BANGLADESH HEALTH WORKFORCE STRATEGY 2023-2041

MINISTRY OF HEALTH AND FAMILY WELFARE
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

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ACKNOWLEDGEMENT

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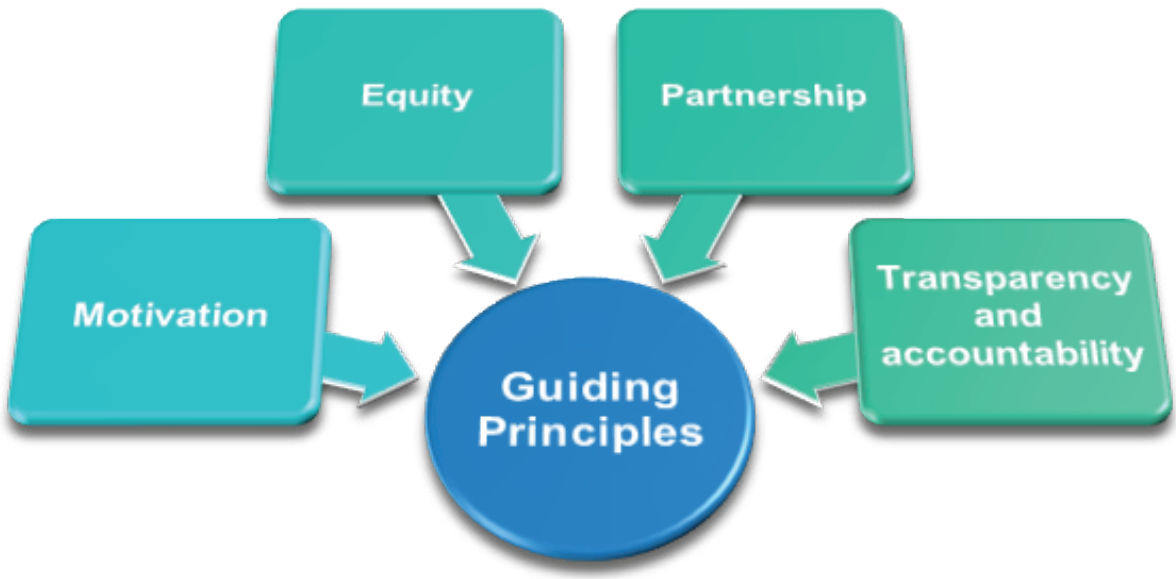
LIST OF ABBREVIATIONS

ACR	: Annual Confidential Report
ADB	: Asian Development Bank
ADP	: Annual Development Programme
AMC	: Alternative Medical Care
ATMS	: Admission Test Management System
BAMS	: Bachelor of Ayurvedic Medicine and Surgery
BCPS	: Bangladesh College of Physicians & Surgeons
BCS	: Bangladesh Civil Service (BCS)
BDS	: Bachelor of Dental Surgery
BHMS	: Bachelor of Homeopathic Medicine and Surgery
BHPC	: Bangladesh Health Professional Council
BHFS	: Bangladesh Health Facility Survey
BHWS	: Bangladesh Health Workforce Strategy
BMA	: Bangladesh Medical Association
BMDC	: Bangladesh Medical and Dental Council
BNMC	: Bangladesh Nursing & Midwifery Council
BPCDOA	: Bangladesh Private Clinic and Diagnostic Owners Association
BPMPA	: Bangladesh Private Medical Practitioners Association
BSc.	: Bachelor of Science
BSc.N	: Bachelor of Science in Nursing
BSCO	: Bangladesh Standard Classification of Occupations
BSMMU	: Bangabandhu Sheikh Mujib Medical University
BUMS	: Bachelor of Unani Medicine and Surgery
CC	: Community Clinic
CHCP	: Community Health Care Provider
CILMS	: Central Inventory & Logistics Management System
CPD	: Continuous professional development
CSBA	: Community Based Skilled Birth Attendants
CSO	: Civil Society Organization
DAMS	: Diploma in Ayurvedic Medicine and Surgery
DG	: Director General
DGDA	: Directorate General of Drug Administration
DGFP	: Directorate General of Family Planning
DGHS	: Directorate General of Health Services
DGME	: Directorate General of Medical Education
DGNM	: Directorate General of Nursing & Midwifery
DH	: District Hospital
DHMS	: Diploma in Homeopathic Medicine and Surgery
DLKC	: Digital Library & Knowledge Centers
DM	: Diploma in Midwifery
DMF	: Diploma in Medical Faculty
DMT	: Diploma in Medical Technology
DNSM	: Diploma in Nursing Services & Midwifery
DP	: Development Partners
DUMS	: Diploma in Unani Medicine and Surgery
ESP	: Essential Services Package
FWV	: Family Welfare Visitor
FWVTI	: Family Welfare Visitor Training Institute
GOB	: Government of Bangladesh
GP	: General Practitioner
HED	: Health Engineering Department
HEU	: Health Economics Unit
HLMA	: Health Labour Market Analysis
HPN	: Health, Population and Nutrition

HPNSP	: Health, Population and Nutrition Sector Programme
HRB	: Human Resources Branch
HRH	: Human Resources for Health
HRIS	: Human Resource Information Systems
HRM	: Human Resources Management
HRMU	: Human Resources Management Unit
HSD	: Health Services Division
HWF	: Health Workforce
HWIS	: Health Workforce Information System
IC	: Intensive Care
ICU	: Intensive Care Unit
IHT	: Institute of Health Technology
IPE	: Inter professional education
IPM	: Individual Performance Management
ISCO	: International Standard Classification of Occupations
LMIC	: Low Middle-Income Country
MATS	: Medical Assistance Training School
MBBS	: Bachelor of Medicine and Bachelor of Surgery
MCWC	: Mother & Child Welfare Centre
MDG	: Millennium Development Goal
MDHMS	: Medical Dorms & Hostel Management System
ME&HMPD	: Medical Education and Health Manpower Development
MEFWD	: Medical Education and Family Welfare Division
MIS	: Management Information System
MOE	: Ministry of Education
MOHFW	: Ministry of Health & Family Welfare
MOPA	: Ministry of Public Administration
MPH	: Master of Public Health
MTR	: Mid-term review
NEMEMW&TC	: National Electro-Medical Equipment Maintenance
NGO	: Non-Government Organization
NIPORT	: National Institute of Population Research and Training
NIPSOM	: National Institute of Preventive & Social Medicine
NQAS	: Implementation of the National Quality Assurance Scheme
OP	: Operational Plan
OSTP	: Online Staff Training Portal
OT	: Operation Theater
PCB	: Pharmacy Council of Bangladesh
PHC	: Primary Health Care
PMS	: Performance Management System
QA	: Quality Assurance
SACMO	: Sub-Assistant Community Medical Officers
SDG	: Sustainable Development Goals
SEARO	: Southeast Asian Regional Office
SMF	: State Medical Faculty
TBA	: Traditional Birth Attendants
TEMO	: Transport & Equipment Maintenance Organization
TOE	: Table of Organogram & Equipment
TQM	: Total Quality Management
UHC	: Universal Health Coverage
UHFPO	: Upazila Health and Family Planning Officer
USAID	: United States Agency for International Development
UzHCs	: Upazila Health Complexes
WFME	: World Federation for Medical Education
WHO	: World Health Organization
WISN	: Workload Indicators of Staffing Need

Overview of the Bangladesh Health Workforce Strategy



GOAL

Ensure quality health services for all by developing a skilled, motivated, and responsive health workforce (HWF) in adequate numbers and available equitably across the country

Objectives

1. Make available competent and adequate number of workforces according to the health system's need.
2. Produce, develop, and sustain quality HWF at all levels.
3. Recruit, deploy and retain HWF equitably.
4. Promote and maintain high standards in HWF performance.
5. Promote evidence based HWF decision-making in improving health outcomes.

KEY STARTEGIC ACTIONS

Strategic Action 1: Develop and implement a comprehensive health workforce (HWF) requirement plan with projections up to 2030

- Update the service level-wise HWF needs with projections up to 2030
- Update HWF need analysis regularly through periodic Health Labor Market Analysis (HLMA)
- Update the integrated Table of Organogram & Equipment (ToE)

Strategic Action 2: Design a need-based recruitment and deployment Plan

- Recruit and deploy HWF equitably
- Improve skill mix
- Plan and implement Task shifting

Strategic Action 3: Adopt innovative approaches to address HRH distribution issues with special focus on areas and sectors having greatest need and workforce shortage

- Update deployment plans according to need and strengthen mechanisms for provision of rewards and sanctions of workforces
- Explore and develop flexible and safe working environments that reflect the changing needs and profile of the workforce
- Promote initiatives that encourage HWF to maintain a level of skill, knowledge and competence
- Promote retention of HWF at Disadvantaged areas
- Assess community targeted admission policy for graduate programs of health professionals

Strategic Action 4: Align education and production of the HWF according to the projected requirement.

- Educate and produce adequate number of HWF
- Restructure the organization and function of the Human Resource Management Units (HRMUs) of the health care institutions and organizations
- Develop appropriate organizational and regulatory frameworks
- Develop new categories of workforce as needed
- Review and update HWF production-related policies and guidelines/ strategies

Strategic Action 5: Ensure continued HRH Training

- Formulate in-service training guidelines
- Conduct a needs assessment for training of the private sector (formal and informal) HWF and Initiate those training programs
- Develop an automated inventory system for the educational institutions

Strategic Action 6: Ensure quality assurance/ improvement and accreditation of academic/training programs and institutes

- Initiate educational and training programs on Quality Assurance in health sector
- Accelerate establishment of the 'Bangladesh Medical Education Accreditation Council' affiliated with the MOHFW
- Strengthen the presently operating regulatory bodies in the health sector
- Create the Bangladesh Health Professionals Council (BHPC)

Strategic Action 7: Develop a comprehensive Performance Management System (PMS) and Accountability Framework

- Review and update the existing job descriptions at a regular interval
- Review the existing system of HR performance management
- Examine the institutional and individual appraisal system of the country
- Develop a guideline for creating awareness about the concept of a PMS
- Capacity development of the different stakeholders regarding PMS

Strategic Action 8: Review and update Accountability Framework

- Redesign the roles and responsibilities of the Ministry, different Directorate and Agencies
- Strengthen the accountability framework
- Introduce a Total Quality Management culture in the performance management system

Strategic Action 9: Increase the motivation of HWF

- Identify areas of motivation
- Develop models for HWF motivation
- Develop mechanisms in the government system for stimulating more motivation and commitment of the service providers
- Develop gender-responsive human resource policies

Strategic Action 10: Develop a comprehensive central HWF Information system and use it for evidence-based decisions

- Design a Need-based Information System for HWF Planning
- Implement procedures to operate through the system
- Continue to develop HWF information sharing for potential solutions to challenges
- Coordinate with HWF MIS among the MOHFW and other relevant supply side players
- Promote retention of professionals by creating a supportive culture through the use of modern technological interventions
- Strengthen supportive supervision, monitoring and mentoring

Strategic Action 11: Promote health systems research for evidence-based planning and maintenance of the HWF

- Support HWF research for generation of knowledge and evidence
- Establish a repository of HWF related studies, research, evaluation and other publications
- Strengthen HRB through restructuring based on future needs

1. INTRODUCTION

Health workforce (HWF) is described as 'the heart of the health system in any country' (WHO, 2006), 'a fundamental component of health system strengthening' (WHO, 2007) and 'the navigator of the health system' (WHO, 2006). Performance of the health system is immensely dependent upon how best the workforce is developed, planned and utilized. The Ministry of Health and Family Welfare (MOHFW) in Bangladesh is committed to ensure universal health coverage (UHC) by 2032. In line with this commitment the Bangladesh HWF Strategy (BHWS) 2015 was formulated with the view to support achieving the pre-determined goals and objectives set for the development and advancement of the health, nutrition and population (HNP) sectors of the country. The BHWS 2015 strategy was aligned with the vision of the 4th Health, Population and Nutrition Sector Programme (HPNSP) 2017-2022, the National Health Policy 2011, National Population Policy 2012, National Nutrition Policy 2015 and also the World Health Report 2006, which collectively recognize the importance of the central role of the HWF (HWF) for a responsive and people-centered health system. The strategy provides a framework which includes strategic interventions and supportive actions in order to address priority HWF management issues and challenges identified through adopting a participatory consultative approach assisted by a rapid situational analysis.

In the BHWS 2015 document, the MOHFW planned to review and update the Strategy periodically as progress is made in the priority areas, and new priorities for action emerge. The update has become more necessary due to the substantial economic growth in Bangladesh (with graduation to a Low-Middle Income Country or LMIC) with consequent demographic as well as epidemiological changes and also due to the overarching effect of the COVID-19 pandemic, which has necessitated a fundamental rethinking about health all over the world. The Bangladesh HWF Strategy 2023 (BHWS 2023) has been revised with this perspective.

The strategy intends to cover the entire HWF working in the country but initially focuses on the public sector workforces which is mostly under the MOHFW. However, it also contains directions to include the workforce under other public sectors as well as under the private, NGO and informal subsectors to begin with. Considering the urgency to attain UHC by 2030, the strategic actions have been formulated with the relevant SDG targets in consideration.

The strategy envisions a 'quality HWF for the health and wellbeing of the people of Bangladesh' with the mission to 'ensure quality health service for all by developing skilled, motivated and responsive HWF in adequate numbers and available equitably across the country'. The strategy is underpinned by four guiding principles: gender balance, motivation, partnership and transparency and accountability. These principles will guide implementation of the strategic interventions to support the realization of the vision and mission of the strategy as a whole'.

The present strategy is planned to be aligned with the 5th Health, Population & Nutrition Sector Programme (5th HPNSP) of the country, which is presently under preparation now and which is considered as the main instrument for implementation (in reality, the 'Operational Action Plan' of the Strategy). This alignment can be instrumental in the implementation of the strategic actions.

Adequate HWF Financing is a prerequisite for implementing the interventions under the present strategy and it will need to be incorporated in an updated version of the Health Care Financing Strategy prepared in 2012. At the least, the following dimensions of the HWF financing will need to be covered in the updated Heath Care Financing Strategy: i) individual base pay and security/pensions; ii) individual incentives for service in remote areas; iii) student financing to promote equitable admissions to HWF training; iv) faculty financing to make sure teaching is available and of good quality; v) public-private mix in financing and dual practice; and vi) UHC-related financing of workforce related to provision of services via capitation. Further areas of financing priority will emerge during budgetary planning of the individual activities and sub-activities.

The interventions under the present Strategy are planned to be implemented or initiated within 2030 during which the strategic actions will be implemented by various OPs as well as by the regular activities of the relevant Executing Agencies. However, some of the activities will be continued after that period and the full impact of the Strategy is expected to be realized by 2040. This is in line with the GOB's Vision 2041 for a Smart Bangladesh, which is the main driving force for the selection and prioritization of the interventions under BHWFS 2030. The present Strategy is thus visualized as a vital contributor to realize the Vision 2041 with Bangladesh graduating as a developed nation.

2. HWF CONTEXT: BANGLADESH

2.1 BACKGROUND

The health systems of Bangladesh has recently been applauded in the international arena for its remarkable performance achieved in the Millennium Development Goals (MDG), especially Goals 4 and 5, with significant declines in child and maternal mortality. Progress on reaching the MDG 1 regarding underweight children seems to be on track. These remarkable achievements have provided immense confidence to set UHC as one of the post-MDG targets under the Sustainable Development Goals 3 (SDGs) - Goal 3. Achievement of this success was possible due to the combined efforts of the health planners, policy makers, managers, frontline workers like physicians, nurses, all allied health workers, development workers who are directly and indirectly involved with the delivery process across sectors. Due to the presence of multiple stakeholders in the systems, a Lancet report (Ahmed et al, 2013) has characterized the prevailing health system as pluralistic combining different categories of the workforce across public, private (both "for profit" and "not for profit"), NGOs, associations, and informal sub-sectors.

2.2 HEALTH WORKFORCE IN POLICY GUIDELINES

The Ministry of Health & Family Welfare (MOHFW) has adopted a sector wide approach to deliver its health and family welfare services. Its overall services are designed for and comprise three sectors, i.e., health, population and nutrition. For efficient management of those sectors, three national level policies (i.e., National Health Policy 2011, National Population Policy 2012 and National Nutrition Policy 2015) have been formulated. In each of these critical HRH issues have been identified such as the filling of vacancies, addressing workforce shortages, capacity development and production, determination of HWF needs, coordination among field level health workers and conducting research for evidence generation. Moreover, the National Health Policy 2011 particularly suggests formulating a HWF strategy which should emphasize mitigation of prevailing skill mix imbalance, lack of incentives and ensuring justice in order to address shortage and maldistribution of physicians, nurses, pharmacists, physiotherapists, paramedics, technologists, and other health workers. The National Health Policy 2011 stresses strengthening health professional education and training through modernization and need-based curriculum including streamlining postgraduate medical education. The health policy also indicates to take necessary measures to ensure presence of the HWF at the workstation. All the policies emphasize ensuring transparency and accountability in recruitment, posting, transfer and promotion at all stages of the health system.

2.3 RECRUITMENT AND DEPLOYMENT

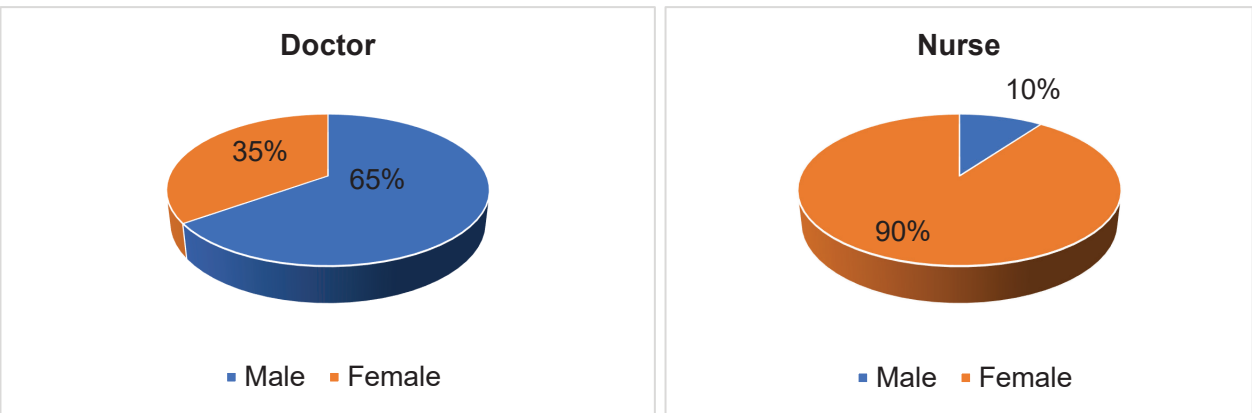
2.3.1 Composition of the government health workforce: While the production of doctors and nurses is less than adequate in Bangladesh, the issues related to absorption of the trained workforce in the public sector are more severe. The MOHFW employs around 35% of all doctors in the country and other ministries 3% (MOHFW & WHO Bangladesh, 2021a). Recruitments to the public sector are centralized at the national level. The gender composition of healthcare workforce in the public sector is similar to what is found in other South Asian countries: the nursing and midwifery cadres are predominantly women and the other workforce cadres are mostly male.

Table 1: Gender composition of healthcare workforce under MOHFW

Health worker category	Total	% of Male	% of Female
Doctors	26,619	64%	36%
Dentists	829	56%	44%
Nurses (BSc and Diploma)	35,828	10%	90%
Sub-Assistant Community Medical Officers	7,927	69%	31%
Midwifery	1,145	0%	100%
Medical Technologists	6,248	84%	16%
Domiciliary Staff	57,451	38%	62%
Alternative medicine	1,053	67%	33%
Pharmacists (Category B)	1,744	81%	19%
Total	**1,38,844**	**40%**	**60%**

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

Figure 1: Composition of Employed under MOHFW (doctor & nurse) by gender



Source: HRH Data Sheet 2022, (MOHFW, 2022)

Table 2: Availability of different categories of HWF under MOHFW in Bangladesh

Sl.	Type of Health Workforce	Number		
		Male	Female	Total
1	Registered MBBS Graduate	65794	47683	113477
2	Estimated Number of Doctor (MBBS) available in the Country	53951	39100	93051
3	Registered BDS Graduate	6915	4678	11593
4	**Registered Nursing and Midwifery Practitioner**			
	i) Registered Nurse			
	a) B Sc.	845	6587	7432
	b) Diploma	2637	67022	69659
	ii) Registered Midwife (Diploma)	NA	6285	6285
	Total	**3482**	**79894**	**83376**
5	**Health Practitioner with Diploma in Medical Faculty (DMF)**			
	a) Student Completed DMF			36047
	b) Registered with BMDC	14803	8571	23374
6	**Registered Pharmacy Practitioner**			
	a) Bachelor (Grade-A)			17082
	b) Diploma (Grade-B)			15500
	c) Certified Pharmacy Assistant (Grade-C) (3-month training course)			129362
7	**Health Practitioner with Diploma in Medical Technology (DMT)**			
	a) Lab Technology			13896
	b) Radiotherapy			630
	c) Radiology & Imaging			4027
	d) Physiotherapy			2848
	e) Sanitary Inspector Training			2689
	f) Dental Technology			4536
	g) OT Assistance			246
	h) IC Assistance			120
	i) Prosthetics and Orthotics			40
	j) Cardiology			5
8	**Registered Homeopathic Medicine and Surgery Practitioner**			
	a) Bachelor	2535	870	3405
	b) Diploma	23393	14661	38054
9	**Registered Unani Medicine and Surgery Practitioner**			
	a) Bachelor	564	216	780
	b) Diploma	2695	567	3262
	c) Certified Unani Professional (1-month training course)	4096	237	4333
10	**Registered Ayurvedic Medicine and Surgery Practitioner**			
	a) Bachelor	467	181	648
	b) Diploma	1137	194	1331
	c) Certified Ayurvedic Professional (1-month training course)	3394	103	3497
11	Registered Family Welfare Visitor (FWV)	NA	7211	7211
12	Registered Community Paramedic	656	1653	2309
13	Registered Community Based Skilled Birth Attendant (CSBA)	NA	9303	9303

Source: HRH Data Sheet 2022, (MOHFW, 2022)

2.3.2 Deployment of healthcare professionals in rural and urban areas: Around three quarters of the doctors and nurses are posted in urban areas while all midwives and SACMOs are posted in rural areas. More than half of the dentists and medical technologists are posted in urban areas. Under the context of around 60%-40% rural-urban ratio of population distribution, such maldistribution may be due to the design of the health system or posting and retention issues. However, it highlights the non-availability of doctors and nurses in rural areas.

Table 3: Availability of HWF employed by MOHFW in rural and urban areas

Health worker category (% pop.)	Doctors	Dentists	Nurses (BSc and Diploma)	Midwives	SACMOs	Medical Technologists	Pharmacy technologists (Category B)
Urban (38%)	75%	58%	75%	0%	0%	51%	69%
Rural and hard-to-reach areas (62%)	25%	42%	25%	100%	100%	49%	31%
Total	**(25926)**	**(870)**	**(35,828)**	**(2549)**	**(3,661)**	**(3,892)**	**(1,744)**

Source: HRH Data Sheet 2022, (MOHFW, 2022)

2.3.3 Deployment of healthcare professionals by MOHFW at different levels of the health system: The deployment of various healthcare professionals at different levels of the healthcare system reflects the design of the system. The tertiary level has 75% of doctors and nurses while 100% of the Midwives and SACMOs are deployed at the primary level. The Dentists, Medical technologists, and pharmacists are distributed across three levels, with half or more than half located at the tertiary level.

Table 4: Distribution by level of health system

Level of services	Doctors	Dentists	Nurses (BSc and Diploma)	Midwives	SACMOs	Medical technologists	Pharmacists (Category B)
Primary	11%	28%	8%	100%	100%	31%	31%
Secondary	14%	14%	17%	0	0	18%	20%
Tertiary	75%	58%	75%	0	0	51%	49%
Total % (Number)	**(25926)**	**(870)**	**(33616)**	**(2549)**	**(3661)**	**(3892)**	**(1,744)**

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

2.3.4 Distribution of the health workforce across divisions: The Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021a) reveals nuanced differences in the density of various health workers across divisions. There is a concentration of doctors employed in the government health system in Dhaka and Rajshahi divisions when calculated per 10,000 population. The density of generalist doctors per 10,000 population is similar for rest of the districts. The difference among density of specialists is stark when comparing Dhaka division to the others. With respect to Nurses, the density is similar to the national average in all divisions except for Chattogram. The total number of SACMOs and medical technologists employed by the GOB is far less than the doctors and nurses respectively. The density of SACMOs is higher in Sylhet, Barishal and Mymensingh as compared to the population. The situation may be varied in different districts of the divisions. Further disaggregated data is needed in order to have a clear picture of availability of different cadres within the public health system across various divisions and districts and for undertaking equity analysis. A recent unpublished data, as shown in Table 6, also supports this view.

2.3.5 Vacancies in the public health system: Vacancies within the government health system vary slightly depending on the health system design (sanctioned posts) and the production capacities of various healthcare professionals. The highest vacancies are in specialist doctors and Midwives. This could be to do with the production capacities related to these cadres. The lowest vacancies are among nurses. One of the reasons for this could be that nurse posts are mainly concentrated at the tertiary level, and at Upazila Health Complexes (UzHCs) and District Hospitals (DHs).

Table 5: Category-wise vacancies of health professionals under MOHFW

Health worker category	Sanctioned posts	Filled posts	% Vacant posts
Generalist Doctors	30,214	22,623	25%
Specialist Doctors	9,898	4,164	58%
Dentists	1,361	829	39%
Nurses	40,015	35,828	10%
Sub-Assistant Community Medical Officers	5,397	3,661	32%
Midwives	2,996	1,145	62%
Medical Technologists	6,406	3,892	39%
Domiciliary Staff	75,009	59,183	21%
Alternative medicine	1,906	1,053	45%
Pharmacists (Category B)	2,982	1,744	42%
Total	**1,76,234**	**1,33,210**	**24%**

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

The Bangladesh Health Facility Survey (BHFS) further provides some insights into vacancies at every level (MOHFW, 2017). The survey found that in district and upazila public facilities, 87% of manager/administrator posts are filled. Specialists by design are posted at the district DHs and UzHCs level within the government health system. Among public facilities, specialists were expected and found only in DHs and UzHCs, where the BHFS, 2017 found that 62% of specialist posts in DHs and 33% in UzHCs are filled. For general practitioner posts, 63% and 15% of the total posts were filled in district (DHs) and upazila (UzHCs) public facilities respectively. For Nurse/Midwife posts, 89% were filled in DHs, 77% in Mother & Child Welfare Centre (MCWC) and 73% in the UzHCs. At the level of the Directorates, the vacancies within the DGHS and DGFP were 31% and 34% respectively (Table 7). It is to be noted that the very high vacancy (82%) in DGME is related to the recent sanction of the posts (at the Directorate) which were not yet filled up during the preparation of the data sheet (MOHFW, 2022).

Significantly, post vacancies and problems of retention in the private sector are very similar to government and in some instances are higher. For instance, in private facilities, only 21% of specialist posts are filled (MOHFW, 2017). Most of these vacancies are driven by the profit motive of the private sector owners leading to deliberate underemployment of HRH at the cost of quality.

Table 6: Division-wise HWF Vacancy in Bangladesh under DGHS and DGFP (as of 2021

Division Name	Sanctioned Total	Filled-up Total	Vacant Total		Allied HRH, Code-226 & 321		Medical Doctors, Code-221 & TCM, Code-223		Nursing & midwifery Associates, Code-322		Nursing & midwifery Professional, Code-222		Other health aasociates professionals, Code- 325		Professional services managers, Code-134 & Support	
			Vacant #	Vacant %	Vacant #	Vacant %	Vacant #	Vacant %	Vacant #	Vacant %	Vacant #	Vacant %	Vacant #	Vacant %	Vacant #	Vacant %
Barishal	16,942	11,336	5,605	33%	785	54%	1234	59%	99	70%	575	19%	1437	23%	1475	36%
Chattogram	39,202	25,517	13,685	35%	1411	45%	1491	33%	168	59%	2770	42%	4032	27%	3813	40%
Dhaka	81,196	55,226	25,971	32%	2387	38%	4252	34%	407	61%	3941	22%	4015	26%	10969	38%
Khulna	24,672	16,576	8,096	33%	913	45%	1599	52%	114	60%	788	18%	2269	25%	2413	39%
Mymensingh	15,976	11,749	4,226	26%	478	36%	810	41%	89	77%	469	18%	1288	20%	1092	31%
Rajshahi	28,897	21,238	7,659	27%	495	20%	1395	42%	117	43%	695	12%	2318	24%	2639	36%
Rangpur	23,291	16,483	6,808	29%	818	43%	1372	50%	105	67%	815	19%	2112	24%	1586	29%
Sylhet	14,536	8,709	5,827	40%	660	58%	775	46%	92	85%	1465	53%	1353	26%	1482	42%
Grand Total	**244,711**	**166,834**	**77,877**	**32%**	**7947**	**40%**	**12928**	**40%**	**1191**	**62%**	**11518**	**25%**	**18824**	**25%**	**25469**	**37%**

Note: TMC means Traditional & complementary medicine professionals; Allied HRH includes Other health Professional,Code-226 & Medical & pharmaceutical technicians, Code- 321; Other health aasociates professionals is including Community health workers, covers mostly PHC services

Source: Bangladesh Health Sector Need Assessment, (ADB 2022), (Unpublished)

As per information from DGHS and DGFP the number of total HR working in the public sector (under MOHFW) is 166,834 (Table 6). The total sanctioned posts are 244,711, thus a total of 77,877 (32% of sanctioned positions) are still vacant. The highest proportion of vacancies have been found in the category of nursing & midwifery associates (62%), followed by medical doctors (40%), allied HRH (40%), management professionals (37%), nursing & midwifery professionals (25%) and, lastly, other health associate professionals (25%). Studies based on the WHO-suggested Workload Indicators of Staffing Need (WISN) method have shown that almost all categories of staff at every level of facility are overloaded in Bangladesh (Save the Children-USAID. 2016). A part of this additional workload is created by the lack of timely recruitment against vacant posts; however, the major part is created by lack of sanction of adequate number of workforces in various categories. Irrespective of the reason, the inadequacy of HRH thus creates an avoidable obstacle for the delivery of health care in the country. This is happening in all Divisions of Bangladesh. Table 6 shows that the highest vacancy is found in Sylhet (40%), followed by Chattogram (35%), Barishal (33%) and Khulna (33%).

The vacancies in the public sector translate into high workloads for the healthcare professionals. A study analyzing the workload of various cadres found that five of the selected 20 staff categories had extremely high workload pressure, while seven staff categories had very high workload pressure. The highest workload was reported among specialists such as consultants in medicine, pediatricians, anesthesiologists, gynecologists, and surgeons. Nurses, instead of providing nursing care, were mainly occupied in support activities. While filling the vacant posts would reduce the workload of existing staff, the study also found that there was need to sanction more posts in many facilities (such as consultants, general physicians and nurses at the district hospital) in order to enable provision of adequate and optimum health services (BRAC JPGSPH & WHO Bangladesh, 2018).

Table 6: Division-wise HWF Vacancy in Bangladesh under DGHS and DGFP (as of 2021

Agency/Organization	Sanctioned Post	Filled Post	% of Vacant Post
Directorate General of Health Services (DGHS)	129517	89488	31%
Directorate General of Family Planning (DGFP)	54391	36156	34%
Directorate General of Nursing and Midwifery (DGNM)	49431	45682	8%
Directorate General of Drug Administration (DGDA)	720	347	52%
Directorate General of Medical Education (DGME)	159	28	82%
Health Engineering Department (HED)	1043	567	46%
Health Economics Unit (HEU)	29	23	21%
National Institute of Population Research and Training (NIPORT)	813	458	44%
National Electro- Medical Equipment Maintenance Workshop & Training Center (NEMEMW & TC)	95	55	42%
Transport & Equipment Maintenance Organization (TEMO)	75	41	45%

Figure 02: % of filled up and vacant position under MOHFW by organization

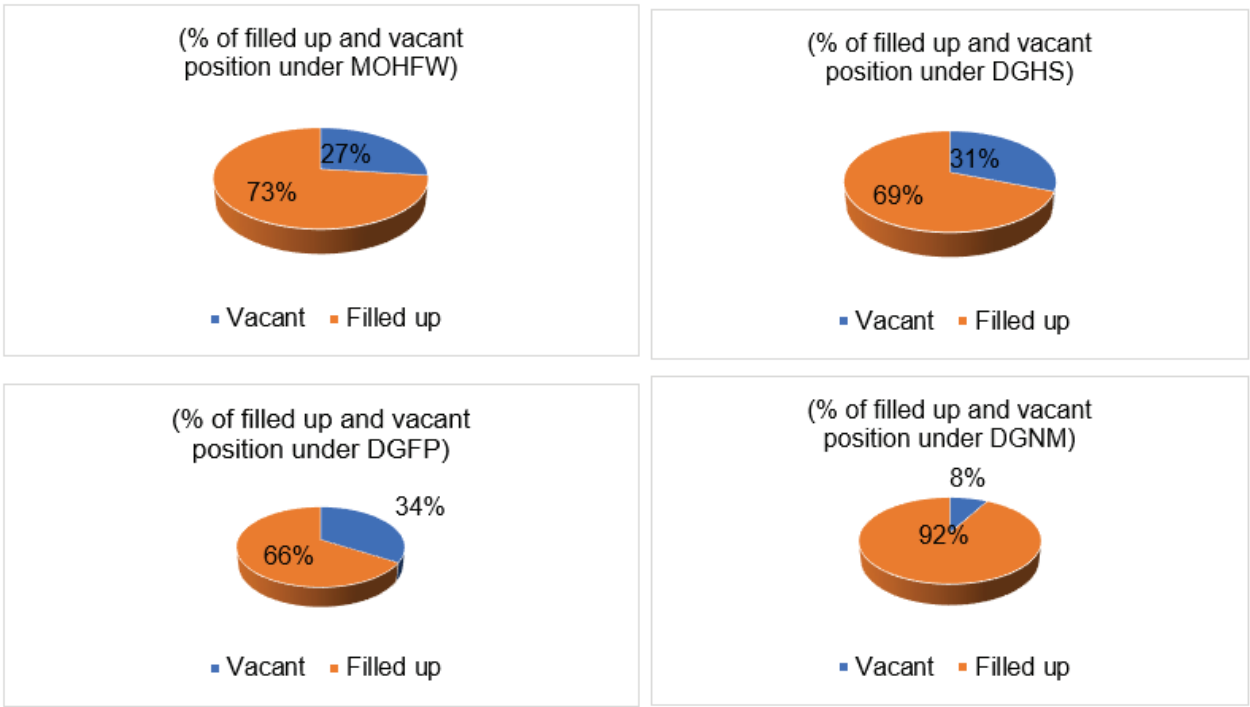
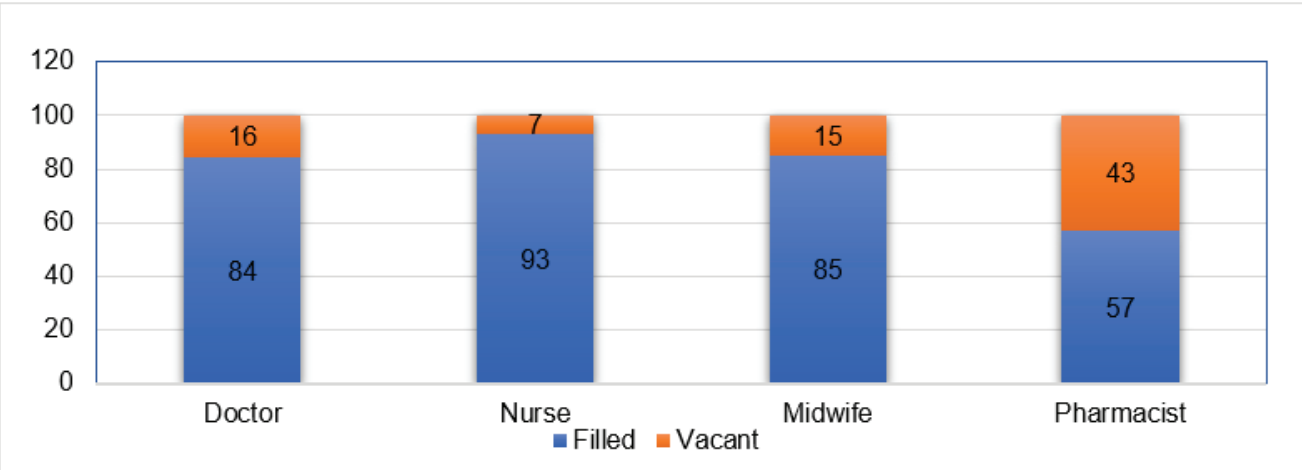


Figure 03: Vacancy rate of major categories of HWF under MOHFW (%)



Source: HRH Data Sheet 2022, (MOHFW, 2022)

2.4 RETENTION

The key issues in retention of the HWF relate not only to specific strategies and policies for retention, but also to the nature and status of the health system (including infrastructure, availability of medicines and diagnostics services, working conditions and so on) and its governance, located within the socio-cultural environment.

2.4.1 Financial incentives: The government provides financial incentives to health workers posted in the three Hill Tract districts of Chittagong division. It gives an additional 33% of the basic salary, but not exceeding US$ 38 per month (Rawal et al, 2015). However, studies have found that this amount is not attractive enough. Moreover, such provisions are not available in other rural and remote areas.

2.4.2 Compulsory service: There has been provision for compulsory service in rural health facilities since the 1980s (Joarder et al, 2018). The revised gazette notification (Transfer and Posting Policy for Officers in Health Service) issued in 2008 state that newly appointed doctors must be posted at least for two years in rural areas. However, studies have shown that it is not implemented well and often this cadre is not used optimally (Joarder et al, 2018).

2.4.3 District quota system in healthcare education: In Bangladesh, there is a district quota system in educational institutions to ensure representation of students from various districts. This system was planned more from the equity point of view rather than rural retention. It was not obligatorily linked to local level posting and no report has yet been published on the contribution of this quota system on local level retention of professionals. There is enough evidence globally to support that in order to improve health worker retention and health services in an area, training people from the community or area itself can be the most sustainable strategy. Introducing complementary robust retention policies would significantly improve its impact and lead to strengthening of the health services in the districts.

2.4.4 Career pathways: The career tracks are mainly designed for doctors (General Health Service, Medical Teaching, and Health Administration). There is need to develop clear terms of reference and career pathways for all cadres, including Community Health Workers, SACMOs and Nurses. Moreover, promotions need to be timely, customized, and transparent (Joarder et al, 2018). This needs to be linked to systems for monitoring and performance appraisals and trainings and continuing professional education.

2.4.5 Health system organization and governance: Retention of the HWF is strongly related to the support systems emerging from the other building blocks of the health system. This includes not only the 'hardware' elements such as infrastructure, finances, availability of essential equipment, diagnostics, medicines and support staff, governance and so on, but also the 'software' elements such as behavior, motivation and values, work-life balance, grievance redressal systems etc. which are also determined by socio-cultural influences.

Surveys on government health infrastructure highlight improvements over the last few years, however critical gaps remain. For instance, as per BHFS (MOHFW, 2017), the availability of electricity, especially in community clinics, has improved significantly, but it is still available only in less than half of the health facilities. Only 28% of the facilities have availability of six types of equipment and only 14% of district and upazila public facilities have availability of five basic diagnostic tests (NIPORT and ICF, 2019).

Absenteeism of government doctors and their dual practice have been identified as critical governance issues that need to be tackled (Joarder et al, 2018). Regulatory measures remain inadequate. This leads to weakening of the public health service delivery and diversion of human resources and capacities into the private sector.
While the proportion of women in the HWF is increasing, they are often at the lower end of the hierarchy within the health system, as nurses, midwives, FWVs and CHCPs. They need to be given more responsibilities, voice and representation (Joarder et al, 2021).

As discussed previously, the essential non-clinical HWF such as public health specialists, biostatisticians, epidemiologists, health economists and psychologists, needs to be recognized and given opportunities for their meaningful contribution to the health system. There needs to be involvement of multi-disciplinary team to plan for primary health care and other interventions. A sole biomedical approach to healthcare would limit interventions in strengthening Primary Health Care and compromise achievements towards Universal Health Coverage.

Public health orientation is fundamental point that should be reflected in the data on production and deployment and retention - especially post-COVID-19. There is a massive neglect in the policy and practice of workforce planning related to public health competencies and professionals and this needs to be prioritized as in all the interventions under this strategy. Especially, a PHC-oriented health system should be major focus in the activities and sub-activities under this strategy.

2.5 HEALTH WORKFORCE EDUCATION AND PRODUCTION

2.5.1 Types of educational institutions for healthcare education: The first medical college in Bangladesh was established in 1948 and the first nursing school in 1970, both in the capital Dhaka. Subsequently, policy directives have led to recognizing other healthcare professionals and their degrees and educational institutions (both in public and private sector) established. The major healthcare professional categories that have been analyzed in various reports include physicians, dental surgeons, nurses, midwives, medical assistants, pharmacists and medical technologists. The degrees related to these professionals and the type of institutes offering the degrees have been shown in Table 8.

Table 8: Some of the Health professional category with type of degrees and institutions

Health Occupation Title	Type of Degree	Institutions that offer the degrees
Generalist Medical Practitioners (Physicians) Code 2211	Bachelor of Medicine and Bachelor of Surgery (MBBS)	Medical Colleges; Armed Forces/Army Medical College
Dentist Code 2261	Bachelor of Dental Surgery (BDS)	Dental College/Unit
Nursing Professionals Code 2221	Bachelor of Science in Nursing (BScN)	Nursing College
	Diploma in Nursing Science & Midwifery (DNSM)	Nursing Institute; Nursing College
Midwifery Professionals Code 2222	Diploma in Midwifery (DM)	Nursing College; Midwifery Institute
Traditional and Complementary Medicine Professionals, Code 2222	Bachelor in Homeopathy (BHMS)/ Unani (BUMS)/ Ayurvedic (BAMS)	Medical Colleges
	Diploma in Homeopathy (DHMS)/Unani (DUMS)/ Ayurvedic (DAMS)	Colleges
Health System Manager/Public Health professionals	Master/ MPH in Public Health related courses	National Institute of Preventive & Social Medicine (NIPSOM)/Schools/Departments of Public Health under Universities
Pharmacists Code 2262	B. Pharma and Diploma in Medical Technology (Pharmacy)	Universities and Institute of Health Technology (IHT)
Medical Assistant	Diploma in Medical Faculty (DMF)	Medical Assistant Training School (MATS)
Medical Technologist in different group	Diploma in Medical Technology (Pharmacy, Lab Technology, Radiology, Radiotherapy, Dental Technology, Physiotherapy, Sanitary Inspector Training, OT Assistance, IC Assistance, Prosthetics and Orthopedics, Cardiology)	Institute of Health Technology (IHT)
Midwifery Associates Professionals Code 3222	Family Welfare Visitor (FWV)	Family Welfare Visitor Training Institute (FWVTI)
	Community Paramedic	Community Paramedic Training Institute (CPTI)
	Community Based Skilled Birth Attendants (CSBA)	Nursing College; Midwifery Institute

Sources: Medical Education Bulletin 2022 (DGME,2022), HRH Data Sheet 2022 (MOHFW, 2022); Mapping of Health Professional Education Institutions in Bangladesh (DGHS & WHO Bangladesh, 2018).

A key issue here is that the range of healthcare workers under consideration needs to be expanded to include other essential but non-clinical professionals such as health administrators, public health specialists, biostatisticians, epidemiologists, psychologists and so on. The educational institutions catering to producing such professionals, must be recognized, enumerated and incorporated in the analysis. Moreover, data related to institutes providing specialists education and production of different categories of specializations also needs to be generated and analyzed.

2.5.2 Updating of the curriculum: As a follow-up activity to the 2015 HRH strategic plan, the following curricula have been updated:

1) MBBS curriculum revised in 2021

2) Medical Technologist's and medical assistant's curricula revised in 2021

4) Diploma in Midwifery curriculum 2019

3) BSc Nursing and Diploma in Nursing Science and Midwifery curricula revised in 2018

The quality and effectiveness of these updating initiatives are yet to be reported.

2.5.3 Increase in the number of educational institutions for healthcare professionals over a decade: Bangladesh has seen a significant increase in the number of educational institutions for healthcare professionals over the last decade (DGHS & WHO Bangladesh, 2018). The highest increases over the last decade have been in Nursing colleges, Nursing and Midwifery institutes and SACMO training schools (Table 9). This growth is not related to a coherent policy. rather, a disproportionately higher growth in the private sector is related mostly to profiteering and this has raised serious issues regarding quality and equity. In many cases the growth is based on 'perceived' rather than 'actual' needs and appropriate regulatory framework is missing in most cases.

Table 9: Increase in the number of educational institutions from 2010 to 2020

Type of Institution	2010	2016	2020	% increase in 10 years
Medical Colleges	62	105	113	82%
Dental Colleges	17	35	35	106%
Nursing Colleges	30	64	174	480%
Nursing Institutes (Nursing & Midwifery)	57	157	223	291%
Medical Assistant Training Schools	47	208	209	345%
Institutes of Health Technology	61	105	110	80%
IHTs from above offering DMT in pharmacy	35	51	54	54%
No. of Universities offering B Pharm	32	36	41	28%

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

It needs to be mentioned that the public health schools and departments under private universities (offering MPH degrees in most cases) may not be reflected in the above table as the data sources are mainly regulating bodies (like BMDC) which do not recognize those degrees.

2.5.4 Inequitable geographical distribution of educational institutions for health professionals: There is inequitable distribution of educational institutions for health professionals within the divisions (Table 10). More than half of the medical colleges, dental colleges/units, and BSc in Nursing colleges are located in Dhaka division, followed by Rajshahi division. Overall, about 41% of total educational institutions for healthcare professionals were concentrated in the Dhaka Division, followed by 19% in the Rajshahi Division (DGHS & WHO Bangladesh, 2018). Only Mymensingh has a number of seats corresponding to its proportion of the total population (MOHFW & WHO Bangladesh, 2021a). While there is no dental college/unit in Khulna Division.

Some of the divisions do not have public sector institutes for certain courses. For instance, there is no public sector Institute of Health Technology (IHT) in Mymensingh Division and no public sector Medical Assistance Training Schools (MATS) in Barishal, Mymensingh, Rangpur and Sylhet divisions.

Table 10: Distribution of educational institutions across divisions

Division	Number of medical colleges (No. of seats, % of seats)	Number of nursing colleges (No. of seats, % of seats)	Number of nursing institutes (No. of seats, % of seats)	Number of Midwifery institutes (No. of seats, % of seats)	Number of dental colleges (No. of seats, % of seats)	Number of SACMO Training Schools (No. of seats, % of seats)	Number of technology institutes (No. of seats, % of seats)
Rajshahi (22.12%)	12 (1110, 10.38%)	28 (2585, 15.13%)	42 (2215, 18.33%)	16 (465, 12.4%)	4 (149, 7.69%)	45 (2932, 20.94%)	22 (2028, 17.8%)
Dhaka (17.82%)	55 (5142, 48.6%)	77 (7785, 45.58%)	69 (3745, 30.99%)	40 (1425, 38.1%)	21 (1260, 65%)	78 (5714, 41%)	55 (5888, 51.69%)
Chattogram (14.06%)	17 (1391, 12.54%)	20 (1345, 7.87%)	16 (1110, 9.18%)	12 (345, 9.2%)	2 (125, 6.45%)	13 (819, 5.9%)	8 (727, 6.38%)
Rangpur (13.92%)	7 (800, 7.48%)	14 (1460, 8.55%)	35 (1855, 5.54%)	13 (430, 11.5%)	2 (152, 7.84%)	22 (1410, 10%)	5 (697, 6.12%)
Sylhet (11.21%)	6 (743, 6.95%)	10 (1300, 7.61%)	10 (475, 3.93%)	8 (285, 7.6%)	3 (117, 6.04%)	7 (500, 3.5%)	3 (357, 3.13%)
Khulna (9.71%)	10 (755, 7.06%)	8 (530, 3.1%)	26 (1400, 11.58%)	8 (250, 6.7%)	0	25 (1581, 11.29%	6 (707, 6.21%)
Barishal (6.83%)	2 (331, 3.09%)	10 (1125, 6.59%)	12 (670, 5.54%)	8 (275, 7.4%)	1 (52, 2.68%)	6 (375, 2.67%)	5 (527, 4.63%)
Mymensingh (4.32%)	4 (475, 4.44%)	7 (950, 5.56%)	13 (615, 5.09%)	7 (265, 7.1%)	2 (82, 4.23%)	12 (670, 4.7%)	6 (460, 4.04%)
Bangladesh total	**113 (10694)**	**174 (17080)**	**223 (12085)**	**112 (3740)**	**35 (1937)**	**209 (14001)**	**110 (11391)**

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

2.5.5 Implementation of quota system to improve equitable in production and availability of health workforce: Bangladesh has quota systems for districts, children of freedom fighters and tribal populations to facilitate their enrolment in government health professional institutes (DGHS & WHO Bangladesh, 2018). Such quotas provide opportunities for students from under-served and under-represented districts to avail of healthcare education. However, similar quotas are not available in the private sector/nongovernmental institutions. The proportion of seats available under the district/divisional quota in government institutions include 20% for MBBS and BDS, 40% (except 14 seats) for BSc Nursing, 40% for DNSM and DM, 30% for IHTs. Additionally, in DM, 15% seats are reserved for females under divisional quota and in each public IHT, 16 seats (two for each institute) are reserved for the tribal population. In private institutes a minimum of 5% seats are reserved for economically poor but meritorious students (DGHS & WHO Bangladesh, 2018).

2.5.6 High vacancies in teaching faculty in government colleges: One of the key issues in government educational institutions is the high number of vacancies in teaching staff. Data of government institutions show that in medical colleges, only 56 % of the sanctioned posts are filled; with 34% unfilled positions of professor and 46% of associate professor. In dental colleges, 53% of sanctioned posts are filled, 76% in medical assistant schools, 74 % in institutes of health technology, and 35% in colleges and institutes of nursing and midwifery (MOHFW & WHO Bangladesh, 2021a). Such high vacancies are a concern as it would affect quality of education. Strategies for recruitment and retention of faculty in these institutions need to be designed and implemented. Moreover, a more disaggregated analysis based on division and subject specializations would help to plan the strategies better. While similar data for private sector institutions is not available, experts have commented on “insufficient and poorly skilled faculties” even in the private sector (MOHFW & WHO Bangladesh, 2021a).

2.5.7 Predominance of private sector educational institutions and seats and its implications: While there has been an increase in government educational institutions over the last decade, there has been a greater expansion of educational institutions for healthcare professionals in the private sector. As a result, the proportion of seats in the private sector is much higher than in the public sector for all degrees and courses, and more significantly for Nursing, DMF and DMT (Table 11).

This has had implications for equity, affordability, quality and regulation of healthcare education and rationalized production of health workers.

Table 11: Institutions and seats disaggregated by public and private sector

Institutions/ Sector	Educational institutes			Seats		
	Total no.	Public %	Private %	Total no.	Public %	Private %
Medical colleges	113	34%	66%	11069	41%	59%
Dental colleges	35	26%	74%	1937	27%	73%
Nursing colleges/BSC	174	18%	82%	17080	11%	89%
Nursing Institutes/ Diploma	223	20%	80%	12085	28%	72%
Midwifery Institutes	112	37%	63%	3740	28%	72%
Medical Assistant Training Schools	209	4%	96%	14001	6%	94%
Technology Institutes	110	12%	88%	11391	20%	80%

Source: Health Labour Market Analysis in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021)

The problem of inequitable distribution of educational institutions across the country has been exacerbated as the private sector institutes have been set up based on profitability and not on considerations for equity or rural retention (Joarder et al, 2018). Moreover, the Rules for Private Medical and Dental Colleges in Bangladesh, 2013 do not restrict the establishment of private sector educational institutes to specific (rural or non-major cities) locations. Government run institutions are in relatively better proportions in remote divisions than in divisions such as Dhaka or Rajshahi (DGHS & WHO Bangladesh, 2018). For instance, there are only government medical colleges in Barishal Division.

The district quota system for admission is not applicable to private sector health professional institutes (DGHS & WHO Bangladesh, 2018), which further compromises equitable production and availability of health professionals across divisions. The cost of education in the private sector is also extremely high (Fees for MBBS are nearly 11 times higher than in public sector institutes), which becomes unaffordable and leads to further exclusions (DGHS & WHO Bangladesh, 2018). Even though minimum 5% seats are reserved for economically poor and meritorious students, there are multiple challenges in its implementation (Rawal et al, 2015).

Studies have highlighted concerns regarding the quality of private sector institutes. The State Medical Faculty of Bangladesh (SMFB) accredits IHTs and MATS in public and private sectors on behalf of the government, conducts examinations of the students of all IHTs and MATS and provides registrations to diploma graduates (DGHS & WHO Bangladesh, 2018). The report mapping educational institutes for health professionals found that a significant number of MATS and IHTs were found to be nonfunctional and that there were consistencies in the enrolment capacity and actual enrolment, especially for private medical colleges, IHTs and MATS (DGHS & WHO Bangladesh, 2018).

They also found that during the study, around 34% of the total number of DNSM seats remained unutilized or vacant of which the majority belonged to private sector institutions.

2.5.8 Enrolling foreign students: A committee established by the MEFWD, determined the number of seats for foreign nationals in MOHFW-led medical colleges, every year. As per the Nongovernment Medical College Establishment and Administration Policy 2011 (revised), all nongovernment and private medical colleges can admit foreign students up to 25% of its total approved seats (DGHS & WHO Bangladesh, 2018). The quotas in government colleges vary as per the cadre. In MBBS and BDS, there is a quota of 107 (57 for SAARC) for foreign students in government colleges, in BSc Nursing there are five seats in Government nursing college in Mohakhali, Dhaka, for DNSM and DM there is no provision for foreign students in government institutes and for DMT, two foreign nationals can be admitted in each discipline/faculty of the government IHTs based in Dhaka, Rajshahi and Bogura (DGHS & WHO Bangladesh, 2018).

While foreign students are important source of revenues for many private institutions, the hosts do not invest proportionately in return raising questions regarding the quality offered. This is important for regional and global image of Bangladesh in higher education sector and, accordingly, proper regulation is required in this area.

2.5.9 Proportion of doctors and nurses being produced: It is usually suggested that the ratio of doctors to nurses should be 1:3. However, in Bangladesh the ratio of nurses to doctors is less than one (MOHFW & WHO Bangladesh, 2021a). Of the total 50,808 seats, about 19% belong to the physician category; similar percentage (i.e. 19%) to the diploma nurse category; 6% of seats belong to BSc nurse professional category, about 28% seats belong to the medical assistant category, 21% seats belong to the diploma medical technologist category, and 4% belong to the midwife. A need-based design is required to achieve optimum proportion among categories in the coming years.

2.5.10 Need to improve registration of professionals and strengthen professional councils: There are discrepancies in the number of students who graduate from different medical courses and the numbers who register in the professional councils. For instance, between 2009 and 2018, only 8 out 10 MBBS and 3 out four BDS graduates registered (MOHFW & WHO Bangladesh, 2021a). Around 2% of the graduates would be foreign students, therefore leaving a significant proportion of local medical graduates who have not registered (MOHFW & WHO Bangladesh, 2021a). Reasons for such discrepancies could be related to the efficacy of the process of registration and the fact that many, especially women graduate, may not enter the workforce (MOHFW & WHO Bangladesh, 2021a). It is possible that the same trend exists in nursing and dentistry (MOHFW & WHO Bangladesh, 2021a). More studies exploring the reasons need to be undertaken to understand the phenomenon.

This also points to the nature of functioning of the professional regulatory bodies such as Bangladesh Medical & Dental Council (BMDC), State Medical Faculty Bangladesh (SMFB) and Pharmacy Council of Bangladesh (PCB). The registration and licensing are done manually on paper and neither is there any dedicated policy or strategy for digitalization of medical and allied health professional education or registration (DGHS & WHO Bangladesh, 2018). The Bangladesh Nursing & Midwifery Council (BNMC) is in the process of developing an online database to include registration information of current students and graduated students (DGHS & WHO Bangladesh, 2018).

Along with registration itself a fundamental issue needs to be addressed whether the professional councils/ bodies providing the 'self-regulating' are able to function in terms of upholding standards of professional accountability and trust with the public.

2.6 STATUS OF INFORMAL PROVIDERS

Important insights come from the Assessment of Healthcare Providers in Bangladesh 2021 (MOHFW & WHO Bangladesh 2021b). The report suggests that there has been a considerable reduction of Traditional Birth Attendants (TBA). This could be because many of then went through CSBA and other trainings and certifications of the government and became recognized service providers.

There is an estimated total density of unrecognized and unqualified health workers (including informal health workers) is 15.84 per 10,000 population in 2019 (MOHFW & WHO Bangladesh 2021b).

2.7 INCREASING FEMINIZATION OF THE HEALTH WORKFORCE

There is a trend of increasing female enrolment in all courses. In 2018, 59% of all medical graduates were women and in 2016 66% of BDS graduates were women (HLMA 2021). Between 2007 and 2016 of those enrolled in Diploma in Medical Faculty (DMF), 40% were women (DGHS, ME & HMD and WHO Bangladesh, 2018). The growing female HWF in the labour market needs adequate response in terms of suitable working conditions and other facilities to attract and retain them in the HWF.

2.8 HEALTH WORKFORCE IN FOR-PROFIT & NOT-FOR PROFIT PRIVATE SECTORS AND IN INFORMAL SECTOR

NGOs and other associations significantly contribute to the health service of the country. Due to lack of capacity for proper monitoring and supervisory mechanisms, their services are remaining fully or partially un-regulated. A concern has emerged that dishonest and fake doctors are involved with illegal medical businesses, as a consequence, issues related to irrational use of drugs, over prescription, unnecessary and wrong medical diagnosis are frequently reported (Mohiuddin AK. 2020). Such cases, as described in the mass media, often directly contribute to high out of pocket expenditures, and finally can even threaten to lives.

The informal sector makes significant contributions to healthcare services in Bangladesh. In aggregate, informal healthcare providers constitute the largest number of workers in the health sector. Among them are semi-qualified allopathic providers (e.g. community health workers, medical assistants, and trained midwives), unqualified allopathic providers (drug shop retailers, rural doctors, etc.), traditional healers (practitioners of Ayurvedic, Unani and homeopathic medicine) and faith healers (WHO, 2015). Studies suggest that about 75% of the rural and 84% of the urban population depend on private, small, informal health-care service providers who are mostly semi-skilled with no professional training (WHO, 2015).

In Bangladesh, 13% of treatment-seekers use government services, 27% use private/NGO services, and 60% use unqualified services (Cockcroft et al., 2004). The findings represent the key challenges regarding the HWF for the country as a whole for paving the pathways towards UHC while addressing availability, accessibility, acceptability and quality dimensions (WHO & GHWA, 2013). This can also be regarded as one of the major bottlenecks towards securing the status of a higher, middle-income country.

Professional associations play a critical role in terms of protecting and nurturing professional groups' interests as they also influence the HWF policymaking process. Bangladesh Medical Association (BMA) has a long history of contributing to the growth and development of the medical profession in this country and also closely works with the Government for rendering health services. Bangladesh Private Medical Practitioners Association (BPMPA), Family Planning Association of Bangladesh, Bangladesh Nurses Association, Bangladesh Midwifery Association, Bangladesh Physiotherapy Association and other Associations play an important role in contributing to HWF decisions at national level.

HRM Issues and Challenges in Non-Govt Sectors: Private, NGOs, associations and informal sectors organizations are collectively the largest employers of the HWF and significant contributors to improving health sector performance. But in terms of quality, accreditation, equity of access and fairness of service provisioning little is known about them. The Ministry has not yet been able to create a database of the non-state sector HWF. Data regarding the number and type of non-state sector HWFs are not readily available. This makes the formulation of a national HWF plan and projections difficult. Health workers save lives (WHO & GHWA, 2013). Poor quality of HWF produces poor quality of health services. If health workers make mistakes while providing life-saving services, the recipients/people suffer. The stewardship role of the state agencies particularly MOHFW is highly recognized (WHO, 2000; MOHFW, 2015b). Since HWFs are the stewards who guide and set examples, they need to be highly efficient, ethically sound and properly motivated. Monitoring staffing mix and employment arrangement of the workforce under these sub-sectors is collectively a big challenge for the Ministry. In fact, up-to-date and specific guidelines as a standard 'staffing pattern' as well as standardized 'Table of Organogram' for the private sector health facilities (Hospital, Clinic and Diagnostic Centers) are not available.

'Dual practice' of Government medical doctors is a common phenomenon. 'Moon lighting' behaviour of civil servant doctors needs to be addressed with appropriate measures through establishing proper accountability frameworks and strengthening supervisory capacities at different levels.

To protect basic employment rights, the HWF needs to look for legal protection from another Ministry, i.e. Ministry of Labour and Employment. The Labour Law 2006 of the GOB (amended in 2013) provides minimum protection of the health workers employment. The Office of the Director of Hospital and Clinic under DGHS has been given the responsibility to monitor, evaluate and process approvals for establishment of private hospital, clinic and diagnostic centers throughout the country. However, HR as well as functional audits of this department has not been conducted for some time. HR audit as well as functional audit of this department is crucial for ensuring quality and effective educational services for the professionals.

2.9 SUPPORTIVE WORKING ENVIRONMENT

Creating a supportive working environment is regarded as one of the major determining factors of satisfactory HWF performance. Leadership and management skills are required to ensure a healthy working environment where the HWF is valued and supported and has the opportunity to develop while providing quality health care. Studies show that poor working environment compromises supply and quality of care (WHO, 2010b).

In Bangladesh, little attention is given to improve the working environment. Poor infrastructure design or maintenance, lack of medicine and technologies, complex logistics, poor inventory mechanisms, lack of monitoring and reporting systems, bullying, nepotism, absenteeism, health safety and insecurity are common issues found in many of the health facilities, which negatively affects HWF performance. Failure to address these issues that constitute a supportive working environment, underlie the chronic problem the Ministry has in retaining HWF especially medical doctors and nurses in rural and hard to reach areas (MOHFW, 2010). The study also reveals that there is inadequate living condition, a lack of basic utilities (e.g. essential medicines, adequate water and electricity supply etc.) and functional equipment (e.g. medical apparatus) in remote areas, lack of career advancement opportunities, inadequate private practice opportunities compared to the urban centers, substandard accommodations, poor quality schools, and lack of physical security.

The MOHFW is one of the biggest employers of female workforce but it does not yet have a written code of conduct to avoid workplace harassment. This code needs to be developed and distributed for information of healthcare providers in all workstations for gender-sensitive dealing of female clients. Gender imbalance in the workplace has different dimensions. Within the DGHS HWF, men outnumber women three-to-two.

If nursing and midwifery cadres are excluded, the ratio becomes three-to-one. Moreover, there is no published data regarding the number of apex posts held by women. A suitable gender balance among the HWF is an important factor in the Bangladeshi cultural context for female patients to access services.

2.10 IMPACT OF COVID-19

The COVID-19 pandemic has exposed the long-standing deficiencies and challenges in the health system of the country with disruption of essential health services as well as exacerbation of existing inequities. Surveys to explore the continuation of essential health services have highlighted the unavailability of human resources and essential medicines and equipment, including at primary care levels. The gaps in primary care coverage due to the pandemic have also been revealed and those included reduced access to community-based care and mobile clinics. Public health functions and activities were scaled down. The pandemic demonstrated that the country preparedness of the emergency care system (e.g., availability of beds, oxygen and ICUs) are extremely limited and, especially, the country does not have enough critical care human resources.

Bangladesh suffered two major waves during the pandemic. With around 1.6 million infections and around 28,000 deaths the country coped relatively well with the pandemic. However, acute shortage of human resources was evident during the period. The Government tried to respond through urgent recruitment of HR, but the initiative was mostly limited to doctors and nurses. The technologists and phlebotomists were in extreme short supply, but the initiative for their recruitment suffered an administrative complication. The preoccupation of the community health workers with COVID-19 related activities created a negative impact on the provision of their usual PHC activities.

2.11 MAJOR GAPS AND CHALLENGES

2.11.1 Gaps in the estimation of HRH requirement and future projection

Presently sanctioned positions are considered as present requirement since there is no evidence-based, country-wide standardized HRH plan available according to facility-wise workload. It has been found in the study on (WISN) at Public Sector Health Care Facilities in Bangladesh' that every facility in the public sector is understaffed and overloaded (Save the Children-USAID, 2016); (BRAC JPGSPH & WHO Bangladesh, 2018). To get the real HRH need, standardized country-wide HRH plan should be done based on the facility-specific actual workload estimated by the WHO suggested WISN method (Nuruzzaman et. al. 2022).

2.11.3 Gaps in HRH Training

While there are some training provisions under the Operation Plans (OPs) of the MOHFW, they would benefit from being informed by a proper training needs assessment. This can be carried out through bottom-up and top-down process. The demand for trainings should be a bottom-up process, it must come from healthcare facilities. The planning, however, should be finalized and coordinated through a centralized top-down approach.

This will ensure better coordination, avoid redundancy, counter duplication and ensure quality in training. The training needs should be updated based on current service provision patterns and keeping in focus the desired skill mix. There should also be a post-training evaluation system in place that ensures impact evaluation and continuous improvement. In addition, there should be refresher training plans after certain time periods for relevant positions.

2.11.4 Gaps in tier wise HRH identification and quantification

Apart from segregating and branding health tiers – across the primary, secondary, and tertiary level – by a 'location-based' convention, there is no well-designed actual 'service-based' guideline for the classification (primary, secondary and tertiary) of healthcare in Bangladesh. Therefore, it is difficult to qualify and quantify HRH at different health care service levels. Presently, based on some subjective impressions the health facilities in Bangladesh are divided into the mentioned three tiers. From the UzHCs upwards, the facilities are practically mixed up as multiple HRH level services are delivered by the same provider. Under these circumstances, service level-wise HRH cannot be properly defined and quantified until the specific services are assigned to particular levels. Only then can the relative proportion of time devoted by a specific provider for each service be analyzed by well-designed studies.

2.11.5 Gaps in the availability of HWF for Health system planning and management

Lack of public health and management expertise at the District and Upazila Levels – At the district and Upazila levels, there is a lack of public health and management expertise. Civil surgeons are in charge of the district health system, while Upazila Health and Family Planning Officers (UHFPOs) are in charge of the UzHCs. Civil surgeons, like the majority of UHFPOs, are physicians. In many cases, these doctors have inadequate experience and expertise as well as training in public health or management. Despite being excellent doctors, they frequently lack management experience, especially with respect to the HWF. As a result, there is a deficiency of public health knowledge and management capacity at the district and sub-district levels of the health system that leaves HWF needs relatively unaddressed.

Lack of Community Empowerment at the Local Level - Community management committees are usually formed at the Upazila level to oversee UzHCs due to government regulations. However, in most cases, these committees neither truly reflect their communities nor have the authority to hold health officials accountable. The UzHCs continue to be controlled by bureaucratic procedures due to a lack of genuine community participation in the planning and delivery of health care services at the local level. Bureaucratic efforts to organize local committees sometimes fail to understand that a community is a mixed entity, and that men, women, the rich and poor, Muslims and non-Muslims, marginalized groups and other minorities, all need to be represented. A group of so-called monolithic community leaders do not necessarily represent a community in the true sense of the word.

When it comes to community participation, the Bangladeshi health system too often misses this reality at the local level. Promotion of community engagement may positively contribute to peripheral HWF motivation and retention through public recognition and appreciation as well as increased accountability to the local people.

2.11.6 Gaps in skill mix

The calculated ratio among various HRH Categories (physician: nurse) shows that the Physician vs Nurse & Midwifery is 1: 1.5 and 1: 1.9 as per the sanctioned posts and filled-up posts respectively. As mentioned earlier, there are also inappropriate skill mixes at different levels of services. Some of the examples are shown in Table 12. It is obvious from the ratio that many of the hospitals having a Surgeon do not even have a single Anesthesiologist or Lab Technician leading to no surgical operation in the facilities.

Table 12: Examples of inappropriate skill mix

Coupled Professionals	Ratio
Surgeon vs Hospital Facility	1.22
Anesthesiologist vs Hospital Facility	0.45
Anesthesiologist vs Surgeon	0.37
Lab Technician vs Hospital Facility	0.17
Pathologist/ Biochemist/ others vs Hospital Facility	0.77
Lab Technician vs Pathologist/ Biochemist/ others	0.22

Source: Bangladesh Health Sector Need Assessment, (ADB 2022), (Unpublished)

2.11.7 Gaps in regional distribution of HRH:

As per the report of 'Assessment of Healthcare Providers in Bangladesh 2021' (MOHFW & WHO Bangladesh, 2021b), the Division-wise density of the health workers (per 10,000 population) has been shown in Table 13. Dhaka division has the highest number of health workers per 10,000 population, followed by Khulna division. At the other spectrum, Sylhet division has the lowest density of health workers per 10,000 population. Considering the ISCO-08/BSCO-12 recognized HWF Dhaka Division again has the highest density, followed by Chattogram division. On the other hand, Rajshahi division has the lowest density of ISCO-08/BSCO-12 recognized health workers. The HWF in Bangladesh also has a high level of urban bias. Almost in every division, except Mymensingh and Rajshahi, rural areas have low density of HRH. This has substantial implications as 62% of the population in Bangladesh reside in rural areas.

The same type of HRH maldistribution and skill mix imbalance at public health facilities is seen at a region level analysis. The Division-wise HRH distribution per 10,000 population of public sector shows that Barisal Division has the highest density (11.72) of filled up HRH, Dhaka Division (10.44) has the 2nd highest density, followed by Chattogram Division (8.26) and Sylhet Division (7.61), although all the HRH in these areas are recognized health workers.

Table 13: Division-wise density of the health workers (per 10,000 population)

Division	Qualified & recognized	Non-qualified & recognized	Non-qualified & unrecognized	Total
Barishal	***18.85***	***0.64***	***16.28***	***35.77***
Rural	15.88	0.67	15.1	31.65
Urban	99.07	0	48.03	147.1
Chattogram	***36.72***	***0.21***	***9.73***	***46.66***
Rural	12.3	0.23	6.73	19.26
Urban	86.79	0.16	15.87	102.82
Dhaka	***90.01***	***1.15***	***37.27***	***128.43***
Rural	17.29	0.33	9.46	27.08
Urban	139.02	1.45	52.47	192.94
Khulna	***31.56***	***0.9***	***18.38***	***50.84***
Rural	20.18	1.07	18.74	39.99
Urban	51.03	0.61	17.76	69.4
Mymensingh	***15.56***	***2.71***	***20.46***	***38.73***
Rural	20.03	4.01	26.6	50.64
Urban	9.1	0.83	11.58	21.51
Rajshahi	***8***	***0.13***	***7.21***	***15.34***
Rural	8.55	0.08	6.09	14.72
Urban	5.9	0.32	11.48	17.7
Rangpur	***28.07***	***0.58***	***9.04***	***37.69***
Rural	12.14	0.45	10.33	22.92
Urban	50.08	0.75	7.26	58.09
Sylhet	***11.29***	***0.26***	***5.09***	***16.64***
Rural	5.33	0	5.51	10.84
Urban	26.77	0.94	3.99	31.7

Source: Assessment of Healthcare Providers in Bangladesh 2021 (MOHFW & WHO Bangladesh, 2021).

2.11.8 Gaps in the synchronization of different health authority at ministry level, as well as a lack of collaboration with other ministries

HRH issues in Bangladesh span the Ministry of Health, Ministry of Home Affairs, Ministry of Defense, Ministry of Local Government & Rural Development, City Corporation, or similar organizations with each governmental institution having its specific rules and regulations such that workforce career paths and benefits are difficult to compare. As a result of this lack of a unified system, there is often significant variation in employment conditions and career paths within the same cadre of professionals, which may lower job satisfaction and affect career aspirations. Additionally, there is no inter-ministerial coordination, which leads to ministries functioning in silos, a lack of overall convergence, and a major challenge to the health sector at large.

2.11.9 Gaps related to private sector HRH

The Constitution of Bangladesh guarantees that health is a basic right of the citizens and the state is primarily responsible to ensure the health of the people. Accordingly, until a few years after liberation in 1971, the for-profit private sector in health was not highlighted in any of the planning documents including the 1st Five-Year Plan. Due to changing policies over successive decades, the private sector gradually emerged as a major player in the health care arena. As the provider of almost 60% of the health services to the population, it is now the dominant stakeholder.

The HRH status and gaps within the private health sector are difficult to evaluate as there is no comprehensive, regularly generated source of data. Among the diverse problems created by the shift towards greater private sector provision, the HRH issue is a central one. In most cases, higher level health care professionals are educated and trained through public funding, but their services are mostly utilized in the private sector. The later utilizes them through dual practice as well as recruitment with a very high financial incentive. Unfortunately, regulation of the private sector has not been fully streamlined yet due to legislative, regulatory, and administrative gaps. Consequently, the quality of services offered by the same professionals varies greatly in public and private facilities. The maintenance of quality in the education and training of HRH offered by the private sector institutions has also become a major challenge in Bangladesh. This is one of the major reasons for the very high out-of-pocket healthcare expenditure in the country. In brief, it is important to distinguish two primary issues with respect to the workforce: i) private sector education/ training has exploded with no proper regulation leading to a huge amount of profiteering at the cost of students who pay a lot and don't get good qualifications; and ii) the growth in private sector provision of care draws skilled health workers (often trained with public funds) who hold sanctioned publicly funded posts and who spend most of their time in dual practice – charging patients where possible to increase their earnings.

2.12. PROGRESS IN THE IMPLEMENTATION OF THE BANGLADESH HEALTH WORKFORCE STRATEGY

2.12.1 The BHWS 2015 – components and Strategic actions

The BHWS had 5 thematic areas and 154 total activities (Short-term 55, Medium-term 60 and long-term 39. The thematic area-wise activities are shown in Table 18.)

Table 14: Components and Strategic Actions of BHWS 2015

Sl	Strategic/Thematic area	Strategic actions			Total actions
		Short-term (2016-2017)	Medium-term (2016-2021)	Long-term (2016-2030)	
1	HWF planning	7	8	3	18
2	HWF capacity development	18	16	12	46
3	Recruitment, deployment & retention	12	10	9	31
4	Performance management	10	21	13	44
5	HWF information system	8	5	2	15
	Total	55	60	39	154

Source: Presentation at Policy Dialogue on 'Updating of the Bangladesh Health Workforce Strategy 2015 towards Vision 2041: setting priorities' held in Dhaka on 07 Dec 2022, (MOHFW & WHO Bangladesh)

2.12.2 Implementation of BHWS 2015 – Progress Summary

A review of implementation of the strategy was conducted, and findings were shared in the policy dialogue held on 07 December 2022 attended by high-level participants on "Updating of the Bangladesh Health Workforce Strategy 2015 towards Vision 2041: setting priorities". Key findings were such as:

- A total of 30 activities are fully implemented- 20% (approx.)
- About 49 activities are partially implemented – 32% (approx.)
- About 75 activities are not implemented – 49% (approx.).
- Though the strategy has a timeline up to 2030, progress of full implementation of respective activities may seem slow.
- There are several reasons identified behind the slow implementation. A few of them are such as:
    - Multiple stakeholders/interest groups- coordination among them was found as a challenge.
    - Shortage of technical staff in the respective technical areas.
    - Lack of strategic thinking
    - HR is mostly seen as an administrative function not a technical area.

1. Health Workforce Planning (18 activities)			Good / Some / No
Sl	**Strategic intervention**	**Major progresses**	
1	Comprehensive HWF planning & projection up to 2030 (service level-wise). **(Total 7)**	1) Primary level health workforce **plan projection** 2021 (WHO support). 2) All **three levels** HWF plan drafted- 2019 (USAID support) **3) Health Care providers assessment** national level-2021 **4) Health labour market analysis** 2021. 5) Update of **TO&Es** and **job descriptions** (primary and secondary) 6) Total **8 activities** undertaken until now.	
2	Align production with services **(total 5)**	**1) Mapping** of health professional education institutions 2018 2) Postgraduation situation analysis 2016, 2018 & 2020. 3) At least relevant **4 activities** accomplished.	
3	Strengthen HRM and HWF research **(total 6)**	1) A few studies conducted (Rural Retention, HRM Strengthening etc.)	

2. Health Workforce Capacity Building (46)			Good / Some / No
Sl	**Strategic intervention**	**Major progresses**	
1	Improve skill mix (8)	1) Review and update of TO&Es (10- 600 bed staffing norms)	
2	Quality assurance and accreditation of educational institutions (12)	1) NQAS reviewed and partially implemented. 2) Bangladesh Medical Edu Accreditation Act 2021 approved.	
3	HWF production plan (10)	1) **HRH Data Sheet** 2019 and 2022 published 2) A few studies conducted (Mapping of Health Professional Educational Institution, Post graduate Situation Analysis)	
4	In-service training (11)	1) IST guideline drafted but no other major progress	
5	Task shifting (7)	1) Anesthesia skills transfer to medical doctors, 2) ICU training to the nurses .	

3. Health Workforce recruitment, deployment and retention (31)			Good / Some / No
Sl	Strategic intervention	Major progresses	
1	Supply through recruitment and retention (3)	1) Non-medical Recruitment Rules updated 2021 2) Home-district based deployment policy adopted.	
2	Innovative approached through incentives & disincentives (11)	1) Two years rural service is mandatory for PG of MOs. 2) Promotion given to those subjects faster where crisis is acute.	
3	Improve access to specialties in shortage (3)	1) Medical specialist projection initiative undertaken 2) Postgraduation admission policy revised 2022	
4	Develop working environment (7)	1) COVID-19 guideline adopted to the workplaces for OHS (Occupational health and safety)	
5	Develop career pathways and leaderships (2)	1) Career paths for medical doctors drafted 2021.	
6	Promote regulatory/legislative and professional bodies in service delivery (4)	1) Paramedical Education Board Act drafted. 2) BNMC Act 2016 revised and submitted.	

4. Health Workforce Performance Management (44)			Good / Some / No
Sl	Strategic intervention	Major progresses	
1	Understanding existing PM (5)	1) A number of workshops held on IPM (Individual performance management)	
2	Develop an ideal & quality PMS (7)	1) IPM strategy developed and orientation workshops organized.	
3	Strengthening existing accountability framework (4)	1) No major progress	
4	Updating existing job descriptions (3)	1) Some progress made – several JDs updated.	
5	New models to invite motivation & commitment (5)	1) No major progress	
6	Review of delegation of authority (5)	1) Nothing specific	
7	Individual and institutional appraisal system (5)	1) Few workshops held on IPM and APA	
8	Improve individual performance management (4)	1) Few workshops held on IPM	
9	Develop TQM in PMS (5)	1) A few workshops conducted.	

5. Health Workforce Information System (15)			Good / Some / No
Sl	Strategic intervention	Major progresses	
1	Develop a comprehensive central HWF information system (15)	1) Central HRIS is developed and mostly used by DGHS 2) DGDA has launched its journey few days back. 3) DGFP, DGNM, NIPORT, NEMEW, TEMO's inclusion are in progress.	

Source: Presentation at Policy Dialogue on 'Updating of the Bangladesh Health Workforce Strategy 2015 towards Vision 2041: setting priorities' held in Dhaka on 07 Dec 2022, (MOHFW & WHO Bangladesh)

2.13. WHAT'S NEW IN THE UPDATED THE WORKFORCE STRATEGY?

This strategy is an updated version of the 2015 national HWF strategy. The updating process was initiated through a review of implementation of the action plan or operational plan in 2021 with support from WHO Bangladesh. The updated version includes several new issues and areas –

- The number of thematic areas has increased to seven from five i.e., "Public health emergency workforce" and "Primary health care-oriented workforce", followed by certain number of strategic actions or activities.
- Activities under existing thematic areas have been revisited and modified as appropriate. New activities are added to meet existing and forecasted health needs and demand of the health system.
- A review of the implementation of the 2015 strategy was conducted and a summary note is added with the updated version.
- The 2015 strategy was covering a timeline up to 2030, but the updated strategy covers the timeline up to 2041 in line with government's renewed commitment for a Smart Bangladesh by 2041.

3. BHWFS 2023: GOAL, OBJECTIVES AND STRATEGIC ACTIONS

3.1 STRATEGY DEVELOPMENT PROCESS

The Bangladesh Health Workforce Strategy (BHWFS 2023) has been formulated with a view to support achievement of the goals and objectives set for the development and advancement of the health, nutrition and population (HNP) sectors of the country. The strategy is aligned with the vision of the 4th Health, Population and Nutrition Sector Programme (4th HPNSP) 2016-2021, the National Health Policy 2011, National Population Policy 2012, National Nutrition Policy 2015 and also the World Health Report 2006, which collectively recognize the importance of the central role of the HWF (HWF) for a responsive and people-centered health system. The strategy provides a framework which includes strategic interventions and supportive actions in order to address priority HWF management issues and challenges identified through adopting a participatory consultative approach assisted by a rapid situational analysis.

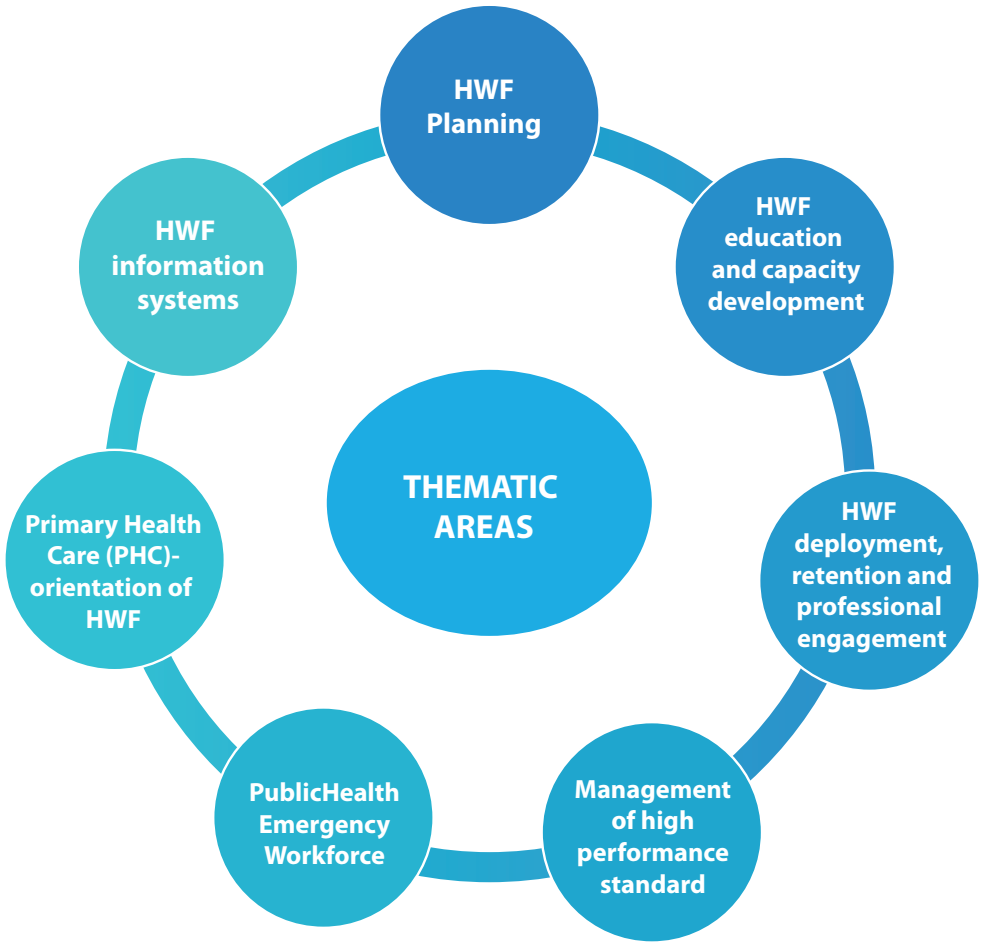
The BHWFS 2023 formulation process was initiated through formation of a technical working committee at the national level constituted by the relevant Ministry and Directorate officials. Thematic papers on HWF issues and challenges were drafted by a National Consultant. The Consultant discussed the issues with relevant representatives from the service organizations, academia, research organizations, NGOs, professional associations and public sector organizations. After compilation as well as integration of the thematic papers, a preliminary draft was prepared and shared with the key stakeholders. An international Consultant reviewed the draft and made important suggestions. Collected feedback and suggestions were addressed and incorporated into the final draft before submitting it to the WHO Country Office. In each step the WHO country office played a guiding role with important inputs.

The strategy focuses on the entire HWF in the country in contrast to the initial focus on the public sector workforce primarily under the MOHFW. As such, it contains directions to include the workforce under the private, NGOs and informal subsectors as well. Furthermore, this strategy is formulated for the years encompassing the period up to 2041. The strategy will be reviewed and updated when necessary but generally every five years as progress is made in the priority areas and new priorities for action emerge.

The strategy recognizes seven strategic areas and proposes certain activities to address HWF issues and challenges with the purpose of materializing the goal and objectives as stated. Each of the strategic areas is underpinned by four guiding principles (i.e. gender balance, motivation, partnership and transparency and accountability).

The Strategy is designed in line with the GOB's Vision 2041 for a Smart Bangladesh. It is thus visualized as a vital contributor to realize the Vision with Bangladesh graduating as a developed nation.

3.2 THEMATIC AREAS



The BHWFS 2023 Strategic Actions are designed to cover the following 7 Thematic Areas:

1) **Health workforce planning** aiming to make available, competent and adequate number of workforces as per health systems need.
2) **Health workforce education and capacity development** aiming to produce, develop and sustain quality HWF at all levels.
3) **Health workforce deployment, retention and professional engagement** aiming to recruit, deploy and retain HWF equitably.
4) **Management of high-performance standards** aiming to promote and maintain high standards in HWF performance.
5) **Public Health Emergency Workforce** to combat unforeseen emergencies and climate crisis.
6) **Primary Health Care (PHC)-orientation of Health Workforce** to accelerate achievement of Universal Health Coverage (UHC).
7) **Health workforce information systems** aiming to promote evidence-based HWF decision making to improve health outcomes and to develop a comprehensive central HWF Information system to use for evidence-based decisions.

3.3 GOAL AND OBJECTIVES of BHWFS 2023

GOAL

Ensure quality health services for all by developing a skilled, motivated and responsive health workforce in adequate numbers and available equitably across the country.

Objectives

1. Make available competentand adequate number of workforces according to the health system's need.
2. Produce, develop, and sustain quality health workforce at all levels.
3. Recruit, deploy and retain health workforce equitably.
4. Promote and maintain high standards in health workforce performance.
5. Promote evidence-based health workforce decision-making in improving health outcomes.

3.4 STRATEGIC ACTIONS

Strategic Action 1: Develop and implement a comprehensive health workforce requirement plan with projections up to 2030 and 2041

The first prerequisite for ensuring access to necessary healthcare services is to avail the right number of healthcare providers. Since the HWF plays a critical role in delivering health services, it is imperative that the health planners and policy makers ensure the right number of health workers, with the right skills, deployed at the right place at the right time, to deliver right health services according to the health needs of the population at an affordable cost. Evidence-based HWF planning is instrumental to make those choices. HWF planning aims to balance or to address the mismatch between available and required HWF to deliver priority health services.

1.1 Update the service level-wise health workforce needs with projections up to 2030 and 2041

In Bangladesh health services are primarily provided at three levels, i.e. primary, secondary and tertiary level stretched over the administrative tiers. It is recommended that the various categories of service providers in the country be estimated based on the specific demographic, epidemiological and technological projections. Staffing patterns of the health facilities, both public and private, established at different levels at different geographical locations, need to be reviewed and updated periodically to determine the HWF needs and requirements based on 1) disease profile, 2) location, 3) essential services packages (ESP), and 4) service utilization patterns. The WHO WISN-method can inform these assessments. Furthermore, a need-aligned, costed HWF plan, with projections up to 2030, should be developed. Skill mix and health systems needs should be taken into consideration with a particular focus on PHC and UHC in alignment with the recently developed PHC-Oriented Health Care Strategy of WHO-SEARO. Given the prevailing gaps in meeting the standard densities of skilled HWF set by the WHO, a gradual but planned approach should be adopted to meet the need. Considering the constraints of availability of skilled providers and affordability issues as well as perceived beliefs in the different healthcare systems, the need of alternative and informal care providers will need to be assessed and regulated especially in the remote and less exposed areas.

1.2 Update HWF need analysis regularly through periodic Health Labor Market Analysis (HLMA)

The HWF need analysis should be updated every 3 years through periodic Health Labor Market Analysis (HLMA) considering all sectors (public and private), and also taking into account factors like global market forces, health worker migration, IHT compliance and implementation of the WHO Global Code of Practice on international recruitment of health personnel.

1.3 Update the integrated Table of Organogram & Equipment (ToE)

For optimum utilization of human resources, a synchronized parallel updating of the equipment (in line with the physical facilities) is essential. This is also imperative due to the rapid technological innovation in health and related sectors. Facility-specific organograms, physical infrastructure and equipment need to be reviewed and updated periodically. Regional trends in demographic and epidemiological transition should be considered while designing the ToE.

A periodic review and update of Table of Organization and Equipment (TO&Es) should be conducted for all health professional education institutions. Also, it should be ensured that all health professional education institutions have adequate infrastructure such as classrooms, computers, laboratories, skill labs, electricity and water supply as needed.
Discussion should be initiated on the creation of Bangladesh Civil Service (BCS)-Health Sub-Cadre for Medical Education under a comprehensive plan for restructuring the present cadre system of the HWF within the public administration system.

Collaboration Centers for peer and exchange learning needs to be established at central as well as divisional levels.

1.4 Develop a dedicated public health workforce as part of strengthening the health system

The need for a public health competency-oriented HWF was felt much during the COVID-19 pandemic. No doubt that the country needs the clinical health workers much, but at the same time, the country needs public health competent health workers to address current and future health systems issues and challenges. In this regard, an assessment of different positions in the health system could be conducted and designate specific positions as public health-oriented. This can be supplemented by development of a specific public health competency framework and scope of work/practice.

1.5 Gradually map out informal and unqualified health workers engaged in healthcare delivery

The 2021 MOHFW and WHO jointly conducted report indicates that the country has around 33 recognized and qualified providers and around 15 unqualified and unrecognized providers per 10,000 population. Therefore, to ensure quality health care for all and to ensure access to a qualified healthcare provider, the informal and unqualified providers should be identified. Initiatives could be undertaken to map them out, train and regulate them as appropriate.

1.6. Optimize the role of community health workers through reviewing and updating the 2019 national community health workers strategy as part of strengthening primary health care and health systems resilience.

Evidence suggests that the community health workers play an important role in healthcare delivery in rural and hard-to-reach areas because they remain close-to-the community.

Bangladesh has a variety of community health workers throughout the country both in public and private sectors. To utilize them in a better way and to integrate them with the main health care delivery system, there is a need to review and update the existing 2019 community health worker strategy as part of strengthening PHC and health systems resilience.

1.7. Develop dedicated strategic action plans for strengthening nursing, midwifery, pharmacists and allied health workforce.

Total number of registered nurses, midwives, pharmacists and allied health professionals such as medical assistants, medical technologists, and community paramedics are not appropriately proportionate as expected. Skill mix imbalance prevails. Jobs opportunities have also not been explored; hence, unemployment exists in the market. To resolve these issues, specific strategic action plan can be formulated, and appropriate monitoring system could be established.

Strategic Action 2: Design a need-based Recruitment and Deployment Plan

Recruitment and deployment are important functions of HR management in order to hire appropriately trained and skilled individuals and to post them at the right job at the right place. In the public sector, recruitment and selection are lengthy processes that are failing to address the high vacancies and high rates of turn-over in posts. Steps should be taken to reduce recruitment times. A recruitment plan is also needed to determine how many HWF personnel will have to be recruited in the consecutive years based on fair and just principles. Further, a deployment policy also needs to be put into action so that equitable distribution of health workers can be improved. Personnel with technical skills, of which there is shortage (e.g. basic sciences and anesthesia) need to be distributed with proper coordination.

2.1 Recruit and deploy health workforce equitably

HWF supply should be supported through multifaceted and sustainable approaches for recruitment and retention. Recruitment, deployment and retention policies need to be revisited and updated as per need of the population with special focus on the underserved and underprivileged sections/ regions. A people-centered deputation policy with proper consideration of HWF motivation, needs to be developed and implemented. Current delegation of authority should be reassessed for selected recruitment and/or deployment and other management functions from the administrative division and below for greater control and supervision of the professionals. It also needs to be ensured that they are accessible in a timely manner. A comprehensive posting and transfer policy, based on present needs and realities, should be developed.

Vacancies should be regularly monitored and coordination as well as collaboration with respective departments/agencies should be established to fill up vacancies.

2.2 Improve skill mix and promote teamwork at health facilities

Organizational and individual skill mix need to be reviewed and updated periodically in order to develop and promote a multidisciplinary HWF team (clinical and nonclinical) at all levels of health service delivery, planning and management. Both national and international standards should be taken into consideration in this respect. Institutions for appropriate skill development programs should be identified or developed on need basis. Skill development initiatives should be linked with in-service training, incentives and career plan. The academic/ in-service training programs should be revised and updated periodically to equip the workforce with the required skills. Appropriate regulatory frameworks for the training institutes need to be developed with special attention to skill mix. Implementation must be ensured and monitoring systems should be strengthened.

2.3 Plan and implement Task shifting

As a preparatory step for task shifting, the course-curricula of each academic/ training program should be critically evaluated to assess the knowledge/expertise generated by individual programs. Task shifting represents an important opportunity to expand the HWF with existing workers and address shortages of specific types of services. The possibilities of updating/upgrading the expertise/skills of the specific groups of professionals (such as graduate physicians for basic level anesthesia) should be explored through short-term, in-house (on the job) training. The job descriptions of various levels of health care professionals should be revisited on the basis of their updated knowledge and skills generated through the academic programs and extra training. The revised responsibilities of cadres with expanded scope of practice will have to be incorporated in the service-related MIS in order to be used by the management.

2.4. Undertake steps to accelerate GOB recruitment process of the health and support workers where there is acute need.

Relevant GOB recruitment policies, acts and rules should be identified, and priority actions should be undertaken to review and update them. Recruitment of the domiciliary HWF under UGHS and DGFP has been held up for long time now and this is adversely affecting healthcare delivery system. Recruitment rules/policies of all relevant directorates should be assessed on priority basis (e.g., DGNM, DGFP, DGDA, DGHED, etc.). There is a need to identify those positions which have been created but due to not having appropriate recruitment rules, supply of the relevant health and support workers has not been taken place.

2.5. Review primary level health workforce composition and support adequate supply of health workforce for optimal delivery of essential service package at all levels.

Essential service package (ESP) is one of the key strategies towards achieving UHC in Bangladesh. ESP should not be hampered due to lack of HWF at field level. There should be appropriate mechanism to monitor and track availability of the workforce in public and private sectors.

Strategic Action 3: Adopt innovative approaches to address HRH distribution issues with special focus on areas and sectors having greatest need and workforce shortage

3.1 Update deployment plans according to need and strengthen mechanisms for provision of rewards and sanctions of workforces

Incentive packages for working in remote areas (hard to reach (chars, hill tracts etc.) and high-risk populations/areas should be introduced (see 3.4 below also). Mechanisms to increase rural recruitment, local training and placement of district/division-specific candidates in health facilities of the district should be strengthened. The WHO global code of practice for international recruitment of health personnel should be adopted and customized. Innovative models of service delivery needs to be used to improve access in areas of specific physiographic and cultural need. Contractual utilization of skilled professionals in the public facilities from the private sectors may be considered. Collaboration of Public-Private Partnership and GO-NGO for better accessibility of services may be piloted.

3.2 Explore and develop flexible and safe working environment and occupational health that reflect the changing needs and profile of the workforce

Inter-ministerial coordination and decision-making is required to ensure accommodation, safety and security, the motivation and retention of the workforce. Workplace harassment policies should be reviewed and updated, and, when required, new policies should be formulated. Initiatives aimed at promoting innovation, leadership and collaboration in the work environment should be enhanced.

There is a need to promote occupational health and wellbeing of the health workers. Appropriate occupational health protection and wellbeing guidelines should be developed and disseminated to all health facilities.

3.3 Promote initiatives that encourage health workforce to maintain a level of skill, knowledge and competence

The initiatives should align with evolving consumer needs and changes in service delivery ensured through regulatory/legislative and professional bodies. National recognition and award/honors need to be instituted to encourage innovation, leadership, and performance. Initiation of dialogue with the professional bodies/stakeholders should be undertaken in order to identify and/or redefine their appropriate roles and responsibilities. Capacity development of the professional bodies should be supported in order for them to discharge their redefined roles and responsibilities.

3.4 Promote retention of HWF at Disadvantaged areas

Retaining the HWF in the rural and hard-to-reach areas is particularly challenging. Many interventions have been proposed in the past; few have been consistently applied and evaluated. Continued professional development and opportunities are important options to be considered to improve retention along with expansion of financial and non-financial incentives (see 3.1 above).

3.5 Assess community-targeted admission policy for graduate programs of health professionals

Community-targeted admission policy for graduate level education of health professionals needs to be assessed. Pilot initiatives may be considered in the beginning and refinement of the process may lead to promote peripheral retention.

Strategic Action 4: Align education and production of the health workforce according to the projected requirement

Capacity development is an important area of intervention, which creates opportunities to make the workforce competent and motivated to meet the needs of the health system. A bundle of approaches are required to address capacity development including: improving skill mix, quality assurance and accreditation, HRH education and production, in service training and task shifting. Reviewing the existing skill mix and matching tasks and responsibilities and setting a new standard in the country context are priority activities of the strategy. Each training institution's production capacity in the right numbers with quality assurance in the curriculum is a priority. HWF tasks – indeed any workforce tasks are divided into three overlapping arenas: technical or clinical tasks; communication or education tasks; and administrative or managerial tasks. It is the integration of these three skill sets that determines quality care. Weakness of any one or two, leads to suboptimal health care provision. The strategy will make sure all three areas are addressed and developed in unison.

4.1 Produce adequate number of health workforce

A gap analysis of the existing institutional training capacities together with a needs/demand analysis of future workforce needs should be undertaken to inform new academic programs/training courses. Under proper government authorization and regulation both the public and private sectors should be involved.

Health labor market analysis (HLMA) should be conducted at least once every three years ensuring balanced supply of skills and reduction of unemployment of health workers in the market.

A gender sensitive HWF (category-wise) production plan should be developed with projection towards achieving the Smart Bangladesh Vision 2041.

Assessment is required for the existing graduation and attrition rates of all health professionals – medical, dental, nursing, midwifery, pharmacists, medical assistants, medical technologists, public health, and alternative medical care students at graduate levels.

Curricula of all health professionals should be reviewed and updated on periodic basis, promoting critical thinking as well as orientation for primary healthcare and universal health coverage among the students. An integrated teaching and learning strategy should be developed to support implementation of curriculum in respective health professional education institutions.

A blended learning strategy needs to be developed for health professional education institutions in Bangladesh. Steps should be taken to develop competencies on medical humanities and medical ethics among the future health professionals.

4.2 Restructure the organization and function of the Human Resource Management Units (HRMUs) of the health care institutions and organizations

The HRMUs should be restructured so they function more effectively with respect to human resource development. The Human Resource Branch (HRB) of the MOHFW should be linked to those Units through relevant downstream public/private administrative/regulatory bodies/organizations. The capacities of the individual academic/training institutes need to be enhanced reflecting the requirement for each category and level of HRH on careful evaluation of their existing in-house capacities.

4.3 Develop appropriate organizational and regulatory frameworks

Some of those frameworks are existing, but those needs to be updated. In many cases new frameworks need to be developed to ensure proper implementation, monitoring and improvement of the system.

4.4 Develop new categories of workforce, as needed

In line with the fast-moving health system and health technology revolutions appropriate new categories of HRH should be developed keeping in mind the future need for the improvement of service delivery and HR development such as care givers, geriatric workers, physicist, biomedical engineer, ICT officer/assistant, support worker, specialist nurse, midwifery specialist, etc. These new categories are especially important in meeting the emerging needs for PHC and are not meant only for secondary and tertiary levels.

4.5 Review and update health workforce education-related policies and guidelines/strategies

This should be done to remove inconsistencies, overlapping and redundancies among different sectors (both public and private). HWF education and production is not only limited to the Ministry of Health and Family Welfare (MOHFW), other stakeholders like like the

Ministry of Defense, Ministry of Education, and private sector organizations are also involved in producing the HWF. Inconsistencies are looming within the system in terms of establishment of new institutions, quality maintenance, and medico-legal compliance. Coordination as well as harmonization among the related Ministries and other organizations needs to be ensured and this can be done through review of HWF education related policies and strategies.

Postgraduate medical specialization and sub-specialization will have to be rationalized on the basis of fairness and equity. Coordination among the medical universities, Bangladesh College of Physicians & Surgeons (BCPS) and MOHFW as well as other relevant Ministries is vital in this respect.

There should be a projection of medical specialist requirement up to 2041 and strategies should be developed to supply them in the labor market on timely basis. The postgraduate medical education curriculum (subject-wise) should be reviewed and updated to make them more competency based in line with the changing health needs due to change in disease profile, emergencies and climate change.

Public Health related academic curricula needs to be more health systems oriented and useful to the health managers and administrators of public and private sectors.

4.6. Develop a dedicated critical care health workforce action plan for optimum supply addressing the need of ICUs, CCUs and HDUs.

The number of critical care beds, infrastructure and hospitals has been increasing every year. But at the same time, the supply of the relevant workforce has not been increasing at the same mode. Staffing norms of 5-beds, 10 beds ICUs and 20-beds ICUs need to be standardized.

4.7. Develop a public health competency framework to ensure optimal conduction of public health functions especially by the frontline health workers.

Recent COVID-19 pandemic and climate change-related calamities re-emphasize the need of public health competencies. Therefore, there is a need to assess existing competencies of frontline health workers who are engaged in delivery of primary healthcare and establish a national level public health competency framework for different categories.

Strategic Action 5: Ensure continued HRH Training

In the healthcare field, acquisition of knowledge is necessary but not sufficient for good practice. It is the HWF's behavior and skills in the application of that knowledge that makes a positive change for the service user. This strategy prioritizes changes in behavior and attitude, not merely the acquisition of knowledge. It will also emphasize the imperative of prioritizing skills development of the existing HWF and not focusing solely on the future HWF.

5.1 Formulate in-service training guidelines

The in-service trainings should be organized in a more priority-based and coordinated way and also on a periodic but continuous basis. The in-service trainings should be linked with incentives and a career plan (the UHCs may be clustered around district hospitals/medical college hospitals to create a scope for recognition of the trainings). For the public subsector to achieve a return on its investment in pre-service training the HWF needs to be maintained in service for as long as of possible. In-service training helps to retain health workers and build institutional memory, an invaluable resource, which would otherwise be lost.

5.2 Conduct a needs assessment for training of the private sector (formal and informal) HWF and Initiate those training programs

For appropriate planning of the training programs a need analysis should be conducted to assess the present demand and future projection in the rapidly growing non-government sectors. This should include the formal as well as informal HWFs.

5.3 Develop an automated inventory system for the educational institutions.

A standardized performance inventory of education institutions (from all sectors public, private, NGOs, associations/voluntary) needs to be developed to learn more about the inputs, outputs, gender, disciplines and other necessary particulars of education institution performance.

Strategic Action 6: Ensure Quality assurance/improvement and accreditation of academic/ training programs and institutes

6.1 Initiate educational and training programs on Quality Assurance in health sector

The existing quality assurance process should be revisited, and the quality improvement teams should be revitalized. The External Quality Assurance mechanisms should be implemented on a systematic and regular basis. Regular and well-coordinated QA training programs should also be conducted.

A faculty development strategy should be developed for all health professional education institutions so that best and committed professionals can join the teaching. Strategic approaches needs to be developed for need-based recruitment of faculty members where shortage is acute in public and private sectors education institutions.

An online based teacher's evaluation criteria should be introduced to respective health professional education institutions and develop database linked with the appraisal system.
A leadership and management short course (around two weeks) should be introduced for education managers and health leaders. Innovative and harmonized approaches to instructional design needs to be adopted for the development of the students responding to the health needs of the people.

Introduce Team-based, problem-based learning as well as health system-based education (as appropriate) should be introduced for the teachers and students. Inter professional education (IPE) is also a need of the time.

A 'Smart Teacher' concept (complementing 'Smart Bangladesh') should be introduced in the health professional education institutions equipped with modern ICT-technologies and equipment as needed.

6.2 Accelerate establishment of the 'Bangladesh Medical Education Accreditation Council' affiliated with the MOHFW

While there is some progress in the establishment of the 'Bangladesh Medical Education Accreditation Council Act', the speed is yet to be optimum. The process should be accelerated through required coordination with the relevant ministries/bodies and necessary steps need to be taken for its implementation.

A provision of introducing national licensing examination may be assessed for the new graduates of medical education/health professional education.

Implementation of the National Quality Assurance Scheme (NQAS) should be reviewed and a regular mechanism should be established for reporting from different medical and dental colleges. The mechanism should be gradually scaled up to other institutions.

6.3 Strengthen the presently operating Regulatory Bodies in the health sector

The existing rules, regulations and policies of the relevant Regulatory Bodies should be reviewed and updated. The Bodies should be strengthened with appropriate capacity development including amendment of their Acts if necessary. New laws should be introduced, as appropriate. It is also worth exploring the possibilities for decentralization of the activities of the regulatory bodies.

Steps should be taken to harmonize different type of postgraduate medical education degrees in terms of course duration, content, certification, and evaluation system.

6.4 Create the Bangladesh Health Professionals Council (BHPC)

A new Bangladesh Health Professionals Council (BHPC) should be established with an appropriate Act to bring the remaining health professionals (like public health professionals, clinical psychologists, AMC, technologists, medical attendant, care givers, and paramedics) under a regulatory framework. While the establishment of the recently initiated Rehabilitation Council caters to some needs of the physiotherapists and related professionals, the BHPC is required to include a large number of other professionals as well as the clinical needs of the physiotherapists in the health sector.

Establish a central Institution for the foundation training as well as other professional trainings of the HWF.

Strategic Action 7: Develop a comprehensive Performance Management System (PMS) and Accountability Framework

Managing individual as well as organizational performance is always a challenge for health sector planners and managers. There is tremendous potential for improvement in workforce effectiveness and efficiency by using familiar, yet over-looked, basic management techniques. The strategy aims to increase overall service output and improve individual productivity (output per person) through the introduction and application of fundamental line-management principles.

7.1 Review and update the existing job descriptions at a regular interval

The use and display of organograms, the inclusion in job descriptions of immediate managers and immediate subordinates, the meaningful use of those job descriptions, the introduction of face-to-face supervision and follow-up all count among obvious first steps. Facilitators, supervisors and managers will need training. At an appropriate time, further management and administrative practices, such as management-by-objectives and the calculation of productivity rates, may supplement the managers' tools.

All the existing job descriptions should be reviewed to identify the lapses and gaps and future needs in view of the organizational goal and objectives of achieving Universal Health Coverage and attaining the Sustainable Development Goals.

7.2 Review the existing system of HR performance management

In the public sector, a traditional type of individual performance management system i.e. annual confidential report (ACR) is in practice for the public servants. Although the concerned authority is assessing how to introduce better management tools, no significant process has been made. Performance management is still thought to be an administrative task with little or no impact on decision-making. There are many drawbacks of the present practice. Under the current framework of assessment, there is no scope of the supervisee to see the evaluation of his/her supervisor which diminishes the level of confidence in the process and ultimately affects performance. Maintaining fairness through proper transparent performance management processes at both public and private sectors are critical for HWF management. Institutional and individual appraisal systems should be established as a part of Performance Management.

A need-based (subject-wise) deputation policy should be introduced for postgraduation study of the public sector health professionals and a monitoring & evaluation framework is required to be developed.

7.3 Examine the institutional and individual appraisal system of the country

Guidelines for institutional appraisal (indicator-based and weighted method) and individual appraisal systems should be developed. Identifying lapses and gaps. Evidence-based best practices should be explored and a PM model should be developed through a consultative process.

7.4 Develop a guideline for creating awareness about the concept of a PMS

Health System strengthening through the development of an ideal and quality PMS should be given proper importance. Develop a plan for disseminating the guideline for proper inception of the concept.

7.5 Capacity development of the different stakeholders regarding PMS

Training programs to increase the capacity on PMS should be designed and capacity development of the managers on institutional and individual appraisal systems should be given priority.

Strategic Action 8: Review and update Accountability Framework

8.1 Redesign the roles and responsibilities of the Ministry, different Directorate and Agencies

There are still confusions as well as overlapping and redundancies regarding the roles and responsibilities. Those should be resolved in the light of the overall reorganization of the health system especially in line with its present PHC-UHC orientation.

The Allocation of Business of the Medical Education and Family Welfare Division (MEFWD) of the MOHFW should be reviewed and updated.

8.2 Strengthen the accountability framework

The performance and accountability framework should be improved according to organizational goal and objectives by Institutional Performance Management (IPM). The IPM documents should be reviewed and updated according and capacity should be increased for its implementation in phases.

The competency framework of all health professionals should be reviewed and updated on periodic basis in alignment with the health systems need, climate change and pandemic or other emergency situations.

8.3 Introduce a total quality management culture in the performance management system

The existing TQM guidelines should be reviewed and updated guidelines should be formulated followed by capacity development and phased implementation. This will permit performance review as well as taking of measures on the basis of review findings. Development of a new accountability framework would be a challenging task due to poor monitoring mechanisms, commitment and poor employee engagement in the public sector. Delegation of authority would be critical due to resistance from the key stakeholders.

Strategic Action 9: Increase the motivation of Health Workforce

9.1 Identify areas of motivation

The areas/programs need to be examined where incentives can be introduced to encourage more motivation accompanied by appropriate accountability frameworks.

9.2 Develop models for HWF motivation

Models should be proposed and explored for alternate career pathways to create proper opportunities in the health sector. Career plan guidelines should be developed for all major categories of health workers including medical, dental, nursing, midwifery, pharmacists, medical assistants, medical technologists, public health, and alternative medical care professionals. Existing career plans of various categories of HWF should be reviewed and updated career plans should be introduced that corresponds to the present health system of the country. Model(s) should be developed and piloted on the basis of identified areas and other findings. On reviewing the performance, the model should be revised and scaled up.

9.3 Develop mechanisms in the government system for stimulating more motivation and commitment of the service providers

Existing delegation of authority at different levels needs to be reviewed. Delegation of authority for establishing decentralized management should be prioritized. Capacity should be developed to implement such management structure. The concept of 'Centre of Excellence', for best performing health professional education institutions, may be introduced.

9.4 Develop gender-responsive human resource policies

Develop human resource policies responsive to the increasing feminization of the HWF, through identifying the specific requirements and recommendations in consultations with female health workers and CSOs/NGOs working on gender.

9.5 Develop leadership and management course for the entry-level and mid-level health workers in the MOHFW through establishment of Bangladesh Institute of Health Management (BIHM)

There is a need to develop and sharpen leadership and management skills of the health workers to bring more efficiencies at the workplaces. Both short-term (two weeks to six months) and long-term course (at least one year) could be developed and sustained. Establishment of the BIHM should be accelerated in this regard.

Strategic Action 10: Develop a comprehensive central HWF Information system and use it for evidence-based decisions

Health system strengthening has increasingly become a major focus of international concern and a primary political, social, and economic issue in nearly every country. Although Human Resource for Health (HRH) is considered as the backbone of any health system and it is one of the 6 Health System Building Blocks of the WHO, the HWF Information System (HWIS) is poorly organized in most low and middle-income countries. In reality the HRIS is rarely used for planning and management decision support for better health systems performance. This is due to complexity of its structure and diversity of HWF distribution. Bangladesh has made considerable progress in this direction, but a lot more needs to be done.

10.1 Design a Need-based Information System for HWF Planning

The information needs should be defined and data requirements specified. Data acquisition and storage systems must be streamlined and formalized. It should be determine how the data is to be held (including choice of database) and it should also be clarified who is going to be responsible for the overall system at different levels of the health system. The coordinating mechanism for the system should be structured. An implementation plan, including piloting, should be prepared;

An online admission test management system (ATMS) should be developed for the new incoming undergraduate students to be admitted into respective health professional education institutions. An online mechanism should be established to monitor and evaluate annual admission of institution-wise students and graduates so that summary reports could be produced centrally and institutionally

Capacity should be built through training to all categories of personnel for timely reporting of data into the online system and use of the system. Capacities of the Directorates, Agencies and relevant sections of the Secretariat should also be enhanced by creating new ICT-related posts.

Development of a Digital Library & Knowledge Centers (DLKC) should be initiated for making educational materials available to all concerned. The ICT competencies of faculty members should be assessed and their capacity should be increased through short-term training as appropriate.

An ICT-based Central Inventory & Logistics Management System (CILMS) should be developed to manage the inventory and logistics. A Medical Dorms & Hostel Management System (MDHMS) should also be developed.

10.2 Implement procedures to operate through the system

The online monitoring and evaluation of HRH through HWIS should be improved (or developed in certain areas). Organization, management and dissemination of HWIS data for planning and management should be streamlined. The staff should be trained on the new procedures and on maintenance of data. Mechanism for the monitoring and evaluation of the system should be detailed as a part of the implementation and it should be institutionalized. A central database/profile/ alumnus of foreign students should be created, and steps should be taken to attract more foreign students into the education system.

10.3 Continue to develop health workforce information sharing for potential solutions to challenges

The systems already developed are operating like islands in most cases and information are not often shared for management purposes. Those need to be integrated at the Ministry level (by the HRB). This will enable proper monitoring, evaluation and reporting on the overall health situation of the country.

The existing software systems under MOHFW, DGME, DGHS, DGFP, DGNM, and other related bodies should be analyzed and evaluated to avoid data duplication and also to ensure maximum interoperability and compatibility.

10.4 Coordinate with HWF MIS among the MOHFW and other relevant supply side players

In Bangladesh, the HWF is divided into formal and informal healthcare providers. The informal health care providers are beyond any regulatory framework and their actual statistics are rarely available. The formal human resources for health (accredited and non-accredited) are distributed over public and private sectors of the service delivery system. Dual practice is common and overlaps between public and private sector. The rapidly growing not-for-profit private sector is also deploying increasing numbers of HWF. In the public sector, HWF are available in other ministries such as in the ministries of industries, home affairs, social welfare, armed forces, local government etc. Within MOHFW the HWF are distributed among different agencies and directorates such as DGHS, DGFP, DNS, NIPORT, HED, DGDA, and DG-HEU. Some agencies, although not all, have HRIS. Of them, the DGHS has a well-developed HRIS and has been developed for capturing countrywide HWF both in public and private sectors. However, HWF data is not readily available in one place anywhere in the country. Hence strengthening existing HWIS is a priority action of the ministry.

A central database of retired teachers and trainers (from all sectors) should be created from all health professional education institutions so that a resource pool can be developed.

10.5 Promote retention of professionals by creating a supportive culture through the use of modern technological interventions

Modern communication technology should be utilized to promote the motivation and retention of the professionals. Examples include telemedicine and teleconference among professionals and/or relevant community members.
An Online Staff Training Portal (OSTP) should be developed for capacity building of the staff.

10.6 Strengthen supportive supervision, monitoring and mentoring

This should be done through dedicated technical personnel at the HRB-MOHFW level and the subunit will be required to be supported by a Committee constituted by the relevant administrators and stakeholders.

10.7 Strengthen capacity of the MOHFW and its directorates to establish a comprehensive HWF information system.

Information technology is a technical and evolving every now and then. Therefore, adequate capacity building initiatives (such as training and relevant post creations) should be undertaken for the health and support workforce at all levels.

Strategic Action 11: Promote health systems research for evidence-based planning and maintenance of the health workforce

11.1 Support health workforce research for generation of knowledge and evidence

Health system research with particular focus on the HWF needs to be supported and promoted in order to practice evidence-based policymaking in health sector planning and management. Apart from internal capacity and resources collaboration with relevant national and international organizations (both national and public and private) should be established.

A 'Medical Education and Research Unit' is required to be developed in health professional academic institution on priority basis.

11.2 Establish a repository of health workforce related studies, research, evaluation and other publications

To strengthen institutional as well as individual knowledge base, a repository/archive is to be created within the HRB-MOHFW where HWF related scientific studies, research reports and other publications will be stored and used for HWF policy considerations and decisions.

11.3 Strengthen HRB through restructuring on the basis of future needs

To provide due importance on formulation of need-based and affordable HWF plan including its implementation, monitoring and evaluation, restructuring and strengthening of the HRB at both ministry and agency levels should be given proper emphasis and attention.

Steps should be undertaken to regularize the existing set-up of the HRB-MOHFW under the revenue budget. The capacity for proper monitoring and evaluation mechanism should be enhanced in order to assess the progress of implementation in the workforce strategy. Steps should be taken to increase the capacity both at the individual as well as institutional levels.

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Annex: I

The Advisory Committee		
1	Additional Secretary (Admin), Health Services Division	Chair
2	Additional Secretary (Admin), Medical Education and Family Welfare Division	Co-Chair
3	Additional Secretary (Development), Health Services Division	Member
4	Additional Secretary (Planning), Health Services Division	Member
5	Director General, Directorate General of Nursing & Midwifery	Member
6	Joint Secretary (Admin), Health Services Division	Member
7	Director (Admin), Directorate General of Family Planning	Member
8	Director (Admin), Directorate General of Health Services	Member
9	Director (Admin), Directorate General of Drug Administration	Member
10	Director (Admin), National Institute of Population Research and Training	Member
11	Director (Admin), Health Economics Unit	Member
12	Director (HRM), Directorate General of Medical Education	Member
13	Director, Institute of Epidemiology Disease Control and Research	Member
14	Professor Dr. Liaquat Ali, Honorary Chief Scientist, Pathikrit Institute of Health Studies	Member
15	Health Advisor, Foreign, Commonwealth and Development Office, British High Commission, Dhaka	Member
16	National Professional Officer – HRH, World Health Organization Bangladesh	Member
17	Joint Secretary (HR), Health Services Division	Member Secretary

Annex: II

Technical Working Group		
1.	Joint Secretary (HR), Health Services Division	Chair
2.	Director (Research and Publication and Curriculum Development), Directorate General of Medical Education	Member
3.	Director (MIS), Directorate General of Health Services	Member
4.	Director (Admin), Directorate General of Nursing & Midwifery	Member
5.	Director (HRM), Directorate General of Medical Education	Member
6.	Deputy Secretary (Per-1), Medical Education and Family Welfare Division	Member
7.	Deputy Secretary (Medical Education-1), Medical Education and Family Welfare Division	Member
8.	Deputy Secretary (Admin-1), Health Services Division	Member
9.	Deputy Secretary (GHM-1), Health Services Division	Member
10.	Deputy Director, (Admin-1), Directorate General of Drug Administration	Member
11.	Programme Manager (PMR), Directorate General of Health Services	Member
12.	Deputy Program Manager (HRD), Directorate General of Health Services	Member
13.	Deputy Program Manager (HRD), Directorate General of Family Planning	Member
14.	Research Associate (HRD), Health Services Division	Member
15.	Dr. Md Shajedul Hasan, former Additional Secretary & Programme Manager (HRM), Ministry of Health and Family Welfare	Member
16.	Dr. SAJ Musa, former Director (PHC), Directorate General of Health Services	Member
17.	Dr. Md Shafiqur Rahman, former Deputy Programme Manager (PMR), Directorate General of Health Services	
18.	Professor Dr. Liaquat Ali, Honorary Chief Scientist, Pathikrit Institute of Health Studies	Member
19.	Dr. Md Jamal Uddin Chowdhury, Secretary General, Bangladesh Private Medical Practitioners Association	Member
20.	National Professional Officer (HRH), WHO Bangladesh	Member
21.	Dr. Taufique Joarder, Vice-Chair, Public Health Foundation Bangladesh	Member
22.	Deputy Secretary (GNSP), Health Services Division	Member Secretary