been undergoing steady social and economic improvements. Over the past two and half decades, the economy has been growing consistently (at an average growth rate of 7% per annum) with a dramatic reduction in the extent of poverty. In the first quarter of 2019 it was one of the world's fastest growing economies with a real gross domestic product (GDP) annual growth rate of 8.3%.

Bangladesh was in the right track to become a middle-income country (MIC) by 2024 with positive contribution from, among others, the health, nutrition and population (HNP) sector. But the unprecedented COVID-19 pandemic, starting in 2020 and ravaging the world for more than three years now, has completely changed the global economic eco-system including that of Bangladesh. Another global event, the Russia-Ukraine War that began on 24 February 2022, has been equally devastating for the world economy but catastrophic for Bangladesh. As a result, the country's actual GDP growth rate declined from 8.24% in 2019-20 to 6.94% in 2020-21. On the economic front, the country is going through hard times now. However, the Government of Bangladesh (GOB) has already taken steps to boost up economic activities and must steer the economy into the earlier growth trajectory for achieving the MIC status by 2026.

The Purpose of SIP and its Development Process

The Ministry of Health and Family Welfare (MOHFW) adopted a sector wide approach (SWAp) in 1998 and implemented three SWAps between 1998 and 2016. MOHFW is currently implementing the fourth SWAp titled 4th Health, Population and Nutrition Sector Program (4th HPNSP), for a period of seven and a half years, from January 2017 to June 2024. The MOHFW decided to develop the 5th HPNSP as a successor to 4th HPNSP for a period of five years beginning from July 2024 and ending in June 2029.

The Strategic Investment Plan (SIP) is an integral part of the health, nutrition and population (HNP) sector program development process since 1998. The SIP lays out a strategic framework to guide investments in the HNP sector along with the results framework (RFW) indicators for assessing progress against key program targets. Following the SIP, the MOHFW develops a Program Implementation Plan (PIP) and requisite Operational Plans (OP) for approval by the Planning Commission. The SIP highlights GOB's intentions to be pursued during the next five years for overall HNP sector development, which the Development Partners (DPs) use for appraisal for program funding. Implementation of the SWAp in the HNP sector continues to be an effective means of coordinating DP support (both financial and technical).

As the first step towards development of the SIP, the MOHFW prepared a Concept Note (CN) outlining the key principles and components of the 5th HPNSP. The MOHFW identified 17 thematic areas and engaged national consultants on the respective thematic areas. The thematic areas are as follows

1. Health Financing and Universal Health Coverage (UHC)
2. Sector Management and Governance
3. Quality and Affordable Drugs
4. Medical Education and Development
5. Human Resource Planning and Management
6. Primary Healthcare (both rural and urban)
7. Nutrition
8. Secondary, Tertiary and Specialized Hospital Care
9. Non-communicable Diseases including Mental Health

10. Sexual, Reproductive, Maternal, Neonatal, Child and Adolescent Health
11. Family Planning
12. Communicable and Emerging Diseases
13. Pandemic/Epidemic/Outbreak Preparedness and Response
14. Procurement and Supply Chain Management
15. Financial Management and Audit
16. Health Information Management and Digitalization
17. Climate Change, Environmental Health and Medical Waste Management.

Two rounds of stakeholder consultations (OP and thematic area wise) were organized by the MOHFW, where representatives of GOB and DPs, other key stakeholders, including the representatives of non-government organizations (NGO), private sector, civil society and professionals participated. These consultations helped to understand the status of implementation of the current sector program as well as any relevant issues impeding the proper implementation of the program. Local level stakeholders also participated in the SIP development process. A divisional workshop was held in Khulna combined with field visits to rural areas by the thematic area consultants. Focus Group discussions were held exclusively with different organizations under the MOHFW.

Separate meetings were also held with Secretaries of Health Services Division (HSD) and Medical Education and Family Welfare Division (MEFWD) and other officials. Through a series of stakeholder consultation meetings, workshops, key informant interviews, focus group discussions and field visits a draft SIP was prepared. The MOHFW organized policy dialogue with representative of relevant GOB and DP personnel as well as other stakeholders to bring consensus among all the important stakeholders regarding the investment areas and funding required as presented in the draft SIP. Based on inputs from all the draft was finalized. As mentioned earlier, this SIP is the core and guiding document in the development of the PIP and OPs of the 5th HPNSP (2024-29).

The SIP document is organized into eight chapters. Chapter 1 introduces the subject. An overview of the HNP sector is provided in Chapter 2. Chapter 3 presents the policy context for the HNP sector and elaborates on some of the proposed new directions. Chapter 4 presents the vision, mission, goal and development objective of the 5th HPNSP along with strategic objectives, numbering 15, of the oncoming SWAp, as organized into two components namely, “services improvement” and “systems strengthening.” Chapter 5 and 6 provide a situation analysis of respective thematic areas with output and priority strategies. The investment requirement of the 5th HPNSP is elaborated in Chapter 7 based on three scenarios: low, moderate and optimistic. Chapter 8 concludes the document.

Chapter 2: Overview of the HNP Sector in Bangladesh

Resilience of the HNP Sector

Over the last few decades, Bangladesh achieved significant progress in key health outcomes which has been termed as “good health at low cost” (Balabanova et al., 2013). Steps taken in the HNP sector complemented Bangladesh’s socio-economic progress and achievements.

Primary Healthcare (PHC) has been the consistent focus of all previous SWApS with special emphasis on provision of an essential service package (ESP), particularly on Reproductive, Maternal, Neonatal and Child Health (RMNCH) areas. The revitalization of the Community Clinics (CC) with local community support and participation since 2009 strongly contributed to increasing service expansion as well as its utilization by rural mothers and children. Public health efforts, especially the Expanded Program for Immunization (EPI) helped to reduce child morbidity and mortality while the NGOs and the private sector complemented government efforts. A midwifery cadre was developed with the high potential of making considerable contribution to reducing maternal and neonatal mortality, if they are properly supported (IRT, 2020). All these contributed to the achievement of many of the Millennium Development Goals (MDGs).

Health scourges like cholera, malaria and tuberculosis (TB) have been successfully contained due to coordinated steps involving public intervention, NGO participation and international support. In recent times, the government has been paying greater attention to setting up and expanding tertiary facilities and specialized institutes while upgrading secondary and primary service centers all over the country. The private sector has been able to play a more active role in developing new service facilities as well and is contributing to meeting increasing demand for trained doctors, nurses, midwives and medical technicians. Local pharmaceutical manufacturing industries meeting 98% of the local requirements of medicine are also expanding to the export market with the potential of greater foreign exchange earnings.

Bangladesh has managed the COVID - 19 pandemic efficiently and rolled out the vaccination program nationwide. The rapid and effective response to extend health services to the Forcibly Displaced Myanmar Nationals (FDMNs) has acclaimed praise from the international community. Bangladesh has attained the target for Millennium Development Goals (MDG) 4 on U5 mortality. Bangladesh is also making consistent progress in reaching the SDGs and is already in a better position than some other South Asian countries (Sachs et al., 2022).

Population and Demographic Transition

According to the preliminary results of the Sixth National Census 2022, the population of Bangladesh stood at 165.16 million in 2022, as against 144.04 million in 2011. Literacy rate (age 7+) was 74.66% in 2022, as against 51.77% in 2011, indicating a significant improvement in literacy. Bangladesh is going through a demographic transition with a gradual decrease of mortality and fertility due to a slowing down of population growth (from 1.46% in 2011 to 1.22% in 2022) and an increase (from 61% in 2011 to 66% in 2022) in the proportion of working age population. The dependency ratio has also been reduced to 52.64% in 2022 from 73% in 2011. Overall, life expectancy increased to 72.8 years; with females having a life expectancy of 74.5 years in comparison to 71.2 years for males (BBS, 2022). This demographic shift can have important implications on the economy, as the working-age population, through effective investment in human capital development, can be translated into a productive labor force contributing towards a higher growth trajectory of the country.

Rapid urbanization is another crucial demographic transition which the country is going through at this moment, resulting in a shift of economy from agriculture towards manufacturing and services.

Around 31.5% of Bangladeshis (more than 52 million) are urban dwellers, with 20% of them living in the capital Dhaka. Most of the migrated rural people end up in populous slums. Around 35% of urban dwellers reside in urban slums (BBS, 2022). Rapid urbanization has positively contributed to the rapidly growing economy of Bangladesh, but with persistent wealth inequalities. The large urban population is taking a heavy toll on the livability of the cities because of already stressed and poorly developed and inadequate existing basic services including health services, water supply, and sanitation, etc. The HNP sector needs to respond by setting up an urban PHC delivery system through a coordinated effort of government, NGO and private sector providers to ensure that no one is left behind.

Progress and Achievements in HNP Sector

The first Five Year Plan (FYP) focused on PHC as a coherent strategy for healthcare improvement. A rural health infrastructure was created for providing integrated and comprehensive health services, including Maternal and Child Health (MCH) services at upazila and union level (Chowdhury & Osmani, 2010). The subsequent second and third FYPs focused on strengthening human resources for health (HRH). In the third and fourth FYPs, the GOB introduced a number of child health programs, which among others, were pivotal in reducing mortality and morbidity of children (Ahmed et al., 2019). Since the late 1990s, the HNP sector has gone through massive institutional reforms with DP support to promote greater equity and efficiency in resource use. Public financial management has improved over time with more timely disbursement of funds and some delegation of procurement authority to district level. The Mid Term Review (MTR) 2020 also noted that health system responsiveness has been enhanced in health facilities through the installation of an electronic grievance redressal system which helped improve provider accountability by addressing the grievances promptly (IRT, 2020). All these initiatives helped in expanding service coverage and strengthening systems for quality service delivery.

With the onslaught of COVID-19 in 2020, in the middle of the 4th HPNSP, Bangladesh had to take measures for emergency management. The GOB took steps to contain the pandemic, which included strengthening of screening, community-based prevention practices, ensuring safety of frontline health and essential workers with personal protective equipment (PPE), recruitment and deployment of additional health workforce with proper on-the-job training, setting up dedicated field hospitals, laboratories and diagnostic centers and creating mass awareness. Vaccines were procured to initiate a country-wide mass vaccination program from February 2021, which was also pivotal.

As per the Sustainable Development Report, Bangladesh is “on track or maintaining SDG achievement” in seven out of the 14 indicators in SDG 3, which are related to maternal mortality, neonatal mortality, U5MR, adolescent fertility, vaccination of infants and subjective well-being (Sachs et al., 2022). For six indicators, the score is stagnating or increasing at less than 50% of the required rate. For the nutrition related SDG indicator on prevalence of obesity, Bangladesh is on track, however, for the indicators on prevalence of stunting and wasting of U5 children, the score is stagnating or increasing at less than 50% of the required rate. Detailed scoring of SDG targets are appended at **Annex A** at page 97.

SWAp in HNP Sector and its Successes

Bangladesh achieved significant improvements in the HNP sector over the previous three SWAp and the current one (1998-2024). The first SWAp known as “Health and Population Sector Program” (HPSP) 1998-2003 focused on decentralizing the delivery of ESP-based PHC using a ‘one-stop’ service model, to deliver basic health and FP services to rural communities. The second SWAp, titled as “Health, Nutrition and Population Sector Program” (HNPSPP) 2003-2011 emphasized increasing the availability and utilization of quality HNP services. The third SWAp titled the “Health, Population and Nutrition Sector Development Program” (HPNSDP) 2011-16 focused on strengthening health systems and

improving HNP services through the CC-based PHC service provision. The 4th HPNSP 2017–24 has been continuing to expand services and improve health systems along with strengthening the governance and stewardship of the HNP sector. The success of the 4th HPNSP is reflected in the progress of RFW indicators, comprising of eight goal level and 25 intermediate level indicators over the last few years as shown in **Annex B** at page 98.

Challenges in HNP Sector

This subsection discusses some broad challenges and issues pertaining to the HNP sector, while the specific sectoral and thematic challenges are elaborated in respective strategic objectives under chapter five and six.

During the 4th HPNSP, the MOHFW was bifurcated into two divisions, namely, Health Services Division (HSD) and Medical Education and Family Welfare Division (MEFWD). This has led to some intra-organizational (as well as inter-organization) issues impacting performance of the MOHFW as well as OPs. Those are discussed in the Sector Management and Governance theme at page 52.

Bangladesh has made significant progress in tackling **communicable diseases**, such as malaria, TB, HIV/AIDS, etc. Hepatitis B and C as well as other emerging and re-emerging communicable diseases are also of great concern. The result of the antimicrobial resistance (AMR) surveillance is alarming as many of the bacteria have been found to be resistant to commonly used antibiotics. The issues relating to AMR have been highlighted in different sections of this document and priority strategies have also been identified. After the start of the COVID-19 pandemic, diphtheria re-emerged in the camps of the FDMNs in Cox's Bazar. This shows that communicable diseases need to be managed adequately.

Non-communicable diseases (NCD) have become leading causes of morbidity and mortality and therefore a matter of great concern for the HNP sector. Moreover, a number of new health challenges are emerging, which include: preventing smokeless tobacco use as well as E-Cigarettes, Vapes, and other Electronic Nicotine Delivery Systems (ENDS), increasing incidence of road traffic injuries; acid and burn injuries; drowning; aging and geriatric diseases; treating severe and acute malnutrition; and the health effects of climatic disasters. The prevalence of **mental health** issues including mental and neuro-development disorders are high. The 5th HPNSP needs to prioritize NCDs and mental health issues.

Malnutrition burden is rising. Childhood and adolescent malnutrition have been decreasing slowly. Micronutrient deficiencies among children and women of reproductive age are still a challenge. Besides, the increased prevalence of food-borne diseases continues to pose serious public health risks. Hygiene and sanitation standards remain poor and washing of hands by caregivers before feeding children is yet to become the norm.

Ensuring sufficient numbers, as well as the **quality of the health workforce**, have also been persistent challenges. Bangladesh is yet to achieve the recommended skill-balance for doctors, nurses and allied health professionals, thus affecting the quality of care.

Government needs to do more in: providing adequate health response to gender-based violence, improving health care for geriatric population, assuring quality of care, etc. The expansion of services in hard-to-reach areas, including the hill tracts, island chars, coastal areas, former enclaves, tea gardens, etc. also remains a challenge. It is necessary to ensure required services for specific demographic groups, such as floating population, transgender people and the nomadic groups.

Rising income and employment in both rural and urban areas combined with the rising rate of literacy, led to changes in health seeking behaviors of the people, who now tend to prefer private sector healthcare. Data from the Bangladesh National Health Accounts (BNHA) and Household Income and

Expenditure Survey show that households are obtaining most of their health services from the private sector and that **out of pocket (OOP) expenditure** is rising with drugs constituting 64% of OOP expenditure. This affects lower income and poor people adversely, thus creating hindrances to achieving UHC by 2030. The SIP suggests priority strategies for provision of services to the targeted groups especially disadvantaged ones for ensuring equity, which would also help reduce the OOP expenditures of the poorer sections of the society.

Bangladesh remains vulnerable to climate change associated disasters. Acting on environmental issues could be a key contribution to reduce many communicable and non-communicable diseases, and injuries. However, there are challenges in addressing environmental health issues. Climate change is a multi-sectoral issue and weak intra-sectoral and multi-sectoral coordination along with inadequate resource allocation deters the progress of mitigation measures. Lack of skilled human resources and lack of community awareness are further negatively contributing to mitigation endeavor. Climate change, recent pandemic as well as regular seasonal outbreak of communicable diseases indicate that greater attention is required on One Health issues. The SIP suggests priority strategies for addressing One Health issues focusing on multisectoral collaboration.

Availability of yearly data on output/outcome level indicators of the SDGs also remains a challenge. Coordination and harmonization between DGHS and DGFP MIS are required. Private sector service data should be linked with public sector data for health planning and management. Digitalization at all levels could also help to develop an effective monitoring system.

Major inequities in health outcomes still exist and need to be addressed. In general, due to social and structural reasons, the health status of women and children continue to be relatively worse than their male counterparts, even though continuous efforts are on-going to ensure equity, efficiency and equality for women and vulnerable population.

Lessons Learned

The SWAp approach offered advantages including increased leadership and ownership of government in program planning and implementation, as well as better coordination and alignment of multiple DP funded programs. The SWAp also helped to focus on critical development objectives such as equity and access and led to efficiency gains. It enabled the government to reduce transaction costs in terms of DP engagements. The continuity of policy, as well as commitment towards SWAp, irrespective of change of government, remained consistent. This is one of the key factors which contributed to the success of HNP SWAp in Bangladesh despite it working within a complex administrative structure. Hence, continuous efforts are needed to maintain and improve the functioning of the SWAp modality in Bangladesh. Some other specific lessons learned over the period of the last twenty-four years are highlighted below:

- Community clinic-based PHC services continued to be the low-cost model for expansion and utilization of healthcare services.
- Mainstreaming nutrition services in the regular structures of DGHS and DGFP have helped in improving the nutrition status at a much lower investment. Moreover, effective collaboration with a multi-layered health system plays a key role in delivery of NNS through outreach, community clinics and health facilities at Upazila and District level.
- Emphasis on pro-poor ESP contributed in reducing the gap among people from multiple wealth quintiles with respect to health outcomes in rural areas.
- Activities related to clinical and non-clinical FP as well as maternal, child and adolescent health have led to improvement in health and FP service delivery, which need to be continued.

- Introduction and use of digital tools for collection of real-time data for decision making are supportive in expansion of service delivery. The national digital health strategy should be used to guide the development of an integrated digital health data system.
- Schemes like the Maternal Voucher Scheme (MVS) and the Shasthyo Shuroksha Karmasuchi (SSK) are good initiatives for extending social protection; however, the scope of services needs to be broadened in the context of UHC.
- Performance-based funding mechanisms need to be pursued for strengthening and improving SWAp financial management.
- Physical facilities development should focus more on making the existing infrastructure functional through synchronized provision of adequate equipment and human resources.
- Ensuring commodity security and maintenance of equipment is essential to run an effective laboratory network system.
- A clear career progression path along with incentives should be introduced. The Recruitment and Deployment Plan and an up to date HR information system (HRIS) need to be used to fill existing vacant posts on an urgent basis, giving priority to PHC service delivery.
- PHC services need to be expanded, particularly in urban areas. Significant strengthening is also required at union level facilities. General Practitioner (GP) system may be investigated for improved referral in urban areas.
- Better coordination is required across the Divisions of the MOHFW for improved service delivery and efficient resource utilization.

Lessons learnt from the previous SWApS have been evaluated and utilized when developing the Strategic Investment Plan for the 5th HPNSP.

Chapter 3: Policy Context

The SIP identifies key investment areas for accelerating the pace of HNP sector development, in line with the longer term development goals of the country, e.g., the Perspective Plan 2021-41, the 8th FYP (2020-25) and the national policies on health, population, nutrition and drug and relevant strategies. The global goals or commitments to which the GOB is committed to (e.g., the SDGs and UHC) have also been considered while developing the SIP.

The Perspective Plan 2041 and the 8th FYP

The Perspective Plan of Bangladesh 2021-41 (PP2041) puts strong emphasis on human development, inter alia, through improvement of the HNP sector (GED, 2020b). The SIP of 5th HPNSP is consistent with the main strategies of the PP2041, particularly, the strategies for improvement of quality of care, strengthening of secondary and tertiary level hospital services, elimination of child nutrition gaps, improving quantity and quality of health professionals, strengthening sector governance, improving health information system, safe disposal of medical waste and increasing public health spending. Similarly, the priorities and the strategies of SIP for the 5th HPNSP have also been aligned with the HNP sector related objectives of the 8th FYP (GED, 2020a), and to build on existing achievements to improve equity, quality and efficiency with a view to gradually moving towards UHC and achieving health related SDGs.

National Policies on Health, Nutrition and Population

The national policies on health, nutrition and population constitute the overall HNP policy framework for Bangladesh and lay down the guiding principles of HNP sector strategies and interventions. The stated objective, inter alia, of the National Health Policy 2011 is to expand high quality healthcare services for all (MOHFW, 2012). The National Population Policy, 2012 has been formulated to ensure planned development of the nation's population (MOHFW, 2012). The National Drug Policy 2016 aims to provide and make drugs accessible while promoting the local pharmaceutical industries (MOHFW, 2016). The National Nutrition Policy, 2015 is aimed at improving nutritional status of the people (MOHFW, 2015). The objectives and strategies of the SIP of 5th HPNSP have been designed and aligned with major policy directions of the said policies. Besides, existing sub-sector wise strategies on maternal and neonatal health services; urban health service; healthcare financing; quality assurance; etc., have also been given due considerations while formulating this SIP.

Meeting the SDG Targets and Other Commitments

The 5th HPNSP lies at a critical juncture as it would be the last SWAp to design and redesign strategic directions for achieving the HNP related SDGs with UHC by 2030, which seems to be challenging. Among others, the GOB has to mobilize additional required resources internally and, the DPs also need to provide incremental funding support for meeting the SDGs. Emphasis also needs to be put on redesigning the public finance structure, improving governance and regulatory mechanisms. In addition, Bangladesh is a signatory to different global initiatives (e.g., compliance with the Framework Convention on Tobacco Control [FCTC], Nutrition for Growth Commitments, Commitments to Family Planning 2030), which have also been duly considered in setting the scope of the 5th HPNSP.

Engagement with Development Partners

Bangladesh, as a matter of policy, has been consistently accommodating development partners (DP) support with flexibility and openness. The SWAp process is inclusive of DP support both financially and technically, meaning that the DPs are engaged both in the preparation process (planning, designing, development, etc.) and implementation of the HNP sector program (through participation in Task

Groups [TGs], Annual Program Reviews [APRs] and MTRs). The DPs have also shared their ideas and thoughts for the development of the SIP for the 5th HPNSP, and the relevant ones have duly been incorporated in the SIP document.

Social Determinants of Health

Various social, economic, and environmental factors commonly termed as social determinants of health, influence the health and well-being of the individuals or society. These include, among others, access to healthcare, food security, education, WASH facilities, housing, employment, etc. People are more likely to experience poor health outcomes such as chronic disease, disability, and premature death and suffer catastrophic health expenditures during emergencies because of poverty and negative impact of the social determinants. Lack of awareness, cultural factors, poor education, misguidance, poor accessibility and affordability impede the willingness of the people to seek proper healthcare and increase care seeking from untrained informal providers, which further complicates their health issues. Climate change and environmental factors such as, air pollution, unsafe and overcrowded living conditions, lack of parks, play grounds or open spaces can negatively impact health outcomes. Mental health and numerous deaths are attributable to environmental causes. Overall, addressing social determinants of health is crucial to improving the health outcomes of a country. This requires policies and programs that focus on reducing inequality and improving access to education, healthcare, and basic necessities like safe housing, food security and clean water and sanitation. The 5th HPNSP will continue to engage in multisectoral forums for achieving better outcome through other ministries and important stakeholders.

Focus on Public Health

Public health approach plays a very important role in reducing healthcare costs and improving health outcomes by preventing illness and injury and encouraging informed health-sustaining behavior. Public health focuses on prevention of disease and injury, as well as promotion of health and well-being of communities by applying evidence based and cost efficient strategies. Important public health interventions try to prevent the spread of diseases and to promote health through vaccinations, deworming and vitamin-A campaigns, salt iodization, health education, screening for specific diseases, family planning, disease surveillance etc. Such measures reduce the burden on healthcare systems and offer cost efficient policy options for improving overall health outcomes. Community level public health workforce i.e. the community health workers (CHW) usually belonging to the same community, are able to engage and uniquely understand the health needs, deterrents and concerns of rural or underserved populations. Public health efforts promote healthy behaviors and lifestyles, such as eating a balanced diet, exercising regularly, avoiding tobacco to prevent chronic diseases like diabetes, respiratory and heart diseases and improving mental well-being. The CHWs being close to the communities, played a crucial role during COVID-19 pandemic and were involved in monitoring disease outbreaks and respond quickly to minimize and manage health risks. The 5th HPNSP emphasizes public health measures with relevant priority strategies.

Private Sector Healthcare

Private sector plays an important role in the provision of healthcare services in both rural and urban areas. As explained in the relevant sections of the report, private sector has surpassed both in terms of bed and the number of facilities. Private sector plays equally dominant role in education for health and parahealth workforces. There are issues with private sector healthcare as well. While the need for effective regulation of the private sector is highlighted in relevant sections of the SIP, it is also recognized that the private sector could be tapped for provision of health services along with NGOs especially in the urban areas for provisions of PHC. There is also a need to collect private sector data

for better health planning and monitoring. The key to engagement should be effective regulation for implementation of current legal provisions and ensuring that national standards are followed such as through accreditation mechanism and other guidelines. Capacities of the executing agencies also need to be increased in this regard.

Utilizing NGO Capacities for Health Service Delivery

The GOB has a long history of collaboration with NGOs for poverty alleviation, which has contributed in improving the health status of the population, especially among marginalized groups. MOHFW has collaborated with NGOs in delivering healthcare services for TB, MCH and family planning (FP), Expanded Program of Immunization (EPI), leprosy elimination and nutritional programs. NGOs are one of the key actors in delivering HNP services. According to the Bangladesh National Health Accounts 1997-2020, NGOs accounted for around 6.7% of the total health expenditure (THE) in the country, which they met from their own source or funds received from the DPs (HEU, 2022). NGOs have also tested alternative approaches for service delivery, some of which have been scaled up by the government. In urban areas, NGOs provide PHC services particularly for the urban poor and collaborate with government in public health and disease specific programs. In 2020, NGO activities comprised 37% of the total funding (BDT 33.8 billion) spent for public health programs (HEU, 2022). NGOs also played a key role in delivering HNP services to the FDMN communities in Bangladesh.

NGOs run around 1,614 hospitals and other healthcare facilities in the country, some of which are situated outside the main urban areas (DGHS, 2023b). NGO hospitals accounted for BDT 36,119 million of hospital expenditure, which was around 20% of the total hospital expenditure in the country during 1997-2020 (HEU, 2022).

The GOB provides grants-in-aid from its operating budget to NGOs. Besides, Ministry of Social Welfare (MOSW) and Ministry of Women and Children Affairs (MOWCA) also provide funds to NGOs to build or expand hospitals. In the fiscal year 2016-17, 41 NGOs received around Taka 69.5 crore from the MOHFW as grants-in-aid (Khan & Huque, 2016). NGOs also developed, tested and implemented innovative health financing interventions in Bangladesh as described in Table 1. However, such health financing schemes targeting only the ultra-poor cannot be sustainable without external support either from the government or DPs (Quayyum et al., 2021). Gradual shrinkage in DP funding, change in priorities, and diversion of funding due to new and emerging issues are major challenges faced by NGOs. The MOHFW can utilize the potentials of NGOs in the HNP service delivery through strategic purchasing, especially for urban PHC services including FP; managing underutilized facilities in urban and hard-to-reach areas; providing health education, promotion and community mobilization; or to provide fieldworkers as extended domiciliary service providers.

Table 1: Categories of health financing initiatives of NGOs

Category	Cases
Voucher scheme	ORBIS, Population Council, RTM International and ICDDR,B, Marie Stopes Clinic Society, Concern Worldwide and BRAC
Prepaid health cards	BRAC, GK, Grameen Kalyan, Dhaka Community Hospital, ICDDR,B
Micro health insurance	Nirapotta of SAJIDA, Niramoy of InM, LASP of ICDDR,B, BADAS Health Insurance for Garments Workers, Grameen Kalyan, SNV-FPAB, Ad-din
Catastrophe loans	Emergency loan of SAJIDA, Brac Medical Treatment Loan

Source: Quayyum et al, 2021

Development of Physical Facilities

Upgradation of existing facilities and construction of new ones including repair and maintenance of the existing facilities are conducted under the Physical Facilities Development (PFD). The PFD OP receives the highest allocation in the MOHFW's development budget. Besides, MOHFW is implementing 37 discrete projects (FY 2022-23 ADP) for establishment of new medical colleges and hospitals, etc. The PFD OP alone constitutes 23.65% of the total development budget of the 4th HPNSP and 24% of the total ADP allocations of FY 2022-23. Moreover, due to less absorption capacity of major OPs, substantial allocations were diverted to PFD almost every year for accelerating fund utilization during the revised ADP preparation, further raising PFD OP's share of the development fund. However, due to this practice, other important development activities suffer. During 2017-18 to 2020-21, PFD OP enjoyed 32% of the total fund released and spent around 30% of the total fund of the 4th HPNSP.

To make health facilities fully operational as soon as construction is completed, the associated OPs are required to synchronize HR deployment; and initiate and complete the procurement of medical goods in consonant with civil works schedule. Unfortunately, that does not happen. Experience shows that there have been time lags of 3/4 years (i.e., 8 months) or more in getting a facility operational with necessary HR and equipment after completion of construction.

In this background, there is a rationale for discontinuing PFD as an OP in the 5th HPNSP, in which case the physical infrastructure development would be steered separately as a discrete development project under the MOHFW. This would allow provisioning all activities relating to construction, HR, equipment, logistics, etc., required for a fully functional physical facility in a single project. However, while designing a new discrete project for physical facilities development, the MOHFW needs to address the weaknesses/challenges experienced by the PFD OP in the past. Eventually, a systematic mechanism with adequate funds needs to be ensured for routine maintenance of physical facilities. The MTR of the 4th HPNSP identified mismatches between the construction and deployment of personnel and provision of equipment, and recommended to put more emphasis on functionalizing the completed structures with inputs and to slow down the construction of new infrastructures (IRT,2020).

To manage the transition from SWAp to discrete project, MOHFW should prepare two Comprehensive Master Plans on (a) Maintenance of the Existing Facilities; and (b) Construction of New Facilities. Considering the acute shortage of HR for manning different institutes/training centers, the MOHFW should review whether new construction of Nursing Institutes, Medical Assistant Training School (MATS), Institute of Health Technology (IHT), etc. would be required in the 5th HPNSP. However, decisions on such construction will also need to be synchronized with the finalized HR Strategy and Action Plan. The Table of Equipment of different health facilities should to be used while planning for construction of new or upgrading old infrastructure in the future.

Health Research

Research is essential for improving the design of HNP interventions and systems, service delivery and pro-poor policies. Some organizations under the MOHFW, such as NIPORT, BMRC, IEDCR, NIPSOM, Medical Universities etc., have strong focus on research. Whether in the academic or in the health care delivery setting, there are numerous opportunities for quality research. In educational setting, researches can address teaching methodologies, advances in medical knowledge, improvements in clinical practices that in turn could enable the teachers to become proficient and develop a competent and compassionate health workforce. In healthcare facility setting, researchers can investigate patient outcomes, advance medical knowledge, find scope for quality improvement, test efficacy of treatment protocols as well as enhance professional skills. Some countries created **health technology**

assessment (HTA) organizations solely for researching most appropriate and low-cost interventions. Basic science is also a fit case for research where the researchers can investigate biological processes underlying health and disease. Clinical trials have been highlighted elsewhere in this document, which could be used to test new drugs, medical devices, or procedures for treating a particular health condition.

4th HPNSP highlighted evidence-based decision making and innovation in support of policy development in HNP sector. However, there were some weakness, such as fund allocations for research was very low in comparison to the actual requirement; almost less than 1% in OPs with research responsibilities. However, bulk of the allocation was spent for non-research related activities. The entities responsible for health and FP research lacked capacities that resulted in outsourcing even minor researches. Institutional capacities could not be developed and lack of coordination in research Initiatives resulted in some duplications and inappropriate prioritization. Dissemination of research findings has not been prioritized as researches are carried out mostly for individual's progression in professional life. Research results were not translated to improvement in service delivery processes nor contributed to policy making. Apparently, while the researchers failed to link research findings with operational goals, managers were not also eager nor showed any appetite for using research for evidence-based decision making. *The 5th HPNSP needs to create an environment for research and bring change in the culture of the organizations so that researches are undertaken for improvement of health and findings of researches are linked to the decision making.*

TA Requirements for the 5th HPNSP

MOHFW needs to ensure timely Technical Assistance (TA) procurement and getting appropriate TA consultants, strengthen the capacity of TA recipients to utilize TA effectively, strengthen monitoring and tracking of TA and utilize TA to address the challenges of HNP sector on technical issues and/or innovations. A technical support plan was developed in the 3rd Sector Program for TA coordination. A TA Committee (TAC) chaired by Head of the Planning Wing was formed in 2012 comprised of MOHFW, agencies under it and DP representatives to review and recommend TA proposals for endorsement by the government. This institutional arrangement has been continued during 4th HPNSP and was found to be effective for sector management and TA coordination. Avoidance of duplication/overlapping was also possible since TA was well aligned with the sector program and the DPs were well aware of who was providing which TA in what area. The same TA coordination mechanism should continue during the 5th HPNSP (2024-29).

The 5th HPNSP needs to develop a harmonized TA Plan in consultation with all concerned stakeholders (MOHFW and its agencies, Line Directors [LD] and DP representatives). However, some areas have been identified in the thematic area reports, which is presented at **Annex D**. This list could form a basis for the development of a harmonized TA Plan for the 5th HPNSP. The TA support would also be required to conduct APR/MTR, end line evaluation, etc. *A harmonized TA Plan can be prepared to identify major areas of TA needs.*

HNP Sector Boundary

The MOHFW realized by the mid-90s that the proliferation of projects, numbering 128 at that time, was not suited to deliver cost-effective and integrated health and FP services, and decided to embark on a sector-wide program approach for improving coverage, reducing cost and encouraging participation of non-state actors in a coordinated manner.

A true SWAp would encompass health services provided by the MOHFW and other Ministries (i.e., MOLGRDC, MOSW, MOWCA, MOCHTA, etc.), as well as the buy-in and participation of the Ministries of Finance, Education, Agriculture, Food, Fisheries & Livestock, Industries and Information. Besides,

the active participation of other players – the NGOs, the Private Sector including the DP supported off-budget activities (through NGOs, national and international organizations) - also form a substantial part of the HNP sector development contributing to expanded service delivery as well as strengthening of systems. Even the discrete projects of the MOHFW (e.g., construction of tertiary hospitals, medical colleges), though outside the purview of the SWAp program, are contributing to HNP sector development.

The goal level indicators and targets, as set in the Results Framework (RFW), reflect the HNP sector as a whole, and are not confined to MOHFW's SWAp only. Various national surveys including the Bangladesh Demographic and Health Survey (BDHS), Utilization of Essential Service Delivery (UESD) and Bangladesh Maternal Mortality Survey (BMMS) also capture the performance of the HNP sector as a whole. A broader view of the HNP sector is meaningful within the wide socio-economic context of the country under which the sector operates. However, a key message from the experience so far is that the SWAp is, as the name implies, is an approach rather than a blueprint. Health being an outcome of multi-sectoral interventions should not be handled by the MOHFW alone. All the health related programs/projects outside the MOHFW's SWAp Program are contributing to HNP sector development and so, the MOHFW needs to have better coordination and functional relationship with other Ministries/Agencies/NGOs/private sector for achieving better health outcomes.

Throughout the SWAp implementation period, coordination between the MOHFW and relevant stakeholders including the private sector has been sought to explore feasible new modes for maximization of available resources, but with little success. The 5th HPNSP need to improve coordination and collaboration with, among others, (a) urban health (MOLGRDC) and tribal health (MOCHTA) for resource sharing, program planning, implementation and review, and joint review of SWAp performance; (b) parallel projects (both GOB and DP) to avoid duplication and to develop complementarities; and (c) NGO/private sector for management/operation of non-functional facilities and/or providing services in hard-to-reach areas or for exploring feasibility of new services/technology, etc.

Hence, for the purpose of budget allocation and resource use, the boundary of the 5th HPNSP will remain primarily within the limits of the MOHFW and agencies under it. However, the HNP sector boundary goes beyond the MOHFW's demarcated areas and encompasses health related activities and interventions of other relevant ministries/agencies including NGOs and the private sector with respect to functionalities and achievement of outputs/outcomes.

Chapter 4: The 5th Health, Population and Nutrition Sector Program

Priorities of the 5th HPNSP

The SIP of the 5th HPNSP has taken into account the demographic, epidemiological and socio-economic changes taking place in the country vis-a-vis the rising expectations of the people. The priorities of the 5th HPNSP will, therefore, be to continue improving effective coverage of PHC services, including SRMNCAH, nutrition and preventive healthcare. Emphasis will be given to screening and management of NCDs, mental health and geriatric care especially in primary care settings. Urban PHC service delivery will be a priority focus for which, among others, strategic purchasing of services would be pursued.

The availability of the health workforce should be increased through filling up vacancies, implementing capacity development initiatives, ensuring accountability, strengthening and improving pre-service medical, nursing and allied health professional education. These will be done based on a realistic projection of future needs of the health workforce in Bangladesh. At the same time, quality and efficiency of health services across different levels of facilities will be improved through developing agreed and cost-effective protocols for treating diseases, setting up standards, measures for infection control, etc.

The health service needs to respond immediately during disease outbreak (e.g., COVID-19), natural calamities (e.g., flood), disasters (e.g., Savar building collapse, fire outbreak) or road traffic accidents. Emphasis will be given on surveillance, rapid response, risk communication, testing and tracking arrangement and treatment in order to prioritize and improve preparedness for future pandemics. Optimum use of information technology including digital transformation will be a priority for evidence-based decision making. Issues relating to drugs, antimicrobial resistance and high drug prices leading to high out of pocket expenses need to be addressed through improving regulation and management of the pharmaceutical sector, adopting good pharmacy practices, and multi-sectoral collaboration amongst the government, private sector and NGOs.

The 5th HPNSP will have to utilize the opportunity to realize the objectives of UHC and health related SDGs by 2030, though time is constrained and challenges are manifold. To move towards the UHC, the HNP budget will need to be increased significantly.

Vision, Mission, Goal and Development Objective

The vision, mission, goal and objectives of the 5th HPNSP have been developed in view of the policy contexts discussed in preceding chapters as described below:

Vision: *“To see the people healthier, happier and economically productive to make Bangladesh a prosperous society”*

Mission: *“To provide the people of Bangladesh the opportunity for maintaining the highest attainable level of health”*

Goal: *To improve health and wellbeing by realizing the HNP targets towards achieving UHC*

Development Objective: *“To expand quality HNP services and strengthen required systems along with governance for improved efficiency and equity”*

Strategic Objectives

For reaching the vision, mission and goal of the 5th HPNSP a number of strategic objectives have been envisaged in the areas of service delivery and system strengthening. The table below presents the strategic objectives of the 5th HPNSP and subsequent sections illustrate the priority strategies and major outputs under each of these strategic objectives.

#	Strategic Objectives
1	Increase coverage along with access to and utilization of quality PHC services in both rural and urban areas
2	Strengthen availability and utilization of SRMNCAH services to reduce newborn, infant, child and maternal mortality
3	Increase access and availability along with improving quality of FP services
4	Increase coverage and improve quality of nutrition services through the life cycle approach
5	Manage existing and new communicable diseases effectively and improve pandemic preparedness through strengthening necessary capacity
6	Expand and improve NCD including mental health services while ensuring equitable access for the vulnerable
7	Improve readiness of secondary, tertiary and specialized care facilities including management of medical waste
8	Improve stewardship and coordination through strengthening HNP sector management and governance
9	Improve health professional and parahealth professional education in the context of future needs of the health workforce
10	Ensure availability of a quality health workforce through reorganization and effective HR policy, planning and management
11	Ensure sustainable financing to achieve UHC with special emphasis on targeting the poor and vulnerable
12	Reduce fiduciary risks through strengthening the PFM and audit systems and improving accountability and transparency
13	Strengthen Procurement and Supply Chain Management (PSCM) for increasing availability of HNP commodities
14	Improve regulation and management of the pharmaceutical sector for ensuring quality and affordable medicines
15	Create platforms for digital transformation and increase use of digital technologies for evidence-based decision making

Result Framework Indicators

Gradual improvements in performance measurements have taken place in the HNP sector since the introduction of SWAp. Hence, overall performance monitoring through the Result Framework (RFW) Indicators (comprising of goal and intermediate levels) was an integral part of SWAp monitoring. The 5th HPNSP has come up with a set of RFW indicators (6 goal level and 21 intermediate level) as appended at **Annex D** at page 106. Besides, a set of meaningful indicators for each OP will also be selected to measure OP performance on a yearly basis.

Components of the 5th HPNSP

The above 15 strategic objectives have been organized into two components, namely Component A (services improvement) and Component B (systems strengthening). All the service related objectives are combined in component A, which includes: primary healthcare, SRMNCAH, FP, nutrition, communicable diseases and pandemic preparedness including climate change, non-communicable diseases including mental health and finally, secondary, tertiary and specialized facilities. Health

systems strengthening issues are included in Component B, which are: sector management and governance, medical education and development, human resource planning and management, financial management and audit, procurement and supply chain management, quality and affordable drugs and health information management and digitalization. It may be mentioned that governance related issues have been incorporated in both the components. The next two chapters elaborate the strategic objectives with suggested outputs and desired priority strategies backed up with short situation analysis.

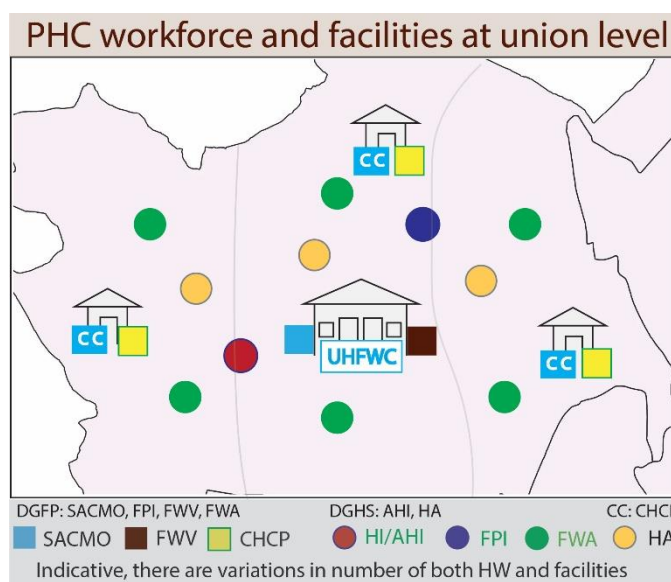
Chapter 5: COMPONENT A: Services Improvement

Primary Healthcare

The primary healthcare (PHC) forms an integral part of a country's health system. With particular emphasis on the household and community levels, PHC brings healthcare as close as possible to where people live and work. PHC is considered as the kingpin to attain universal health coverage (UHC).

RURAL PHC: Bangladesh has established 14,327 Community Clinics (CC) at grassroots levels. There are three CCs in one union, the lowest level of local government institution (LGI). Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) have elaborate structures of service delivery at the rural level. DGHS and DGFP have strong cadre of community health workers (CHW) who provide domiciliary services. At ward level, the DGHS has Health Assistants (HA) who are supervised by an Assistant Health Inspector (AHI) and a Health Inspector (HI) in the union. Upazila Health and Family Planning Officer (UHFPO) leads the upazila

Figure 1: Indicative availability of PHC workforce at union level



health structure of DGHS. Similarly, the DGFP has Family Welfare Assistants (FWA) at community level who are supervised by Family Planning Inspectors (FPI). At upazila level, the DGFP has positions of Upazila Family Planning Officer (UFPO) as well as a physician called Medical Officer (Maternal Child Health-Family Planning) or MO (MCH-FP).

The DGHS has 1,323 union level facilities known as Union Sub center (USC) and 792 Union Health and Family Welfare Centers (UHFWC) (DGHS, 2023b), while the DGFP runs 3,829 UHFWC respectively. A Sub Assistant Community Medical Officer (SACMO), a Family Welfare Visitor (FWV), a Pharmacist and a supporting staff serve from the UHFWC. SACMOs are trained paramedics. The FWVs receive short training in midwifery before induction. As the country is now producing qualified midwives, the DGFP has started advocating for recruitment of midwives in the UHFWCs. There are 430 Upazila Health Complexes (UzHC), which are providing a full range of preventive, promotive and curative services. The DGFP also has 192 Maternal and Child Welfare Centers (MCWC) providing a full range of maternal and child care services. The secondary and tertiary facilities also provide PHC services as part of outpatient department (OPD) services. PHC services are also being provided by for-profit private sector and non-profit NGOs. Remarkable progress has been achieved by such a vast network of PHC in Bangladesh, many of which are reflected in the attainment of MDG and SDG indicators.

The **CCs, USCs and UHFWCs are the first point of contact for the people in the rural areas**, who receive services such as MCH, FP, and basic treatment for common illnesses. The CCs started under DGHS, but administratively transferred to an autonomous Trust recently. In the 4th HPNSP, CCs received resources from an Operational Plan (OP) of DGHS called Community Based Healthcare (CBHC). The CCs are manned by Community Healthcare Providers (CHCP). CCs offer immunization, contraception and health education. CHCPs provide first aid, treat uncomplicated malaria, oversee the direct treatment of TB, and provide deworming for parasites. More than 1,000 CCs offer normal delivery

services (Das, 2019). The MTR 2020 observed a reduction in number of service recipients at CCs, particularly for core preventive and promotive services, such as in FP counseling and child health services. Limited skills of CHCPs and a focus on curative care over preventive/promotive services have been identified as a reason for this (IRT, 2020). The CHCPs receive 3-months training which raises the question of adequacy of their skills or training. The DGFP has started 24/7 normal delivery service from some UHFWCs and has plans to utilize 50% of such facilities by the end of the current SWAp.

The HAs conduct home visits, organize and conduct immunization programs, and increase health awareness for behavior change. The FWAs undertake domiciliary visits to distribute contraceptives, to serve pregnant women, to provide counseling, health education, and referrals for MCH-FP services. The SACMOs and FWVs serve pregnant women, children and general patients from UHFWCs. During the recent COVID-19 pandemic, PHC health workers played an important role in the protection from outbreak including creation of awareness, surveillance, diagnosis of disease and quick referral. *The strength of CHWs could further be explored and utilized for the whole gamut of PHC services.*

The 4th HPNSP emphasized **strengthening PHC to address non-communicable diseases (NCD)** by having the capacity to screen, detect, manage and prevent NCDs. Task shifting or transferring responsibilities to lower levels with training remains an option. Skills of health workforce at the PHC level also needs to be improved to properly manage NCDs. There is also a need for expanding the services for mental health as well through PHC CHWs for **detection and management of mental health issues**. Provision of **services for geriatric** population at PHC facilities should also be considered. *The 5th HPNSP needs to expand the coverage of PHC services for NCDs, mental health and geriatric care, for which the ESP needs to be revised.*

The **Essential Service Package (ESP)** is a key component of the PHC system provided from rural facilities to allow all citizens access to healthcare services, regardless of their ability to pay. The MOHFW set a target of **channeling 60-65% of healthcare resources to PHC facilities** in the past. In 1999-2000, the proportion of expenditure incurred at PHC facilities was 62%, while that at the upper level was 19%. However, since 2001-02 the healthcare expenditure at PHC levels, as a proportion to total healthcare expenditure started to decline. In 2012, 49% of the total healthcare expenditure was incurred at PHC facilities, which has further decreased in recent years (Daniels et al., 2022). *Allocation for provision of PHC services from PHC facilities needs to be increased.*

The **UzHCs are the first referral point for CCs and UHFWCs**. The UzHCs offer both outpatient and inpatient care. A structured referral model needs to be introduced from CCs and union facilities to UzHCs for streamlining treatment and reducing the burden on tertiary and specialized facilities. An **emergency ambulance service** could be piloted engaging NGOs or the private sector to functionalize the referral services.

Other than union level facilities, there are **10 bed and 20 bed hospitals** that are not being fully utilized due to limited supply of logistics and equipment and also HR constraints. *These facilities should be put to use effectively through innovative models including contracting out to NGOs.*

Facility readiness is a challenge in providing quality services from PHC facilities. Supply of medicines at CCs is not harmonized with the size (i.e., number) of the local population or disease burden. The CCs have average or poor-quality equipment in 88% of facilities, and average or poor-quality drug supplies in 59% of facilities (MOHFW et al., 2019). Union level facilities also lack basic logistics and equipment. Only 18% of UzHCs have functional X-ray machines and 14% ultrasound machines, while stockout of any commodities was 28.6% in the last 12 months at 287 UzHCs (NIPORT et al., 2020b). Infrastructures at UzHCs often require significant maintenance. *Support systems for PHC delivery at*

facilities needs to be strengthened by ensuring adequate HR, equipment and logistics, essential medicines, etc.

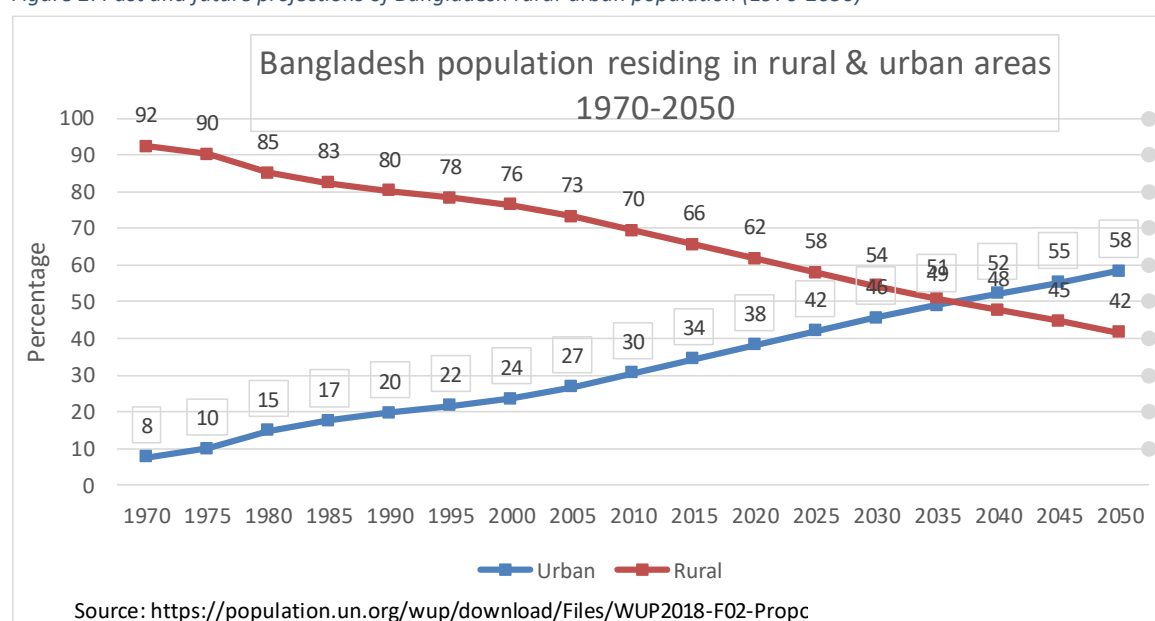
The tiered PHC delivery system is yet to reach the level of efficiency as envisaged (IRT, 2020). Rural patients tend to bypass CCs and ward or union health facilities in favor of UzHCs and district hospitals because of an absence of a mandatory gatekeeping system at PHC level. Moreover, to tend the overcrowded UzHCs, doctors and community medical officers are often pulled out from union facilities, creating a vacuum of competent providers. There is also a lack of coordination between PHC officers and staff with the national level managers.

Mentoring and supportive supervision is inadequate at PHC level. Mentoring plays an important role in improving the skills and confidence of CHWs. The Annual Program Review (APR) 2018 of the 4th HPNSP suggested that in addition to regular monitoring and supervisory visits, there is a need for a well-developed system to provide supportive supervision through on the job training, counseling and mentoring (PMMU, 2022a). *The quality of PHC services should be improved through strengthening supportive supervision, conducting regular refresher training on quality of care for the PHC workforce.*

There is no system in place for **meaningful community engagement** in health service delivery or getting their feedback. Such engagements can also increase the accountability of providers. Though the Community Groups (CG) and Community Support Groups (CSG) have been working at the community level, their functionality and response to community needs vary across the nation, that requires strengthening, particularly through proper guidance, facilitation and monitoring. Periodic awareness sessions could be organized at PHC facilities to enhance community participation utilizing grassroots level social organizations. *The community level providers should be encouraged to engage with communities for meaningful public health outcomes and increase their accountability.*

Focus on PHC seems to have declined in recent times with expansion of health facilities or issues with health providers. There could be over dependency on curative rather than preventive healthcare. There is scope for **task shifting** at the community level and above. The CCs could also be upgraded by trained and qualified providers to ensure provision of quality PHC services.

Figure 2: Past and future projections of Bangladesh rural-urban population (1970-2050)



URBAN PHC: The **government's PHC system was designed for rural areas only**, which is still the case, with limited public PHC infrastructure in urban areas. Some of the gaps in urban areas have been filled by NGOs and mostly by private for-profit providers or facilities, which have flourished in an unregulated market (Evans & Alam, 2017). *The 5th HPNSP needs to address urban health, especially provision of PHC in urban areas.*

The **urban population is growing fast**, and it is estimated that by 2050 more than 50% of the population will live in urban areas. Large number of slums have sprung up in urban areas to accommodate rural migrants, which have increased wealth inequalities (AFM Kabir, 2021). Unplanned urbanization results in environmental stress; increase of infectious and non-communicable diseases; and air and noise pollution together with barriers to physical activity. Urbanization has been taking a heavy toll in the cities because of inadequacy of existing basic services, including HNP services (World Bank, 2016). The combined effect of inadequate access to water, sanitation and poverty in urban slums has created significant public health hazards. Moreover, outbreaks of emerging communicable diseases such as dengue and COVID-19 put extra pressure on the urban health system.

Urban poor fare worse than their richer counterpart, e.g., neonatal, infant, and under-5 mortality rates are higher in urban areas (NIPORT et al., 2020a). Within urban areas, health outcomes are often poorer for slum-dwellers than non-slum residents. Stunting, wasting and underweight situations are worse for the slum than the non-slum urban children (BBS & UNICEF, 2016). High prevalence of NCDs, such as hypertension and diabetes, has also been found in slum areas of Bangladesh, with increased mortality and morbidity (Adams et al., 2020).

HNP services in urban areas are provided broadly by three categories of service providers - public, NGOs and private. The provision of public sector urban PHC services lies within the MOHFW, the Local Government Division (LGD) and the autonomous LGIs. Some public facilities such as Combined Military Hospitals, Police Hospitals, Jail Hospitals, Railway Hospitals and Sarkari Karmachari Hospital are also providing HNP services including PHC to certain occupational groups of the urban population. The MOHFW developed and approved the National Urban Health Strategy, 2020 for expanding PHC services to the urban population, which would be implemented during 5th HPNSP period.

The DGHS and DGFP are also providing PHC services to urban and peri-urban populations. The MOHFW operates 37 **Government Outdoor Dispensaries (GOD) for urban PHC services**, while urban based medical college hospital outpatient departments (OPD) and the urban satellite centers provide outdoor PHC services including EPI and MCH. Maternal and Child Health Training Institutes (MCHTI) and the MCWCs located in urban areas also provide immunization, important FP services and IMCI services. As a result, a major portion of the urban populations is receiving health services including PHC from secondary and tertiary level facilities. Recent experience with the COVID-19 pandemic and other infectious communicable diseases such as dengue, chikungunya, etc., shows that the entire country including city dwellers want and need effective and urgent treatment services from the MOHFW, in spite of the fact that there are legal provisions for PHC service delivery by LGIs in urban areas.

The Local Government (City Corporation) Act, 2009 and the Local Government (Municipalities) Act, 2009 vest the responsibilities of providing PHC services under their jurisdiction with City Corporations and Municipalities. However, a lack of a regular health budget, and limited financial and human resources of those LGIs make it difficult for them to provide quality PHC service to the urban population. The LGD had been implementing projects for providing PHC with funding support from the Asian Development Bank. Some NGOs were contracted to provide PHC in 12 City Corporations and 13 Municipalities, which will end in June 2023. Other DP funding allows NGOs to provide urban PHC services at free-of-cost to the ultra-poor. Health Cards have been distributed to poor dwellers. The

Smiling Sun Network (SSN) funded by the United States Agency for International Development (USAID), provides PHC in urban areas. The SSN was converted into a private company in 2018 and USAID support will end in June 2024. Several other NGOs also offer primary, secondary and tertiary curative care, such as, Marie Stopes, National Health Network (of Bangladesh Diabetic Samity), Ad-din, BRAC, Gonoshasthaya Kendra etc. UNICEF has been piloting Aalo Clinics in seven locations, which follow a General Practitioner (GP) model for providing urban PHC services.

The **private sector constitutes the largest segment of health service providers** both in urban and peri-urban areas and include private hospitals, pathology laboratories, diagnostic centers, pharmacies and drug stores, and private practitioners. Profit driven expansion of these providers created issues of quality and, at times, malpractices requiring strong stewardship role of the MOHFW. Quite often, **pharmacies/drug stores** are the first point of care in slums followed by private hospitals and clinics.

In this backdrop, in the 5th HPNSP, the MOHFW need to take the responsibility for strengthening the PHC service provision in urban areas. The issues, challenges and the approach to quality urban PHC service delivery are enumerated below:

- a) **Implementation of the National Urban Health Strategy 2020** should be expedited.
- b) The MOHFW needs to consider **developing an OP for Expansion of PHC services in urban areas**, especially to provide health, nutrition and FP services along with investment requirements. As MOHFW structures are minimal in urban areas, the MOHFW could contract out PHC services through strategic purchasing to competent NGOs and private sector providers emphasizing subsidized diagnostic services, especially for the urban poor.
- c) **The GODs located in the urban areas need to be made functional** with the recently approved operational guidelines, facility readiness, provision of HR, essential medicines and introducing evening shift service. Strict monitoring and supervision of these dispensaries will be required on a regular basis to ensure service quality and improve the quality of service.
- d) Many service seekers face difficulties in terms of accessing **healthcare services during day-time**, due to their work engagements. Distance of health facilities could also create inconvenience for slum dwellers. Poor accessibility and inadequate coverage is also causing higher OOP expenditure in urban areas (urban 68%, rural 61%). **Evening shifts could be introduced in all general public hospitals** to increase the coverage of urban PHC service through junior medical officers (MOs) by rotational duties with special allowances as incentives (there are instances of such special dispensations).
- e) A number of **inter-ministerial committees** have been set up to coordinate on urban health. For example, the Inter-Ministerial Urban Health Coordination Committee (UHCC) links the MOHFW and the LGD. But **limited coordination exists between the MOHFW and the LGD** on urban health issues. The MOHFW and LGD can increase coordination for providing PHC to the urban populations, especially urban slums by engaging with the private sector and NGOs.
- f) **Shortage of HR** hampers provision of PHC in urban areas. Suitable HR strategies are required considering the need for outreach activities and domiciliary services. The MOHFW, in addition to its own HR, will also need to work at enhancing capacity of the various service providers under LGIs, NGOs and the private sector for improving service quality.
- g) **The urban health operational areas for NGOs need to be defined or redefined** clearly to identify the need of satellite and EPI centers. Digital mapping of health facilities with service information needs to be prepared and uploaded on local websites.
- h) **Updating the laws/regulations regarding licensing and registration of private sector facilities and the capacity for their enforcement of the MOHFW** are important for overall management of health service delivery. Inspection and enforcement mechanisms must be strengthened. Urban slum dwellers rely mostly on **informal service providers**, who have no training in

modern medicine or treatment. They resort to unauthorized medical treatment, over the counter provision of prescription drugs, and selling spurious or sub-standard drugs which are detrimental to health and wealth, and lead to drug resistance. There are even evidences of exploitation of urban slum dwellers by **mainstream private service providers** in the interest of maximizing income and profit. Adequacy of existing legal instruments for facilities and all kinds of health providers should be examined and appropriate legal instruments should be enacted, if necessary, to regulate such providers.

- i) PHC healthcare infrastructure are absent or meagre in urban areas. Due to the **lack of a strong referral system**, patients requiring non-specialized treatments crowd in secondary and tertiary level hospitals. Most of the urban centers are ready for MCH and SRH services, but not for treating certain conditions like NCDs or patient groups (such as men), particularly in the public and NGO facilities. Establishing a structured referral model can increase equitable access and quality of care while reducing pressure on tertiary and specialized hospitals from PHC clients. *A strong referral system needs to be developed for the urban PHC facilities.*
- j) There is inadequate monitoring of urban health services. Reporting of service statistics by all providers needs to be coordinated by the MOHFW to get reasonably accurate data for planning and delivering appropriate health services to the steadily expanding urban population. **Absence of comprehensive data** makes it difficult to measure the performance of the urban health system and plan accordingly. Though data for some programs (e.g., vaccination, TB control) delivered in urban areas are shared with the MOHFW, there is no mechanism for collecting data from the NGOs or private healthcare providers. Availability of electronic health records makes it possible to track the service seekers and ensure continuum of care. *An urban HMIS needs to be developed with the ability to share aggregated data with DHIS2 of DGHS.*
- k) **Existing ESP will need to be updated** to accommodate PHC protocols for urban areas, and **innovative options for service delivery** will be explored with DP support for developing a unified/standard urban PHC service delivery model.
- l) People visiting outdoor services of government hospitals could be advised to visit the GODs nearest to their homes during an episode of illness by **creating awareness** and using social media. Medical students can be encouraged to provide health education, community awareness campaigns, etc.

Strategic Objective 1 (Increase coverage along with access to and utilization of quality PHC services in both rural and urban areas) addresses primary healthcare both at rural and urban areas.

The 5th HPNSP will emphasize improving effective coverage (through a PHC approach) of priority services and activities with adequate attention on prevention and promotion of a healthy lifestyle. The support systems for PHC services will be strengthened through increasing facility readiness, improving HR capacities, implementing the ESP free of financial hardship at the point of care, and enhancing coordination. PHC services will be expanded for increased demographic and geographic access, as well as for addressing emerging and reemerging disease burdens. Quality of PHC services will be increased through capacity strengthening, supportive supervision and effective collaboration among all stakeholders. There will be a strong emphasis on generating mass awareness for prevention of diseases through promotion of a healthy lifestyle, early detection of high-burden NCDs and ensuring resilience against future pandemics. Table 2 indicates major outputs of the strategic objective and the priority strategies to achieve these outputs.

Table 2: Primary healthcare - outputs and priority strategies

Outputs	Priority Strategies
1.1 Support systems for PHC services strengthened	1. Increase facility readiness of PHC facilities, including those in urban areas a. Strengthen PHC facilities with appropriate medicines, logistics and equipment b. Strengthen existing PHC facilities of MOHFW at urban facilities (e.g., GODs, School Health Clinics) with appropriate HR, logistics and equipment c. Contract-out underutilized public health facilities (e.g., 10 and 20-bed hospitals) to NGOs for PHC service delivery d. Update the list of essential medicines, including those distributed from CCs based on current disease burdens, population size and environmental issues 2. Improve HR capacities for provision of quality PHC services a. Revise the job descriptions of PHC workers (for addressing NCDs, mental health, etc.) along with task shifting b. Fill-up all the vacant positions at PHC level c. Provide adequate in-service training to enhance capacity of the PHC workforce in line with the revised job responsibilities d. Introduce midwifery positions at PHC levels, both in rural and urban settings e. Improve capacity of PHC managers (leadership, management, governance) for better service provisions. 3. Enhance coordination among relevant stakeholders for better PHC service delivery, particularly in urban areas a. Ensure regular half yearly meetings of the UHCC between MOHFW and LGD for improving coordination b. Ensure regular quarterly meetings of the UHWG between MOHFW and LGD for strengthening coordination of urban PHC c. Review the activities of the CG and CSGs and merge them into one group for ensuring community support and accountability 4. Update the existing ESP with incorporation of and emphasis on awareness building regarding healthy lifestyle, NCDs, AMR, malnutrition and relevant emerging diseases 5. Develop and introduce a structured referral model from CCs and union facilities to UzHCs for streamlining treatment and reducing burden on tertiary and specialized facilities 6. Incorporate urban routine data from all providers (public, NGOs and private) into respective MIS of DGHS and DGFP
1.2 PHC services expanded	1. Expand the early detection, screening, management and referral of NCDs and mental health issues with emphasis on geriatric care in PHC facilities 2. Introduce innovative models of care for increasing coverage of PHC services a. Introduce a pilot subsidized emergency ambulance service at UHFWCs and UzHCs in coordination with NGOs or private sector organizations to strengthen referral services b. Review and pilot an urban GP model for ensuring PHC service and also as a gatekeeping system for access to higher level of care c. Introduce evening satellite clinics and evening shifts at government facilities for ensuring PHC services for urban working population d. Provide adequate training and utilize the community level parahealth professionals (e.g., community paramedics, NGO field workers, qualified pharmacy workers) as extended domiciliary service providers 3. Collaborate with non-government and private sector for expanding PHC services in urban areas e. Collaborate with private sector for introducing subsidized diagnostic services for urban poor in order to achieve UHC

Outputs	Priority Strategies
	f. Coordinate with industry member associations (e.g., BGMEA, BKMEA and BTMA) to strengthen the PHC services for the industrial workers g. Contract-out PHC services to competent NGO providers in urban and hard-to-reach areas
1.3 Quality of PHC services improved	1. Strengthen supportive supervision (e.g., using digital supervision tools) to improve service quality from PHC providers 2. Conduct regular refresher training on quality of care for the PHC workforce 3. Enhance capacities of the community level individual service providers for ensuring quality PHC services through training 4. Regulate and monitor the community level private/individual service providers for ensuring quality of care for PHC services 5. Institutionalize engagement of local government actors and the community for generation of additional resources for effective functioning of PHC facilities
1.4 Awareness on public health issues created	1. Utilize grassroots level social organizations (e.g., adolescent clubs, youth clubs, etc.) for raising awareness on public health issues (e.g., healthy lifestyle, NCD risk factors, mental health, AMR, emerging diseases, etc.) 2. Develop a community engagement strategy to encourage accountability through: a. Engaging media and utilizing social media platforms for awareness creation on public health issues b. Creating mass awareness on availability of services at different PHC facilities c. Organizing periodic engagement sessions at PHC facilities to enhance community participation

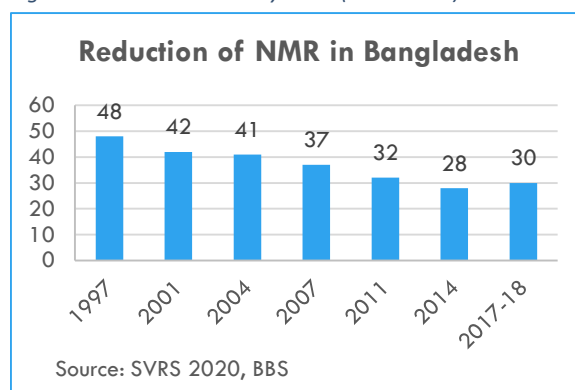
SRMNCAH

Bangladesh made commendable progress in reducing maternal, newborn and child death over the last two decades. However, maternal and newborn health related problems continue to remain among the top three disease burdens for the country, which are also unfinished MDG agenda. Strengthening health systems to achieve further progress in this area would be important for the 5th HPNSP.

The rate of **reduction in the Maternal Mortality Ratio (MMR)** has slowed down considerably since 2011. There has been no reduction of MMR in the post-natal period. 73% of maternal deaths occur within the 42 days after delivery and 56% deaths occur in the first 24 hours. Hemorrhage (31%) and Eclampsia (24%) continue to be the major causes of such deaths as in 2016 while indirect causes, mainly undetected or poorly managed NCDs, contribute to 10% (NIPORT et al., 2017). Coverage of quality ante-natal care is very low at 17.7%. 47% of the births are conducted by unskilled providers while 50% of the 3 million annual births take place at home. At facilities, 33% of the women undergo C-section during delivery nationally, though that rate is 84% in private facilities and most are considered unnecessary (NIPORT et al., 2020a). Only 4% of the facilities offering normal delivery have facility readiness for providing the services. Only 7% of the home births get postnatal care (PNC). Since 2018, the MOHFW has introduced the first-ever licensed midwives in facilities at upazila level and below. Fistula, prolapse and perineal tears continue to be the major maternal morbidities. Common gynecological problems, menstrual hygiene management are yet to be well addressed. Breast and cervical cancers have emerged as major causes of deaths among women of reproductive age. Sexual reproductive health and rights (SRHR) services are largely provided by private sector providers including unqualified ones. There are limited opportunities for correct and complete SRHR information/education in schools and elsewhere. *The 5th HPNSP should increase the quality of SRMNCAH services for ending preventable deaths through full facility readiness by ensuring a continuum of care equitably and removing gaps in skilled HR.*

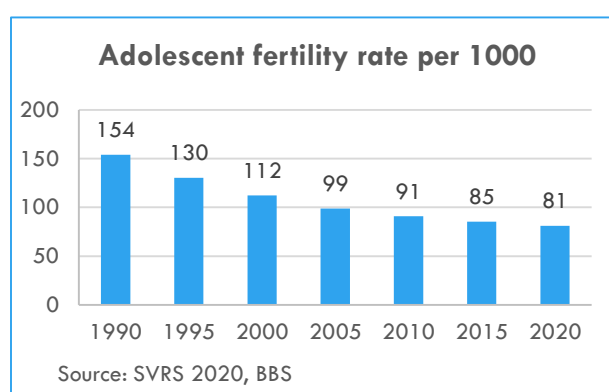
The **neonatal mortality** rate (NMR) is reducing slowly. Newborn deaths constitute 67% of the total deaths among under 5 (U5) children. Birth asphyxia, prematurity, low birth weight and sepsis continue to be the major causes of such deaths. For managing newborn complications and emergencies, facility readiness including Newborn Stabilization Unit (NSU) and Special Care Newborn Unit (SCANU), and coverage of low-cost effective Kangaroo Mother Care (KMC) and antenatal corticosteroids need to be increased urgently. Among the U5 children, pneumonia and drowning are the major causes of deaths. The increase in NCDs has emerged as a growing concern. Despite excellent progress in routine immunization, inequity remains. Bangladesh will soon become a GAVI graduate country and support from GAVI will no longer be available. The GOB has to take the responsibility of financing routine vaccines from 2026 as well as new vaccines including HPV which is awaiting to be introduced soon. *Newborn Health services need to be improved through an increase in coverage of essential newborn care at facility and community levels including strengthening of public and private sector facilities.*

Figure 3: Neonatal mortality rates (1997-2017)



Adolescents have the highest fertility rate and contribute 18.3% of the total annual births. Violence against adolescent boys and girls are increasing. Cases of depression and suicide are high among this group. Adolescents receive SRHR services largely from private sector providers including unqualified ones as they have very limited opportunities for correct and complete SRHR information through the education system or elsewhere (NIPORT et al., 2021). Information, education and communication (IEC) using digital platforms, as

Figure 4: Adolescent fertility rate (1990-2020)



well as peer educators are effective in reaching adolescents. Multi-sector collaboration and resource allocation are needed to address adolescent health related issues and implement programs effectively while increasing capacities among the providers to deal with them. *The 5th HPNSP needs to improve the adolescent health services and also increase access to standard SRMNCAH information and services via digital media.*

SRMNCAH services are provided both by DGHS and DGFP. **Overlapping mandates of DGFP and DGHS** in providing SRMNCAH services is inefficient in the context of acute shortage of skilled HR and resources constraints. Very limited facility readiness; unavailability of skilled health workforce particularly the midwives at district and union level facilities; weak monitoring and supervision and poor accountability; and weak coordination among the two DGs continue to be the major barriers in implementing quality SRMNCAH services. Inequitable provision of SRMNCAH services particularly for underserved and marginalized groups of populations is also a hindrance to provision of quality SRMNCAH services. All these are contributing to use of resources much less optimally (e.g., preventing Obstetricians and Anesthetists of the two Directorates to work in one another's facility, oversupply in one while shortage of supply in another facility, fragmented information on SRMNCAH performance, etc.). Addressing maternal morbidity would require multi-pronged approach and need to include 24/7

EmONC services including management of PPH and Eclampsia; indication for C-section delivery for all relevant facilities; increasing facility births and coverage of quality Antenatal Care (ANC) and Postnatal Care (PNC) services; mandatory midwives in all facilities whether public or private; partnering with NGOs and private sector; increasing skilled HR; managing breast and cervical cancers by public health approach; Social Behavior Change Communication (SBCC) for raising awareness on SRMNCAH issues. *Coordination and collaboration between DGHS and DGFP need to be strengthened through setting up mechanisms for working together at all levels. The 5th HPNSP would also carefully review the activities of MNCAH OP of DGHS and MCRAH OP of DGFP to avoid any duplication/overlapping with a view to ensuring optimum use of scarce resources.*

Strategic Objective 2 (Strengthen availability and utilization of SRMNCAH services to reduce newborn, infant, child and maternal mortality) addresses SRMNCAH issues as described in the following section.

The 5th HPNSP will continue to address the unfinished agenda of high maternal and newborn mortality. Strengthening the health system response to deliver quality RMNCAH will be a priority. Existing high impact interventions for SRMNACH will be continued and scaled up. Collaboration with other ministries of the government will be strengthened for improving SRH, child health and adolescent health services. Multipronged approaches will be taken to increase awareness among the population on emerging SRMNCAH issues.

Table 3: SRMNCAH - outputs and priority strategies

Outputs	Priority Strategies
2.1 Health system for delivering quality SRMNCAH services strengthened and improved	1. Increase coverage of quality SRMNCAH services, especially in disadvantaged areas 2. Increase facility readiness with appropriate logistics, equipment and medicines and skilled SRMNCAH service providers at all tiers of PHC and secondary and tertiary facilities, particularly the USCs, UHFWCs and UzHCs for expansion of SRMNCAH services 3. Review overlapping mandates of DGHS and DGFP with regards to SRMNCAH service provision for optimum use of resources 4. Set up mechanisms for strengthening coordination and collaboration between DGHS and DGFP 5. Strengthen and harmonize MIS for SRMNCAH across DGHS and DGFP
2.2 Maternal health services improved	1. Increase coverage of quality ante-natal care (ANC) 2. Increase facility births and ensure quality of normal delivery services by increasing facility readiness, engaging midwives, etc. 3. Increase availability of 24/7 EmONC services including management of PPH and eclampsia 4. Reduce unnecessary Caesarian sections by a. introducing Robson's Classification system for deliveries whether conducted in a private or public sector facilities b. sensitizing Obstetrical and Gynecological Society of Bangladesh (OGSB) and private clinic owners c. making it mandatory for private facilities to employ midwives d. introducing accreditation system in public and private facilities e. enhancing mass awareness f. Increase facility births and ensure quality of normal delivery services and initial stabilization and referral by increasing facility readiness, engaging midwives, etc. from union level and above 5. Increase and strengthen PNC services for non-facility births
2.3 Newborn health services improved	1. Increase coverage of essential newborn care (ENC) at facility and community levels 2. Increase management of birth asphyxia and neonatal sepsis

Outputs	Priority Strategies
	3. Increase implementation of KMC and ante-natal corticosteroid to address low birth weight
2.4 Child health services improved	1. Strengthen management of pneumonia, prioritize and address pediatric NCDs, and strengthen early childhood development (ECD) in children. 2. Maintain and further improve immunization coverage with quality and equity, and introduce new vaccines 3. Address drowning of children through multisectoral collaboration
2.5 Adolescent health services improved	1. Collaborate with relevant actors (MOWCA, MOE, MOPME, private sector, NGOs, CBOs) for dissemination of standard information, health education and counselling, including harmful impacts of early marriage and teenage pregnancy 2. Expand school health program by increasing its reach to more schools and adding additional topics such as ARH, menstrual hygiene, gender-based violence, nutrition, healthy behaviors 3. Gradually expand School Health Clinics by engaging with the public and private sector educational institutions 4. Provide training for a harmonized approach to AH across DGHS and DGFP
2.6 Sexual and reproductive health services improved	1. Increase awareness of maternal morbidities, obstetric fistula, breast and cervical cancers, gender, and reproductive health issues through front line staff training and collaboration with NGOs, private sector and relevant stakeholders 2. Increase capacity of UzHCs and DHs for screening, diagnosis and proper management, rehabilitation of prolapse, fistula, perineal tears, cervical and breast cancers, and STIs 3. Strengthen skills through in service training of newly recruited doctors and nurses on common gynaecological disease management and pre-referral management 4. Develop and implement structured recording & reporting system for gynaecological diseases 5. Strengthen health sector response to gender-based violence in collaboration with all relevant ministries (MOWCA for One-stop Crisis Centers [OCC])

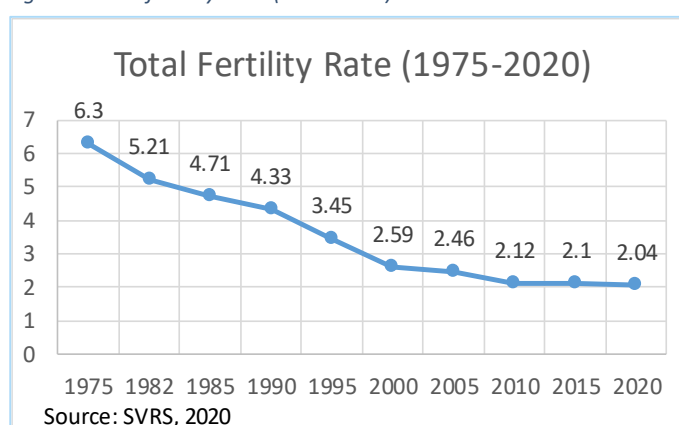
Family Planning

Bangladesh has made significant progress in the last decades in reducing population growth as well as maternal and child deaths. The total fertility rate (TFR) of the country went down from 6.3 in 1975 to 2.04 in 2020 (BBS, 2021). Family Planning (FP) activities are spearheaded by the DGFP, which also prioritizes maternal health.

The contraceptive prevalence rate (CPR) in the country was 63.9% for all methods (BBS, 2021). **Method mix** among different contraceptive methods

remains a challenge due to over-reliance on mainly short-acting methods (pills, injectable, and condoms). High discontinuation rates lead to high unintended pregnancies or termination of pregnancies. CPR among adolescent married women is much lower than the national CPR. According to the DGFP MIS data, contraceptive use of long-acting (IUD and implant) and permanent methods (NSV and female sterilization combined with post-partum FP [PPFP] and interval) over the last six years

Figure 5 Total fertility rate (1975-2020)



show a downward trend except for the implant (DGFP MIS Data, 2022). Due to the COVID-19 pandemic probably, contraceptives use decreased in 2020-21, resulting in an increase in unwanted pregnancies according to DGFP MIS. However, this situation has started to reverse gradually.

The performance of long-acting and permanent methods is yet to reach the pre-pandemic period level. To increase use of **long acting and reversible contraception and permanent methods** (LARCPM), the DGFP has introduced laparoscopic female sterilization services and sub-cutaneous Depo Provera. Imprest Funds for LARCPM have been allocated for district hospitals and public sector medical college hospitals facilitating the availability of LARCPM services in DGHS facilities. The capacities of providers (doctors and FWVs) for managing side effects and discontinuation of contraceptives have been strengthened. DGFP, with support of UNFPA, has developed a Family Planning Handbook targeting medical students and new graduate doctors.

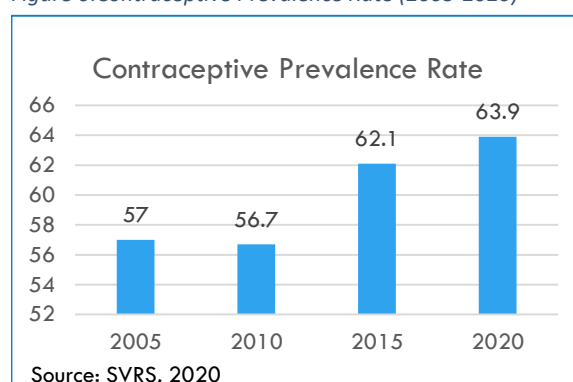
Despite various FP initiatives, **unmet need** for FP services is still around 12% among the married women. FP discontinuation rates increased from 30% in 2014 to 37% in 2017 (NIPORT et al., 2020a). *DGFP should increase the availability, accessibility, and utilization of modern contraceptives with a special focus on adolescents, postpartum, and post menstrual regulation/post abortion care (MR/PAC) users, to reduce high discontinuation rates and high unmet needs in both public and private facilities and at community level.*

Use of **Menstrual Regulation (MR)** among married adolescent women is quite low based on the BDHS 2014 data (NIPORT et al., 2016). The use of MR services among married adolescent women are also lower than expected. Public sector contraceptives are dispensed based on marital status. Due to religious and other social situations, information regarding MR may not be properly disseminated to or reach adolescents and youths. This complicates the situation for this group. MR users may lack the capacity to properly administer MR medications purchased from pharmacies with a risk of incomplete MR. In addition, unavailability of drugs for addressing side effects, complications, and unavailability of post-MR services further compound the situation. Trained providers administer emergency contraceptive pills (ECPs) which can be promoted to avoid unwanted pregnancies among adolescents and youths. The awareness about ECPs and their availability to those in need should be created along with dissemination on risks or precautions to be observed. *The DGFP can take steps to increase awareness about the safe use of all FP methods, including the MR and also increase service availability.*

FP support is not available to women in **private facilities** post-delivery. So is the case with the 50% of women who are delivering at home. On the other hand, very little **post-partum family planning (PPFP)** counseling and services are being provided from UHFWCs. *The DGFP needs to take steps to deliver quality PPFP services to all in coordination with the DGHS and the private sector.*

The DGFP operates 3,829 **first-level facilities** located at union level in rural areas. Recently, around half of the all UHFWCs have initiated 24/7 normal vaginal deliveries. The DGFP has also been gradually deploying midwives in the UHFWCs. In urban areas, Model UHFWCs and Model Satellite Clinics (operating at daytime or evening) should be established to address the **unmet need and discontinuation of contraceptive use**. Partnerships with NGOs and private sector agencies would be effective for providing contraceptive services. Capacity of facilities need to be developed to address

Figure 6: Contraceptive Prevalence Rate (2005-2020)



post-MR complications and incomplete abortions after MR and PAC. In the 5th HPNSP, *capacities of the DGFP facilities need to be increased for addressing unmet FP need and contraceptive use discontinuation in both rural and urban areas.*

Unavailability of skilled service providers at the different levels – district and below – are hampering provision of FP services. Availability of human resources in the DGFP is poor at community level due to **high rates of vacancies** (Kabir & Hossain, 2022). *Vacant positions at DGFP should be filled-up on priority basis to ensure provision of FP services.*

To address gaps arising out of vacancies, **NGOs have been contracted by DGFP** to perform LARCPM in hard-to-reach areas. FP services provided by private providers and NGOs need to be monitored for ensuring their quality and accountability. *Partnership models with NGOs and private sector organizations should be continued for provision of FP services, particularly in urban and hard-to-reach areas with measures for ensuring quality and accountability.*

Family Planning Clinical Service Quality Improvement (FPCS-QI) teams have been established in all 64 Districts demonstrating that DGFP is prioritizing quality FP services. FPCS-QI teams monitor performance of service providers. Setting quality standards is essential for ensuring quality services. The DGFP also runs a call center using 16767, which could be used to develop a **grievance redressal mechanism** and respond to current and potential FP clients. It should also be made toll-free. *Quality of FP services should be ensured using accountability mechanisms as well as addition of a grievance redressal mechanism.*

The MOHFW has recently communicated Bangladesh Commitments of FP 2030 (MEFWD, 2020). Bangladesh made commitments, among others, to use evidence for decision making and knowledge management in the FP program. DGFP eMIS generate individual data through the continuum of care. The eMIS is now operational in 40 districts and nationwide scale-up should be prioritized. Supply chain management system called e-LMIS ensures that there is no stockouts of contraceptives. There is a need to get private sector FP data as well. *The 5th HPNSP should develop mechanisms for increasing its digital footprint across the country and inclusion of the private sector data for better planning and execution of FP programs.*

Bangladesh has also made commitments to implement a policy framework, regulations, accountability with compliance to improve SRHR including FP through an integrated, multi-sectoral and human rights-based approach. The National Population Policy (NPP) approved in 2012 needs updating to adopt a rights-based approach while elaborating on the role of the private sector, civil society organizations and different ministries. *NPP should be updated with an action plan incorporating national and international commitments and other priorities.* The DGFP also needs to identify resource gaps, ensure adequate resources, and proper utilization through strengthened governance and accountability. *The DGFP should utilize the already developed Costed Implementation Plan (CIP) with the endorsement from the MOHFW.*

Strategic Objective 3 (Increase access and availability along with improving quality of FP services) addresses family planning activities.

Addressing the potentiality for further fertility decline will be a major focus for FP services in the 5th HPNSP. In doing so, the relevant FP policies and strategies will be updated. At the same time, availability and quality of FP services will be increased, with a particular emphasis on access to services for the poor, vulnerable and those living in hard-to-reach areas. Accountability in FP service delivery will also be ensured. The table below illustrates the outputs and priority strategies under this strategic objective.

Table 4: Family planning - outputs and priority strategies

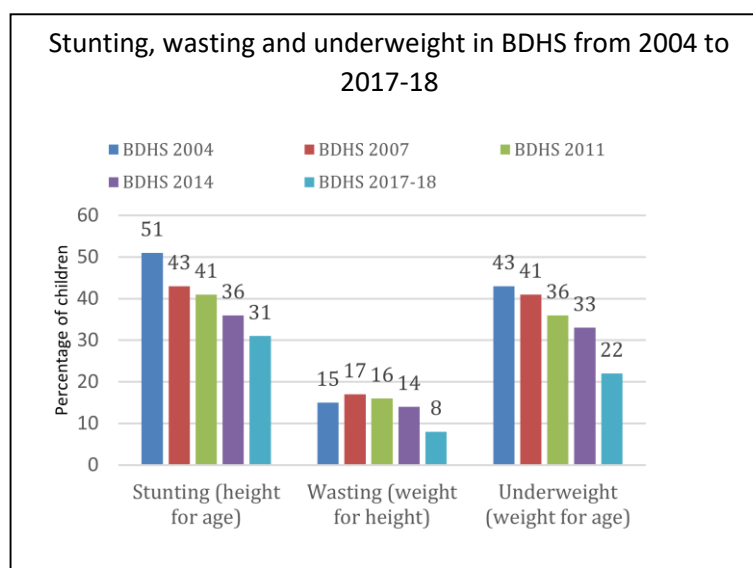
Outputs	Priority Strategies
3.1 FP policies and strategies updated	1. Update the National Population Policy, 2012 in the context of the current and future FP services requirements 2. Develop a rights-based National FP Strategy with an Action Plan specifying collaboration with the private sector and all relevant ministries 3. Update and utilize the FP Costed Implementation Plan (CIP) 4. Review the use of menstrual regulation with medicine (MRM) and update the MRM policy
3.2 FP service availability along with quality enhanced	1. To increase availability and capacity of FP HR a. fill vacant positions b. increase the capacity of clinical providers for addressing the management of side effects, complications, and high FP discontinuation c. deploy paid peer volunteers in urban slums d. develop capacity of the FWAs and FPIs for providing counseling services e. develop capacity (both human and institutional) to address post-MR complications and provide PAC services f. improve facility readiness for quality FP services g. continue setting up model UHFWCs and strengthen evening satellite clinics for addressing unmet need and contraceptive use discontinuation, particularly in urban areas h. ensure availability of need-based quality contraceptives, essential medicines and necessary equipment at all facilities 2. Develop partnerships (PPP model) with NGOs and private sector to provide FP services including LARC&PM in urban and climate-vulnerable areas of the country 3. Create awareness about the use and risks of ECPs to avoid unwanted pregnancies among adolescents and youths 4. Institutionalize targeted interventions on adolescent pregnancy and child bearing 5. Strengthen access to comprehensive information and quality FP services for adolescents enabling them to make fully informed decisions on FP
3.3 Improved accountability in FP service delivery	1. Create mass awareness about the availability of FP services at the facilities 2. Establish a Grievances Redressal Mechanism using the 16767 Call Center toll-free and link it to the FP-MIS or FPCS-QIT 3. Develop an appropriate monitoring plan and ensure supervision by the Divisional Directors and FPCS-QIT 4. Build up the capacity of FPCS-QI Teams to monitor provision of quality services 5. Set up new indicators for improvement of reporting following Bangladesh Commitments for FP 2030 6. Define and set up service governance mechanisms to meet FP2030 commitments 7. Improve coordination with DGHS for better service delivery in the areas of PFP, ANC/PNC, referral, etc., and harmonizing MIS

Nutrition

Bangladesh has made good **progress in improving child and maternal nutrition outcomes** over time. The level of stunting among under-5 children declined from 51% in 2004 to 31% in 2017-18, while that of underweight from 31% to 22%, and wasting from around 15% to 8%. During the same period, undernutrition among women declined from 33% to 12% (NIPORT et al., 2020a). Much of this resulted from a combination of nutrition-specific and sensitive drivers within a wider enabling environment of pro-poor economic growth, of which key factors are income growth, smaller family size, sizable gaps between births, parental and particularly women's education, and wider access to health. With the

current Annual Average Rate of Reduction in stunting, Bangladesh will achieve the World Health Assembly (WHA) global stunting target of 25% by 2025 among people from the wealthiest quintiles though not nationally. The reduction of **chronic undernutrition** (stunting) was higher in rural than urban areas. Both the urban and rural population face the triple burden of malnutrition — the co-existence of undernutrition, micronutrient deficiencies, and overweight and obesity, though the prevalence of

Figure 7: Nutrition outcomes of Bangladesh (2004-2018)



overnutrition is more pronounced in urban areas. Urban slums have a higher prevalence of underweight, stunting and wasting than the rural areas. Geographic disparities also persist; Sylhet division continues to have the highest rates of malnutrition in children under-5 for all three undernutrition parameters (stunting, underweight and wasting).

Despite notable improvements, **about 4.8 million children remain stunted and 1.6 million remain wasted in Bangladesh**. Furthermore, no significant changes were found in wasting reduction, which has been hovering around 8-10%. More than half of adolescent boys and girls are underweight, and one third of adolescent girls are below the cutoff height of 145 cm and remain nutritionally at risk. Teenage pregnancy and low birthweight rates (often related to early pregnancy) are high. The prevalence of anemia among adolescent girls (56%) and pregnant women (29%) is still at unacceptable levels (BNNC, 2021). Obesity prevalence among women of reproductive age has increased almost 11, 14 and 8-fold, in national, urban and rural areas respectively over the last two decades. Hypertension also increased in both women and men. In all years, underweight was concentrated in poorer and rural households while overweight/obesity, diabetes and hypertension in wealthier and urban households. Increases in wealth explains 35% to 50% of the reduction in underweight and 30% to 57% of the increase in overweight/obesity. Significant contributors to this double burden were the changes in household wealth and rapid urbanization.

During the 4th HPNSP, **overall visibility of nutrition has increased**. Nutrition has been mainstreamed in health and FP services, nutrition information was included in both DHIS2 and eMIS, and a Nutrition Information System (NIS) has been established. Severe Acute Malnutrition (SAM) Units have been established in 436 secondary and tertiary level health facilities. The multisectoral approach towards improving nutrition has been strengthened through revitalization of the Bangladesh National Nutrition Council (BNNC) in 2017 and by operationalizing the second National Plan of Action for Nutrition (NPAN). Since 2019 costed annual multisectoral nutrition work plans have been developed and implemented by 10 OPs and 21 allied ministries.

Availability, accessibility, and utilization of essential nutrition services through PHC continue to be low. Community outreach is not sufficient to sustain a continuum of care and increase utilization effectively. Utilization is an issue because parents and caregivers only visit the health facility when there is a health concern. Often, nutrition services are provided by both DGHS and DGFP at facilities at primary, secondary and tertiary levels, which gives a skewed representation of coverage of services.

Key challenges in providing facility-based quality nutrition services to children suffering from SAM with complications include lack of appropriate tools or other essential supplies and lack of a continuum of services. *It is essential to make provision of measurement tools, supplies and necessary human resources.*

Several **regulatory frameworks for quality standardization of consumption goods** exist for ensuring nutrition (e.g., Salt Act 2020, Vitamin A Fortification Act in Edible Oil, 2013, and the Breastmilk Substitute Act 2021). Physical activities for both male and female adolescents should be promoted by implementation of the Adolescent Nutrition Guideline, 2020. *Essential nutrition services should be ensured by aligning with the provisions in the relevant regulatory instruments.*

Human resources are necessary for the district and upazilas for expansion of quality essential nutrition service delivery and monitoring. Persistent vacancies, weak program and financial management capacity of national and upazila level program managers, and low retention of mid-level managers hamper nutrition related work. HR capacity needs to be improved for implementation of nutrition components of the ESP. Posts of District Nutrition Officers (DNO) have been created in all districts under the Civil Surgeon Office. Those should be filled up immediately. Engagement of community level workers is also needed. *The CHWs could be given responsibilities and be monitored in respect of nutrition related activities.*

A strong **Nutrition Information System (NIS)** is pivotal for ensuring coverage and quality of services, follow up by management and for taking corrective actions. Nutrition data are collected from DGHS DHIS2 and DGFP eMIS. Both report similar services/indicators, but are not interoperable, which makes it difficult to ascertain the coverage and quality of service provision. In urban areas, data from NGOs facilities are not available in DHIS2. The NIS needs to incorporate nutrition indicators, including disaggregated sex data on infant and young child feeding services. Data from DGHS and DGFP systems as well as *private and NGO service providers in urban areas need to be incorporated in the NIS for getting a comprehensive picture of nutrition services.*

The 2017 Global Nutrition Report indicates that every \$1 of investment in nutrition yields \$16 in benefits across health and productivity (Independent Expert Group, 2017). However, present **fund allocation for nutrition** specific interventions and nutrition governance interventions (e.g. operationalization of NPAN2) is insufficient. In addition, low utilization capacity of NNS resulted in underspending of the allocated fund. Capacity to spend allocated budget needs to be increased for the respective entities through identification of bottlenecks and through adopting appropriate corrective measures. DPs support provides a major portion of the NNS budget, which is expected to decline in the upcoming years. *GOB resource allocations should be increased for nutrition services keeping in view the additional funds that would be required after cessation of external support.*

Multiple organizations are responsible for nutrition related activities. Duplication of roles between the Director of the Institute of Public Health Nutrition and the LD of NNS limits efficiency in nutrition service delivery. Limited coordination among relevant stakeholders (i.e., LGD and MOHFW) limits the effective nutrition service delivery in urban areas. *The MOHFW should take action to increase effectiveness of all organizations providing nutrition services through appropriate assessments.*

Nutrition supply chain suffers from inefficiencies. Essential nutrition supplies are ordered on an ad hoc basis across OPs and several OPs procure the same essential drugs (e.g. IFA tablets). Demand is quantified at the central level once every five years, and not adjusted annually. Lack of demand forecasting and quantification results in procurement by multiple entities with mismatch between demand and supply. Due to poor supply chain management, commodities are often either not procured or procured in excess resulting in wastage of resources and ineffective service delivery.

Essential nutrition commodities could be made available to all service delivery points in a timely manner using a digital supply chain management system. *The 5th HPNSP needs to strengthen supply chain management for essential nutrition commodities.*

A harmonized approach is needed to ensure integrated **nutrition service delivery through PHC** in both rural and urban areas. The urban ESP on nutrition services needs to be expanded to cover the entire population in phases over the next 4-5 years. To increase coverage of quality essential nutrition services with equity in both urban and rural areas, focus should be given to Mother Infant Young Child Nutrition (MIYCN), prevention of low birth weight, and Early Childhood Care and Development (ECCD). A comprehensive strategy should be adopted to address overweight and obesity among children, adolescent, and women of reproductive age in both urban and rural areas. Community-based Management of Acute Malnutrition (CMAM) and growth monitoring and promotion (GMP) need to be operationalized. *Coverage of quality nutrition services should be increased in a uniform manner through a lifecycle approach to ensure equity and gender sensitivity in both rural and urban areas.*

Improved inter-OP coordination can ensure harmonization of service provision and quality of services. Vertical coordination across OPs, between the central and upazilas could be strengthened by improving the functionality of the existing committees under BNNC and NNS OP (e.g., Steering Committee for Nutrition Implementation-SCNI and Nutrition Implementation Coordination Committee-NICC, etc.). Alignment of urban nutrition service providers with NNS should be ensured.

Strategic Objective 4 (Increase coverage and improve quality of nutrition services through the life cycle approach) addresses the area of nutrition.

The 5th HPNSP needs to focus on the addressing the triple burden of malnutrition across the life cycle of the citizens. This could be done through expanding coverage of quality nutrition services in a uniform manner to ensure equity in both rural and urban areas. A harmonized approach will be adopted to ensure integrated nutrition service delivery through PHC in both rural and urban areas. Human capacity will be improved for implementation of nutrition components of the ESP. The NIS will be strengthened and a nutrition surveillance system will be institutionalized to allow for a comprehensive scenario of nutrition services. Multisectoral collaboration will be promoted for appropriate operationalization of nutrition-sensitive interventions in the respective sectors beyond the HNP sector. The table below indicates the specific outputs and priority strategies for nutrition in 5th HPNSP.

Table 5: Nutrition - outputs and priority strategies

Outputs	Priority Strategies
4.1 Coverage and quality of nutrition services increased	1. Adopt a harmonized approach to integrated nutrition service delivery as per ESP in both rural and urban areas 2. Scale up community-based prevention activities including integration of GMP with EPI services and community-based management of acute malnutrition 3. Enhance community awareness for increasing coverage of quality essential nutrition services 4. Develop a comprehensive plan for addressing overweight and obesity of children, adolescents, and women of reproductive age in both rural and urban areas 5. Streamline and operationalize nutrition into ECCD strategy for children 0-3 years 6. Include nutrition components along with emerging issues (e.g. overweight and obesity, etc.) in the National Urban Health Strategy, 2020 and ESP
4.2 Adequate HR with appropriate capacity	1. Expedite the deployment of District Nutrition Officers (DNO) and provide in-service training for their capacity development

Outputs	Priority Strategies
for nutrition services developed	2. Emphasize nutrition counselling and SBCC tasks in the job descriptions of the community workers and health service providers 3. Update the age-appropriate/life cycle training curriculum on nurturing care, including wasting management and provide necessary training
4.3 Multisectoral coordination strengthened	1. Enhance inter-OP coordination to ensure harmonization of quality nutrition services 2. Functionalize the existing committees to improve coordination for nutrition (e.g., Steering Committee for Nutrition Implementation-SCNI and Nutrition Implementation Coordination Committee-NICC, etc.) 3. Strengthen institutional capacity of BNNC for multisectoral governance and collaboration of nutrition and operationalization of upcoming NPAN3
4.4 Nutrition Information System (NIS) strengthened	1. Ensure nutrition monitoring, evaluation and research components (e.g., NIPU) under IPHN 2. Strengthen capacities of nutrition service providers for recording, reporting and data analysis for decision making 3. Harmonize indicators and ensure interoperability between DGHS and DGFP systems for nutrition data 4. Institutionalize a nutrition surveillance system to monitor availability, access, and utilization of diverse foods during and right after emergencies
4.5 Supply of nutrition commodities ensured	1. Ensure adequate supply of nutrition commodities at all facilities, particularly during emergencies

Communicable Diseases and Pandemic Preparedness

Communicable diseases (CD) remain a major public health threat worldwide, especially for low and middle income countries like Bangladesh. Poor sanitation and hygiene coupled with a hot and humid atmosphere create a conducive environment for the growth and spread of microbial. Growing resistance of microbes to antimicrobials has emerged as a significant threat.

During the 4th HPNSP, the country has scaled up interventions for the prevention and control of CDs, achieving remarkable success in preventing and controlling CDs. **Polio** and **small pox** have been eradicated. **Measles** are in elimination phase. Extensive vaccination and case isolation have resulted in diminishing the prevalence of **diphtheria** and **tetanus**. **Malaria** cases have declined significantly and reached pre-elimination phase in the majority of endemic areas in the country. With improvement of overall hygiene and sanitation, there is a discernible reduction in **cholera**, **typhoid**, and **dysenteries**. Since 2016, **Kala-azar** has remained at low endemicity (<1 case/10,000 population). All the **rabies** endemic areas achieved the elimination target (<1 case/100,000 population) in 2012 with 94% death reduction and availability of vaccine countrywide. **Leprosy** achieved the target of elimination before the scheduled date (1998), which led to the introduction of the zero-leprosy initiative. **HIV** prevalence remains less than 0.01% among the general population, however, the rate is 4.1% among the persons who injects drugs (PWID). Bangladesh has become one of the first countries in WHO's South-East Asia Region to achieve **Hepatitis B** control (0.05% HBsAG prevalence among under 5 children). Bangladesh is one of the 30 high-burden countries for **tuberculosis** (TB) including multi-drug resistant (MDR) TB. Bangladesh reached the first milestone of >35% reduction in TB deaths by 2021. Bangladesh TB incidence has remained relatively flat since 2000, around 221 per 100,000 populations. Over 60% TB presumptive cases do not have access to molecular testing. Overall, the **soil transmitted helminthiasis** (STH) prevalence among school children has been reduced to 7.95%. However, incidence of **dengue** is increasing, with the highest mortality of 281 in 2022 (DGHS, 2023a). The incidence of cholera reached an all-time high in 2022. Diphtheria was detected in the camps of the FDMNs. Nipah virus has become a seasonal concern and Anthrax could be a concern. Post-validation surveys should be conducted for sustaining near-elimination status of the diseases. *MOHFW needs to expand and coordinate*

surveillance systems for the early detection, tracking, and evaluation of emerging and reemerging infections.

Shortage of HR, inadequate physical infrastructure, etc., also pose major challenges to the control of CDs. Due to a perception that the burden of CDs is decreasing, **funding and HR issues** are not getting due attention, particularly for those diseases which are close to elimination. TB received significant contributions from DPs, which, however, will end by 2026. The government will have to allocate adequate funds in this area in the future for the continuance of program implementation.

Integrated **laboratory testing services** at the facility level are inadequate. There is a network of Infectious Disease Hospitals (IDH) across the country. Primary laboratories at UzHCs with limited capacity support sample collection, preparation and rapid testing. Secondary laboratories at district hospitals or at the specialized hospitals test for TB and other infectious diseases. Samples are also sent to IEDCR from tertiary and specialized hospitals, mostly for detecting any outbreak. Limited infrastructure for high throughput and genomic analysis are putting barriers to developing advanced laboratory capacity. The laboratory systems of district hospitals should be strengthened for testing microbial diseases. It is also necessary to establish an accredited reference entomological laboratory including insectarium for vector control research. *Establishing divisional infectious disease laboratories and coordination with referral laboratories should be prioritized.*

Antimicrobial resistance (AMR) is growing in the country. The results of AMR surveillance are alarming as many of the bacteria are resistant to commonly used as well as reserve groups of antibiotics. The CDC program of DGHS is leading activities for AMR containment including regular advocacy, communication, community dialogues, social mobilization and mass media campaigns. Inadequate awareness of service providers, recipients and other stakeholders together with a lack of good clinical practices by healthcare providers are of major concern. *The 5th HPNSP needs to prioritize AMR surveillance, prevention and control.*

Major pandemics and epidemics leave devastating impacts on human societies and the recent **COVID-19** is no exception. Bangladesh managed the COVID-19 pandemic through a "whole of government approach" and a mixture of public health and curative interventions that included vaccine procurement and deployment together with facility readiness. Considerable work has been done for Infection Prevention and Control (IPC) activities including border control, development of guidelines, provision of training. The country needs to improve PHC, strengthen health systems and have readiness for rapid response to such **public health emergencies (PHE)**, and ensure continuity of basic treatment service provision at facilities during emergencies. The capacity for local development, use and availability of diagnostic tests and reagents is also important. While responding to the event, capacities are required for detecting a disease event, preventing further spread, mitigating damage, and returning to normalcy after an onslaught. Ensuring equity of healthcare for urban and rural poor, and hard-to-reach areas is also a major challenge. To address PHEs, a National Action Plan for Health Security (NAPHS) was drafted in 2019. Bangladesh coordinates internationally for implementation of the International Health Regulations, 2005, which requires increased capacity. The PHE Operation Centre (PHEOC), activated by the IEDCR during emergencies, should also be strengthened. *The 5th HPNSP needs to increase pandemic preparedness with a robust pandemic preparedness plan.*

Vaccinations plays a critical role in controlling CDs. Greater investment is required for strengthening research and development of **vaccines**, including those for pandemic diseases including the capacity to manufacture the vaccines in the country. Allocations for vaccine campaigns and introducing new vaccines need to be ensured. In addition, emergency authorization of new vaccine/vaccine products/drugs for pandemics need to be accelerated. *Having capabilities for vaccine research, development and manufacturing should be a priority for the 5th HNSP.*

Bangladesh is a hotspot for emerging infectious diseases, especially of zoonotic origin (Allen et al., 2017) as the density of human and animal population, especially poultry, makes it vulnerable for spillover of viruses into humans and vice versa (Jones et al., 2008). The **One Health (OH)** concept recognizes the interconnectedness of humans and animals in a complex ecosystem because of linkages among human, animal and environmental health. To protect human health, collaboration is needed among various disciplines including physicians, veterinarians, environmental scientists, civil society and development practitioners. OH can be instrumental in preventing disease emergence by addressing ecological and social factors that contribute to health and disease. OH Strategic Framework and Action Plan were developed in 2012 and 2017 respectively. *In order to better prepare for the future, pandemic prone diseases prioritizing zoonotic ones should be mapped and updated.*

The Institute of Epidemiological Disease and Research (IEDCR) conducts **outbreak investigation** and leads the response system for food safety emergency. IEDCR's **Food borne illness surveillance** included acute watery diarrhea, enteric fever and hepatitis, which, unfortunately, remains discontinued for lack of funding. IEDCR conducts **sentinel and community-based surveillance** by way of data collection, transmission, storage and management for emergency response. **Outbreaks of respiratory diseases** are mostly identified by the event-based or hospital-based influenza surveillance. Systematic data collection, analysis, and dissemination as a part of surveillance ensures prompt interventions. *Public health infrastructures should be strengthened for surveillance, prevention and control of infectious and emerging diseases with emphasis on respiratory surveillance and rapid laboratory identification.*

The MOHFW faced critical challenges in supply chain management at early stages of the COVID-19 pandemic. Identifying and listing the critical medical supplies and products while prioritizing supply chain are essential during a pandemic. Effective response during a pandemic requires a **resilient public health supply chain**, anchored in manufacturing capabilities, so that healthcare and preventive measures can reach patients and providers (White House, 2021). To ensure the supply chain is on track it is necessary to liaise with government agencies trusted with regulatory responsibilities in the areas of drug, finance, commerce, and revenue. *The health system, in dealing with a pandemic, must ensure a functional and resilient supply chain management.*

Human resource capacity for PHE preparedness within the MOHFW is absent. There is a lack of dedicated HR for responding to PHE. Capacity building takes time and frequent transfers of those who have acquired capacities make the organization suffer. Newly posted persons cannot be trained quickly as well. *The officials involved in PHE should be retained for a longer term and not be transferred quickly.*

Public awareness plays a critical part in combatting public health threats. Government, NGOs and the private sector need to collaborate for increasing awareness of the population. Diverse communication methods are required for effective delivery of public health messages to address risk communication and community engagement (RCCE) for prevention and control of emerging and re-emerging infectious diseases. *Raising mass awareness using electronic, print and social media on causes and impacts of emerging and reemerging infectious diseases should be emphasized.*

Community engagement is a crucial part of the PHE response. There is inadequate preparedness for emergency management at the community level and emphasis should be put on community self-reliance and resilience. Public health personnel at all levels should be trained in emergency risk communication approaches. *The 5th HPNSP needs to encourage community engagement for health.*

Climate Change

Bangladesh is experiencing erratic weather patterns along with a sustained rise in temperature and precipitation as a consequence of global climate change. Sea level rise and consequently, salinity intrusion are threatening Bangladesh's delta regions. Climate change is impacting health in a myriad of ways, including by leading to death and illness from heatwaves, storms and floods, the disruption of food systems, increases in zoonoses, food, water and vector-borne diseases, and mental health issues. Increased burden of hypertension and eclampsia were found in salinity intrusion areas of the country. It is estimated that as much as 24% of deaths are attributable to environmental risks to health which are largely preventable. Addressing environmental issues can reduce many communicable and noncommunicable diseases and injuries and thereby reduce high healthcare expenditure (WHO, 2022a).

Due to high levels of air pollution, Bangladesh is often listed as the most polluted country in the world (Air Quality, 2023). Four of the top five causes leading to death between 2009 and 2019 in Bangladesh were directly associated with air pollution (UNEP, 2022). It is also contributing to increased respiratory infections, stroke, tracheal, bronchus and lung cancer, ischemic heart disease, type 2 diabetes and neonatal disorders. The annual cost of these health effects translates to losses equivalent to 3.9 to 4.4% of Bangladesh's GDP in 2019 (Raza et al., 2023). Both industrialization and geological sources are causing **heavy metal and metalloid pollution** in Bangladesh. Groundwater **arsenic pollution** together with lead poisoning of 35.5 million children make the country the fourth most-seriously hit in the world. This pollution is associated with natural resource use or agricultural practices.

The MOHFW formed the Climate Change and Health Promotion Unit (CCHPU) in 2010 to deal with climate and health related issues. Strengthening capacities of health personnel at different tiers of the health system on climate change and health are required. The MOHFW is pursuing **multi-sectoral approaches** to combat climate change and environmental health hazards. The Bangladesh Health National Adaptation Plan (HNAP) was prepared with support from WHO (WHO & IEDCR, 2018). *The CCHPU needs to be strengthened with adequate human and financial resources and the 5th HPNSP needs to increase coordination among multisectoral stakeholders by implementing the HNAP.*

A Water Safety Plan should be prepared for all facilities. In low lying and vulnerable areas of Bangladesh, health infrastructures may need retro-fitting or **health infrastructures should be climate-resilient**. Especially, to reduce carbon footprint, the facilities should have capacities for generation of solar power, use energy efficient lighting and procure equipment that meet rigorous environmental standards, thus laying a path for greening the facilities gradually. *The 5th HPNSP needs to prioritize climate-resilient infrastructures in vulnerable areas.*

Inadequate resource allocation deters the progress of mitigation measures. The MOHFW needs to ensure adequate resources to address the health impact of climate variability and climate change. *The MOHFW can explore availability of resources from international climate change and health funding sources (e.g., GEF, GCF, bilateral donors) for building climate-resilient health systems.*

Citizens need to have more information on the health risks emanating from climate change risk factors, e.g., through **advisories** on heatwaves, air pollution levels, etc. *The MOHFW may disseminate public health issues arising out of climate change and environment for wider public awareness.*

Climate change induced acute temperature increases, heatwaves, and humidity affect **mental health** and psychological wellbeing. Disruptions in livelihoods and incomes caused by environmental hazards increase stress. Marginalized and vulnerable populations could be disproportionately affected. There are risks of adverse mental health outcomes for all, and young people could become more prone to anxiety, phobias, depression, substance abuse, increased cognitive deficits etc., and also climate

change anxiety (Romanello et al., 2022). *Accelerating efforts to address the impacts of climate change on mental health and psychosocial wellbeing is essential to protect all dimensions of human health.*

Strategic Objective 5 (Manage existing and new communicable diseases effectively and improve pandemic preparedness through strengthening necessary capacity) addresses the communicable diseases and pandemic preparedness.

Continued actions need to be taken to manage communicable diseases. Increased emphasis would be required on prevention and control of emerging and reemerging infectious diseases. Capacity in containment of antimicrobial resistance risks will be another priority for the 5th HPNSP. There needs to be increased preparedness for future pandemics and public health emergencies. Health system should be strengthened to prepare for potential climate-sensitive disease outbreaks.

Table 6: Communicable diseases, pandemic preparedness and climate change - outputs and priority strategies

Outputs	Priority Strategies
5.1 Systems are in place to detect, promptly investigate, and monitor emerging pathogens, the diseases they cause, and the factors influencing their emergence.	1. Expand and coordinate surveillance systems (including community-based surveillance) for the early detection, tracking, and evaluation of emerging and reemerging infections 2. Participate in international surveillance networks for the anticipation, recognition, control, and prevention of emerging infectious diseases 3. Strengthen and integrate programs to monitor and prevent emerging infections associated with food/water and environmental sources 4. Strengthen and integrate programs to monitor, control, and prevent emerging vector-borne and zoonotic diseases 5. Improve surveillance and rapid laboratory identification for ensuring early detection of antimicrobial resistance
5.2 Integrated laboratory capacity and epidemiological practices in place	1. Expand epidemiologic and prevention research 2. Improve laboratory and epidemiologic techniques for the rapid identification of new pathogens and syndromes 3. Strengthen the laboratory system of district hospitals for testing microbial diseases 4. Establish accredited reference entomological laboratory including insectarium for vector control research 5. Encourage local development, use, and availability of diagnostic tests and reagents 6. Augment capabilities for vaccine production and delivery, for evaluation of vaccine efficacy and the cost effectiveness of vaccination programs
5.3 Measures for prevention of communicable diseases enhanced	1. Use diverse communication methods for delivering critical public health messages to address risk communication and community engagement, including mechanisms to manage misinformation, engagement of community counterparts in planning bodies 2. Establish mechanisms and partnerships for effective development and implementation of preventive measures on priority programs, e.g., hepatitis, typhoid, dengue, HIV/STIs 3. Make provisions for adult vaccination including booster doses for infectious diseases 4. Regularize post-validation surveys for sustaining near-elimination status of the diseases

Outputs	Priority Strategies
	- Coordinate vector control program with the local government institutions - Strengthen countrywide WASH and hygienic practices
5.4 Updated pandemic preparedness plans including strengthened Infection Prevention and Control (IPC)	- Revise pandemic preparedness plan including infectious hazard management following WHO guidelines - Implement and update One Health Strategic Framework and Action Plan - Design and implement a comprehensive infection control program at healthcare facilities - Ensure prevention of hospital associated infections including personnel hygiene - Strengthen capacity of Public Health Emergency Operation Centre (PHEOC) - Increase capacity for implementing International Health Regulations, 2005
5.5 Pandemic prone infectious diseases mapped	- Develop a country specific list of pandemic prone diseases - Develop a robust list of zoonotic pandemic prone diseases for most vulnerable areas
5.6 Capacity of infectious disease laboratories strengthened	- Strengthen IPH and NILMRC as referral laboratories - Establish divisional infectious disease laboratories and establish coordination with referral laboratories
5.7 Availability of pandemic vaccines ensured	- Strengthen research and development of vaccines, including those for pandemic diseases - Ensure allocations for vaccine campaigns and introducing new vaccines - Accelerate emergency authorization of new vaccines/vaccine products/drugs for pandemics
5.8 Strengthened coordination amongst health, environment and climate change	- Review, approve and implement the Bangladesh Health National Adaptation Plan (HNAP) - Mainstream climate change and environmental health across the MOHFW and its agencies, and oversee implementation of HNAP through inter and intra-sectoral coordination - Increase the effectiveness of Climate Change and Health Promotion Unit (CCHPU) with adequate human and financial resources
5.9 Strengthened capacity for addressing health impacts of climate change	- Develop capacity to assess the potential health impacts of future climate change and Identify adaptation options - Strengthen technical and professional capacity of health personnel at different tiers of health systems on climate change and environmental health with particular focus on identifying and responding to the impacts on most vulnerable population groups such as women and girls, children, elderlies and people with disabilities.
5.10 Improved health and climate research and innovations	- Conduct applied research for innovation in climate-resilient health infrastructure
5.11 Climate resilient health facilities established	- Establish climate resilient health-care facilities for improved human well-being and livability - Implement the Water Safety Plan (WSP) at all health facilities - Reduce carbon footprint of the facilities by way of having capacities for generation of solar power, using energy efficient lighting and procuring medical equipment that meet rigorous environmental standards

Outputs	Priority Strategies
5.12 Climate-informed health programs implemented	1. Develop heatwave and disease outbreak advisory services for city dwellers 2. Develop health sector emergency response plans for extreme weather events, including risk reduction, preparedness and response, in line with the WHO emergency response framework 3. Mainstream climate change issues in relevant OPs of MOHFW for vector borne (VBD) and water borne diseases (WBD) and nutrition. 4. Develop risk map for VBD and WBD and implement adaptation interventions in hot spot areas.
5.13 Climate-related health financing ensured	1. Ensure adequate resources to address the health impact of climate variability and climate change 2. Explore availability of resources from international climate change and health funding sources (e.g., GEF, GCF, bilateral donors) for building climate-resilient health systems and infrastructure

Non Communicable Disease and Mental Health

NCDs, notably cardiovascular diseases (stroke and heart attacks), cancers, diabetes, chronic respiratory diseases, etc., as well as mental disorders, other mental health conditions and neurological disorders, are the **leading causes of premature death and disability** globally as well as in LMICs. People suffering from NCDs in Bangladesh, in general, lack access to quality, safe, effective and affordable essential health services which is almost absent especially in rural areas. The proportional mortality (% of total deaths) from NCDs is currently contributing to about 70% of total mortality in Bangladesh, which is gradually increasing while deaths due to NCDs were only 10% several decades ago. In Bangladesh, the total number of NCD deaths in 2021 was 557,200 and the probability of premature mortality was 19% (WHO, 2022b).

To address Non-Communicable Disease (NCD) burden, the focus of the 4th HPNSP was mainly on strengthening control of risk factors, and limited early detection and management of NCDs with expansion of ESP, which could be considered moderate in scope, given the disease burden of NCDs. This approach seemed to be inadequate to address the fast growing consequences of NCDs. Slow implementation of interventions is rapidly increasing health care costs, and continued inadequate investment in actions against NCDs will have enormous health, economic, and societal consequences in all countries (Nishtar et al., 2018). Though deaths from NCDs occur mainly in adulthood, many have their origins in early life, even before conception. Following a life cycle approach with good nutrition before conception, interventions aimed at preventing NCDs during the first 1000 days (from conception to age two years), and during childhood and adolescence would be more cost effective than managing NCDs in later life with expensive tests and continuing lifelong medications (Brumana et al., 2017). *The 5th HPNSP needs to reduce NCD risks through expansion of promotive, preventive, curative and rehabilitative services and specially integrating NCD services at PHC facilities both in rural and urban areas, adopting a life cycle approach.*

Cardiovascular disease emerged as a major cause of mortality in Bangladesh. A national protocol for the management of hypertension and diabetes for PHC has been developed that includes integrated management of high blood pressure, **diabetes** and high cholesterol using a total cardiovascular risk approach. Pilots for screening and provision of drugs at community level as well as higher facilities were conducted where hypertension and diabetes control rate were found to be higher than national

average (Ahsan et al., 2022). The national protocol for **COPD and asthma** for PHC was developed and is rolling out. Some drugs are supplied to the UzHCs. The national strategy for **cancer** management and treatment is focusing on services from tertiary facilities. Hospital-based cancer registries are being developed though population-based registries are yet to be introduced. Cancer screening is lagging behind except for some cervical cancer screening although follow-up diagnosis, pre-cancer and cancer treatment is severely inadequate meaning screened women are not cared for. A comprehensive cancer screening should be initiated with data on all types of cancers and disease outcome. **Road Traffic Injury (RTI)** is a big public health threat. In addition to mortality, it causes different forms of disabilities with catastrophic health expenditures. **Drowning** is one of the most important causes of U5 mortality of children in Bangladesh. **Disability** with long-term chronic conditions also needs to be addressed, especially at the PHC facilities

There are **gaps in demand and supply of essential drugs**, especially medical and surgical requisites (MSR) while equipment and logistics are also inadequate in PHC facilities for NCD care. There is also a lack of point of care testing which is important for the elderly and chronic patients. Surveillance system for NCDs and their risk factors is weak or nonexistent. The capacity of the PHC systems to capture NCD data is weak and routine hospital-based surveillance is inadequate. ESP for NCDs require updating for all NCDs including eye care, mental health care, etc. Institutional arrangements for aging, rehabilitative and palliative care need to be developed. *It is necessary to make provisions of adequate drugs, diagnostics, logistics and devices at all facilities while strengthening secondary, tertiary and specialized facilities for NCD care, with a strong data system based on surveillance and continuum of care.*

The NCDC program developed a **Multisectoral Action Plan (MSAP)** to address modifiable behavioral risk factors under which a national coordination committee has been formed. The MSAP emphasizes engaging stakeholders outside the health sector to influence public policies on shared risk factors. Relevant agencies are expected to address safe food, food labeling and packaging and sugar sweetened beverages. Addressing **modifiable behavioral risk factors** and promoting a healthy lifestyle are critical for reducing morbidity and mortality from NCDs. Behavioral risk factors of NCDs include tobacco use, physical inactivity, unhealthy diet and harmful use of alcohol, which could be addressed through awareness raising and community mobilization. **Metabolic risk factors** (such as raised blood pressure, overweight/obesity, high blood glucose levels, and high levels of cholesterol in the blood) contribute to the increase of NCDs. Important measures that the government can take are: amendment of tobacco control law for compliance with WHO FCTC; increasing taxation on tobacco (to make tobacco less affordable); regulations to ensure disclosure of salt and sugar contents in the food packages and labels; tax on junk food and food with excessive salt and sugar; controlling the use of trans fat through enforcement of the relevant regulations and overseeing implementation of the action plan (NCDC, DGHS, 2018). *Government needs to implement strong policies to address modifiable behavioral risk factors of NCDs.*

The percentage of the **population 60 years and above** (defined by the UN as the cut-off age for the elderly) is gradually increasing in Bangladesh and currently stands at 9.2% with long-term impacts for the health sector. *The 5th HPNSP needs to introduce comprehensive geriatric care by updating ESP to emphasize facility-based routine screening, diagnostics, essential medicines, referral services and follow-up.*

Awareness raising is important for NCD control and management. The MOHFW should design and implement **mass awareness and community engagement** programs to promote a healthy lifestyle, physical exercise and self-care in the populations. **School children and adolescents** are the best target group to work for prevention of biological risk factors and promotion of healthy lifestyle as well as oral

health, eye care. School health programs can be effective in this regard. *The 5th HPNSP needs to expand school-health programs and increase awareness on harmful impacts of tobacco, trans fat, junk food and sugary diet and their adverse health outcomes, and promote physical activity, especially for the young.*

Organizational change is also required in the DGHS. *The DGHS can create a position of Director-NCDC for better governance and stewardship of NCD management.*

Additional **Investment** is needed for tackling NCDs with a focus on screening and follow up with drugs available at the community level or above. Poverty contributes to the negative impact of NCDs. The recently published Lancet Taskforce on NCDs and Economics shows a strong connection between economic growth and controlling NCDs (Nishtar et al., 2018). WHO's investment case for NCDs showed that spending an additional US\$ 0.84 per person per year in LMICs will save 7 million lives and bring an economic gain of \$230 billion by 2030. If these countries put in place the most cost-effective interventions for NCDs, by 2030, they will see a return of \$7 per person for every one dollar invested. *The 5th HPNSP needs to allocate sufficient resources for tackling NCDs.*

Text Box 1: Cancer situation in Bangladesh

The extent of prevalence or incidence of cancer in Bangladesh is difficult to understand. While the Globocan estimates that prevalence was 270,866 (5-year period), practitioners suggest there could be more than 14 to 15 lakh cancer patients in the country and around two lakh new patients are diagnosed with cancer every year. Among them 50 to 60,000 receive treatment while others remain outside of the healthcare system. Half of those receiving treatments die primarily because of the delay in diagnosing and treating the illness (Tajmim, T. 2020). Mortality rate from cancer is 3.8% (DGHS, 2020). Among the new cases for both sexes, Oesophagus, in 2020, accounted for 21,745 (13.9%), lip, oral cavity for 8.9% (13,985), breast 8.3% (13,028), lung 8.3% (12,999), cervix uteri 5.3% (8,268) and other cancers 55.3% (86,750). Cancer affects elderly disproportionately (EIU, 2020) and some cancers can be prevented or cured through early detection. The WHO has adopted strategy for elimination of cervical cancer by 2030 (WHO, 2023a) combined of HPV vaccination (for adolescents and young adults), screening and treatment.

Facilities: Cancer treatment facilities are extremely inadequate in Bangladesh. Out of 36 government medical college hospitals, only 14 have oncology departments which are also understaffed and under-equipped (Chandan, 2021). Radiotherapy machines are essential for treatment and there are only 40 such machines, though by WHO standard there should be 170. Most of the machines remain out of the order most of the time. The National Institute of Cancer Research Hospital (NICRH) does not have any cardiology, hepatology, nephrology, or even palliative care departments. Bangladesh also lags behind in cancer diagnosis and tests. Due to absence of physicians and facilities there is a tendency to seek care from abroad, especially neighboring countries.

Human Resources: National HR capacity of Bangladesh is very low for treatment of cancer. Medical Oncology as a discipline have been neglected for long. There are only four seats to study oncology in the country's medical education system. Medical oncologists should provide chemotherapy, but in Bangladesh, both radiotherapy and chemotherapy are provided by radiologists. There are around 30 surgical oncologists in the entire country as against a minimum requirement of 400 oncologists (Tajmim, 2020). Medical oncology, as an academic discipline, remained neglected in higher seats of education. There is no surgical oncology department in the medical colleges, which the NICRH introduced only recently. Actually, cancer treatment requires a multi-disciplinary workforce to provide comprehensive care to individuals with cancer, such as oncologists, radiation oncologists; surgical oncologists; medical oncologists; pathologists, radiologists etc. as well as palliative care specialists and oncology nurses. Caregivers are also necessary.

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Cancer registries: Data gap is a serious concern. Cancer registries play an important role in cancer control, as they provide essential information for planning and implementing effective prevention and treatment strategies (Alam, 2012). The data collected in cancer registries include information on patient demographics, cancer site and type, stage of disease at diagnosis, treatment modalities, and outcomes. In many countries, cancer registries are mandated by law, and healthcare providers are required to report all new cases of cancer to the registry. The efforts of Bangladesh are patchy and there should be actions for building robust cancer registry.

Public health approach: The public health approach i.e., prevention, early detection, and treatment need to be prioritized for managing cancer. The citizens should be made aware about cancer risk factors, the importance of healthy behaviors (such as regular exercise and a healthy diet), and the benefits of cancer screening in order to prevent cancer. Some common cancers (breast, cervical, and colorectal) could be identified early through screening. Anti-tobacco laws and regulations can reduce exposure to cancer-causing agents.

Next steps: Cancer affects patient, families and inevitably results in catastrophic expenditure, which the poor are unable to bear, but it also leaves them devastated in the end. It is necessary to make cancer care affordable, accessible, and equitable for all populations. A systematic and organized approach be best implemented via the framework of well-planned universal health coverage. The EIU suggests to use innovative and blended finance solutions to complement domestic funding in low-resource settings (EIU, 2020). Countries must increase domestic spending using taxation, while leveraging alternative supplementary finance systems, if available.

Mental Health

Mental health (MH) disorder affects one's family and community. Treatment of mental disorders is hampered due to widespread social stigma, lack of awareness, and above all, due to lack of trained providers and facilities. Accordingly, a large unmet need remains which compounds the effects of disease on the patients suffering from mental disorders. Based on the criteria of high burden (in terms of mortality, morbidity and disability) and large economic costs or association with violations of human rights, the WHO identifies the following as priority conditions of MH in Bangladesh: depression, psychoses, mental and behavioral disorders in children and adolescents, disorders due to substance use, self-harm/suicide, epilepsy and dementia (NMIH et al., 2022).

Mental illnesses are one of the top ten priority health concerns in Bangladesh. According to the recent National Mental Health Survey 2019, about 17% of the adult population suffers from mental illness. Mental disorders among the adult population are higher among women (18.9%) than men (15%). The rural population (17.4%) suffers more from mental illnesses compared to their urban counterparts (16.7%) (NIMH, 2021).

Laws have been enacted and policy documents have been developed as shown in Table 7 to prioritize MH issues. Different care initiatives were implemented during the 4th HPNSP. IEC and BCC materials were developed. To address suicide prevention, awareness programs targeting different groups were conducted. Doctors and nurses from district and upazila hospitals were provided orientation and

Table 7: Policy documents and legal instruments on MH

Bangladesh National Mental Health Act, 2018
National Neurodevelopmental Disability Protection Trust Act, 2013
Protection of the Rights of the Persons with Disabilities Act, 2013
National Strategic Plan for Neurodevelopmental Disorder 2016-2021
National Adolescent Health Strategy 2017-2030
National Mental Health Strategic Plan 2020-2030

training. A special initiative for MH has started in four districts. Telemedicine services were launched to connect peripheral district hospitals with the national institute of mental health (NIMH). However, in terms of program implementation, much is yet to be done. *Leadership and governance of mental health professionals needs to be strengthened to improve mental health support to patients.*

Limited human resource capacity poses serious obstacles in addressing MH conditions in Bangladesh. There is a critical shortage of trained personnel and specialists in the country. There is less than one psychiatrist for every 700,000 people. Therefore, relying solely on specialists to provide services for people would not be effective and prevents millions of people from accessing the services they need. There is an urgent need to be innovative and create the ability to serve more people, especially in LMICs. Such innovation could include expanding care by increasing the ability of every healthcare worker to become a MH worker as mhGAP suggests, by appropriate training for all healthcare professionals to diagnose and treat MH issues, at least to some degree (NMIH et al., 2022). Similarly, trained school teachers and even laypersons can provide some mental health support or basic psychological interventions. However, it must be recognized that MH **requires a wide range of professionals** such as, psychiatrists or trained medical doctors to diagnose and treat mental health conditions; psychologists to provide psychotherapy or talking therapy; psychiatric nurses in facilities, counselors to provide talk therapy and other forms of counseling to help individuals address their MH challenges. Social workers also support MH patients in advanced countries. *A balanced workforce for mental health should be developed to ensure that people with mental health conditions receive the care and support they need to lead fulfilling lives.*

MH care is almost non-existent at **PHC facilities** and needs to be introduced in these facilities with provisions of screening, identification and counselling of priority mental health conditions (IRT, 2020). Training on early detection and management of mental health in UzHCs and union facilities would be pivotal. Autism and child development corners should be established at UzHCs, district hospitals and medical college hospitals, the MTR 2020 suggested. There is availability of some MH care in tertiary hospitals. All facilities need to provide services to MH patients according to their competence. A MH Unit could be established at district hospitals. *The 5th HPNSP should integrate mental health with provisions of screening, identification and counselling of priority mental health conditions at the PHC facilities as well as strengthening district hospitals or above.*

Suicide is a serious mental health concern and one of the leading causes of premature death though most suicides are preventable. Suicide is the second leading cause of death for people aged between 15 to 24 years worldwide. Suicide mortality rates in Bangladesh have registered almost a 3% annual increase and reached from 3.4 per 100,000 in 2016 to 3.7 in 2019 (Macrotrends, 2023). Young people are in great risk of self-harm. Suicidal behaviors were more common in females in urban areas. A survey found that 4.7% of population in the country had suicidal thoughts, and 1.5% had suicidal plans and attempted suicide at least once. The mean age of first attempted suicide was 17 years (NCD, DGHS et al., 2021). The 5th HPNSP needs to *develop and implement mental health support programs for prevention of suicide.*

To improve mental health conditions at the community level **awareness programs** would be effective specially for younger people who are more affected by MH (NIPORT et al., 2021). There should be more emphasis on prevention, protection, and promotion of MH rather than on treatment with guidance for self-care and for helping others. Nonclinical interventions could be more useful than the standard clinical ones for those who are not likely to visit a provider. The use of digital platforms, especially social media could be effective for young population including telephone helplines assuring anonymity of clients. MH support at educational institutions should also be introduced in an

environment that does not stigmatize (Enomoto, 2022). *The 5th HPNSP can initiate awareness programs at the community level to improve mental health conditions.*

Strategic Objective 6 (Expand and improve NCD including mental health services while ensuring equitable access for the vulnerable) addresses NCDs and MH issues.

The 5th HPNSP will be responsive towards the changing epidemiological transition towards NCDs and MH issues. NCD risks will be reduced through expansion of promotive, preventive, curative and rehabilitative services. Comprehensive geriatric care will be introduced and MH services will be strengthened at all tiers of facilities. Extensive efforts will be taken for awareness raising on life-style choices and food habits, etc. Major outputs and priority strategies are described in the table below.

Table 8: Non-communicable diseases and mental health - outputs and priority strategies

Outputs	Priority Strategies
6.1 NCD risks reduced through expansion of promotive, preventive, curative and rehabilitative services	1. Integrate and expand screening, diagnosis and management of NCD services at PHC facilities, adopting a life cycle approach 2. Provide adequate NCD drugs, diagnostic, logistics and assistive devices at all facilities 3. Strengthen secondary, tertiary and specialized institutes for NCD care, including palliative care and rehabilitation of disabled persons 4. Develop a comprehensive NCD surveillance system with special emphasis on national, population-based and hospital-based cancer registries 5. Create a position of Director-NCDC under DGHS for better governance and stewardship 6. Make NCD drugs available at lower price to targeted poorer sections of society at designated pharmacies 7. Increase awareness on harmful impacts of tobacco, trans fat, junk food and sugary diet 8. Design and implement mass awareness and community engagement programs to promote healthy lifestyle, physical exercise and self-care 9. Strengthen information system for NCDs and mental health to enable monitoring of patients 10. Strengthen capacity of PHC health workforce on preliminary diagnosis and detection of major NCDs
6.2 Comprehensive geriatric care introduced	1. Update ESP to emphasize facility-based routine screening, diagnostics, essential medicines and referral services for the aging population 2. Establish palliative care units for the aging population at secondary and tertiary hospitals and specialized institutes 3. Include geriatric care services in all emergency preparedness plans and guidelines for ensuring regular and longer-term care during emergencies
6.3 Mental health services strengthened at all tiers of facilities	1. Strengthen effective leadership and governance for mental health professionals and services 2. Upgrade existing mental health care service facilities and training centers 3. Establish mental health unit at district hospitals 4. Introduce training and orientation for HR on early detection and management of mental health in UzHC and union facilities, including psychosocial support training 5. Integrate mental health with provisions of screening, identification and counselling of priority mental health conditions at the PHC facilities 6. Develop and implement program for suicide prevention 7. Initiate awareness programs at the community level to improve mental health conditions and link these with the school health programs, little doctor programs and other similar programs for adolescent and youths 8. Strengthen information systems, evidence and research for mental health

Outputs	Priority Strategies
	9. Establish autism and child development centers and implement programs on autism and child development 10. Develop social support system for NDD affected parents and families in collaboration with other relevant ministries (e.g. Ministry of Social Welfare)
6.4 Modified lifestyles through policy measures	1. Amend Tobacco control law for compliance with WHO FCTC 2. Negotiate with NBR to further increase Tobacco taxation 3. Update regulations to ensure labelling of salt and sugar contents in the food packages 4. Negotiate with NBR for introduction of tax on junk food and food with excessive salt and sugar 5. Support the implementation of the TFA regulation to control the use of trans fat
6.5 Enhanced health sector response to GBV	1. Strengthen facilities to provide better care to the victims of GBV, especially sexual GBV through provision of medical, medicolegal and psychosocial services at MCHs and DHs 2. Strengthen multisectoral referral services for GBV survivors upon provision of the appropriate health related GBV services 3. Develop a national strategy for health sector response to GBV and a Standard Operating Procedure (SOP) on medico-legal services for the doctors to provide SGBV services

Secondary, Tertiary and Specialized Care Facilities

Secondary, tertiary and specialized care facilities (STSCF) are supposed to serve referred patients, whose conditions could not be treated at the primary level. Lack of a functioning referral system across the various tiers of the health system is repeatedly quoted as a challenge for facilities (IRT, 2020). The care seeking behavior of patients coupled with the absence of a functional referral system creates undue pressure on STSCF and eventually compromises the care provided from these facilities.

Bangladesh has 0.8 hospital beds per 1,000 populations (Abdullah, 2020) which is far lower than the minimum three recommended by the WHO. Public sector **secondary and tertiary care hospitals** across the country are utilized beyond their capacity which is evident from hospital bed occupancy rates (BOR). In 2022, the BOR was 137% on average, with higher average BOR of 147% in secondary level hospitals (DGHS, 2023b). Overcrowding of patients in the inpatient department (IPD) affect services provided, diagnostic tests and availability of drugs. Consequently, patients have to buy drugs from outside or resort to private diagnostic centers for tests. The outpatient departments (OPD) of district hospitals are similarly over-burdened, mostly with patients whose illness could have been treated at lower levels of the health system. Doctors, thus, allocate very little time to patients compromising clinical assessment and diagnosis which leads to poor quality of care.

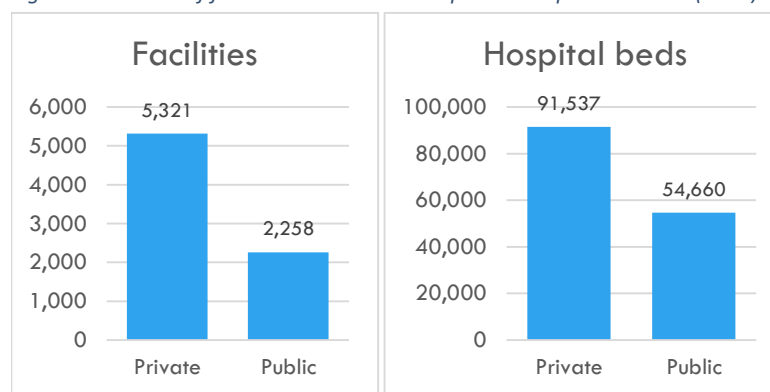
District hospitals are not properly equipped to provide quality services. Studies found a lack of **facility readiness** as only 66% of District Hospitals (DH) have a full set of six basic pieces of equipment (adult scale, infant/child scale, blood pressure cuff, stethoscope, thermometer, light source for examination). The availability of infection control measures or any one from the list of 14 WHO-recommended essential medicines vary considerably across DHs. Laboratory diagnostic capacity is particularly low in DHs for NCD-related tests. More specifically, only 29% of DHs can conduct a blood glucose test for diabetes and only 40% can conduct a liver or renal function test (NIPOORT et al., 2020b). Moreover, on average, 24% of district hospitals face stockout of essential medicines. Geriatric and palliative care services are not available in the DHs. Management of IPD or OPD at facilities is hampered due to **infrastructural limitations**. Defined service provisions/standards should be mapped to architectural or building design. Hospitals at different levels should have physical infrastructure

based on services they provide and other requirements. *The 5th HPNSP needs to ensure availability of drugs, commodities, equipment and required physical facilities in the hospitals.*

The MOHFW has developed the Bangladesh National Healthcare Quality Strategy (2021-2030) for quality improvement, which highlights minimum standards for hospitals encompassing areas across general management, patients' rights, service delivery standards across a continuum of care and support service standards. **Quality Management** is crucial to integrate different quality improvement (QI) practices at national, divisional and district level facilities across public and private sectors. *The 5th HPNSP needs to strengthen quality management systems at all facilities whether public or private.*

The private sector plays a dominant role in providing healthcare, outnumbering public facilities both in terms of number of facilities and beds. However, private sector facilities are mostly concentrated at the tertiary and secondary level providing specialized healthcare services. Non-governmental organizations (NGO) as well as charitable organizations are also active in health service

Figure 8: Number of facilities and beds in the public and private sector (2018)



Source: Health Bulletin, 2019

delivery. Private sector facilities need to be regulated by the MOHFW and actions are required for improvement of their service quality. The Medical Practice and Private Clinics and Laboratories (Regulation) Ordinance, 1982 was enacted with a view to regulate medical practice, private clinics and laboratories. The DGHS performs **regulatory functions in respect of private healthcare facilities**. The DGHS is responsible for licensing the private sector healthcare facilities. Till 30th October 2022, 13,309 Private Facilities (Hospitals/Private Clinics, Blood banks and Diagnostic Centers) have been licensed (www.dghs.gov.bd). Huge expansion of private sector facilities has made management very difficult for the DGHS. Initiation of an online registration system since 2018 has streamlined the process of registration but not inspection. DGHS does not have any system for licensing of non-profit facilities. The law needs revision to reflect the current situation. *The current law for the registration of private sector hospitals and clinics should be reviewed and updated.*

The **accreditation** of healthcare facilities is used worldwide to ensure quality practices. Accreditation is voluntary and an organization is required to administer it. Accreditation comes with some benefits for the facilities. Government can impose conditions based on accreditation, for example, for bidding when government starts strategic purchasing. All public, private for-profit and non-profit service delivery facilities could be encouraged to participate in an accreditation process. The MOHFW is considering introducing an accreditation system. *Approval of the draft Healthcare Institutions Accreditation Act for reforming the licensing systems needs to be expedited.*

Major challenges at the secondary and tertiary care hospitals include **lack of maintenance** or unavailability of appropriate technical staff to maintain all equipment at health facilities. *Routine maintenance of all medical equipment at public facilities needs to be ensured through strengthening capacity of existing MOHFW organizations like the NEMEMW&TC along with recruitment of biomedical/electro-medical engineers and technicians.*

A holistic approach should be adopted for upgraded health facilities (DH and MCH). Often, facilities are upgraded by increasing the number of beds but without the provision of additional HR and MSR supplies and diet in a single plan, which deprive the service recipients of appropriate care. *The 5th HPNSP needs to ensure additional provision of HR, MSR and other resources in upgraded facilities.*

Inadequate human resources at secondary and tertiary level are the key impediments to delivering quality services across the health system. High turnover and absenteeism of health workers also compromise the ability of facilities to provide desired services. *Vacant positions in all secondary, tertiary and specialized facilities need to be filled on a priority basis.*

The absence of a **functional referral system** together with an absence of effective primary healthcare structures in urban areas creates pressures on OPD of STSC facilities. In addition to inpatient load, secondary hospitals have to manage an average of 1,000 patients and tertiary hospitals almost 3,000 to 5,000 patients per day. As a result, specialists spend more work hours providing limited preventive and curative care at OPD and contribute less for specialist care at IPD as well as for any OT services. This duality is translating to high BOR and lower discharge rates as most of the indoor patients have to wait for their turn for receiving services. *The 5th HPNSP needs to establish a functional referral system.*

Competency based **training and supportive supervision** need to be introduced on the topics of clinical management of priority conditions across the continuum of care. Training should be provided to the hospital workforce on respectful communication with female clients, gender sensitization, gender based violence (GBV), and workplace harassment. The hospital workforce needs to be trained on **patient and community safety**. It is also important to ensure the **safety of the health workforce at the workplace** through community sensitization and awareness programs, and strengthen implementation of occupational health programs for health workers at all healthcare facilities. *The 5th HPNSP needs to ensure patients' and healthcare providers' safety through appropriate training programs as well as improve communication with clients based on gender sensitization.*

Text Box 2: Emergency ambulance services

Emergency ambulance services provide rapid response for the patients in need of a transport during a medical emergency. Pregnant mothers, and other critical patients, often expire while waiting for a suitable transport to move to a facility for treatment of complications. Immediate transportation of critical patients to appropriate facilities results in saving lives. The SIP suggests introducing a pilot for an emergency ambulance service, initially at CCs, UHFWCs and UzHCs through private sector or NGOs adopting strategic purchasing.

The SIP also proposes structured referral model starting from CCs, union facilities, to upazila health complexes or district facilities and in case of emergencies such facilities need to have access to emergency transports. The services could eventually be beneficial to those facing emergencies resulting from heart attack, stroke, traumatic injury, or other serious medical conditions.

The emergency ambulance service must meet certain standards for use. Though nominal ambulance services are available in the hospitals, those are not accessible to all or often found to be not in operation due to various reasons. In Bangladesh, an ambulance in private sector often means a converted or retrofitted vehicle (microbus of various sizes) with a stretcher and oxygen cylinder only. An emergency ambulance must be equipped with medical equipment and essential life-saving medicines, stretchers, oxygen tanks, defibrillators, and other emergency medical equipment and above all, those must be staffed by trained medical professionals (paramedics, nurse etc.).

Such services will need to maintain communication with facilities on a continuous basis. The emergency ambulance service could be based on an app. The details of implementation could be sorted out during pilot implementation.

There is a need to **allocate resources** from operating budgets for clinical care services based on disease patterns, BOR, outdoor patient turnout and disease burden by geographical area as opposed to static and incremental budgeting based on number of facility beds, patient load in the OPD. *The 5th HPNSP should negotiate with the Finance Division for allocation of budget on the basis of patient turnout, disease burden of the geographical area where the facilities are located or on the basis of actual needs.*

Medical Waste Management

While most of the waste generated by healthcare facilities (HF) is similar to ordinary municipal waste, around 15–25 percent of such waste is hazardous and can be infectious, toxic or radioactive (WHO, 2023b). Disposal of such waste requires treatment and management. Infectious and hazardous medical waste (MW) pose serious threats to human health. Inefficient management of MW also results in pollution of environment through greenhouse gas emissions (carbon-di-oxide and methane).

Medical Waste (Management and Processing) Rules 2008 issued by the Department of Environment applies for disposal of MW. **DGHS has taken initiatives** to better manage MW. A project on establishment of Medical Waste Management (MWM) in 15 government hospitals with treatment facilities is being implemented. A previous project, addressed MWM for 10 District and 10 Medical College Hospitals. DGHS has provided training to 15,480 healthcare providers in 129 UzHCs. Autoclaves were provided to 430 UzHCs for infectious waste management. However, those are practically not in operation. HED and PWD has designed a 4-chambered medical waste pit for UzHCs. DGHS also monitors and provides **technical support to the private hospitals and clinics for MWM**. DGHS has concluded agreements with local government institutions (LGI) for out-house management of medical waste in 41 tertiary and secondary level hospitals, of which 23 are in Dhaka city. *The 5th HPNSP needs to strengthen and expand the MWM following environmental regulations of the country.*

An ever-increasing number of hospitals, clinics, and diagnostic laboratories in Dhaka City and other parts of the country are generating MW. It is estimated that HFs in Dhaka generate around 56 tons of waste per day, of which around 12 are hazardous (Planning Commission, 2020). MWs are mostly managed in the facilities and apart from Dhaka and few other cities, there is no proper and systematic in-house and out-house MWM in the country. Individual HFs are responsible for **in-house MWM** while LGIs are responsible for **out-house MWM** (collection, transportation and final disposal) at the district level. NGOs manage MW in some districts. In Upazila level and below, HFs are responsible for both in-house and out-house MWM. Apart from Dhaka and few cities, there is no proper and **systematic in-house and out-house medical waste management** in the country. Liquid wastes are usually discharged into the sewerage system or into the environment without pre-treatment, which pollutes the soil and environment. Different kinds of wastes are segregated at in-house level, but generally mixed again when transported for out-house management. *Systematic in-house and out-house medical waste management needs to be developed all over the country involving both NGOs and private sector facilities.*

Because of the large number of facilities, **greater amount of waste is generated in the private sector**. But, there is a **lack of proper data** on MWM from private hospitals. Documentation at all stages, for monitoring, supervision and coordination of MWM, is required along with tools for online reporting at DHIS2 with real-time data visualization. *The 5th HPNSP needs to highlight manual registries as well as online tools on MWM.*

Policy on MWM should be based on the conceptual **models of the waste hierarchy and the circular economy¹ aimed at reduction of waste**. The choice of treatment systems depends on local conditions with consideration of available resources, technical expertise, relevant national regulations and requirements, waste characteristics and volume, technical requirements of the treatment system. A modern central waste management plant is a suitable option which can cater to the needs of numerous HFs. *The 5th HPNSP should examine the feasibility of establishing a central waste treatment plan for use by a cluster of public HFs in a greater geographical area.*

Inappropriate waste management is a matter of public health concern. *There is also a need to create awareness for both health workers and the general public on hazards associated with MWM.*

Strategic Objective 7 (Improve readiness of secondary, tertiary and specialized care facilities including management of medical waste) addresses issues relating to STSC facilities together with medical waste management.

Improving the quality and efficiency of health services across different levels of hospital facilities will be a priority in the 5th HPNSP. This will include the secondary and tertiary level facilities and specialized institutions. It will also include developing agreed and cost-effective protocols for treating diseases, setting up standards, and measures for infection control. An appropriate medical waste management system will be established at these facilities for ensuring health and environmental safety. Priority strategies and outputs for this strategic objective are shown in the table below.

Table 9: Secondary, tertiary and specialized facilities and medical waste management - outputs and priority strategies

Outputs	Priority Strategies
7.1 Quality Management systems strengthened	1. Integrate different QI practices at national, divisional and district level facilities under one Quality Improvement Structure, with authority for governance and accountability including accreditation systems across public and private sectors 2. Expedite approval of the draft <i>Healthcare Institutions Accreditation Act</i> for establishing service standards in the health facilities 3. Enhance allocation from operating budgets for clinical care services based on disease pattern, bed occupancy rate, outdoor patient turnout
7.2 Availability and quality of care improved	1. Define clinical service delivery facility structures and standards for secondary and Tertiary Levels by setting uniform standards across the country for UzHCs, DHs and MCHs together with bed capacity, required HR, diagnostics and equipment's compatible to the agreed standards 2. Ensure routine maintenance of all medical equipment at public facilities through strengthening capacity of NEMEMW & TC and posting biomedical/ electro-medical engineers and technicians at district facilities and above. 3. Introduce structured death audit as a tool to improve patient management effectiveness with actions to resolve the problems identified 4. Improve service readiness of hospitals by ensuring availability of drugs, commodities, equipment, and other required physical facilities 5. Strengthen the emergency management system of secondary and tertiary health facilities through appropriate equipment and resources 6. Fill vacant positions in all secondary, tertiary and specialized facilities 7. Introduce triage system in all hospitals for reducing overutilization of inpatient services

¹ A 'circular economy' model employs not only waste management, but reuse, recycling. Responsible manufacture could support the development of new industries and jobs, reducing emissions and increasing efficient use of natural resources (including energy, water and materials) (CSRIO, 2023).

Outputs	Priority Strategies
	- Introduce competency based training and supportive supervision on the topics of clinical management of priority conditions across the continuum of care - Build capacity among Private and public health providers on the QoC standards and instruct them to comply with the standards - Strengthen the Baby Friendly Hospital initiative, maternal and newborn service accreditation, geriatric and palliative care services - Train the hospital workforce on respectful communication with female clients, gender sensitization, GBV, workplace harassment, etc.
7.3 Regulatory mechanism improved	Review the existing private sector regulations and Update the Medical Practice Private Clinics and Laboratories (Regulation) Ordinance, 1982
7.4 Patient and healthcare provider's safety ensured	- Train hospital workforce on patient and community safety - Ensure the safety of health workforce at the workplace through community sensitization and awareness programs - Strengthen implementation of occupational health programs for health workers at all healthcare facilities
7.5 Medical waste management policies and rules implemented	- Develop a plan for phase-wise implementation of MWM both in public and private sectors - Ensure implementation of the Medical Waste (Management and Processing) Rules 2008 for both public and private sectors health facilities - Create appropriate institutional framework to facilitate implementation of MWM on a sustainable basis
7.6 Medical waste management system implemented	- Follow the environmental protocols to manage infected and sharp waste within the health facilities - Establish modern central waste management plant(s) at a suitable location at district level for all public health facilities - Ensure liquid waste treatment (e.g., ETP) for all large hospitals - Establish an interim disposal site for non-hazardous waste where there is no public disposal site following relevant environmental protocols - Design the future health facilities with segregation of hazardous/infectious liquid waste at source - Contract out disposal of out-house medical waste
7.7 Strengthened awareness on MWM	- Build awareness and capacity of healthcare providers on MWM - Build community awareness about the danger of improper MWM
7.8 Enhanced monitoring, supervision and coordination for MWM	- Maintain manual registers and record books for all stages of MWM activity - Develop digital monitoring mechanism for MWM (generation and disposal) - Create tools for online reporting MWM activities at DHIS2 with real-time data visualization

Chapter 6: COMPONENT B – Systems Strengthening

Sector Management and Governance

The health system is comprised of six building blocks, one of which is leadership and governance. This is vested in the ministry responsible for the country's health. Health issues encompass various ministries and as it also involves all actors in the health domain, one of the key responsibilities of the health ministry is to create an environment for all the actors to perform effectively for improved health. Governance in the health sector needs to ensure that the MOHFW itself and all other actors function in an efficient manner in an environment conducive to the attainment of better health.

During the 4th HPNSP, major as well as minor reorganizations have taken place. The areas of **reorganization and their implications** are enumerated below:

- a) The MOHFW was divided into two divisions, namely Health Services Division (HSD) and Medical Education and Family Welfare Division (MEFWD) in 2017. Broadly, health service delivery through tertiary, secondary and primary level was assigned to the HSD, while medical education and family planning to MEFWD. Structurally, the divisions are autonomous with separate budget lines and effective control over ministerial functions including management of their own human resources. The MEFWD is dependent on HSD for filling up positions in medical colleges. *Such organizational issues should be sorted out for proper functioning of both the divisions of the MOHFW.*
- b) This reorganization was followed by the creation of a new attached department namely, Directorate General of Medical Education (DGME) in 2019 by dividing the DGHS. However, some issues have arisen after its creation, which are discussed at page 57.
- c) There have been issues with OPs as well. Out of 31 OPs, HSD is responsible for 21, while the MEFWD for 10. Some OPs, by legacy, had activities under both divisions. The MEFWD reported implementation issues as the leadership remained with HSD. The MTR 2020 observing the situation, recommended *separate OPs on IFM, HRD, PFD for both divisions in the 5th HPNSP* (IRT, 2020).
- d) Another major reorganization has been the placement of community clinics under a Trust (Community Clinic Healthcare Trust). The CC started as a project and was under an OP of DGHS in the 4th SWAp. It is structurally autonomous and has a separate budget line, and human resources. But the technical supervision of the CCs needs to be performed by the UzHC officials of DGHS for proper functioning of the CCs. The Trust has no source of income and would need government resources to provide healthcare services including medicines. *The Trust should have access to government funds for service delivery by Community Clinics.*
- e) During the 4th HPNSP, new positions of LDs were created for each OP in the DGHS. This is unique as there is no such arrangements in other organizations (DGFP, DGDA, etc.). Till 3rd SWAp, the Directors of DGHS were responsible for OPs within their jurisdictions. The current arrangement of LDs has not been working properly. During stakeholder consultations, arguments for reverting back to the old system were strongly raised. *In other words, the incumbent Directors should be appointed as the LD of the DGHS OPs of the 5th HPNSP.*

HSD is responsible for the National Health Policy, National Nutrition Policy and Drug Policy while the MEFWD for Population Policy. These policies led to the creation of **Councils** headed by the Hon'ble Prime Minister and also **Executive Committees** (EC) headed by the Hon'ble Minister for Health and Family Welfare. Meetings of these committees are not held regularly. *The HSD and MEFWD may take steps for holding regular meetings of Councils or at least that of the ECs on a regular basis.*

While addressing the governance issues, the SIP, among others, identified inadequacies of proper regulatory instruments. Some are outdated and are unable to fulfill the requirements of the current time. New instruments are required for meeting current challenges. The following issues should be considered:

- a) **Registration of private healthcare facilities:** The Medical Practice and Private Clinics and Laboratories (Regulation) Ordinance, 1982 (MPPCLO), was enacted to regulate medical practice, private clinics and laboratories. The DGHS provides licenses to health facilities under this ordinance. There is lack of clarity in respect of licensing of non-profit health facilities. No rules have been framed under it and a rule for licensing could be examined. This ordinance should be reviewed fully to make it consistent with the demands of the current time.
- b) **Data from private facilities:** The DGHS should be empowered to collect health data from private sector facilities through appropriate legal instrument such as by enacting a rule under MPPCLO.
- c) **Law for private IHT/MATS:** Though an act has been enacted to regulate the establishment and operation of private medical colleges, there is no law for private IHT/MATS. A law could be formulated to regulate the establishment and operation of IHT and MATS in the private sector.
- d) **Legal instrument for disciplines not covered by current laws:** Adequacy of existing legal instruments for facilities and all kind of health providers should be examined and appropriate legal instruments should be enacted to regulate such providers (e.g., for physiotherapist).
- e) **Promotion of pharmaceutical products:** It is recognized that there is a need to provide information on drugs to the prescribers, but the pharmaceutical companies resort to aggressive marketing to promote drugs, the cost of which is absorbed in the price of drugs affecting the patients adversely. Appropriate legislations are required to address this issue.
- f) **Antimicrobial Resistance.** Indiscriminate sale of antimicrobials without prescription is a major cause of AMR and therefore, it should be made a punishable offense under law.
- g) **Digital Health:** Enacting a law for digital health encompassing privacy, confidentiality and security of sensitive health data of citizens along with provision of interoperability and data sharing should be considered.
- h) **Accreditation of facilities:** An act for accreditation of medical colleges have been issued and one for facilities is under process. This law should be expedited.
- i) **Tobacco control:** In addressing modifiable risk factors to control NCDs, regulatory instruments should be reviewed. The tobacco companies continue to aggressively market their products and find ways of evading regulatory mechanisms. Amendment of tobacco control law is recommended to make it fully compatible with WHO FCTC and also to incorporate international best practices on tobacco control.

This list is not comprehensive and there could be other areas or issues, requiring further examination.

There are more than twenty Ministries that have activities related to health. Strong **Inter-Ministerial Coordination** is required for bringing synergies and ensuring complementarity in relation to work performed by all the ministries. Local government institutions (LGI) under the Local Government Division are responsible for PHC in urban areas and need a coordination mechanism with the MOHFW. Many other ministries or their agencies are also active in the health domain and active engagement with them could lead to better coordination in health related activities, especially UHC. *Coordination may also have become an important issue for HSD and MEFWD divisions as well as the DGHS and the DGFP at HQ level or at the district level or below.*

The SWApS included **forums for dialogue between the GOB and DPs** like the HNP Sector Coordination Forum, various Task Groups (TGs), TA Committee (TAC), Annual Program Review Steering Committee (APR-SC), DLI Monitoring Committee, etc. Besides, the Local Consultative Group (LCG) on Health acts as the key interactive and coordinating body between the GOB and the DPs on issues relating to HNP sector development.

The Planning Wing of HSD acts as the focal point for the monitoring and evaluation (M&E) of the sector program. The **M&E activities** of the 4th HPNSP are managed through three OPs, the Sector-Wide Program Monitoring and Management (SWPMM) of HSD; Planning, Monitoring and Research (PMR) of DGHS; and Planning, Monitoring and Evaluation (PME) of DGFP. The Program Management and Monitoring Unit (PMMU) was established for proper and continuous monitoring of the 3rd SWAp with a DP supported TA team. The role of the PMMU in supporting the Planning Wing was highly praised by the MTR of the 3rd SWAp, and as per the MTR recommendation, the PMMU has been continuing during the 4th HPNSP. The PMMU prepares the Annual Program Implementation Reports (APIR), Six Monthly Progress Reports (SmPR) regularly and also assists in conducting Annual Program Reviews (APR) and Mid Term Reviews (MTR). The PMMU provides orientation training to OP personnel (LDs, PMs, DPMs) on SWAp mechanisms, planning and budgeting procedures, OP monitoring mechanisms, etc. *Continuation of PMMU during the 5th HPNSP with additional GOB staffing as well as external TA team would be necessary for effective monitoring of such a mega program.*

There remain disparities, such as literacy rate, employment gaps, among men and women leading to inequalities in health and socio- economic wellbeing across their lifecycle. Bangladesh has one of the highest rates of domestic violence in the world, an estimated 50% of women aged between 15 and 49 in Bangladesh experience physical or sexual violence by their partners during their lifetime (WHO, 2021). Woman's access to and utilization of maternal healthcare services differ depending on existing gender inequality within the household (Ahmed et al., 2021). Due to social and cultural norms, women are often reluctant to visit male doctors (Bhattacharyya et al., 2000). Inadequate number of female physicians in public sector combined with their retention in rural areas is a major concern for the health systems in Bangladesh. Transgender population in Bangladesh also have limited access to healthcare facilities and facing multiple barriers in accessing healthcare.

MOHFW adopted multiple initiatives to ensure gender responsive planning and program implementation. The Woman-Friendly Hospital Initiatives (WFHI) were introduced for providing dedicated spaces including waiting room, breastfeeding corners, toilet, privacy etc. to women which however, suffered due to scarcity of space, women service providers and skill-mix imbalance. The process of awarding the planned district hospitals with WFH accreditation should be continued with DP or GOB funding. The 4th HPNSP recognized **gender equity, voice and accountability (GEVA)** as key areas but faced challenges to fully integrate GEVA issues in the program. Absence of oversight and inadequate budgetary allocation in the OPs as well as a lack of comprehensive data made it difficult to integrate and monitor gender equity, social inclusion, voice and accountability.

Gender issues need to be considered at all stages of planning, design, budgeting, program implementation and monitoring of the 5th HPNSP. A multi-sectoral response to gender-based violence and gender issues should be prioritized in collaboration with particularly the Ministries of Women and Children Affairs and Social Welfare. The 5th HPNSP needs to respond to the needs and priorities of women and girls; prevent and respond to gender violence including prevention of child marriage and early pregnancy through strengthening health systems and coordinating with other stakeholders. It is necessary to include activities related to GEVA issues in relevant OPs of MOHFW for ensuring gender equality. *Implementing the Gender Equity Strategy (2014) and coordinating the gender-responsive program implementation across the OPs should be a priority. The 5th HPNSP also needs to emphasize on systematic collection and analysis of gender and socio-economically disaggregated data.*

Structures or arrangements for citizen's participation in oversight of health service delivery is weak or absent. A credible framework for hearing citizen's voices and strengthening citizens' engagement including a **grievance redressal mechanism** could be established. *The 5th HPNSP needs to mainstream GEVA issues in the OPs with clear policy direction, budgetary allocation and governance structures.*

Public and local government representatives and other stakeholders are engaged with the health system at the local level through committees like Sadar/General Hospital Management Committee and District Health Management Committee at the district level; and Upazila Hospital Management Committee and Upazila Health Management Committee at upazila level. *Monthly meetings of district and upazila level health committees should be held regularly and in case of inconvenience of the chair to be present in the meeting, the vice-chair could preside over the meeting.*

There are a number of **regulatory and autonomous bodies** under the MOHFW as shown in Table 10 . There are issues with these organizations either in regulating professions or ensuring compliance of code of conducts. Some are performing as bodies for regulating the profession as well as responsible for education. An assessment should be done to evaluate whether they are performing optimally or if there is any scope for reform (such as separation of education and licensing responsibilities).

Table 10: Regulatory bodies under the MOHFW

	Act	Chair of Board	Clients	Function
BMDC	Yes	Elected by the members of the Council	Physicians, MATS	Professional regulation, Education governance, Registration
BNMC	Yes	Ex-officio	Nurse, midwives	Professional regulation, Education governance, Examination management, Registration
SMF	No	Ex-officio	MATS, IHT	Education governance, Examination management
PCB	Yes	Ex-officio	Pharmacist	Professional regulation, Education governance, Examination, Registration
BHB	Yes	Appointed by government	Homeo doctors	Professional regulation, Education governance, Examination management, Registration
BBUA	Yes	Appointed by government	Unani, Ayurveda doctor	Professional regulation, Education governance, Examination management, Registration

Many ministries or their agencies are managing their own health facilities but do not have dedicated human resources for these facilities like Police, Railway, Prison, City Corporations, etc. These organizations often request the MOHFW for **deputing doctors and nurses** for their facilities. External positions of doctors are not included in the cadre strength of the BCS (Health) cadre. To respond to the need of these organizations, adequate posts may be created under DGHS and DGNM so that those facilities may be supplied with the required HRH to function at optimum levels. *Alternatively, the MOHFW may explain its constraints and request those organizations to create provisions in their setup to recruit dedicated human resources.*

The MOHFW needs to exercise its **stewardship function** properly. There are some professions which are regulated in developed countries including neighboring countries (e.g., physiotherapists are licensed by the Independent Physiotherapy Council in respective States in India to enforce a rigorous code of ethics and high standards of continuing competency). Many patients seeking **care and rehabilitation from substance use** resort to facilities known as Madokasokti Niramoy Kendra (addiction cure center), which are licensed by Department of Narcotics Control under the Ministry of Home Affairs (MOHA). There are 4,746 such centers in the private sector (Department of Narcotics, 2022). The Narcotics department also operates seven such centers in four districts and three prisons. Newspaper reports suggest that these are often run by untrained providers using illegal methods as physical torture sometimes causing serious harm to patient including homicide (□□□□, 2021). The MOHFW could maintain dialogue with the MOHA to provide better care to substance use patients. Similarly, provision of services for the elderly requiring care are made by private sector players, which are growing. It would be desirable to understand the extent of the services provided by the private sector and ensure some discipline so that grievances from recipients could be heard and resolved

appropriately. *All these require identifying health management issues within or beyond the MOHFW and taking appropriate steps on reviewing the entirety of the health sector.*

Strategic Objective 8 (Improve stewardship and coordination through strengthening HNP sector management and governance) addresses the leadership and governance issues of the MOHFW.

Stewardship in health is the very essence of good government and encompasses the task of defining the vision and direction of health policy, exerting influence through regulation and advocacy, and collecting and using information. Governance and stewardship will remain a major area of focus for the 5th HPNSP, and in this regard, the regulations, systems and processes will be updated for strengthening these key functions of the MOHFW. Institutional capacities will be strengthened for their enhanced role in monitoring, supervision and coordination. The table below indicates the priority strategies in this regard along with the envisaged outputs.

Table 11: Sector management and governance - outputs and priority strategies

Outputs	Priority Strategies
8.1 Governance and stewardship functions of MOHFW strengthened	1. Organize regular meetings of Executive Committees on Health 2. Remove impediments for proper functioning of HSD and ME&FWD 3. Assess the capacity of the Directorate Generals for monitoring and oversight in the respective areas under HNP sector and take actions based on the findings 4. Resolve the issues regarding OPs for proper functioning of both the HSD and ME&FWD in the 5th HPNSP 5. Review the positions of Line Director vs Directors in the DGHS OPs 6. Develop an electronic manual compiling all types of related rules, regulations and procedures for the facility manager and service provider and orient them periodically 7. Coordinate TA activities for optimum utilization of resources
8.2 Strengthened Inter-Ministerial Coordination	1. Map-out other Ministries' impact on health and explore possible areas for coordination and collaboration
8.3 Improved regulatory framework for HNP sector	1. Strengthen the capacity of all regulatory Bodies (BMDC, BNMC, BPC, SMF, BHB, BBUA) 2. Ensure enforcement of relevant existing acts, rules and regulations
8.4 Gender Equity Voice and Accountability (GEVA) mainstreamed	1. Incorporate the GEVA in the respective OPs with appropriate indicators for means of verification of performance, and budget 2. Strengthen exiting Citizen Charter and establish a credible framework for hearing citizen's voice and strengthening community/citizens' engagement including grievance redressal mechanism (GRM) 3. Ensure holding of monthly meetings of district and upazila level health committees 4. Strengthen MIS to collect GEVA related data and analyze and utilize those at all tiers in an integrated way 5. Strengthen capacity of the respective HNP managers for effective implementation of activities to ensure gender equity, social inclusion, voice and accountability
8.5 Effective monitoring of SWAp ensured	1. Strengthen capacity of PMMU/TAST and PMR sections of DGHS and DGFP 2. Conduct special studies to support evidence generation

Medical Education and Development

With the opening up of the Medical Education (ME) in the private sector, Bangladesh has witnessed massive expansion of medical educational institutions. There are more medical and dental colleges in the private

Table 12: Number of MCs, IHTs and MATs with seats

Type	Number			Seats		
	Public	Private	Total	Public	Private	Total
Medical College	38	74	112	4,525	6,808	11,333
Dental Colleges	1	8	9	565	1,405	1,970
Dental units in MCs	12	14	26			
MATS	11	200	211	922	12,824	13,746
IHT	15	97	112	2765	8895	11,670

Source: Medical Education Bulletin 2022

sector than in the public sector together with the number of seats. A similar situation exists in paramedical education as well, as shown in Table 12. ME in the country is facing a host of issues that adversely affect the educational institutions to function effectively whether in the public or the private sector.

Directorate General of Medical Education (DGME) is responsible for regulating medical, dental and paramedical (described as health and parahealth professional everywhere in this document) education both in the public and private sectors. It was established in 2019 and faces issues that hampers its smooth functioning. Its administrative authorities have not been defined properly yet. The DGME is based in Dhaka with a HQ outfit only and without any divisional level office or human resources therein to coordinate its activities at the field level. *The 5th HPNSP needs to review and revise the organizational structure of the DGME to allow it to effectively discharge its responsibilities.*

When creating the DGME, many organizational issues relating to the roles and responsibilities of DGHS and DGME were not sorted out. As an organization created for the sole purpose of **managing ME**, the DGME needs to be supported by necessary human and financial resources. A critical area is HR employed in the medical colleges. The DGME is dependent on HSD for posting/placement of teachers in the MCs as well in other matters such as promotions. HSD and the MEFWD are separate Divisions. The personnel provided by HSD would be considered as on deputation as per current government regulation. Though a counter argument could be that those positions are actually shown in the BCS (Health) Cadre composition rules. The DGME demanded **separate BCS (Medical Education) sub-cadre** within BCS (Health) cadre during stakeholder consultations. *It would be desirable to **complete the reorganization** of the MOHFW by sorting out the HR issues. In other words, clarifying the role of DGME in managing its own HR with career prospects and progression would be a critical task in the 5th HPNSP.*

Existing **ME curriculum** needs revision to make it competency based and improve the quality of ME. BMDC needs to be strengthened for its effective stewardship role. *The ME curriculum should be reviewed and updated with emphasis on social and humanistic missions of health professionals.*

As there are numerous medical universities now, **running undergraduate courses** should be left with the medical colleges (MCs) only, while that of PG courses to the medical universities for which those were designed. Post-graduate (PG) ME should be need-based and promote development of skill and competency. Currently, taking the **PG courses** depends wholly on the choice of the individual and not on the employer, i.e., the MOHFW. Other issues associated with it are: imbalance in supply of discipline-wise specialists; numerous vacancies on account of those who have been attending PG courses. *The government should develop need-based projections for medical specialists it requires and offer such courses on the basis of competition, aptitude and qualifications of the applicants. Undergraduate courses should only be conducted in the medical colleges and not in the universities.*

Lack of harmonization exists in respect of PG courses. PG medical and dental education are available at BSMMU, Bangladesh College of Physicians and Surgeons (BCPS) and public universities. BCPS and BSMMU can develop a coordination mechanism regarding PG, graduate and diplomas together with the BMDC and divide responsibility for PG ME among themselves. *BSMMU and BCPS need to thrash out the PG ME issue to bring harmony in PG education during the 5th HPNSP.*

Most of the **newly established MCs, MATS, and IHTs whether in the public or the private** sector, are yet to have required HR which affect quality and quantity of teaching. As a result, the weak knowledge base of those HRH produced remains weak with disastrous results for the health system particularly patients now or in the future. During the establishment of MCs in the public sector, issues other than that of physical infrastructure are hardly addressed within a time-bound plan. Private sector MCs are also fraught with many issues: there are shortages of teachers for basic and other subjects; lack of educational materials, inadequate physical as well as library and laboratory facilities. The quality of teaching and learning by the students is neither better. The private sector MCs face difficulties with placements as interns. *There is scope to consider the paid internships for private medical graduates in public hospitals.*

A number of constraints are hindering the **effective functioning of IHT and MATS**. Human resources or physical facilities are inadequate in existing IHT & MATS. There are no discipline-wise skill or computer labs. There is no provision for OPD based teaching and learning as hospital attachments are minimum or absent. Library facilities are non-existent or minimal. *Steps should be taken to establish “Skill Labs” in IHT and MATS with an ICT based inventory system and M&E framework along with adequate financial allocations.*

Directorate General of Nursing and Midwifery (DGNM) is the central body for nursing and midwifery services in Bangladesh. Its main responsibilities include development of policies associated with nursing and midwifery development, development of strategies and operational plans, budget management and procurement, and administration of nurses, midwives and non-nurse employees, including appointments, promotions, transfers and in-service training.

Bangladesh Nursing and Midwifery Council (BNMC) is the regulatory body for nursing and midwifery education and practice in Bangladesh. It ensures the quality of nursing and midwifery education and practice in the country by setting standards; conducting examinations; registering nurses and midwives; and providing continuing education and professional development opportunities.

Nursing and midwife education facilities also face problems of skills-mix and providing OPD training. *The MOHFW might consider to go slow in respect of approval of new medical colleges whether in the public or private sector as well other institutions for allied professionals before solving the HR, infrastructural and other issues. Additionally, an organizational review of the nursing and midwifery institutes, IHTs and MATS should be conducted to create teaching and non-teaching positions. An Allied Health Professionals Education Board should be established.*

Government has recently **enacted laws for regulating private medical and dental colleges**. However, there is no law for private IHT/MATS. *There is a need to formulate a law for private sector IHT/MATS to regulate the establishment and operation of IHT and MATS similar to the one on private medical and dental colleges.*

A **National Quality Assurance Scheme (NQAS)** should be implemented to improve the quality of ME and form research cells in medical and dental colleges to initiate quality research in ME. The 5th HPNSP seeks to assure *Quality of ME*. To ensure the quality, licensing examination for registered physicians through BMDC should be introduced. Making the NQAS report available online on a regular basis will also help improve quality of ME.

Pharmacy education as a discipline is related to health science, though that is still inadequately reflected in the education and training programs of pharmacists. The Pharmacy Council of Bangladesh is the professional regulatory body of pharmacists. At present three different categories of pharmacy education offer either a university degree (Grade A), or a diploma (Grade B from IHT) or a certificate (Grade C). According to the Pharmacy Council of Bangladesh, registered Grade A, Grade B and Grade C pharmacists are now 18,474, 6,520 and 143,037 respectively. Medicine stores are operated by the Grade C professionals which is a matter of great concern and there is a need to evaluate whether this should continue and if to be continued, how the course content should be designed. Sufficient clinical exposure is not accorded for Grade A and Grade B pharmacists to prepare them to serve competently in the healthcare system. Hospital pharmacy and community pharmacy may be introduced as postgraduate courses for those who already have completed their degree in order to equip them to be able to seamlessly integrate in the healthcare setting.

Alternate or traditional medicine professionals serve a large population. Alternate medicine is also recognized by the WHO. Bachelor degrees in Homeopathy, Unani and Ayurveda are offered by government and private educational institutes in Bangladesh. Concerns have been raised about the quality of education or teaching. Existing curriculum for Bachelor of Unani Medicine and Surgery (BUMS), Bachelor of Ayurvedic Medicine and Surgery (BAMS), and Bachelor of Homeopathic Medicine and Surgery (BHMS) should be reviewed and upgraded. The concerned organizations should develop separate Unani, Ayurveda, Homeopathic Treatment Guideline, Pharmacopeia and Formulary. The legal framework for the AMC educational institutions are weak. To improve the quality of AMC education, it is necessary to upgrade the established ones and also establish new graduate-level Unani, Ayurveda, Homeopathic MCs. There is no opportunity for postgraduate level studies in AMC. The 5th HPNSP should implement *advanced research and development opportunities on Unani, Ayurvedic, and Homeopathic systems of medicine while establishing regulatory mechanism*.

Strategic Objective 9 (Improve health professional and parahealth professional education in the context of future needs of the health workforce) addresses medical education issues.

Preservice education is of utmost importance for the development of a competent health workforce. A regular process of reviewing and adjustment of medical education will be introduced in the 5th HPNSP to cater to the needs of the future health workforce. This will be done through improving curriculum, enhancing quality of educators, assuring quality of education institutes and ensuring well-being for the educators and students. The table below detail out the priority strategies and expected outputs for this strategic objective.

Table 13: Medical education and development - outputs and priority strategies

Outputs	Priority Strategies
9.1 Health professional and parahealth professional education curriculum improved	1. Develop a long term health workforce production plan 2. Review existing curriculum of all streams of medical and paramedical education and update as necessary to improve the quality 3. Emphasize on the ethical and moral issues inclusive of pharmaceuticals in the curriculum to make the medical students sensitive to societal demands 1. Incorporate social determinants of health in medical education curriculum 2. Incorporate pharmaceuticals education (Pharmaco-economics and Pharmacovigilance) as topics into the undergraduate and postgraduate medical curriculum 3. Introduce curriculum for new types of HRH (e.g., dialysis technologists, optometrists, etc.) 4. Strengthen clinical nursing practices as part of the nursing curriculum through collaboration with the appropriate hospitals

Outputs	Priority Strategies
9.2 Quality of faculty and educators on educational pedagogy and leadership improved	1. Introduce licensing examination for registered physicians through BMDC for ensuring quality of graduate physicians 2. Introduce qualification examination for Registers and Lecturers to improve the teaching quality of medical educators 3. Implement “Integrated Teaching” & “Problem Based Learning” 4. Ensure quality of licensing examination for nursing and midwifery through coordination with BNMC. 5. Establish Nursing Teacher’s Training Institute (NTTI) for development of quality nursing educators 6. Develop a career path for ensuring the quality and quantity of nursing educators 7. Expand use of ICT in medical education, including e-question bank for professional examinations; recorded and live lectures on important topics by reputed teachers for releasing online; e-library; e-conference/seminar etc. 8. Initiate “Teachers’ evaluation” at the medical colleges using digital technologies 9. Arrange different types of training of health professionals, including medical teachers and faculty for Health Allied Professional (Nursing, pharmacy, IHT, MATS, Homeopathy & Ayurvedic medicine) 10. Arrange online certificate course on Health Professional Education 11. Improve coordination between the BSMMU and BCPS for agreeing on which courses would be run by whom to eliminate duplication
9.3 Quality of medical and nursing education assured	1. Ensure implementation of the National Quality Assurance Scheme (NQAS) to improve the quality of medical education 2. Make the NQAS report available online by NQAB 3. Form research cells in medical and dental colleges to initiate quality research in medical education 4. Promote an accreditation system for nursing institutes and colleges
9.4 Wellness for educators and learners ensured	1. Initiate mental health support (e.g., physical or online counseling) for students and teachers 2. Develop a guideline for treating minor mental disorders
9.5 Need-based physical infrastructure for medical education in place	1. Establish Teacher’s Training Institute for Medical Education by reorganization of Center for Medical Education (CME) 2. Create adequate physical facilities (class room, dormitory, etc.) at the newly established medical colleges, nursing colleges/institutes, etc. and reorganize the old ones as per requirement 3. Establish modern simulation labs at medical, nursing and midwifery colleges/institutes
9.6 Updated organizational and HR structure at Medical Educational Institutes	1. Fill up all the sanctioned posts in medical colleges, MATS, IHTs, Nursing Institutes 2. Postpone approval of new MATS and IHTs below district level as it is not possible to ensure sufficient clinical practice facilities at that level 3. Operationalize the existing MATS and IHTs with adequate staff and faculties 4. Review recruitment, deployment and promotion of faculty positions of MATS and IHTs

Human Resource Planning and Management

Bangladesh faces multiple challenges with Human Resources for Health (HRH), or Health Workforce (HWF), such as shortage and mal-distribution of providers, skill-mix imbalance at facilities, negative working environment and weak knowledge base of providers. Successive SWApS have aimed to ensure availability of competent and adequate workforce at facilities or other service delivery positions equitably and to develop and maintain quality health workforce at all levels. However, the MTR of the

4th HPNSP found that many HR weaknesses remained unresolved (IRT, 2020). A disproportionate emphasis on clinical – physicians and nurses – over administrative, allied and supportive positions create skill mix imbalances. Innovative ways of retaining staff are absent due to lack of incentives, career progression. There are inadequate positions of pharmacists in the facility positions. Lack of coordination between DGHS and DGFP also contributes to inefficient use of human resources.

Table 14: Availability of HRH in Bangladesh

Discipline	Number
MBBS professionals	93,051
Dental professionals	11,593
Nursing and midwifery practitioners	83,376
Registered Medical Assistant	23,374
Registered Pharmacists (A/B grades)	32,582
Diploma Medical Technologists	29,037
Total	273,013
Source: HRH Data Sheet 2022	

Balanced availability of HRH is required for a national health system with the ratio of doctors to nurses/midwives to others as 1:3:5 as per WHO's recommendation. In other words, there should be 0.5 doctor, 1.5 nurses and midwives and 2.45 other HRH for 1,000 populations. According to the 2021 census, the Bangladesh population is 165,158,616 (REF), on which basis, Bangladesh needs 82,579 physicians, 247,738 nurses and midwives and 404,639 other categories (pharmacist, medical technologists, radiology technicians, etc.) of HRH. The availability of HRH in Bangladesh is provided in Table 14. It is apparent that there is no shortage of graduate physicians in Bangladesh now. The ratio as it stands now or at 1: 0.73: 0.71 shows additional requirements are needed of all workforce levels except doctors. *The implications regarding availability of physicians should be considered while developing the national HRH in the longer term.*

Shortage of providers especially at district level and below is huge. Due to vacancies, the workload of existing providers' increases impacting the quality of care provided to patients and leading to poor outcomes and dissatisfied patients. Doctors from facilities are also diverted by way of deputation (for higher education), attachment, etc. Community level service delivery by both the DGHS/DGFP is suffering as evident from the number of visits undertaken by field workers which are reportedly few and far between. Only 20% of currently married women reported a visit by any government fieldworker, among which 70% were visited by a FWA, while 5% were visited by a HA (NIPORT et al., 2020a). To address high level vacancies at the rural positions, **temporary staff** were appointed by DGHS and DGFP in the 4th HPNSP in the vacant positions of HA/FWA. Such temporary measures may not solve organizational problems adequately. The facilities fill positions of support staff through **outsourcing**, managing whom has become challenging for the hospital authorities due to local peer

Table 15: Sanctioned and vacant positions at DGHS, DGFP, DGME and DGNM

Grades	DGHS		DGFP		DGME		DGNM	
	Sanct- ioned	Vacant	Sanct- ioned	Vacant	Sanct- ioned	Vacant	Sanct- ioned	Vacant
Grade 1-9	46,161	6,964 (15%)	794 General 1,623 Medical	394 (50%) 922 (57%)	37	17 (46%)	490	331 (68%)
Grade 10	1,185	528 (45%)	1,195	1022 (86%)	21	21 (100%)	47,457	3,106 (7%)
11-16	56,257	21,303 (38%)	18,090	5070 (28%)	59	52 (88%)	740	108 (15%)
17-20	25,914	11,234 (43%)	32,689	10827 (33%)	42	41 (98%)	744	208 (28%)
Total	129,517	40,029 (31%)	54,391	18235 (34%)	159	131 (82%)	49,431	3,753 (8%)

Source: HR Data Sheet 2022

Exp-Grade 1-9: management positions, 10: Technologist, 11-16: support staff, 17-20: lower subordinate staff

pressures or other reasons. *The 5th HPNSP should take steps for filling up all the sanctioned posts. The MOHFW also needs to update and enforce transfer and posting policies to streamline HR deployment.*

The providers at the community clinics need more training if they are to provide a whole range of services at the community level. The roles and responsibilities of CC staffing in the context of the changing needs of HNP interventions could be reviewed. Similarly, to ensure appropriate staffing mix, the structure of upazila health complexes should be reviewed. The office of the civil surgeon is responsible for many public health functions and it is necessary to increase their capacities. *The district level structures of DGHS as well as facilities situated at upazila and below need to be reviewed in order to make them fully functional in respect of service delivery or discharging public health functions.*

Work environment, especially in the facilities may not be conducive to the best performance of providers. Inadequacies of physical spaces, malfunctioning equipment and absence of necessary logistics create impediments to provider performance. Small repairs of equipment are often delayed or not done rendering those non-functional. All these limit service deliveries by providers and can lead to client's dissatisfaction. Limited supply of medicine at times put the providers in confrontation with service recipients. *The 5th HPNSP needs to ensure that the work environment in health facilities are conducive for quality service delivery by the providers.*

A number of programs are running at district level with **DP support** such as EPI, TB, Malaria etc., which have appointed skilled providers. They enjoy a compensation package which is better than that of their government counterparts and it is unlikely that they would be retained by the MOHFW after the end of DP support. *The 5th HPNSP should prepare a transition plan for transferring the responsibility of DP supported activities as there would be a need to continue those services with GOB resources.*

There is **lack of job opportunities for those having pharmacy education**. *Depending on the size of healthcare facilities, pharmacies should be staffed by graduate or diploma pharmacists and such positions should be created in the government healthcare facilities as well.*

Human Resource Information System (HRIS) has been developed for use of all organizations of the MOHFW in respect of HRH planning, development and management. The use of HRIS is not widespread. *The 5th HPNSP should ensure the implementation of HRIS in all organizations.*

In-service training (IST) is the life blood of extending various health service deliveries. IST improves health workers' capacity to provide effective care for patients. Successive SWAPs have tried to achieve HR capacity through trainings (local and foreign) and workshops/seminars/orientations, advocacy etc. on a regular basis. During the 4th HPNSP, about 6.3% of the total development budget is allocated for training and workshops. Of this allocation, local trainings cover 62.39%, foreign trainings 2.96% and workshop/seminars cover 34.65%. However, 94% of the training cost is allocated for short-term trainings. Some OPs conduct trainings/workshops with a large number of participants throughout the country with focus on service delivery, while other OPs focuses on increasing skills and strengthening health systems.

Trainings are often arranged in the last quarter of the year hurriedly without adequate preparation, which make the training programs ineffective. Arranging nationwide training for front-line health workers on any emerging issues (e.g. COVID-19 management) remains a challenge with inadequate capacity in terms of resource persons and logistic support. The 5th HPNSP needs to form a group of master trainers for arranging such training, often using online platforms. Investment is required for creating such training platform. In recent years, the scope of foreign training is declining, which is also important to achieve international standards of service provision. *The 5th HPNSP needs to invest adequate resources for needs-based foreign training.*

IST costs both time and money. APIR 2020 observed that majority of the total participants receive short term (1-28 days) training, and very few receive medium term (29 days – 6 months) and long term (more than 6 months) training. On yearly basis, almost 94% of the total training cost was spent on short term trainings/workshops. Among the short-term trainings, approximately 52% of the total training cost was spent on 3-28 days' long trainings, whereas 41% of the total training cost was spent on 1-2 day trainings/workshops. Each year, a significant amount of funds allocated to conduct trainings under different OPs is being spent for short-term trainings, especially for 1-2 days' trainings (99% in FY 2018-19). As it is difficult to coordinate all the short-term trainings across the OPs, there are risks of duplication in training participants as well as in training subjects. As majority of all the local training participants receive 1-2 days of training, *the quality and contents of this type of training programs need to be assessed.*

A committee was constituted by MOHFW in January 2019 to find ways to coordinate trainings under the 4th HPNSP and reduce duplication, which recommended to make the Training Implementation and Monitoring Committee (TIMC) fully functional. It also suggested to identify training subjects and participants to avoid duplication; to discourage one-day long orientation training/workshop as much as possible; to develop subject-wise training calendar under each of the directorates; to transform the Training Management Information System (TMIS) of NIPORT into a generic database to collect training related information of all the OPs. *The 5th HPNSP will have to work on streamlining the in-service trainings through implementing the committee recommendations and making the TIMC fully functional.*

Centralization of HR functions has been affecting recruitment, deployment and retention. Consequently, that results in inadequate service delivery. Lack of career progression remain unsatisfactory, which is acute for some health workforce positions. *The 5th HPNSP will update and enforce transfer and posting policies to streamline HR recruitment, deployment and retention of health workforce.*

With the gradual introduction of new technology and methods, the HNP sector in Bangladesh requires **new types of skills** (e.g., dialysis technologist, optometrists, biomedical engineers, etc.) in the health workforce structure with specific job responsibilities, career progression and retention plan. *The 5th HPNSP needs to create new positions in the respective organizational structures to accommodate these required technical persons within necessary facilities.*

The MOHFW should initiate the **preparation of an agreed long-term HRH planning (15-20 years)**, development and management plan with delineated roles and responsibilities of all the concerned stakeholders. The plan should identify field workers' requirements/roles, numbers, compositions as well as their supervisors' considering the prevailing and upcoming situations.

At primary level **community level workforce as well as facilities** like UHFWCs or upazila health complexes provide services to the rural population especially mother, children, adolescents and patients with general health conditions. Capacity of UHFWCs could be strengthened through provision of a midwife and lab technician including lab facilities to provide quality services. Frequent transfer of nurses creates a vacuum in facilities. There should be a transfer policy to address such issues and also to promote specialization. To solve HR issues, a comprehensive plan needs to be developed. There should be provisions for partnerships with NGOs or the private sector in hard-to-reach areas, or in urban areas where public facilities are inadequate along with community engagement. **Inequity issues** could also be addressed through targeted interventions, including NGO partnerships for service delivery at remote and hard-to-reach areas. *The 5th HPNSP needs to address HR gaps in SRHR area by having transfer policies, comprehensive HR plan and engaging with private sector and NGOs and with participation of communities and addressing equity issues.*

Strategic Objective 10 (Ensure availability of quality health workforce through reorganization and effective HR policy, planning and management) addresses the issues of HRH.

A number of short and medium term strategies will be adopted for improving the HRH in the country. These will include reorganization of HR structure, updating organograms and updating relevant policies and regulatory instruments. The priority strategies and envisaged outputs for 5th HPNSP are detailed out in the table below.

Table 16: Health workforce - outputs and priority strategies

Outputs	Priority Strategies
10.1 Reorganized HR structure	1. Review the requirements, roles and compositions of field workers and their supervisors 2. Fill up the vacant positions across all departments 3. Review the current staffing structure of Upazila Health Complex in the context of the need for having Superintendent (for 100 bed UzHC), Junior Consultants, outdoor and emergency MOs, nurses and midwives, medical technologists and ancillary staff and ensure capacity for supervision and monitoring of field staff from the upazila to union and community level 4. Review the roles and responsibilities of the staff of union level facilities and the MCWCs in the context of providing 24/7 services 5. Review the roles and responsibilities of CC staffing in the context of changing needs of HNP interventions 6. Review the staffing structure of the medical college hospitals and general hospitals to ensure adequate skill-mix 7. Review and strengthen existing structure of Civil Surgeon Office for ensuring a balance between administrative functions and service delivery 8. Review the existing BCS (Health) Cadre to accommodate career opportunities by sub-cadres into (i) public health (ii) clinical (hospital services) and (iii) academic (medical education) positions 9. Update and enforce transfer and posting policies to streamline HR deployment 10. Create new positions of dialysis technologist, optometrists, biomedical engineers, etc., in the appropriate facilities 11. Deploy qualified nurses for provision of specialized and critical care services, such as in the dialysis unit, CCU, SCANU, ICU etc.
10.3 Relevant Health Workforce laws, policies and regulations updated	1. Initiate the preparation of an agreed long-term (15-20 years) HRH planning, development and management plan 2. Implement the HRIS in all organizations under MOHFW 3. Develop a continuous professional development (CPD) strategy for key health professionals

Health Financing and Universal Health Coverage

Health financing (HF) is one of the six building blocks of the health system which affects system performance, particularly financial protection. A strong HF is required for Bangladesh to improve health outcomes and to ensure that households are protected against the potentially high cost of medical care.

Bangladesh's health system is characterized by low service coverage and a lack of efficient financial risk protection mechanisms. The UHC service coverage index for Bangladesh was 46/100 in 2015, and 51 in 2019 (World Bank, 2019a), which is above that of Afghanistan, Nepal, Pakistan and Bhutan in the South Asia region. However, Sri Lanka (67) and India (61) are better performers than Bangladesh in this area.

Bangladesh achieved high levels of service coverage in some priority public health interventions (e.g., immunization, FP, diarrheal disease control, etc.) as well as population coverage. However,

Bangladesh still needs to increase service coverage and reduce the differences in access to healthcare between socio-economic groups for many services. Over the years, stable economic growth in Bangladesh has led to increased MOHFW budget in absolute terms including that of SWAp budget. The contribution of GOB's own resources in the development budget increased from 15% in the 3rd SWAp to 21% in the current 4th SWAp. The proportion on allocation in discrete projects also increased from 41% in RADP in 2020-21 to 48% in 2021-22. However, the **Government's budget for health as a share of Gross Domestic Product (GDP)** remained less than 1% which is considerably lower than the WHO benchmark (5%). The MOHFW budget (both operating and development) as a percentage of the national budget has generally been low and is more or less stagnant in recent years. Health expenditure was only BDT 4,578 (equivalent to USD 46) per capita in 2020 (HEU, 2022) which is much lower than the WHO recommended amount (USD 88). In addition, Bangladesh also performs below its neighbors on financial risk protection. Bangladesh needs to invest more on health to achieve UHC by 2030, as well as to improve the human development index score by 2041. Moreover, during the 5th HPNSP period (2024-29), significant investment will be required for addressing some thrust areas (e.g., immunization, urban PHC, NCDC, mental health, facility readiness, health protection schemes, digitization, etc.). *The MOHFW needs to negotiate with the Finance Division for higher budgetary allocation for the 5th HPNSP based on an investment case supported by value for money proposition.*

The **Out of pocket (OOP) expenditure** in health has steadily increased over the years and was 69% of Total Health Expenditure (THE) in 2020 (HEU, 2022), which is one of the highest in the world. Purchase of medicine accounts for 64.6% of OOP. Around 25% of the population spend more than 10% of household consumption on healthcare and as many as 10% spent as much as a quarter of their total consumption on health (World Bank, 2019b). OOP expenditure is one of the main causes of catastrophic payments, especially for poor and disadvantaged households. In urban areas of Bangladesh, about 9% of households face financial catastrophe due to health spending and such catastrophe is four times higher in the poorest households than the richest ones (Rahman et al, 2013). The unregulated private sector increases OOP expenditure of patients, who seek care from them and pay high price of some medicines, especially for chronic conditions.

The MOHFW adopted 'Healthcare Financing Strategy (HCFS) 2012 -32' to achieve UHC for all, however, implementation of HCFS had been challenging and the progress is slow. Currently, GOB's contribution constitutes only about a quarter of Bangladesh's THE. Low government funding results in inadequate service coverage for key interventions, and consequently a high reliance on OOP expenditures.

As a social protection measure, the MOHFW initiated the Maternal Health Voucher Scheme (MHVS) in 21 sub-districts in 2007, which reached 57 out of 492 upazilas in 2022. MHVS targeted poor pregnant women with less than two children. With a view to protect people below the poverty line from health-related financial risks, the MOHFW piloted Shasthyo Shuroksha Karmasuchi (SSK), a health-financing scheme, in a few upazilas. The SSK faced multiple implementation challenges. Shortage of HR emerged as major challenge for both SSK and MHVS. Shortages of supplies and medicines were also identified as obstacles to smooth implementation of the MHVS program. Both the programs (MHVS and SSK) face challenges in proper selection of beneficiaries. Moreover, there are concerns about the design flaws of SSK and MHVS. There is no referral linkage of SSK with the PHC services, and providers often make unnecessary admissions, which leads to unnecessary bed occupancy by SSK patients and deprive the non-SSK patients (Chowdhury et al, 2021). The incentive mechanism in MHVS had been criticized for promoting excess C-section deliveries in the facilities with the voucher scheme, indicating flaws in incentive mechanism (HERA, 2013). Review of the two schemes are required and innovative strategies are needed to address these design flaws.

In Bangladesh, voluntary private insurance has been negligible (<0.2%) and primarily dominated by employer-sponsored insurance contribution (HEU, 2018). Currently 79 insurance companies, 46 non-life and 33 life, are in operation in Bangladesh. Both life and non-life insurance companies provide **health insurance** (HI) to individuals including group insurance. NGOs and Micro Finance Institutions (MFIs) also provide HI, which are mostly project based and of limited duration. Limited progress has been made in introducing HI for formal sector. Health Insurance for Garment Workers (HIGW) was launched in 2014 for 9,000 garment workers through a project. The informal sector in Bangladesh is large, posing great challenge for implementation of HI. The HCFS suggested to implement community-based HI, which could not be implemented due to lack of community empowerment and mistrust of the population. *Given the current state of the health system, institutional weaknesses, lack of facility readiness, non-availability of HR and equipment especially in rural areas, HI may not be considered a viable option. The Concept Paper of the 5th HPNSP also suggests PHC led UHC and the SIP addresses PHC strengthening as a core element of the UHC. However, as a pilot, health insurance could first be introduced for the public sector employees to understand the implementation challenges and overall feasibility of HI.*

Achieving **universal health coverage** requires new, innovative and evidence-based approaches. Changes in demographic and epidemiological transition of the country, backed by experience of implementing four SWAp, calls for selecting a few priority areas for further investment in the next sector program. These include, but may not be limited to: investment in PHC, urban health, mental health, emergency care, AMR containment, climate change and MWM, digital health.

Share of preventive care as a proportion of public expenditure on health is declining over time. It declined from 39% in 2008 to 15% in 2022 (HEU, 2022). During the first SWAp, the MOHFW introduced ESP as a cost-effective intervention and decided to allocate 60 to 65% resources to primary healthcare level (upazila and below) to provide ESP. Initially, the MOHFW achieved its target on ESP as the proportion of expenditure on ESP was 65% in 1998-99, 60% in 1999-2000, and 66% in 2000-01 (HEU 2002). However, the trend is reversing. It was found that 53% of allocation was channeled to upazila and below in 2007 and dropped to 38% in 2015 (Ahmed et al, 2015). There is strong rationale for providing all PHC services free of cost at the point of delivery for all citizens. Government needs to increase expenditure on drugs to ensure availability of essential drugs at the PHC facilities (Ahmed et al, 2015). In addition, gender responsive budgeting is important to ensure adequate allocation for women and children. The 5th HPNSP needs to *increase investment for effective supply-side management of HNP service delivery including implementation of ESP (in both rural and urban areas) by channeling adequate resources.*

Strategic Objective 11 (Ensure sustainable financing to achieve the UHC with special emphasis on targeting the poor and vulnerable) addresses health financing and universal health coverage.

A major focus of the 5th HPNSP will be to increase the total health funding available for essential healthcare services, which may include both the public and other alternative sources of financing. At the same time, efficiency in resource utilization will be improved through capacity building of relevant personnel and effectively managing demands for HNP commodities. Approaches including social health protection and strategic purchasing will be introduced. The table below shows the priority strategies under this strategic objective.

Table 17: Health financing and UHC- Outputs and priority strategies

Outputs	Priority Strategies
11. 1 Improved efficiency in resource use	1. Identify bottlenecks in allocation and expenditures for improving fund absorption capacity

Outputs	Priority Strategies
	2. Develop capacity of OP personnel as well as divisional, district and upazila managers for improving efficiency in planning and budgeting 3. Coordinate with operating and development budget, and among different OPs to avoid duplication of expenditure 4. Estimate demand for HNP commodities effectively harmonizing with population and disease burden
11.2 Increased share of HNP budget	1. Prepare an investment case with evidence of value for money for investing in health 2. Negotiate with Finance Division for higher budgetary allocations
11.3 Alternative sources of funding for HNP identified	1. Establish mechanisms to attract individual or institutional contributions in a separate 'Health Fund' (e.g., through CSR funding) 2. Negotiate with NBR to introduce taxation on commodities/services putting adverse impact on health and nutrition (e.g., Sugar tax, tax on junk food, etc.) and earmark the tax to MOHFW 3. Negotiate with NBR to impose higher tax on tobacco, and channel the accumulated health development surcharge to MOHFW 4. Explore ways to encourage pharmaceuticals companies to produce selected NCD medicines under generic name to reduce price, and thereby reducing cost of medicine for patients
11.4 Improved equity in resource use	1. Identify feasible modalities of needs-based resource allocation across the districts and upazilas 2. Increase the quantity of NCD-related medicines for distribution at the PHC level 3. Introduce distribution of free NCD medicines to urban poor through GODs and NGO-facilities 4. Practice gender-responsive budgeting for ensuring adequate allocation for the women and children 5. Introduce introduction of a health card scheme for floating population, slum dwellers and urban poor to receive services from selected/enlisted private facilities
11.5 Increased investment for effective supply-side management of HNP service delivery	1. Ensure implementation of ESP coverage at all tiers of HNP service delivery with increased resources 2. Channel adequate resources to strengthen primary healthcare in urban areas 3. Design appropriate incentives (cash and/or kind) to motivate healthcare providers
11.6 Appropriate measures taken for ensuring social health protection	1. Introduce health insurance starting with the public sector and gradually expanding to formal private sector 2. Consolidate and maximize benefits of the already existing health protection schemes including SSK and MHVS
11.7 Appropriate measures taken to move towards strategic purchasing	1. Agree on policy directives for separate management and regulatory body (e.g., NHSO) 2. Explore modalities of contracting out, PPP and other forms of strategic purchasing (through either for-profit private sector or not-for-profit NGOs)
11.8 Health Technology Assessment introduced	1. Sensitize policymakers about the role of Health Technology Assessment 2. Establish partnership with a research organization to conduct Health Technology Assessment

Debates persist regarding the most appropriate ways to finance UHC — whether through general taxes, labor taxes, or mandatory insurance premiums (Yazbeck et al., 2020). Many countries have achieved considerable progress in health indicators through national health service financed by tax revenue-based system, such as Sri Lanka, UK, Canada. However, Sri Lanka's tax-based scheme showed weakness with a declining allocation of tax revenues and other health system issues (Supakankunti et al., 2014). The National Health Services (NHS) in UK was established in 1948, with the aim of providing a comprehensive range of health services to all citizens, financed by general taxation and free at the point of use (Harker, 2012). Though the system has been criticized for growing delays in people's ability to access care quickly due to a decade of stalling funding and a growing workforce crisis combined with the impact of the pandemic on patients, staff and services, this is still considered as one of the best health systems globally, especially in terms of removing cost barriers. Given the epidemiological transition with the surge of NCDs, the health systems of these countries are placing emphasis on prevention and promotion to improve financial sustainability, and exploring to increase fiscal space (Supakankunti et al., 2014) (Harker, 2012). Several countries have introduced compulsory social health insurance (SHI) (Germany and France, Thailand, China, Vietnam, South Korea, Indonesia, Ghana, Kenya, Colombia, Tamil Nadu of India). Their experience varies in terms of service and population coverage.

It appears that low-and low-middle-income countries should consider primarily general revenues to finance universal health coverage, given their massive informal sector and lack of relevant infrastructure. The Chatham House Report on 'an exploration of policy options for achieving universal health coverage in Bangladesh' also suggested that Bangladesh needs to strengthen the existing general tax-revenue based system for health care financing (Yates, and Mark, 2021). SHI has become popular in some countries (such as Thailand, China, Vietnam). Many Europe countries are abandoning the traditional SHI model by reducing their reliance on payroll taxes and shifting to general revenue taxes. If a country is close to full employment and most jobs are formally registered and taxable, labor taxes can be a considerable funding source for UHC. However, in most low- and low-middle-income countries, there are large informal sectors with unregistered and untaxable share of employment (e.g. 86% in Africa, 68% in Asia, and 53% in Latin America and the Caribbean). With such high shares of informal sector and with low tax base, introducing health insurance using labor taxes can create incentives against further formalization of employment. Hence, international health experts generally agree that labor taxes are a problematic way to fund universal health coverage.

A global study of 111 countries shows that the overwhelming evidence for financial protection comes from budgetary funding and not contributory health insurance (Wagstaff and Neelsen 2019). Therefore,

- Countries should consider primarily using general revenues to finance universal health coverage. Given the characteristics of most low-and low-middle-income countries, general revenues are more likely than labor taxes to provide financially sustainable, efficient, and equitable health systems.
- The massive informal sector and lack of relevant infrastructure (e.g., appropriate hospitals, insurance companies, Third Party Administrator) are major barriers of introducing SHI in many developing countries including Bangladesh. Hence, covering all population with a single scheme is not feasible initially. Gradual introduction of successive schemes may be useful to cover all the population.
- Introduction of a compulsory health protection scheme for civil servants may be a starting point of SHI for the formal sector in Bangladesh. Introduction of such scheme may require to improve quality of care at public hospitals, and accreditation of private hospitals.
- Adam Wagstaff suggests that adopting SHI in preference to tax financing increases per capita health spending by 3-4 percent, reduces the formal sector share of employment by 8-10 percent, and reduces total employment by as much as 6 percent. For the most part, SHI adoption has no significant impact on amenable mortality, but for one cause-breast cancer among women- SHI systems perform significantly worse, with 5-6 percent more potential years of life lost" (Wagstaff A, 2009).

Accordingly, the SIP, in line with the Concept note of the MOHFW, endorses mainly primary health care led UHC and using general revenue to finance UHC.

Financial Management and Audit

Overall financial management (FM) of the MOHFW is carried out by the Financial Management and Audit (FMAU) Wing and Budget Wing of HSD. There is no FMAU in the MEFWD. FMAU provides overall

fiduciary oversight. The two Secretaries, as the Principal Accounting Officers (PAO), are responsible for managing all financial operations across the country. HSD is the only ministry which has an outfit like FMAU. The **FMAU has been reorganized** by the addition of new human resources under the 4th HPNSP.

The Chief Accounts and Finance Officer (CAFO), under the broader organizational structure of the Controller General of Accounts (CGA), functionally acts as a staff officer of PAO. CAFO checks claims submitted online by employees (pay and allowances), and those by contractors/suppliers (delivery of goods and services and works), generates monthly management reports, prepares annual Appropriation Accounts, and advises PAO on financial matters of the divisions.

In the MOHFW, **internal audit** is managed by FMAU. Internal audits used to be conducted by external firms. During the current SWAp, internal audits for FY 2017-18 and FY 2020-21 were completed by outsourced audit firms. However, marking a shift from the past, **internal audit is currently being carried out by FMAU**. The **external audit** is carried out by the Office of the Comptroller and Auditor General (OCAG) of Bangladesh. Serious financial irregularities raise questions about internal control and internal audits of SWAp. The **disposal of internal or external audit observations** is often given a low priority and the response from the MOHFW on audit observations is generally slow. It generally takes from six months to a year to solve minor audit objections, but some have taken three to four years to solve, depending on the nature of the case/objections (Daniels et al., 2022, p. 20). As a result, such observations are included in the audit reports of the CAG for submission before the Parliament. Recently, the OCAG launched a digital Audit Management and Monitoring System, which *should be used for settlement of audit observations and tracking. It would also be necessary to develop a comprehensive monitoring framework for reducing fiduciary risks, and establish independent internal audit outfits for MEFWD. Additionally, the 5th HPNSP should focus on training for internal auditors by engaging with a qualified body like the Chartered Institute of Internal Auditors (CIIA).*

Some PFM issues have been plaguing the MOHFW for long. Capacity to utilize operating and development budget is inadequate and utilization of budget allocation against some OPs is low. Unrealistic budget estimates are prepared by OPs. Accounts are not reconciled regularly with the CAO. Expenditure details on direct project aid (DPA) are unavailable. There is a lack of senior level involvement in the budget setting process. There is a rush to exhaust allocation at the end of the fiscal year. Asset management is weak and not fully digitized. Two separate wings for budget management and FM work in a siloed approach under HSD. Lack of coordination between these outfits undermines their efficacy. Moreover, non-coordination between the operating and development budgets often results in duplication of expenditures, for example, medical and surgical supplies are procured from both the operating and development budgets, and through multiple OPs, which increases transaction costs (Khan and Huque, 2016). *It is important to strengthen the PFM capacities of the LDs, PMs, DPMs and other relevant personnel at all levels.*

The **budget absorption** was broadly satisfactory during the period from FY 2016-17 to 2020-21. The average actual expenditure stood at 85% of the original budget and 86% of the revised budget. Some OPs perform badly in utilization of budget. Budget distribution done manually by the LDs to the huge network of country-wide cost centers was time consuming, however, the iBAS++ of the Finance Division has brought discipline in respect of fund release. *The MOHFW needs to develop comprehensive training programs on budget planning, fund release, budget execution, audit, use of iBAS++ for fund release, etc.*

Underspending is common across all the line items at DHs, MCWCs, and UzHCs. Most OP allocations are utilized in the last quarter of the FY due to procurement delays. The major reasons for underutilization include: delays in planning and approval of the development budget, delays in

procurement, delays in disbursement of funds especially for the development budget, vacancies, non-clarity on using block allocation, inadequate allocation against a line item, and **non-availability of a few economic codes during the restructuring of the two Divisions**. *The HSD and MEFWD need to continuously monitor expenditure targets and take appropriate decisions/measures to ensure utilization of funds in a timely manner.*

Although the **maintenance budget** has a critical impact on the life of assets (medical equipment, vehicles and other assets) acquired every year, there is no comprehensive plan for utilization of the maintenance budget. It is done on an ad hoc basis without undertaking any needs analysis or any costing exercises leaving scope for misuse and wastage of public funds and rendering those obsolete before the end of their useful life.

Strategic Objective 12 (Reduce fiduciary risks through strengthening the PFM and audit systems and improving accountability and transparency) addresses financial management and audit issues.

The emphasis of the 5th HPNSP will be to overcome the existing challenges and make the FM&A more transparent while reducing the financial and fiduciary risks. This will be done through strengthening the PFM capacities of the relevant personnel, strengthening fiduciary monitoring and internal control system. Priority strategies in this area are shown in the table below.

Table 18: Financial management and audit - outputs and priority strategies

Outputs	Priority Strategies
12.1 Strengthened PFM capacities of the Line Directors, PMs, DPMs and other relevant personnel at all levels	1. Develop comprehensive training program on PFM (e.g., budget planning, fund release, budget execution, audit, etc.), including the emerging requirements (e.g., pandemic situation) for national, divisional, district and upazila levels 2. Evaluate the training imparted and update the training program as required 3. Provide training to the internal auditors using course curriculum developed by a qualified body (e.g., Chartered Institute of Internal Auditors (CIIA))
12.2 Strengthened fiduciary monitoring and internal control	1. Develop a comprehensive monitoring framework for reducing fiduciary risks 2. Establish independent internal audit outfits within HSD and MEFWD from within the existing setup

Procurement and Supply Chain Management

All national procurements by all government agencies are conducted in accordance with two legal instruments, viz., the Public Procurement Act, 2006 and the Public Procurement Rules, 2008. In spite of specific improvements (e.g., establishment of supply chain management portal, development of guideline for comprehensive contract management and regular maintenance of medical equipment at public facilities, introduction of e-GP, capacity development, etc.) made in each sector program, procurement and supply chain management (P&SCM) issues remained problematic. Continuous efforts are needed to improve the procurement processes, strengthen procurement planning based on actual needs, contract management skills, etc. *The 5th HPNSP needs to continue strengthening P&SCM for improving service delivery.*

The **Central Medical Stores Depot (CMSD)**, as an organizational unit of the DGHS, has been performing the procurement functions in respect of high value items requiring mainly international sourcing. Different OPs place requirements to CMSD in respect of medicines, medical equipment, etc. Delays occur in bundling the procurement proposals though bundling could increase the efficiency or save time. CMSD faces challenges in managing ancillary costs for procurement. Adequate budgets are not

The SIP identifies gaps in the services provision for PHC in urban areas and also in case of disadvantaged areas with poor and vulnerable groups and suggests introduction of strategic purchasing to fill the gap.

Defining strategic purchasing: Strategic purchasing, broadly, could include public private partnership (PPP) or procuring health services from private sector and NGOs or entities outside government, even though international organizations which have agreements with manufactures; such as for vaccines.

Current situation: Apparently, strategic purchasing would be a novel area for the MOHFW. However, DGHS has used contractual mechanisms for providing services like tuberculosis, immunization, and nutrition. DP's guidelines for procurement have been used in those cases. Whereas, the DGFP has procured services using GOB procurement mechanism for provision of maternal and child health, reproductive health, family planning etc. Those have covered both rural and urban areas.

Services to procure: Strategic purchasing could be utilized for procuring both clinical and non-clinical services from private sector or NGOs. Services could include: urban PHC including FP; treatment of NCDs like cancer, operation of urban community clinics or facilities including those in hard-to-reach areas as well as underutilized facilities (10-bed, 20-bed); health education, promotion and community mobilization; and others such as diagnostics, inpatient care, operation and maintenance of facilities, ambulance, medical waste management.

NGOs vs private sector: NGOs may face difficulties in participating in competitive tender process. PPA/PPR apply stringent criteria for eligibility, qualifications and technical compliances which cannot be the same for both non-profit and for-profit organizations. For example, capital, yearly turnover or liquidity requirement cannot be comparable for both type of organizations.

Implementation issues: As explained above, there could be both short and long methods of implementation: using current examples or through examining the provision of procurement laws and seeking revision of those, if necessary. Currently, NGOs, CSOs, or other non-profit organizations can compete for intellectual and professional services. The provision of clinical or non-clinical services might be considered as physical services. Such services are output based and awarded for a longer term with the intent of improving performance or ensuring service delivery. There are no standard tender documents (STD) for such services yet. Most importantly, the MOHFW will need to increase capacity of its personnel for strategic purchasing as well as to have measures for retention of experienced personnel.

Next Steps: The MOHFW should seek clarification from IMED/CPTU for introducing strategic purchasing and request amendment of PPA 2006 and PPR 2008, if necessary, including development of relevant STDs while addressing capacity issues.

available for payment of CD/VAT or meeting different transaction costs (e.g., unloading, transportation, inspection and testing). CMSD is sometimes criticised for its inability to maintain quantity and quality or delivering goods in time; and for making the procurement processes lengthy. CMSD also faces constraints due to quoting of different prices by different OPs for similar goods and inconsistency in specifications, or changing the list of items by OPs after approval of consolidated procurement plans. CMSD usually does not receive requirements from all OPs in due time. *The DGHS may facilitate effective coordination between the OPs and the CMSD while making the Line Directors aware of their responsibilities when dealing with procurement issues.*

Procurement requires specialized technical expertise and knowledge, which is in short supply. The persons filling up CMSD positions usually acquire such skills when they are assigned to the CMSD. Turnout of those having attained competency in procurement matters hampers the functioning of CMSD as newly posted personnel need to acquire procurement knowledge afresh. Often vacancies are not filled up quickly. *It is essential to develop capacity in the CMSD and to retain competent personnel for longer periods.*

The CMSD is now in the process of being converted into an **attached department**. This status of CMSD could usher in many changes. The LDs would not be sending proposals to another wing of the DGHS,

rather they would be negotiating with another organization. As such there could be some boundary issues in respect of budget and finance of both the organizations. Amendment could be required in the PPA/PPR to authorize the CMSD to act on behalf of the DGHS (similar to PWD). This may not be a problem in the short term but should be resolved for the longer term. CMSD venturing into clearing and forwarding activities also does not make much sense. *The MOHFW could consult with the IMED/CPTU on the function of CMSD, when it becomes an attached department, as the principal procurement agency conducting coordinated procurement of medicine and equipment for DGHS.*

The Bangladesh Government has been moving from a paper based system to an online system called **electronic government procurement (e-GP)** since 2011 with the aim of increasing competition, efficiency and ensuring transparency. However, the MOHFW has been slow to move to this online platform, which needs to be expedited. *The 5th HPNSP needs to move swiftly to the e-GP for all types of procurement for all organizations within MOHFW.*

The 5th HPNSP needs to introduce **strategic purchasing** to procure clinical and non-clinical services from both public and private sectors including NGOs, which is elaborated in Text Box 5 at page 71. *In order to introduce strategic purchasing and make it possible for procuring physical services from NGOs or private sector, the MOHFW should seek clarification from IMED/CPTU and request an amendment of PPA 2006 and PPR 2008, if necessary, and also initiate development of relevant STDs.*

DGHS procures medical and surgical items including diagnostics in bulk and several times a year by many entities. To bring efficiency in the procurement processes, **framework contract** method could be introduced. This would allow building a staggered delivery throughout the year and be efficient on many counts as it can ensure uniformity of pricing and value for money through economies of scale and flexibility in deliveries. *The framework contracting method needs to be encouraged in procurement of medicine and medical and surgical equipment.*

Digitization improves procurement management and could be applied across the whole spectrum of procurement and supply chain. Automation of business processes of CMSD would result in better management of inventory, storage and distribution. **Asset management** is generally a weak area across the government. DGHS has developed a digital system for tracking assets, but the system does not cover all types of physical assets. Comprehensive Asset Management System covering equipment and all other logistic items, fixed assets should be emphasized. The CMSD has initiated digital stock control and distribution system. The DGFP has a robust digital system for inventory and warehouse management. *Establishing a robust digital system for asset management in the DGHS would be vital under the next sector program.*

Precise and clear **specifications** of output, without qualifying or conditioning the tender, is a prerequisite for tenderers. The specifications should require that all goods and materials incorporate all recent improvements in design and materials. *A specifications database within the SCMP needs to be developed and maintained with access to all procurement officials.*

Updating of the **Delegation of Financial Power** is required to accommodate outsourcing of physical services. Currently financial power for physical services is not delegated separately and procuring entities are facing difficulties in identifying the approval authority during the processing of tenders. The delegation of financial powers to the primary and secondary levels remains low. Financial limits for different procurement methods for goods and cash purchase are not compatible with the requirement of procuring entities in routine procurement. In 2015, the threshold for approval of procurement by Cabinet Committee on Government Purchase (CCGP) was increased from 50 to 100 crore. However, the authority for approval for any proposal in between 50 and 100 crores remains to be clarified. *The MOHFW needs to take initiative for clarifications of delegation of financial powers.*

Capacity of the health sector managers in public procurement management is inadequate both at central and local levels. There are lack of capacities to assess the needs, prepare estimates, tender document, and technical specifications as well as managing contracts. *Capacity of MOHFW officials needs to be developed by providing basic to expert level training on public procurement management.*

Strategic Objective 13 (Strengthen procurement and supply chain management for increasing availability of HNP commodities) addresses strengthening procurement planning, distribution and contract management in the 5th HPNSP.

Relevant policies and regulations for procurement will be updated. Use of technology will be enhanced to increase efficiency in procurement process while increasing the capacities of the relevant stakeholders. Asset management will be strengthened. The table below indicates the priority strategies and expected outputs under this strategic objective.

Table 19: Procurement and supply chain management - outputs and priority strategies

Outputs	Priority Strategies
13.1 PPA 2006 and PPR 2008 amended	1. Elaborate procurement of physical services, if necessary, with necessary amendments in law/rules as it relates to health procurement
13.2 Policies for outsourcing issued by FD are amended	1. Develop a proposal for amendment of policy on outsourcing along with financial delegations to suit the needs of HNP sector 2. Negotiate with Finance Division for approval of the amended outsourcing policy
13.3 Required STD for outsourcing HNP services developed	1. Develop Standard Tender Documents (STD) for procurement of HNP services (physical services/non-intellectual services), specific to the requirements of the HNP sector
13.4 Provision for NGOs to participate in the Public Procurement Process created	1. Examine current legal arrangements of NGO's participation in HNP services 2. Create provisions for NGO engagement in the public procurement process in consultation with IMED/CPTU
13.5 Continued use of electronic tendering (e-GP) platform	1. Review the present status of use of manual and electronic procurement (e-GP) in the HNP sector 2. Ensure all procurement via e-GP platform through a time-bound action plan 3. Monitor the use of e-GP system by HSD and MEFWD 4. Develop and maintain a specification database using the SCMP
13.6 Public Procurement Knowledge Cell established	1. Create a cell or unit with the officers having expertise on procurement and allow the cell to extend support in procurement processing in terms of legal, technical and managerial knowledge
13.7 Rationalized thresholds of financial powers	1. Clarify thresholds of financial delegation to the HOPEs at different levels 2. Prepare a proposal for upgrading the delegation of powers at the level of HOPEs and negotiate with Finance Division
13.8 Streamlined procurement functions of CMSD	1. Distinguish the function of LDs and CMSD in procurement of medical commodities a. CMSD to continue procurement of importable commodities b. All local purchases will be done by the LDs
13.9 Framework contracting system established	1. Identify the items to be procured through framework contracting and include those in the annual procurement plan
13.10 Digitized inventory, storage and distribution of HNP commodities in place	1. Develop a guideline for streamlining the inventory, storage, and distribution of goods/commodities/machineries 2. Develop and maintain a centralized digital supply chain management portal
13.11 Capacity of health sector procurement officials developed	1. Arrange basic training on public procurement management for all relevant personnel

13.12 Strengthened asset management system	1. Establish robust asset management system by configuring the system to cover all kinds of fixed assets under the MOHFW 2. Establish a robust setup to manage the operations of the system
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Quality and Affordable Drugs

Medicine constitutes a large portion of the healthcare spending. Price remains a major obstacle to access and leads to high out of pocket expenditure (OOPE) in health. DGDA is responsible for regulating manufacturing and sale of drugs and vaccines in the country. DGDA is increasing its **technical capacity** over the years. DGDA's National Control Laboratory (NCL) and Drug Wing of the NCL has achieved WHO Prequalification in 2020. NCL has earned local and international accreditation. NCL is aiming to achieve WHO Maturity Level 3 with a functional animal house to conduct necessary tests. DGDA is in the process of establishing a New Drug Testing Laboratory for herbal medicine. However, HR constraints could hinder progress in this area. DGDA lacks sufficient human resources for field operations as well. DGDA conducts **Post Marketing Surveillance** (PMS) targeting all categories of manufacturers and retailers to ensure availability of safe, efficacious and good quality medicine. However, current PMS is utterly inadequate due to the size of the market and number of retailers. There is a lack of sufficient logistic support for inspection. DGDA is required to test at least 10 percent of the trades available in the market once a year. *DGDA needs to increase its capacity, both technical and human, as well as consider innovative approaches for post-marketing surveillance. For example, the DGDA could consider outsourcing the sample collection activity to third parties.*

DGDA acts as National **Pharmacovigilance** Center and earned the membership of WHO Upsala Monitoring Center. Good Pharmacovigilance Practices Guidelines has been finalized in 2022. DGDA monitors **Adverse Drug Reactions** (ADR). But, the number of ADR reports is still very low, and the *involvement of healthcare providers and consumers is insignificant in ADR, which should be improved.*

Evidences suggest that quality-assured medicines can improve health outcomes and reduce the financial costs of implementing UHC (Chow et al., 2020). The **quality aspect of drugs** need strict monitoring. 3.4% to 4% substandard drugs were identified among the samples tested between 2011 to 2013 by DGDA (DGDA, 2022). Substandard and spurious medicines are even marketed in the capital of the country highlighting the need for stringent and broader surveillance. There is a need of transparency as well. The DGDA has not been regularly disseminating the findings of the quality testing nor disclosing the names of the product or manufacturers who have failed to maintain quality. Such information should be available in the public domain. In addition, the DGDA should also test **medical devices and diagnostic reagents**. *The DGDA needs to evaluate the quality of medicines and vaccines available in the market on a regular basis and disseminate those for public consumption. DGDA also needs to assess and disseminate the quality of medical devices and diagnostic reagents regularly.*

Access to essential medicine is an important factor for attaining UHC. The **National List of Essential Medicines** (NLEM) comprising of 117 medicines was approved in 1994 for the purpose of controlling the price of those medicines. The manufactures were allowed to set the indicative prices of the remaining medicines. The list has become inadequate or obsolete due to changes in disease prevalence, development of new treatment modalities and/or new medicines. There is strong rationale for reviewing and expanding the list. A new list, prepared in April 2016, remains to be approved. *Steps need to be taken to update and expand the list of NELM based on national needs and WHO guidelines.*

The National Drug Policy (NDP) of 1982 facilitated the development of the **pharmaceutical sector of Bangladesh** by providing protection to the local pharmaceutical industries. This industry has continued to grow and now meets the demand for around 98% of medicines in the national market, though in contrast more than 90% had to be imported just 35 years ago. The size of the local

pharmaceutical market in Bangladesh is around 27,000 crores and is expected to reach 100,000 crores by 2030, industry leaders say. Currently, local manufactures are now exporting to about 150 countries. The export is expected to reach 1.5 billion USD by 2030 as against USD 189M currently (Muktadir, 2023).

Bangladesh needs to keep pace with the standards and advanced trends in pharmaceutical manufacturing. The pharmaceutical industries are required to maintain Good Manufacturing Practices (GMP) and some industries are able to meet the stringent regulatory frameworks of countries like the USA, UK, Australia or EU, etc. Though Bangladeshi industries are able to meet the criteria for **bioequivalence** (for selected products) during export, that is still not a prerequisite for marketing those generic medicine in the local market. In Bangladesh, **biologics** have not yet occupied a significant segment of the market and the products are mainly insulin and few anticancer drugs. Exemption for **biosimilar products** from patent has generated an immense opportunity for countries like Bangladesh and policy response is required in this area. The biosimilar market is estimated to be of about Taka 1,500 Crore in Bangladesh, of which Insulin constitutes more than Taka 1,000 Crore (IMS, 2021). Bangladesh has a thriving market for **herbal medicine** and adequate research and development on products could open up export potentials. Capacities for **vaccine** manufacturing is also needed. *Policy support for continuous development of the pharmaceutical sector needs to be ensured in the long term.*

Pharmaceutical companies conduct promotional activities to increase market share of their products. Weak control over promotional activities leads to poor or unnecessary prescribing while increasing the expenditure for medicines. In the pursuit of achieving sales targets, representatives of pharmaceutical companies may deviate from the ethical standards and norms set by the global or national bodies. The excessive cost incurred for promotions is ultimately transferred to the medicines themselves. In Bangladesh, the Code of Pharmaceutical Marketing Practices was formulated in 1994 to promote strict adherence to the ethical principles of marketing of pharmaceutical products. Unfortunately, that Code is hardly adhered to. Formal medical education programs at undergraduate or postgraduate levels do not address the ethical issues. *Effective regulation is required to control pharmaceutical promotion.*

There were 190,000 licensed **retail drug shops (pharmacy)** and drug depots in October 2022. There could be as many or more unlicensed shops. There is also a high concentration of such shops in many areas. These outlets are not operated by competent professionals. Unregulated sale of medicine in the retail market remains a critical threat to health. Retail Drug Shops are required to be operated by category B (diploma) and category C (certificate) pharmacists. Absence of competent workers hampers the labelling, counselling of drugs, identification of ADR, feedback about drug-drug interaction, etc. *The DGDA needs to assert its authorities to operate retail shops by trained, graduate pharmacists and consider a moratorium on approval of new licenses for a certain period.*

It is necessary to follow **good distribution practice (GDP)** as well as **good storage practice (GSP)** for medicines. There is lack of standard storage facilities in different levels of hospitals for ensuring the quality of the medicinal products. *DGDA could codify the requirement in this area.*

WHO estimates that more than 50% of all medicines are prescribed, dispensed or sold inappropriately and 50% of patients do not take them correctly (WHO, 2002). Rampant use of antimicrobials in poultry and livestock industry is also a cause of concern due to its relevance to emergence of AMR in the humans. Moreover, improving the quality of antimicrobial not only saves millions by getting cured on time, but also helps avoid significant costs associated with potential development of **antimicrobial resistance**. While over-prescribing by physicians remains a factor, unregulated sales by pharmacies and informal providers also contribute greatly in AMR. *The DGDA needs to take measures in collaboration with DGHS and also strengthen its surveillance to control AMR.*

Strategic Objective 14 (Improve regulation and management of the pharmaceutical sector for ensuring quality and affordability of medicines) addresses quality and affordable drugs.

As part of achieving the UHC, the 5th HPNSP will focus on ensuring access to safe, effective, quality and affordable essential medicines and vaccines for all. Special emphasis will be given on containing the risks of antimicrobial resistance. Improving the regulation and management of the pharmaceutical sector for quality and affordable medicines and promoting good pharmacy practices would be other key priority. Priority strategies and expected outputs for achieving this strategic objective have been narrated in the table below.

Table 20: Quality and affordable drugs - outputs and priority strategies

Outputs	Priority Strategies
14.1 Updated regulatory policies and instruments	1. Update National Drug Policy 2016 2. Update regulatory instruments as required for WHO Maturity Level 3
14.2 Strengthened quality assurance system of medicine	1. Attain the membership of the Pharmaceutical Inspection Co-operation Scheme (PIC/S) 2. Further strengthen National Control Laboratory 3. Set up divisional laboratories 4. Set up district level Risk-based Post Marketing Surveillance (RB-PMS) system with minilabs 5. Include Bioequivalence as an indicator of quality assurance system 6. Support the Contract Research Organizations (CROs) owned by public institutions and encourage private CROs in the area of clinical research
14.3 Strengthened quality assurance system of traditional medicine, vaccine, biologics, other therapeutic goods, services, devices	1. Setup Traditional Medicines as a functional unit in the newly constructed Drug Testing Laboratory 2. Improve existing animal house and testing facility to evaluate the vaccines and biologics 3. Establish testing facility to evaluate the medical devices, systems and diagnostic reagents 4. Develop a network of accredited laboratories for quality assurance 5. Ensure strong pharmacovigilance system, particularly for vaccines
14.4 Strengthened the office of DGDA	1. Train a pool of competent and separate human resources for the Laboratory, PMS and GMP inspections under DGDA 2. Recruit adequate IT professionals to support and maintain the ICT infrastructure at DGDA
14.5 Updated national list of Essential Medicine	1. Update and expand the lists of essential medicine as per national priorities and current needs
14.6 Fair pricing mechanism implemented	1. Set the price of the updated list of essential medicine through a transparent method 2. Ensure quality through adherence of appropriate protocol following demand-based procurement of all medicines from the list of essential medicine
14.7 Strengthened Pharmacovigilance	1. Continue collecting, compiling, and submitting the ADE reports to the global authority by DGDA 2. Coordinate Pharmacovigilance activity at the hospitals and clinics
14.8 Enforced ethical norms in pharmaceutical promotion	1. Update Bangladesh Code of Pharmaceutical Marketing Practice 2. Enact laws prohibiting gift and other promotional activities (e.g., Sunshine Act of USA) 3. Enforce judicious prescribing practices for doctors
14.9 Strengthened hospital pharmacy services and established community pharmacy services	1. Establish dedicated medicine stores with required facilities in public hospitals with competent human resources 2. Appoint graduate pharmacist on pilot basis in the hospital pharmacy of selected medical college hospitals 3. Popularize model pharmacy concept among the pharmacy owners, graduate pharmacists and society

	4. Incorporate sufficient clinical exposure in the curriculum of graduate and diploma programs of pharmacy to prepare them to serve competently in the healthcare system
14.10 Established robust information & communication infrastructure	1. Digitalize the regulatory process by establishing a platform for conducting full function of DGDA 2. Ensure functioning of Automated Drug Licensing & Renewal System (ADLRS) 3. Install Pharmacy Management Software (PMS) in every retail outlet
14.11 Measures taken to address TRIPS obligations after graduation from LDC	1. Keeping TRIPS enforcement in view, create environment for taking the opportunities by the national pharmaceutical companies (encourage the industry to take advantage of the waivers granted to the LDCs, till November 2026) 2. Liaise with ministry of commerce on patent related issues affecting the pharmaceutical companies 3. Conduct research and development activities for development of biosimilar products and reverse engineering 4. Facilitate the expansion of Contract Research Organizations
14.12 Capacity enhanced for Research, Development and Production of Vaccine, Biotherapeutics and Biosimilars	1. Facilitate collaboration between academia and pharmaceutical industry for Research and Develop as well as for production of vaccine 2. Develop research laboratories in collaboration with the leading countries to expedite technology transfer 3. Incentivize technology transfer 4. Encourage drug manufacturers for local production of FP commodities, TB drugs, and vaccines
14.13 Measures taken to contain Antimicrobial Resistance	1. Enact law prohibiting sale of antimicrobials without prescription as a punishable offense and apply labeling and other measures to differentiate antibiotic both for human and animals with warnings 2. Introduce Antimicrobial Stewardship Program 3. Incorporate the AWARe principle into undergraduate medical curriculum 4. Adopt Antibiotic Policy at national, regional and institutional levels

Health Information Management and Digitization

Digital health (DH) is defined as “the use of information and communications technology in support of health and health-related fields”. DH is also “a broad umbrella term encompassing eHealth (which includes mHealth), as well as emerging areas, such as the use of advanced computing sciences in ‘big data’, genomics and artificial intelligence” (WHO, 2019). The 5th HPNSP emphasizes data quality and use of data for decision making by **building a digital health eco-system** by operationalizing, among others, the National Digital Health Strategy 2023 (DHS) to ensure an accountable health service delivery in a whole-of-government approach (MOHFW, 2022).

All organizations under the MOHFW need strong digital systems. **Different agencies under the MOHFW have introduced 114 digital tools** for managing routine data or automating business processes – a review done in 2021 revealed (Md. H. Kabir & Kibria, 2021). Those generate routine longitudinal data and maintain service delivery records of individuals. Notable examples of digital systems include nationwide implementation of DHIS2 by DGHS for aggregated data. A separate instance of DHIS2 is also being used in the DGFP for pulling data from the electronic Management Information System (eMIS). Massively scaled up eMIS of DGFP tracks individuals from service delivery points and have amassed the personal and demographic data of more than 50 million individuals using mobile devices and backed by cloud databases. The eMIS tools also automated the business processes of the community level workers (MEASURE Evaluation, 2019). The COVID-19 management through a web-based system has also been a robust implementation. The DGHS has initiated hospital automation systems in some facilities. The DGHS took initiative to create Electronic Health Records (EHRs) using a system called Shared Health Records (SHR) with unique HIDs for the service recipients.

However, the MTR, 2020 noted that the aggregate data collection system showed concerns about data quality and recommended an IT system audit to evaluate and identify the structure and limitation of DHIS2 and all existing systems of DGHS, DGFP and other MIS. It also noted that analytical tools were underutilized or not used at all leading to concerns for data use (IRT, 2020). Data sharing across different organizations of MOHFW is difficult due to fragmented systems and partial **interoperability**. Field workers of DGHS and DGFP collect data from the same clients and from the same places raising questions on data accuracy. **Harmonization of DGHS and DGFP** systems like DHIS2, FP-DHIS2, or eMIS of DGFP etc. have been sought by stakeholders. *The 5th HPNSP should address the issue of harmonization (e.g., by aggregating DGHS and DGFP data in another top-level DHIS2).*

DHS implementation should be based on a detailed costed action plan (CAP). DHS suggested establishing *National Digital Health Information Exchange (NDHIE)* incorporating different registries and directory services, person and entity identification services, etc. Besides, standard and interoperability frameworks for public and private sector facilities, providers, and other stakeholders should be established. To improve inter-operability of different MIS systems establishment of Bangladesh National Digital Health Architecture (BNDHA) and Digital Health Interoperability framework (DHIF) have been suggested. *The CAP should be a priority task for the 5th HPNSP. NDHIE, BNDHA and DHIF need to be established quickly to ensure the interoperability of different MIS systems.*

Many countries have created or plan to **create separate entities for managing eHealth infrastructure and EHR**. The existing organizations under the MOHFW lack core competencies in managing DH initiatives. *The SIP emphasizes immediate actions for creating EHRs of all the citizens. Creating a separate organization under the MOHFW for managing eHealth infrastructure is a critical next step.*

Digital data could be personal and sensitive in nature. The DHS suggests ensuring the integrity, privacy, security, confidentiality, and anonymity of individual's data and to provide access to such data in line with emerging public health needs. Currently, there is **no law for protection of privacy and confidentiality of health data** in Bangladesh (Kabir, 2022). Global best practice is to recognize the consent of the individual for sharing of data and making the organizations storing data responsible for ensuring privacy of such data. *The MOHFW needs to consider enacting a law for protection of personal health data based on international best practices.*

The private sector is a major player in the provision of healthcare both in urban and rural areas, which is increasing their digital strengths and footprints. To meet the data needs of UHC, engagement of both public and private sector facilities would be required. **Private sector and NGO facilities data** combined with public sector data can provide a comprehensive mapping of the health sector and be useful in health systems planning (Gautham et al., 2016). It would, however, be necessary to empower the DGHS through appropriate legal instrument under the existing laws on registration of private clinics (Kabir, 2021). *MOHFW needs to harness data that are available in the private sector or NGOs for health system monitoring or creating EHR and be empowered through appropriate legal instrument.*

Government needs to use **capacities available in the private sector to develop digital systems**. The start-up DH ecosystem is already buzzing and the MOHFW could facilitate innovation, support start-ups and private sector to create new services such in home care, telehealth, etc. Dealing with the private sector would require capacities for contract management. The contracts if not executed properly could result in vendor-lock-in. *The private sector could be engaged in developing different ICT solutions for the health sector, the management of which should be carefully planned and care should be taken to avoid vendor lock-in.*

Text Box 6: Why a separate organization for digital health is required?

The SIP recommends implementing electronic health records (EHR) for all the citizens spearheaded by a new organization for digital health. As a nationwide initiative involving multiple sectors and numerous stakeholders spanning state and non-state actors, it would call for new directions with new ideas and skills, which the existing organizations under the MOHFW are ill-suited for. The new organization will promote the use of information and communication technologies (ICT) in the health sector and ensure better delivery of healthcare services and patient outcomes.

The organization will formulate guidelines and aim to improve health outcomes in terms of access, affordability, quality and reduction in disease mortality and morbidity using digital technologies. Some of the responsibilities envisaged for the new organization are: promoting the use of EHR and other digital health technologies to improve the delivery of healthcare services; facilitating the integration of eHealth systems and services across the healthcare sector; adopting, establishing and maintaining national or international standards for the interoperability and security of health data, among others. It would support to healthcare professionals through training, in both public and private sector including NGOs, to ensure that they have the skills and knowledge to effectively use eHealth technologies. Most importantly, it would liaison with other national and international organizations on technologies and play a critical role in advancing the use of digital technologies in the health sector and promoting the delivery of high-quality, patient-centered healthcare services. The new organization will work with medical academic institutions to spread awareness on eHealth to healthcare delivery professionals.

The organization, for adoption of EHRs, would engage with all stakeholders that include both public and private providers, large hospitals, smaller clinics and diagnostic centers. It would ensure that the eHealth solutions as well as other policy, regulatory and legal provisions are implemented by all the stakeholders. The organization will be given mandate to enforce security, confidentiality, and privacy of patient's health information and records.

The organization will set up for Electronic Health Information Exchanges (HIEs) and elaborate technical and policy documents relating to architecture, standards, policies, and guidelines for eHealth record repositories and HIEs including interoperability. The organization will lay down operational guidelines, protocols, policies for sharing and exchange of data, audit procedures and be driven by global best practices.

All digital systems remain under threat to unlawful access or control of data by actors with malafide intent. There is an urgent need to **ensure data and system security** of sensitive health data. *Measures should be taken for ensuring cyber security to protect the digital systems.*

There is a need to closely oversee the implementation of digital health in the 5th HPNSP from the top level. A **Digital Health Task Group** could be created with the Secretary, HSD, in chair for overseeing the implementation of digital health and providing guidance.

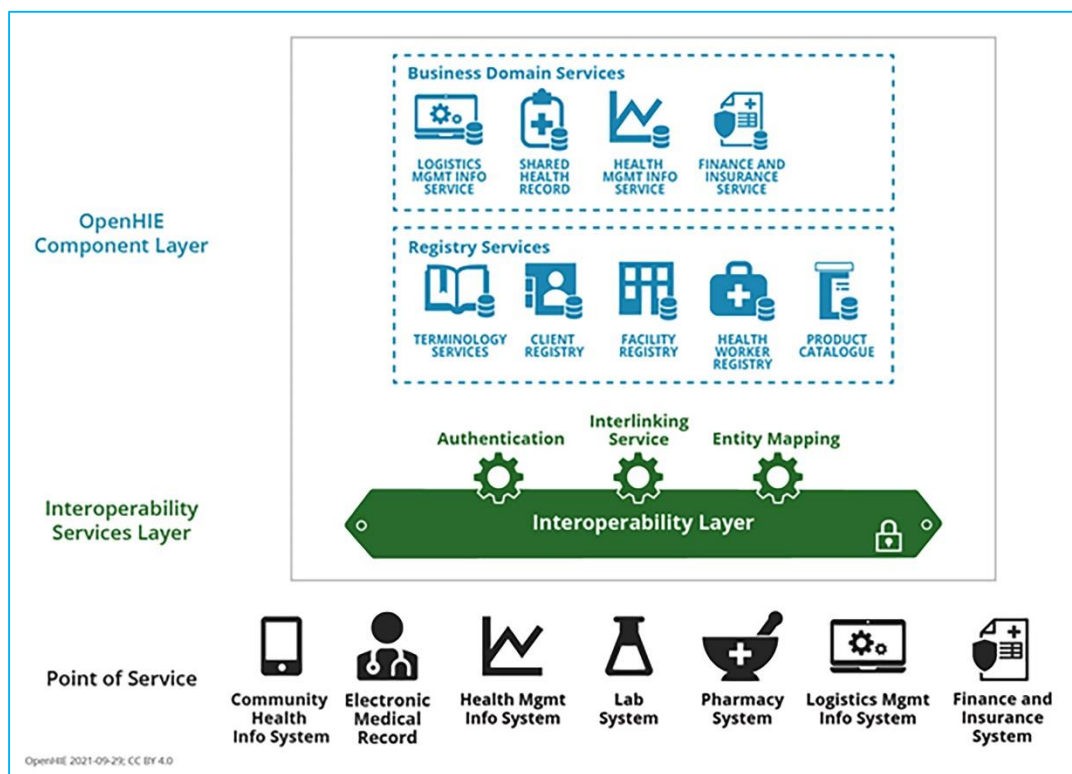
The 5th HPNSP needs to expand the **HIS and eHealth system coverage by strengthening the MIS of different agencies**. *Appropriate human resources should be developed to manage digital platforms highlighting digital literacy and using eLearning tools.*

The DHS highlights **allocation of sufficient funds to strengthen DH program management** capacity of the MOHFW (MOHFW, 2022). Investments are required for development of systems as well and for system maintenance and further development. Investment should be driven by value for money considerations and be reflected in choice of technology (such as, use of open-source software, mobile technology, government clouds) in order to ensure that those are suitable for low resource setting. Apps can be suitable for many tasks and be examined for feasibility. *Sustaining digital resources with investments and increasing technical capacities to manage such resources should be emphasized.*

A culture of Data for Decision Making needs to be developed by providing training to all health managers. Managers should be able to check quality of data. Monthly coordination meetings at

different levels could review performance using the local health bulletin system available in DHIS2. Establishment of quality assurance teams is suggested for ensuring data quality. *There is scope for building an analytics platform to enable use of health data.*

Figure 9: OpenHIE Architecture- a open-source solution for health information exchange



Strategic Objective 15 (Create platforms for digital transformation and increase use of digital technologies for evidence-based decision making) addresses the digital health agenda.

The 5th HPNSP will emphasize making optimum use of information technology for improvement of the HNP sector. To address the chronic issue of interoperability among different MIS, a National Digital Health Information Exchange (NDHIE) will be established. At the same time, the existing coverage of HIS and eHealth will be expanded. Evidences will be generated through the use of digital technology and a culture of data for decision making will be developed. Digital technology will also be used for expansion of HNP services in hard-to-reach and underserved areas. All digital health and health information initiatives will be implemented in collaboration with relevant MISs of the Directorates. The table below details out the priority strategies and expected outputs under this strategic objective.

Table 21: Health Information management and digitization - outputs and priority strategies

Outputs	Priority Strategies
15.1 Digital health strategy operationalized	1. Develop a detailed costed action plan with a monitoring and evaluation framework for implementation of the digital health strategy 2. Establish a separate organization for implementing digital health, especially electronic health records (EHR) for the citizens and to build technological infrastructure 3. Constitute a Digital Health Task Group for driving digital transformation, monitoring and coordinating with the digital initiatives of different agencies
15.2 National Digital Health Information Exchange established	1. Establish National Digital Health Information Exchange (NDHIE) 2. Apply global standards and benchmarks appropriate for data transport and messaging, clinical terms, anonymization etc.

	3. Develop Bangladesh National Digital Health Architecture (BNDHA) and Digital Health Interoperability framework (DHIF) 4. Strengthen the Shared Electronic Health Record database (SeHR) along with all necessary software for consent management, depersonalization etc. as a core system of NDHIE 5. Create interoperability with non-health national systems 6. Develop a patient's health record portal to enable patients to access their health information
15.3 HIS and eHealth system coverage expanded	1. Strengthen MIS of DGHS and DGFP and create MIS in DGDA, DGME, DGNM, CMSD with appropriate human resources 2. Gradually expand the deployment of the central human resources information system (HRIS) 3. Digitally transform public sector hospitals using HMIS software and integrate with NDHIE 4. Develop a training program for capacity building of health workforce at all levels in using digital health technologies 5. Encourage private sector providers to establish digital health
15.4 A culture of Data for Decision Making developed	1. Establish a routine data quality review mechanism at all levels 2. Train all the health managers on analysis of data, usage of data quality check tool and use of data in local level decision making 3. Build analytics platform to enable use of health data for decision making and to proactively disclose health data in Open Data platform 4. Encourage private sector facilities to share health data through NDHIE
15.5 Legislation, Policy and Compliance in place	1. Develop enabling policies, strategies and roadmap for fostering digital health 2. Enact a law on digital health encompassing privacy and security of health data along with provision of interoperability and data sharing
15.6 Expansion of HNP services for expanding care, with emphasis to remote/under-served areas	1. Develop mobile system for mass population to learn about different HNP issues and the respective services 2. Develop mobile system for screening, assist in teaching learning, providing clinical and other related service for people with mental health and neuro development disorder 3. Conduct an IT system audit 4. Expand use of telemedicine for service delivery at remote and underserved areas

Chapter 7: Indicative Budget for the 5th HPNSP

Share of MOHFW in the National Budget

Over the years, the stable economic growth of Bangladesh has led to increased funding in health in absolute terms. However, the combined public and private sources of health financing are inadequate to achieve UHC. On average, about 3.2% of GDP is spent on the HNP sector in Bangladesh, of which the government's contribution is about 1% of GDP. The latter is considerably lower than the targets stipulated in Bangladesh's 7th Five Year Plan (1.12%) and the WHO benchmark (5%). The budget (both operating and development) of the MOHFW as a percentage of the national budget has remained very low and has generally been stagnant or declining in recent years. In 2022-23, the budget allocated to the MOHFW was 5.4% (BDT 36,864 crore) of the national budget, which is one of the lowest in the South Asia region and considerably lower than the WHO recommended government allocation of 15% of the national budget. Although there is scope for improving utilization of available funds and achieving greater efficiency and equity of resource use, the HNP sector requires higher allocations to maintain steady progress in health outcomes and to ensure that households are protected against the potentially high cost of medical care. The contribution of the DPs in the successive SWAp is declining. A number of DPs have already left the sector, and some DPs have shifted their contribution modality from program to project. Hence, the share of HNP allocation in the national budget needs to be increased considerably during the 5th HPNSP.

Government Expenditure Trends in the HNP Sector

The overall size of the SWAp has increased considerably over the years. The total estimated cost for the ongoing 4th HPNSP (2017-23) is Tk 145,934 crore (US\$ 13,638.69 million). Out of this, Tk. 96,560.25 crore (US\$ 9,024.32 million) is operating budget (66.2%) and Tk. 49,374.74 crore (US\$ 4,614.46 million) is development budget (33.8%). Around 61.7% of the total development budget is GOB contribution (Tk. 30,466.46 crore or US\$ 2,847.33 million) and 38.3% is DP contribution (Tk. 18,908.27 crore or US\$ 1,767.13 million), to be spent through 31 OPs.

Table 22 presents the revised budget of the 4th HPNSP.

Table 22: Revised budget of the 4th HPNSP (Jan 2017-Jun 23)

#	Financing Pattern	Revised allocation
1	GOB Operating	96,560.25
2	GOB Development	30,466.46
3	Sub-Total of GOB (1+2)	127,026.71
4	RPA	12,329.22
5	DPA	6,579.05
6	Sub-Total of PA (4+5)	18,908.27
7	Total of Development (2+ 6)	49,374.74
8	Grand Total (1 + 7)	145,934.99

Source: Revised PIP (2017-23), 4th HPNSP, MOHFW

Both allocation and expenditure of the Annual Development Program (ADP) of the MOHFW have increased over time in absolute amount, indicating increased absorption capacity. Over the period of 2017-18 to 2021-22, BDT 37,338 crore were allocated for the Revised Annual Development Program (RADP) of which 98% had been released (PMMU, 2022b). Expenditure of the RADP for the last five financial years under the 4th HPNSP was 85% of the allocation and 87% of the fund released. The year wise utilization rate of RADP allocation shows that the RADP utilization rate reached more than 90% during the pre-COVID period, which experienced a sharp decline in 2019/20 as a result of the disruption of the regular activities of the MOHFW due to the COVID-19 pandemic. Utilization of the operating budget allocations has consistently remained relatively high given the nature of its expendable items. Utilization of the operating budget was more than 95% during the first five years of the 4th HPNSP.

Parallel to the 4th HPNSP, 32 projects are under implementation from ADP funds in the two Divisions of the MOHFW (26 by HSD and six by MEFWD) in 2021-22. The share of RADP allocation for the projects was 48% (Tk. 7264.9 crore) in FY 2021-22. However, the utilization rate of projects has been consistently falling from 83% in FY 2017-18 to 61% in FY 2019-20 and alarmingly to only 23% in FY 2020-21. Though the utilization rate went up to 76% in FY 2021-22, the weak performance of the projects adversely affected the overall performance of the MOHFW. Hence, the number of projects and their financial allocation in ADP needs to be seriously examined to avoid piling up the number of unfinished projects. The utilization rate had previously been higher for the program than the projects in the MOHFW. Hence, it is justifiable to provide more allocations to the SWAp as opposed to projects.

Rationale for Significant Increase of Resources for the 5th HPNSP

According to the latest National Health Accounts, total health expenditure (THE) in Bangladesh was Tk. 77,734 crore in 2020. Assuming the growth rate of the total health expenditure to be 11.7 % (the average growth rate of THE over 2015-20), the estimated THE for 2024-29 stands at Tk. 764,193 crore. Assuming that the share of the public spending of the total health expenditure in the country will remain the same (23% of THE), the required public spending stands at Tk. 175,764 crore.

The per capita health expenditure is estimated as Tk. 4,578 in 2020 (HEU, 2022). Considering the population growth rate of 1.22% (BBS, 2022) and the inflation rate of 7.7%, the required THE for 2024-29 will stand at Tk. 17,04,807 crore.

The ESP costing study estimated that the weighted average coverage of 33% of population in need in public facilities would require Tk. 10,319 crores in 2022. With the same ESP service coverage at the public facilities would require Tk. 77,692 crore over the period of 2024-29. This includes the cost of HR, MSR, infrastructure, logistics, and program management cost, however, not adjusted with inflation. Increasing the ESP service coverage to the entire population would require about Tk. 235,430.65 crore. The above estimates indicate that the financing gap between the required and the actual spending on health is markedly high.

The 5th HPNSP requires a considerable shift in the way the sector is organized and in the delivery of healthcare in order to achieve UHC. The health system of Bangladesh needs to increase the service coverage to the entire population with adequate quality of care. Special measures need to be taken to expand service coverage to currently underserved groups including adolescents, the poor, the geriatric populations, transgender, people living with disability, and those in urban and hard to reach areas. Stabilizing population growth, ensuring maternal, newborn and child care, promoting nutrition services, and tackling TB still remain priorities.

The ESP needs to be updated appropriately by tiers in order to ensure service provision at different tiers, especially to include diabetic, hypertension, cardio vascular disease, cancer and mental health in service package. Moreover, considering the enhanced focus on NCDs (prevention, promotion and cure), geriatric health, medical waste management and life-style change, the next sector program will need to significantly increase resources in the HNP sector. A recent study shows that the total estimated costs of angiogram (19,270 patients), stenting (9,282 patients) and coronary artery bypass surgery (2,151 patients) required Tk. 286.61 crore in one year in three hospitals (government and NGO-run hospitals). The study suggests that it would require around Tk. 400 crores annually and Tk. 2000 crores for five years to provide care to the majority of such patients in the country (BNTTP, 2021).

Mental health will be prioritized in the next sector program, and needs to be integrated within the health system. The 5th HPNSP will identify cost-effective interventions and implement the comprehensive strategies for mental health prevention, mental health promotion, treatment of

mental disorders and rehabilitation by developing adequate and appropriate human resources to deliver mental healthcare services throughout the country, requiring additional investment in health.

Actions are required to coordinate with other relevant ministries and strengthen the existing intersectoral mechanisms for addressing undernutrition, antibiotic resistance and impact of climate change. Additional resources are required for developing heatwave and disease outbreak advisory services for city dwellers, ensuring health sector emergency response for extreme weather events including climate-resilient infrastructure and skilled human resources, and implementing adaptation interventions in hot spot areas for tackling vector borne (VBD) and water borne diseases (WBD). In addition, the COVID-19 pandemic management including rolling out of adult vaccination needs to be considered in the 5th HPNSP. Moreover, GOB will have to share the full responsibility of new vaccinations and EPI program as the GAVI will exit gradually from 2026.

The urban primary healthcare services are largely inadequate in view of the needs of the fast-growing urban population. It is estimated that operating one urban primary healthcare clinic in two shifts with adequate supply of medicine and HR requires approximately Tk. 3 crore per year. At least one such PHC clinic in each of 453 wards in 12 city corporations would require Tk. 6,795 crore in five years.

Emergency healthcare is weak in Bangladesh. During disease outbreak (e.g., COVID-19), natural calamities (e.g., flood), disasters (e.g., fire outbreak) or road traffic accidents, the health service need to respond immediately. The next sector program will prioritize developing emergency care.

Moreover, since August 2017, more than one million Forcibly Displaced Myanmar Nationals (FDMNs) are living in Cox's Bazar district of Bangladesh, which is one of the fastest developing forced displacement crises in the world. Both the host population of Cox's Bazar and FDMN are highly vulnerable and urgently require more effective provision of basic health services. The HNP services provided to them during the 4th HPNSP period need to continue with adequate allocation of human and financial resources for the 5th HPNSP.

The GOB should take necessary measures for introducing efficient financial risk protection mechanisms. Though government has taken the initiative to increase health service coverage among people below the poverty line through a pilot health-financing scheme, Shasthyo Suroksha Karmasuchi (SSK), its coverage is still very limited and available only in 14 upazilas. There is no health protection scheme for the large informal sector of the country, while the formal sector insurance is also extremely limited. In this situation, it would be a great challenge for Bangladesh to achieve UHC by 2030. Hence, the MOHFW needs to work closely with the relevant ministries to design and launch health insurance for the formal sector. The government needs to move towards achieving full population coverage of a cost-effective benefit package of health services focusing on PHC services. The government also needs to ensure universal access to free essential medicines to all citizens. It is estimated in the latest BNHA that 64.6% of the OOP health expenditure is incurred for buying medicines (HEU, 2022). Assuming the same proportion of OOP spending on medicine, the estimated total OOP expenditure on medicine stands at Tk. 428,809 crore.

DPs contribution in the SWAp is declining. A number of DPs may leave the 5th HNP sector program. Though the Global Fund for Tuberculosis, AIDS and Malaria (the Global Fund) has been supporting Bangladesh in the TB-Leprosy and AIDS STD Program. GAVI and GFATM are in transition phase and may withdraw leaving a gap. In the context of declining grants from the DPs, GOB financing to the HNP sector has to increase substantially during the 5th HPNSP to substitute previously DP supported activities.

New, innovative and evidence-based approaches for health information management and digitalization need to be considered to increase service coverage with quality of care. Adequate

investment is required to design and implement modern and emerging technologies for digitalization, hospital automation, strengthening eMIS and DHIS2, execution of health information exchange, etc.

Budgeting of the 5th HPNSP (2024 – 29) has been initiated considering the above issues. Available data from various sources (e.g., MOF, MOHFW), budget requests from the LDs, policy documents/strategies, trend analysis of budget allocations and absorption capacity of previous years were used to estimate an indicative budget for the next health sector program. Three different scenarios, high, middle and low have been derived, using some assumptions. The results of the projections are presented in Table 7.2.

Resource Envelope for the 5th HPNSP

To provide sustainable healthcare services for Bangladesh, an adequate and sustained flow of resources is required. By and large, healthcare financing in Bangladesh is dependent on the government's budget provision, which in turn depends on the performance of the economy. The HNP sector is expected to receive greater priority in the national budgetary allocation in the 5th HPNSP, as envisaged by the 8th Five Year Plan. It suggests to increase public healthcare spending from 0.7% of GDP in FY2019 to 2.0% of GDP by FY 2025 for the rapid response to COVID-19 and the need to sharply enhance the health sector capacity of Bangladesh. Accordingly, the planned development resource allocations in current prices are estimated at Tk. 1,416.8 billion for the five years (FY 2021 -FY 25) (Planning Commission, 2020). The 8th Five Year Plan suggests to strengthen public private partnership (PPP), to enhance the capabilities of district-level healthcare facilities, and to strive towards UHC funded through a combination of private and public health insurance schemes. All these provide the basis for a fair assumption that resource availability will increase over the next five years.

The MOHFW needs to achieve efficiency gains through improved budget management, procurement process, needs-based infrastructure development, and appropriate maintenance of equipment. These in turn will bring additional benefits to the sector. Deciding on appropriate incentives for human resources, reducing absenteeism of staff, and ensuring an appropriate staff-mix will enhance quality of care and will also contribute in efficiency gain in the HNP sector. Moreover, allocating resources based on local need can enhance efficiency in resource use.

The resource envelope for the 5th HPNSP has been estimated based on these forecasts. It seems reasonable to present the resource envelope for the 5th HPNSP with three different scenarios. It is rationally assumed that the MOHFW's budget will be increased annually by 15% in a low case, 20% in a moderate case and 25% in an optimistic case scenario respectively during next five years.

Low Scenario

The Medium-Term Budgetary Framework (MTBF) projection shows that the estimated operating budget for 2024-25 is Tk. 22,020.42 crore. Using the average growth rate of 10% of the operating budget, the total estimated operating budget for 2024-29 stands at Tk. 134,437 crore (US\$ 12,564.19

Table 23: Low Scenario Resource Envelope for 5th HPNSP (2024-29) - In crore Taka

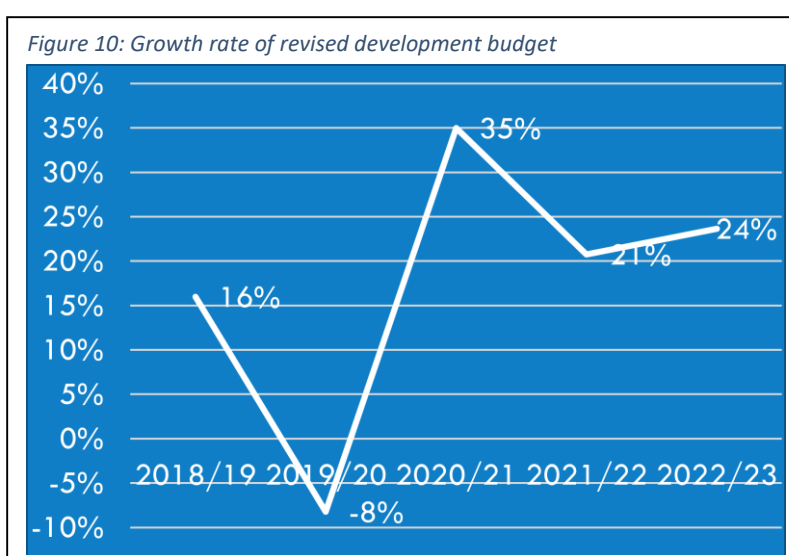
Budget by type	2024-25	2025-26	2026-27	2027-28	2028-29	Total
Operating budget	22,020.41	24,222.45	26,644.70	29,309.17	32,240.08	134,436.81
Development budget for SWAp	19,000.00	21,850.00	25,127.50	28,896.63	33,231.12	128,105.24
Total budget of 5 th HPNSP	41,020.41	46,072.45	51,772.20	58,205.79	65,471.20	262,542.05

Assumption: Annual rate of growth for operating budget as 10% and SWAp development budget as 15%

million). The average annual growth rate of 10% of the operating budget is considered to continue throughout the program period (2024-29) as this budget covers regular expenditures such as salary and allowances, MSR, etc., and does not require substantial increase. Hence, the rate of increment for the operating budget has been assumed to be the same in moderate and optimistic scenarios as well.

Table 24: Revised development budget

Year	Core taka
2017-18	8,700
2018-19	10,091
2019-20	9,260
2020-21	12,500
2021-22	15,094
2022-23	18,665



The MTBF also projects Tk. 22,585.01 crore as development budget for 2024-25 and that for the 8th FYP projection is Tk. 40,890 crore for 2025 for MOHFW. Considering the average of the projected development budget of MTBF and the 8th FYP, MOHFW's estimated average development budget for 2024-25 stands at Tk. 31,737.51 crore. The trend of the development budget allocations for SWAp and non-SWAp shows that around 60% is allocated for SWAp. Considering the same proportion, the basis for estimating SWAp development budget requirement for 2024-25 stands at around Tk. 19,000 crore (60% of Tk. 31,737.51 crore).

Using the average growth rate of 15% of the development budget, the total estimated SWAp development budget for 2024-29 stands at Tk. 128,105.24 crore (US\$ 11.97 billion). Therefore, the total estimated budget (both development and operating) for the 5th HPNSP stands at Taka 262,542.05 crore (US\$ 24.54 billion) as a low scenario case, as shown in Table 23 below.

Moderate Scenario

Using the average annual growth rate of 20% of the development budget, the total estimated SWAp development budget for 2024-29 stands at Tk. 141,390.40 crore (US\$ 13.21 billion). Therefore, the total estimated budget is Tk. 275,827.21 crore (US\$ 25.78 billion) in a moderate scenario for the 5th HPNSP, inclusive of the development and operating budgets as shown in Table 25 .

Table 25: Moderate Scenario Resource Envelope for 5th HPNSP (2024-29) - In crore Taka

Budget by type	2024-25	2025-26	2026-27	2027-28	2028-29	Total
Operating budget	22,020.41	24,222.45	26,644.70	29,309.17	32,240.08	134,436.81
Development budget for SWAp	19,000.00	22,800.00	27,360.00	32,832.00	39,398.40	141,390.40
Total budget of 5th HPNSP	41,020.41	47,022.45	54,004.70	62,141.17	71,638.48	275,827.21

Assumption: Annual rate of growth for operating budget as 10% and SWAp development budget as 20%

Optimistic Scenario

Using the average annual growth rate of 25% of the development budget, the total estimated SWAp development budget for 2024-29 stands at Tk. 155,933.59 crore (US\$ 14.57). Therefore, the total estimated budget is Tk. 290,370.40 crore (US\$ 27.14 billion²) in an optimistic scenario for the 5th HPNSP, inclusive of the development and operating budgets as shown in Table 26.

Table 27 summarizes the three scenarios based on which a rational budget for the 5th HPNSP may be worked out. The estimated resource envelope for the 5th HPNSP stands at Tk. 262,542.05 crore (US\$ 24.54 billion), Tk. 275,827.21 crore (US\$ 25.78 billion) and Tk. 290,370.40 crore (US\$ 27.14 billion) under low, moderate and optimistic scenarios respectively.

Table 26: Optimistic Scenario Resource Envelope for 5th HPNSP (2024-29) - In crore Taka

Budget by type	2024-25	2025-26	2026-27	2027-28	2028-29	Total
Operating budget	22,020.41	24,222.45	26,644.70	29,309.17	32,240.08	134,436.81
Development budget for SWAp	19,000.00	23,750.00	29,687.50	37,109.38	46,386.72	155,933.59
Total budget of 5th HPNSP	41,020.41	47,972.45	56,332.20	66,418.55	78,626.80	290,370.40

Assumption: Annual rate of growth for operating budget as 10% and SWAp development budget as 25%

Resource Gap

As evident from the trend analysis, the contribution of GoB in development budget has increased from 28% in first SWAp to 62% in 4th HPNSP. On the other hand, DP contribution has declined from 72% to 38% during the same period. Considering this trend, for the 5th HPNSP, it is expected that out of the total required SWAp development budget, about 60% would be contributed from GOB's own resources. The rest 40% is the resource gap to be funded externally.

The World Bank (WB) is expected to provide up to US\$ 900 million and the Asian Infrastructure Investment Bank (AIIB) is expected to co-finance US\$ 500 million with the World Bank. It is also expected that the Asian Development Bank (ADB) would finance at least US\$ 500 million. The total potential contribution of US\$ 1.9 billion from the WB, AIIB and ADB indicates a considerable resource gap for the 5th HPNSP.

The Japan International Cooperation Agency (JICA) and Global Financing Facility (GFF) have expressed interest to provide financial and technical support, however, other potential support from a number of long-standing DPs including FCDO, Global Affairs Canada (GAC), Sweden, The Netherlands, United States Agency for International Development (USAID), the Global Fund, the UN Agencies are yet to indicate their tentative support to the Program. New sources of funding may come up, e.g., The Gates

Table 27: Resource Envelope for the 5th HPNSP (2024-29) - In crore Taka under three scenarios

Budget by type	Scenario		
	Low	Moderate	Optimistic
Operating budget	134,436.81	134,436.81	134,436.81
Development budget for SWAp	128,105.24	141,390.40	155,933.59
Total budget of 5th HPNSP	262,542.05	275,827.21	290,370.40

² 1 USD=107 Tk, as of 4 February, 2023; <https://www.bb.org.bd/en/index.php/econdata/exchangerate>

Foundation, French Development Agency (AFD), European Investment Bank (EIB). As stated earlier, the MOHFW can explore availability of resources from international climate change and health funding sources (e.g., GEF, GCF, bilateral donors) for building climate-resilient health systems. Moreover, in order to bridge the resource gap, GOB's contribution should be increased and efficiency in both fund allocation and utilization needs to be enhanced.

Area-wise Budget Breakdown

As stated earlier, the 5th HPNSP (2024-29) calls for incremental investment on maternal and child health, NCDs and mental health including geriatric care, nutrition, FP, CDC including vaccination and emergency preparedness. In order to increase the coverage of maternal health care (e.g. ANC, PNC, institutional delivery, etc.) and the current status of curative child health care in Bangladesh, the current status of curative child health care in Bangladesh, the MOHFW needs to allocate more resources for the concerned OPs. Strengthening PHC service including ESP provision will require huge investment, which will increase service utilization by the women, children and the poor at the grass root level. Nutrition services need to be expanded throughout the country and therefore the budget of this OP needs to increase considerably. Investment on NCD and mental health needs to increase substantially. MOHFW needs to expand the coverage of the Family Planning Field Services Delivery and Clinical Contraception Service Delivery to both rural and urban areas. In addition, more resources will be required to improve the quality drugs, digitalization and HIS, etc. Considering the trend of current budget and the additional investment requirement, major area-wise investment requirement is presented in Table 28 at page 88.

Table 28: Resource need for the 5th HPNSP (2024-29) - In crore Taka :

Area	In crore Taka	% of total budget requirement
PHC including ESP	31,105.89	22%
SRMNCAH	21,208.56	15%
FP	16,966.85	12%
CDC including TB-Leprosy and AIDS/STD, pandemic preparedness	14,139.04	10%
NCD, eye care, mental health and geriatric care	18,380.75	13%
Nutrition	5,655.62	4%
STSCF	8,483.42	6%
Medical Education and Development including nursing and midwifery education	8,483.42	6%
HRPM including training, research and development	4,241.71	3%
Quality and Affordable Drugs	2,827.81	2%
Health Information Management and Digitization	5,655.62	4%
Other Areas (e.g. financial management, health financing and UHC, procurement and supply chain management, etc.)	4,241.71	3%
Total	141,390.40	100%

Risk analysis

If the MOHFW does not receive the required development budget, the overall implementation of the 5th HPNSP would be compromised, which in turn will negatively impact achieving SDG targets and UHC. There would be a risk of partial implementation of several proposed strategic priorities, or event

not being implemented at all. The initiatives of strengthening PHC-led support systems for PHC delivery at facilities would suffer due to inadequate equipment, logistics, essential medicines, community engagement, etc. Strengthening urban PHC systems would also be hampered. The much-needed innovative approaches for AMR containment, pandemic management and increased coverage of NCD care (including mental health, cancer, eye care, drowning, road traffic injury) might not be possible to design and implement in the next SWAp.

Training is required for developing skills and capacity of health and parahealth professionals and health care managers for providing quality health care and improved facility management. Education and training institutes including the existing MATS and IHTs would require adequate staff and faculties, educational materials, physical as well as library and laboratory facilities. Inadequate funding would negatively impact quality of education and the continuous professional development of health workforce, ultimately leading to poor quality of care.

One of the key strategic priorities of the 5th HPNSP is to create platforms for digital transformation and increase use of digital technologies for evidence-based decision making through building a digital health eco-system, operationalizing the National Digital Health Strategy 2023 (DHS), improving data quality, creating patient record, scaling up of e-GP system etc. There is a high risk that digital innovations would not take place in the absence of adequate development budget.

Considerable TA is required for ensuring governance in the HNP sector. Inadequate resource might lead to insufficient coordination across different units within MOHFW as well as inter-ministerial coordination. The SIP proposes a number of TAs, without which the proper strategic direction and functioning of the 5th HPNSP (and beyond) would suffer.

Above all, it is worth mentioning that GoB will continue to provide health financing through the MTBF mechanism. In such a situation, MOHFW will be able to continue with the ongoing activities without major change. The emerging issues raised in the SIP along with some innovative ideas and new directions would be difficult to implement fully without additional fund to be provided by GoB as well as contributed by the DPs.

However, the MOHFW needs to explore alternate sources of funding, such as creating a 'Health Fund' using corporate social responsibility (CSR) funding, earmark health tax (e.g. tax on tobacco, alcohol, sugar, junk food, sugar-sweetened beverages) for raising health budget. Moreover, MOHFW needs to identify possible pathways to overcome the challenges of inadequate funding. The MOHFW would require to ensure greater efficiency in resource use, enhance absorption capacity of available budget, develop capacity of health workforce in planning and budgeting, and create synergies among OPs to avoid duplication and ensure value for money.

Chapter 8: Conclusions

The SIP proposed for significant increase of resources for the HNP sector, which could only materialize with strong political commitment of the government. Such resources would help the 5th HPNSP for moving towards UHC and achieving SDG goals. Additional funding would warrant additional responsibility from all providers involved in the health service delivery process or others performing management functions. The MOHFW need to ensure the alignment of funding to agreed priorities and reduce fragmentation between OPs or discrete projects. The DPs are also expected to continue with technical and financial support in the process of HNP sector development of Bangladesh. Finally, the MOHFW need to increase the capacity of agencies for utilizing funds allocated supported by a strong accountability mechanism.

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Annex A: Progress of Bangladesh towards Health and Nutrition related SDGs

Indicator	Value	Year	Rating	Trend
SDG 3: Good Health and Well-being				
Maternal mortality rate (per 100,000 live births)	173	2017	●	↑
Neonatal mortality rate (per 1,000 live births)	17.5	2020	●	↑
Mortality rate, under-5 (per 1,000 live births)	29.1	2020	●	↑
Incidence of tuberculosis (per 100,000 population)	218.0	2020	●	→
New HIV infections (per 1,000 uninfected population)	1.0	2020	●	→
Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30–70 years (%)	18.9	2019	●	→
Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	149	2016	●	●
Traffic deaths (per 100,000 population)	15.4	2019	●	→
Life expectancy at birth (years)	74.3	2019	●	→
Adolescent fertility rate (births per 1,000 females aged 15 to 19)	74.0	2019	●	↑
Births attended by skilled health personnel (%)	52.7	2018	●	→
Surviving infants who received 2 WHO-recommended vaccines (%)	97	2020	●	↑
Universal health coverage (UHC) index of service coverage (worst 0–100 best)	51	2019	●	↗
Subjective well-being (average ladder score, worst 0–10 best)	5.3	2020	●	↑
SDG2: Zero Hunger				
Prevalence of stunting in children under 5 years of age (%)	28.0	2019	●	→
Prevalence of wasting in children under 5 years of age (%)	9.8	2019	●	→
Prevalence of obesity, BMI ≥ 30 (% of adult population)	3.6	2016	●	↑
Legend				
Major Challenges	●	On track or maintaining SDG achievement		↑
Significant Challenges	●	Stagnating		→
Challenges Remain	●	Moderately improving		↗
SDG Achieved	●	Information unavailable		●

Note: The above SDG progress indicators have taken from the website mentioned below. The data are from 2022. The arrows indicate whether the indicator is on-track (upwards green arrow), stagnating (horizontal yellow arrow or situation is declining (downward red arrow). This dashboard is a global tracker of SDG progress and they use this same legend for all countries.

<https://dashboards.sdqindex.org/profiles/bangladesh/indicators>

Annex B: Progress in HNP Sector as Indicated in the RFW of 4th HPNSP

Result	Indicator	Means of Verification & Timing	Baseline & Source	2022 Update	Target 2023
Goal: <i>All citizens of Bangladesh enjoy health and well-being.</i>	GI 1. Under 5 Mortality Rate (U5MR)	BDHS, every 3 years/SVRS/MICS	46 (BDHS 2014) 35 (SVRS 2016) 58 (MICS 2012-2013)	31 (BDHS 2022). 28 (SVRS 2020). 40 (MICS 2019)	34
	GI 2. Neonatal Mortality Rate (NMR)	BDHS, every 3 years/SVRS/MICS	28 (BDHS 2014) 19 (SVRS 2016)	20 (BDHS 2022). 15 (SVRS 2020); 26 (MICS 2019)	18
	GI 3. Maternal Mortality Ratio (MMR)	BMMS/MPDR/MMEIG ³ , every year/SVRS	176 (WHO 2015 ⁴) 178 (SVRS 2016)	173 (WHO 2017); 196 (BMMS 2016). 163 (SVRS, 2020)	121
	GI 4. Total Fertility Rate (TFR)	BDHS, every 3 years/SVRS/MICS	2.3 (BDHS 2014) 2.10 (SVRS 2016) 2.3 (MICS 2012-2013)	2.3 (BDHS 2022). 2.04 (SVRS 2020). 2.3 (MICS 2019)	2.0
	GI 5. Prevalence of stunting among under-five children	BDHS, every 3 years/UEDS, every non-BDHS years/MICS	36.1% (BDHS 2014) 42% (MICS 2012-2013)	24% (BDHS 2022); 28% (MICS 2019); Urban: 26.3%, Rural: 28.4%	25%
	GI 6. Prevalence ⁵ of hypertension among adult population	BDHS, every 3 years/NCD-RF, every 2 years/STEP	Female 32%, Male 19% (BDHS 2011)	Female 28.7%, Male 21.5% (NCD-RF 2018); Female 45%, Male 34% among age group 35+ (BDHS 2017-18)	Female 32%, Male 19%
	GI 7. % of public facilities with key service readiness ⁶ as per approved Essential Service Package (ESP)	BHFS, every 2 years	FP: 38.2; ANC: 7.8%; CH: 6.7% (BHFS 2014)	FP: 51.6%. ANC: 9.3 %. CH: 2.4% (BHFS 2017)	
	GI 8. % of total health expenditure (THE) financed from public sector	BNHA, every 3 years/WHO	23.1% (BNHA 2012)	23% (BNHA 2015) ⁷	26.2%

³ MMEIG: Maternal Mortality Estimation Inter-agency Group, consisting of WHO, UNICEF, UNFPA, UN Population Division and The World Bank

⁴ <http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2015/en/>

⁵ Estimated as elevated blood pressure among women and men aged 35 years or older

⁶ Defined as facilities (excl. CCs) having a) for FP: guidelines, trained staff, BP machine, OCP and condom; b) for ANC: guidelines, trained staff, BP machine, hemoglobin and urine protein testing capacity, Fe/folic acid tablets; c) for CH: IMCI guideline and trained staff, child scale, thermometer, growth chart, ORS, zinc, Amoxicillin, Paracetamol, Anthelmintics

⁷ New BNHA data not yet available.

Annex C: Results Framework for the 5th HPNSP (2024 – 29) (Final Draft)

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
Goal: <i>All citizens of Bangladesh enjoy health and well-being</i>	GI 1: Universal Health Coverage Index ⁹	GED Knowledge Portal, MoHFW WHO, Global Monitoring Report, SEARO ¹⁰ , every two years	51% (2019) (GED 2021, WHO 2021)	80%
	GI 2: Maternal mortality ratio (MMR)	SVRS: Every year MMEIG (UN) Every two-three years	168/100,000 LB SVRS 2021 123/100,000 LB MMEIG (UN) 2020	70/100,000 LB
	GI 3: Under-5 mortality rate	BDHS: every 3 years MICS: every 3-5 years SVRS: Every year	U5MR: 31/1,000 LB BDHS 2022-23 U5MR: 40/1,000 LB MICS 2019 U5MR: 28/1,000 LB SVRS 2021	U5MR: 25/1,000 LB
	GI 4: Neonatal Mortality Rate	BDHS: every 3 years MICS: every 3-5 years SVRS: every year	NMR: 20/1,000 LB BDHS 2022-23 NMR: 26/1,000 LB MICS 2019 NMR: 16/1,000 LB SVRS 2021	12/1000 LB

⁸ Indicators in general would be stratified (where applicable) by age, gender, geographic areas, rural-urban settings and wealth quintiles

⁹ The FP component of the UHC Index refers to CPR-Modern Methods

¹⁰ Monitoring progress on universal health coverage and the health-related Sustainable Development Goals in the WHO South-East Asia Region every year **

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
	GI 5: Age specific death rate (per 1,000 population) a. 45-49 years b. 50-54 years c. 55-59 years	SVRS: every year	a. 45-49 years: 4.8 b. 50-54 years: 7.4 c. 55-59 years: 12.0 SVRS 2021	a. 45-49 years: 4.3 b. 50-54 years: 6.7 c. 55-59 years: 10.8
	GI 6: Prevalence of stunting among under-5 children	BDHS: every 3 years MICS: every 3-5 years	Stunting: 24% (BDHS 2022-23) 28% (MICS 2019)	Stunting: 18%
	GI 7: Prevalence of wasting among under-5 children	BDHS: every 3 years MICS: every 3-5 years	Wasting: 11% (BDHS 2022-23) 10% (MICS 2019)	Wasting: 5%
	GI 8: Total Fertility Rate (TFR)	BDHS: every 3 years MICS every 5 years SVRS: every year	2.3 BDHS 2022-23 2.3 MICS 2019 2.05 SVRS 2021	1.9
	GI 9: Out of pocket expenditure as % of Total Health Expenditure (THE)	BNHA: every 5 years	67% BNHA 2015	55%

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
Component A: Services Improvement				
Quality:				
Result 1: Enhance the quality of the health services delivery and experience	A.1.1: Percentage of bloodstream infections (BSI) due to Staphylococcus aureus resistant to the antibiotic methicillin (MRSA) and Escherichia coli resistant to 3rd-generation cephalosporin antibiotics	Sentinel surveillance of IEDCR: every year	MRSA: 59% E. coli: 57% IEDCR surveillance report 2022	MRSA: 50% E. coli: 50%
	A.1.2: Number of govt. medical college and specialized hospitals reporting data into cancer registry	DGHS HMIS: every year	MCH-22 (only cervical cancer)/ Specialized Hospitals: 1	MCH: 22 (at least 3 types of Cancer) Specialized Hospitals: 6
	A.1.3: % of facilities with EmOC Signal Function Readiness and Newborn Signal Function Readiness	BHFS: every 3 years	Basic (without CC): EmOC 10.8%; Newborn 8% Comprehensive: EmOC 6.1%; Newborn 2% BHFS 2017	Basic (without CC): 90% EmOC: 90% Newborn: 90% Comprehensive: 50% EmOC: 50% Newborn: 50%
Coverage:				
Result 2: Increase equitable access and coverage of essential health services	A.2.1: Tuberculosis detection rate (as %) - overall and MDR-TB specific	WHO Global TB report: every year NTP MIS: every year	Detection of Overall: 82% (2021) Global TB Report 2022 Detection of MDR-TB Specific: 81% (2019) Annual report, NTP 2020	Detection of Overall: 90% Detection of MDR-TB Specific: 90%
	A.2.2: Number of districts having coverage of MR2 immunization of 95% or more	CES report/ Joint Evaluation Report prepared by WHO and UNICEF: every year	30 districts CES 2019 ¹¹	64 districts for valid coverage

¹¹ This is based on current CES cut-off of 90% or more, future CESs need to change cut-off to 95%

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
	A.2.3: % of hypertensive and diabetic type-2 patients age 18 and older, aware, receiving treatment and under control	BDHS: every 3 years NCD-RF1 survey: every 2 years	For HTN: Male: 9 Female: 15 BDHS 2017-18 Male: 14.7 Female: 13.6 NCD-RF survey 2018 (age 18-69) For DM: Male: 13 Female: 13 BDHS 2017-18 Male: 11.6 Female: 15.5 NCD-RF survey 2018	For HTN: Male: 33 Female: 33 For DM: Male: 33 Female: 33
	A.2.4: Contraceptive Prevalence Rate (CPR) (modern methods) at the national and divisional level.do	BDHS: every 3 years UESD: every non-BDHS year	National: 55%; Divisional: Barishal: 54%; Chattagram: 49%; Dhaka: 53%; Khulna: 56%; Mymensing: 59%; Rajshahi: 61%; Rangpur: 61%; Sylhet: 44% BDHS 2022-23	National: 80%; Divisional: Barishal: 80%; Chattagram: 80%; Dhaka: 80%; Khulna: 80%; Mymensing: 80%; Rajshahi: 80%; Rangpur: 80%; Sylhet: 80% - [80% for all regions]

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
	A.2.5: % of all births taking place in a health facility, segregated by public and private facilities	BDHS: every 3 years UESD: every non-DHS year	All: 65%; Public: 18%; Private: 45% BDHS 2022-23	All: 90%; Public: 50%; Private: 40%
	A.2.6: % of pregnant women who received at least 4 ANC visits and all components of antenatal care ¹² .	BDHS: every 3 years UESD: every non-BDHS year	National: 21%; Urban: 33%; Rural: 17% BDHS 2022-23	National: 80%; Urban: 90%; Rural: 75%
	A.2.7: Ratio of facility births among rich and poor (quintile Q1:Q5)	BDHS: every 3 years	1:2 BDHS 2022-23	1:1.15
Component B: System Strengthening				
Operations				
Result 3: Improve adequacy, efficiency, and functionality of health systems	B.3.1: % of positions functionally vacant in public sector health facilities by provider type ¹³	BHFS: every 3 years DGHS and DGFP HRIS: every year	Consultant 54%, Doctor 28%, Nurse 15%, Midwife 24%, FWV 6%, Paramedics 17%, Technician 32%	Consultant 10%, Doctor 10%, Nurse 10%, Midwife 10%, FWV 10%, Paramedics 10%, Technician 10%

¹² ANC components: Weighed, BP measured, Blood test done, Urine test done, Informed on danger signs

¹³ Provider types: Consultants (Medicine, Surgery, Ob-Gyn and Anaesthesia), Doctor, Nurse, Midwife, FWV, Paramedic (SACMO/MA & Paramedics), Technician (Pharmacist, Medical Technologist, Medical Technician, Electrocardiogram Technician, Echocardiography Technician, Cardiographer)

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
	B.3.2: % of public sector health facilities/public service delivery points without stock-outs in any of the medicines/drugs in a particular category ¹⁴ (on the day of survey)	BHFS: every 3 years FP supplies e-LMIS/DGFP every year	FP: 72% Child Health: 3% TB: 7% NCD: 1% Essential Medicine: 0.2%	FP: 90% Child Health: 90% TB: 80% NCD: 90% Essential Medicine: 80%
	B.3.3: % of procurement packages (development) managed through EGP tendering (separately for DGHS, DGFP, DGNM, DGDA, DGME)	Admin records: every year	PSSM-HS: 80%, (2021-22) PSSM-FP: 90.56%, (2021-22) SDAM:0%, (2021-22) NMES: 100%, (2021-22) MEHMD: 93.75%, (2021-22)	100%
	B.3.4: Number of registered private facilities (hospitals and clinics) regularly reporting with at least 2 datasets ¹⁵ as appropriate	DGHS HMIS every year	0	4000
	B.3.5: % of facilities with availability of basic amenities ¹⁶ for client services in health facilities	BHFS: every 3 years Routine data	5.2% (all facilities) 13.9% (excluding CCs) BHFS 2017	80% (all facilities) 90% (excluding CCs)
	B.3.6: % of upazila health complexes with functioning ¹⁷ operation theatres	DGHS HMIS every year	45.51%	90%

¹⁴ **Categories:** FP: pills & injectables in DH, MCWC, UHC & Union; **Child Health:** Amoxicillin & Inj. Gentamicin in DH, UHC, & Union; **TB:** first line (Four-drug fixed-dose combination (4FDC) available, or else isoniazid, pyrazinamide, rifampicin, and ethambutol are all available, or a combination of these medicines) & second line (Inj Streptomycin) treatment1 in DH, UHC, & Union level; **NCD:** Amlodipine, Losartan, Thiazide, Metformin, Gliclazide in DH & UHC; **Essential Medicines:** 14 essential medicines (Amitriptyline tablets/capsules, Amoxicillin tablets/capsules, Atenolol tablets/capsules, Captopril tablets/capsules, Ceftriaxone injectable, Ciprofloxacin tablets/capsules, Cotrimoxazole oral Suspension, Diazepam tablets/capsules, Diclofenac tablets/capsules, Glibenclamide tablets/capsules, Omeprazole/cimetidine tablets/capsules, Paracetamol oral suspension, Salbutamol inhaler, Simvastatin/atorvastatin tablets/capsules) in DH, UHC and Union

¹⁵ Datasets: Maternal (ANC, Delivery), Newborn (Inpatient), U-5 child (Inpatient), NCD ((Outpatient), General Inpatient

¹⁶ Basic amenities: Electricity, improved source of water with safe drinking water, privacy during consultations, clean latrine for clients designated for male and female separately, landline or mobile phone, computer with internet access [safe drinking water and designated latrine for males and females are newly added, to be included in future assessments]

¹⁷ Has been used for surgery involving general/spinal anaesthesia in the month prior to reporting

RESULT	INDICATOR ⁸	MEANS OF VERIFICATION & TIMING	BASELINE & SOURCE	TARGET 2029
	B.3.7: Number of upazilas reporting at least one corrective action/response taken per year by implementing (MPDSR)	Admin reports/APIR: every year	0	60 districts
	B.3.8: % of medicines tested annually against medicines available in the market.	Admin Data from DGDA: every year	7.61% (2022)	10%

Annex D: Thematic area-wise List of Tentative TA required during the 5th HPNSP

A. Thematic Area: Primary Healthcare (PHC)

1. Update the list of essential medicines, including those distributed from CCs based on current disease burdens, population size and environmental issues
2. Revise the job descriptions of PHC workers (for addressing NCDs, mental health, etc.) along with task shifting
3. Review the activities of the CG and CSGs and merge them into one group for ensuring community support and accountability
4. Update the existing ESP with costing with incorporation of and emphasis on awareness building regarding healthy lifestyle, NCDs, AMR, malnutrition and relevant emerging diseases.
5. Develop and introduce a structured referral model from CCs and union facilities to UzHCs for streamlining treatment and reducing burden on tertiary and specialized facilities
6. Develop mechanism for introducing a pilot subsidized ambulatory service at UHFWCs and UzHCs in coordination with private sector to strengthen the referral services

B. Thematic Area: Sexual, Reproductive, Maternal, Neonatal, Child and Adolescent Health (SRMNCAH)

1. Identify factors affecting care of mother during PNC period and effective strategies to improve PNC for home births.
2. Performance evaluation of deployed midwives; and assessment of performance of the MCWCs.
3. Identification of the factors influencing high C-section rate in private clinics, including measures for reducing C-section rate.
4. Identify effective strategies to increase KMC at community level.
5. Assessment of facility readiness for BEmoNC and newborn care.
6. Identify factors influencing proper care seeking for pneumonia.
7. Identify prevalence of NCD among under five children and current management arrangements, including experience of multi-sector collaboration for drowning prevention.
8. Situation assessment of the need and availability of Adolescent Counselors for improving SRH and mental health/psychosocial counseling services.
9. Identify barriers to Adolescent Friendly Life-skill Education (AFLE) in secondary schools and the challenges of growing up in big cities faced by adolescents of different socio-economic strata.
10. Assess knowledge on SRHR issues and sources of information; capacity for managing SRHR issues at various service tiers; and care seeking practices for SRHR by men and women in rural and urban areas.

C. Thematic Area: Family Planning (FP)

1. Capacity development for estimating available HR skill mix versus the service delivery facilities.
2. Developing alternative service delivery approaches including task shifting and capacitating field workers for better service provision.

D. Thematic Area: Nutrition

1. Review and update the National Nutrition Policy (NNP).
2. Support to BNNC for operationalization of the third National Plan of Action for Nutrition (NPAN 3).
3. Capacity building of the key ministries to operationalize nutrition-related multisectoral financial tracking system of Ministry of Finance.
4. Strengthen health and nutrition ESP service delivery packages in urban PHC facilities.

E. Thematic Area: Communicable and Emerging Infectious Diseases (CEID)

1. Develop an integrated surveillance mechanism for CEID to be run out of GOB's own resources.
2. Development of policy and regulatory instruments for biosafety & biosecurity and public health and social measures.

F. Thematic Area: NCD and Mental Health

1. Develop a comprehensive surveillance system for NCDs and MH care.
2. Develop protocol for comprehensive aging care and one stop service, including humanitarian and emergency responses.
3. Study the feasibility of having a separate regulatory body for mental health professionals and services.

G. Thematic Area: Secondary, Tertiary & Specialized Care (STSC)

1. Setting Standards of Care for different level of service delivery facilities.
2. Situational analysis of WASH aspects in hospitals for ensuring quality of care.

H. Thematic Area: Sector Management and Governance (SM&G)

1. Develop mechanism (s) synchronizing and harmonizing the existing Policies and Strategies for use in future planning.
2. Mapping of Intra and Inter Ministerial Linkages and identification of operational and functional duplications for strengthening coordination and stewardship by MOHFW.
3. Review and identify gaps in the existing regulatory frameworks for strengthening sector governance.
4. Support for strengthening Monitoring and Evaluation of the HNP sector through the Program Management and Monitoring Unit (PMMU) Including MOHFW resource support for adequate staffing and contracting for external local support, as needed, to support the PMMU.
5. Review and update National Health Policy 2011

I. Thematic Area: Medical Education and Development (MED)

1. Review and update existing curriculum to improve the quality of medical education.
2. Develop modalities of supporting mental health of students and teachers in ME institutes, including a guideline for treating minor mental disorders.

J. Thematic Area: Human Resources (HR)

1. Review the requirements, compositions, roles and responsibilities of the PHC level HR staffing (field workers, their supervisors, staff at CC, union level facilities (USC, UHFWC and MCWC) and UzHC) in the context of changing needs of HNP interventions.
2. Review the staffing structure of the medical college hospitals and general hospitals to ensure adequate skill-mix.

3. Review existing structure of Civil Surgeon Office for ensuring a balance between administrative functions and service delivery.
4. Review recruitment, deployment and promotion of faculty positions of MATS and IHTs.
5. Prepare a long-term (15-20 years) HRH planning, development and management plan.

K. Thematic Area: Health Financing and Universal Health Coverage

1. Prepare an investment case for additional requirement of funds through identifying how to improve absorption capacity of MOHFW.
2. Provide Technical Assistant to develop the project on Health Technology Assessment
3. Review the public service rules and regulations for designing incentives (cash, kind) for the HRH with proper implementation plan and resource requirements.
4. Develop a PPP strategy for enhancing private sector participation in health.
5. Explore options for modalities of facility-based (UzHCs, DHs, MCHs and Specialized Hospitals) budget allocations vis-à-vis disease pattern, population, geographical locations, etc.

L. Thematic Area: Financial Management and Audit (FM&A)

1. Develop comprehensive training program on PFM, including evaluation method of the training to be imparted.
2. Develop a comprehensive monitoring framework for reducing fiduciary risks and audit objections.
3. Review and update the existing asset management system in place to cover all kinds of fixed assets owned by MOHFW.

M. Thematic Area: Procurement and Supply Chain Management (PSCM)

1. Develop STDs for procurement of HNP services (physical services/non-intellectual services), specific to the requirements of the HNP sector.
2. Examine current legal arrangements and recommend for provision of NGO participation in procurement process of HNP sector.
3. Identify the items to be procured and prepare STDs through framework contracting.
4. Develop a guideline for streamlining the inventory, storage, and distribution of goods/commodities/machineries.
5. Develop and maintain a centralized digital supply chain management portal.

N. Thematic Area: Quality and Affordable Drugs (QAD)

1. Update National Drug Policy 2016; regulatory instruments as required for WHO Maturity Level 3; and National List of Essential Medicines.
2. Update Bangladesh Code of Pharmaceutical Marketing Practice.

O. Thematic Area: Health Information Management and Digitization (HIMD)

1. Develop a detailed costed action plan with a monitoring and evaluation framework for implementation of the digital health strategy.
2. Analyze and global standards and benchmarks appropriate for data transport and messaging, clinical terms, anonymization, standards for metadata, etc.
3. Design a single platform as a decision support system and automatic reporting feature for all field service providers

4. Develop a training program for capacity building of health workforce at all levels in using digital health technologies.
5. Develop enabling policies, strategies and roadmap for fostering digital health.