Human Resources for Health Country Profile Bangladesh

August 2013

Prepared by

Human Resources Managment Unit
Ministry of Health and Family Welfare

Supported by
World Health Organization
Under BAN HRH Programme

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MESSAGE

Human Resources for Health (HRH) Country Profile is an important publication of the Ministry of Health and Family Welfare (MOHFW). The Profile is to be used as a source of human resource data and information of the country which is an important addition to the knowledge base of the ministry. I am very pleased to know that Human Resource Management (HRM) Unit of MOHFW is going to publish this for the first time which is an achievement. Human resources data and informantion are hard to find in one place in a consolidated manner. This profile is an endeavor to fulfill the gap on this front.

Bangladesh has made remarkable progress in achieving the Millennium Development Goals under the leadership of our Hon'ble Prime Minister Sheikh Hasina and has kept continue to thrive bringing systematic changes in the health sector with the purpose of ensuring healthcare service delivery for every citizen of the country within available resources. Human resource, in this ragard is considered as one of the major challenges for effective health care services not only for Bangladesh but also for other part of the world. publication of the HRH country profile is crucial because it reflects the HRH situation of the country and hence connects policies with programs and generates policy options for further recommendations and appropriate interventions. The Profile also creates provisions for all stakeholders at both public and private sector to interact each other for adoption of appropriate intervention on issues related to HRH. I am glad to acknowledge that HRM Unit of MOHFW has taken the initiative of developing the HRH Country Profile and is moving towards fulfilling our HRH commitments. I believe HRM Unit will keep updating the document on regular basis realizing the importance of it.

I would like to extend my sincere thanks to World Health Organization Bangladesh Office for providing their valuable support in producing the document. Finally I thank all who were directly or indirectly involved from inception to completion of publication of the profile.

Joy Bangla, Joy Bangabandhu.
Long live Bangladesh.

Mohammed Nasim, MP
Minister
Ministry of Health & Family Welfare
Govt. of the People's Republic of Bangladesh

MESSAGE

Human Resources for Health (HRH) Country Profile is a reflection of human resource stocks, trends, and distribution in the country context. This is a reliable source of human resource data and information in the health sector of the country because of appropriate methods and approaches of data collection and presentation. I think this profile will provide evidence and help relevant professionals, policy makers, researchers, and managers for making priority decisions and scope for further research. Therefore it would help to create an environment of evidence- based decision making. I appreciate the hard work of the officials and staff involved in data collection, compilation and publication of the profile.

Though the officials of HRM Unit have taken all the hardship to publish this for the first time, I believe they will keep continue their effort for the betterment of the HRH Profile. I also believe that there is still scope for improvement in areas of informal and private sector.

I provide my sincere thanks to WHO Country Office, Bangladesh for their sincere cooperation and technical support to make the effort a success.

Joy Bangla, Joy Bangabandhu.
Long live Bangladesh.

Zahid Maleque, MP
State Minister
Ministry of Health & Family Welfare
Govt. of the People's Republic of Bangladesh

FOREWORD

Publication of Human Resources for Health (HRH) Country Profile is an important achievement of the Ministry of Health & Family Welfare. It provides detail information regarding HRH which reflects the situation of the country. HRH is a priority agenda not only of the country but also of the global world and therefore is a concern for the development of the post MDG agenda of the United Nations. Since human resource is the navigator of the health system, it is important to learn about human resources data and information in detail concerning its country context, health systems, HRH stocks and trends, distribution, utilization and governance. These are essential areas of attention for all stakeholders specially policy makers, managers, academicians, and researchers for evidence based HR decisions and generating policy options.

I sincerely appreciate Human Resources Management Unit of the ministry for their effort and hard work for updating and publishing the HRH Country Profile. I believe the profile will be updated on regular basis given information changes with time. I also hope that the team will continue their good work despite limitations and constraints. I should not forget to acknowledge the contribution of WHO Country Office for their continued support to MOHFW.

Finally I want to thank all of those who were directly or indirectly involved in the production of this profile.

M. M. Neazuddin
Secretary
Ministry of Health & Family Welfare

ACKNOWLEDGEMENT

Human Resources Management Unit of Ministry of Health and Family Welfare (MOHFW), with support from WHO Bangladesh has finalized the updated Human Resources for Health (HRH) Country Profile 2013, which represents a formal source of useful qualitative and quantitative HRH data and information available for decision makers.

On this occasion, I would like to express my sincere thanks to the Honourable Minister of MOHFW for providing his kind approval on commencement of the project on updating HRH country profile and to the respected Secretary, MOHFW for his continuous guidance and support. I also would like to extend my thanks to all concerned in the HRM Unit, MOHFW, and to all officials listed in Annex 4, as well as all others who contributed in one way or another, including those who provided valuable documents and information to accomplish the task of updating the HRH country profile.

I also would like to acknowledge and thank WHO Representative to Bangladesh and WHO HRH technical team for the valuable assistance and support provided. Finally I wish all the best to all concerned for their support.

A. N. Shamsuddin Azad Chowdhury
Additional Secretary (Administration) &
Line Director- HRM, MOHFW

MESSAGE

It has been a great pleasure for me to mobilize WHO technical and financial support to the Human Resources Management Unit (HRM), Ministry of Health & Family Welfare (MOHFW), in developing and publishing the Bangladesh Human Resources for Health (HRH) Country Profile 2013. Realizing the limited comparable HRH information available in countries of the Region, WHO South-East Asia Regional Office (SEARO) developed a template for preparing the HRH Country Profile.

WHO Bangladesh HRH team extended technical and financial support to the HRM Unit to collect the relevant data and information and finalize the Profile, which had been uploaded in WHO (SEARO) Observatory. The Profile has enabled the MOHFW to address the gap in the availability of comprehensive and up-to-date HRH information, which can be utilized in decision making process.

During the HPNSDP Annual Performance Review 2013, the reviewers had recognized the Profile as a formal resource material for getting up-to-date HRH data, and qualitative information on the Country's HRH policy, strategies and plans for HRH development, deployment, utilization and related regulations.

The MOHFW effort to strengthen the HRH knowledge and information base is appreciated. We hope that the Profile will be regularly updated and an initiative will be taken to utilize it in establishing National HRH Observatory, which will be helpful in facilitating production, sharing and use of quantitative and qualitative HRH Related knowledge and information. It will also act as a platform for policy makers, researchers, and other stakeholders to debate HRH issues and propose cost effective interventions for improving availability, competence, productivity and responsiveness of health workforce in Bangladesh.

Finally, I would like to express my sincere thanks to all of those who have contributed to the production of this profile, including WHO HRH team members and congratulate the team of HRM Unit, MOHFW for their hard work to bring out the publication. I also wish them all the success in taking further steps for addressing the key HRH issues and challenges and reaffirm WHO commitment to continue the need support for that.

Dr. Khaled Hassan
WHO Representative to Bangladesh a.i.

Executive Summary

Over the last two decades Bangladesh has made remarkable progresses in certain key health indicators such as infant mortality, under five mortality and maternal mortality. However, despite these progresses situation of Human Resources for Health (HRH) remains as a matter of concern due to several issues such as acute shortage, inequity in distribution, skill mix imbalance, lack of fair performance management systems, poor working environment, and weak knowledge base (HPNSDP 2011-16, National Health Policy 2011, Sixth Five year Plan 2011-2015). Hence HRH can be regarded as one of the major impediments towards achieving millennium development goal as well as universal health coverage.

In Bangladesh, health workforce data is not located or collected in one central database or in one place in comprehensive way and thus it is difficult to work out evidence based scenario and also make complex to formulate any national level HRH policy and strategy.

The South East Asian Regional Office (SEARO) of WHO has provided a template as a guideline to assist countries to develop its own HRH profile. WHO has also recommended establishment of a national observatory to facilitate production, sharing and use of quantitative and qualitative information on HRH in order to support the development and implementation of the HRH policies and plans. Updating the profile will also help MOHFW to go one step ahead towards constructing the national HRH observatory as it will assist to gather necessary HRH information available in the country.

This exercise of updating the HRH country profile has been basically a cross-sectional desk study that adopted descriptive and analytical methodologies where both qualitative and quantitative data and information were compiled from available reports, studies and statistics related to HRH from public sector with little private sector representation due to unavailability of such data in one place. Personal consultations, telephone interviews, postal mails, emails and field visits were conducted with respective representatives of different stakeholders to fill in HRH information gaps.

Most recent and precise numbers of HRH were found difficult to collect not only within MOHFW secretariat but also from other departments because of traditional and paper based human resources record keeping systems. The most consistent numbers of HRH came from those departments which have established management information systems (MIS) i.e. Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) and to some extent Directorate of Nursing Services (DNS).

It has been estimated that public health personnel account for one third of the total health service workforce. At the public sector, doctors and nurses represent around 29% of the total health work force. In health about 38% of staff are not clinically trained, and work in administration either as office support staff or menial staff; in family planning the corresponding figure is around 30% (HRM Unit, 2012). Around 155,000 health workers (both clinical and non clinical) available (filled out) within the system of MOHFW against sanctioned post of about 187,500. HRH data was not collected from peer ministries during project period. Regarding medical doctors, it has been estimated that about 38% of the total registered allopathic doctors are working in the public sector where 35% are under the MOHFW and rest (3%) are working other ministries such as home, railway, civil aviation, LGRD, Social Welfare and labor.

However, density of medical doctor per 1000 population has been increasing quite rapidly in compare to other health professional such as nurse-midwife and medical technologists. In 2003 the density of medical doctors was about 0.28 and in 2012 it increased up to 0.40 whereas nurse-midwife was 0.141 in 2003 and 0.204 in 2012. It is clear that the country has medical doctors almost twice the number of nurse.

The study also reveals that there has been significant shortage of medical technologists in this country given the density was 0.07 in 2012 which was about 0.04 in 2003 (HRM Unit, 2013).

Regarding sex distribution of the medical doctors it has been found that about 31 percent of the registered medical doctors were female and rapid growth of female doctor has been prominent last 10 years. But female presence is nominal in other professions such as medical assistantship, technologists and alternative medical care. In terms of distribution of health professionals among all 7 administrative divisions of the country, about 42 percent of the total medical doctors were employed in the Dhaka division whereas Barisal and Sylhet had minimum 6 percent each. Regarding rural-urban distribution, on the other hand, around 45 percent of the total medical doctors were formally posted or deployed in the rural areas of Bangladesh according to the collected data. Posting or deployment doesn't ensure doctor's presence in rural areas.

Regarding production of HRH, a good quantity of medical doctors have been graduating each year and the number has been increasing significantly (in 2011 number of MBBS graduate was 3621 and in 2012 the number increased up to 5100). The number of nurse production has also been increasing but in terms of other allied health professionals (such as medical assistant, medical technologists, pharmacists and AMC practitioners) the training output numbers are not significant at all.

On the health care financing issues, households remain the main source of financing for healthcare in Bangladesh, comprising 64% of total health expenditure in 2007, in 1997, they accounted for 57%. Regarding HRH governance, authority for human resource management remains centralized although there has been increasing number of initiatives to delegate responsibility for services delivery to decentralized levels. The operational processes of MOHFW divide responsibilities among different line management channels, with nominal horizontal coordination. In addition, for the public sector, authority and responsibility are further divided among the key ministries and organizations responsible for human resource management of public servants. Ministry of Public Administration and Public Service Commission are involved strategically in various aspects of recruitment, promotion, and disciplinary functions—all of which are key to addressing human resource problems in the health sector.

This assignment also revealed that the Human Resources Management Unit established within MOHFW Secretariat as the body responsible for human resources policy, planning and to produce evidence for better policy making. A new HRH strategy and a long term HRH plan have been under formulation to address the issues of HRH in the country.

Finally, this HRH Country Profile has hence identified basic HRH stock and trends, revealed imbalances in skill-mix, distribution and mobility of health workers; explained the HRH policies and management situation which help in monitoring the HRH stock and trends; described the system of communication with and between policy-makers and stakeholders; and has provided some instruments for facilitating information sharing and cross-country comparisons.

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Acronyms

ADP	Annual Development Programme
AHI	Assistant Health Inspector
AIDS	Acquired Immuno Deficiency Syndrome
ANC	Antenatal Care
APR	Annual Programme Review
BAMS	Bachelor of Ayurvedi Medicine and Surgery
BBS	Bangladesh Bureau of Statistics
BCS	Bangladesh Civil Service
BDHS	Bangladesh Demographic and Health Survey
BDS	Bachelor of Dentistry Surgery
BHMS	Bachelor of Homeopathy Medicine and Surgery
BMDC	Bangladesh Medical and Dental Council
BMMS	Bangladesh Maternal Mortality and Health Care Survey
BNC	Bangladesh Nursing Council
BPC	Bangladesh Pharmacy Council
BUMS	Bachelor of Unani Medicine and Surgery
CC	Community Clinic
CHCP	Community Health Care Provider
CME	Centre for Medical Education
CS	Civil Surgeon
CSBA	Community Skilled Birth Attendant
DGDA	Directorate General of Drug Administration
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DNS	Directorate of Nursing Services
DOTS	Directly Observed Treatment Short Course (TB)
FP	Family Planning
FPI	Family Planning Inspector
FWC	Family Welfare Centre
FWVTI	Family Welfare Visitor Training Institute
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
HIV	Human Immuno-deficiency Virus
HNPSP	Health Nutrition and Population Sector Programme
HPSP	Health and Population Sector Programme
HRD	Human Resources Development
HRH	Human Resources for Health
HRM	Human Resource Management

ICDDR,B	International Centre for Diarrhoeal Dsease Research, Bangladesh
ICT	Information & Communication Technology
IEDCR	Institute of Epidemiology and Disease Control & Research
IGP	Inspector General of Police
IPH	Institute of Public Health
MATS	Medical Assistant Training School
MCH	Maternal and Child Health
MCWC	Maternal and Child Welfare Centre
MDG	Millennium Development Goal
MIS	Management Information System
MOHFW	Ministry of Health and Family Welfare
MOLGRD	Ministry of Local Government, Rural Development and Cooperatives
NCD	Non-Communicable Disease
NEMEW	National Electro-Medical Equipment Workshop
NGO	Non-Governmental Organization
NIPORT	National Institute of Population Research and Training
NIPSOM	National Institute of Preventive and Social Medicine
PHC	Primary Health Care
PIP	Programme Implementation Plan
RHC	Rural Health Center
RMG	Ready Made Garments
RTC	Regional Training Center
SACMO	Sub-Assistant Community Medical Officer
SVRS	Sample Vital Registration Systems
SWAp	Sector-Wide Approach
TEMO	Transport & Equipment Maintenance
THC	Thana Health Centre
THE	Total Health Expenditure
TB	Tuberculosis
UHC	Upazila Health Complex
UFPO	Upazila Family Planning Officer
UHFWC	Union Health and Family Welfare Centre
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
USC	Union Sub-Center
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WHR	World Health Report

CHAPTER - 1

1.1 Introduction

Human resources are the key to the health system. They are the service provider and ultimate resources for promoting health, preventing and curing diseases. Medicine, infrastructures and finances are essential but they require adequately motivated and skilled workforce to operate. Human resources received incredible attention from the policy makers, academia, and researchers locally as well as globally since the two land mark reports published i.e. Joint Learning Initiatives (JLI, 2004) and World Health Report (WHR, 2006). According to WHR 2006, Bangladesh is a severely human resources shortage country because it did not meet the threshold of density of 2.28 health workers per 1000 population. The JLI report (2004), Bangladesh Health Watch (2007), National Health Policy (2011) and HPNSDP (2011-16) identified some majors challenges related to human resources management such as skill mix imbalance, mal-distribution and migration, negative work environment and weak knowledge base. These challenges have been regarded as major bottlenecks towards management and development of human resources, the key component of the health system (Bangladesh Health Watch, 2007; Masud et al., 2011; HRM Unit, 2011).

Realizing the importance of addressing those challenges World Health Organization Regional Office for South-East Asia developed a template to constitute "Human Resources for Health Country Profile" in order to create a knowledge base from available human resources data and information. Such a base is crucial to awareness and to ensure effective actions of advocacy and interventions regarding HRH issues in the specific country context.

Ministry of Health and Family Welfare (MOHFW) in conjunction with World Health Organization (WHO) agreed to update the HRH country profile that would provide a comprehensive picture of the health human resources situation. As part of its continued support towards MOHFW, WHO engaged a HRH Researcher to spearhead the compilation of this profile in conjunction with the Human Resources Management Unit of MOHFW.

1.2 Purpose

The main purpose of the study was to provide a comprehensive picture of the health workforce situation in the country by category, by geographical distribution, and by age and sex distribution. The HRH country profile also contributes to reinforcing the HRH information system and to make it possible to better understand the HRH situation at country and regional levels.

1.3 Specific objectives

- to investigate the HRH stock and trends, and the size and composition of the current health workforce in both public and private health facilities, including training institutions;
- to identify the gap between enrolment and graduation at public and private health professional training institutions;
- to provide a comprehensive picture of the health workforce information system;
- to determine human resources availability and requirements;
- to estimate and project the numbers of categories of the health workforce required in order to meet international commitments.

1.4 The study has shed light on

- the current composition of the health workforce and future requirements for meeting the priority goals of the health sector development strategy;
- the geography, demography, and economic situation of the country;
- the country's system of health services, and its governance and policies;
- a comprehensive picture of the health workforce situation in the country;
- HRH stock and trends by category and distribution;
- HRH production including pre-service and post-basic training processes.

1.5 Methodology

1.5.1 Study method and procedure

The proposed study is a descriptive assessment of health human resources in Bangladesh that draws on multiple sources of information to inform policy for better management and organization. The study draws on a comprehensive or systematic framework to the health workforce as outlined in the World Health Organization SEARO provided template. It first aims to provide a patent qualitative description of the country health systems and quantitative explanation of the number of health professionals and their training institutions, in both the public and private sectors including the number of students enrolled and graduating. Key variables included age, sex, name of health provider, professional category and education, years of experience, and year of recruitment. Data were collected from administrative records mostly from the head offices based in the capital city. Health training institutions across were also communicated. Desk reviews and secondary data analysis complemented the quantitative study.

1.5.2 Study population

HRH encompasses not only those who work with individual patients in delivering primary health care or specialty advanced care, but also those members of the workforce who care for the health of the population as a whole. The study population is those professionals who are working in both public and private health facilities, at health sector administrative levels and in higher educational training institutions.

1.5.3 Data collection procedures

The generic form of data collection instruments were collected from the provided template and later were modified to fit with the local context. The instruments were used for data collection; human resources and personnel documents and official recorded data were reviewed. The study began with the assumption that most of the head offices of the health services delivery systems would have primary data on health professionals plus basic demographic information. However, most of those head offices did not have such in adequate, which resulted in the need for extra resources and time for data collection.

The data collection took place mostly in the head quarters based in the capital city Dhaka and later extended to other cities through mailing instruments followed by emails and telephonic call. In addition official resources (e.g. issuing office letter) were used to communicate with the targeted offices. Data entry and cleaning were done using MS Word

and Excel, and analysis was carried out with MS Excel application (version MS 2007). Generally there was a good response and cooperation from regional health bureau and health training institutions in both public and private sectors. All possible communications means (including e-mail, tele-fax and telephone) were used to validate the data collected and to correct for missing variables. Later, key findings were presented in a national level stakeholder's consultation for further clarification.

1.5.4 Scope of the HRH profile

The HRH profile provides a summary of the following elements:

- a comprehensive picture of the health workforce situation in Bangladesh;
- geography, demography, and economic situation;
- the health services system, its governance and policies;
- HRH stock and trends;
- HRH production, including pre-service and post-basic training processes;
- HRH utilization.

CHAPTER 2

2. Country context

The People's Republic of Bangladesh emerged as an independent and sovereign country on December 16, 1971 after nine months liberation war against Pakistani Army under the supreme leadership of the Father of the Nation Late Bangabandhu Sheikh Mujibur Rahman.

Over the past 42 years of independence, Bangladesh has made substantial progresses in the field of human development such as real per capita income increased by more than 130 percent, cut poverty by more than half, and significant achievement towards the Millennium Development Goals (Sixth Five Year Plan, 2011). Being a comparatively young country on the world map Bangladesh's development experience is particularly remarkable despite many natural and manmade disasters as well as internal political debacles and yet stayed firm on the development path. This positive development experience has been regarded as the basis for optimism. Bypassing many policy and institutional constraints and the global uncertainties, the country has kept continuity to make inroads in improving the living standards of its citizens.

Poverty is the single most important socio-economic policy challenge for Bangladesh and has been one of the major concerns of the country leaders and policy makers. The country has been striving for a long time and invested a great amount of resources to reduce the amount of poverty. Hence the country has made substantial progress in reducing poverty, where the percent of population living below the poverty line declined from more than 80 percent in early 1970s to 31.5 percent in Fiscal Year 2010 (Sixth Five Year Plan, 2011).

Millennium Development Goals (MDGs) were developed and adopted as plan of actions by 189 nations during the UN Millennium Summit in September 2000. Bangladesh was one of the signatories and eventually it has made noteworthy progress in the attainment of MDGs during the decade of 2000 -2010. Bangladesh's advancement towards MDGs is evident in human development, for example attainment of gender parity in primary and secondary school enrolment.

Coincidently the end of the Sixth Plan meets with the terminal year for the MDGs (2015). This creates room to take into account the progresses with MDGs so far and carry out appropriate actions in areas where progress is slanted. A review of progress indicates that Bangladesh has covered significant grounds and seems to be on track in relation to most of the targets (See table 2.1).

In relation to the targets such as expansion of primary and secondary education, infant and child mortality rate, containing the spread and fatality of malaria and tuberculosis, reforestation, access to safe drinking water and sanitation latrines especially in urban areas, Bangladesh has done really and may well reach several of these targets before the stipulated time.

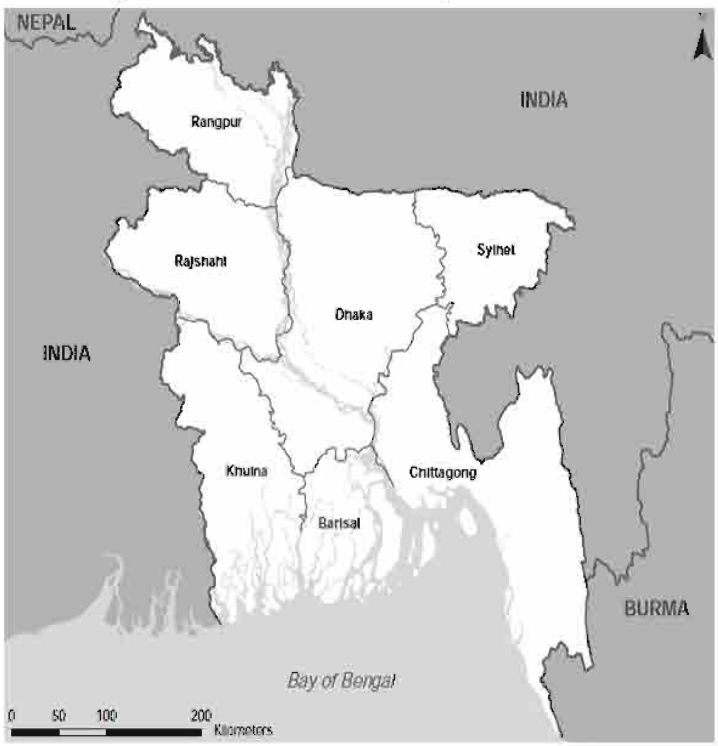


Figure 1.1 Map of Bangladesh

Table 2.1 Status of Priority Health related Millennium Development Goals in Bangladesh

Goals, Targets and Indicators (revised)	Base year 1990/1991	Current Status	Target by 2015
Goal 4: Reduce child mortality			
Target: Reduce by two-thirds the mortality rate among under-five children			
4.1 Under-five mortality rate (per 1000 live births)	146	44(2011)	48
4.2 Infant mortality rate (per 1000 live births)	92	35 (2011)	31
4.3 Proportion of 1 year-old children immunized against measles, percent	54	88 (2006)	100
Goal 5: Improve Maternal Health			
Target 5.A: Reduce by three quarters, by 2015, the maternal mortality ratio			
Maternal Mortality Ratio (per 100,000 live births)	574 (1990)	194 (2010)	144
Births attended by skilled health staff (percent of total)	5.0	26.5 (2010)	50
Target 5.B: Achieve, by 2015, universal access to reproductive health			
5.3 Contraceptive prevalence rate, percent	39.7	61.7 (2007)	
5.4 Adolescent birth rate, per 1000 women	77.0	58.9 (2010)	-
5.5a Antenatal care coverage (at least four visit), percent	5.5 (1993)	23.4 (2010)	100
5.6 Unmet need for family planning, percent	19.4 (1993)	17.1 (2010)	-
Goal 6: Combat HIV/AIDS, malaria and other diseases			
Target 6.A: Have halted by 2015 and begin to reverse the spread of HIV/AIDS			
6.1 HIV prevalence among population (per 100000) population	0.005	0.1 (2010)	Halting
6.2 Condom use rate, percent	-	6.7 (2008)	No target
Target 6C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases			
6.6a: Prevalence of malaria per 100000 population	776.9	512.6	310.8
6.6b: Death rate associated with malaria per 100000 population	0.37 (2000)	0.32 (2010)	Halting
6.9a: Prevalence of TB per 100,000 population	264 (1990)	79.4	Halting
6.9b: Death rates associated with TB per 100,000 population	76 (1990)	43.0 (2010)	Halting
6.10a: Detection rate of TB under DOTS, percent	21 (1994)	70.5 (2010)	Sustain
6.10b: Cure rate of TB under DOTS, percent	73 (1994)	92.0 (2010)	Sustain
Goal 7: Ensure environmental sustainability			
Target 7.C: Reduce by half the percentage of people without sustainable access to safe drinking and basic sanitation			
7.8 Proportion of population using an improved drinking water sources,	89.0	86.0(2009)	100
7.9 Proportion of population using an improved sanitation facility, percent	21.0	63.5 (2010)	60

Source: Bangladesh Bureau of Statistics

However, improving maternal health is one of the major concerns. Access to safe drinking water and sanitary latrines particularly in the rural areas is another aspect where greater attention is required. Yet another challenge that Bangladesh faces is in addressing certain pockets of poverty that are lagging far behind with respect to the national averages and where the benefits of MDGs attainment need to be specifically reached. These areas include the urban slums, the hill tracts, coastal belts and other ecologically vulnerable areas.

In recognition of these substantial development challenges, recently the Government has embarked on a Perspective Plan covering 2010 to 2021 aimed at implementing Vision 2021. The broad development goals underlying the Perspective Plan[2] include:

- building a secular tolerant liberal progressive democratic state
- promoting good governance and curbing corruption
- promoting sustainable human development
- reducing the growth of population
- instituting a prudent macroeconomic policy mix
- promoting a favorable industrialization and trade policy regime
- addressing globalization and regional cooperation challenges
- ensuring adequate supply of electricity and fuel
- achieving food security
- making available adequate infrastructure
- pursuing environmental friendly development and
- building a digital Bangladesh

A number of core targets have been identified to monitor the progress of the Sixth Plan. These targets have been set according to the vision and objectives of the perspective plan as well as the goals of the Millennium Development Goals. The achievement of these targets by the end of the Sixth Plan should likely put Bangladesh on course to realize most of the objectives of the Vision 2021 and MDG goals. These monitor able targets fall in seven broad categories: (i) Income and Poverty; (ii) Human Resource Development (iii) Water and Sanitation; (iv) Energy and Infrastructure, (v) Gender Equality and Empowerment; (vi) Environment Sustainability; and (vii) Information and Communications Technology (ICT).

Health is in cooperated under the broad heading of Human Resource Development (Education, Health and Population) those are:

- Under 5 mortality rate to be reduced to 50 per 1000 live birth.
- Infant Mortality Rate to be reduced to 31 per 1000 live birth.
- Maternal Mortality Ratio to be reduced to 143 per 100,000 live births.
- Immunization, measles (percent of children under 12 months) to be increased to 100 percent.
- Births attended by skilled health staff to be increased to 50 percent.
- Reduction of Total Fertility Rate to 2.2
- Increasing Contraceptive Prevalence Rate to 72 percent.

Despite the massive development challenges and constraints that Bangladesh faced immediately after independence (e.g. over population, natural calamities, political chaos etc.), the country has successfully pushed ahead with many aspects of the development agenda. Some of these remarkable achievements include:

- Reducing Total Fertility Rate from 7.0 in mid-1970s to 2.7 by 2007 and to 2.11 by 2011[3]
- Increasing life expectancy from 46.2 years to 66.6 in 2007 and to 69.0 years in 2011[4].
- Increasing the rate of economic growth from an average rate of 4% in the 1970s to 6% in the 2000s

2.1 Geography and demography

Bangladesh is located in the north eastern part of South Asia between 23034' and 26038' north latitudes and 88001' and 92041' east longitudes. The country is bordered on the north and west by India, on the east by India and Myanmar and on the south by the Bay of Bengal. The northern part is in the Himalayan basin and southern part is the coast Bay of Bengal. It is alleged that Bangladesh is the worst victim of global

[3] Sample Vital Registration System, 2005-2011, Bangladesh Bureau of Statistics

[4] Sample Vital Registration System, 2005-2011, Bangladesh Bureau of Statistics

climate change effect without being responsible for it having all the direct and indirect effect of climate change such as, global warming, sea level rise, and melting mountain glaciers which are prone to bear enumerable costs as a result of climate change.

It has a total area of 147,750 square kilometer, (56,570 square miles) of which 8,236 square kilometer is riverine and 1,971 square kilometer is under forest. It is one of the largest deltas of the world. With a unique communal harmony, Bangladesh has a population of about 149.8 million (Population census, 2011), making it one of the densely populated countries of the world. The majority (about 88%) of the people is Muslim & over 98% of the people speak Bangla as a mother tongue. English, however, is widely spoken. The country is covered with a network of rivers and canals forming a maze of interconnecting channels.

The climate of Bangladesh is dominated by seasonal monsoons. The country experiences a hot and a rainy summer most places receiving an average rain of 1,525 millimeters a year and hilly areas receive

Bangladesh Bureau of Statistics is in charge of conducting the population census for the country. As per recent census in 2011 the population of Bangladesh is 149.8 million making the country the most densely populated nation among the globe with 881 people per square kilometer area.

Table 2.2 Demographic changes of some key indicators between the two censuses 2001 and 2011

Indicator	Census 2011	Census 2001
Population (in millions)	149.8	130.03
Density Population/KM^2	1015	881
Urban Percentage	27.0	23.5
Life expectancy (in years)	2010	2002
Male	66.6	64.5
Female	68.8	65.4

Source: Relevant Censuses of BBS

In terms of rural and urban distribution, about 27 percent of the total population lives in urban area. Life expectancy has also increased for both male and female over the 10 years period of time

Table 2.3 Percent of population distribution by age group and year

Age Group	Year1974	Year1981	Year1991	Year2001	Year2011[5]
0–14 years	48.1	46.7	45.1	39.3	31.2
15–64 years	48.6	49.9	51.7	56.9	62.1(15-60)
65+ years	3.3	3.4	3.2	3.8	6.7 (60+)
Total	100	100	100	100	100
Total population	71,479,071	87,119,965	106,314,992	124,355,263	149,800,000

The above table 2.3 shows that the number of population between the ages 15-60 has been increased over last 40 years which is 62.1 percent according to the report Sample Vital Registration System, 2005-2011.

[5] Sample Vital Registration System 2005-2011, BBS

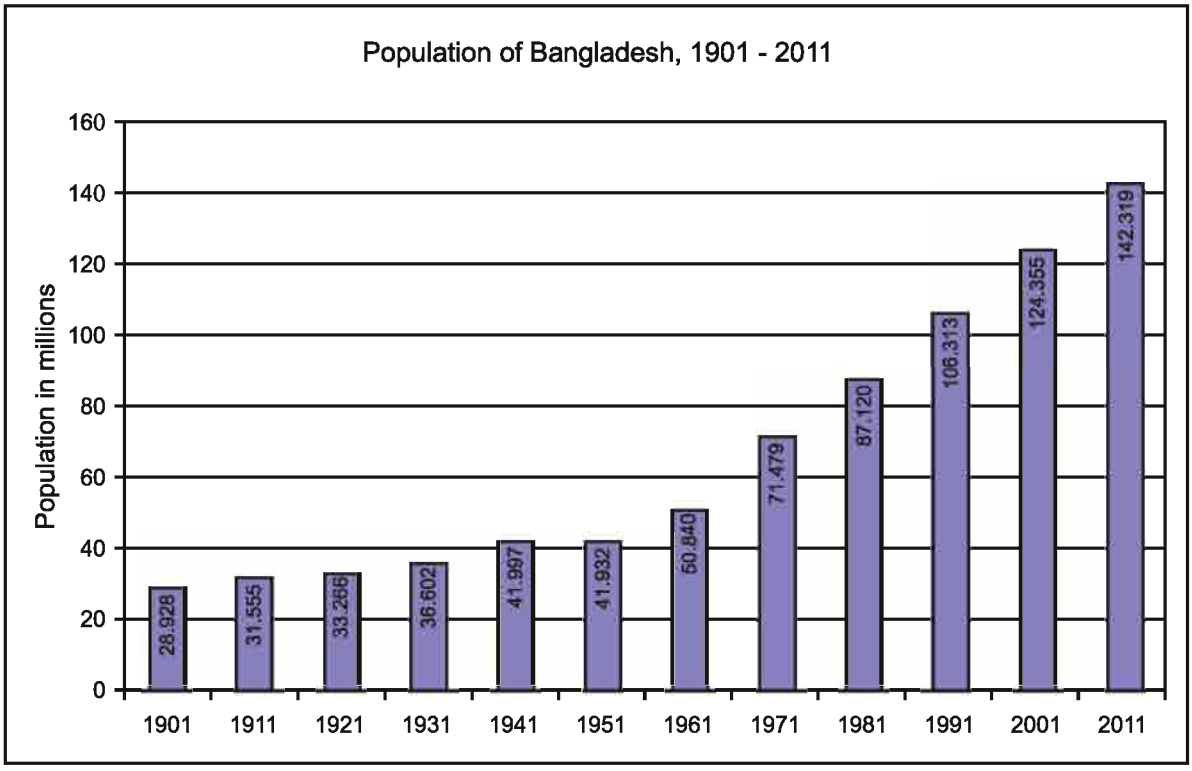
Table 2.4 Population distributions by Sex

Year	Total	Male	Female	Male/Female (%)	Growth rate (%)
Year1981	87,119,965	44,919,191	42,200,774	106.4%	2.32%
Year1991	106,314,992	54,728,350	51,586,642	106.1%	2.01%
Year2001	124,355,263	64,091,568	60,263,755	106.4%	1.58%
Year2011(p)	142,319,000	71,255,000	71,064,000	100.3%	1.34%

Source: Bangladesh Bureau of Statistics; (p) Provisional

Gap between male and female distribution of the total population has been declined according to the last four census reports indicated the above table 2.4 Number of female has been increased in compare to the counterpart male. In 1981 there was 106.4 male against 100 female but in 2011 census the number of male declined to 100.3.

Figure 2.1 Upward trends of population increase over last centuries



Note : Enumerated population for 1974-2011, adjusted population for previous censuses.

Source: 2011 Population & Housing Census: Preliminary Results, BBS As shown in Figure 2.1 above, the population of the country faced an exponential increase trend during the past century. Rapid increase took place between the years 1961 to 2001.

2.2 Economic context

Growth of the economy of Bangladesh has been notable in recent years. Successive bumper crop harvests, strong manufacturing growth, and sustained robust growth in exports and services contributed to this improvement. The economy's expansion during the 1990s – an average, annual GDP increase of almost 5 percent – meant a rise in real, per capita GDP of 36 percent or twice the average rate of other low-and middle-income countries in the same decade. This impressive performance was fueled by growth in real GDP in the manufacturing sector where the output of export-oriented, ready-made garment (RMG) enterprises grew by double-digit. Also, the remarkable growth in the inflow of remittances helped reduce poverty by supporting the expansion of construction and services GDP and by providing a strong safety net Bangladesh has also made significant strides in the area of human development, though the agenda remains far from complete.

Employment provides the key link between economic growth and poverty making it the major instrument for poverty reduction in Bangladesh. Labor force (age 15 +) in Bangladesh increased from around 19.7 million in 1974 to 49.5 million in 2006, the latest available year for Labor Force Survey (LFS). That gives an annual long term trend growth rate of 2.9 percent.

The labor force growth rate was more expansive in recent years owing to the changing demographic structure of higher share of population in the working age group as well as a rising female participation rate. Thus, the average annual growth of labor force between 2000 and 2006 was 3.3 percent. As compared to labor force, employment grew at a slightly slower pace of 2.8 percent annually. As a result, the unemployment rate, traditionally defined, increased modestly, reaching 2.1 million people, which is about 4 percent of the labor force. Like other poor agrarian economies, Bangladesh suffers from what is known as the problem of "disguised unemployment" that is characterized by the concentration of a large number of workers in low hours, low productivity, and low income jobs. These disguised unemployed are engaged in agriculture and informal services.

Although proper data on the magnitude of the disguised unemployed (or alternatively defined as underemployed) does not exist, this is well recognized as a serious challenge. In Bangladesh some 78 percent of the labor force is engaged in informal sector activities (agriculture and informal services). Agriculture alone employs some 44 percent of labor force, even though its GDP share is only 19 percent. Another example is that the underemployment rate, calculated on the basis of number of hours worked per week, is high at 24.5 percent in 2006.

Bangladesh's development experience shows considerable spatial differences. Barisal, Khulna and Rajshahi divisions show a higher poverty and lower income growth than the Chittagong, Dhaka and Sylhet divisions. International experiences suggest that divergences in spatial growth outcomes are inevitable in view of diverging initial conditions including human development, infrastructure, and geography also contributed to spatial disparities in Bangladesh.

Table 2.5 Indicators of economic situation of the country since 1999/2000

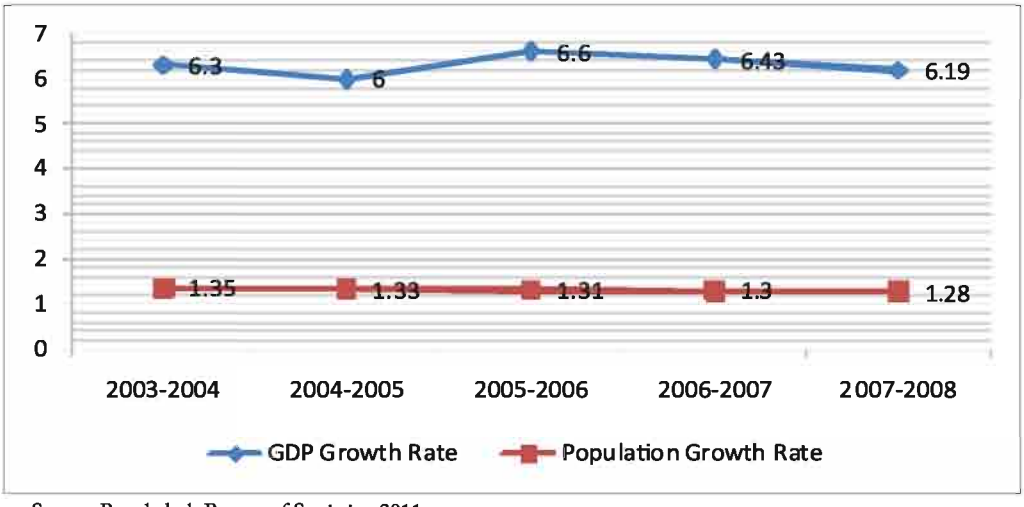
Indicators	Year 1999/00	Year 2004/05	Year 2009/10
GDP (Million Taka)	2,370,856	37,07,070	6,923,795
Economic aid (net foreign finance) as % of GDP	2.5%	2.4%	1.6%
Proportion of budget spent on health as % of GDP	1.0%	0.9%	1.0%
Income (GNI) per capita (in PPP)	865	1200	1995

Proportion of population living below poverty line			
Proportion of population living below poverty line (lower)	33.7	-	17.6
Proportion of population living below poverty line (upper)	49.8	40.0	31.5
Unemployment, Underemployment, Participation rate			
Labour force (15+) Unemployment rate	4.3%	4.3%b	4.2%c
Labour force (15+) Underemployment rate	16.6%	37.6%b	24.5%c
Inflation rate	2.79	6.48	7.31
Labour force (15+) Unemployment rate	4.3%	4.3%b	4.2%c
Labour force (15+) Underemployment rate	16.6%	37.6%b	24.5%c
Labour force (15+) Participation rate	54.9%	57.3%b	58.5%c
Inflation rate	2.79	6.48	7.31

Source: Ministry of Finance, BBS, BDHS; a2007/08; b2002/03; c2005/06

Bangladesh has made significant progress in terms of reducing poverty during the period of 2003- 2008. Proportion of population living below poverty line (upper) declined from 49.8 to 31.5 in the year 2009/10 according to the above table 2.5 it is also notable that the proportion of budget spent on health is nominal percentage of the total GDP which is 1%.

Figure 2.2 Trends of Population growth rate and economic growth rate in the year 2003-2008



Source: Bangladesh Bureau of Statistics, 2011

According to the above Fig. 2.2, GDP growth rate was remarkable around 6.3 for the five years period 2003-2008. On the other hand population growth rate was also steady around 1.32.

2.3 Political context

The Republic comprises of three basic organs: (1) The legislature, (2) The judiciary and (3) The Executive.

2.3.1 The Legislature

The President of Bangladesh is elected by the members of Parliament in accordance with law. The President, as Head of State, takes precedence over all other persons in the State, and exercises the powers and performs the duties

conferred and imposed on him by the constitution and by any other law. The President acts in accordance with the advice of the Prime Minister, save only that of appointing the Prime Minister and the Chief Justice. The supreme command of the defence services vests in the President. The President holds office for a term of five years from the date on which he enters upon his office. No person can hold office as President for more than two terms, whether or not the terms are consecutive. If a vacancy occurs in the office of President or if the President is unable to discharge the functions of his office on account of absence, illness or any other cause the Speaker of the Parliament discharges those functions until a President is elected or until the President resumes the functions of his office.

There shall be a Cabinet for Bangladesh having the Prime Minister at its head and comprising also such other Ministers as the Prime Minister may from time to time designate. The executive power of the Republic is exercised by or on the authority of the Prime Minister. The President appoints as Prime Minister, the Member of Parliament who appears to him to command the support of the majority of the members of parliament. The appointment of Prime Minister and other Ministers and of the Ministers of State and Deputy Ministers is made by the President provided that not less than nine-tenths of their number are appointed from among members of parliament and not more than one-tenth of their number may be chosen from among persons qualified for election as members of Parliament.

The legislative powers of the Republic vest in the Parliament, which consists of three hundred members, designated as members of parliament, elected by direct election. However, presently there are forty five reserved seats exclusively for women members to be elected by the aforesaid members on the basis of procedure of proportional representation in the Parliament.

No War can be declared and the Republic cannot participate in any war except with the assent of Parliament.

Committees are ubiquitous. They are found in all types of parliaments; old or new, large or small. The Jatiya Sangsad, as the parliament is called in Bangladesh, is no exception. However, compared with their predecessors, the committees set up in recent years, especially since the restoration of the parliamentary system in 1991, have acquired a special significance; in particular, they are more representative in partisan composition and have relatively better scope to assert their authority. In particular, department-related committees (DPCs) that shadow government departments were very often seen as a characteristic of the congressional system.

A committee can regulate its sittings and the way it conducts its business. It can obtain cooperation and advice from any expert if deemed necessary. A committee may appoint as many subcommittees as it considers necessary. Each subcommittee has the power of the main committee. The Rules, however, require that the order of reference to a sub-committee must clearly state the point(s) for investigation. A committee has the power to send for persons, papers and records. No document submitted to a committee can be withdrawn or altered without its knowledge. The constitution also authorizes parliament to confer on committees' powers for enforcing the attendance of witness and examining them on oath, as well as for compelling the production of documents.

Parliament has also empowered the government to decline to produce a document on the grounds that its disclosure would be prejudicial to the safety or interest of the state. Committee members enjoy immunity for whatever they say and/or the way they vote. So, parliamentary committees formally enjoyimportant status and extensive powers.

The Jatiya Sangsad has traditionally set up three types of committees: standing committees, select committees, and special committees. The main difference between the different committees centres on their nature of appointment. Standing committees are relatively permanent; they are normally constituted for the duration of the parliament. Special and select committees are ad hoc bodies; they cease to exist when their job is completed. Standing committees are generally classified into a number of categories,

the most important of which are DPCs. The other categories are scrutinising committees, financial committees and house committees. Out of 48 committees of seventh Jatiya Sangsad 35 are standing committees all are DPCs.

The seventh parliament has changed the Rules, replacing the (past) practice of allowing ministers to head different DPCs each of the 35 standing committees on ministries is now headed by a ruling party MP, excepting one chaired by an opposition member. Ministers are not totally excluded from the committees. They have been made their members. Technocrat ministers—those who are not MPs—can participate in committee meetings but cannot vote. This change has been made mainly to give effect to an electoral commitment made by the present prime minister on the eve of the seventh parliamentary elections. DPCs were also granted some deterrent powers to review the works relating to a ministry that fell within its jurisdiction and, in particular, to inquire into any activity or irregularity and serious complaints in respect of the ministry and examine, if it deemed that any matters that fell within its jurisdiction and to make recommendations. This could be seen as an important departure from the past and set apart the Bangladesh Parliament from other parliaments in the region.

By having the power to conduct inquiry, the committees are as important for what they can do as much as for what they actually do. Civil servants are also aware that their work may be subject to inquiry, an awareness that encourages much rigor in working practices as well as greater sensitivity to possible parliamentary scrutiny.

The DPCs set up by the present Seventh Jatiya Sangsad appear to be equally active in both respects: scrutinizing legislative proposals and overseeing the activities of government departments. Bills are now routinely referred to different standing committees for scrutiny. Although, in most cases, the House sets the time limit for submitting their reports, the committees are gradually acquiring additional importance. Their meetings are also held more regularly. Some of them also appear to be very active in exploring substantive issues of policy and administration; e.g. the Health Committee (the Committee on the Ministry of Health and Family Welfare) has identified huge irregularities and massive corruption in the procurement of medical and surgical equipment by civil surgeons, while a sub-committee of the Health Committee has detected misappropriation of an substantial amount of money by civil surgeons in connivance with some mid/junior level officials of the directorate/ministry.

2.3.2 The Judiciary

The Supreme Court of Bangladesh is the highest judicial organ in the country which comprises of the Appellate Division and the High Court Division. The Supreme Court consists of the Chief Justice and a number of other judges. The Chief Justice and the judges appointed to the Appel-late Division sit only in that Division and other judges sit in the High Court Division.

The Chief Justice and other Judges are appointed by the President. A Judge holds office until he attains the age of sixty seven years. The Appellate Division hears and determines appeals from judgments, 17 decrees, orders or sentences of the High Court Division. The High Court Division has superintendence and control over all subordinate courts and functions as the Appellate Court. There are some other special Courts, such as Labour court, Juvenile Court, Administrative Tribunal etc. At the district level, the district court is headed by the District and Sessions Judge who is assisted by Additional District Judges, Chief Judicial Magistrate and Other Judicial Magistrates, Joint District Judges and Assistant Judges.

2.3.3 The Executive

Bangladesh has a unitary form of government. The President is the Head of State and the Prime Minister is the Head of Government. The Prime Minister is assisted by a Council of Ministers. The permanent officer-in-charge of the Ministries/Divisions is designated as Secretary who belongs to the Civil Service. For administrative purposes, the country is divided into seven divisions, each headed by a Divisional Commissioner. There are 64 Districts under the 7 Divisions. The district is administered by a Deputy Commissioner who is assisted by Additional Deputy Commissioners. The Districts are divided into Subdistricts (Upazilas) headed by a Upazila Nirbahi Officer. Currently, there are 483 Upazilas.

The head of the police administration is the Inspector-General of Police (IGP). The divisional police administration is headed by the Deputy Inspector General of Police and the district policeadministration by the Superintendent of Police and there is an Inspector of Police in each Thana. The Superintendents of Police and the Inspectors of Police work in close co-operation with the Deputy Commissioners and Upazila Nirbahi Officers for maintenance of law and order under their respective jurisdictions. The chief police officers in Dhaka, Chittagong, Khulna, Rajshahi, Barisal and Sylhet city are designated as Metropolitan Police Commissioner.

2.4 Health status

Bangladesh has achieved significant improvement in the basic health indicators in recent years. According to the Sample Vital Registration Systems of Bangladesh Bureau of Statistics (2010), life expectancy of the population is about 67.7 years for both male and female where 66.6 years is for male and 68.8 is for female. Mortality rate per 1000 children who are under 5 years of age is 53 which is significant. Maternal mortality rate is 1.94 /1000.

Table2.6 Health indicators

Indicators	Both sex	Male	Female	Source and year
Life expectancy (in years)	67.7	66.6	68.8	SVRS, 2010
Crude mortality rate	5.6	-	-	SVRS, 2010
Under-5 mortality rate	53	-	-	BDHS, 2011
Maternal mortality rate	194	-	-	BMMS, 2010
HIV/AIDS prevalence rate	>0.1	-	-	DGHS, 2009
% with access to safe drinking water	98.5	99.4 (urban)	98.2 (rural)	BDHS, 2011
% with access to sanitary latrine	63.5	-	-	SVRS, 2010

According to the Sample Vital Registration Systems (SVRS) of Bangladesh Bureau of Statistics (2010), life expectancy of the population is about 67.7 years for both male and female where 66.6 years is for male and 68.8 is for female. Mortality rate per 1000 children who are under 5 years of age is 53 which is significant. Maternal mortality rate is 194 per 1000.

Table 2.7 Main causes of morbidity and mortality (in Upazila Health Complexes) in 2011

Main causes of morbidity (Top 10 among admitted patients)	Value (%)	Main causes of mortality (Top body system or major causes)	Value (%)
1. Diarrhoea	15.54	1. Respiratory system	23
2. Assault	12.63	2. Cardiovascular system	40
3. Pneumonia	7.43	3. Reproductive system	3
4. Peptic-ulcer disease	7.46	4. Genitourinary system	3
5. R T A	2.34	5. Hepatic disease	4
6. Enteric fever	3.48	6. Endocrine system	5
7. Anaemia	2.19	7. Gastrointestinal system	5
8. Poisoning	2.16	8. Nervous system	7
10. Viral fever	1.80	9. Cerebrovascular system	10
Other	15.54		

Source: Health Bulletin 2012, DGHS.

Regarding main causes of morbidity rate among the admitted patients diarrhoea and assault were identified the two leading causes. On the other hand, cardiovascular system and respiratory system were treated as the top two causes of mortality as revealed by the health Bulletin 2012.

CHAPTER 3

3. Country health systems

In order to understand the health and family planning service structure and its services in Bangladesh one should know the evolution of the development both the services.

3.1 The development of health services in Bangladesh

The history of health services of Bangladesh is embedded in the history of Indian sub-continent, can be traced back to early 17th century when East India Company, an enterprise of the then British Empire, came here.

The early efforts of health services delivery were directed at the alleviation of sufferings due to sickness mostly catering to the needs of the urban elites. In 1816, the concept of local bodies came into being and some facilities were extended to the small towns in the form of hospitals with a few beds, especially for colonial civil servants, military personnel or the local economic and political elite.

In 1888, the attention of local bodies was also drawn to their 'Duties in the matter of sanitation' and emphasis was placed on hospitals and dispensaries. In 1904, the Report of the Plague Commission enhanced the strengthening of public health services with the establishment of laboratories for research and the preparation of vaccines and sera.

Milestones

1904: Plague Commission Report Strengthening public health services e.g. establishment of laboratories for research and preparation of vaccines.

1946: Formation of "Bhore Committee" for Health Survey.

1961: Establishment of Rural Health Centre

1977: Establishment of Thana (Upazila) Health Complex

1978: Recognizing Primary Health Care

1982: Health Doctors inclusion in BCS Examination

1998: Community Clinic establishmen

In 1946, a Health Survey and Development Committee was formed, popularly known as the 'Bhore Committee'. The aim and objectives of this committee was to survey the existing positions regarding the health conditions and organization of health services in the country, and to make recommendations for further development. The committee put forward, for the first time, a comprehensive proposal for the development of a national programme of health services for the country, inter alia integration of curative and preventive services, production of basic doctors for the rural health institutions and the establishment of rural health centres.

In 1961, a scheme for Rural Health Centre (RHC) came into existence. Under this scheme, one rural health centre with six maternity beds and three sub-centres was planned, to provide comprehensive health care for every 50,000 population. A total of 150 such RHCs were set up prior to the emergence of Bangladesh as an independent state.

In 1977 the Thana Health Complex (THC, now Upazila Health Complex, UHC) scheme was approved. It envisaged the establishment of a 31-bed hospital with 5 beds ear marked to maternal and child health services in each rural upazila (due to growth of population later on Ministry of Health and Family Welfare decided to upgrade these facilities to 50 beds), with one Rural Dispensary (RD) in each union, now these facilities renamed as Union Sub Centre (USC)/Union Health and Family Welfare Centre (UHFWC), with a view to provide integrated and comprehensive health care to the rural population. The scheme also envisaged the strengthening of the Directorate of Health Services and the health administration at the various levels. Later, the directorate of health services (preventive and curative) was reorganized and a unified channel of command was established under the Director General of Health Services.

In 1978, the need for 'Primary Health Care (PHC)' was recognized with the adoption of 'Alma-Ata Declaration'. Since then, policy emphasis has been given to primary health care. A national primary health care network has been developed to deliver health care to the un-served and under-served population at their doorsteps, at a cost that the people can afford and with their participation in the organization of services.

Since independence, Bangladesh health sector development has been guided by six consecutive fiveyear plans, all of which have stressed on the primary health care approach to provide basic health services to the population, particularly the rural population, always identifying women and children as the target group.

Four important areas have been given the special attention in the past 25 years:

i) expansion of health facilities, in an attempt to ensure equity by covering the entire population;
ii) increase coverage and improvement of field activities, to ensure that women, children and other vulnerable groups benefit from government services;
iii) expand health and family planning services in order to protect the population from large number of disease and to put the much advocated small family norm into practice; and
iv) improve logistics and supplies to ensure quality and availability of services.

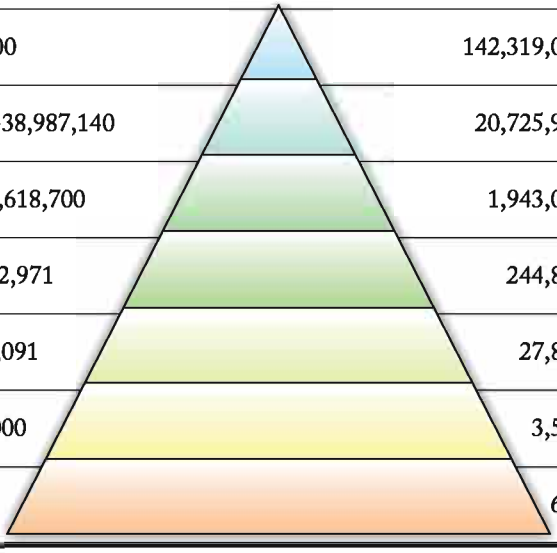
In 1982, the government introduced BCS (Bangladesh Civil Service) examination for the doctors to be recruited for government service, by dint of which they are now entitled similar compensation package applicable to other civil service cadres.

In 1998 the government decided to establish one Community Clinic for every 6,000 population within half an hour walking distance to bring health care to the door steps of the community, with the vision that it will work as one step service centre to meet the health need of the community. In 2009 government strengthen this programme through establishing Revitalisation of Family Health Care Initiatives in Bangladesh (popularly known as Community Clinic Project) which envisaged establishment and strengthening of 18,000 community clinics (now 14,025 are functional) throughout Bangladesh.

The organizational structure of the health services of Bangladesh follows the general administrative division of the country. Administratively, the country is divided into 7 divisions, 64 districts, 509 upazilas (of which 421 are rural and remaining 88 are sadar/urban) and 4,466 unions and 13,494 wards. Each upazila consists of an average of 9 unions; each union consists of an average 9 wards and five to seven villages constitute a ward. A ward has an average of 3,500 populations and is the lowest administrative tier of the government. Each ward has an elected representative.

Figure 3.1 Structure of the public health facilities under MoHFW in Bangladesh

Population (range)	Population (average)	Total No. of Facility (86,690) (Health, Population & Nutrition)
142,319,000	142,319,000	Medical University (01); Alternative MCH (02) Post Graduate Inst. Hosp. (33); FP Inst. (02)
7,896,720-38,987,140	20,725,900	Medical College Hospital (22) Other Hosp (28); Model Clinic (14)
587,620–8,618,700	1,943,000	District/General Hospital (62) MCWC (62); MCH-FP Clinic (64)
16,992–882,971	244,800	Upazila Health Complex and other hospital (459)
2,359-181,091	27,800	USC/ UHFWC (1,469) (DGHS) UHFWC (3,719) (DGFP)
2,600-12,000	3,500	Community Clinic (11816) To be added soon (3,975)
500–2,000	600	Satellite Clinic (30,000) Community Nutrition Centre (36,764)



Source: DGHS Health Bulletin 2012; BBS SVRS 2011; DGFP March 17, 2013

At the divisional level (7 division in the country), there are 'Divisional Directors' responsible for supervision, monitoring and coordination of health and family planning activities in all the districts in their respective divisions. This level also is responsible for redesigning the programmes and providing feedback to the national level on all activities.

At the district level (64 districts), there are 'Civil Surgeons' responsible for all health activities (domiciliary and institutional) in the district.

At the upazila level (492 upazilas), a 'Upazila Health and Family Planning Officer (UH&FPO)' is in charge of the upazila health complex and is responsible for all health and nutritional activities, including domiciliary services provided by the field workers to one-third to half a million population.

The Upazila Health Complex (UHC) constitutes the rural peripheral focal point of the infrastructure for delivery of health and family planning services at the grassroots level. It is considered to be the nucleus of the Primary Health Care (PHC) system.

At the union level there is one 'Union Health and Family Welfare Centre (UHFWC)' headed by a graduate physician to provide health and family planning services to about 27,000 populations.

Below the union level there is a community clinic for every 6,000 populations averaging 3-4 CCs per union. At the union level and below, there are field workers (health assistants (HA), family welfare assistants (FWA), community health care providers (CHCP) and field supervisors-assistant health inspectors (AHI), family planning inspectors (FPI), who are responsible to the Upazila Health and Family Planning Officer (UH&FPO) and Upazila Family Planning Officer (UFPO) for their activities. The government has created a 'primary health care network base' at this level by unifying the health and amily planning service delivery at the upazila level and below by providing:

i) treatment of simple ailments, ii) care of children, iii) improvement of facilities for mothers during pregnancy and childbirth, iv) FP services, v) protection from communicable diseases, vi) environmental sanitation, vii) applied nutrition, viii) health education, etc.

The current government has been re-strengthening the CCs through Revitalisation of Family Health care Initiatives in Bangladesh and appointed a female Community Health Care Provider in each CC to make the CCs functional and to re-strengthen the domiciliary services of both health and family planning service delivery.

In the city areas, public health services are provided through 6 City Corporations (four metropolitan cities) and 309 Municipalities under the Ministry of Local Government & Rural Development, with the necessary logistical support from Ministry of Health & Family Welfare.

As regards facilities, in the tertiary level – at central level there are 1 medical university, 33 postgraduate teaching institute, 2 alternative/traditional medical colleges, 2 family planning institutes; 22 public and 55 private medical colleges, 14 family planning model clinics; in the secondary level- at district levelthere are 61 district hospitals, 101 maternal, child welfare centres, 64 MCH-FP clinics; and in the primary level – at upazila level there are 459 upazila health complexes (UHC), at union level -1469 rural/union health centres, 5,168 union health and family welfare centre (UHFWC)- 3719 under family planning directorate and at ward level - 14,025 community clinics (3,975 soon to be added), at village level - 30,000 satellite clinics and 36,764 community nutrition centre; a total of 86,690 facilities through the country under the Ministry of Health and Family Welfare. At the national level there are some specialized institutes and hospitals to deal with specific communicable and non-communicable diseases. The total of beds under the responsibility of the MOHFW was 38,251 in 2009. Other ministries, such as Railways, Labour, Port, Jail, Police, and Armed Force etc. have their own health facilities (49 with 2,297 beds).

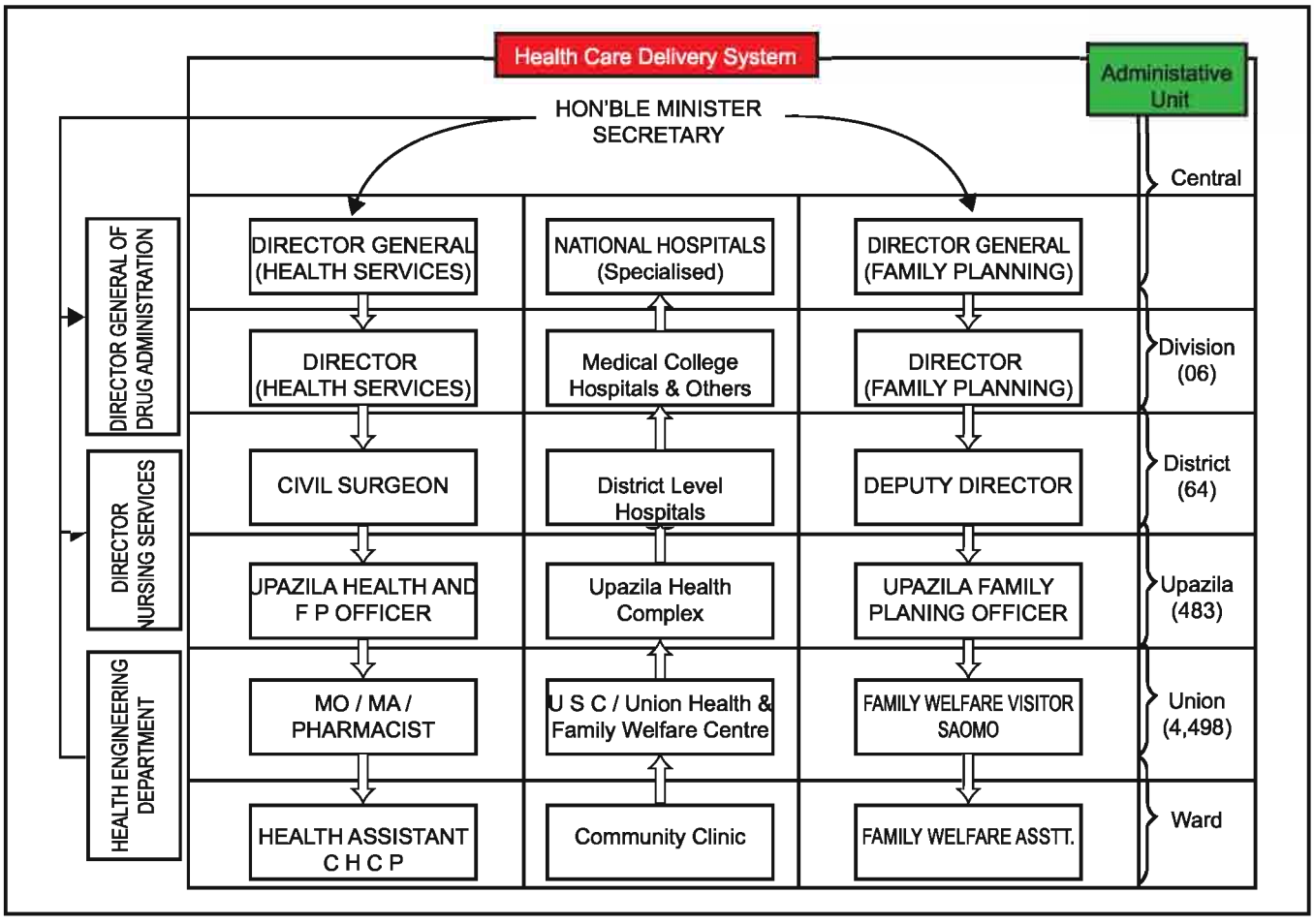
In addition to government-owned facilities, there are facilities owned and run by NGOs and the private sector. According to the MIS of DGHS, in 2009 there were 2,397 hospitals of various sizes managed by NGOs and the private sector, with 40,948 beds.

3.2 The development of the family planning services in Bangladesh:

The population and Family Planning programme in Bangladesh has evolved through a series of development phases. Over the last 35 years the FP programme has undergone changes in strategy, structure, contents, goals and overall dimensions.

The programme was initiated in the country in the early 1950s as a voluntary effort by an NGO, the Family Planning Association of Pakistan. Identifying the rapid population growth as country's most acute problem, a national family planning programme was officially launched with a view to reducing fertility. During the 1970s, the FP programme received virtually unanimous high-level political support and a separate organizational structure was created for FP services with a close link to the general administration.

Figure 3.2 Health and Family Planning Service Delivery System in Bangladesh



Source: HRM Unit, MOHFW 2012

Post independence FP programme passed through several phases characterized initially by abortive integration efforts with health services and later by the creation of a separate division within the MOHFW, the Population Control and Planning Division, with the responsibility of formulating policy and setting up demographic goals, developing strategies and programme and coordinating FP activities throughout the country. All successive governments in Bangladesh have given priority to the FP programme.

Five distinct phases of the FP programme have been identified:

i) Private and voluntary clinic-based programme with little government support (1953-60);

ii) Family Planning services through government health care facilities (1960-65);

iii) Large-scale field-based government family planning programme administered by an autonomous board (1965-75);

iv) MCH-supported multi-sectoral family planning programme (1975-80);

v) Functionally integrated health and family planning programme emphasizing maternal and child health (MCH), primary health care (PHC) and FP as a package since 1980. (UNFPA, 1994)

The Ministry of Health and Family Welfare (MOHFW) formulates national FP programmes. There is a National Population Council headed by the prime minister, consisting of 350 members including parliament members, professional groups, women's groups, private sector and NGOs. It provides policy guidelines and suggests strategies to implement FP programmes.

The national programmes are implemented by the Directorate of Family Planning headed by a Director General (DGFP) and supported by directors of functional units within the structures down to the union level. Three distinct sectors- government, NGO and the private sector are involved in the implementation of the FP programmes. About 250 NGOs are effectively involved in providing health and FP service (NGO Bureau, 1996).

In the public sector, FP service delivery comprises a country-wide organizational set up to provide FPMCH services through a large cadre of field officials that includes divisional directors, deputy directors at the district level and upazila family planning officers (UFPOs)/assistant upazila family planning officer (AUFPO) at the upazila level. To provide domiciliary services, a large number of field personnel, family planning inspectors (FPIs) and family welfare assistants (FWAs) are in place.

The MCH-FP institutional services are provided through 101 maternal and child welfare centres (MCWCs), 421 MCH units attached to the upazila health complexes, 5,168 union health and family welfare centres (UHFWCs) at the union level and 14,025 community clinics at the ward level. There is also satellite clinics (about 30,000) scattered throughout the country. A National Institute of Population Research and Training (NIPORT) headed by a Director General, is responsible for training activities in the FP services.

Although, Bangladesh has one of the highest numbers of community health workers in the world, it is evident that development of allied health workforce, particularly community health workers, was given inadequate attention. A little description of some of these workforces provided here for better understanding of the typical nature of our community health workforce:

There are two types of nurses namely i) hospital based nurses and ii) community based nurses. In Bangladesh, health care deliveries of services in rural areas where around 75% of people of the country 26 live are being done by community-based-family planning and health workers. In rural area, such public health worker-population density is 1:4650. In fact, neither by definition nor by training, these workers can be titled as "Nurse". In the Bangladesh context, more than 95% of nurses work in urban settings in hospitals and clinics. Unlike other countries, nurses are not trained or employed as public health clinicians for rural settings. There are no posts for the nurses below upazila level in government set up; they work only in the hospital settings.

The occupational groups belonging to Medical Assistant, Sanitary Inspector, Midwife (Nurses), technicians of different categories and pharmacist are diploma holder in their respective discipline with 10 years of schooling. After completion of training from medical assistant training schools (MATS), medical assistants were directly recruited and mostly deployed at both the rural and urban areas viz. civil surgeons' office, Upazila health complexes, Hospitals and UHFWC/RDs. Except sanitary inspectors; they all perform institutional service delivery in their respective areas and specifically the 'Medical Assistants/Sub-Assistant Community Medical Officers' in many way substitutes the doctors function as primary health care providers in the rural area as evidenced from their specific job description, but have no scope of promotion as per respective prevailing recruitment rules.

There is another category of personnel known as Family Welfare Visitor (FWV) who are posted in the Union Health and Family Welfare Centres. Conduction of labour is their main task. They visit family and community and advise the anti-natal, natal, & post-natal mothers in addition to health and related counselling to under-5 children. FWVs (midwife) with 10 years schooling with institutional training for 18 months are directly recruited and mostly deployed at both the rural and urban areas viz. MCWCs, Upazila health complexes Hospitals and UHFWC/RDs.

Nursing services are the backbone of all health care delivery system. These services in some systems are delivered by health personnel who are referred by other names. In Bangladesh, for example the Family Welfare Visitor (FWV) delivers services that correspond to those provided by the community nurses in other countries (HRDU, 1997), which can be evidenced from their specific job description, and also the table depicts important role of this category of professional specifically comparing with the nurses in providing care to the pregnant women in the rural areas.

Table 3.1 Percentage distribution of mothers who had consulted ANC during their last pregnancy [6] (BDHS 2011)

Sl. no.	Type of Provider	National	Rural
1.	Qualified Doctor	43.1	37.3
2.	Nurse/Midwife/Paramedic	6.7	5.6
3.	FWV	4.2	4.9
4.	CSBA	0.4	0.5
5.	MA/SACMO	0.3	0.4
6.	HA/FWA	5.2	5.9
7.	Trained Birth Attendant	0.3	0.3
8.	Untrained Birth Attendant	0.2	0.2
9.	Unqualified Provider	1.0	1.2
10.	NGO Worker	6.4	6.6
11.	Others	0.1	0.1
12.	No One	32.1	36.6
13.	ANC from medically trained provider	54.6	48.6
	Total	100	100

National Institute of Population Research and Training (NIPORT) has Family Welfare Visitors Training Institutes (FWVTI) specially designed for the training and retraining of FWVs who receive prolonged exposure (18 months) to offer comprehensive services on maternal health, neonatal health, and child health in different clinics/facilities such as MCWC, UHC, UHFWC and satellite clinics across the country. In addition to provide basic training for the FWVs FWVTIs also provide refresher training to FWVs, SACMOs, MAs and other clinical staffs.

MoHFW has a standard of one Health Assistant (HA) for every 4,000 population in the rural areas, one Assistant Health Inspector (AHI) for every five HAs and one Health Inspector (HI) for every three AHIs. These occupational groups such as HA, AHI and HI are community-based regular government health workers assigned with delivery of domiciliary health and family planning services, motivation, reporting and maintaining communication with UHFWC/Rural dispensaries, the latter two viz. AHIs and HIs having some supervisory role over the former. They have 12 years of schooling with training for a short duration. HAs are recruited directly and the others are promoted from HAs on seniority cum merit basis.

Family Welfare assistant (FWAs) and Family Planning inspectors (FPI) are the community based regular government MCH and FP field workers, with 8 to 12 years schooling. There are Regional Training Centres (RTC) that have been providing training to grass-root level health and family planning workers as FWAs, HAs, and their supervisors FPIs as well as AHIs. All FWAs are the female, one based in each ward with a population of about 5000 to 6000 and all the FPIs are male based one in each Union, with an average population of 20,000 the latter supervising the performance of the former. Collectively being the largest occupational groups in the health and family planning service in rural areas.

This chapter discusses briefly the development of health and family planning services prevailing in Bangladesh, its history as well as the facilities. It shows that over the last three decades there has been significant progress in the development of infrastructure for both health and family planning services. Even though the country has made progress in terms of health and demographic status over the years still it is well beyond internationally. There are about 115,530 sanctioned positions available in the health services of which 92,927 positions (80%) were occupied and positions available in the family planning services about 52,407 of which about 45,941 positions (87%) were found occupied as of 2011.

[6] Bangladesh Demographic and Health Survey 2011, p. 123

Table 3.2 Sanctioned and occupied positions under DGHS, DGFP & DNS as of 2011.

Sl.	Name of organization	Sanctioned positions	Occupied positions
1.	Directorate General of Health Services	115,530	92,927
1.	Directorate General of Family Planning	52,420	45,941
1.	Directorate of Nursing Services	18,990	15,709
1.	Total	186,940	154,577

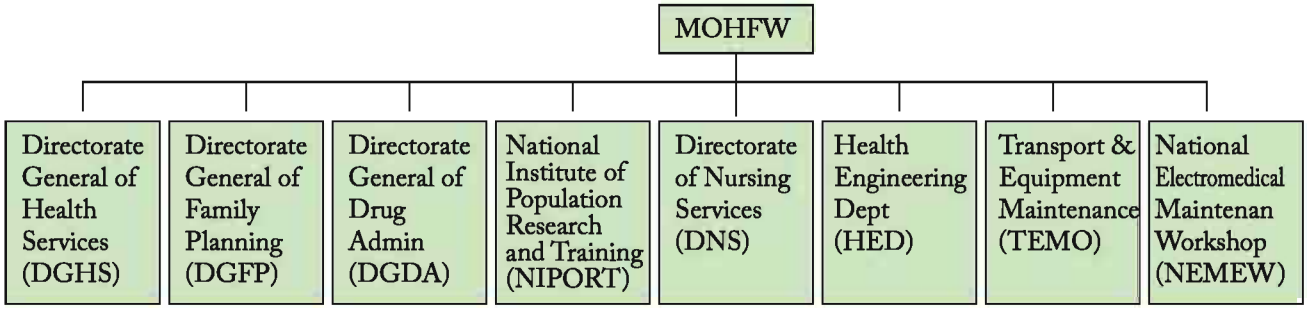
Source: DGHS Health Bulletin 2012

Public health personnel account for one third of the total health service workforce. Doctors and nurses represent 19% of the total health work force. In health 37% of staff are not clinically trained staff, and work in administration either as office support staff or menial staff; in family planning the corresponding figure is 25% (HRM Unit, 2012).

3.3 Governance

In overall governance and management the stewardship role of the public sector is constrained by a weak legal framework and institutional inadequacies of regulatory functionaries, e.g. DGDA, DGHS, DGFP, DNS, BMDC, State Medical Faculty, BNC, Boards relating to AMC, etc. Although some reforms have taken place in BNC and BMDC, these need to be put in practice, with technically and socially skilled leadership. Institutes which were created for certain public health functions, i.e., IEDCR, IPH, IPHN, NIPSOM, NIPORT, etc. are suffering either from lack of effective use, quality, support or leadership and hence are unable to contribute to their fullest potential.

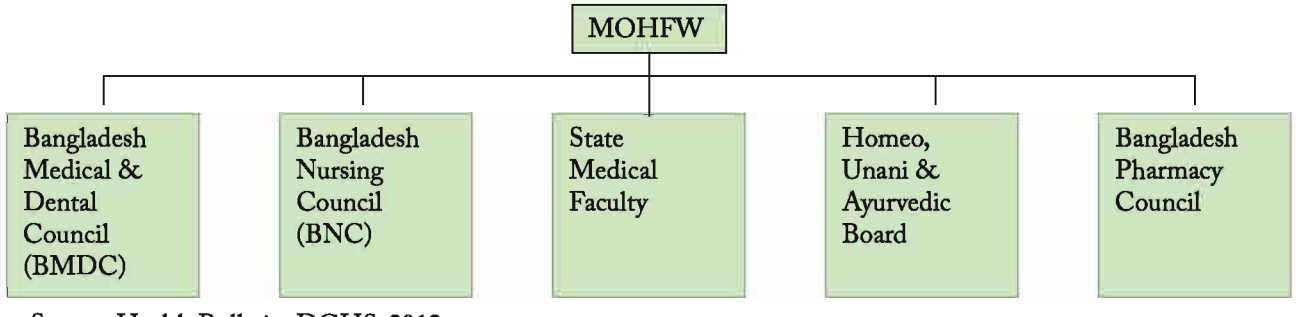
Figure 3.3 Directorate and Units under the Ministry of Health and Family Welfare



Source: Annual Report 2010-2011 and 2011-2012, MOHFW

There are 8 institutions under the ministry of health and family welfare. The Secretary acts as administrative chief.

Figure 3.4 Regulatory authorities under the Ministry of Health and Family Welfare



Source: Health Bulletin, DGHS, 2012

Challenges still remain in terms of too many Operational Plans (38 in the HPNSP) diluting and duplicating program priorities and activities with insufficient coordination among line directors, program managers and focal points working in independent offices. Added to this are, the rigid fund release and disbursement procedures, coupled with frequent change of key personnel at the policy/program implementation level, resulting in limited and delayed access to, and utilization of resources.

Insufficient coordination between various sub-sectors in health, population and nutrition resulted induplication, wastage and missed opportunities both at the top as well as at the operational level. While there is multiplicity of line directorship at the national level, implementation of their programs falls on the shoulders of far fewer numbers of workers at the lower levels. Rationalization of OPs along with increasing coordination and collaboration with other ministries affecting health outcomes is required to streamline activities and improve efficiency.

The various agreements and negotiations with donors as part of the SWAp process have led to improvements in the relationship with the overall stewardship of the health sector. Nevertheless there remain some challenges. For example, categorized pooled funding covering limited area of procurement of goods, works and services (including training) in a centralized environment, provides little opportunities for manpower hiring, procurement or using funds locally, especially when there is an urgent need. Also, the intricacies of the World Bank's fund management procedures have resulted in barriers to access funds to accomplish the program activities in a timely way. arallel and non-pool development partner harmonization is also yet to be achieved.

With the signing of the Joint Cooperation Strategy (JCS June 2010) by the Government of Bangladesh and the Development Partners, the MOHFW is faced with a new challenge of developing in-house capacity for addressing performance-based financing (PBF). By linking allocations of financial resources to achievement of pre-defined performance targets, PBF is seen as a strategy to align the incentives of providers and purchasers of health care services, thereby improving health systems efficiency.

3.4 Service provision

In Bangladesh besides Ministry of Health and Family Welfare several other ministries like Ministry of Local Government, Rural Development and Cooperatives, Ministry of Home Affairs, Ministry of Communication, Ministry of Defence, Ministry of Religious Affairs, Ministry of Social Welfare, Ministry of Women and Children Affairs provide health care services, though almost all these ministries carter their services for their own staffs and some are for their relevant programs, where as Ministry of Health and Family Welfare is constitutionally responsible to provide health care and family planning services to the entire population of the country.

The Ministry of Health and Family Welfare (MOHFW) is responsible for the implementation, management, coordination and regulation of national health, family planning and nutrition related policies, programs and activities. The core functions are identified as policy and strategies planning, monitoring, budget management, information management, reform management, aid management, and the management of contracts and commissions. The MOHFW management structure comprises two main groupings:

- The Secretariat responsible for policy development and administration; and
- Executing Agencies through which the MoHFW implements its policies and Programs.

Both groups are headed by the Secretary who is supported by the Additional Secretary.

The lead technical Directorates include Health Services (DGHS) and Family Planning (DGFP), each led by a Director General (DG) supported Directors. DGHS and DGFP have separate management and delivery structures from national up to ward level. The others are Drug Administration (DGDA), Nursing (DNS), and Engineering-construction and maintenance (HED).

Unlike the rural areas, primary health care in urban areas is coordinated by the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC). Both ministries (MOHFW and MOLGRDC) partly coordinate their activities through the National Urban Primary Health Care Committee (NUPHCC) and National Project Steering Committee (NPSC).

3.4.1 Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP)

The Directorate General of Health Services (DGHS) and the Directorate General of Family Planning (DGFP) are entrusted for the implementation of the policy decisions of the Ministry of Health and Family Welfare (MOHFW) as regards health care and family planning services delivery to all people under the jurisdiction of the Government of the People's Republic of Bangladesh. They provide technical guidance to the ministry.

Both DGHS & DGFP carry out their activities through different directors, line directors, project directors, program managers, institution heads, district and upazila managers and union staffs. The table below summarizes the role and responsibilities of managers at different level for DGHS. Almost same table can be replicated for DGFP.

Table 3.3 Health managers with key responsibility

Level	Designation of Manager	Responsibility
National	Director General	Overall administration and implementation for health services
	Additional Director Generals	Assist Director General
	Directors	Assist Director General
	Line Directors	Implement respective Operational Plan
	Project Directors	Implement respective projects
	Program Managers	Assist respective Line Director
	Deputy Program Manager	Assist respective Program Manager
	Directors of different National Institutions	Administer and manage respective national institution
Regional	Principals of academic institutions	Administer and manage respective medical colleges, institutes of health technology, medical assistants training schools etc.
	Directors of medical college hospitals	Administer and manage respective medical college hospitals
Division	Divisional Directors	Administer and supervise activities of health managers at district and below levels
District	Civil Surgeons (CS)	Implement, administer and manage health programs of district level. In some cases looks after respective district hospital.
	Superintendents	Administer and manage respective district/general hospital, chest hospital, infectious disease hospital etc.
Upazila	Upazila Health and Family Planning Officers (UHFPO)	Implement, administer and manage health programs at upazila level. Run respective Upazila Health Complex.
Union	Health Inspectors/Assistant Health Inspectors	Manage and supervise health programs at union level and below.

Source: HRM Unit (2011)

3.4.2 Health care and Family Planning delivery systems of Bangladesh

Distribution of public health care services and facilities follows similar pattern of administrative tiers, viz. national (mostly capital-based in Dhaka), regional (in divisions), district, upazila, union and ward. The country has 7 divisions, 64 districts, 482 upazillas and 4,498 unions. As the Ministry of health and family Welfare deploys health workforce according to the older ward system, which divides each union into 3 wards. Therefore, number of MOHFW wards is 13,494.

Primary health care (PHC), which includes family planning services in the urban area (city corporations and municipalities), is provided by Ministry of Local Government; and in rest of the country by Ministry of Health and Family Welfare (MoHFW) provides health care and family planning services. Provision of secondary and tertiary care, in both urban divisional directorate with necessary staff, and rural areas, is the sole responsibility of MoHFW. The MoHFW delivers its services through two separate executing authorities, viz. Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP). The names explain their functions. PHC services of both DGHS and DGFP begin at the ward level through a set of community health staffs, at least one in each ward. To supervise these field staffs, there is one assistant health inspector (for DGHS) and one family planning inspector (for DGFP) at union level. There are several hundred non-bed community facilities to provide outpatient services (1466 for DGHS and 3500 for DGFP). Besides DGFP also operates additional 97 maternal and child welfare centres (MCWCs) (union: 23; upazila: 12; district: 62), 471 MCH-FP clinics (upazila: 407; district: 64), 177 NGO clinics (upazila: 68; district: 104; national: 05), 08 model clinics (national: 02; regional: 06) and organizes 30,000 makeshift satellite clinics per month.

The public sector hospital care in Bangladesh is mainly provided by DGHS:

Table 3.4 Three level of health care services under DGHS

Primary level Hospital Care	Secondary level Hospital Care	Tertiary level Hospital Care
Begins through Upazila Health Complex (31-50 beds) existing in 418 upazilas. The other upazilas being their administrative offices in district headquarters , provide primary level of care from district hospitals	The district hospitals (100-375 beds) one in each district, provide secondary level of hospital care in several specialty areas.	The regional hospitals are multidisciplinary tertiary care hospitals (250-1,700 beds) mostly affiliated with teaching institutes. At the national level there are postgraduate and specialized hospitals (100-600 beds).

3.4.3 Divisional level health and family planning organization

At the divisional level, there is a divisional Director for Health and family planning. S/he is the head of a Divisional Directorate to supervise the activities of the civil Surgeons in case of health and deputy directors in case of family planning of respective divisions.

3.4.4 District level health and family planning organization

At the district level, Civil Surgeon (CS) is the health manager. S/he has own administrative office supported by various categories of staff to support supervision and implementation health program throughout the respective district.

There is either a Sadar Hospital or a General Hospital in each district head quarter. The Hospital provides services under the management of a Superintendent (in her/his absence respective CS of that district) with a view to render out-patient, in-patient, emergency, laboratory and imaging services to the people. The in-patient services internal medicine, general surgery, obstetrics and gynecology and other common specialist clinical services. It is the secondary level referral facility of health services of Bangladesh. Currently there are 59 Sadar district hospitals and 2 General hospitals in the country each having 100-250 bed.

Deputy Director (DD-FP) is the family planning program manager at the district level. In addition to a Maternal and Child Welfare Centre (MCWC), a MCH-FP clinic is attached to each district/general hospital for providing family planning services. S/he has own administrative office in the district to support supervision and implementation family planning program throughout the respective district.

3.4.5 Upazila level health and family planning organization

Upazila Health Complex (UHC) is another fixed service delivery point next to district level hospital. It provides the first level referral services to the population. In each UHC, there are posts for 9 (nine) doctors including one Upazila Health and Family Planning Officer (UHFPO). UHFPO is the Chief Health Officer of upazila and also Head of the UHC. Other doctors of UHC are Junior Consultants-4, Resident Medical Officer-1, Assistant Surgeons (MO)-2 and Dental Surgeon-1. There are 418 Upazila Health Complexes (UHC) in the country of which 153 are 50- bed and rests are 31-bed. UHC provides outpatient, in-patient and emergency services, limited diagnostic and imaging services, emergency obstetric care, contraceptive services and dental care. UHFPO is responsible for implementing and supervising public health and family planning services in the respective upazila.

Besides health personnel one Upazila Family Planning Officer (UFPO), one Medical Officer for maternal and child health (MOMCH) and senior Family Welfare Visitor (FWV) is attached to each UHC for family planning services. 5 beds of the respective UHC are ear-marked for family planning services. UFPO is responsible for implementing and supervising family planning services in the respective upazila.

3.4.6 Union level health and family planning organization

There are four types of static health facilities in the union level. These are Rural Health Centers (RHC, 10-bed hospital), Union Sub-centers (USC), Union Health and Family Welfare Centers (UHFWC) and Community Clinics (CC). There are 22 RHCs, in each of these; there are sanctioned posts of 20 staffs. RHC provides both out-patient and inpatient services. In an USC, there are sanctioned posts for one medical officer, one medical assistant, one pharmacist and one MLSS. Under DGHS number of USC is 1,362; that for UHFWC is 87 and under DGFP there are another 3,719 number of UHFWCs. Under HPSP, Government planned for establishing one Community Clinic for every 6000 rural populations. Number of CCs so far built is 11,883. But, these were not made functional. Recently Government has decided to start the CCs again. Now 14,025 CCs are made functional and 3,975 to be added soon; so the total number of CCs will be 18,000. The existing union level facilities-UHCs and UHFWCs will also provide services of CCs in the respective communities. To further strengthen CCs, government has introduced Revitalization of Family Health Care Initiatives in Bangladesh under which appointment of a Community Health Care Provider (CHCP) is under process to facilitate ongoing domiciliary health and family planning services.

The main health and family planning workforce in the union level is the domiciliary staff called health assistants and family welfare assistants respectively. They are placed in each ward, which is the lowest and smallest administrative unit of the health sector. They visit the homes of the local people for providing primary health and family planning care services and collection of routine health and family planning data. The family welfare and health assistants routinely organize satellite clinics for family planning and immunization services. Health Inspectors and Family Planning Inspectors are responsible for supervising the health assistants and family planning assistants for implementing and materializing health and family planning programs in their respective unions.

Besides there are other small to large hospitals and special purpose hospitals spread across the country both in rural as well as in urban areas. Under the DGHS, there are altogether 40 teaching/training institutes and 589 small to large hospitals. In Family Planning sector, there are one national researchcum-training institute, two hospital-based training centres, and 32 other training centres (national: 12; regional: 20).

Nearly six hundred health managers under DGHS and almost similar numbers under DGFP, from national to upazila levels, play roles in administering the health and family planning services. This figure does not include the institute and clinic/hospital heads.

3.4.7 Health, Population & Nutrition Sector Development Program (HPNSDP)

The constitution Bangladesh mandates for basic health care services for its people as one of the fundamental responsibilities of the state. Towards this goal, the government has taken different endeavors to extend health facilities to the population. The HPNSDP-Health, Population and Nutrition Sector Development Programme, follows in recent history of health policy in Bangladesh drawing on the sector-wide approach (SWAp) that was first introduced in 1998. The first SWAp – the HPSP-Health and Population Sector Programme (1998-2003), was followed by a second SWAp - the HNPSP-Health, Nutrition and Population Sector Programme - began in 2003 and expired in June 2011. The third SWAp – the HNPSDP – began in July 2011 for a period of 5 years through to June 2016. Its articulation and implementation are being actively linked to the preparation of the government's Sixth Five Year Plan (SFYP) for 2012- 2016.

The Ministry of Health and Family Welfare (MOHFW) designed the Program Implementation Plan (PIP) in accordance with the Outline Perspective Plan of Bangladesh 2010 – 2021: making vision 2021 a reality and SFYP as to implement its sector-wide program popularly known as HPNSDP.

The HPNSDP covers 32 Operational Plans (OP) to be implemented by 32 Line Directors. The details of the program are well documented in the form of Program Implementation Plan (PIP) duly endorsed at the highest policy level of the government, the Executive Committee for National Economic Council (ECNEC).

The Implementing Agency of the program is Ministry of Health and Family Welfare (MOHFW) with its attached departments.

3.4.8 Priority Objectives and Goal

The Government of Bangladesh (GOB) seeks to create conditions whereby its people have the opportunity to reach and maintain the highest attainable level of health as a fundamental human right and social justice. GOB has targeted to achieve MDG 4, 5, 6 and part of the MDG 1 and 8 and also health related vision 2021 through the next sector program.

To this end Government intends to establish a people oriented and people responsive health care, particularly emphasizing the needs of women, children, adolescents, the elderly, the poor and the marginalized, through developing an effective, efficient and sustainable health service delivery and management system with skilled and special emphasis on the development of a sustained health system and an improved and responsive efficient human resources.

It may be mentioned here that HPNSDP deals with health care and family planning service delivery of the public sector. Nevertheless, it strives to maintain a strong cooperation and coordination with the efforts of the Private Sector as well so as to ensure the overall well-being of every citizen of the country.

3.5 Health care financing

Total Health Expenditure (THE) is all expenditures for the final use of resident units of healthcare goods and services, gross capital formation in healthcare provider industries, plus education and research expenditures of all healthcare providers during the accounting period. This concept of THE, differs from that used in the international System of Health Accounts (SHA) in that it adds in outlays on healthrelated education and research.

Estimated THE was Taka 160.9 billion ($2,331 million) in 2007 and Taka 48.7 million ($1,140 million) in 1997. THE also had been continuously increased in real terms during 1997 to 2007, from Taka 74.4 billion in 1997 to Taka 160.9 billion in 2007, when measured in constant 2007 prices. Over the 1998–2007 average annual THE growth rate was 12.7% in nominal and 8.1% in real terms. THE as percent of GDP was 3.4% in 2007, showed a slow but steady increase over time, averaging 2.8% during 1998–2002 compared to an average of 3.2% during 2003–2007 (Bangladesh National Health Accounts 2007).

Per capita spending on health was Taka 393 ($9.2) in 1997 and Taka 1,118 ($16.2) in 2007. Adjusted for Purchasing Power Parity (PPP) it was Taka 843 ($20) and Taka 3,178 ($46) in 1997 and 2007 respectively.

Households remain the main source of financing for healthcare in Bangladesh, comprising 64% of THE in 2007, in 1997, they accounted for 57%. The public sector was the second largest financing agent making up for 26% of THE in 2007; it was 36% in 1997 though the actual government expenditure increased by 2.34 times from 17,682 to 41,318 million Taka. Though outlays by private firms increased during the same period by 2.36 times from 562 to 1,325 million Taka; share of private firms remained at around 1% over the years.

Ministry of Health and Family Welfare's (MOHFW) share was Taka 40,096 million ($581 million) which was 97% of the total public sector financing and around 25% of THE in 2007. MoHFW utilized these funds chiefly by disbursing them to its healthcare providing units, in addition to its own providers, MOHFW also implements HNP and MCH activities through transfers and grants to NGOs. The share of NGO and Development partners financing ranged between 1%-2% and 5%-9% of THE over the period 1997–2007.

Households' health expenditure as a percentage of GDP has increased from about 1.6% to around 2.2% in recent years. DP's share as percentage of GDP increased, from 0.15%- 0.28%. Contributions of the public sector, private firms and NGOs as a percent of GDP have remained 0.9%-1%, 0.04%, 0.03%-0.05%stable during 1997–2007.

The share of drugs and medical goods retail outlets has remained steady between 41% and 44% during 1997–2007. Hospitals' share as a provider has increased steadily from 17.3% to 26.7% during the same period and ambulatory healthcare expenditure ranged between 21% and 30% of THE.

In 2007 expenditure in Private/NGO hospitals in 2007 was Taka 23.4 billion, which constituted 54.5% of total outlays on hospital services; MoHFW expended Taka 3.7 billion (8.7%) in District/General Hospitals across the country; upazila or below level facilities are the major provider of health care services

in terms of outlays comprising 24.1% (Taka 10.4 billion); expenditure at medical college hospitals was Taka 2.2 billion (5.2%), specialized hospitals accounted for 3.4% (Taka 1.5 billion); medical university and post-graduate institutes outlay were Taka 349 million (0.8%).

Ambulatory healthcare are family planning centres, general physicians, home health care providers, and medical and diagnostic laboratories. A total of Taka 35.0 billion ($507 million) was spent on ambulatory healthcare services in 2007. The respective shares of expenditures at major ambulatory care providers in 2007 were 32.5% for family planning centres, 27.0% for general physicians, dentists 0.9%, 3.2% for homeopathic providers, ayurvedic/unani providers 2.4% and 18% for medical and diagnostic laboratories. Share of "All Other Out-Patient Community and Other Integrated Care Centres" providers declined significantly from 23.7% in 1997 to 12.1% in 2007. This decrease may be largely due to the upgrading of ambulatory healthcare providers into hospital facilities.

In 2007 drug retail services and services of curative care accounted for the largest shares of THE by spending. These two represented 50.7% (Taka 74.2 billion) and 21.6% (Taka 46.0 billion). Prevention and public health services include maternal and child health, family planning and awareness programs. Capital formation by domestic healthcare provider institutions constituted around 6.3% of THE. Expenditure on medicines has remained within 43% to 46% of THE, while curative care services have been between 26% and 30%.

The public expenditure on health education, training and research increased more than thrice from Taka 522 million in 1997 to Taka 1.6 billion in 2007 (2.9% to 3.9% of relevant public spending); while nonpublic contributions for the same increased more than twice from Taka 274 million to Taka 627 million (0.9% to 0.5% of relevant non-public spending) over same period.

Over the years, expenditure in inpatient care has increased at a faster pace than outpatient care. In 1997 Taka 5.1 billion was spent on inpatient care and Taka 7.5 billion on outpatient care. In 2007, respective expenditures on inpatient care and outpatient care were Taka 22.8 billion and Taka 23.2 billion respectively. Taka 18.1 billion ($262 million) was spent on prevention and public health services in 2007. Of the various components under this activity, maternal and child health (42.5%) and family planning and counselling (40.2%) are the two major activities in terms of outlays. Health awareness creation (12.4%) and prevention of communicable disease (3.6%) are the other areas of intervention.

In 2007, overall per capita health expenditure was highest in Dhaka division-Taka 1,337 per capita, which was three times higher than in Barisal-Taka 449 per capita. The distribution of health expenditures across divisions has changed little during 1997-2007, except for Dhaka and Chittagong. In 2007, for Dhaka division it was 39% of relevant national spending, compared with 30% in 1997; whereas in 1997, Chittagong division accounted for 26% of relevant national spending, a share decreased to 20% in 2007, may be largely due to faster increases in private sector health spending as well as investment in Dhaka division. For Khulna, Sylhet and Barisal divisions their relative shares were much lower, and didn't change much over time.

3.6 Health information system

The HPNSDP and National Vision 2021 call for timely and evidenced based decision making supported by a robust health information system (HIS) and quick service delivery through ICT for creating citizens' universal access to health care. The National ICT Policy 2009 emphasizes on digital health and specified 36 key deliverables for MOHFW, which also keeps provision for allocating 5% and 2% of development and revenue budgets respectively for ICT.

In the last 2-3 years, there was substantial progress in HIS and e-Health in the country. The HIS moves are trying relentlessly to fulfill the critical need for core health indicators from routine HIS. Work for geographical reconnaissance has been started to develop a web-based national population registry to serve purpose of universal vital registration system; estimating MDG progress, understanding resource needs and measuring health service coverage. From national to upazila level, there exists reliable data communication network and system. Health Bulletins and web publications are regular events, which prove improved data quality and availability. Availability of updated HR data has been improved and is awaiting transformation into automated system. MIS-Health's Year Books summarize health program achievements; however, recently introduced customized database (DHIS2) is helping to speed up collection and processing of health program data. With UNICEF's support, consistent improvement was made in EmOC and IMCI database management.

The USAID started supporting to develop "Logistic Tracking and Inventory/Procurement Management System". However, deployment of a functional financial-HIS would be needed. MIS-health also introduced GIS-based HIS in health sector. Bangladesh health service made phenomenal change in EHealth. The E-Health programs that have caught attention include video conferencing, practiced quite often; a uniquely designed monitoring cell at MIS health in reducing doctors' absenteeism from remote health facilities; telemedicine network over 8 hospitals; free of cost mobile phone health service, available in all of 418 upazila and 64 district hospitals; and number of other M-Health services, such as, SMS advice for safe pregnancy, bulk SMS, complain/suggestion box, etc. Work is ongoing to use mobile phone as a data collection tool. Two recent E-Health innovations, viz. web based absenteeism reporting by facility heads and remote biometric time attendance system, acquired strong policy support for rapid scaling up. Rapid deployment of newer technologies, like biotechnology, to confront country's future health, nutrition and livelihood challenges, is Government's one of the major policy decisions. A National Taskforce on Biotechnology chaired by Hon'ble Prime Minister, adoption of National Biotechnology Policy, and several sector-specific National Biotechnology Guidelines including one for Medical Biotechnology are evidences. The ministry has recently published a gazette which includes deliverables in next 25 years. Number of workshops was held for orientation of the medical doctors and teachers on MBT. However, more thrust is required for timely implementation of the government's policy decisions in this regard.

Effective mechanism will be created during HPNSDP for utilization of the MIS data for evidence based decision making. A multi-stakeholder Steering Group will be created with few technical groups to sit frequently and identify data needs, mechanism of collection of data reliably and on time and for making data available in appropriate reporting formats so that they become suitable for decision making. The relevant Operational Plan (OP) keeps provision for creating a local level information culture so that local health managers, staffs and people become interested about knowing and using the information for assessing health service performance, making plan and decisions. The multi-stakeholder steering and technical groups will also include representatives from other ministries, agencies under MOHFW, LDs of other OPs, development partners, NGOs and private group.

The other initiative both within and outside health sector, viz. MOVE-IT (Measurement of Vital Events through IT), NPR (National Population Register) and Civil Registration (Birth and Death Registration) will help improving availability and utilization of data. Recently, This OP has started to get sufficient resources, viz. SDMX-HD from WHO (which provides standard set of core indicators with data definitions, standards, standard source of data, mechanism of data collection, utilization of data, etc.), ICD-10 (International Classification of Diseases), HL7 (vocabularies of health information communications), Open MRS and Care2x (Open source software for Hospital Information System), iHRIS (Open source software for Integrated Human Resource Information System), Open ELIS (Open source software named District Health Information System version2) for collecting public health program data.

Private health facilities are also using DHIS2 to provide data to MIS of DGHS. MIS-health also created a local software developer forum to support the OP for further development and customization of the software. Currently MIS-health is working with different development partners and local health organizations to improve data quality environment.

Besides, involving multi-stakeholder technical groups and massive staff training of HIS staffs and others, the OP has also kept provision of hiring managed services and creation of revenue posts in due time to take over greater role in management and implementation of HIS and e-Health. It must be mentioned that ICT, HIS and e-Health are emerging technologies with rapid evolutions. Only HIS or health sector staffs will not be able to provide solutions for complex problems or implementation needs that would arise. Outsourcing of services and hiring of managed services will remain as an effective solution for the sustainability, robustness and cost-effectiveness. The OP of HIS-DGHS done accordingly to fill the gaps that prevail about the HIS of Bangladesh.

CHAPTER 4

4. Health Workforce Situation

According to Bangladesh Health Workforce Strategy 2008, National Health Policy 2011, and HPNSDP (2011-16), major human resources for health challenges are such as shortage, skill mix imbalance, maldistribution and migration, negative work environment and weak knowledge base. To analyze those challenges it is important to produce evidence. A situational assessment will allow producing such evidence which will ultimately lead to better policy making. However, below data and information represents health workforce situation of the country.

4.1 Health workforce stock and trends

It is important to know health workforce stock and trends at least with 10 years difference. Data was collected from central registering bodies from where professional registration is given to practice in the respective field. A compare has been made to show the trend between the two years i.e. 2012 and 2003.

Table 4.1: Health worker – population ratio at national level

Category	Sub category	Year 2012		Year 2003	
		Number	HW per 1000	Number	HW per 1000
Medical Practitioners	General Medical Practitioners[7]	60413	0.404	36223	0.279
	Medical Assistant[8]	9036	0.060	5894	0.045
Dental Practitioners	Dentist[9]	60413	0.404	36223	0.279
	Dental Technician[10]	2170	0.014	404	0.003
Pharmacy Practitioners	Pharmacist (Diploma)	9265	0.061	8038	0.061
	Pharmacy Technician/Assistant	52505	0.350	24985	0.192
Nursing & Midwifery	Nurse-midwife professionals[12] (Diploma)	30680	0.204	18393	3 0.141

[7] Registered MBBS Doctors with BMDC collected on 20 February 2013.

[8] Total number of graduates from Bangladesh State Medical Faculty as on January 8, 2013

[9] Total number of registered BDS Doctor with BMDC collected on 20 February 2013.

[10] Total number of passed technologist from Bangladesh State Medical Faculty collected on January 8, 2013

[11] They are registered Pharmacists with the BPC having Bachelor degree in pharmacy. Due to judicial complication no registration has been provided to the B. Pharm gradates till the date of data collection i.e. December 2012.

[12] Nurse-Midwife professional registered with BNC in Bangladesh [{Diploma in Nursing (3 years training) + Diploma in Midwifery (1Year training)+ Dip in Orthopedic Nursing (1 year training)}= 20165+ Dip in Nursing Sciences & Midwifery (4 years) 7386 + Dip in Nursing Sciences & Midwifery (3 years) 3129 = Total 30680]

Practitioners	Graduate Nurse (B.Sc. & B.Sc. PH) [13]	1799	0.012	-	-
	Post Basic 6 Months training Midwife	537	0.0004	-	-
Medical Technologist	Medical Technologist- Laboratory	6614	0.044	1747	0.013
	Medical Technologist- Radiography	1746	0.012	887	0.006
	Medical Technologist- Sanitary Ins	1337	0.008	559	0.004
	Medical Technologist- Physiotherapy	823	0.005	159	0.001
	Medical Technologist- Radiotherapy	189	0.001	27	0.000
	Medical Technologist- EPI	52	0.0001	00	00
Health management & support staff	Other support staff [14]	50351	0.336	-	-
Non-medical public health practitioners	Community Health Worker[15]	73838	0.4931	-	-
Alternative/ Traditional Medicine Practitioners	Ayurvedic Graduate Practitioners [16]	200	0.001	79	0.0006
	Ayurvedic Diploma Practitioners	740	0.004	374	0.002
	Ayurvedic Certificate Practitioners	3127	0.020	2150	0.0165
	Unani Graduate Practitioners[17]	246	0.001	97	0.0007
	Unani Diploma Practitioners	1590	0.010	737	0.0056
	Unani Certificate Practitioners	3324	0.022	1658	0.0127
	Homeopathy Graduate Practitioners [18]	913	0.006	432	0.003
	Homeopathy Diploma Practitioners	22557	0.150	13968	0.107

Source: HRM Unit, MOHFW 2013

According to the Census of 2001, population was 130.0 million hence density of medical doctors per 1000 population was 0.279 in 2003 which was increased up to 0.404 in 2012 considering total number of population 149.72 million in 2012 (BBS Census 2011). Quite substantial increase was taken place for the number of medical doctors. But in terms of graduate dentist and other medical technologists the number is not significant at all. Huge shortage is indicative.

In terms of pharmacy professional, the total number of pharmacy graduates such as Bachelor of Pharmacy (B. Pharm.) produced in this country has not been found available in one office during data collection. All pharmacy graduates are supposed to be registered with the Bangladesh Pharmacy Council (BPC). Up to the year 2009 only 2934 B. Pharm graduates were registered with BPC. To be awarded in B. Pharm once has to complete a minimum of 4 years course in the field of Pharmacy.

[13] Registered with BNC

[14] All 4th Class personnel includes DGHS= 20568, DGFP= 29103, DNS = 620, DGDA = 60 as of data up to December 2011

[15] Public sector community health worker such as HI, AHI, HA, FWV, FWA, FPI, CPCH and CSBA (CSBA are registered with BNC who include both public and private sector data)

[16] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

[17] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

[18] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

Regarding diploma pharmacists (a 3 years academic training in the field of pharmacy), BPC conduct examinations and provide registration to them. Up to the year 2012 a total of 9186 diploma pharmacist were registered with the BPC. In 2003 the number was 8036. So, annual output is not so significant last 10 years. Pharmacy technicians are comparatively in higher number and their density is also high. In 2012 number of pharmacy technician was 52,505 and density 0.35 which was 0.192 in 2003. The total number was 19,495 in 2003 and density was 0.149 per 1000 population.

Significant growth has also taken place in terms of production of diploma nurses. In 2003 total number of diploma nurse-midwife was 18393 and density was 0.14 per 1000 population which has been increased up to 0.204 per 1000 population in 2012

Regarding health management and support staff and community health worker, only those who have been employed by the government were counted.

The number of qualified alternative medical care (AMC) providers was not found significant during data collection. A total of 32,697 certified AMC care providers were produced in this country in the year 2012 hence comprises density as 0.218 per 1000 population.

4.2 Distribution of health workforce by category/cadre

A distribution of the key health workforce has been made comprising data of last 5 years from 2007 to 2011. It is significant from the below Table 4.2 that the number of medical doctors and nurse-midwifes is increasing more in compare to other cadres.

Table 4.2: Distribution of health workers of last five years (2011-2007)

Category	Sub category	Year 2011	Year 2010	Year 2009	Year 2008	Year 2007
Medical Practitioners	General Medical Practitioners [19]	57313	53643	51721	49357	46978
	Medical Assistant [20]	8559	7676	7365	7038	6742
	Total	**65872**	**61319**	**59086**	**56395**	**53720**
Dental Practitioners	Dentist [21]	4815	4336	3841	3383	2059
	Dental Technician [22]	2170	1916	1682	1436	1103
	Total	**6985**	**6252**	**5523**	**4819**	**3162**
Pharmacy	Pharmacist [23] (Bachelor)	-	-	2934	-	-

[19] Registered MBBS Doctors with BMDC collected on 20 February 2013.

[20] Total number of graduates from Bangladesh State Medical Faculty as on January 8, 2013

[21] Total number of registered BDS Doctor with BMDC collected on 20 February 2013.

[22] Total number of passed technologist from Bangladesh State Medical Faculty collected on January 8, 2013

[23] They are registered Pharmacists with the BPC having Bachelor degree in pharmacy. Due to judicial complication no registration has been provided to the B. Pharm gradates till the date of data collection i.e. December 2012.

practitioners	Pharmacist (Diploma)	9186	8716	8351	7993	-
	Pharmacy Technician/Assistant	52505	49672	45226	39074	-
	Total	**61691**	**58388**	**56511**	**47067**	-
Nursing & Midwifery practitioners	Nurse-midwife professionals [24] (Diploma)	28841	27005	25011	23418	22451
	Graduate Nurse (B.Sc. & B.Sc. PH) [25]	1518	1223	971	823	732
	Post Basic 6 Months training Midwife	-	-	-	-	-
	Pharmacist [23] (Bachelor)	-	-	2934	-	-
Medical Technologist	Medical TechnologistLaboratory	5775	4717	3912	3418	2950
	Medical TechnologistRadiography	1640	1475	1314	1243	1176
	Medical Technologist- Sanitary Ins.	**1223**	**1074**	**917**	**827**	**764**
	Medical TechnologistPhysiotherapy	736	604	483	405	343
	Medical TechnologistRadiotherapy	155	99	44	34	31
	Medical Technologist- EPI	52	-	-	-	-
	Total	**9581**	**7969**	**6670**	**5927**	**5264**
Health management & support staff	Other support staff [26]	48690	-	-	-	-
Non-medical public health practitioners	Community Health Worker [27]	60271	-	-	-	-
Alternative/Traditional Medicine Practitioners	Ayurvedic Graduate Practitioners	175	163	161	85	-
	Ayurvedic Diploma Practitioners	1448	1334	1221	1118	1031
	Ayurvedic Certificate Practitioners	3081	2927	2781	2617	2503
	Unani Graduate Practitioners	210	199	190	97	-
	Unani Diploma Practitioners	1448	1334	1221	118	1031
	Unani Certificate Practitioners	3231	3017	2593	2169	2025
	Homeopathy Graduate Practitioners	812	779	728	432	-
	Homeopathy Diploma Practitioners	21712	20587	19885	18607	17492
	Total	**32117**	**30340**	**28780**	**25243**	**24082**

Source: HRM Unit MOHFW, 2013

[24] Nurse-Midwife professional registered with BNC in Bangladesh [{Diploma in Nursing (3 years training) + Diploma in Midwifery (1Year training)+ Dip in Orthopedic Nursing (1 year training)}= 20165+ Dip in Nursing Sciences & Midwifery (4 years) 7386 + Dip in Nursing Sciences & Midwifery (3 years) 3129 = Total 30680]

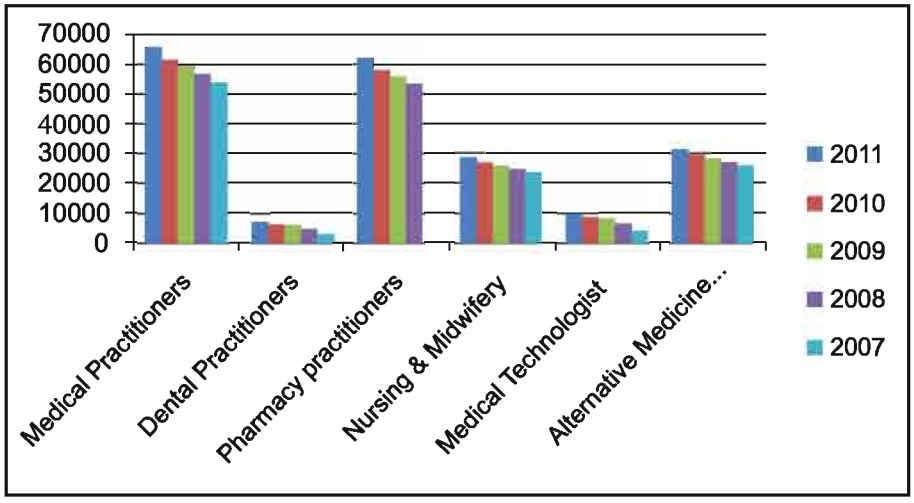
[25] Registered with BNC

[26] All 4th Class personnel includes DGHS= 20568, DGFP= 29103, DNS = 620, DGDA = 60 as of data up to December 2011

[27] Public sector community health worker such as HI, AHI, HA, FWV, FWA, FPI, CPCH and CSBA (CSBA are registered with BNC who include both public and private sector data)

It is also apparent from the below graph no 4.1 that all type of health professional has been gradually increasing year wise. Yet, the total number of dental practitioners, medical technologists and nursemidwife, alternative medical care providers has not been adequate.

Figure 4.1 Distribution of health workers of last five years



4.2.1 Sex distribution among health professional

Sex is important regarding equal representation of male and female in health profession. During data collection efforts were paid to collect data sex wise. But due to lack of proper HRIS, data was not found adequately and sometimes no data available during data collection period. However, below Table 4.3 indicates male dominance in medical, technological care, and alternative care practitioners.

Table 4.3 Sex distribution category wise

Category	Sub category	Total (Year 2012)	Female	% Female
Medical Practitioners	General Medical Practitioners [28]	60413	18822	31
	Medical Assistant [29]	9036	2228	25
Dental Practitioners	Dentist [30]	4815	-	-
	Dental Technician [31]	2170	-	-
Pharmacy	Pharmacist [32] (Bachelor)	2934	-	-

[28] Registered MBBS Doctors with BMDC collected on 20 February 2013.

[29] Total number of graduates from Bangladesh State Medical Faculty as on January 8, 2013

[30] Total number of registered BDS Doctor with BMDC collected on 20 February 2013.

[31] Total number of passed technologist from Bangladesh State Medical Faculty collected on January 8, 2013

[32] They are registered Pharmacists with the BPC having Bachelor degree in pharmacy. Due to judicial complication no registration has been provided to the B. Pharm gradates till the date of data collection i.e. December 2012.

practitioners	Pharmacist (Diploma)	9186	-	
	Pharmacy Technician/Assistant	52505	-	
Nursing & Midwifery practitioners	Nurse-midwife professionals [33] (Diploma)	30680	29000	95
	Graduate Nurse (B.Sc. & B.Sc. PH) [34]	1799	-	
	Post Basic 6 Months training Midwife	537	-	
Medical Technologist	Medical Technologist- Laboratory	6614	1478	26
	Medical Technologist- Radiography	1746	244	15
	Medical Technologist- Sanitary Ins.	1337	197	15
	Medical Technologist- Physiotherapy	823	226	27
	Medical Technologist- Radiotherapy	189	49	27
	Medical Technologist- EPI	52	6	12
Health management & support staff	Other support staff [35]	50351	-	
Alternative/Traditional Medicine Practitioners	Ayurvedic Graduate Practitioners	200	18	9
	Ayurvedic Diploma Practitioners	740	87	12
	Ayurvedic Certificate Practitioners	3127	63	2
	Unani Graduate Practitioners	246	42	17
	Unani Diploma Practitioners	1590	176	11
	Unani Certificate Practitioners	3324	159	5
	Homeopathy Graduate Practitioners	913	149	16

Source: HRM Unit, May 2013

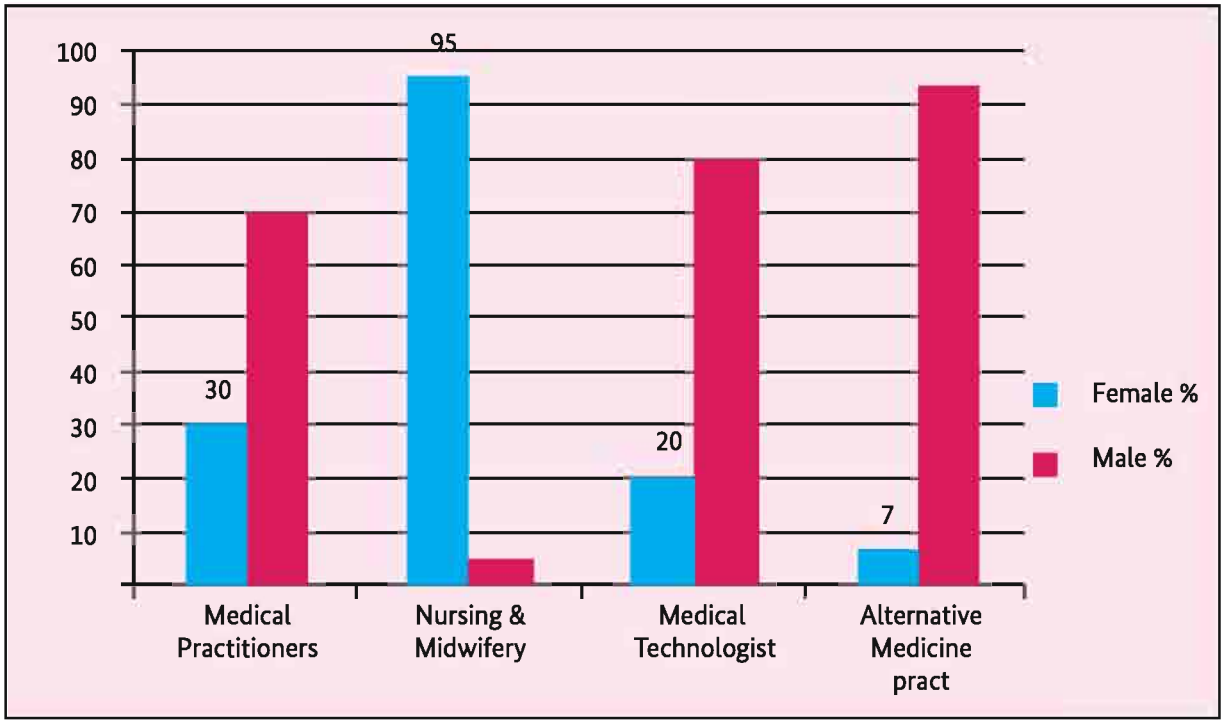
Regarding gender distribution of the health professionals, both table 4.3 and the figure no 4.2 indicate that medical practitioners who includes MBBS doctors and medical assistants are male dominant i.e. 30% are female and 70% are male.

[33] Nurse-Midwife professional registered with BNC in Bangladesh [{Diploma in Nursing (3 years training) + Diploma in Midwifery (1Year training)+ Dip in Orthopedic Nursing (1 year training)}= 20165+ Dip in Nursing Sciences & Midwifery (4 years) 7386 + Dip in Nursing Sciences & Midwifery (3 years) 3129 = Total 30680]

[34] Registered with BNC

[35] All 4th Class personnel includes DGHS= 20568, DGFP= 29103, DNS = 620, DGDA = 60 as of data up to December 2011

Figure 4.2 Sex distributions of the health workers



Among the total number of medical technologists 80% are male and only 20% are female. The number of females is also not significant for alternative medical care i.e. 7%

4.2.2 Age distribution by occupation/cadre

Cadre wise age distribution of data has been found not available. According to the Public Servants (Retirement) Act 1974 & Rules 1975, a government servant must retire from service on attainment of 57 years of age.

Freedom fighters who are public servants retire at the age of 59, according to the same Act. Freedom Fighter Public Servants (Retirement) (Second Amendment) Ordinance 2012 was issued on December 6 last year (2012) to extend the age of retirement to 60 years.

The cabinet ministry [36] recently has approved extension of the retirement age of all public servants by two years from 57, which is 59.

[36] http://newagebd.com/newspaper1/archive_details.php?date=2011-12-19&nid=44012 accessed on March 23, 2013

4.2.3 Division wise distribution of different category of health workforce

Distribution of health workers region-wise in terms of ensuring equity of access to health care services. The collected shows that significant numbers of the health workers are concentrating in Dhaka. More specifically about 42% of the total number of doctors is employed in Dhaka.

Table 4.4 Divisional distribution of health professional working under DGHS, DGFP & DNS of MOHFW

Professionals		Total	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Rangpur	Sylhet
Medical Practitioners	All MBBS Doctors	16977	1002 (6%)	2796 (17%)	7133 (42%)	1531 (9%)	2006 (12%)	1489 (9%)	1020 (6%)
	SACMO	6651	480 (7%)	1377 (21%)	1985 (30%)	965 (15%)	862 (13%)	597 (9%)	385 (6%)
	Pharmacist	3008	192 (6%)	351 (12%)	1116 (37%)	288 (10%)	546 (18%)	345 (11%)	196 (7%)
Medical Technologist (3909)	Medical Tech.-Lab	1623	90 (5.54%)	254 (16%)	679 (42%)	142 (9%)	242 (15%)	141 (9%)	75 (5%)
	Medical Tech-Radiog	635	44 (7%)	96 (15%)	211 (33%)	70 (11%)	107 (17%)	71 (11%)	36 (6%)
	Medical Tech. – Physiotherapy	147	13	32	47	15	20	13	7
	Medical Tech- (Radiotherapy)	38	3	2	21	0	4	4	4
	Medical Tech. (Dental)	494	38	89	144	60	71	58	34
	Medical Tech. (BCG/EPI)	467	40	94	123	58	63	55	34
	Medical Tech. (S.I)	438	37	57	134	57	64	57	32
	Medical Tech. – Others	67	2	11	48	2	0	2	2
Non Medical PH Practitioners (68096)	Health Assistant	19278	1669	3869	5500	2157	2531	2080	1472
	Health Inspector	1131	104	212	321	127	166	139	62
	Assistant H Inspector	3663	355	810	963	436	466	410	223
	Family P Assistant	1253	104	262	321	153	170	150	93
	Family P Inspector	3549	304	711	985	464	427	400	258
	FWV	5172	370	1107	1471	656	628	580	360
	Asst Nursing Attendant	52	5	9	14	9	6	6	3
	Female Medical Attendant	63	6	11	16	10	8	8	4
	F. Welfare Assistant	21113	1671	4048	6018	2646	2739	2525	1466
	CHCP	12822	981	2369	3541	1590	1846	1702	793
Nursing practitioners (17131)	Nursing & Deputy Superintendent	97	5	17	40	9	10	8	6
	Nursing Supervisor	959	72	134	373	86	132	94	68
	Sr. Staff Nurse & Staff Nurse	14509	953	2269	5917	1412	1952	1094	912
	PH Nurse	4	-	2	-	1	1	-	-
	Nurse/Assistant Nurse	1564	108	226	662	134	226	134	74

Source: HRM Unit, MOHFW 2013

Figure 4.3: Divisional distribution of health workforce

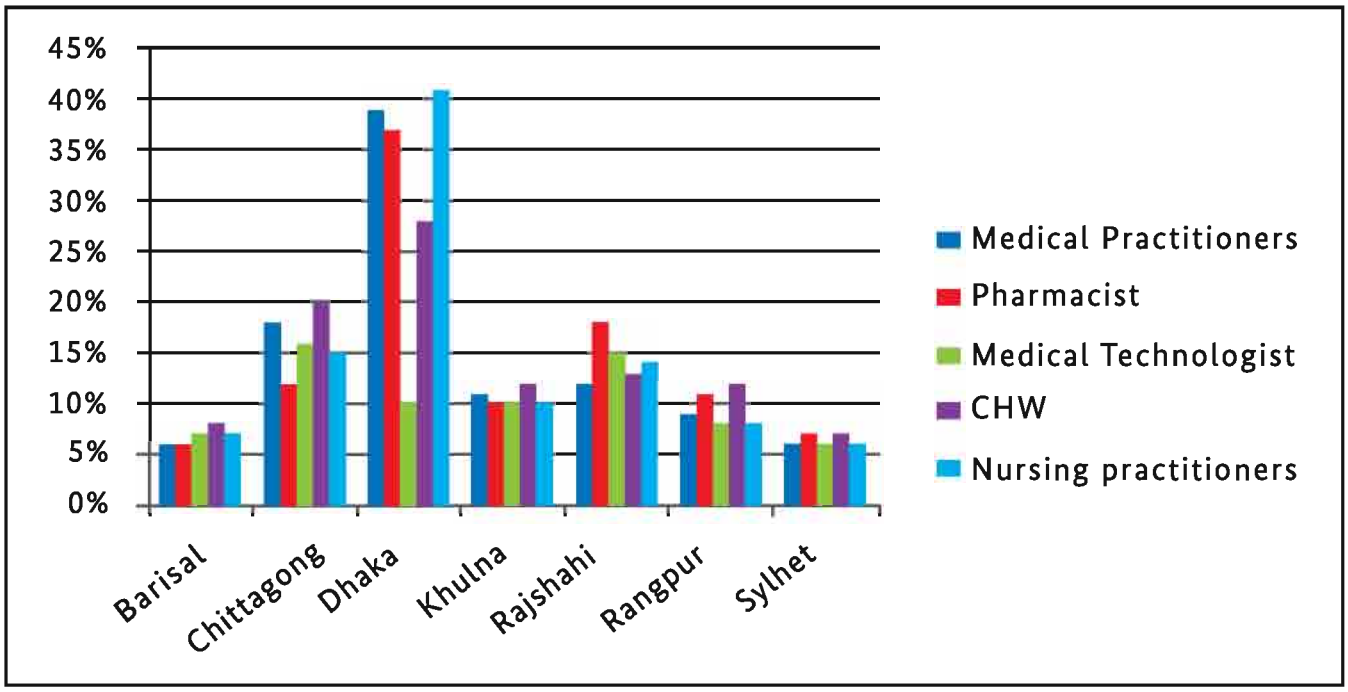


Figure 4.3 shows a comparative distribution of health workforce employed in the public sector. Less number of health workforces has been found in Barishal and Sylhet divisions whereas in Chittagong and Rajshahi divisions they are comparatively more in number. About of 18 percent of the total medical practitioners are available in Chittagong division and in Rajshahi the percentage is 12. Both in Barishal and Sylhet the same 6 percent is available respectively. According to the expert health professionals attended in the national level stake-holders consultation meeting, a good number of non government institutions have been working in Barishal and Khulna divisions with the purpose of attaining better health outcome and concentration of NGO health workers is comparatively better than others.

4.2.4 Urban/Rural [37] distribution of the health workforce

Rural retention has been regarded as one of the major challenges to managing health workforce not only in Bangladesh but also in other countries of the world. In Bangladesh the Ministry of Health and Family Welfare (MOHFW) is primarily responsible to take care of health and family welfare services. Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP) under MOHFW are the key health services providers in the country. Approximately 16468 medical Doctors have been employed under DGHS and around 504 medical doctors are with DGFP. Out of total (16977) nearly 7640 (45%) medical doctors are posted at Upazila Health Complexes and below level and hence deployed at rural areas. In terms of divisional distribution there are approximately 6964 (43%) medical doctors in Dhaka and approximately 2700 (16%) are in Chittagong.

[37] As per definition given in the country profile Urban health workforce are all health workers working in cities, municipalities, and district centres/head offices (including those health workers in other sectors outside health ministries). Rural health workforce are all health workers working outside cities, municipalities, and district centres/head offices (including those health workers in other sectors outside health ministries).

Table 4.5 Urban/Rural distribution of the health workforce per 1000 population

Category	Total number	% in Urban	% in Rural	HW/1000 Pop in Urban[38]	HW/1000 Pop in Rural
Medical Doctors	16977	9337 (55%)	7640 (45%)	0.239	0.070
SACMO	6651	732 (11%)	5920(89%)	0.020	0.053
Medical Technologist	3909	1510 (39%)	2399 (61%)	0.040	0.021
Pharmacist (Technician)	2964	771 (26%)	2193 (74%)	0.020	0.02

Source: HRM Unit, May 2013

It is apparent from the Table 4.5 that density of medical doctors in urban areas is comparatively high than that of rural areas. Approximately 0.239 medical doctors are available for 1000 population in the urban and only 0.07 doctor for the rural population (total population 150 million: Urban 39 million and rural 111 million). Auxiliary health workers such as Medical Assistant/Sub Assistant Community Medical Officer (SACMO), Medical Technologists (all types) and pharmacists are concentrating more in the rural areas in compare to urban population.

4.2.5 Public/private distribution of the health workforce

Private sector has always been regarded as an important actor in providing healthcare services to the country people. Acknowledging private sector's contribution the government of Bangladesh formulated the "Policy and Strategy for Public Private Partnership (PPP) 2010" to enhance achieving the Vision 2021. Private sector in the areas of health and family planning has not been investigated much and hence the number of health workforce working in the same has been remaining unexplored. Little attention has been paid in terms of creating central level database on human resources for health information systems. Estimation was made regarding the number of medical doctors working in the private sector in 2011 by the Human Resources Management Unit of the MOHFW. It indicates that around 58% of the total number of registered medical doctors (HRD Data Sheet, 2011) is working in the private sectors. It means only 34% of them are working the public sector.

[38] According to the report of Sample Vital Registration System, 2005-2011, BBS, total number of population (in millions) 150.6 and urban population (in millions) 39.0 hence rural population is 111.6 (in millions)

4.2.6 Migration of health workforce

In a background study done for Bangladesh Health Labour Market Study (BHLMS) examining graduating MBBS classes from three public medical colleges, it was found that more than 20% of the 1975 graduating class had emigrated, compared nearly 28% of the 1985 cohort.

Table 4.6: Graduating Cohorts from three Medical Colleges in Bangladesh

Year of Graduation	Graduates [1] (n)	Deaths (%)	Retired [2] (%)	Permanently Emigrated (%)	Total Annual Loss [3] (%)	Part-time Work (%)	Temporarily Emigrated for Study (%)
Dhaka Medical College							
1975	170	1.5	2.0	38.0	1.5	0.0	0.0
1985	150	2.7	0.0	62.5	3.6	0.0	1.3
1995	150	0.7	0.0	35.0	4.3	0.0	27
Chittagong Medical College							
1975	150	1.3	0.7	8.0	0.4	0.7	1.3
1985	150	1.7	0.7	9.0	0.5	0.7	0.0
1995	150	0.0	1.3	2.0	0.4	0.0	1.3
Mymenshing Medical College							
1975	35	14.2	0.0	14.3	1.0	2.9	0.0
1985	125	2.4	0.0	12.0	0.8	0.0	0.0
1995	175	0.6	0.0	0.6	0.1	1.1	0.0
Combined							
1975 Cohort	355	5.7	0.9	20.1	1.0	0.6	0.5
1985 Cohort	425	2.3	0.2	27.8	1.7	0.2	0.5
1995 Cohort	475	0.4	0.4	12.5	1.5	0.4	8.9
Grand Total	1255	2.8	0.5	20.2	1.4	0.4	3.7

Source: Bangladesh Health Labour Market Study, 2003, based on Services & Solutions International (2003).

[1] For Dhaka and Chittagong this number includes new graduates plus those entered into this group from previous batch that didn't pass. Numbers for Mymenshing do not include those who failed previous years

[2] Working less than 10 hrs/wk in health related field

[3] Cumulation of deaths, retirement, and permanent emigration per graduating class divided by number of years since graduation.

In Bangladesh Health Labour Market Study, the authors made an attempt to determine emigration patterns of Bangladeshi physicians abroad. In order to establish the number of Bangladeshi educated physicians registered in the United States, Canada, the United Kingdom, Saudi Arabia, Australia, and New Zealand, they contacted official registration bodies in those countries. They found the currently available number of Bangladeshi educated physicians practicing in these countries is shown in Table, showing USA, Saudi Arabia, and the United Kingdom as the most common countries of emigration. But these numbers do not include data from India or other Gulf States (as information was not available) and other locations known to contain Bangladeshi doctors, or include the migration of Bangladeshi doctors who are not practicing as physicians. They estimated conservative projection of the number of Bangladeshi doctors working outside the country may be over 2,500.

Table 4.7: Estimates of Number of Registered and Educated physicians working outside country.

Country	Numbered Registered
Australia	81
Canada	17 (registered from 1990)
Saudi Arabia	325
UK	191
USA	1119
New Zealand	61 (in active practice 1 Apr 2000-31 Mar 2001)
Current Total	1794

Source: Bangladesh Health Labour Market Study, 2003.

Also, the high attrition of female graduates who never enter the profession has been identified in one study (HEU, 1998, RP-14).

In a study by Salahuddin M Aminuzamman 'Migration of Skilled Nurses from Bangladesh: An Exploratory Study' found-Nursing has been an important occupation for female labour migrants from Bangladesh. According to data collected from the Nursing Directorate, a large number of nurses migrated to the Middle East and other countries during 1985-1986. A significant number of these nurses went on their own; some left after resigning from jobs in the government. However Bureau of Manpower Employment and Training (BMET) maintain data on female labour migration only from 1991 onwards. Comparison of time series data shows a sharp decline in the numbers and in the destinations of nurses from Bangladesh over the years.

There have not been any follow up studies as to why there has been such a decline, nor has the Government of Bangladesh or any other agency undertaken a formal review of the quality of services of Bangladeshi nurses working abroad. However, this research team, while interviewing Bangladeshi doctors and health professionals who have seen Bangladeshi nurses working overseas observed that, in general, Bangladeshi nurses are 'shy', 'culturally insensitive' 'inward looking' but 'sincere' and 'hard working'. They also noted that Bangladeshi nurses grossly lack specialized nursing service skills and interpersonal and communication skills. Some noted a general lack of professionalism among Bangladeshi nurses.

Table 4.8: Nurse Migration for Overseas Employment 1985-86 and 1991-2004.

	1985-86		1991-2004	
Destination	Number	%	Number	%
Saudi Arabia	364	38.24	957	80.08
Kuwait	348	17.76	24	2.01
Libya	223	16.98		
Iran	223	10.88		
Bahrain	166	8.11	23	12.80
Iraq	165	8.04		
Oman			20	1.67
UAE			14	1.17
Malaysia			153	12.80
Others			4	0.33
	2050	100	1195	100

Source: Rosie Majid Ahsan and AS Najmul Ahmad, 2000 and BMET 2004

CHAPTER 5

5. HRH Production

Health sector is not only labor intensive but it requires a large variety of skilled health manpower to support and manage a wide range of health services. Hence it is important to know about who are those people, how many of them and with what skills they are being trained and are joining the health services. To cover this section three sub-domains have been represented below-

5.1 Pre service education

Bangladesh has a large number of educational and training institutes for producing health professionals in various areas. They provide a congenial environment to those who are interested in conducting research activities. Although most of the educational and training institutes are located in Dhaka, many, particularly those institutes that provide postgraduate, graduate, technological and medical assistants' training and education are situated in other cities and districts of the country. While the number of physicians graduating each year may be just adequate in terms of country's present need, output of the auxiliary personnel, i.e., nurses, technologists and medical assistants are not sufficient. Substantial progress has been made in the field of medical education. The annual intake and output of 17 medical colleges in the public sector are about 2,310 and 1,700 respectively; those in private sector are 3,055 and 1,500 respectively (HRM Unit, 2011). The annual intake and output of 3 dental colleges in public sector are about 210 and 200; those in 11 private dental colleges are 700 and 500 respectively. It may be noted that the number of female graduates has been steadily increasing and the ratio is about 50:50.

The annual intake and output of health technology institutes in public sector are 1,010 and 1,000 respectively. To enable medical technologists make further careers, BSc course in health technology has been introduced in 3 government and 13 private institutes. Masters course has been introduced in two Institutes. In private sector, total annual intake is 5,946 and output is 2,500. In the 8 government medical assistants' training schools, annual intake is about 700 and output is around 400. Pre-service Education also strengthens the postgraduate education in different medical colleges and institutes by providing research grants and supplying teaching aids, instruments, furniture, multimedia projects, etc.

The Operational Plan of Pre-service Education is mainly concerned for the education of medical graduates, health technologists and medical assistants. Directorate of Nursing Services (DNS) and Bangladesh Nursing Council (BNC) are two salient organizations for managing nursing education and services. The first recruitment rule for the nursing service was made in 1977, then in 1979, 1984 and in1985 for all posts under DNS. Reviewing of the job descriptions of the different categories of nurses is warranted. Since its inception in 1977 to till now, no independent building was ever established for the Directorate of Nursing yet. The physical structures of hospitals are not nurse friendly, e.g. there are no facilities for rest room or space for nurses to change dress or study or even separate wash room for nurses.

Specific activities need to be taken up for strengthening capacity of nursing education and services like establishment of national nursing research cell; introduction of performance audit system through monitoring and evaluation. DNS, BNC and all educational institutions have no internet facilities. These organizations also suffer from the absence of an effective MIS.

The main issues that need to be addressed in the nursing are: establishment of career planning, development and introduction of quality assurance and accreditation system, enhancement of leadership and management skills, development of tools and guidelines for institutionalization of in service training, establishment of mechanism of supervision, monitoring and evaluation, training on different specialty areas, arrangement for post graduate course, facilitating research, further upgradation of senior level nursing services, construction of directorate of nursing building and continued education center for teachers' development, production of newsletter and development, amendment and introduction of nursing acts, legislations and regulations.

After the Drug Control Act of 1982 Bangladesh Government has taken different steps for the development of alternate medical care. Government Unani and Ayurvedic Medical College & Hospital with Production & Research Unit were established in 1990. Homeopathic Medical College & Hospital established separately in the same year. Bachelor of Unani Medicine & Surgery (BUMS), Bachelor of Ayurvedic Medicine & Surgery (BAMS), Bachelor of Homeopathic Medicine & Surgery (BHMS) degrees are given in the three disciplines after five years of study. After graduation one year internship is compulsory in the 100 bed hospital established for the AMC. In addition there are one private Homeopathic degree College, 11 Unani , 7 Ayurvedic, and 38 homeopathic diploma institutes has established in Bangladesh. These diplomas are given after four years of study and 6 months of internship. All these courses are accredited by the Unani, Ayurvedic & Homeopathic board. This board is also responsible for providing practice registration. Bachelor degrees in any of these three disciplines are given by the University, e.g., Dhaka University and registration for Graduate Doctors are given by the DGHS. Near about 80,000 different categories AM doctors are practicing in our country and about 700 industries are producing Herbal, Unani, Ayurvedic & Homeopathic drugs.

By producing skilled health manpower according to the recommendation of the 'Human Resource Strategy' of the MOHFW, it will contribute to the MDGs by improving the health status of the people.

Table 5.1 Number of Training Institutions by type of ownership

Type of training institution	Type of ownership		Total
	Public	Private not for profit, FBOs, Private for Profit	
Medicine[39]	23	54	77
Dentistry[40]	09	17	26
Pharmacy (Bachelor and Diploma)[41]	12	57	69
Nursing & Midwifery[42]	56	21	77
Health Sciences[43]	1	2	3
Public Health[44]	8	10	18
Medical/Health technology[45]	06	75	81
Traditional Medicine	03	57	60
Other Allied Health- MATS[46]	08	102	110
TOTAL	126	395	521

FBO = Faith based Organization
Public = All government owned/funded training institutes under health, education and other related ministries.

[39] Medical Education Section, Ministry of Health and Family Welfare, 3 April 2013

[40] Director of Medical Education & HMD, DGHS, 3 April 2013

[41] Registered with Bangladesh Pharmacy Council, Data collected on December 23, 2012

[42] Bangladesh Nursing Council, collected on 27 December 2012

[43] Bangabandhu Sheikh Mujib Medical University-Public and Bangladesh University of Health Sciences & Institute of Health Sciences-Private

[44] Quick online assessment on Universities websites which provide MPH and BPH degrees in public health on January 3, 2013

[45] Collected from Bangladesh State Medical Faculty (SMF), dated January 2, 2013

[46] Collected from Bangladesh State Medical Faculty (SMF), dated January 2, 2013

Table 5.2 Number of entrants and graduates last 4 year from 2009 to 2012

Category	Sub Category	Number of entrants				Total Inputs	Number of entrants				Total Outputs
		YR 2009	YR 2010	YR 2011	YR 2012		YR 2009	YR 2010	YR 2011	YR 2012	
Medical Practitioners	General Medical Practitioners[47]	4944	5974	5974	7057	23949	2792	3311	3621	5100	1152
	Medical Assistant[48]	-	-		-	-	327	311	883	477	1998
Dental Practitioners	Dentist[49]										
	Dental Technician[50]	-	-	-	-	-	246	234	254	126	860
Pharmacy practitioners	Pharmacist[51] (Bachelor)	2061	2032	2096	2237	8426	736	991	1005	711	3443
	Pharmacist (Diploma)	1144	1035	793	625	3597	358	365	470	79	1272
Nursing & Midwifery practitione	Nurse-midwife professionals[52] (Diploma)	1827	2439	2540	2852		1245	1343	1470	1770	
	Graduate Nurse (B.Sc. & B.Sc. PH)[53]	468	647	1081	1177		-	-	-	-	
Medical Technologist	Medical Technologist- Laboratory						494	805	1058	839	3196
	Medical Technologist- Radiography						71	161	165	106	503
	Medical Technologist- Sanitary Ins						90	157	149	114	510
	Medical Technologist- Physiotherapy						78	121	132	87	418
	Medical Technologist- Radiotherapy						10	45	56	34	145
	Medical Technologist- EPI						0	0	43	9	52
Alternative/ Traditional Medicine Practitioners	Ayurvedic Graduate Practitioners[54]	13	33	01	36	83	22	08	12	25	67
	Ayurvedic Diploma Professional	204	223	224	234	885	59	58	116	49	282
	Ayurvedic Certificate Professional	616	-	-	-	616	534	-	-	-	534
	Unani Graduate	20	36	02	31	89	26	07	11	36	80

Source: HRM Unit, MOHFW May 2013

[47] MBBS students and graduates with Director of Medical Education of DGHS, collected on 20 February 2013.

[48] Total number of graduates from Bangladesh State Medical Faculty as on January 8, 2013

[49] Total number of registered BDS Doctor with BMDC collected on 20 February 2013.

[50] Total number of passed technologist from Bangladesh State Medical Faculty collected on January 8, 2013

[51] They are registered Pharmacists with the BPC having Bachelor degree in pharmacy. Due to judicial complication no registration has been provided to the B. Pharm gradates till the date of data collection i.e. December 2012.

[52] Nurse-Midwife professional registered with BNC in Bangladesh [{Diploma in Nursing (3 years training) + Diploma in Midwifery (1Year training)+ Dip in Orthopedic Nursing (1 year training)}= 20165+ Dip in Nursing Sciences & Midwifery (4 years) 7386 + Dip in Nursing Sciences & Midwifery (3 years) 3129 = Total 30680]

[53] Registered with BNC

[54] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

	Practitioners										
	Unani Diploma Practitioners55	538	622	778	784	2722	139	139	148	238	664
	Unani Certificate Professional	1305	-	-	-	1305	1099	-	-	-	1099
	Homeopathy Graduate Practitioner	51	68	192	43	354	59	61	33	100	253
	Homeopathy Diploma Practitioners56	5848	6014	7840	8979	28681	1278	702	1125	845	3950

Source: HRM Unit, MOHFW May 2013

5.1.1 HRH production under Bangladesh Technical Education Board, Ministry of Education

The Bangladesh Technical Education Board (BTEB) came into existence with the jurisdiction over the entire area of Bangladesh to organize, supervise, regulate, control and develop technical and vocational education. The Board in its present form became operative with effect from June 1969.

A good number of health personnel are trained and educated in various fields of health in the affiliated institutions approved by BTEB. The following table presents a brief overview of the health personnel academic training-

Table 5.3 Category of HRH professional produced under the BTEB

Course name	Admission requirement	Length of the course	Institutions offering this course	Total seat
1. Diploma in Health Technology In Dental, Laboratory Medical (Pathology), Physiotherapy, Radiology & Imaging, Pharmacy, Patient Care (Nursing), Integrated Medical, and Optical Refraction. (Total 8 Disciplines)	Class 10/SSC/Equivalent Passed.	3 years course	215 (All Private)	21800
2. Diploma in Medical Ultrasound	MBBS or equivalent	1 year	18 (All Private)	720
3. Certificate in Health Technology (in 10 Discipline) i.e. Dental, Laboratory Medical (Pathology), Physiotherapy, Radiology & Imaging, Pharmacy, Patient Care (Nursing), Integrated Medical, Optical Refraction, Paramedical, and Medical Marketing & Management	Class 10/SSC/Equivalent passed.	1 Year	154 (All Private)	7710
4. Certificate in Medical Ultrasound	MBBS or equiv	6 Months	14 (All Private)	420

Source: Annual Report 2011-2012 published by BTEB

[55] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

[56] Registered with Alternative Medical Care (AMC) under DGHS collected on May 20, 2013

BTEB provides four types of degrees/certificates in the fields of health and hence produces a good number of health workforces. Diploma in Health Technology is given in 8 disciplines and it is a 3 years course. To get admission in this course once has to pass in "Secondary School Certificate" or equivalent. The course is offered in 215 institutions. "Diploma in Medical Ultrasound" is offered in 720 institutions. Minimum requirement for admission in this course is MBBS or equivalent.

Table 5.4 Number of students admitted & passed in health related courses during 2007-12 under BTEB

Year	Diploma in Health Technology		Certificate in Health Technology		Diploma in Medical Ultrasound		Certificate in Medical Ultrasound	
	Admitted	Passed	Admitted	Passed	Admitted	Passed	Admitted	Passed
2011-12	7289	580	1474	469	516	66	87	72
2010-11	5413	605	836	879	514	44	151	31
2009-10	2411	395	770	511	410	22	34	75
2008-09	1533	-	725	524	92	25	32	19
2007-08	1288	-	20	224	8	6	10	31

Source: Annual Report 2011-2012 published by BTEB

The table shows gradual increase of the number of students admitted in the courses of health technology and medical ultrasound. A total of 17934 students admitted in different disciplines of 'Diploma in Health Technology' last five years between 2012 and 2007. Total of 3825 students admitted in Certificate in Health Technology and 1540 students admitted in 'Diploma in Medical Ultrasound.'

5.1.2 Health professional education reform

Curricula of undergraduate medical and dental education recently (CME, 2012) were gone under revision to give more community focus. Curricula of Diploma and B.Sc. Nursing courses have also been revised. Currently review and updating of curriculum of Medical Technologists' courses in each of the nine disciplines are underway. Initiative will soon also be taken for updating postgraduate medical curriculum.

However, institutional capacity building with regard to adequate number of quality teachers, laboratory and hands on training, audio-visuals, ICT facilities, library, logistics supply, and quality assurance scheme need improvement. There is increasing demand for institutional autonomy to fast gain such improvement. Although, Bangladesh has one of the highest numbers of community health workers in the world, it is evident that development of allied health workforce, particularly community health workers, was given inadequate attention. Their technical capacity and ability to work with and mobilize the community in addressing the local essential health needs appear insufficient. The public health academic institutions are needed to be engaged in the development of multi-disciplinary public health workforce. Due attention should be given for quality improvement of Homeopathy, Unani and Ayurvedic medicine, the three AMC (alternative medical care) education practiced in the country. There is provision for on the job training and continuing medical education for all categories of health workforce. However, this needs to be further structured, well-designed and well-coordinated. National Academy for Health Management is a long felt need, but yet to be established.

Table 5.5 Number of teachers by profession and teachers/student ratios (as of 2008)

Type of training institution	Total teachers	Teachers' profession		Total teachers	Teachers/ student ratios
		Public College	Private College		
Medicine	2255	1218	1037	16586	1:7
Dentistry	254	56	198	818	1:3
Pharmacy	-	-	-	-	-
Nursing & Midwifery*	340	290	50	7348	1:28
Health sciences	-	-	-	-	-
Public health	-	-	-	-	-
Medical technology	44			365	1:8.3
Traditional Medicine	619	53	566	16750	1:27
Other Allied Health (indicate the type of cadre)	-	-	-	-	-
Total	**3512**	**1617**	**1851**	**41867**	

Source: http://www.banbeis.gov.bd/db_bb/professional_education.htm accessed on June 10, 2013

5.1.3 Accreditation mechanisms

The recent growth of the non-government health sector in both education and services has increasedthe importance of effective regulatory function of the government to ensure a standardized and transparent system in the health workforce recruitment and promotion including governance of all health institutions and facilities for service delivery to the people. This is further necessitated by the growing number of AMC practitioners in our health system. There are more than 50,000 licensed AMC practitioners serving in the country.

There is also a growing recognition of the need for functioning regulatory bodies to ensure the quality of medical education and practices, as well as, the accountability of academic institutions and professionals to the public. Towards this goal, a formal and effective accreditation system is needed as one of the priorities. Recently amendment of regulations of Bangladesh Medical and Dental Council has been materialized. Such updating of regulations of Bangladesh Nursing Council, Bangladesh Pharmacy Council and The State Medical Faculty of Bangladesh are also needed. The licensing systems of all these regulatory bodies need to be re-examined. All of these bodies have shortage of resources, both human and logistics.

5.2 In-service and continuing education

The In-Service (post-service) Training received a high momentum during Health and Population Sector Program (HPSP) and Health, Nutrition and Population Sector Program (HNPSP) and this momentum will be kept continuing during Health, Population, Nutrition Sector Development Program (HPNSDP) The suggested goal of IST is thus to support different programs under HPNSDP with improved skills of health workforce through provision of quality training to achieve the following specific objectives:

- Assessment of training needs of different programs under HNPSP and development of a training plan according to those needs;
- Co-ordination of in-service training to strengthen the critical knowledge and skills needed by the providers;
- Facilitating implementation of the planned training through efficient utilization of the available training resources (financial, manpower and facilities);
- Ensuring effective training and its impact on performance improvements of those trained
- Ensuring that the front line providers have sufficient training in relevant areas to achieve the objectives of the HPNSDP Facilitating smooth running of different national level institutes to run in-service training in their fields and strengthening them, e.g., National Institute of Preventive and Social Medicine (NIPSOM), National Institute of Cardiovascular Diseases (NICVD), Institute of Epidemiology, Disease Control and Research (IEDCR), Institute of Public Health (IPH), Institute of Child and Mother Health (ICMH), National Institute of Kidney Disease and Urology (NIKDU), and National Institute of Mental Health and Research (NIMHR);
- Promoting health system research as an instrument of public health and development;
- Developing monitoring, follow-up, supportive supervision and evaluation process;
- Establishing Training Management Information System (TMIS) and District Management Information System (DMIS) database at national, district and upazila level.

To attain the mentioned objectives following specific programs will be undertaken:

- Local Training; Workshop/Seminars; and Overseas Training
- Technical Assistance (National and International)
- Training Support and Strengthening of Different Institutes
- Administrative and management (Strengthen Technical Training Unit, Salary support, Supply and Services, Repair maintenance and others)

5.3 Health Workforce Requirement

In the HRH Country Profile health professionals have been defined using the "Classification of health workforce of the WHO South-East Asia Region" as a guide. Hence when the term doctor is used, it should be taken to include medical assistants; nurse should be taken to include midwives, Family Health Visitors and Community Skilled Birth Attendants; and paramedics should be taken to include other health professionals such as pharmacists, dentists, opticians, medical technologists, and biomedical engineers. Registered practitioners in alternative medicine are also included as a separate category.

The World Health Organization estimates that a country requires at least 23 physicians and nurse/midwives for every 10,000 population in order to deliver basic health services. These doctors and nurse/midwives need to be supported and supplemented by a wide range of other health professionals, paramedics and medical technologists.

Given the importance of skill mix of the professional health workforce, WHO advises a ratio that there should be one doctor, three nurses and five paramedics are required.

Applying this 1:3:5 ratio to the projected population of 200 million57 in 2021, the country as a whole would require a health professional workforce of:

Table 5.6 Projected requirements of medical doctors, nurses and paramedics

Category	Total requirement
Doctor	115000
Nurses	345000
Paramedics	575000
Total	1,035,000

Source: HRM Unit, MOHFW, 2012

According to the recent collected data for the HRH Country Profile (HRM Unit, 2013), the country has the following professional health workforce:

Table 5.7 Available major health workforces within MOHFW (registered)

Category	Available
Medical Practitioners (Registered MBBS, BDS Doctors and Medical Assistant)	74,264
Nurses (Registered Diploma Nurse-Midwife and CSBA)	36,422
Paramedics (Registered Medical Technologist & Pharmacist)	22,117
Registered practitioners in alternative medicine	32,694
Total	**165,497**

Source: HRM Unit, MOHFW May 2013

It is obvious that countries would differ in their mix of health professionals and there are different systems of delivery of health services and social behaviors that don't necessarily fit neatly into the WHO "formula". However, it is true that Bangladesh has severe shortage of qualified health practitioners since the country has only about 20% of the numbers of health professionals it will require in 2021.

One of the most striking features of our professional health workforce is that the skill mix ratio is reversed. For every one paramedic there are 1.5 nurses and 23 nearly 3 doctors, a skill mix ratio 3 : 1.5 : 1 as against the 1 : 3 : 5 ratio typically applied in most countries. Thus, for a balanced skill mix, we have far too many doctors, far to few nurses and even fewer necessary paramedics in the workforce.

5.3.1 Vacancies in the health system of MOHFW

Ministry of Health and Family Welfare is the biggest employer of health professionals on behalf of the government. Directorate General of Health Services and Directorate General of Family Welfare are the two key service providing agencies under the ministry.

[57] Draft National Health Workforce Strategy 2012, HRM Unit, MOHF

Table 5.8 Sanctioned, filled up and vacancy rate of key health professional in the health systems

	2012			2008		
	Sanctioned	*Filled up*	*Vacancy rate*	*Sanctioned*	*Filled up*	*Vacancy rate*
Doctors	23,180	16,745	28%	18720	12,913	31%
Dentists	531	498	7%	-	-	-
Nurses (Diploma)	17753	14,880	16%	16478	13815	16%
Medical Assistants (SACMO)	5,411	4,216	12%	5,251	3,729	29%
Pharmacists	3740	2980	20%	2,620	1,952	25%
Medical Technologist	6428	5105	21%	5651	4514	20%

Source: HRM Unit, MOHFW 2013

Above Table shows the difference of the numbers of key health professionals between 2012 and 2008. It indicates that the number of posts has been increased but in terms of vacancy rate not much significance growth occurred. Vacancy rate of medical doctors was 31% in 2008 which has been reduced to 28% over last five years. Regarding nursing and medical technologist professionals the situation has been remaining all most unchanged. There exists 16% and 21% vacancy of the total sanctioned posts of nursing and medical technologist workforces respectively. Filling out those vacancies is also an important aspect of requirement of the current health systems.

CHAPTER 6

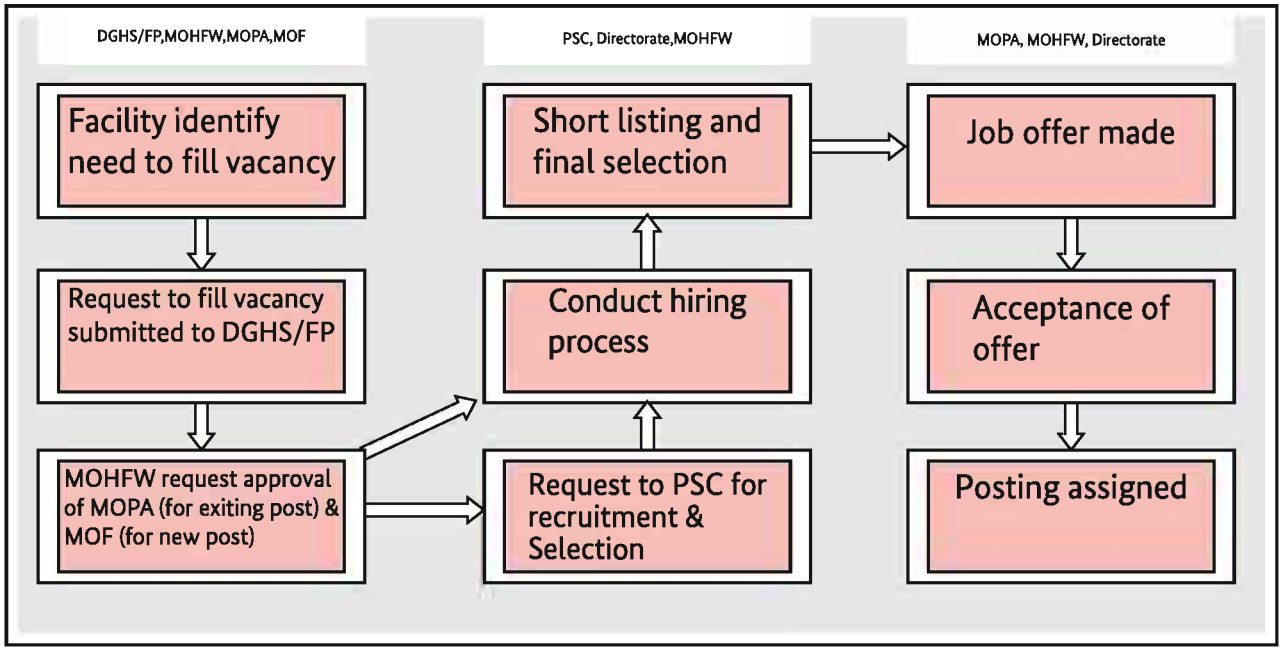
6. HRH Utilization

6.1 Recruitment

Recruitment of government officers as well as other staff is a process involves more than one ministry from creation of a post to deployment and performance management. Usually it goes through the concerned ministry later ministry of public administration and ministry of finance. The professional group e.g. medical officers and dental surgeons are directly recruited in both health and family planning cadres in Bangladesh Civil Service, which takes place on recommendations of the Public Service Commission. The same is true for other non-cadre class-1 and class-2 positions under the revenue budget. Health and Family Planning cadre officials are supposed to undergo foundation training in some cases also professional training as part of their confirmation of service that takes place within two years of service when they are in probation. After confirmation they have to undergo senior scale examination and finally superior selection board to climb to the top ladder. But the promotion path is so long before reaching the top level they retire from the services.

Country's public health system is enormously affected because of absence of an efficient recruitment system, particularly for healthcare staff in higher professional categories (Classes I and II).

Figure 6.1 Recruitment processes of government staff



Source: Modified from World Bank, 2010

As a result, at any given time, a substantial proportion of sanctioned posts in the public sector are not filled (See HRH requirement section at page no.). Given that there is a constant supply of doctors and nurses graduating from the teaching institutes, and a substantial pool of unfilled positions, recruitment of graduates into these positions is not systematic, and many of them start working in the private or NGO sector, or remain vacant until they are able to enter the public-sector workforce. The issue is particularly acute in the case of registered Nurses; only 50% of the registered nurses are active in the public sector (DNS, 2012) and it is estimated that around 10,000 qualified nurse-midwives may not be active in the public sector.

6.2 Deployment and distribution mechanisms

Deployment and distribution of the workforce is maintained on the basis of equity ensured by the constitutions of the People's Republic of Bangladesh. The Article 29 (1) of the Constitution removes all sorts of discrimination in the service of the Republic. On the other hand, Articles 28(4) and 29 (3a) of the Constitution provides opportunity of special provision to be taken in favor of backward section of citizens for the purpose of ensuring adequate representation in the service of the Republic. All vacancies in the civil service are not filled on the basis of overall performance in the several components of the BCS examination. Forty five percent of the total positions are reserved for top-performing candidates while the reminder (55%) is distributed among the 64 districts on the basis of population. Further, the allocated number for each district is again distributed among freedom fighters (30%), women (15%) and tribal population (5%). This quota system has been in practice since independence in 1971 and has under gone several revisions.

Upon receipt of the requisition of the need from the facility, the directorate and the ministry's secretariat start processing the administrative issues to recruit required personnel to fulfill the posts which are already sanctioned and send to the ministry of public administration for approval. For new post creation MOHFW sends request for approval to the ministry of finance in addition.

Public Service Commission (PSC), an independent constituent takes steps for selection of suitable candidates of those posts which are under its umbrella (e.g. all 1st class cadres and gazetted, non cadre but gazetted posts). All non cadres and non gazette posts will be filled up by the concerned head offices.

The MOHFW adopted a transfer and posting policy of medical doctors in December 2008 which is in practice now.

6.3 The work environment

Health and family planning personnel get the compensation package like other government personnel of different departments. Usually the package is not compatible with most of the non-government sector. Several transfer posting policies were developed at least for doctors but none seem to be in operation. In reality no clear guidance exists for transfer posting for any categories of staff of family planning personnel. Health and family planning personnel are entitled with casual leave and different types of earn leaves, as other personnel of government departments. Like other government staff they also have the opportunity to serve in lien, deputation, and secondment.

The system of performance appraisal exists in the form of annual confidential report (ACR). Before awarding any benefit like promotion or selection grade or time-scale A.C.R of immediate preceding 3-5

years are usually asked to produce by the incumbent. The basic promotion for both is mostly seniority and A.C.Rs with the exception of teachers. The teachers in the health cadre recruited at each steps like lateral entry on the recommendations of the Public Service Commission (HRDU, 1997).

The current supervision mechanism and performance management processes are not effective enough to ensure accountability and motivation, both at the individual level as well as at the organizational level. The lack of supportive supervision and incentives for good performance do not encourage high productivity or delivering quality services. Majority of government doctors spend a substantial amount of their time in private practice. Other than the residency training posts, there is no provision for giving reasonable non-practicing allowances or for institutional practice to discourage private practice and concentrate on primary job. Challenge remains to work out how staff members in any health organization can be brought under performance-based incentives sharing system. A piloting of the Individual Performance Management System (IPMS) was successful in 53 upazila health complexes (1999-2005), which can be scaled up.

While the majority of people live in rural areas, the majority of health professionals work in urban areas. The vacancy rates in government health services in remote upazilas are much higher than those near major cities. There are no incentives for posting and retaining health workers in remote and hard to reach areas.

Information on the rate of attrition of doctors in Bangladesh is rare. Neither the registration authority- Bangladesh Medical and Dental Council (BMDC), nor their professional association- Bangladesh Medical Association (BMA) maintains any record on the loss of doctors due to retirement, death or migration. It was found that many physicians leaving the country to work elsewhere. In a background study (done for Bangladesh Health Labour Market Survey 2003) examining graduating MBBS classes from three public medical colleges, it was found that more than 20% of the 1975 graduating class had emigrated, compared nearly 28% of the 1985 cohort.

6.4 Employment of health workers in the private sector

A large number of health workforces are required to produce and deploy to fill in the existing gaps and future needs of health, nutrition and population sector of the country. It will not be possible by the government alone to accomplish the task. Proper guiding strategy and effective collaborative arrangements among public, private and NGO sectors are needed.

According to the Household Income and Expenditure Survey (HIES) about 46 per cent of treatments inrural are disadvantaged areas of Bangladesh are being provided by the informal private provider (HIES, 2010). The individual health care providers in the private sector include both formally (who are trained in a government certified/approved institutions) and informally trained practitioners (such as traditional healers, village quack/doctors and others).

The private institutional providers include clinics, hospitals, and medical college hospitals - varying in size and the types of services offered. Currently there are 2966 registered private clinics and hospitals (Health Bulletin, 2012). Most of these hospitals have less number of beds. It is also important to note, there are a few unregistered clinics and hospitals. There are 22 private medical colleges with attached hospitals to provide clinical training to their medical students (Health Bulletin, 2012).

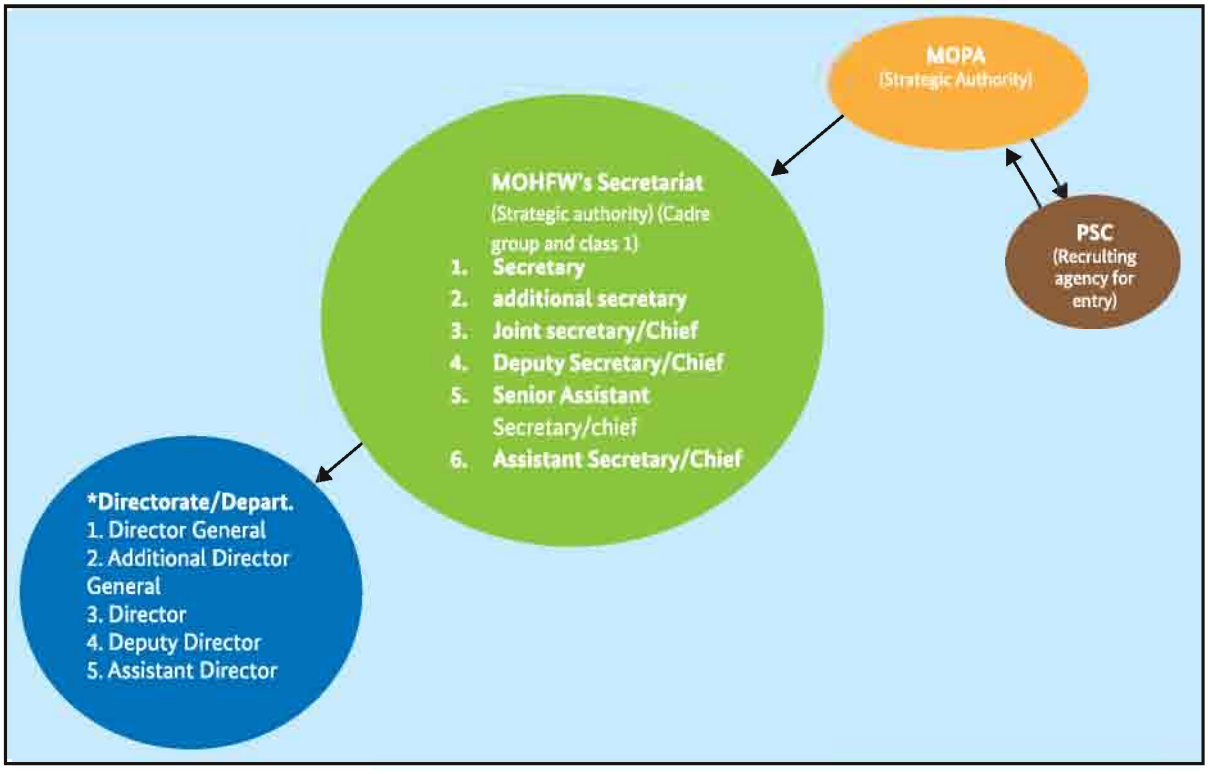
International hospital networks have started operating in Bangladesh, e.g. the Apollo Hospitals. In the urban areas (especially, the metropolitan cities), there is a higher concentration of the qualified and specialist care-givers; whereas in the rural and hard-to-reach areas, there is a predominance of the semi-qualified and un-qualified providers. The government does not properly regulate the private sector facilities, many of which charge very high fees. The private sector regulation needs to be efficiently managed to follow appropriate structuring, and mandates.

CHAPTER 7

7. Governance for HRH

HRH in the health sector is concerned with planning, production of competent and adequate number of HRH, equity in recruitment, selection and deployment, distribution and performance management, quality assurance, equity of access to healthcare services and so on. Stewardship function of MOHFW has been recognized in the first HRH strategy in 2003 along with other national level document such as HPNSDP 2011-2016. The ministry is responsible for policy, planning and decision making for the health sector at macro level. Other ministries along with MOHFW such as Ministry of Public Administration (MOPA) play an important role in terms of HRH governance. Parliamentary Standing Committee also plays an important role in terms of MOHFW policy formulation, implementation and outcomes assessment.

Figure 7.1: Flowchart of governance of BCS cadre professionals



As per the Rules of Business, 1996, "Consultation with Ministry of Public Administration. - No Ministry shall issue or authorize any orders, other than orders, in pursuance of any general or special delegation made by the Ministry of Public Administration, which involves: -

… a change in the terms and conditions of service of officers of all services other than defense and of ministerial servants in the Ministries/Divisions and Attached Departments subject to modification as may be made by the Government in the structure of services from time to time"[58]; Cadres of administration are assigned to specific department of a certain ministry for a certain period of time.

[58] http://www.mopa.gov.bd/index.php?option=com_content&task=view&id=377&Itemid=419 accessed on June 13, 2013.

7.1 HRH policies and plans

Policy and plan are important courses of actions and can be regarded as instruments of governance. Given the cross-cutting nature of HRH, it has always been embedded the broad national level plans such as Annual Development Plans, Five Year Plan or Perspective Plans. Priorities have been given regarding HRH issues in the national level health policies such as treating shortage and retention of HRH as area to be addressed in the Health Policy 2011. Until 2003, there was no specific guideline for managing specifically HRH though the government of Bangladesh realized the need for a holistic human resources strategy long ago with a view to addressing challenges, needs and expectations of the country health systems.

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Under the fourth Population & Health Project during 1993-1998, the Ministry of Health and Family Welfare (MOHFW) undertook an attempt to prepare the first human resource development strategy. Another fresh effort was started under the Human Resources Management Program of the Health & Population Sector Program (1998 – 2003). Finally the first human resources for health strategy came into existence and published in 2003.

The Strategy was revised and adopted in the year 2008 (HPNSDP, 2011-2016). Till then updating and revisions have always been as a routine task in the operation plan of the MOHFW.

7.2 Policy development, planning and managing for HRH

In 2004, MOHFW established HRM Unit within the Secretariat headed by a Deputy Chief to lead the development of the role of the Secretariat as the body responsible for human resource policy and planning and distinct from the role of the line directorates as human resource managers, for example; formulating and revising national level HRH policy, strategy and plan has been given to the Human Resources Management Unit (HRM Unit), MOHFW according to the operational plan of 2011-2016. HRM Unit with consultation of specific task force will take steps to formulate specific plan, policy or strategy.

HRH plan formulation is on the priority list of the annual plan activities of the ministry. A series of initiative were conducted by the Unit, including: hospital autonomy and quality assurance efforts in which job descriptions of hospital and upazila staff were developed; a system of Individual Performance Management was designed and implemented in four districts (IRT, 2009).

The operational processes of the MOHFW divide the responsibilities between different vertical line managements and communication channels with limited horizontal coordination. In addition, the preservice education and in-service training functions are mostly separated from the human resource management function. This results in poor linkage between training, performance management and career development programs. Thirdly, with regard to health workforce production, training and management (both in public and private sectors), there is also lack of coordination among health, family planning, nursing, and other services.

7.3 Professional Regulation

Bangladesh Medical and Dental Council

Bangladesh Medical Council was first formed under Bangladesh Medical Council Act in 1973. Subsequently the Act of 1973 was repealed in 1980. On 09 April 1980 the Parliament passed Bangladesh Medical and Dental Council Act to pave the way for constitution of Bangladesh Medical and Dental Council (BMDC). The Council is headed by a President who is elected by the members of the Council from amongst themselves. Activities performed by BMDC as follows:

- Recognition of Medical and Dental Qualifications granted by Medical and Dental Institutions in Bangladesh.
- Recognition of Medical and Dental Qualification granted by Institutes outside Bangladesh
- Setting of scheme of reciprocity with foreign Medical and Dental Councils for recognition of Medical and Dental Qualifications.
- Amendment of Schedules.
- Registration of Medical and Dental Practitioners.
- Registration of Medical Assistants.
- Inspection of Medical and Dental Intuitions.
- Withdrawal of recognition of Medical and Dental Institutions.
- Maintenance of Registers of Medical & Dental Practitioners.
- Maintenance of Registers of Medical Assistants.
- Publications of Registered Medical Practitioners.
- Penalty for fraudulent representations of registration
- Action against use of false title, etc. by registered Medical and Dental Practitioners.
- Removal of names from registers of Medical & Dental Practitioners.
- Action against persons not registered under the Act
- Approval of Journals published by different organizations/Association.
- The management of the property of the Council and the maintenance and audit of its accounts
- Prescribing a uniform minimum standard of courses of training for obtaining graduate and postgraduate medical and dental qualifications to be included or included respectively in the First, Third and Fifth Schedules.
- Prescribing minimum requirements for the content and duration of courses of study as aforesaid.
- Prescribing the conditions for admission to courses of training as aforesaid.
- Prescribing minimum qualifications and experience required of teachers for appointment in medical and dental institutions.
- Prescribing the standards of examinations, methods of conducting the examinations and other requirements to be satisfied for securing recognition of medical and dental qualifications under Medical & Dental Council Act. 1980.
- Prescribing the qualifications and experience required of examiners for professional examinations in medicine and dentistry antecedent to the granting of recognized medical and dental qualifications and
- Registrations of medical or dental students at any medical or dental college or school or any University and the fees payable in respect of such registration.

The Council is a supreme body and takes all policy decisions, it meets at least twice in a year or as and when there are sufficient items for the agenda, which needs policy decisions.

It acts through various Committees and office of the Registrar.

The meetings of the Council are presided over by the President and in his absence by the Vice President. The Registrar is the Chief Executive of the Council and is responsible for all official work including implementation of the decision of the Council. The Registrar office keeps a close liaison with the Ministry of Health and Family Welfare, Universities, Medical Colleges and allied agencies for speedy implementation and execution of the decision of the Council. It also keeps a liaison with Council and licensing bodies in other countries to establish close contacts and develop mutual cooperation and understanding.

The Standing Recognition Committee Consist of five Members headed by the Chairmen of the Committee. The Chairman & members of the Committee are elected from among the Members of the Council. Function of the Standing Recognition Committee are:

- To recommend prescribing a uniform minimum standard of courses of training for obtaining graduate and post-graduate medical and dental qualifications to be included or included respectively in the First. Third and Fifth Schedules.
- To recommend prescribing minimum requirements for the content and duration of courses of study as aforesaid.
- To recommend prescribing the conditions for admission to courses of training as aforesaid.
- To recommend prescribing minimum qualifications and experience required of teachers for appointment in medical and dental institutions.
- To recommend prescribing the standards of examinations, methods of conducting the examinations and other requirements to be satisfied for securing recognition of medical and dental qualifications under this Act.

To recommend prescribing the qualifications and experience required of examiners for professional examinations in medicine and dentistry antecedent to the granting of recognised medical and dental qualifications

Consists of five members headed by the Chairman of the Committee. The Chairman & the members of the Committee are elected from among the members of the Council. Conventionally the member of the Council/ Nominated by the Chief Justice is elected on of the members of the Committee. The Committee is responsible to initiate disciplinary action against doctors as and when a complaint is received for professional negligence or misconduct. The Professional experts assist the Legal M complainants and doctors are given full opportunity to present their cases either personally or through lawyer.

Bangladesh Nursing Council (BNC)

The Bangladesh Nursing Council is a nongovernmental, nonprofit making organization constituted by Chief Martial Law Administrator of People's Republic of Bangladesh under Ordinance No LXI on 28th September, 1983.

Purpose

To ensure standards of nurse education and practice in order to protect the vulnerable public from inappropriate nursing service in Bangladesh.

Activities

It acts as national education board to ensure good quality of education for nurses and it is the body which regulates practice to ensure that clinical standards are maintained.

Organization

The BNC consists of a President, Vice President, Treasurer, Secretary and Members. The members are from various disciplines like nurses, doctors, educationalists, social workers, women and others. The President is the Secretary, Ministry of Health and Family Welfare. The Vice President is the Director General, Directorate General Health Services. The Secretary is the Registrar and the Treasurer is the DNS. Fifty percent of the members are Nurses. Besides this, the Council employs three officers, a Registrar and two Deputy Registrars. One Deputy Registrar deals with administration and the other with education. In addition, there are office assistants, night guard, office peon, cleaners etc.

Meetings

The BNC ordinary meetings usually held in r^ie second week of March and September. The BNC holds two general meetings in a year which arc followed by an executive meeting. In addition, there is one more executive meeting between the two general meetings. Emergency meetings can be called at any time. A short notice is needed to prepare for and to convene an extraordinary meeting.

Financing

The BNC is mainly financed through examination fees, registration fees from nurses, midwives, family welfare visitors and assistant nurses, affiliation fees from educational institutions recognized by the BNC" and renewal of registration fees of all categories of nurses, midwives and FWVs.

Key Tasks

- Maintain a register of qualified nurses, midwives, health visitor FWVs and assistant nurses.
- Set standards for nursing, midwifery, health visiting and FWVs education and practice.
- Act as a regulatory body for maintenance of standards of nursing, midwifery, health visiting and FWVs education and practice.
- Set the curriculum and review the syllabus for nursing, midwifery FWVs and health visiting education.

- Inspect educational institutions and clinical facilities for approval against established standards and withdraw approval if the set standards are not met.
- Provide Registration as a license to practice and renew registration every five years. • Monitor standards of education and practice.
- Act as an education board for nursing, midwifery, health visiting and FWVs education and training. • Set question papers for all examinations and ensures that they are appropriate for the curriculum
- Conduct Council examinations and appoint examiners and distribute examination scripts.
- Inspect examination centers for nurses, midwives, health visitors and HWVs.
- Investigate allegations of misconduct and remove the names of nurses from the register for proven misconduct.
- Make regulations with the approval of the Government of Bangladesh.
- Give registration to foreign nurses on a temporary basis.
- Provide advice on professional standards.
- Collaborate in policy making for health services with government officials.
- Maintain liaison with national and international health and nursing agencies.
- Participate in international professional meetings, keep abreast of new developments in nursing education and practice.
- Supervise and guide nursing tutors in organizing academic systems, maintenance of discipline among students and keeping various records of Nursing Institutes.

State Medical Faculty

The State Medical Faculty (SMF) of Bangladesh was established in 1914 for the purpose of holding examinations and awarding diplomas to L.M.F. and M.M.F doctors. After partition of Bengal in 1947, The State Medical Faculty of East Pakistan was created for the same purpose. Subsequently Compoundership, Dressership, Para-medical Technicians, Medical Assistant and Palli Chikitshak courses have been introduced and this Faculty has been holding examinations and awarding diplomas and certificates to the successful candidates.

Allocation of function:

- To prescribe syllabi for Medical Assistants, Palli Chikitshaks and all kinds of Technicians namely, Health and Sanitary, Laboratory Medicine, Radiology & Imaging, Dentistry, Sanitary Inspectorship, Physiotherapy, Radiotherapy, Occupational therapy.
- To lay down standard of teaching of the student by Government institutions conducting approved courses of studies, including practical training and field work.
- To hold preliminary and final examinations twice a year in the courses of studies of the above categories of students.

Board of Unani and Ayurvedic System of Medicine

When Bangladesh constituted the eastern part of Pakistan, the Pakistani Board of Unani and Ayurvedic Systems of Medicine was operative in the country. Following independence, the Bangladesh Unani and Ayurvedic Practitioners Ordinance of 1972 restructured this body as the Board of Unani and Ayurvedic Systems of Medicine, Bangladesh. The Board is responsible for maintaining educational standards at teaching institutions, arranging for the registration of duly qualified persons (including appointing a registrar), and arranging for the standardization of unani and ayurvedic systems of medicine. A research institute has been functioning under the Board since 1976.

The Bangladesh Unani and Ayurvedic Practitioners Ordinance of 1983 prohibits the practice of unani and ayurvedic systems of medicine by unregistered persons. A significant feature of the Ordinance is the deliberate omission of a provision contained in preceding legislation that made it an offence for an ayurvedic or unani practitioner to sign birth, medical, and physical-fitness certificates.

7.4 HRH information

The Departments of MIS (health) and MIS (family planning) maintain two national databases for public health personnel and staff. Until now all databases are maintained in standalone computers. Due to lack of web-based remote data entry option, updating of information is difficult. Although it has been targeted to cover all categories of workforce, but till now only a part of them is covered. None of the above two databases properly meets data needs. Databases for public sector nursing, nutrition, drug administration and alternative medical care are yet to be developed. There is also no database about the private sector. There is no provision for coordination and data merging between the abovementioned departments. In addition, neither Ministry of Health and Family Welfare, nor of its departments have databases for private sector health workforce. Need for a National Human Resource Database under the Ministry of Health and Family Welfare is strongly felt.

7.5 HRH research

According to the OP (2011-2016) of the HRM Unit of MOHFW is entitled to conduct studies related to HRH with the purpose to produce evidence for better policy making. Since MOHFW is labor intensive which require certain technical skills as part of competency development hence require certain rules and regulations to managing various type of health professionals. To have need based relevant policies regarding the human resources, it should have research and studies on different aspects of employer and employees including motivational issues, reproductive health and MDGs related indicators.

Besides, each and every directorate (e.g. Research Unit of DGHS and DGFP) has its own research, information and development cell or units which look after research issues related to HRH. Various Universities and post graduates colleges conduct many studies on issues on HRH related issues. Private sector institutions with support from development partners conduct several studies on HRH. In addition, some leading organizations (both national, international, bilateral and multilateral) such icddr,b, BRAC, Engender Health, RTM International and others conduct frequent studies with support from the donors communities.

But the problem is those studies and reports are not documented or archived properly so that people can have easy access to get benefited.

7.6 Stakeholders in HRH

HRH is a cross-cutting matter and hence it concerns with several stakeholders such as MOHFW, and other ministries, private sector facilities, civil societies and NGOs, consumers and others. Each and every stakeholder plays an important role regarding issues related to HRH. MOHFW has the mandate to health workforce planning and strategy development, recruitment, production, and management at national level. Other ministries such as Ministry of Public Administration (MOPA) recruit and deploy cadre service professionals to different departments with administrative power, Ministry of Finance allocat fund for HRH and programs, Ministry of Education produces HRH and Ministry of Local Government, Defense also own health facilities. Private sector plays important role in terms of employment generation, production and service delivery. Coordination and collaboration among these stakeholders are crucial for proper management of HRH.

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Annex 1: Classification of health workforce of the WHO South-East Asia Region

The health workforce of the WHO South-East Asia Region is grouped into the following 10 categories:

1. Medical practitioners

Includes general practitioners, medical specialists and medical assistants.

2. Dental practitioners

Includes dentists, dental specialists and dental technicians (e.g. dental assistants, dental hygienists, dental nurses).

3. Pharmacy practitioners

Includes pharmacists, pharmaceutical technicians/assistants (e.g. pharmacy assistants, pharmaceutical technicians).

4. Nursing and midwifery practitioners

Includes nursing professionals, midwifery professionals, nursing-midwifery professionals, nursing specialists, midwifery specialists, nursing associate professionals (e.g. public health midwives, community midwives, assistant midwives, community-based skilled birth attendants), and nursingmidwifery associate professionals (e.g. auxiliary nurse-midwives).

5. Non-medical public health practitioners

Includes public health generalists, public health, specialists, food and nutrition professionals (e.g. nutritionists, food science specialist, dieticians), environmental and occupational health professions (e.g. environmental health officer, sanitarians, occupational health officers), environmental and occupational health inspectors and associates (e.g. public health inspectors, food inspectors), community health workers (e.g. basic health workers, family welfare assistants, family welfare visitors, health assistants, lady health visitors), and community health volunteers.

6. Medical technologists

Includes medical imaging technicians (e.g. radiographers, mammographers), medical technicians (e.g. medical laboratory technicians, blood bank technicians), laboratory assistants (e.g. medical laboratory assistants, assistant radiographers, assistant blood bank technician), and biomedical technologists (e.g. medical equipment technicians, medical equipment engineers, biomedical technologist, biomedical engineers).

7. Traditional medicine practitioners

Includes traditional medicine practitioners (e.g. Ayurvedic Practitioner, Homeopath, Koryo Medicine Practitioners, Unani Practitioners).

8. Veterinarian practitioners (working for human health aspects)

Includes veterinary public health specialists, and veterinary technicians.

9. Other health workers

Includes a large number of health workers such as optometrists, physiotherapists, physiotherapy assistants, occupational therapists, occupational therapy assistant, and other health professional and health associate professionals not elsewhere classified.

10. Health management and support staff

Includes a large number of non-health professional workers such as health service managers, medical records technicians, health statisticians, clerical, accounting and other general support staff (e.g. ward clerks, medical secretary, medical store keepers).

Human Resources for Health – Country Profile Template, WHO/SEARO

Annex 2: Health workforce classification mapping of the WHO South-East Asia Region

(Note: Code for each sub-category as per International Standard Classification of Occupations' code)

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Medical Practitioners	General Practitioner (2211)	Professionals with minimum of 4 years of university education in the field of medicine with minimum of 1 year internship.	Preventing, diagnosing, caring for and treating illness, disease and injury in humans and the maintenance of general health. They do not limit their practice to certain disease categories or methods of treatment, and may assume responsibility for the provision of continuing and comprehensive medical care. They may supervise the implementation of care and treatment plans by other health care providers, and conduct medical education and research activities.	General Medical Practitioners, Medical Doctors, Physicians.
	Medical Specialists (2212)	Medical doctors with minimum of 1 year of postgraduate education/training. They are recognized as specialists by a national regulatory body (such as medical council).	Preventing, diagnosing, caring for and treating illness, disease and injury in humans using specialised testing, diagnostic, medical, surgical, physical and psychological techniques. They specialise in certain disease categories, types of patient or methods of treatment, and may conduct medical education and research activities in their chosen areas of specialisation. They may supervise the implementation of care and treatment plans by other health care providers.	Anesthesiologists, Cardiologists, Community medicine specialists, Critical care medicine specialists, Dermatologists, Emergency medicine specialists, Endocrinologists, Family medicine physicians/ specialists, Gastroenterologists, Geriatric medicine specialists, Haematologists, Hepatologists, Infectious disease specialists, Medical examiners, Medical oncologists, Neonatologists, Nephrologists, Neurologists, Nuclear medicine specialists, Obstetric-Gynecologists, Occupational medicine specialists, Orthopedic surgeons, Otolaryngologists (ear, nose, and throat specialists), Pathologist, Pediatrician, Perinatologist, Preventive and social medicine/Public health specialists, Psychiatrists, Radiation oncologists, Radiologists, Rheumatologists, Sports medicine specialists, Surgeons, Urologists.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Medical Assistants (3256)	Assistants to the medical doctors with minimum of 3 years of accredited education/training in medical assistant.	Perform basic clinical and administrative tasks to support patient care under the direct supervision of, or as per plan, practices and procedures established by a medical practitioner or other health professional.	Medical Assistants.
Dental Practitioners	Dentists (2261)	Professionals with minimum of 4 years of accredited university education leading to a dentistry degree.	Diagnosing, treating and preventing diseases, injuries and abnormalities of the teeth, mouth, jaws and associated tissues to promote and restore oral health.	Dentists.
	Dental Specialists (2261)	Dentist with accredited post-graduate degree in dental specialty. They are recognized as specialists by a national regulatory body (such as dental council).	Diagnosing, treating and preventing diseases, injuries and abnormalities of the teeth, mouth, jaws and associated tissues where the complexity of a condition requires specialised diagnostic, surgical and other techniques to promote and restore oral health. They usually practise in their specialized field only.	Endodontists, Oral and maxillo-facial surgeons, Orthodontists, Paedodontists, Periodontists, Prosthodontists.
	Dental Technicians (3251)	Assistants to dentists with minimum of 1 year of training in dental skills.	Provide basic dental care services for the prevention and treatment of diseases and disorders of the teeth and mouth, as per care plans and procedures established by a dentist or other oral health professional.	Dental Assistants, Dental Hygienists, Dental Nurses.
Pharmacy practitioners	Pharmacists (2262)	Professionals with minimum of 4 years university education in pharmacy and internship.	Store, preserve, compound, test and dispense medicinal products. They counsel on the proper use and adverse effects of drugs and medicines following prescriptions issued by medical doctors and other health professionals. They contribute to researching, preparing, prescribing and monitoring medicinal therapies for optimising human health.	Pharmacists.
	Pharmaceutical technicians/ assistants (3213)	Assistants to pharmacists with minimum of 1 year of accredited education in pharmacy assistant or technician.	Perform routine tasks associated with preparing and dispensing medicinal products under the supervision of a pharmacist or other health professional.	Pharmacy Assistants, Pharmaceutical Technicians.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Nursing and Midwifery practitioners	Nursing professionals (2221)	Professionals with minimum of 3 years of accredited education in the field of nursing.	Plan, manage, provide and evaluate nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health. They work autonomously or in teams with medical doctors and other health workers. They may supervise the implementation of nursing care plans, and conduct nursing education activities.	Professional Nurses, Staff Nurses, Public Health Nurses, Community Health Nurses.
	Midwifery Professionals (2222)	Professionals with minimum of 3 years of accredited education in the field of midwifery.	Plan, manage, provide and evaluate midwifery care services before, during and after pregnancy and childbirth and newborn care. They provide normal delivery care for reducing health risks to women and newborns, working autonomously or in teams with other health care providers. They may supervise the implementation of midwifery care plans, and conduct midwifery education activities.	Professional Midwives.
	Nursing-Midwifery Professionals (2221 & 2222)	Professionals with minimum of 3 years of accredited education in the field of nursing and midwifery or nursing professionals having 6 months - 1 year of accredited postbasic education in the field of midwifery.	Plan, manage, provide and evaluate (1) nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health and (2) midwifery care services before, during and after pregnancy and childbirth, including normal delivery, and newborn care. They work autonomously or in teams with medical doctors and other health workers. They may supervise the implementation of nursing-midwifery care plans, and conduct nursing-midwifery education activities.	General Nurse-Midwives, Professional Nurse-Midwives.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Nursing Specialists (2221)	Nursing Professionals with minimum of 1 year of accredited post-basic training/education in any specialty in nursing (e.g. pediatric, neonatal, cardiac nursing, etc). They are recognized as specialists by a national regulatory body (such as nursing council).	Plan, manage, provide and evaluate specialized nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health. They specialise in certain nursing specialty and may conduct nursing education and research activities in their chosen areas of specialisation. They work autonomously or in teams with medical doctors and other health workers. They may conduct midwifery education activities and provide consultation to other nursing practitioners.	Clinical Nurse Specialists, Advanced Practice Nurses, Nurse Practitioners.
	Midwifery Specialists (2222)	Midwifery Professionals with minimum of 1 year of accredited post-basic training/education in advanced midwifery. They are recognized as specialists by a national regulatory body (such as midwifery council or nursing and midwifery council).	Plan, manage, provide and evaluate midwifery care services before, during and after pregnancy and childbirth and newborn care where complexity of conditions/situations required advanced knowledge and skills in midwifery. They provide normal delivery care as well as perform selected life-saving interventions for reducing health risks to women and newborns, working autonomously or in teams with other health care providers. They may conduct education and research activities in midwifery and provide consultation to other midwifery practitioners.	Advanced Practice Midwives, Midwife Practitioners.
	Nursing Associate professionals (3221)	Practitioners with minimum of 18 months of accredited education in the field of nursing.	Provide basic nursing care for people who are in need of such care due to effects of illness, injury, or other physical or mental impairment. They implement care and referral plans as per plans, practice and procedures established by nursing and other health professionals.	Practical Nurses.
		Practitioners with 6 months - 1 year of education/training in the field of nursing.	Assist in providing routine patient care services as per care plans, practices andprocedures established by nursing and other health professionals.	Assistant Nurses, Nurse Aids.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Midwifery Associate professionals (3222)	Practitioners with 18 months – 2 years of accredited education in the field of midwifery.	Provide basic midwifery care and advise before, during and after pregnancy and childbirth and newborn care. They implement care and referral plans, including normal delivery, to reduce health risks to women and newborns as per plans, practice and procedures established by midwifery and other health professionals.	Public Health Midwives, Community Midwives.
		Practitioners with 6 months of accredited midwifery education.	Assist in providing basic midwifery care and advise before, during and after pregnancy and childbirth and newborn care. They implement care and referral plans, including assisting in normal delivery, to reduce health risks to women and newborns as per plans, practice and procedures established by midwifery and other health professionals.	Assistant Midwives, Community-based Skilled Birth Attendants.
	Nursing-Midwifery Associate professionals (3221 & 3222)	Practitioners with minimum of 18 months of accredited education in the field of nursing and midwifery.	Provide basic nursing care for people who are in need of such care due to effects of illness, injury, or other physical or mental impairment as well as provide basic midwifery care and advise before, during and after pregnancy and childbirth, including normal delivery, and newborn care. They implement care and referral plans as per plans, practice and procedures established by nursing, midwifery and other health professionals.	Auxiliary Nurse-Midwives.
Non-Medical Public Health Practitioners	Public Health Generalists (2263)	Non-medical professionals with university education in public health bachelor's degree.	Plan, manage, provide and evaluate basic public health services for disease prevention and promotion of population health. They manage environments to reduce health risks of the community.	Public Health Officer, Public Health Technical Officer.
	Public Health Specialists (2263)	Non-medical public health professionals with post-graduate degree in public health specialties (e.g. epidemiology, entomology, health economics, health statistics, health education etc).	Plan, manage, provide and evaluate specialized public health interventions in their area of specialization for disease prevention, promotion of population health, and minimize health risks of the community.	Epidemiologists, Health Educators, Health Promotion Officer/specialists, Biostatisticians.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Food and Nutrition Professionals (2265)	Professionals with minimum of 3 years of university education in nutrition/dietetics.	Plan, manage, provide and evaluate various dietary interventions, clinical and/or public health nutrition programmes, food safety, food technology or food toxicology programmes.	Nutritionists, Food Science specialists, Dieticians.
	Environmental and Occupational Health Professionals (2263)	Professionals with minimum of 3 years of university education in environmental and/or occupational health.	Plan, assess and investigate the implementation of programs and regulations to monitor and control environmental factors that can potentially affect human health, to ensure safe and healthy working conditions, and to ensure the safety of processes for the production of goods and services.	Environmental Health Officer, Sanitarians, Occupational Health officer.
	Environment and occupational health inspectors and associates (3257)	Practitioners with minimum of 2 years training in public health or related fields.	Plan, assess and investigate the implementation of programmes and regulations to monitor and control environmental factors that can potentially affect water, sanitation, food hygiene, food safety; and carry out disease investigation and prevention.	Public Health Inspectors, Food inspectors.
	Community Health workers (3253)	Practitioners, not elsewhere classified, work at the district level and below in the health system with formal education of 6-18 months	Provide health education, referral and follow-up, case management, and basic preventive health care and home visiting services to specific communities. They provide support and assistance to individuals and families in navigating the health and social services system.	Family Welfare Assistants, Family Welfare Visitors, Lady Health Visitors, Health Assistants, Basic Health Workers,
	Community Health Volunteers (3253)	People chosen by the community and trained to deal with health problems of individuals and the community.	Provide health education and assist individuals, families in the communities accessing health care services.	Community health volunteers, Public Health Communicators, Public Health Volunteers, Village Health Volunteers.
Medical Technologists	Medical Imaging Technicians (3211)	Practitioners with minimum of 2 years of education in medical technology, radiology or a related field.	Test and operate radiographic, ultrasound and other medical imaging equipment to produce images of body structures for the diagnosis and treatment of injury, disease and other impairments.	Radiographers, Mammographers.
	Medical Technicians (3212)	Practitioners with minimum of 2 years of accredited education/training in medical technology or related field.	Perform tests on environmental and human specimens of body fluids and tissues in order to get information about the disease epidemiology and / or health of a patient or cause of disease/death.	Medical Laboratory Technicians, Blood Bank Technicians.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Laboratory Assistants (3212)	Assistants to medical technicians with minimum of 1 year of accredited training in any health technicians' course. (e.g. laboratory, radiology, etc.).	Assist in non-invasive diagnostic/screening procedures (radiographic, ultrasound, other imaging procedures) or perform/assist in conduct of tests on environmental and human specimens of body fluids and tissues in order to get information about the disease epidemiology and / or health of a patient or cause of disease/death as per plan, practices and procedures established by medical technology and other health professionals.	Medical Laboratory Assistants, Assistant Radiographers, Assistant Blood Bank Technician
	Biomedical technologists (3211)	Practitioners with minimum of 2 years of education in the field of biomedical engineering or a related field.	Service, maintain and repair radiographic, ultrasound, laboratory and other medical equipment.	Medical Equipment Technicians, Medical Equipment Engineers, Biomedical technologist, Biomedical Engineers.
Traditional Medicine Practitioner	Traditional Medicine Practitioners (2230)	Practitioners recognized in indigenous system of medicine (Homeopathic/ Oriental Medicine /Complementary Medicine) with minimum of 4 years education leading to a degree + 1 year internship	Apply procedures and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health and in the prevention or treatment of physical and mental illnesses.	Ayurvedic Practitioners, Unani Practitioners, Homeopath, Koryo medicine practitioners.
Veterinary practitioners (working for human health aspects)	Veterinary Public Health Specialists (2250)	Veterinary doctors (professionals with at least 4.5 years of university education in the field of veterinary medicine + internship) with minimum 1 year of post-graduate education on epidemiology/veterinary public health.	Preventing, diagnosing and controlling zoonoses, food borne illnesses and intoxications. Providing expert opinion as a team member in outbreak investigation of emerging diseases/zoonoses at the human animal interface. They may assume responsibility for food safety.	Veterinary Public Health Specialists, Veterinary Epidemiologists.
	Veterinary technicians and assistants (3240)	Assistants to veterinarians with minimum 1 year of education	Assist in performing basic veterinary tasks to support laboratory animal management and zoonoses control under the direct supervision of, or as per plan, practices and procedures established by a veterinary doctor or other health professional.	Veterinary Technicians, Veterinary Assistants

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Other Health Workers	Optometrists (2267)	Practitioners with minimum of 2 years education in the field of optometry	Provide primary eye health and vision care services. They provide diagnosis management and treatment services for disorders of the eyes and visual system. Dispensing opticians design, fit and dispense optical lenses for the correction of reduced visual acuity.	Optometrists, Ophthalmic Technicians.
	Physiotherapists (2264)	Practitioners with minimum of 2 years of education in physiotherapy.	Provide physical therapeutic treatments to patients in circumstances where functional movement is threatened by injury, disease or impairment. They may apply movement, ultrasound, heating, laser and other techniques.	Physiotherapists, Physical Therapists.
	Physiotherapy Assistants (3255)	Assistants to physiotherapists with minimum of 1 year of education in physiotherapy.	Provide basic physical therapeutic treatments to patients as per plan, practices and procedures established by physiotherapy and other health professionals	Physiotherapy Assistants.
	Occupational Therapists (2269)	Practitioners with minimum of 2 years of education in occupational therapy.	Provide occupational therapeutic treatments to patients to improve their ability to perform tasks in their daily living and working environments. They work with individuals who have conditions that are mentally, physically, developmentally, socially or emotionally disabling. They also help them to develop, recover, or maintain daily living and work skills.	Occupational Therapists.
	Occupational Therapy Assistant (2269)	Assistants to occupational therapists with minimum of 1 year of education in occupational therapy.	Provide basic occupational therapeutic treatments to patients as per plan, practices and procedures established by occupational therapy and other health professionals.	Occupational Therapy Assistant.
	Other health professionals not elsewhere classified (2269)	To be defined by countries as per country context.	To be defined by countries as per country context	To be defined by countries as per country context.
	Other health associate professionals not elsewhere classified (3259)	To be defined by countries as per country context.	To be defined by countries as per country context.	To be defined by countries as per country context.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Health management and support staff	Health Service Mnager (1342)	Non-medical professionals with minimum of 2 years education in health service management.	Plan, coordinate and supervise the provision of clinical, personal care and community health care services.	District Health Officer.
	Medical Records Technicians (3252)	Practitioners with minimum of 1 year of education in health information and/or medical records.	Assess, manage and implement health records processing, storage and retrieval systems in medical facilities and other health care settings to meet the legal, professional, ethical and administrative records-keeping requirements of health services delivery.	Medical Records Technicians, Health Statisticians.
	Support staff	Clerical, accounting, and other support staff.	This category may include a wide range of occupations connected with health service provision.	Ward Clerks, Medical Secretary, Medical Store Keeper.

Annex 3: Health workforce classification mapping of Bangladesh

(Note: Code for each sub-category as per International Standard Classification of Occupations' code)

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Medical Practitioners	General medical practitioner (2211)	Professionals with minimum of 05 years of university education in the field of medicine with minimum of 01 year internship.	Preventing, diagnosing, caring for and treating illness, disease and injury in humans and the maintenance of general health. They do not limit their practice to certain disease categories or methods of treatment, and may assume responsibility for the provision of continuing and comprehensive medical care. They may supervise the implementation of care and treatment plans by other health care providers, and conduct medical education and research activities	General Medical Practitioners, Medical Officers, Assistant Surgeons, Residential Medical Officers.
	Specialist medical practitioners (2212)	Medical doctors with minimum of 01 year of postgraduate education in specific discipline.	Preventing, diagnosing, caring for and treating illness, disease and injury in humans using specialised testing, diagnostic, medical, surgical, physical and psychological techniques. They specialise in certain disease categories, types of patient or methods of treatment, and may conduct medical education and research activities in their chosen areas of specialisation. They may supervise the implementation of care and treatment plans by other health care providers.	Anesthesiologists, Cardiologists, Pulmonologists, Community medicine specialists, Critical care medicine specialists, Dermatologists, Emergency medicine specialists, Endocrinologists, Family medicine physicians, Gastroenterologists, Geriatric medicine specialists, Haematologists, Hepatologists, Dermatologists, Infectious disease specialists, Oncologists, Neonatologists, Nephrologists, Neurologists, Nuclear medicine specialists, Obstetric- Gynecologists, Physical Medicine specialists, Occupational medicine specialists, Orthopedic surgeons, Otolaryngologists (ear, nose, and throat specialists), Pathologist, Pediatrician, Perinatologist, Neonatologists, Public health specialists, Psychiatrists, Radiologists, Rheumatologists, Sports medicine specialists, Surgeons, Urologists.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Medical Assistants (3256)	Practitioners with minimum of 03 years of accredited education as medical assistant and 01 year internship.	Conducting physical examinations of patients and interviewing them and their families to determine their health status, and recording patients' medical information and performing basic or more routine medical and surgical procedure under the limited supervision of, or as per plan, practices and procedures established by a medical practitioner or other health professional.	Medical Assistant (MA) Sub-assistant Community Medical Officer (SACMO)
Dental Practitioners	Dentists (2261)	Professionals with minimum of 04 years of accredited university education leading to a dentistry degree and 01 year of internship.	Diagnosing, treating and preventing diseases, injuries and abnormalities of the teeth, mouth, jaws and associated tissues to promote and restore oral health by applying the principles and procedures of modern dentistry.	Dentists Dental Surgeons, General Dental Practitioner
	Specialist ental Practitioners (2261)	Dentist with accredited postgraduate degree in dental specialty.	Diagnosing, treating and preventing diseases, injuries and abnormalities of the teeth, mouth, jaws and associated tissues where the complexity of a condition requires specialised diagnostic, surgical and other techniques to promote and restore oral health. They usually practice in their specialized field only.	Endodontists, Oral and maxillo-facial surgeons, Orthodontists, Paedodontists, Periodontists, Prosthodontists.
Pharmacy Professionals	Pharmacists (2262)	Professionals with minimum of 03 years accredited education in pharmacy. They are registered as pharmacist by Pharmacy Council of Bangladesh.	Store, preserve, compound, test and dispense medicinal products. They counsel on the proper use and adverse effects of drugs and medicines following prescriptions issued by medical doctors and other health professionals. They contribute to researching, preparing, prescribing and monitoring medicinal therapies for optimising human health.	Pharmacists Dispensing chemist Hospital pharmacist Industrial pharmacist
	Pharmaceutical technicians/ assistants (3213)	Assistants to pharmacists with 03 months to 01 year of accredited education in pharmacy assistant or technician.	Perform routine tasks associated with preparing and dispensing medicinal products under the supervision of a pharmacist or other health professional. Dispensing medicines and drugs to clients and giving written and oral instructions on their use as prescribed	Pharmacy Assistants Pharmaceutical Technicians Pharmaceutical Assistant

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Nursing and Midwifery Practitioners	Nursing Professionalsort hopedics (2221)	Professionals with minimum of 03 years of accredited education in the field of nursing and 01 year accredited post-basic training in the field of orthopedics. They are registered as staffnurse by Bangladesh Nursing Council (BNC).	Plan, manage, provide and evaluate nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health. They work in teams with medical doctors and other health workers. They may supervise the implementation of nursing care plans, and conduct nursing education activities.	Staff Nurses, Senior Staff Nurses, Nursing Supervisors.
	Nursing-Midwifery professionals (2221 & 2222)	Professionals with minimum of 03 years of accredited education in the field of nursing and 01 year accredited post-basic training in the field of midwifery. They are registered as staffnurse by Bangladesh Nursing Council (BNC).	Plan, manage, provide and evaluate nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health and midwifery care services before, during and after pregnancy and childbirth, including normal delivery, and newborn care. They work in teams with medical doctors and other health workers. They may supervise the implementation of nursing-midwifery care plans, and conduct nursing-midwifery education activities.	Staff Nurses, Senior Staff Nurses, Nursing Supervisors.
	Specialist Nurses (2221)	Nursing & Nursing-Midwifery Professionals with minimum of 01-02 years of accredited postbasic training/education in any specialty (e.g. orthopedic, psychiatric, pediatric, ophthalmology, oncology, cardiac nursing, chest disease, public health etc). They are registered as specialists in nursing by Bangladesh Nursing Council (BNC).	Plan, manage, provide and evaluate specialized nursing care services for persons in need of such care due to effects of illness, injury, or other physical or mental impairment, or potential risks for health. They specialise in certain nursing specialty and may conduct nursing education and research activities in their chosen areas of specialisation. They work in teams with medical doctors and other health workers. They may conduct basic nursing and midwifery education activities.	Clinical Nurse Specialists, Advanced Practice Nurses. Midwifery Practitioner
	Nursing Associate professionals (3221)	Practitioners with minimum 01 year of accredited education/training in the field of nursing.	Provide basic nursing care for people who are in need of such care due to effects of illness, injury, or other physical or mental impairment. They implement care and referral plans as per plans, practice and procedures established by nursing and other health professionals.	Practical Nurses. Assistant Nurse

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Nursing and Midwifery Practitioners	Midwifery Associate professionals (3222)	Practitioners with 18 months of comprehensive and accredited education in the field of midwifery.	Provide advice to women, families and communities on health, nutrition, hygiene, birth and emergency plans in addition to provide basic midwifery care and advise before, during and after pregnancy and childbirth and newborn care including family planning, contraception, life styles-topics related to pregnancy and child health care. They implement care and referral plans, including normal delivery, to reduce health risks to women and newborns as per plans, practice and procedures established by midwifery and other health professionals.	Senior Family Welfare Visitors Family Welfare Visitors (FWV)
		Professionals with 6 months of accredited midwifery education.	Assist in providing basic midwifery care and advise before, during and after pregnancy and childbirth and newborn care. They implement care and referral plans, including assisting in normal delivery, to reduce health risks to women and newborns as per plans, practice and procedures established by midwifery and other health professionals.	Community-based Skilled Birth Attendants (CSBA).
Non-Medical Public Health Professionals	Environmental occupational health and hygiene professionals (2263)	Non-medical/medical professionals with postgraduate degree in public health specialties (e.g. epidemiology, entomology, health economics, health statistics, health education etc).	Plan, manage, provide and evaluate specialized public health interventions in their area of specialization for disease prevention, promotion of population health, and minimize health risks of the community.	Health Economists, Entomologists, Health Educators, Health Promotion Officers, Biostatisticians.
	Dieticians and Nutritionists (2265)	Professionals with minimum of 04 years of university education in nutrition/dietetics/related field.	Plan, manage, provide and evaluate various dietary interventions and preparation of food to maximize health benefits and reduce risks to health, clinical and/or public health nutrition programmes, food safety/technology/toxicology programmes under supervision of a Medical Professional.	Food Science Dieticians Clinical Dieticians Nutritionists Public Health Nutritionist

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Environmental and occupational health inspectors and associates (3257)	Professionals with 03 years training in public health or related field.	Plan, assess and investigate the implementation of government programs and regulations to monitor, control population and environmental factors that can potentially affect water, sanitation, food hygiene, food safety and carry out disease investigation and prevention.	Sanitary Inspector Sanitarian Food sanitation and safety inspector
	Community Health Workers (3253)	Professionals work below district level and in the health system with formal in-service training/education of 02 months to 01 year	Provide health education/information to families and communities on a range of health and family planning issues including nutrition, hygiene, infant/child care, immunisation, family planning, risk factors, referral and follow-up, primary case management, and basic preventive health care and home visiting services to specific communities. They provide support and assistance to individuals and families in navigating the health and social services system.	Health Inspectors Family Planning Inspectors Family Welfare Assistants, Health Assistants, Basic Health Workers, Community Health Care Providers
	Community Health Volunteers (3253)	People chosen by the community and trained by authority to deal with health problems of individuals and the community.	Provide health education and assist individuals, families in the communities accessing health care services.	Community health volunteers Public Health Communicators Public Health Volunteers, Village Health Volunteers
Medical Technologists	Medical imaging and therapeutic technicians (3211)	Professionals with 03 years of education in medical technology, radiology or a related field.	Test and operate or supervising radiographic, ultrasound and other medical imaging equipment to produce images of body structures for the diagnosis and treatment of injury, disease and other impairments.	Radiographers Mammographers Sonographers
	Medical and pathology laboratory technicians (3212)	Professionals with 03 years of education in medical technology related field.	Perform tests on environmental and human specimens of body fluids including blood, urine and spinal fluid and tissues in order to determine presence of normal and abnormal components to get information about the disease epidemiology and / or health of a patient or cause of disease/death. Operating, calibrating and maintaining equipments used for quantitative and qualitative analysis.	Medical Laboratory Technicians Blood Bank Technicians Cytology Technician Pathology Technician.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Laboratory Assistants (3212)	Assistants to medical technicians with minimum of 1 year of accredited training in any health technicians' course. (e.g. laboratory, radiology, etc.).	Assist in non-invasive diagnostic/screening procedures (radiographic, ultrasound, other imaging procedures) or perform/assist in conduct of tests on environmental and human specimens of body fluids and tissues in order to get information about the disease epidemiology and / or health of a patient or cause of disease/death as per plan, practices and procedures established by medical technology and other health professionals.	Medical Laboratory Assistants, Assistant Radiographers, Assistant Blood Bank Technician
	Biomedical technologists (3211)	Professionals with minimum of 02 years of education in the field of bio-medical engineering or a related field.	Service, maintain and repair radiographic, ultrasound, laboratory and other medical equipment.	Medical Equipment Technicians, Medical Equipment Engineers Biomedical technologist, Biomedical Engineers.
	Medical and dental prosthetic technicians (3214)	Professionals with 03 years of education in medical or dental prosthetic related field.	Examine, interview, and measure patients in order to determine their appliance needs and to identify factors that could affect the appliance to fit Conferring with medical and dental practitioner in order to formulate the specific appliance.	Denturist/Dental Technician Orthotist/Orthotic Technician Prosthetist/Prosthetic Technician
Traditional and Complemen ary Medicine Practitioners	Traditional Medicine Practitioners (2230)	Practitioners recognized in indigenous system of medicine (Homeopathic/ Oriental Medicine /Complementary Medicine) with minimum of 04 years education leading to a degree and 01 year internship	Conducting physical examinations of patients and interviewing them and their families to determine their health status; developing and implementing treatment plans for physical, mental and psychosocial ailments using applications based on theories, beliefs and experiences of specific indigenous practice, used in the maintenance of health and in the prevention or treatment of physical and mental illnesses.	Ayurvedic Practitioners (Kabiraj) Unani Practitioners (Hekim) Homeopathy Practitioner (Homeopath) Medical Officer (Ayurved) Medical Officer (Unani) Medical Officer (Homeo)
Other Health Professionals	Optometrists and ophthalmic opticians (2267)	Professionals with 03 years of accredited post-basic education in optometry.	Examining patients' eyes and conducting diagnostic tests to assess ocular health and determine the nature of nature and extent of vision problems and abnormalities and administer visual function tests or other examinations using specialized diagnostic instruments and equipment for dispensing opticians design, fit and dispense optical lenses for correction of reduced vision loss and related specific issues.	Optometrists, Ophthalmic Technicians.

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
	Physiotherapists (2264)	Physiotherapists Professionals with minimum 03 years of accredited postbasic education in physiotherapy.	Provide physical therapeutic treatments to patients in circumstances where functional movement is threatened by injury, disease or impairment. They may apply movement, ultrasound, heating, laser and other techniques.	Physical Therapists.
	Audiologists and speech therapists (2266)	Professionals with 03 years of accredited post-basic education in audiology.	Provide and evaluate hearing, speech and linguistic performance in patients to determine the nature of hearing and communication disorders and administer hearing and or speech language tests or other examinations using specialized diagnostic instruments and equipment for corrective devices or rehabilitative therapies for hearing loss, speech disorders and related specific issues.	Audiologists Speech therapists Language therapists
	Other health professionals not elsewhere classified (2269)	To be defined by countries as per country context.	To be defined by countries as per country context.	To be defined by countries as per country context.
	Other health associate professionals not elsewhere classified (3259)	To be defined by countries as per country context.	To be defined by countries as per country context.	To be defined by countries as per country context.
Traditional and complementary medicine associate professionals	Traditional and complementary medicine associate professionals (3230)	Practitioners with less extensive understanding based on relatively short periods of formal or informal education and training or informally through the traditions and practices of communities from where they originated	Examining patients and interviewing them and their families to determine their health status and the nature of physical or mental disorders or illness or ailments Recommending and providing care and treatment for illness	Bonesetter Herbalist Witch doctor Village healer Scraping and cupping therapist

Category	Sub-category (Code)	Definition based on educational qualification	Scope of work	Examples of designations
Professional Services Mangers and Support Staffs	Health services managers (1342)	Medical/Non-Medical professionals with minimum 03 years university education.	Health service managers plan, direct coordinate and evaluate the provision of clinical and community health care services in hospitals, clinics, public health agencies and similar organizations:	Directors of Directorate, Deputy Directors Divisional Directors, Hospital Directors Civil Surgeons, Deputy Civil Surgeons Upazila Health and Family Planning, Officers (UHFPO)
	Family Planning services managers (1342)	Non-Medical/Medical professionals with minimum 03 years university education.	Plan, manage, provide, conduct research, perform tests, performing field analysis and evaluate basic public health (family planning, maternal and child health) services for control and remediate the impact of population growth and disease prevention. They facilitate development of policies and implement to manage environments by remediating population problem and health risks of the community.	Directors of Directorate, Divisional Directors Upazila Family Planning Officer (UFPO) Medical Officer-MCHFP, Medical Officer Clinic, Assistant Upazila Family Planning Officer (AUFPO)
	Medical records and health information technicians (3252)	Professionals with minimum of 01 year of education/training in health information and/or medical records.	Assess, manage and implement health records processing, storage and retrieval systems in medical facilities and other health care settings to meet the legal, professional, ethical and administrative records-keeping requirements of health services delivery.	Medical Records Clerk Health Statisticians Medical Records Technician.
	Support staff/worker	Clerical, accounting and other support staff/workers- service, agriculture, trade, plantmachine operators, elementary	This category may include a wide range of occupations connected with health service provision.	Ward Clerks, Medical Secretary, Medical Store Keeper.

Note: To adapt from annex 2 (Health workforce classification of WHO South-East Asia Region) taking into account country's context.

Annex 4: Contributors List - Working Group & National Level Task Force

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10. Registrar, BNC, Bijoy Nagar, Dhaka
11. Director, DNS, Motijeel, Dhaka
12. Secretary, BMA, Topkhana Road, Dhaka
13. Deputy Chief, HRM Unit, Ministry of Health and Family Welfare (Member Secretary)

Annex 5: Report on national level consultation on HRH Profile

National Level Stakeholder Consultation Meeting on HRH Country Profile

Human Resources management Unit of Ministry of Health and Family Welfare (MOHFW) in support of BAN HRH Program of World Health Organization, Country Office Bangladesh has taken steps to update the HRH country profile. As part of the process, a national level stakeholder consultation meeting was organized by Human Resources Management Unit on July 23 2013 at 10.00 AM at the Conference room of same ministry. The objectives of the were as follows-

1. To disseminate the key findings and share experiences learnt from the process of updating HRH country profile.
2. To gather comments and ideas from the stakeholders on the process and outline of the draft country profile before final submission.
3. To reach upon a consensus of establishing effective communication process to ensure HRH data flow between HRM Unit and key stakeholders organizations. Mr. Md. Zillar Rahman, Additional Secretary (Admin) and Line Director-HRM, MOHFW chaired the meeting. On behalf of the HRM team, MOHFW Ms. Farzana Mamtaz, Deputy Chief presented the key results and lessons produced from the process of updating HRH country profile, which was then followed by a discussion moderated by Mr. Md. Ashadul Islam, Director General, Health Economics Unit, MOHFW. More than 50 distinguished participants from the stakeholders communities such as GO (MOHFW, MOPA, DGHS, DGFP, DNS, DGDA, Board and Councils and Community Clinic), NGO/INGO (BRAC & icddr,b) and Development Partners (WHO, SIDA) and Association (BMA) who collectively represent different professionals categories such as policy makers, academicians, researchers, administrators and other health supports.

The key participants were such as-

Md. Ayubur Rahman Khan, Additional Secretary (Development and Medical Education), MOHFW, Md. Shafiqul Islam Laskar, Additional Secretary (WHO and PH) MOHFW, Professor Dr. Iqbal Arslan, Secretary General, Bangladesh Medical Association, Md. Ashadul Islam, Director General, Health Economics Unit, Bashudev Ganguly, Joint Secretary (Per), MOHFW, Md. Mosharraf Hossain, Joint secretary (Hospital and Nursing), Niru Shamsun Nahar, Joint Chief (Planning), Prof. Dr. Ms. Ismail Khan, Dean, Faculty of Medicine, University of Dhaka, Professor Dr. A. K. Azad, ADG (Planning & Development) and Director (MIS), DGHS, Dr. S.A.J. Md. Musa, Director-PHC and Line Director- MNCH, DGHS, Md. Zahir Uddin Babar, Director (MIS), DGFP, Md. Humayun Kabir, Deputy Secretary, Ahmed Kamal Hasan, Senior Assistant Secretary, Ministry of Public Administration, Dr. Md. Humayun Molla, Director – Homeopath & T. M. and Line Director-AMC, A.A. Salim Barami, Director (cc), Directorate General of Drug Administration, Dr. Md. Humayun Kabir Talukder, Professor and Course Director, Center for Medical Education, Dr. Abdul Hanif Tablu, Associate Professor Pediatric Surgery, Dhaka Medical College, Dr. Md. Zahidur Rahman, Secretary, Bangladesh State Medical Faculty, Dr. Liaquat Ali Chowdhury, Deputy Secretary, Bangladesh Pharmacy Council, Taslima Begum, Director, Directorate of Nursing Services, Dr. Md. Jahangir Alam, Registrar, Bangladesh Homoeopathic Board, Hakim Ferdaus Wahid, Member, Bangladesh Unani and Ayurdedic Board, Dr. Khaled Hassan, Medical Officer-HRH, WHO-Bangladesh, Dr. Md. Zahirul Islam, Embassy of Sweden, Dr. Aftab Uddin, Senior Manager, Technical Training Unit, icddr,b and Dr. Mamun Ahmed Khan, Program Manager, BRAC Health Program.

The meeting ended up with the following decisions-

1) Both public and private sector data have to be appropriately referred in the updated HRH profile;
2) Analysis and interpretation of data have to be properly done with logical explanation especially for distribution and production issues;
3) Fields where data is missing or not collected has to be identified for future measures;
4) A separate action plan with a proposal on establishing a communication channels between HRM Unit and its key stakeholders organization should be prepared and submitted to the authority.
5) A part of the above, all relevant comments and suggestions has to be taken cared before finalization of the report;

In follow up of the above suggestions as well as decisions, the draft report has to be updated and later the final report will be submitted on due date.

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