Bangladesh Health Sector Profile 2010

Final Version

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CONTENTS

List of figures

List of tables

List of boxes

Acronyms

ADB	Asian Development Bank
ADP	Annual Development Programme
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
APR	Annual Programme Review
APIR	Annual Programme Implementation Report
ARI	Acute Respiratory Infection
BBS	Bangladesh Bureau of Statistics
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
BHW	Bangladesh Health Watch
BINP	Bangladesh Integrated Nutrition Project
BMDC	Bangladesh Medical and Dental Council
BNC	Bangladesh Nursing Council
BPC	Bangladesh Pharmacy Council
BRAC	Bangladesh Rural Advancement Committee
CAO	Chief Accounts Officer
CGA	Controller General of Accounts
CMMU	Construction Management and Maintenance Unit
CMSD	Central Medical Stores Depot
DALY	Disability-adjusted Life Year
DDO	Drawing and Disbursement Officer
DFID	Department for International Development (United Kingdom)
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DMCH	Dhaka Medical College Hospital
DMIS	Data Management Information System
DNS	Directorate of Nursing Services
DOTS	Directly Observed Treatment Short Course (TB)
DSF	Demand-Side Financing
EPI	Expanded Programme for Immunisation
FP	Family Planning
FWC	Family Welfare Centre
GAVI	Global Alliance for Vaccines and Immunisation
GTZ	Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)
HFWC	Health and Family Welfare Centre
HIES	Household Income and Expenditure Survey
HIV	Human Immuno-deficiency Virus
HNP	Health Nutrition and Population
HNPSP	Health Nutrition and Population Sector Programme
HPSP	Health and Population Sector Programme
HRH	Human Resources for Health
HRM	Human Resource Management
ICDDR,B	International Centre for Diarrhoeal Research, Bangladesh
ICT	Information Communication Technology
IEC	Information, Education and Communication
IEDCR	Institute of Epidemiology and Disease Control & Research

IT	Information Technology
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
LMIS	Logistics Management Information System
MACS	Management Accounting Consolidation System
MCH	Maternal and Child Health
MCWC	Maternal and Child Welfare Centre
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MIS	Management Information System
MOHFW	Ministry of Health and Family Welfare
MOLGRD	Ministry of Local Government, Rural Development and Cooperatives
MSA	Management Support Agency
MTBF	Medium-Term Budget Framework
MTR	Mid-Term Review
NASP	National AIDS/STD Programme
NCD	Non-Communicable Disease
NEMEW	National Electro-Medical Equipment Workshop
NGO	Non-Governmental Organisation
NIPORT	National Institute of Population Research and Training
NIPSOM	National Institute of Preventive and Social Medicine
NNP	National Nutrition Project/Programme
NSAPR	National Strategy for Accelerated Poverty Reduction
NTCP	National Tuberculosis Control Programme
PCB	Pharmacy Council of Bangladesh
PIP	Programme Implementation Plan
PLMC	Procurement and Logistic Monitoring Cell
PNC	Postnatal Care
PWD	Public Works Department
SMC	Social Marketing Company
STD	Sexually Transmitted Disease
SWAp	Sector-Wide Approach
Sida	Swedish International Development Cooperation Agency
TB	Tuberculosis
Tk	Taka
UHC	Upazila Health Complex
UHFWC	Union Health and Family Welfare Centre
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UPHCP	Urban Primary Health Care Project
USAID	United States Agency for International Development
WHO	World Health Organization

Executive summary

Introduction

This Health Sector Profile is a description of the health sector in Bangladesh—including its structure, resources, services, performance and dynamics. This document provides an overview of the sector, based on publicly available reports and data. The document intends to help the Ministry of Health and Family Welfare (MOHFW) and its partners to agree on the way forward and its respective roles in the process. It is neither an evaluation nor a programme review, rather it draws and extracts from these key documents to describe how the system works.

The Health Sector Profile can be used to:

- Offer national stakeholders a broad view of the sector they work in;
- Brief newcomers about the patterns prevailing in the health sector and offer a map to guide their decisions;
- Constitute a baseline to inspire and inform discussions about the design of the new plans and programmes; and
- Document and understand the changes introduced in the health sector by the development programmes (and projects) as they reach their conclusion, particularly when many stakeholders are involved.

In keeping with this intent, the structure of the Health Sector Profile is based on the World Health Organization (WHO) Health Systems Building Block Framework (WHO 2007a) and the European Observatory Health Systems in Transition Template (Mossialos et al. 2006). No primary data were collected to complete this document, so its content is based on the extensive array of reports on the Bangladesh health sector produced for national and global use and limited to the availability of information approved for public dissemination at the time of completing the document. By virtue of this, the report is stronger on some aspects than others. Issues emerging from the document review were cross-checked and clarified where and when necessary with meetings with senior managers, including visits to the upazila level.

Chapters 1 and 2 provide an overview on the health status of the people of Bangladesh and the determinants of health. Chapters 3 to 8 summarise relevant aspects of the six health systems building blocks: the overall organisation of the health sector including governance and leadership; health services; human resources; information; financing; and medicines. Chapter 9 summarises system reform aspects in the Health, Nutrition and Population Sector Programme (HNPSP) and work leading to the new draft National Health Policy. The annex provides a list of people consulted.

The focus of the Health Sector Profile is to describe how the sector works rather than how it should, or what has not happened in the past. The document offers no recommendations of its own in an attempt to leave open space for dialogue. To best serve this purpose, the profile describes all building blocks rather than only those areas where data and information are available. The expectation is that the profile will be updated periodically to fill existing gaps and reflect changes in the sector over time.

Socio-economic and demographic overview

Demographic trends

Bangladesh is the most densely populated country in the world with a population estimated at 160 million, and a population density of more than 920 people per square kilometre. About 76 per cent of people live in rural areas.

The combination of a sizeable population of reproductive age with an annual growth rate greater than replacement rate, at 1.48 per cent in 2007, plus increasing numbers of people living over the age of 60 years signal a continuation of rapid population growth. Estimates also project that the population over the age of 60 will increase 10-fold so that by 2100, the elderly will make up 26.4 per cent of the total population (Streatfield and Karar 2008).

Another trend is the rapid rate of urbanisation. Natural disasters, low productivity of land and rural employment, and the surplus agricultural labour force in rural areas are reported as key factors contributing to the movement of people from rural to urban areas. Bangladesh has experienced one of the highest urban population growth rates (nearly 7 per cent per year in the urban slums) in the last three decades with about 24.6 per cent of the population now living in urban areas (BBS 2007).

Economic trends

Bangladesh is one of the poorest nations in the world with a per capita gross national income (GNI) of US$ 520 in 2008 and is classified by the World Bank as a low-income county (World Bank 2010). It had a Gini coefficient of 31.0, signalling high income inequality, and ranked 146th (out of 182 countries) on the Human Development Index-1[1] in 2009, placing it in the "medium human development country" category, and 112th (out of 135 countries) on the Human Poverty Index[2] (UNDP 2009). Following a slowdown in growth after the Liberation War, economic growth accelerated from the late 1980s and become more stable at around 5–6 per cent a year after 1996.

In July 2007, an estimated 40.8 per cent of the population lived on less than one dollar per day, an improvement from 58.8 per cent in 1990.

Shocks in recent years to the Bangladeshi economy in the form of natural disasters and rising food prices are reported to have slowed progress in poverty reduction. In 2007 two natural disasters, floods and a devastating cyclone, occurred within a few months of each other. Another significant shock has been the steep rise in food prices, including in the price of the main staple, rice, which has revealed the risk posed by global price volatility for a net food-importing country like Bangladesh. Estimates suggest that the impact of the food price shock has likely negated some of the reduction in poverty brought about by economic growth between 2005 and 2008 (Planning Commission 2008).

[1] The Human Development Index provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in education) and having a decent standard of living (measured by purchasing power parity [PPP] income).

[2] The Human Poverty Index brings together three dimensions of deprivation: a short life, lack of basic education, and lack of access to public and private resources.

Table 1 Health indicators at a glance

Key outcome indicator	Baseline[1] 1990/1991	2004[2]	2007[3]	Progress towards MDG target 2015
Under-5 mortality/1,000 live births	146	88	65	On track to 48
Infant mortality rate/1,000 live births	92	65	52	On track to 31
Neonatal mortality/1,000 live births	52	41	37	Off track to 22
Maternal mortality/ 100,000 live births	574	320	--	Off track to 144
Prevalence of underweight children (6–59 months)	66	47.5	46.3	Off track to 33
Total fertility rate	4.3	3.0	2.7	On track to 2.2
Prevalence of HIV/100,000	0.005	--	0.319	On track—halting
Prevalence of malaria/100,000	43	34	59	On track—halting
Prevalence of TB/100,000	264	406	225	On track—halting

Sources: 1. Planning Commission 2008, except for neonatal mortality (data source Bangladesh Demographic and Health Survey [BDHS] 1993/94) and total fertility rate (data source Contraceptive Prevalence Survey 1991; target set as the replacement rate). 2. BDHS 2004, except for maternal mortality (data source Bangladesh Maternal Mortality Survey 2001) and MDG 6 indicators (data source Planning Commission 2008). 3. BDHS 2007, except for MDG 6 indicators (data source Planning Commission 2008).

Key output indicator	Baseline 1993/94	2004	2007	Rich-poor gap
Detection rate of TB under DOTS, %	21	46	72	--
Cure rate of TB under DOTS, %	73	89	92	--
Children under 2 fully immunised, %	58.9	73.1	81.9	8.5
Children 1–5 receiving vitamin A supplements in last 6 months, %	80.4	81.8	88.3	1.2
Births attended by medically trained providers, %	9.5	13.4	17.8	46.1
Antenatal care by medically trained providers, %	25.7	48.7	51.7	52.8
Contraceptive prevalence rate—any modern methods, %	36.2	47.3	47.5	2.5
Unmet need for family planning, %	19.4	11.3	17.1	-1.8

Source: BDHS 1993/94, 2004, and 2007, except for vitamin A supplementation (1999/2000 is earliest available BDHS source) and TB indicators (data source National TB Programme 1994, 2004, and 2007).

Trends in health status

Gender equity in the health sector

In 2001, MOHFW adopted its Gender Equity Strategy (MOHFW 2001) for the Health and Population Sector Programme (HPSP). This was the first Gender Equity Strategy of

MOHFW and was considered to be a ground-breaking document. It was designed to provide coordination to the efforts of health planners and providers in identifying and dealing with gender equity issues in planning and implementing health policy.

The aim of the strategy was to "enhance the capacity of HPSP to meet its objective of improving the health of the people of Bangladesh by addressing the gender differentials and inequities that undermine the health of women and children, particularly the poor."

Although the strategy was included in the design of the HNPSP, the Mid-Term Review 2008 (IRT 2008a) recommended conducting a stock-taking of gender equity in the HNPSP. The stock-taking exercise, carried out in 2009, concluded that, "despite specific targets that point to reducing gender equality and many examples of promising practice that can contribute to gender equity in HNPSP delivery, there is not a *systematic* approach in tackling gender equity issues throughout the HNPSP or adequate technical capacity to support it" (MOHFW 2009a). Authors of the stock-taking exercise provided an action plan containing short- and long-term actions for increasing the potential for the HNPSP to achieve its gender equity-related goals. The two top priority areas in which actions were recommended include provision of women-friendly services and creation of an enabling environment.

The Annual Programme Review (APR) 2009 concludes that "gender equity concerns need to be further integrated into the programmes (planning, implementation and monitoring) so that family planning and health services and facilities are better able to respond to the differential needs of women and men" (IRT 2009b p.83).

Child and infant health

Bangladesh has succeeded in reducing under-five mortality by almost 60 per cent, from 146 deaths per 1,000 live births in 1991 to 65 in 2007, far outstripping the developing country average of 28 per cent and setting it on track to meet or exceed MDG 4 (table 1). Bangladesh is one among only 19 countries that are on track and it has the highest rate of decline among low-income countries. Since 1997 mortality rates have improved faster for girls, with the rate standing at 76 and 72 deaths per 1,000 live births for boys and girls respectively in 2007. In the same period, impressive reductions also occurred in infant mortality—from 92 per 1,000 live births to 43—a 53 per cent reduction.

Disaggregated data, however, point to inequality in progress. Disparities exist by location, for example, with child mortality being highest in Chittagong. Bangladesh Demographic and Health Survey (BDHS) data also show that the neonatal mortality rate declined from 52 per 1,000 live births in 1993/94 to 37 in 2007, showing progress overall but at a much lower rate compared with the under-five and infant mortality rates.

Only 24 per cent of children receive appropriate care within 24 hours of birth (BDHS 2007). The challenge is that 85 per cent of births occur in the home (BDHS 2007). While it is difficult to determine trends with respect to low birth weight, it is estimated that about 40 per cent of perinatal deaths are associated with low birth weight. There is no longer a notable difference in the post-neonatal mortality rates of male and female children (BDHS 2007).

Prevalence of childhood malnutrition is still high with over 40 per cent of children under five undernourished with weight for age below two standard deviations. After a period of steady decline in the 1990s (an average rate of 3.7 per cent per year), progress in child underweight rates has almost ground to a halt. Nearly 50.5 per cent of under fives in the lowest quintile are undernourished compared with 26 per cent in the highest quintile. Furthermore, results from the BDHS 2007 show no improvement from 2004 in overall rates of exclusive breast-feeding in the first six months of life. At that time, 42.9 per cent of the children up to six months were exclusively breast-fed. Supplementation of mothers with vitamin A doses after

delivery remains relatively low at only 20 per cent. On the other hand, the vitamin A supplementation programme for children 9–59 months has high coverage (88.3 per cent), with negligible difference (1.2 percentage points) in its reach of poor versus rich children.

Maternal health

Despite the early and significant decline in the maternal mortality ratio in Bangladesh from 574 in 1990 to 320 in 2001, there is concern that this rate of decline has not been sustained. While it is difficult to ascertain the magnitude of changes in maternal mortality due to limitations in data availability and accuracy, even under the most optimistic scenario the MDG target of 144 will not be achieved by 2015 (World Bank 2010a). The Maternal Mortality Survey 2010 will provide updated official mortality figures in 2011.

Although contraceptive prevalence rates remain stable and fertility rates continue to fall, the rise in unmet need for family planning (from 11.3 to 17.1 per cent) between 2004 and 2007 is reason for concern. Additionally, the incidence of adolescent births remains high, putting the health of both the child and mother at risk. By age 19, 59 per cent of adolescent girls are either pregnant or have had their first child, despite laws establishing the minimum age of marriage as 18 years of age.

In addition there are real concerns over availability and quality of skilled attendance at birth. Despite efforts to expand emergency obstetric care there remains a low level of institutional deliveries, accounting for only 15 per cent of all births in 2007, compared with 11 per cent in 2004. According to BDHS 2007 data more than 60 per cent of births in Bangladesh were assisted by non-trained birth attendants and 6 per cent attended by relatives, friends or neighbours. Only 18 per cent of all births were delivered by a medically trained provider. Though, as is to be expected, figures are higher in urban areas (31 per cent versus 11 per cent in rural areas) and among women in the upper wealth quintile (43 per cent versus 4 per cent in the lowest quintile), the rates are still relatively low even among these better-off groups.

Despite marked improvements in maternal nutrition, the proportion of undernourished or thin (body mass index less than 18.5) ever-married women aged 15–49 remains high at 29.7 per cent. In urban areas 19.6 per cent women are undernourished, compared with 32.6 per cent in rural areas. The proportion of undernourished women also varies significantly by wealth quintile. The BDHS 2007 shows that only 13.4 per cent of women in the highest quintile have a body mass index less than 18.5 while 43.4 per cent women in the lowest quintile are undernourished.

Communicable diseases

Communicable diseases—though decreasing in terms of proportion of the overall burden of disease—continue to cause about 20 per cent of overall mortality and morbidity in Bangladesh.

Tuberculosis (TB) is a serious public health concern, with one of the highest number of cases detected in the world. WHO data estimate that TB accounted for 6.3 per cent of all deaths in Bangladesh in 2004.

Acute respiratory infection (ARI), particularly pneumonia, is the leading cause of communicable disease mortality (10 per cent) and morbidity (7 per cent) in Bangladesh, accounting for about a third of all deaths annually among children less than five years of age. It is also estimated that 40–60 per cent of out-patient visits and 30–40 per cent of in-patient admissions are attributable to ARI.

Diarrhoeal disease is also a leading cause of significant morbidity and mortality, accounting for 6 per cent of all mortality and morbidity in Bangladesh.

Out of the 64 districts in the country, malaria is highly endemic in 13 districts (more than 95 per cent of cases reported there) and 10.9 million people are at risk from the disease in these areas. It is reason for concern that the incidence of malaria increased to 59 per 100,000 population in 2008 from 34 in 2005, though this may be a sign of improved reporting and surveillance. The mortality rate is considered to be halting compared with the base year of 1991 (from 0.36 deaths per 100,000 in 2005 to 0.16 in 2008).

HIV prevalence in Bangladesh is low and remains a concentrated epidemic. The current prevalence is 0.319 per 100,000 population with an estimated prevalence of 1.3 per 100,000 population by 2015.

Non-communicable diseases

The current national plan for non-communicable diseases (NCDs) includes the major chronic diseases inclusive of heart disease, stroke, diabetes, cancer, chronic respiratory diseases, and other commonly prevalent non-communicable diseases or conditions such as mental illnesses, injuries, and blindness. Although a reliable NCD surveillance system is not yet in place, the magnitude of NCDs is high in Bangladesh, now estimated to cause over 55 per cent of all deaths. Cardiovascular disease, particularly ischaemic heart and cerebrovascular disease (stroke), unintentional injury, cancer, and chronic obstructive pulmonary disease were among the top 10 causes of death in 2004. Further, a study published in 2009 (Karar et al. 2009) in medical college hospitals observed that about one-third of admissions were due to major NCDs for patients aged 30 or above.

Injuries are the largest killer of children between one and 17 years of age, accounting for 38 per cent of all classifiable deaths. The leading cause of such injury-related death is drowning (59.3 per cent) followed by road traffic accidents (12.3 per cent), animal bites (9.3 per cent), and suicide (8.0 per cent). It is estimated that injuries permanently disable around 13,000 children per year (Bangladesh Health and Injuries Survey 2003). Road accidents are the most common cause of serious injury for men, responsible for 40–45 per cent of serious injuries among urban men regardless of slum/non-slum residence (BUHS 2006).

Environmental and behavioural risk factors of significance to health include indoor air pollution, mostly related to use of wood burning fuels, tobacco use, alcohol and drug abuse, climate change, and natural disasters.

The leading causes of mortality and morbidity (measured in disability-adjusted life years lost) are summarised as follows:

Table 2 The leading causes of mortality and morbidity

	% DALYS lost		% deaths	
1	13.2	Perinatal conditions	23.7	Cardiovascular diseases
2	11.5	Neuropsychiatric conditions	11.2	Perinatal conditions
3	9.1	Unintentional injuries	9.6	Lower respiratory infections
4	8.7	Cardiovascular diseases	7.2	Unintentional injuries
5	7.0	Lower respiratory infections	6.9	Malignant neoplasms
6	6.2	Diarrhoeal diseases	6.3	Tuberculosis
7	5.8	Sense organ diseases	6.0	Diarrhoeal diseases
8	4.3	Tuberculosis	5.3	Respiratory diseases
9	3.9	Maternal conditions	3.4	Digestive diseases
10	3.1	Respiratory diseases	2.6	Intentional injuries
11	3.1	Nutritional deficiencies	2.0	Maternal conditions
12	2.9	Digestive diseases	1.9	Childhood-cluster diseases
13	2.8	Malignant neoplasms	1.5	Diabetes mellitus
14	2.4	Intentional injuries	1.3	Genitourinary diseases
15	2.1	Childhood-cluster diseases	1.2	Nutritional deficiencies

Source: World Health Organization 2004c.

Organisation of the health, nutrition, and population sector

MOHFW is responsible for the implementation, management, coordination, and regulation of national health and family planning related activities, programs, and policies. The core functions are planning and monitoring, budget management, information management, reform management, aid management, and the management of contracts and commissions. Since 1997 a sector-wide approach (SWAp) has been the main instrument of development agency support to MOHFW.

In line with the general system of public administration in Bangladesh, the MOHFW management structure comprises two main groupings:

- The Secretariat responsible for policy development and administration with eight functional wings and units each headed by a Joint Secretary or Joint Chief; and
- Executing agencies through which MOHFW implements its programs and policies comprising 10 directorates, units, and institutions.

Both groups are headed by the Secretary who is supported by the Additional Secretary. In addition, another layer of health sector organisation reflects the geographical arrangement of the country: six divisions, each divided into 64 districts, with districts again divided into 484 sub-districts (upazilas), and sub-districts into unions and wards, which are the smallest administrative unit. Wards at the community level consist of villages, on average with a population of 500–1,000 people.

The lead technical directorates include Health Services (DGHS) and Family Planning (DGFP), each led by a director general supported by additional directors general, line directors and hospital or specialist agency directors. The National Nutrition Programme (NNP) is managed by the Nutrition Programme Management Unit and implemented through mainstream health services and non-governmental organisations (NGOs). DGHS and DGFP have separate management and delivery structures from national to ward level.

Unlike rural areas, primary health care in urban areas is coordinated by the Ministry of Local Government, Rural Development and Cooperatives (MOLGRD). This division of responsibility has historical roots in three ordinances dating back to the 1970s and 1980s. This has been further influenced by different funding sources and unconnected health programs supported by different development partners, whereas the MOHFW-managed programme is supported through the SWAp. The Urban Primary Health Care Project (UPHCP) started in 1998; its second phase, UPHCP II, began in mid-2005 and runs until 2011. A third phase is planned from 2012.

Under this project, health services are provided by 11 partner NGOs and two city corporations in 24 partnerships areas, covering six city corporations and five municipalities with a population of 10 million people. The project is managed by different committees at various levels. Both ministries (MOHFW and MOLGRD) partly coordinate their activities through the National Urban Primary Health Care Committee and the National Project Steering Committee. The latter is headed by the Minister MOLGRD and the Minister MOHFW is a member of the committee.

The Ministries of Home Affairs (Police), Defence and Bangladesh Railways have health facilities for their staff, and to a lesser extent families, and MOHFW does not play a role in managing these facilities, which cover less than 1 per cent of the population

The key role of the private sector, including the not-for-profit or non-governmental organisations, is in services provision as well as advocacy, community mobilisation, pharmaceuticals, diagnostics, and communication.

Public health research and development roles and functions, including knowledge management, are spread among several specialist agencies mostly under the aegis of DGHS, including the:

- National Institute of Preventive and Social Medicine (NIPSOM)
- Institute of Epidemiology, Disease Control and Research (IEDCR)
- Institute of Public Health (IPH)
- National Institute of Population Research and Training (NIPORT)
- Bangladesh Medical Research Council (BMRC)
- Centre for Medical Education (CME)
- Institute for Child and Maternal Health (ICMH)
- Research and Development Unit (RDU).

In addition, the Bureau of Health Education (BHE) in DGHS is an integral part of public health and knowledge-sharing capacity. It has 232 professional health educators at different levels of the public health system. Its main objective is to improve the level of knowledge, attitude, and practices of the people in relation to health.

Research and development capacity has also been encouraged and developed in the private sector, the lead agencies including the:

- International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
- BRAC School of Public Health (BSPH), BRAC University
- Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM)
- Sheikh Mujib Medical University (BSMMU) and other medical colleges.

Governance arrangements

Much of the progress to date in establishing governance arrangements, particularly within the context of a SWAp, has been around developing mechanisms for governance and establishing HNPSP review processes as a stepping stone to broader sector dialogue and processes.

Mechanisms for governance

Key policy instruments have been developed and many are in the process of being updated, including:

- National Health Policy 2000 and follow-on draft National Health Policy 2010
- National Nutrition Policy
- National Population Policy
- National Drug Policy
- National HIV Policy
- National Maternal and Child Health Strategy
- Citizen Charters for DGHS and DGFP.

Structures and processes for the SWAp

Annual programme implementation reports and annual programme reviews (APRs) of the HNPSP are conducted on an annual basis by both MOHFW and an independent review team respectively. A revised and simplified monitoring and evaluation (M&E) framework (see chapter 6 for further detail) was launched in 2009, comprising 30 high-level indicators.

The lead technical directorates produce separate annual performance reports. The Health Bulletin 2009 produced by the MIS (Management Information System) DGHS, supported by the M&E Unit, begins to consolidate those departments reporting to the Director General Health Services and has begun to include data from NGOs.

Parallel funded projects have separate review processes and reports.

As such, there is limited development of processes that—on a routine and consistent basis—could include other government ministries, like the Ministry of Finance and the Ministry of Establishment, as well as the private sector and NGOs.

Governance structures and institutions

At the highest level, the Parliamentary Standing Committee for MOHFW has the important role to oversee functions to ensure transparent and effective health care delivery for the people. At the decentralised services delivery level, districts and upazilas set up facility and/or programme specific committees. These committees include representation from the local communities at the community clinic level and local government and private representation at district and upazila level.

The Health Nutrition and Population (HNP) Consortium consists of all development partners supporting the HNPSP; those development partners are members of the Local Consultative Group cooperating with the Government of Bangladesh for the development of the HNP sector (the Local Consultative Group Sub-Group for HNP). The HNP Consortium represents both the pool-funding development partners as well as non-pool funders. It aims to coordinate and streamline actions and procedures among development partners.

Formal regulatory structures

The government has established different professional regulatory and statutory bodies with the objectives of overseeing the development of a competent professional workforce, ensuring provision of standardised and quality health services, and protecting the people's right to health. These bodies are meant to play important oversight roles to ensure transparency and accountability of the sector by executing the following functions: the accreditation of hospitals, private health services, blood banks, diagnostic centres and training institutions (including medical colleges); the licensing and control of pharmaceuticals; the licensing of some cadres of health workers; and overall setting of standards. They include the Bangladesh Medical and Dental Council, the Pharmacy Council of Bangladesh, the Bangladesh Nursing Council, the Bangladesh Medical Association, the State Medical Faculty and the Ayurvedic, Homeopathy and Unani Board.

Regulation through community empowerment—voice and accountability

The HNPSP proposed continuing community empowerment mechanisms from the previous HPSP (the sector development programme for 1998–2003) and introducing additional activities aimed at strengthening consultations with communities and stakeholders, particularly the poor and women, to make their participation more effective, including community groups (for management of community clinics); local-level planning; the National Stakeholder Committee; the National Health Service Users' Forum; the Health Advisory Committee; and the Citizens' Charter of Rights.

In addition to government efforts, NGOs, civil society organisations, consumer associations, and the media were expected to amplify the voices of the poor, demand more and better accountability of service providers, and generate information through public disclosures. Two innovative initiatives include the following:

- Bangladesh Health Watch (BHW), a multi-organisation civil society network formed in 2006 to establish a tradition of holding the state as well as non-state actors to account for their performance in delivering quality health care to the citizens. BHW has produced three health watch reports.
- *Reality Check*, started in 2007, and structured as a qualitative longitudinal "listening" study over five years. The overall goal is to listen to and try to understand the perspectives of people living in poverty on the national health and education programmes in Bangladesh. It gathers experiences and insights of people living in poverty, which complement the more conventional M&E mechanisms in the health and education SWAps.

Health services

Overview of health services networks

Similar to the position in many transitional societies, a wide range of personnel choices—formally and informally trained—is available when people seek health care.

In 1998, as part of the implementation of its SWAp programme, the government developed an Essential Services Package to prioritise delivery of cost-effective services to the most vulnerable communities. The package, which places reproductive health as the centrepiece of the package and builds on the commitment to a primary health care approach already in place, includes reproductive health care including safe motherhood, family planning, safe menstrual regulation, post-abortion care, and management of sexually transmitted infections; child health care; communicable disease control—including TB, leprosy, malaria, filariasis,

kala-azar, and emerging diseases; limited curative care; and behaviour change communication.

Public sector health services

MOHFW delivers health services directly through its own facilities under the direction of two separate executing authorities, DGHS and DGFP. Primary health care services for both directorates begin at ward level through a set of community-based health staff, with supervisory staff at union level with referral primary care facilities at union and upazila level for both. Primary care services are also provided through publicly contracted NGOs. Nutrition services are part of the Essential Services Package, with area-based community nutrition services delivered through NGOs contracted directly by the NNP. Public sector hospital services fall under the remit of DGHS. The intention is to move to a facility-based service in 2011 with the Essential Services Package delivered by an integrated team of health and family planning personnel up to the upazila level, with the entry point at a community clinic serving populations of about 6,000. Over time, the doorstep or domiciliary service was intended to be replaced by fixed site services. Where necessary, mobile services would continue to ensure coverage of at-risk populations.

The community clinic, at the ward level, represents the first contact and entry point to the health referral system. Patients are referred to the Health and Family Welfare Centre at union level and Upazila Health Complex (UHC) at the upazila level. The UHC is the first in-patient facility in the network, and provides both primary- and secondary-level services.

The public sector has nearly 36,000 beds in a range of hospitals—district, speciality, and teaching or medical college hospitals. Hospital operations are provided under the aegis of DGHS.

In selected urban areas, health care is provided by 12 partner NGOs (UPHCP II project) in 24 comprehensive reproductive health care centres, 161 primary health care centres, and 500 satellite clinics run by field workers. In addition, there are 24 centres for counselling and testing of HIV/AIDS patients, 24 centres for primary eye care, and 10 for TB treatment (DOTS).

Capital planning, construction, and maintenance of public sector health facilities is fragmented among the “owners” of the facilities, the Public Works Department and specialist units in MOHFW which include the Construction Management and Maintenance Unit, National Electro-Medical Equipment Workshop, and the Transportation and Equipment Maintenance Organisation. This results in lack of preparation of the facility managers and providers for handover and utilisation of the facility and difficulty in moving towards a more preventive routine maintenance programme.

Non-state health services delivery

The non-state health sector in Bangladesh is diversified, in some ways reflecting the diversity of its population. There is a wide range of providers—traditional medicine and private health practitioners, private hospitals, NGOs, pharmacies/retail outlets—who vary by qualification, skill, experience, type of health care practised as well as organisation, scale, and legal status. The non-state health market is growing in an environment characterised by an underdeveloped regulatory framework, which lacks a clear categorisation of non-state entities or guidelines on standards of services or reporting requirements for these entities. As such, there are few data systematically available on organisation, structures, range, and volume of services and quality of care. In the absence of uniform reporting, it is difficult to summarise accurately the range and extent of coverage of non-state services. It is also

difficult to assess the validity of the information that does exist, given that data collection and reporting are not a priority and M&E capacity is low, particularly at sub-national level.

There are a number of studies and unstructured feedback loops (e.g. BHW and the Reality Checks) that point to the extensive utilisation of the non-state providers, at least with regard to expenditures in the private health sector. However, there is no clear agreement on the efficacy or quality of the non-state sector or opportunities for scaling up coverage by investing more in this side of the market.

MOHFW is involved in many public–private partnerships, e.g. grant-in-aid, supply of equipment and commodities to private non-profit hospitals, extension of maternal vouchers to private providers, contracting out of NGOs to deliver nutrition and HIV/AIDS services, and provision of drug and commodity support to health NGOs through projects such as the Smiling Sun Franchise Programme supported by the United States Agency for International Development (USAID) and the UPHCP II supported by the Asian Development Bank, the Department for International Development (DFID), and Sida. Under the HNPSP, pooled funds are supporting a number of these public–private partnerships, mainly in the areas of equipment, commodities, and logistics. However, outside of the NGO contracting that is taking place under the NNP and the National AIDS/STD Programme operational plans, these partnerships are not being comprehensively monitored under the HNPSP governance framework.

The newly revised draft National Health Policy (MOHFW 2010a) favours further diversification aiming to support a better enabling environment for greater participation of non-profit and for-profit institutions. However, it is unclear what the mechanism for engagement will eventually be now that structures that were envisioned to carry functions for NGO contracting, monitoring, and evaluation under the HNPSP—namely, the Management Support Agency (MSA), Programme Support Office, and Performance Monitoring Agency—are no longer in place or were never instituted.

Human resources for health

Human resource policy and strategic planning

In the early 1990s MOHFW human resource management activities in health and family planning concentrated mainly on training with little attention paid to the fundamental problems of deployment and retention, or longer-term strategic thinking about human resource needs and distribution. The fourth Health and Population Project (1993–98) attempted to address some of the major human resource issues, supporting the preparation of the first Human Resource Development Strategy, which was developed into the Human Resource Strategy 2003.

The current Bangladesh Health Workforce Strategy was finalised in 2008 (MOHFW 2008c). Similar to the 2003 strategy, it identifies staff shortages, inappropriate skill mix and deployment, quality of education and training, and weak stewardship as key issues and challenges. The strategic objectives, which are an iteration of those of the last strategy, include to:

- have clear lines of accountability with defined roles and responsibilities, and establish performance management at all levels of the system, enabling appropriate delegation of authority to lower levels;
- develop and establish better more responsive systems for optimum staff deployment;
- develop a workforce information system that would support better planning and management of human resources;

- achieve better leadership and coordination of human resource matters by MOHFW;
- develop better processes for communication and consultation with professional and staff associations to enable more constructive engagement;
- develop a workforce planning process which could forecast requirements, identify surpluses and shortages, and consider the necessary training, education, and development;
- improve the quality of workforce education and training;
- build capacity for stewardship/regulation of human resources for health;
- address issues in recruitment, career development, and retention;
- develop and institute performance management processes;
- develop and expand the leadership and coordination of human resource functions to include other ministries and non-state contributors to the health sector such as NGOs;
- promote public–private partnership for workforce production, development, and deployment; and
- build a more effective approach to workforce financing in terms of rationalising compensation packages and developing appropriate incentives.

MOHFW is developing a Human Resource Development Master Plan for 2010–2040 in support of the Bangladesh Health Workforce Strategy 2008 to address the issue of how to close the large gap between the human resources required over the next 10 years and the available output in both the public and private sectors.

Workforce estimates

Bangladesh is a country with a critical shortage of health workers compared with the WHO-recommended level of 25 per 10,000 qualified health workers required to achieve the MDGs. The table below provides estimated workforce density ratios for the main health cadres.

	2001	2004	2005
Physicians	2.3	2.6	3.0
Nurses/midwives		2.8	
Dentists		0.2	0.2
Pharmacists		0.6	
Laboratory workers		0.3	0.1
Public health workers		0.4	0.4
Community health workers		3.1	1.5
Other health workers		0.4	0.5

Source: WHO 2008.

Similar to other low-income countries, estimating workforce numbers and the gap is challenging as the quality of information on the health workforce is not comprehensive and not updated as national estimates of the health workforce are not made routinely by MOHFW. The information is patchy and not well correlated.

BHW (2007) estimates that the largest groups of health care providers are the informally trained, with traditional healers and traditional birth attendants (trained and untrained) representing 43.5 per cent and 22.5 per cent of all providers respectively. Physicians and

nurses represent only 5 per cent of the total. Overall, there are about five physicians and two nurses per 10,000 population. However, there are substantial variations in the density of physicians and nurses among the divisions of the country. There is also an urban–rural difference, with the majority of qualified providers in urban areas.

BHW (2007) estimates that at an aggregate level the male:female ratio of the health workforce is around 56:44. However, while females dominate in nursing (9:1), traditional birth attendants, and community health workers, there are about five male doctors to every female doctor. Village doctors, drugstore salespeople, and traditional practitioners are also predominantly male.

Public sector health workforce

Authority for human resource management remains centralised, although there are an increasing number of initiatives to delegate responsibility for services delivery to decentralised levels and improve responsiveness of health services to the community and individuals.

The operational processes of MOHFW divide responsibilities among different line management channels, with limited horizontal coordination. This applies to the administrative and personnel management function of the MOHFW Secretariat, the directors' administration for the directorates of health services, family planning, and nursing services and the institutions and units involved with training, such as NIPORT. The pre-service education and in-service training functions are separate from the human resource management function and there is little coordination between the public and private sectors on health workforce production. In addition, for the public sector, authority and responsibility are further divided among the key ministries and organisations responsible for human resource management of public servants.

A Human Resource Task Group has been formed to address problems of scope and coordination and the APR 2009 (IRT 2009a) suggested the appointment of a common chairperson for all operational plans related to human resources as well as the development of a network in each directorate general to improve communication on human resources, among other issues.

Actual staff numbers show acute shortages for both doctors and nurses as well as other cadres. Overall about 64 per cent of all sanctioned posts are filled; according to a 2009 estimate, only 32 per cent of facilities have 75 per cent or more of the sanctioned staff working in them. Appropriate deployment of staff is another key problem which exacerbates staff shortages in some parts of the country, particularly in rural hard-to-reach areas. At present, there is little or no incentive for staff to serve in rural areas, resulting in vacancy rates in rural upazilas much higher than in facilities in or near major cities. Many factors contribute to this disparity, such as poor housing, problems with family upheaval, and security issues for female staff, but a particular issue is the perception that staff taking a rural posting will be "forgotten" and never have a chance for transfer or promotion.

MOHFW has attempted to address the problem by adopting a transfer/posting policy in 2008, which sends the most recently qualified staff to the union level where they have to stay for two years before they are eligible for transfer. However, the fear remains that a two-year posting will run on indefinitely.

Performance is not a consideration in promotion beyond the need to have a clean and clear disciplinary record. Promotion for staff in all cadres is based on length of service, the candidate's annual confidential report, and length of time in the "feeder" post.

Given the lack of systems and incentives for routine performance management and appraisal, there are no systematic data on staff productivity. However, there are indications that productivity is a problem in the public sector. Contributing factors, in addition to those affecting rural deployment, include high rates of absenteeism, inappropriate skill mix, effect of migration, and factors relating to remuneration and conditions of service.

Information flows in the heath sector

Information systems

Most of the data management processes follow the same routine—data are reported by service providers to the next level of service or programme management. Data are then compiled and consolidated reports are produced and sent to the higher authority. Finally, these reports reach the national level and are used for service/programme performance reports for directors and other decision makers. Line directors and programme managers are mostly concerned about the performance of their programmes in the light of specific targets. However, the present system—based on separate vertical data processing—does not easily provide a broader view (i.e. the system's performance).

The main sources of routine data are MIS DGHS and all its sub-systems, MIS Family Planning and its sub-systems, MIS NNP, and MIS UPHCP II.

Additional sources of information, e.g. from the Bangladesh Bureau of Statistics (BBS) and NIPORT, are analysed in the process of data mapping.

The MIS DGHS is composed of many different sub-systems, including:

- Service statistics with the following components:
    - Integrated management of childhood illness
    - In-patient care
    - Emergency obstetric care
- Disease Profile for in-patient, out-patient and emergency service providers—cause of death register
- Geographical Reconnaissance Information System
- Personnel Management Information System
- Logistics Management Information System
- Information communication technology status and use in the field.

DGFP operates a separate MIS for data recording, analysis, and reporting. The system provides service statistics and includes the Personnel Management Information System and the Logistics Management Information System. Information flow and software applications are different for each of the three systems. The MIS NNP software was developed by an external company, and is deployed on a stand-alone computer without Internet or intranet connectivity. For UPCHP II, a web-based Health Management Information System with an integrated data approval mechanism has been developed and deployed since 2007. It is a managed, hosted application with the basic objective to enhance data-acquisition, approval, and publishing processes for quarterly progress reports. It allows data to be routed and verified by the project management unit in a transparent manner.

Monitoring and evaluation systems

The only HNPSP-related overview is provided by annual programme implementation reports and for the health sector as a whole by the annual Health Bulletin (first published in 2007), which is available on the government website (www.dghs.gov.bd). The bulletin is a

compilation of information provided by different MISs under the two main directorates and from different vertical programmes. Statistics are mostly taken from survey data and only supplemented by routine data, which are considered unreliable. Therefore, comparison of survey and routine data remains problematic.

In the second sector programme, the M&E Unit of MOHFW was formally established under the MOHFW Planning Wing and was provided with renovated offices in a new location (Azimpur). Technical resources are two people (team leader and M&E expert), currently under GTZ contracts and two staff members to be seconded from DGHS and DGFP. However, the directorates also staff their own MIS departments and the M&E Unit has not had a full complement since it was launched. The main task of the M&E Unit is follow up and reporting on the set of core indicators of the HNPSP results framework.

The M&E Unit launched the M&E Improvement Action Plan in 2009, which has as its goal to develop the culture and build capacities with regard to M&E of health services at all levels of the health system. The purpose is to improve organisational structures, instruments, and tools to assure effective monitoring of service performance and resource allocation at all levels of the system. Results expected by 2014 include:

- The Indicator Framework (results framework and operational plans) has been reviewed and updated
- An M&E Plan has been developed and is being used to standardise and streamline data collection and analysis, starting with the next annual programme implementation report
- The institutional development and reform of M&E structures within MOHFW is ongoing
- A capacity development programme on M&E in the health sector has been developed and is being implemented.

Health financing overview

According to the Bangladesh National Health Accounts 1997–2007, total public funding for health stood at Tk43.1 billion in 2007 with a further Tk12.4 billion of donor money channelled directly to NGOs. Together these amount to some US$ 5.4 per head in 2007 or around 33.5 per cent of total health spending.

Total health expenditure more than doubled in real terms between 2001 and 2007, reaching an estimated Tk159.9 billion in 2007. This equates to around Tk1,012 per head or approximately US$ 15.80. It has risen modestly as a share of GDP from 2.7 per cent in 1997 to 3.1 per cent in 2005 to 3.4 per cent in 2007 (NHA 1997–2007).

Though public spending—including development partner contributions—increased from Tk17.7 billion in 1997 to Tk43.1 billion in 2007, it declined as a share of total health spending from 36.5 per cent to 25.6 per cent. The share of household spending, by contrast, rose from 56.9 per cent to 64.7 per cent. Other funding sources account for a small, but increasing, share of total spending (NHA 1997–2007).

Real per capita expenditure almost doubled between 1997 and 2007 from US$ 8.90 per head to more than US$ 15. Public spending as a share of GDP has declined from 0.98 per cent in 1997 to 0.87 per cent in 2007, which is low by international standards (NHA 1997–2007).

MOHFW remains the dominant health funding agency within government, accounting for 97 per cent of government health spending. MOHFW revenue budget accounted for 55.8 per cent of total public spending in 2007 (up from 45.2 per cent in 1997) with its development budget accounting for a further 41.2 per cent, of which about 50 per cent comes from

development partners. MOLGRD accounts for around 1 per cent of total public health spending and the Ministry of Home Affairs 0.6 per cent (NHA 1997–2007).

The main change in the years leading up to 2010 concerning what funds have been spent on, has been a large increase in the share of funds spent in hospitals, an increase from 17.9 per cent in 1997 to 27.3 per cent in 2007. On the flipside there was a significant decline in spending on public health programmes (from 8.5 per cent of total health spending to 1.3 per cent). The increase in hospital spending has been driven largely by spending in private and NGO hospitals, which increased from 22.5 per cent of hospital expenditure to 54 per cent. The share spent at the upazila level and below declined from 33.1 to 23.7 per cent.

Total spending remains well below estimated needs, irrespective of which estimate is used. Various estimates of requirements to meet basic needs in the health sector range from around US$ 20 per head (Millennium Project 2004) to over US$ 50 (High Level Taskforce on Innovative International Financing for Health Systems). Per capita expenditure on health remains the lowest in South Asia, though this reflects, to a large degree, Bangladesh's low per capita income rather than a lack of commitment to the sector. As a share of national income, health spending has hovered just over the 3 per cent mark since 2005, well below figures in South East Asia and Nepal but well above Pakistan and Indonesia.

The share of the government budget for health has been declining (4.4 per cent of the revised budget in 2007/08 compared with 6.1 per cent the preceding year and 5.4 per cent in 2003/04) and remains well below the 10 per cent target set out in the HNPSP (MOHFW, Begum, et al. 2010). Reliance on external partners for the Annual Development Programme has increased as the implementation of the SWAp has facilitated almost a 10-fold increase in pooled funding; this was not unintended and remains roughly in line with second Revised Programme Implementation Plan for the entire HNPSP period (2003–2011). Development partner contribution to per capita MOHFW development spending increased by 14 per cent, ultimately accounting for 61 per cent of total development spending in 2006/07. Despite 2009 increases in the MOHFW budget, there is an issue of under-execution of the budget, particularly of the development component.

Almost two-thirds of health spending in Bangladesh is out of pocket, i.e. people paying fee for services at the point of delivery (NHA 1997–2007). Although the better off spend more in absolute terms, as expected, poorer groups spend more as a share of their income. Approximately 12 per cent of households in Bangladesh spends over 10 per cent of household income on health—an often-used threshold above which health expenditures are considered to be catastrophic; however, this measure potentially underestimates the extent to which financing is a barrier to accessing care (Van Doorslaer et al. 2007). A quarter of those who fell ill and did not seek care stated that high cost was the reason for non-treatment—the second highest reason given by respondents, the main one being that the problem was not perceived as serious (63 per cent) (BBS 2005).

Bangladesh has an active NGO sector. There is generally a good working relationship between government and NGOs, as exemplified by the number of public–private partnerships, such as contracting out NGOs to deliver nutrition and HIV/AIDS services (among others). The role of NGOs is growing as donors are channelling significant and increasing amounts of funding directly to NGOs. In 2007, 9 per cent of total health expenditures were managed by NGOs, up from 6 per cent in 1997; more than 80 per cent of NGO funding comes from donors (NHA 1997–2007). Though NGOs are playing an increasingly prominent role in service delivery, the sub-sector is not well understood or monitored; with few exceptions, MOHFW does not collect or report data on health services delivered by NGOs.

There are a number of innovative community-based insurance schemes, which are basically micro insurance NGOs that see a benefit from incorporating health into their programmes (as healthy people are more likely to repay loans) and health NGOs that have identified the need for financing mechanisms that provide greater financial protection for poorer groups. The integrated insurance/provider arrangement means that the schemes are primarily a means of internal revenue mobilisation and do not necessarily offer the possible benefits in terms of lower cost and better quality that might result from competition between providers. Though some have achieved impressive rates of cost recovery despite lack of external funding or cross-subsidisation, these high levels of cost recovery and limited degrees of cross-subsidisation or external subsidies raise questions about the extent to which such schemes benefit the poor. In addition, though insurance is best placed to deal with unpredictable, high-cost events, very few schemes actually cover this—most focus on a range of preventive services including medicines and tests. Few offer in-patient services, which would also tend to exclude catastrophic care. Further, few schemes appear to have reached the volume necessary to benefit from economies of scale.

Procurement and pharmaceutical supplies and logistics

Procurement systems

The budgets for procuring goods and services rest with line directors, as does the technical responsibility for identifying the quantity and type of item required. However, various procurement entities are responsible for aggregating the requirements into lots and carrying out the tendering exercise. Most items are procured by the Central Medical Stores Depot (CMSD) and DGFP.

CMSD procures medical equipment, office equipment, imported drugs, medical supplies, and drugs outside the standard requirements, and carries out emergency procurement. Distribution from CMSD is funded and organised by the receiving bodies. DGFP is responsible for the centralised national and international procurement for the family planning wing, including contraceptives and drugs and dietary supplements kits. DGFP has its own distribution system.

There are others operating on a smaller scale:

- NNP carries out all procurement for the limited number of goods and services required for the nutrition programme with the exception of micronutrients (vitamin A supplements), which are procured by the Line Director, Micro Nutrient Supplementation. NNP looks after its own distribution.
- The Public Works Department does contracting for large works contracts.
- The Construction Management and Maintenance Unit does contracting for smaller works contracts and for building maintenance.
- The directors of tertiary and specialised facilities do procurement of standard packages of medicines and supplies for their own institutions.
- Civil surgeons do procurement of standard packages of medicines and supplies for DGHS facilities up to and including district hospitals.

Although procurement is carried out by several different entities and there are many issues with the efficiency and coordination, the system as a whole has been judged as being of a basically sound configuration.

The procurement of consultancy services is similar to that of goods in that the budget sits with the line directors, and procurement must follow national and international rules with additional riders related to use of pooled funds.

The HNPSP has aimed to diversify service provision by subcontracting with service delivery organisations such as NGOs, private non-profit agencies, para-statal bodies, and United Nations agencies. The MSA was set up as an independent body, an extended arm of MOHFW, to manage the contracting out process on MOHFW's behalf. However, the agency in its original design was never fully established. The APR 2009 notes that "MSA's institutional place within MOHFW is not clear. It is treated as a project (reports to a committee and is not a member of the procurement task group) but its functions are equivalent to those of other specialised procurement agencies as CMSD. It should be embedded in the MOHFW structure" (IRT 2009a). The MSA was not continued into the HNPSP extension period, July 2010–June 2011.

Logistics and supply chain for medicines in the public sector

Two separate logistics and distribution systems, operating parallel to each other, continue in MOHFW in keeping with the organisational structure and separation of roles and functions between DGHS and DGFP. In addition, medical college hospitals and other specialised hospitals have separate logistical management systems, although CMSD plays a role in procurement of the medicines and supplies for these institutions.

The drug supply system is ostensibly a "pull" system, i.e. upazila and union managers request and are supplied items via an indent system. At each level the drug store has a register that lists incoming (receipt) and outgoing (issues) of drugs and supplies, as well as the current stock (the internal control register). It will normally also keep track of the value of supply, so that managers may monitor within-year "expenditure" against their allocation. This also allows for tracking of receipt against issue between levels. Requisition and supply are normally made on a monthly basis for UHCs and a quarterly basis for union facilities. There is a drug requisition process but supply volumes tend to be far less than the volume requested.

Pharmaceuticals regulation

The National Drug Policy was introduced in 1982 to eliminate harmful, useless, and unnecessary drugs from the market and to ensure availability of essential drugs at reasonable price by developing an administrative mechanism under proper management. The Drug Control Ordinance 1982 was promulgated for implementation of this policy, and to control traditional medicines (unanni, ayurvedha, and homeopathic) in addition to allopathic drugs. The process of updating the policy is under way.

The Directorate of Drug Administration (DDA) was established as a drug regulatory authority under MOHFW in 1976. It is entrusted with administration, control and management of the pharmaceutical sector. It regulates and performs other functions in areas related to manufacturing, quality control, storage, distribution, sale, post-marketing surveillance, and import and export of drugs. In addition, it acts as the licensing authority and issues permits for manufacturing, import, and retail sale of drugs and medicines.

In March 2010, MOHFW announced the approval by the Ministry of Establishment for upgrading the director of the DDA to director general and for expanding both the management cadre and size of the inspectorate workforce.

The functions of the DDA include national surveillance of storage, distribution, and dispensing of drugs; quality assurance; establishment and expansion of drug-testing laboratories; and rational use of drugs—promotion and monitoring.

Pharmaceuticals manufacturing

The Drug Control Ordinance placed a ceiling on selling imported drugs in the local market in an effort to promote self-reliance in the pharmaceutical sector. As opposed to relying on foreign companies for 75 per cent of their drug supply prior to the ordinance, local firms now cater to 82 per cent of the market, whereas subsidiaries of multinational corporations supply 13 per cent of the market and 5 per cent of the drugs are imported. Approximately 450 generic drugs in 5,300 registered brands with 8,300 different presentations of dosage forms and strengths are manufactured in the sector.

The Bangladesh Association of Pharmaceutical Industries is the main professional association for the sector, and has 150 member companies that lobby the government for policy changes, among other activities. The local market is extremely concentrated with the top 10 firms accounting for about 70 per cent of the market and two companies, Beximco and Square, holding 25 per cent of the market. This also points to the extreme disparities in firms' sizes and capabilities, as far as innovation and marketing capabilities are concerned.

There are two key issues in the pharmaceuticals manufacturing sub-sector.

Research and development (R&D) in the biomedical sector. Low levels of collaboration between firms and public sector institutions involved in R&D, teaching, and delivery of health services is seen. Furthermore, the internal market is characterised by branded competition: each product is essentially a generic, competing on the basis of brand names. In the absence of control mechanisms that check for Good Manufacturing Practice standards and bioequivalence of drugs marketed locally, the drug distribution system is organised solely around pharmacies (run by unqualified or inadequately qualified personnel) and doctors. This offers ample scope for the sale of low-quality drugs at high prices, with firms relying solely on extensive distribution systems that promote their brand name products through medical practitioners, often in unethical ways. There is also lack of a coherent policy framework to promote pharmaceutical innovation.

Capacity for regulatory oversight of the manufacturing sub-sector. Oversight of the sub-sector falls under MOHFW in Bangladesh, rather than the Ministry of Industry and Commerce (or Ministry of Science and Technology), which is generally the case in other countries. Further, the DDA is the key department in charge of the sub-sector, and is assisted by the Institute of Public Health, which has the mandate of supporting public health activities, quality control and production of biomedicals, training, and research. Both organisations are severely under-equipped and under-funded.

Pharmacies and drug retail outlets

Due to the limited capacity of the DDA, there is no monitoring and supervision system in place for drug retail outlets, and no reliable data on the number of outlets or volume of their sales. However, based on health workforce estimates, the ratio of drugstore salespeople (BHW 2007) to qualified pharmacists (WHO 2004) is estimated to be about 200:1. Drug retail shops are often the first source of health care outside home for people who seek care and the Household Income and Expenditure Survey 2005 reports that 92 per cent of patients get their medicines from pharmacies or retail outlets.

Health sector response

The Health and Population Strategy 1997 broadly intended to provide a universal essential services package, slow population growth, and emphasise "client-centred" and accessible services, particularly for children, women, and the poor. An important feature of the strategy is that it marked the decision to move away from a project-based modality (in the fourth five-

year health plan) to a SWAp development programme (in the fifth five-year plan which began in 1998 and which became known as the HPSP. In the new programme (and in the spirit of a SWAp) development partners would be required to contribute to one comprehensive and integrated health sector programme led and owned by the government. Although HPSP did not cover all the development partner activities in the sector, it transformed over 120 donor-funded projects into one programme implemented by MOHFW.

The implementation of HPSP was led by the government and funded by government and donors through pooled support, as part of a consortium led by the World Bank, and through additional donor earmarked support. The main focus of the HPSP was to decentralise the delivery of the Essential Services Package in “one-stop” service models, with increased involvement of the private sector and NGOs. In 2003 in recognition that nutrition was a critical factor in achieving better health outcomes, the HPSP became the HNPSP.

The overall objective of the HNPSP is to increase availability and utilisation of user-centred, effective, efficient, equitable, affordable, and accessible high-quality HNP services. It is organised into three components:

1. Accelerating achievements with regard to MDGs and National Strategy for Accelerated Poverty Reduction (NSAPR) goals
2. Meeting emerging HNP sector challenges
3. Advancing modernisation of the sector/implementing key reform areas.

Operationally, the health care reform agenda sits within HNPSP component 3. The agenda is broad and essentially addresses each of the fundamental health systems building blocks as defined by WHO: leadership and governance, human resources, health information system, health systems financing, medical supplies, and service delivery. The reform areas include:

- Decentralising health service delivery, effected through local planning;
- Diversifying the health sector, aiming to harness national capacity for provision of HNP services by setting up mechanisms for greater involvement of non-public service providers;
- Stimulating demand for HNP services, by aiming to address the demand-side issues influencing low levels of utilisation of public services, including addressing demand-side financing; and
- Strengthening public health sector management and stewardship capacity, including budget management, aid management, sector management, human resources, procurement, and M&E.

The APR 2009 summarises overall status of HNPSP implementation as mixed with vertical programmes under the HNPSP continuing to record good progress, except that overall contraceptive prevalence has not improved and there has been little progress “in improving utilisation of public sector health services, especially by the poorest segments. Major problems identified affecting utilisation include the lack of sufficient drugs, staff shortages (especially in remote facilities), poor prioritisation of spending, and pervasive problems of management and coordination. MOHFW has not yet tackled the internal reforms to address these problems, nor has it exploited the potential to improve the contribution of non-public sector service providers. These issues now need to be given higher priority, because Bangladesh has already achieved most of the reduction in mortality that can be achieved through vertical programmes; future progress will increasingly depend on more complex interventions requiring a more efficient, effective and equitable health system, able to respond to diverse and unpredictable needs” (IRT 2009a p.17).

Draft National Health Policy 2010

The National Health Policy 2010 is being updated. A draft of the new health policy, which was launched to the public in early 2010, aims to provide “a broad framework of goals and priorities’ consistent with the National Development Strategy and National Poverty Reduction Plan” (MOHFW 2010a).

The revised policy presents a stock-take of recent sector achievements, summarises remaining challenges, and identifies priority areas and strategies to address these. It promises to continue focusing on addressing existing and emerging diseases and threats to the health status of the population with a continued emphasis on primary health care, family planning, nutrition, and public–private partnerships.

New elements not in the last policy include urban health, mitigation of the impacts of climate change, medical waste management, food safety and quality, recognition of informal health care providers, and decentralisation and devolution of autonomy.

There is an increased commitment to move forward on the health sector reform agenda, which implies strengthening the government’s stewardship role in support of decentralising authority/capacity to deliver health services and provide improved primary health care, at the same time as strengthening the government’s regulatory oversight the sector in its entirety, including the informal sector given its relative importance.

The focus on primary health care and decentralisation of autonomy includes an emphasis on delivering care to the most vulnerable by addressing both demand- and supply-side issues. Demand-side efforts include implementing alternative safety nets for the poor and cost sharing by the wealthier; promoting citizen voice; and increasing accountability of health services. Supply-side interventions include increasing the health budget as a share of the total government budget to 12 per cent from the current 7 per cent by 2015 and ensuring that at least 60 per cent is spent at the upazila level and below; improving (via decentralisation) drug supplies at community level; and promoting an enabling environment for public–private partnerships to deliver better and complementary health services. Cross-cutting issues within the new health policy include a major focus on addressing gender disparities and reaching the poor and most vulnerable.

1. Socio-economic and demographic overview

1.1 Geography and demographics

1.1.1 Topography and climate

Bangladesh is located in the north-eastern part of South Asia and covers an area of 147,570 square kilometres. It is almost entirely surrounded by India, except for a short south-eastern frontier with Myanmar and a southern coastline on the Bay of Bengal. Most of Bangladesh is low and flat and consists of alluvial soil. The most significant feature of the landscape is the extensive network of large and small rivers that are of primary importance to the socioeconomic life of the nation.

Figure 1.1 Map of Bangladesh

Bangladesh has seasonal monsoons and is subject to frequent natural disasters, such as floods, cyclones, tidal bores, and drought. The effects of climate change and the increasing

vulnerability of Bangladesh to natural disasters are significant. In 2007 alone the country experienced two major floods, one after the other, and a cyclone that devastated the country, particularly in the south-west.

1.1.2 Demography

Bangladesh is the most densely populated country in the world with a population of around 160 million, a population density of more than 920 people per square kilometre, and about 76 per cent of people living in rural areas.

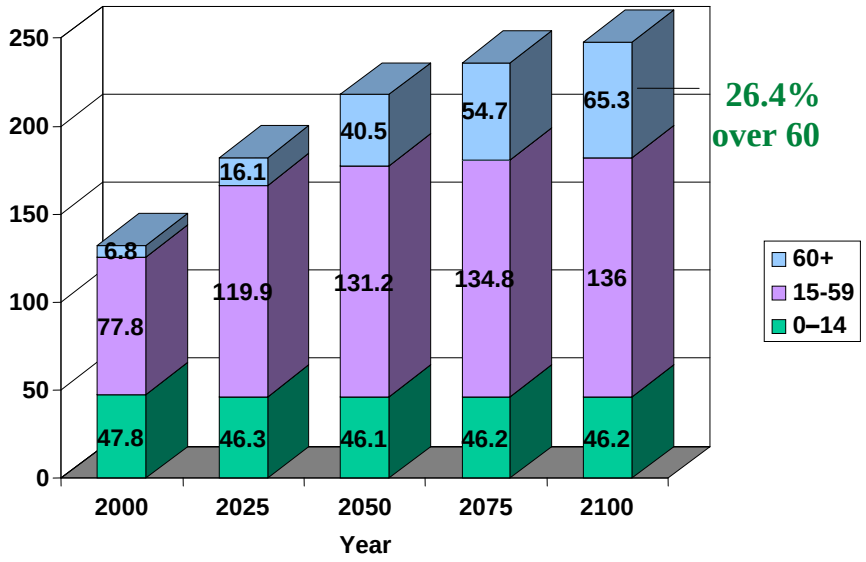
Strong policy interventions have led to a reduction in the total fertility rates over recent decades, to 2.7 children in 2007 (BDHS 2004; BDHS 2007) from 6.6 children per woman aged 15–49 years in the mid–1970s, as well as a continuous rise in life expectancy for both men and women, to 65 years in 2007 from 58 years in 1994. Reversal of past trends of male bias in survival is evident; women now live longer than men (66 years for females compared with 64.4 years for males) (BBS 2007).

However, the contraceptive prevalence rate has remained relatively static over recent years at 56 per cent in 2007 (down from 58 per cent in 2004). The combination of a sizeable population of reproductive age[3] with an annual growth rate greater than replacement rate at 1.48 per cent in 2007 plus increasing numbers of people living over the age of 60 signals a continuation of rapid population growth. Population projection estimates in 2009 agree that growth promises to be significant, though they offer different projections on the extent of increase:

- Bangladesh Population Policy: estimates population to stabilize at 210 million by 2060 if replacement-level fertility (2.2 children per woman of reproductive age) is reached by 2010
- United Nations in 2004: estimated 243 million by 2050
- World Bank: forecasts a stationary population of 263 million by 2150
- Some projections estimate that the population over age 60 will increase 10-fold so that the elderly will account for 26.4 per cent of the total population by 2100 (Streatfield and Karar 2008).

[3] One-third of the population is under 15 years of age, 63 per cent are age 15–64 years, and 4 per cent are age 65 or older (CIA 2010).

Figure 1.2 Estimated Bangladesh population by end of 21st century (in millions)



Source: Koehlmoos (in press).

1.2 Socio-economic profile

1.2.1 Economic profile

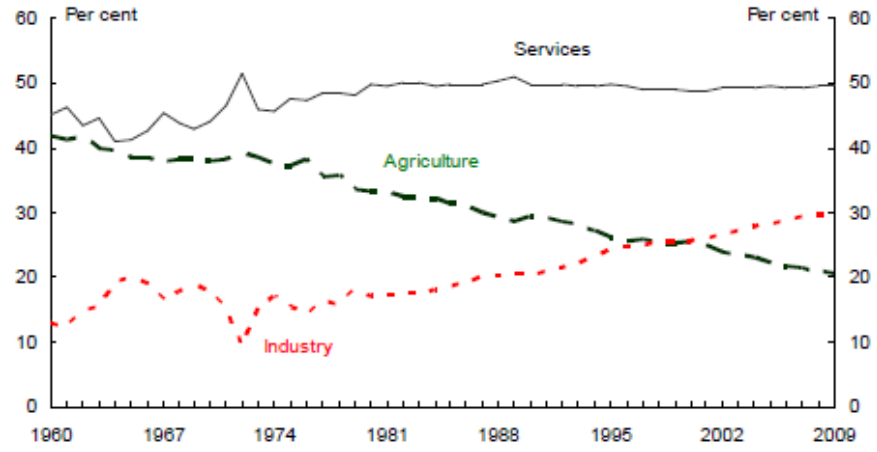
Bangladesh is one of the poorest nations in the world with a per capita GNI of US$ 520 and is classified by the World Bank as a low-income county (World Bank 2010c). According to the Human Development Report 2009, it had a Gini coefficient of 31.0, signalling high income inequality (UNDP 2009). Bangladesh ranked 146th (out of 182 countries) on the Human Development Index-1 in 2009, placing it in the "medium human development country" category.[4] On the Human Poverty Index, it is ranked 112th (out of 135 countries).[5] An estimated 40.8 per cent of the population lived on less than one dollar per day, an improvement from 58.8 per cent in 1990.

Following a slowdown in growth after the Liberation War, Bangladesh's economic growth accelerated from the late 1980s and become more stable over time around 5–6 per cent a year since 1996. The sectoral composition of the economy has changed significantly over the past five decades: agriculture's share of the economy has nearly halved from about two-fifths in the early 1960s. The share of industry has doubled since the early 1970s to about 30 per cent. Services have steadily accounted for about half of the economy since the 1970s. The economic acceleration of the past two decades has occurred fairly evenly in the industry and services sectors. Figure 1.3 illustrates these trends (Rahman and Yusuf 2009).

Figure 1.3 Sectoral composition of the national economy

[4] The Human Development Index provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in education), and having a decent standard of living (measured by purchasing power parity, PPP, income).

[5] HPI-1 is an index that focuses on the proportion of people below certain threshold levels in each of the dimensions of the human development.



Source: BBS, World Bank, authors' calculations.

The major factors fuelling this continued growth despite the global economic downturn of 2008–2009 have been expansion in the export of ready-made garments and remittances sent to Bangladesh from migrant labourers who work primarily in unskilled positions in the Malaysia and the Middle East. Garment exports, totalling US$ 12.3 billion and remittances from overseas Bangladeshis totalling US$ 9.7 billion in fiscal year 2009 accounted for almost 25 per cent of GDP (CIA 2010).

However, shocks in recent years to the Bangladeshi economy in the form of natural disasters and rising food prices are reported to have slowed poverty reduction progress. In 2007 two natural disasters, floods and a devastating cyclone, occurred within a few months of each other. Another significant shock has been the steep rise in food prices, including in the price of the main staple, rice, which has revealed the risk posed by global price volatility for a net food-importing country like Bangladesh. Estimates suggest that the impact of the food price shock has likely negated some of the reduction in poverty brought about by economic growth between 2005 and 2008 (World Bank 2008).

Despite these recent shocks and the current status of human development in Bangladesh, progress continues to be made. For example, a review of progress against MDGs in 2008 showed that the head count rate of the incidence of poverty (using the upper poverty line) has been in decline since the 1990s: the national poverty incidence fell from 48.9 per cent in 2000 to 40 per cent in 2005 (Planning Commission 2008). The report estimates that if the trend witnessed between 2000 and 2005 (3.6 per cent annual reduction) were to continue, the estimated poverty level in 2015 would be less than 30 per cent, equal to the MDG target.

Although national poverty incidence is in decline, significant disparities still exist and the Household Income and Expenditure Survey (HIES) 2005 suggested that the rich–poor gap had even increased significantly. Regional poverty disparities were also reported to have grown between 2000 and 2005, notably between two sub-sets of divisions: the Barisal-Khulna-Rajshahi Divisions and the Dhaka-Chittagong-Sylhet Divisions (MOF 2008a),[6] the latter group experiencing much greater reductions in poverty. Poverty disparities have severe implications for accessing basic services. For example, the richest 20 per cent of

[6] March 2008: In 2000 the poverty incidence was 53.1 per cent in Barisal, 45.1 per cent in Kulna and 56.7 per cent in Rajshahi. 2005 data shows minimal reduction in poverty in Barisal (down to 52 per cent), Kulna (slightly higher even at 45.7 per cent) and Rajshahi (down to 51.2 per cent). Dhaka-Chittagong-Sylhet on the other hand are shown to have experienced much greater reductions in poverty—down from 46.7 per cent, 45.7 per cent and 42.4 per cent respectively, to 32 per cent, 34 per cent and 33.8 per cent in 2005—all sitting well below the national poverty incidence rate.

households are three times more likely than the poorest 20 per cent to seek advice or treatment from a health facility or provider when a child has diarrhoea, fever, or an acute respiratory infection (BDHS 2007). Less than 5 per cent of the women from the poorest 20 per cent of households have their babies delivered by a medically trained provider, compared with more than half of women in the richest quintile. This is further elaborated in chapter 4.

1.2.2 Social systems

Family and kinship are the core of social life in Bangladesh. In rural areas, a family group residing in a household (*bari*) functions as the basic unit of economic endeavour, land-holding, and social identity, popularly known as the extended family. However, in urban areas most dwellings contain nuclear families and occasionally extended family lodgers. Patrilineal ties dominate the ideology of family life, though in practice matrilineal ties are also important.

Despite progress, literacy remains low. Nationally 48.6 per cent of men and 49.1 per cent of women over the age of 15 were literate in 2008 (BBS and UNESCO 2008), compared with much higher rates in other countries in South and East Asia, such as Nepal (79.3 per cent), Pakistan (99 per cent), and India (82.1 per cent).[7] In addition to low literacy rates overall, the BDHS 2007 found a marked difference in literacy by household wealth, ranging from a low of 29 per cent among women in the bottom wealth quintile to a high of 80 per cent among women in the top wealth quintile. Literacy patterns by place of residence and household wealth are similar for women and men, though rates are generally slightly higher for men. This pattern is, however, reversing in the lowest age groups: a larger percentage of females aged 15–19 and 20-24 are literate (78.7 and 72.1 per cent respectively) than males in the same age brackets (46.5 and 63.2). At the tertiary level more males than females are enrolled in public universities, and in colleges under the National University and technical universities; the male-female ratio was 62:38 in 2006 (Planning Commission 2008).

Another trend is the rapid rate of urbanisation. Natural disasters, low productivity of land and rural employment, and surplus agricultural labour force in rural areas are key factors contributing to the movement of people from rural to urban areas (Planning Commission 2008). Bangladesh has experienced one of the highest urban population growth rates (nearly 7 per cent per year in the urban slums) in the last three decades (Anam et al. 1997) with about 24.6 per cent of the population now living in urban areas (BBS 2007). Rapid urbanisation is likely to have a major impact on the health profile of the population as many rural-to-urban migrants lack human and financial capital to settle in the city (National Institute of Population Research and Training (NIPORT and IEDCR 2008). In almost every major urban centre, tens of thousands of people live in overcrowded slums, streets, or other public places that lack basic facilities, such as safe water, sanitation, and health services (Streatfield and Karar 2008; Koehlmoos et al. 2009). Dhaka is expected to reach a population of 22 million by 2025 making it the third largest mega-city in South Asia and the fourth largest in the world (NIPORT and IEDCR 2008). In 2007, an estimated 37 per cent of the total Dhaka metropolitan population, 9.1 million people, lived in urban slums (Islam and Azad 2007) and the city continues to grow at a rapid pace. The growth rate in absolute terms is 320,000 people per year, with more than three-quarters migrating to urban slums or areas with even less shelter (Streatfield and Karar 2008). Lack of employment, shelter, and basic services accessible to the growing number of urban poor are emerging socioeconomic concerns.

[7] http://unstats.un.org/unsd/mdg/SeriesDetail.aspx?srid=656.

1.3 National development and policy framework

1.3.1 Political history

The Moguls ruled the country from the 13th century until the 18th century, followed by British administration in the subcontinent until 1947. During British rule, Bangladesh was part of India. In 1947, the independent states of Pakistan and India were created and the present territory of Bangladesh remained part of Pakistan until 1971. After nine months of war, Bangladesh emerged as a sovereign state on 26 March 1971.

Immediately after independence, the nation was largely driven by the socialist principles reflected in the 1972 constitution. Further progress in that direction was attempted by formation of BAKSAL (the Bangladesh Peasant-Labourers' Awami League) by the founder President of the country, the *Bangobandhu* (meaning friend of Bangladesh), Sheikh Mujibur Rahman in January 1975. He made an amendment to the constitution for implementation of the new programme, which included a declaration for a single party political system, nationalisation of all industries, banks, and insurance companies, and a cooperative-based agriculture policy. Before producing any major changes within the new initiative, Sheikh Mujibur Rahman was assassinated by a group of military personnel on 15 August 1975. After that, the country witnessed a series of coups and counter-coups resulting in promulgation of martial law.

Over the next 15 years until the 1990s, subsequent military rulers gradually made the transition towards a democratic system and practised both presidential and parliamentary forms of government in an autocratic manner. During that time, at least two major political parties (Bangladesh Nationalist Party and Jatiya Party) were formed, which remain major influences in national politics. Democratically elected political parties have led the country since the 1990s with the exception of a two-year military backed caretaker government from 2006–2008. Civil society organisations, development partners, the media, and human rights groups have continued to lobby for strengthening of democratic processes.

In January 2009, after almost two years under a military-backed interim government, Bangladesh reverted back to democratic rule in generally free and transparent polls, high voter turnout, and minimal election violence. Sheikh Hasina was elected to a second term as Prime Minister after her Awami League-led Grand Alliance won the elections.

1.3.2 Political system

The government comprises three basic organs: the legislature, the judiciary, and the executive. Legislative power is vested in the single-house parliament, with 300 members of parliament elected by national election that takes place every five years. The President acts as the head of state while the Prime Minister acts as head of government and exercises executive authorities through a Council of Ministers (Pathey 2006). Implementation of government policies and programmes is vested in the Bangladesh Civil Service, a corps of trained administrators who form the most influential group of the bureaucracy.

The constitution has formed the basis of the nation's political organisation since its adoption on 4 November 1972. Several abrupt political changes took place in the mid-1970s and mid-1980s that caused its suspension and led to a series of amendments.

Although mainstream politics is dominated by multi-party participation, Bangladesh has experienced at least two major military coups and a military-backed caretaker government since independence.

1.3.3 National Development Policy Framework

The government-led poverty reduction strategy, *Moving Ahead: National Strategy for Accelerated Poverty Reduction* (NSAPR-2), which was updated in 2008, provides the strategic framework for national development in Bangladesh over 2009–11 (MOP 2005b). Like its predecessor (MOP 2005a), NSAPR-2 clearly articulates the socio-economic development priorities and objectives for Bangladesh and supports the achievement of the MDGs, South-Asia Association for Regional Cooperation Goals, and national goals. It stresses the links between investment, growth, job creation, and poverty reduction, and identifies key areas where reforms, public investments, and public policy improvements are required. NSAPR-2 places greater emphasis on pro-poor growth than NSAPR-1. Box 1.1 outlines its strategies to achieve this.

Box 1.1 National Strategy for Accelerated Poverty Reduction strategies

NSARP-2, 2009–11 is built around five strategic building blocks and five supporting strategies

Five strategic building blocks:

1. Creating a macroeconomic environment for ensuring pro-poor economic growth
2. Emphasising growth in critical areas of focus, for pro-poor economic growth.
3. Building essential infrastructure to support pro-poor economic growth.
4. Protecting the vulnerable
5. Human development—the two most important aspects of human development are having knowledge and good health

Five supporting strategies:

1. Ensuring women's participation in social inclusion and empowerment
2. Promoting good governance
3. Ensuring efficient service delivery, including
4. The environment and tackling climate change for sustainable development, and
5. Enhancing productivity and efficiency through technology, including ICT.

Within the supporting strategies, the following areas promise to have a particular and direct influence on health outcomes:

Strategic building block 5: Human development
NSAPR-2 recognises that the two most important aspects of human development are having knowledge and good health. It promises to continue giving priority during 2009–2011 to "measures to improve access to education and to health services, but with a greater emphasis on improving the quality and efficiency of the service provision….In health, emphasis will be given to strengthening reproductive and maternal health services, to reducing the incidence of communicable disease and to improving the efficiency and reliability of essential drug supply services on which poorer households depend. The area-based community nutrition programme will be expanded in the rural areas and introduced on a pilot basis in urban areas."

Supporting strategy 1: Ensuring women's advancement
NSAPR-2 places emphasis on mainstreaming women's advancement, specifically by ensuring women's issues are addressed through core sector and programme budgets. Priority will be given to initiatives for promoting women's advancement by:

- providing access to education and health facilities
- encouraging women's participation in mainstream market-oriented economic activities
- improving access to job opportunities and terms and conditions of employment
- improving access to banking services and credit services on a preferential basis
- increasing the allocation of public housing
- better access to transport and communication to allow greater mobility, and
- providing social protection for women against vulnerability and risks.

Particular attention will be given to initiatives aimed at reducing the incidence of domestic violence and violent acts where women are usually the main victims. Additionally, a small number of targeted programmes will provide direct women-focused support. These include facilities for providing small-scale loans to women, female stipend programmes in secondary and tertiary education, and maternal and reproductive health programmes.

Annual Development Programme

The Annual Development Programme (ADP) is NSAPR's key implementing instrument. The Ministry of Planning leads on the preparation of the ADP within the framework of the government's Three Year Rolling Investment Programme and Five Year Plan. The ADP therefore includes all projects, programmes, and allocations for the country. The ADP's total number of projects during 2005–2006 stood at 886, of which 749 were investment projects and 137 were technical assistance projects. A total of 279 projects were expected be completed in the fiscal year 2006/07, and 51 new projects were included for the same financial year (MOF 2008a). There are concerns around the implementation rate of ADP funds (see chapter 7) and in response the Planning Minister plans to review ADP progress every three months to monitor its proper implementation.

Monitoring development progress

Annual MDG progress reports review Bangladesh's record in achieving the MDGs and provide a useful summary of development progress overall, highlighting areas in need of greater attention. Box 1.2 provides a summary of the MDG Progress Report 2008 (Planning Commission 2008).

Box 1.2 Summary of MDG Progress Report for Bangladesh, 2008

Good progress was made in:

- targets in the areas of hunger (Goal 1)
- net enrolment in primary education (Goal 2)
- gender parity in primary and secondary education (Goal 3)
- reducing child mortality and improving immunisation coverage (Goal 4)—more than one-third of the districts achieved the national target of 47 or less and 20 districts (out of 64) achieved the national target having an infant mortality rate of 31 or less per thousand live births
- rolling back malaria and controlling tuberculosis (Goal 6)
- improved drinking water supply (Goal 7).

Greater emphasis is needed on:

- poverty reduction and employment generation (Goal 1)
- increases in the primary school completion rate and adult literacy rate (Goal 2)—especially low education completion rate in Rajshahi division, in particular the monga-prone areas and the Padma-Jamuna-Brammaputra basin
- creation of more wage employment for women (Goal 3)
- reduction of neonatal mortality ratios as progress remains slower than under-five and infant mortality (Goal 4)
- reduction of the maternal and neonatal mortality ratios and increase in the presence of skilled health professionals at delivery (Goal 5)
- increase in correct and comprehensive knowledge of HIV/AIDS (Goal 6)
- increase in forest coverage (Goal 7)
- coverage of Information and Communication Technology (Goal 8).

2. Health status (and trends)

2.1 Progress against the health MDGs and key health outcomes

The health MDGs (4, 5, and 6) provide the goals and targets towards which Bangladesh is currently striving. Table 2.1 provides an overview of the extent to which these MDGs are being met or are likely to be met by 2015.

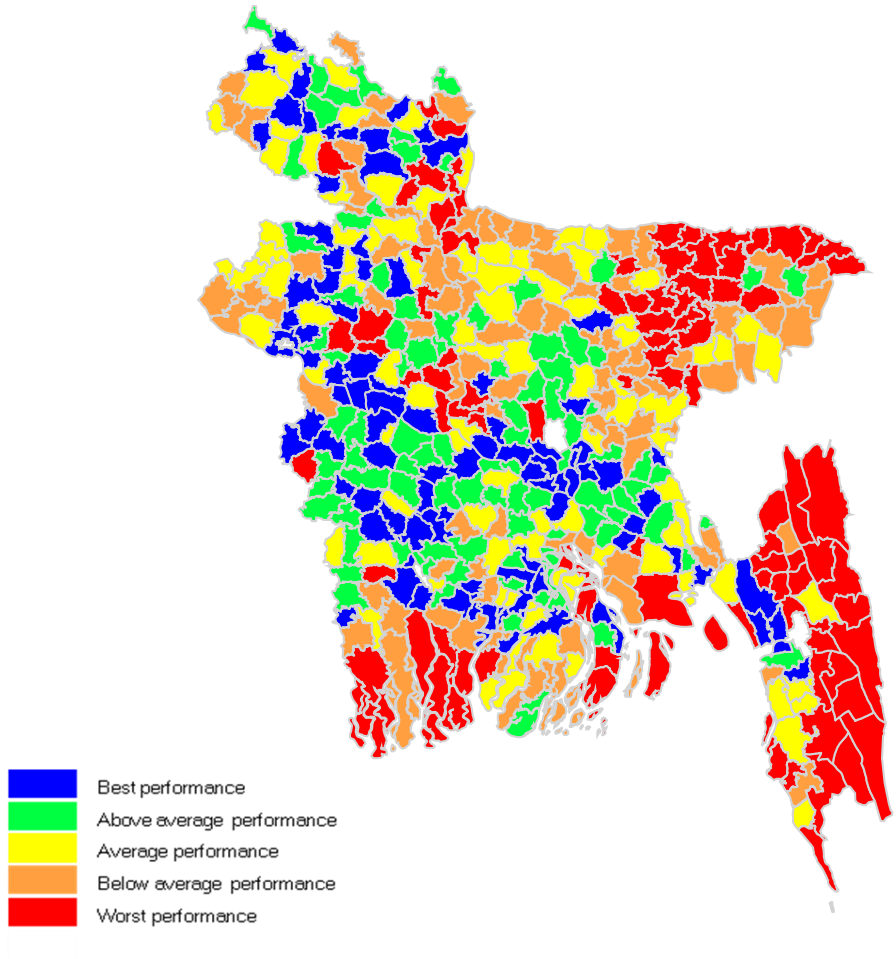
Table 2.1 Recent progress against key health MDGs

Key outcome indicators	Baseline 1990/1991	2004	2007	Progress towards MDG target 2015
Under-5 mortality/1,000 live births	146	88	65	On track to 48
Infant mortality rate/1,000 live births	92	65	52	On track to 31
Neonatal mortality/1,000 live births	52	41	37	Off track to 22
Maternal mortality/100,000 live births	574	320	--	Off track to 144
Prevalence of underweight children (6–59 months)	66	47.5	46.3	Off track to 33
Total fertility rate	4.3	3.0	2.7	On track to 2.2
Prevalence of HIV/100,000	0.005	--	0.319	On track—halting
Prevalence of malaria/100,000	43	34	59	On track—halting
Prevalence of TB/100,000	264	406	225	On track—halting

Sources: 1. Planning Commission 2008, except for neonatal mortality (data source BDHS 1993/94) and total fertility rate (data source Contraceptive Prevalence Survey 1991; target set as the replacement rate). 2. BDHS 2004, except for maternal mortality (data source Bangladesh Maternal Mortality Survey 2001) and MDG 6 indicators (data source Planning Commission 2008). 3. BDHS 2007, except for MDG 6 indicators (data source Planning Commission 2008).

Overall, Bangladesh is on track to achieve most health MDGs, with the notable exceptions of maternal and neonatal mortality, and nutrition. Closer inspection, however, reveals marked inequalities in child, infant, neonatal, and maternal mortality rates among different divisions and districts (figure 2.1), which will need to be address if the country is to achieve all its health MDGs. Sylhet, for example, has the highest mortality rates for all indicators except child mortality. Khulna has the lowest rates for infant, child, and under-five mortality, while Barisal has the lowest rates for neonatal mortality. Post neonatal mortality is lowest in Rajshahi division (MOF 2008a). At present, 16 districts are not on track to achieving their under-five mortality target by 2015 and around half of all districts are not on track to achieving the infant mortality target (Planning Commission 2008). Poverty disparities also remain significant with mortality among under fives in the poorest households, 43 deaths per 1,000 live births, being twice as high as for wealthiest children, 86 deaths per 1,000 live births.

Figure 2.1 Map of Bangladesh showing MDG composite index by upazila



Source: BBS/UNICEF Multicluster Indicator Survey 2009.

2.2 Status in key health areas

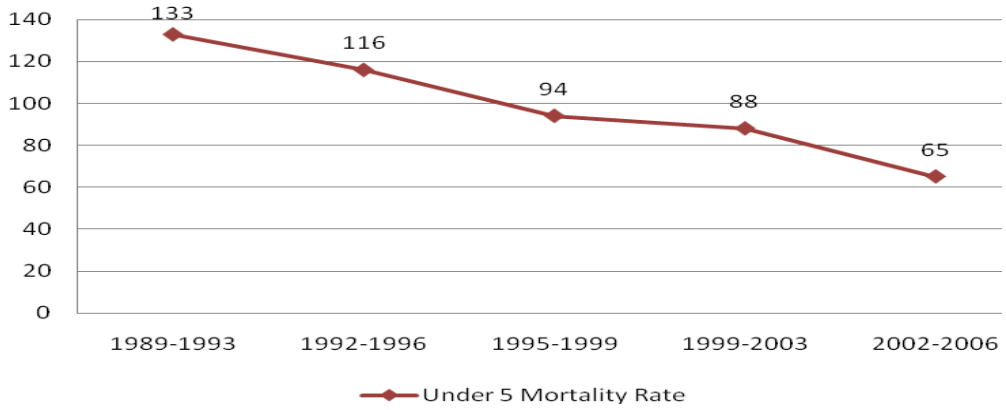
2.2.1 Child, infant, and neonatal mortality

Child and infant mortality rates have reduced considerably over the last decade and are on track to meet the 2015 MDG targets. However, neonatal mortality is declining at a much slower rate; between 2000 and 2003, neonatal mortality accounted for 45 per cent of deaths among children under five (WHO 2006a).

Under-five mortality

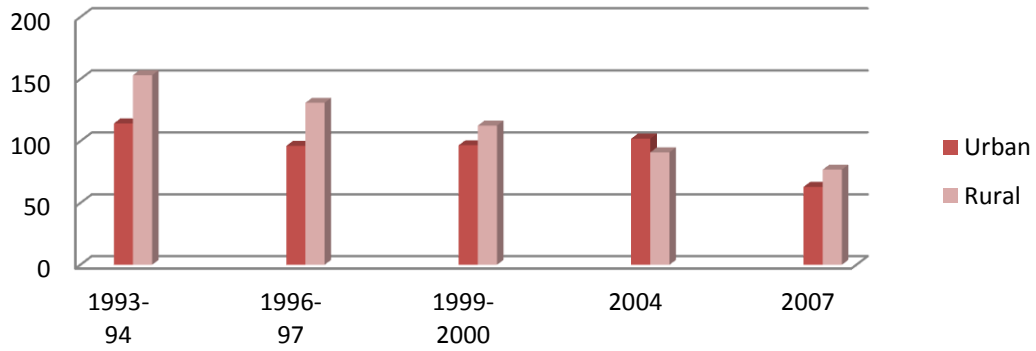
There has been a considerable reduction in the under-five mortality rate to 65 deaths per 1,000 live births, almost 60 per cent lower than the rate in 1991. If this trend continues, the target of 48 (per 1,000 live births) is likely to be achieved and potentially even surpassed. There was a greater reduction in under-five mortality rate for girls than boys during 1991–2007, with a rate of 60 per 1,000 live births for boys and 58 for girls (Planning Commission 2008).

Figure 2.2 Trends in under-five mortality rates, 1989–2007 (per 1,000 live births)



Source: BDHS 2007.

Figure 2.3 Trends in under-five mortality rates by residence, 1993–2007 (per 1,000 live births)

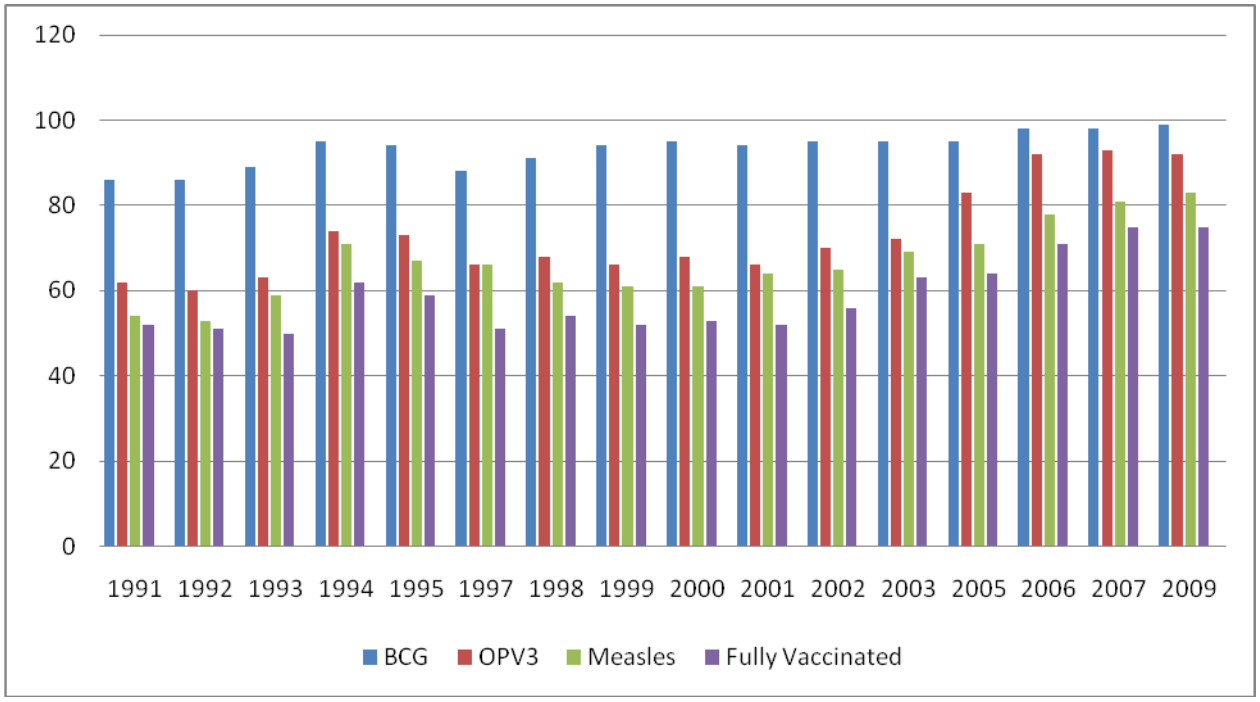


Source: BDHS 2007.

Factors contributing to this rapid decline in under-five mortality include impressive gains in selected health indicators/coverage of interventions, e.g. use of oral rehydration therapy, vitamin A supplementation, and immunisation.[8] Studies also show that use of antibiotics for childhood illness, e.g. ARI, is high particularly from informal private sector providers (BDHS 2007). Expansion of facility-based integrated management of childhood illness is also reported to be progressing well, although implementation at community level including pharmacies and village doctors is reportedly slow. The BDHS 2007 indicates that only about 37 per cent of sick children receive care from a trained provider, with girls and the poor having lower rates.

[8] 82 per cent of children received all vaccines in 2007, up from 73 per cent in 2004 (BDHS 2007).

Figure 2.4 Trend in national vaccination coverage among children 12–23 months, 1991–2009 (%)



Source: BDHS 2007.

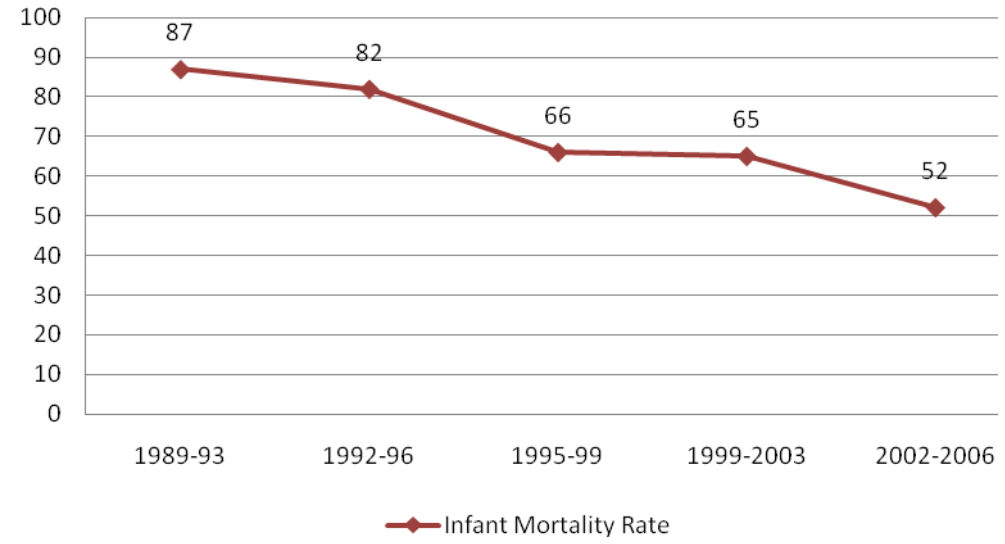
Disaggregated data, however, point to uneven progress. A comparison of mortality rates over three recent years shows that infant and child mortality declined by 20 per cent and 42 per cent respectively (BDHS 2007). Disparities also exist by location, with child mortality highest in Chittagong, and across age groups, and across the board tending to be highest among children born to women in the youngest age group. First births and higher order births have the most elevated mortality rates.

Infant mortality[9]

Again impressive reductions occurred between 1991 and 2007, from 92 (per 1,000 live births) to 43, a 53 per cent reduction. As per under-five mortality, if the rate of decline continues, the target of 31 (per 1,000 live births) is likely to be achieved and potentially even surpassed.

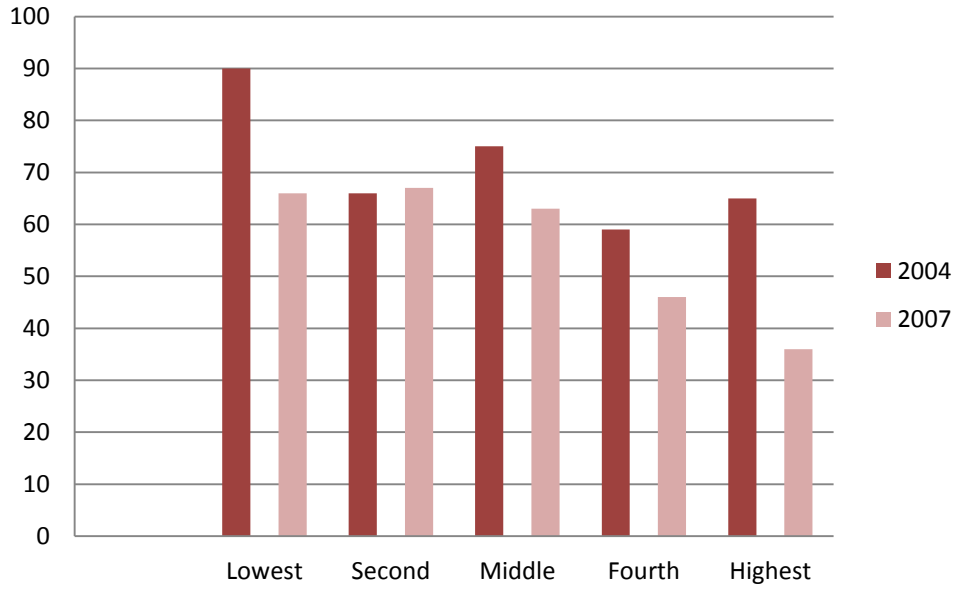
[9] The infant mortality rate refers to the number of infants dying before reaching the age of one year per 1,000 live births in a given year.

Figure 2.5 Trend in infant mortality rate, 1989–2007 (per 1,000 live births)



Source: BDHS 2007.

Figure 2.6 Infant mortality rates by wealth quintile, 2004 and 2007 (per 1,000 live births)



Source: BDHS 2007.

Neonatal mortality

BDHS (2007) data show that the neonatal mortality rate per 1,000 live births declined from 41 in 1999–2003 to 37 in 2002–2006, indicating progress overall but at a lower rate compared with the under-five and infant mortality rates. Only 22 per cent of children receive appropriate care within 24 hours of birth. The challenge is that 82 per cent of births occur in the home. The BDHS 2007 confirms findings from the BDHS 2004 that there are no longer notable differences in post neonatal and under-five mortality rates of male and female children; as expected, neonatal gender differentials, which reflect largely congenital conditions that tend to be higher for boys, remain (Das Gupta 1987). The government's plan to address this issue is outlined in the National Neonatal Strategy, adopted in 2009.

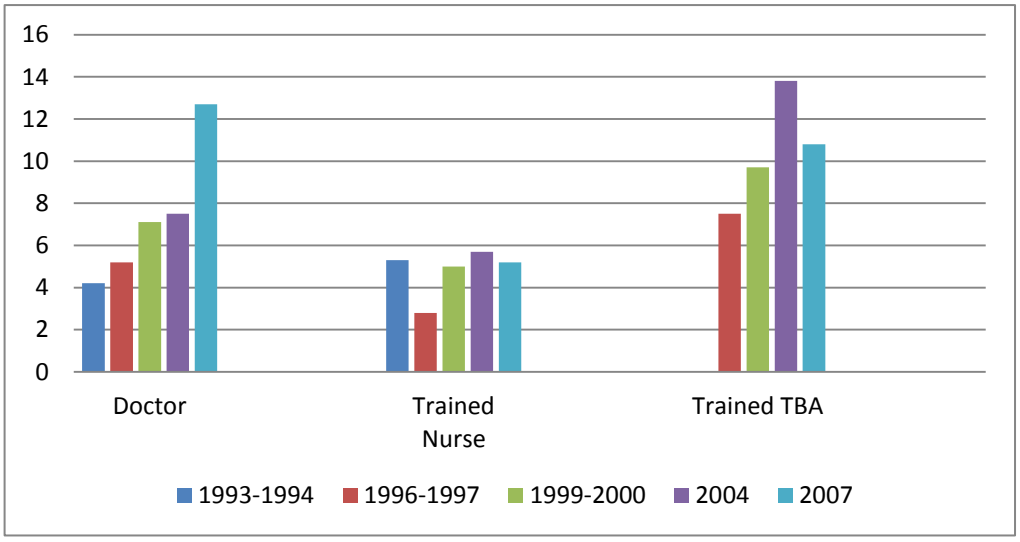
2.2.2 Maternal mortality

Despite the early and significant decline in the maternal mortality ratio in Bangladesh from 574 in 1990 to 320 in 2001, there is concern that this rate of decline has not been sustained and that the MDG target of 147 will not be achieved (UNICEF 2008; NIPORT et al. 2003). The reduction in maternal mortality in Bangladesh has been achieved with strong government commitment through national policies and programme implementation. In particular, there have been fewer deaths due to successful family planning programmes resulting in lower fertility rates, expansion of female education, safe menstrual regulation services, and improving access to comprehensive emergency obstetric care facilities (Towards 4+5 Research Programme Consortium 2009).

A remaining concern is the availability and quality of skilled attendance at birth. Despite efforts to expand emergency obstetric care use of institutional deliveries is still very low and rising slowly, accounting for only 15 per cent of all births compared with 11 per cent in 2004 (BDHS 2007). More than 60 per cent of births were assisted by non-trained birth attendants and 6 per cent attended by relatives, friends, or neighbours. Only 18 per cent of all births were delivered by a medically trained provider, which includes qualified doctors, nurses, midwives, paramedics, family welfare visitors, and community skilled birth attendants.

Figure 2.7 illustrates trends in attendance by skilled provider. Physicians attended only 12.7 per cent of all births in 2007, up from 4.2 per cent. Trained traditional birth attendants attended 10.8 per cent of births in 2007, although this goes against the national health policy of encouraging attendance by a skilled birth attendant. As of 2007, large gaps remained between urban (36.7 per cent) and rural (13.2 per cent) use of skilled birth attendants.

Figure 2.7 Trend in deliveries attended by a skilled attendant/health care professional, 1993–2007 (%)



Source: BDHS 2007.

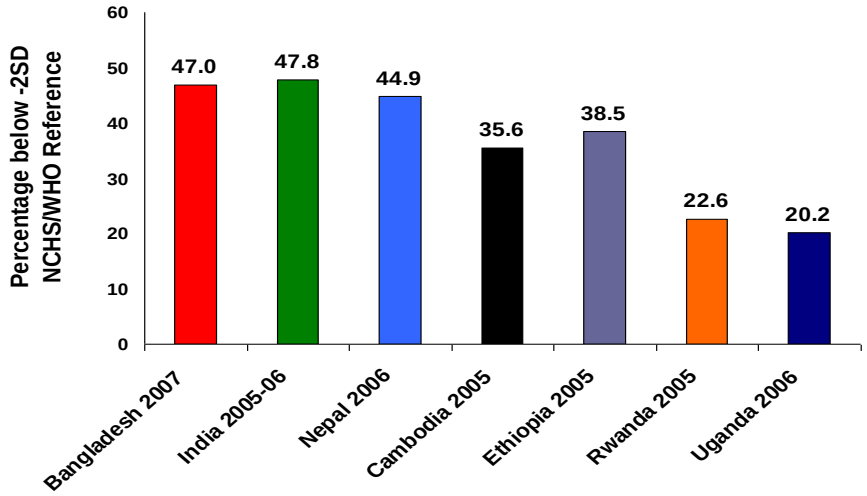
An upward trend in facility based deliveries from 3.5 per cent in 1994 to 14.7 per cent in 2007 is accompanied by an increase in Caesarean section deliveries from 2.4 in 2000 to 7.5 per cent in 2007. Again, gaps existed in facility based delivery both by rural and urban and by wealth quintile.

The Maternal Mortality Survey 2010 will provide updated official mortality figures by 2011. The government is also revising its Maternal Mortality Strategy.

2.2.3 Nutritional status

Despite a reduction in the proportion of population below the minimum level of dietary energy consumption, poor nutritional status remains one of the most important health and welfare problems facing Bangladesh. Bangladesh has one of the highest proportions of undernourished people in the world (figure 2.8).

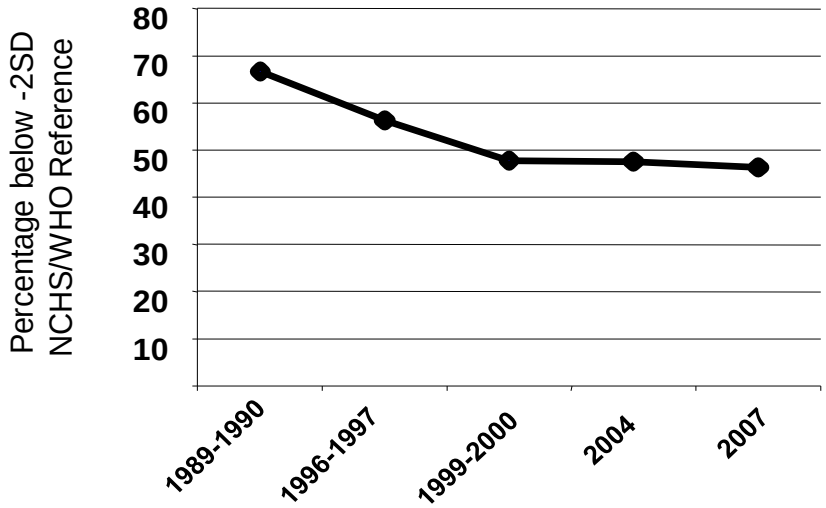
Figure 2.8 Prevalence of underweight children under five in Bangladesh and selected countries



Source: Demographic and Health Surveys.

Underweight rates declined at 3.6 per cent per year during the 1990s, a pace similar to that of Sri Lanka and better than India; since then, however, rates have stabilised. The average decline per year will need to increase to about 1.4 per cent from 1.27 per cent if the MDG target of 33 per cent in prevalence of underweight children under five is to be reached by 2015.

Figure 2.9 Trends in Bangladesh of underweight children under five, 1990–2007



Source: for 1989–90, GOB and UNCTB 2005; for other years, BDHS 2007.

Nearly 50.5 per cent of under fives in the lowest quintile are undernourished compared with 26 per cent in the highest quintile (BDHS 2007). Furthermore, results from the 2007 BDHS show no improvement from 2004 in overall rates of exclusive breast-feeding in the first six months of life. Currently, 42.9 per cent of the children up to six months were exclusively breast-fed. Supplementation of mothers with vitamin A doses after delivery remains relatively low at only 20 per cent. While it is difficult to determine trends with respect to low birth weight, it is estimated that about 40 per cent of perinatal deaths are associated with low birth weight.

Unequal progress in child malnutrition rates by income and geography remains a challenge. Stunting rates have declined, but most of the decline occurred among children in better-off households, with the rich-poor gap between stunting rates among children under five growing from 26 percentage points in 1996–1997 to 29 in 2004 (table 2.2). Although better-off households have experienced more gains in nutritional status than poor households, a strikingly high proportion (25–30 per cent) of children in the richest quintile were malnourished in 2004. The overall malnutrition rate in Bangladesh remains high by international standards—higher, for example, than in sub-Saharan countries with similar levels of per capita income (World Bank 2010c).

Table 2.2 Trend in inequality in prevalence of malnutrition, 1996–1997 and 2004 (%)

	2004				1996/97			
	Bottom 20%	**Top 20%**	**Overall**	**Gap (Bottom-Top)**	**Bottom 20%**	**Top 20%**	**Overall**	**Gap (Bottom-Top)**
Stunting among children under 5 (moderate and severe)	54.4	25.1	43.1	29.3	61.1	34.8	54.7	26.3
Underweight among children under 5 (moderate and severe)	59.3	30	47.5	29.3	65.2	37.6	56.4	27.6
Stunting—girls	53.6	27.1	43.5	26.5	61.8	44.4	55.1	17.4
Stunting—boys	55.1	22.7	42.6	32.4	60.3	35.4	54.2	24.9
Underweight—girls	59	31.3	48.6	27.7	67.9	38	58.2	29.9
Underweight—boys	59.6	28.4	46.4	31.2	62.5	37.2	54.7	25.3

Source: Gwatkin et al. (2007).

Disaggregating trends by sex also demonstrates increasing absolute inequality in nutritional outcomes. The difference between the top and bottom quintiles in stunting rate among girls increased from 17 to 27 percentage points, and that in underweight rate among boys increased from 25 to 31 percentage points. A gender gap persists as well—the percentage of girls who are underweight exceeds the percentage of underweight boys by 2.2 per cent in 2004, marginally lower than the 3.5 per cent gap in 1996–1997. Interestingly, in 1996–1997, girls were both more stunted and underweight than boys in the same wealth quintiles. By 2004, however, girls from the bottom wealth quintile were less stunted and underweight than boys in the same quintile but girls from the top wealth quintile remained worse off than boys in their wealth quintile.

The proportion of undernourished or thin—a body mass index less than 18.5—ever-married women aged 15–49 is 29.7 per cent. In urban areas 19.6 per cent women are undernourished, compared with 32.6 per cent in rural areas. The proportion of undernourished women also varies significantly by wealth quintile. The BDHS 2007 shows that only 13.4 per cent of the women of highest quintile have a body mass index less than 18.5 while 43.4 per cent women among lowest quintile are undernourished.

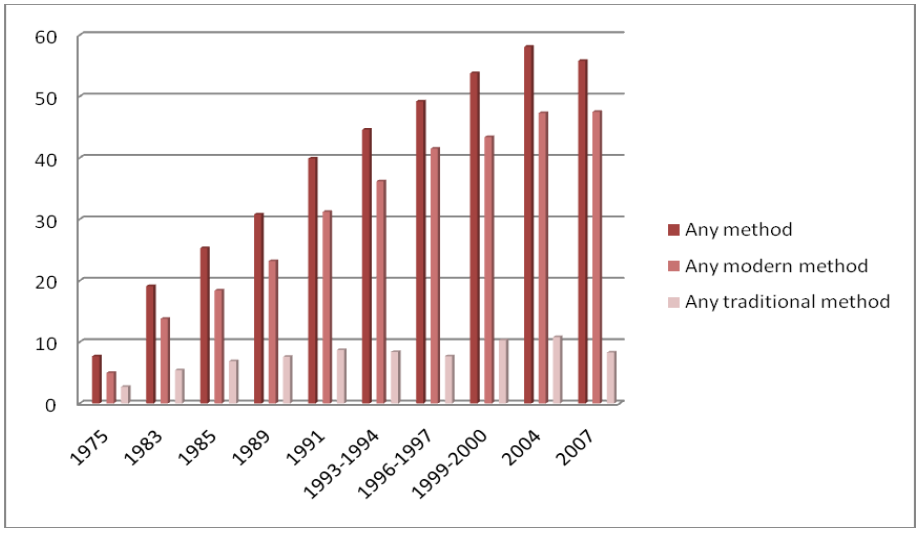
The Bangladesh Integrated Nutrition Programme (BINP) was launched in 1995 with the National Plan of Action for Nutrition (NPAN), and in 2008 a National Food Policy was produced. The BINP was incorporated into the second sector programme called the Health, Nutrition and Population Sector Programme (HNPSP) in 2004 as the National Nutrition Programme (NNP). Progress to mainstream/integrate nutrition interventions within general services delivery remains limited, however, and in 2009, NNP was established as a directorate in MOHFW, funded through the HNPSP.

2.2.4 Population and fertility

The overall contraceptive prevalence rate decreased from 58.1 in 2004 to 55.8 per cent in 2007, which can be attributed to a decline in the use of traditional methods (from 10.8 per cent in 2004 to 8.3 per cent in 2007), while prevalence of modern contraceptive methods remained unchanged at approximately 47 per cent over three recent years. Of particular note in the most recent BDHS is the increase in unmet need for family planning from 11 per cent (2004) to 18 per cent (2007). This increase in unmet need may be a reflection of family planning supply related problems and/or an increase in the demand for family planning.

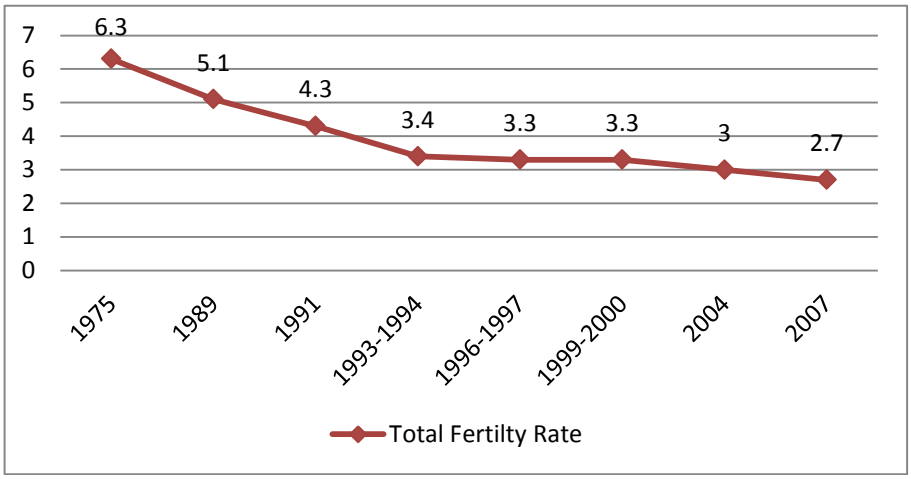
The total fertility rate began to decline again during 2004–2007, decreasing from 3 children per woman in 2004 to 2.7 in 2007 (figures 2.10 and 2.11). However, the incidence of adolescent births, although declining, remains high at 59 births for every 1,000 teenage mothers in 2007 compared with almost 80 in 1991 (Planning Commission 2008).

Figure 2.10 Contraceptive prevalence rates, 1975–2007 (%)



Source: BDHS 2007.

Figure 2.11 Trends in fertility rate among women aged 15–49, 1975–2007 (average number of children)



Source: BDHS 2007.

2.2.5 Communicable diseases

Communicable diseases—though decreasing as a proportion of the overall burden of disease—continue to cause nearly 20 per cent of overall mortality and morbidity in Bangladesh.

Tuberculosis[10]

Tuberculosis (TB) is a serious public health concern in the country with one of the highest number of cases detected in the world. World Health Organization (WHO) data estimated that TB accounted for 7 per cent of all deaths in Bangladesh in 2002. In response, Bangladesh has achieved significant success in halting and reversing the spread of TB through its National TB Programme (NTP): the TB prevalence rate fell from 264 (per 100,000 population) in 1990 to 225 in 2007. A similar trend is found in TB death rates, from 76 (per 100,000 population) in 1990 to 45 in 2007. NTP objectives included detecting 70 per cent of new smear-positive pulmonary TB cases and curing at least 85 per cent of them by 2005 and subsequently maintaining these rates. Detection of TB more than doubled from 24 per cent in 1994 to 73 in 2007. The cure rate of TB under DOTS progressed from 73 per cent in 1994 to 92 per cent in 2008 (IRT 2009a). Bangladesh has, therefore, already achieved its MDG targets in relation to TB, but long-term momentum needs to be maintained.

Malaria[11]

Malaria is highly endemic in 13 out of 63 districts (accounting for more than 95 per cent of cases) and 10.9 million people are at risk from the disease in these areas. The three Chittagong Hill Tract districts (Bandarban, Khagrachari, and Rangamati) and Cox's Bazar district account for more than 80 per cent of all malaria cases and deaths every year. These areas experience a perennial transmission of malaria with two peaks, one pre-monsoon (March–May) and the other post-monsoon (September–November). Both *P. falciparum* and *P. vivax* malaria are prevalent in the country, and 80 per cent of cases are *falciparum* cases. *An. dirus, An. minimus*, *and An. Philipinensis* are the principal vectors.

The government's HNPSP target is to reduce malaria morbidity and mortality by 50 per cent by 2011 (compared with 1990). Although the mortality rate is declining, compared with the base year of 1991 (from 0.36 deaths per 100,000 in 2005 to 0.16 in 2008), according to data

[10] Planning Commission 2008.

[11] Rahman 2008.

from the Malaria Control Programme (MCP) the number of malaria cases increased in recent years to 84,700 in 2008 (from 48,100 in 2005) and the 2008 prevalence rate was 59 per 100,000 population, up from 35 in 2005. In response, the Roll Back Malaria Programme has been implemented in high-risk zones with an integrated and strengthened surveillance system. Other interventions supported include early diagnosis and prompt treatment, selective vector control, promotion of insecticide-treated mosquito nets, epidemic preparedness, and community participation. A government-led Malaria Control Strategy was completed in 2009 (MOHFW 2009d). Projections from the Malaria Control Programme suggest that prevalence will come down to 21 by 2015.

HIV/AIDS

HIV prevalence in Bangladesh is low and at present the epidemic remains concentrated; the current prevalence is 0.32 per 100,000 among the general population with an estimated prevalence projected of 1.3 per 100,000 by 2015. The national serosurveillance shows that the disease is at an epidemic stage among injecting drug users (IDUs) in the large cities. While HIV prevalence among men having sex with men and female sex workers has remained below 1 per cent, unsafe practices among IDUs, particularly needle sharing, have caused a sharp increase in the number of people infected. Measurements at one central surveillance point showed that between 2001 and 2005, incidence of HIV in IDUs more than tripled—from 1.4 to 4.9 per cent, according to UNAIDS. In 2004, 9 per cent of IDUs at one location in Dhaka were HIV positive. Compounding the risk of an epidemic, a large proportion of IDUs (up to 20 per cent in some regions) reported buying sex, fewer than 10 per cent of whom said they consistently used a condom. Such a concentrated HIV epidemic can have far-reaching implications on HIV transmission to other vulnerable segments in society (USAID 2008).

The National AIDS and STD Programme (NASP) leads on HIV/AIDS control activities in Bangladesh and supports implementation of the 2nd National Strategic plan for HIV/AIDS (2004–2010). Since Bangladesh is still a low-prevalence country, interventions have not targeted the general population. Low condom use and poor comprehensive knowledge of HIV/AIDS among youths (16 per cent in 2006), however, increase the risk factors for contracting HIV/AIDS (USAID 2008). NASP has been criticised for giving insufficient consideration of the long-term risk of spreading of HIV from high-risk groups to the general population.

Other diseases (dengue, kala-azar, filariasis, acute respiratory infection, diarrhoeal diseases, and avian influenza)

Bangladesh had never experienced a known serious epidemic of dengue until 2000. Since then, dengue and dengue haemorrhagic fever cases have been reported in Dhaka and other major cities. As of 2004, a total of 16,388 dengue cases were reported of which 210 were fatal, a case fatality rate of 1.28 per cent. The Directorate General of Health Services (DGHS) has taken initiatives to develop national guidelines by adapting the WHO guidelines to local needs. The objective of the guidelines is to control transmission of dengue fever, including haemorrhagic cases, reduce morbidity, and prevent deaths (Rahman 2008).

Kala-azar has re-emerged since the cessation of spraying operations. At least 20 million people in more than 27 districts are at risk, with the single district of Mymensingh accounting for more than half of all cases in 2007. The estimated cumulative disease-specific burden is 35,000 cases. Under the project for integrated control of vector-borne diseases, an emergency plan for the control of kala-azar was initiated in 1994–1995 in 22 upazilas of 11 districts (population 5 million). The plan was successful and further expansion is now being planned. At least 8,000 kala-azar patients have been successfully treated (MOHFW 2009d).

Filariasis is present in 23 endemic districts, mostly bordering India. Around 20 million people are infected, most of whom are incapacitated; a further 30 million are at risk of infection.

Elimination of filariasis is being targeted through mass drug administration and morbidity control efforts. Mass drug administration reached 1 million people in 2001 and 42 million in 2008. Between 2007 and 2008 there was a reported reduction of microfilaria from around 15 per cent to around 2 per cent. Morbidity control efforts included completing hydrocele operations among about 40,000 cases and carrying out the first National Primary School deworming intervention in 64 districts among 20 million school children in November 2008. In addition, sensitisation efforts have included human resource development through training and information, education, and communication (IEC) campaigns.[12]

Acute respiratory infection (ARI) was found to account for about 145,000 deaths annually (or 33 per cent) of children under five years of age in 1994 according to the International Centre for Diarrhoeal Research, Bangladesh (ICDDR,B). Forty to sixty per cent of out-patient visits and 30–40 per cent of in-patient admissions are attributed to ARI. The programme for the control of ARI continues to be implemented on a phased basis according to the recommended WHO strategies (Rahman 2008). MOHFW reported in 2008 having trained newly recruited doctors, paramedics, and health workers on ARI and diarrhoeal disease control as well as ensuring drug and logistic supplies in areas not covered by the integrated management of childhood illness programme (MOHFW 2009d).

Diarrhoeal diseases are responsible for significant morbidity and mortality, accounting for 6 per cent of all deaths in 2004 according to WHO burden of disease data. The current strategies have reduced morbidity and mortality considerably. Multi-sectoral partners are involved in mobilising communities regarding correct home-based care and timely referral. The availability of oral rehydration solution has increased through the formation of depots in the community. Constraints include inappropriate use of anthelmintics and anti-diarrhoeals, especially in the private sector, and underutilisation of health facilities (Rahman 2008).

Avian influenza. Following identification of a human case in May 2008, Bangladesh is in a pandemic alert phase. This means the virus is actively circulating among poultry and HPAI transmission is occurring from poultry to humans. MOHFW is leading the response to the epidemic and sentinel surveillance is being carried out in 12 sites with the support of ICDDR,B and the Institute of Epidemiology, Disease Control and Research (IEDCR). The National Avian Influenza and Human Pandemic Influenza and Response Plan were revised and now await endorsement from the National Avian Flu Advisory Council (MOHFW 2009d).

2.2.6 Non-communicable diseases

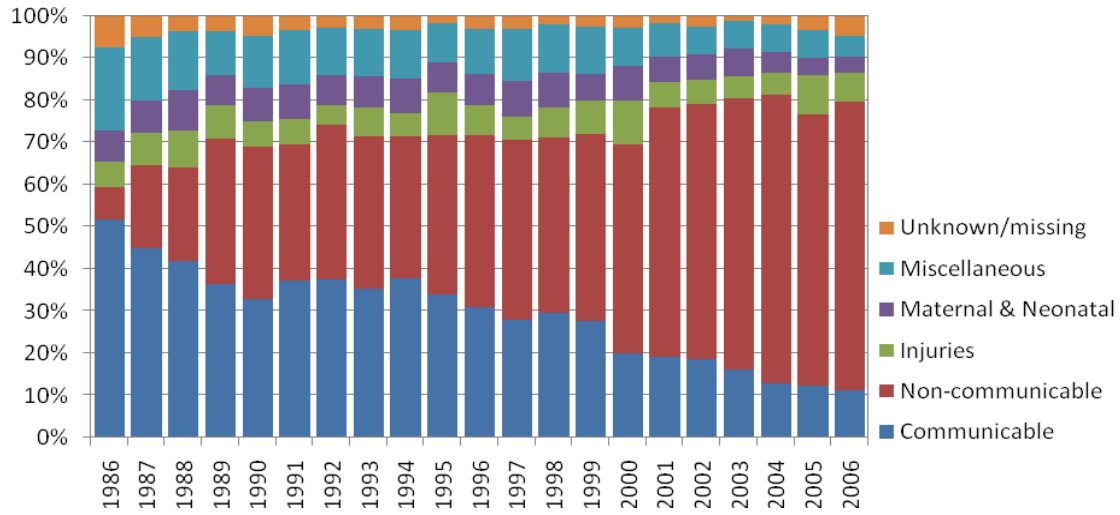
The government's national plan for non-communicable diseases (NCDs) covers heart disease, stroke, diabetes, cancer, chronic respiratory diseases, and other commonly prevalent non-communicable diseases or conditions such as mental illnesses, injuries, and blindness. The current NCD Strategy (2007–2010), however, is reported to be ambitious in scope, under-funded, and under-staffed. There is no free or subsidised treatment for non-communicable diseases through the public health system, although free at the point of service and incentivised programmes exist for some communicable diseases and maternal and child health. The annual Reality Check study of the ultra-poor conducted by the Swedish International Development Cooperation Agency (Sida) (2009) reports that there is an increasing demand for care for diabetes, heart disease, and stress.

Although a reliable NCDs surveillance system is not yet in place, the magnitude of NCDs—now causing over 55 per cent of all deaths—is high. As shown in table 2.3 below, cardiovascular disease—in particular ischaemic heart and cerebrovascular disease (stroke)—unintentional injury, cancer, and chronic obstructive pulmonary disease (COPD) were among the top 10 causes of death in 2004 (WHO 2004c). Further, a study in medical

[12] http://www.whoban.org/en/Section15/Section16_24.htm.

college hospitals from 2007 observed that about one-third of admissions are due to major NCDs for patients aged 30 or above (Zaman et al. 2007). Data collected for more than 40 years in the Matlab area (a continuous demographic surveillance site) show the increase and transition from mortality related to communicable diseases to that related to non-communicable diseases in a rural area (figure 2.12) (Karar et al. 2009).

Figure 2.12 Non-communicable disease mortality over time in rural Bangladesh



Source: Karar et al. 2009.

Cardiovascular disease

Due to the lack of a reliable surveillance system, there are few population-based data on cardiovascular disease. However, it was estimated to be the leading cause of death in 2005 (accounting for 25.1 per cent of all deaths) and it is projected to remain the leading cause in 2030, accounting for an even greater share at 37.2 per cent of all deaths (DGHS 2007). In 2006, WHO reported ischaemic heart disease to be the leading cause of death in Bangladesh, responsible for 12 per cent of all mortality. Cerebrovascular disease (or stroke) was reported as the sixth leading cause of death in Bangladesh, responsible for 6 per cent of total deaths. In 2007, WHO South-East Asian Regional Office (SEARO) reported that among the population 30 years and above ischaemic heart disease constitutes 7.7 per cent and stroke 8.9 per cent of hospital admissions. The National Heart Foundation Hospital and Research Institute studied the characteristics of heart failure patients from January 2005 to August 2006 and reported that hypertensive heart disease was the most common cause of heart failure (Kabiruzzaman 2007).

Cancer

There is no national cancer registry in Bangladesh, although information is reported from speciality institutions, public health hospitals, and out-patient facilities. Overall population projections estimated that cancer accounted for 7.5 per cent of deaths in Bangladesh in 2005 and 2008. Projections are that cancer will account for 12.7 per cent of all deaths by 2030. Facility-based data shows approximately 200,000 new cases of cancer per year; 70.7 per cent of cancer deaths are reported to occur in men and 27.3 per cent in women. A facility-based morbidity profile in 2009 identified cancer as the 29th out of 30 leading causes of morbidity, representing 0.01 per cent of total morbidity (MOHFW, DGHS, MIS 2009a).

The flagship institution for cancer related services in Bangladesh is the National Institute of Cancer Research and Hospital (NICRH). Its most frequently reported cancers and associated percentage of the total burden are of the respiratory system (22.2 per cent); digestive organs (20.8 per cent); breast (12.7 per cent); female genital organs (12.1 per cent); and lip, oral cavity, and pharynx (10.9 per cent) (MOHFW, DGHS, MIS

2009a). Together, the burden of female-related cancers is greater than the leading cause of cancer admissions (respiratory system). Bangladesh reported that less than 5 per cent of women ages 50–69 were screened by mammography in the three years prior to the World Health Survey (2000–2003).

Of the total global burden of cervical cancer, one-third is in South Asian nations, yet there are no well-developed strategies for prevention, screening, or treating the disease, let alone efforts to target high-risk groups in Bangladesh. A small study (n=472) of histopathology of cases in the Mymensing region of Bangladesh reported that cervical cancer was the leading cancer reported among women (Talukdar 2007).

The National Cancer Control Strategy and Plan of Action 2009–2015 confirms cancer as a high priority for Bangladesh because of its economic impact. Sixty-six per cent of cancer patients are between ages 30–65 and as such constitute much of the country's workforce (MOHFW, DGHS, MIS 2009a).

Diabetes

Sources within Bangladesh estimate the prevalence at 6.9 per cent (7.5 per cent male and 6.5 per cent female), the vast majority of which is type 2. The International Diabetes Federation estimates that 7.4 million or 6.1 per cent of people living in Bangladesh will have diabetes by 2025. This explosion in diabetes prevalence will place Bangladesh among the top 10 countries for the number of people living with diabetes in 2025. Urban areas have a significantly higher prevalence of diabetes than rural areas with numbers varying between 10 per cent in some reports to 8.1 per cent in others (Hossain et al. 2005; MOHFW, DGHS, MIS 2009a; Rahim 2008). In both urban and rural areas and across all age groups, Bangladeshi women have a higher prevalence of diabetes than men. An ageing population, rapid urbanisation with an associated more sedentary lifestyle and an altered diet, consisting of more energy dense processed foods which replaced traditional healthy foods, put Bangladesh at risk for increased obesity and the emergence of diabetes, as seen in developed economies (WHO 2003).

Diabetes carries a stigma in Bangladesh. A study on diabetic patients registered in the Bangladesh Institute of Research and Rehabilitation in Diabetes (BIRDEM) in Dhaka shows that within a few years of the onset of diabetes, 95 per cent of young women from the lower socio-economic class had either been divorced or deserted by their husbands, sometimes being left with one or two children (Mahtab and Chowdhury 2002). Another study that explored the economic burden of diabetes in Bangladesh found that 40 per cent of people with diabetes are unable to support themselves productively (Emneus et al. 2005). Diabetes features in the government's Strategic Plan for NCDs; however, the extent of action specific to diabetes appears limited to general training for doctors on NCD issues.

Asthma

In 2006, asthma and other respiratory diseases accounted for 441 disability-adjusted life year (DALYs) in Bangladesh (WHO 2009). A 2002 publication of a small national sample estimated 6.9 per cent prevalence of asthma in Bangladesh.

Chronic obstructive pulmonary disorder

The prevalence data on COPD vary widely depending on the source and definition of COPD (Celli et al. 2003). Although according to a WHO report worldwide prevalence of COPD is estimated at 0.8 per cent (Murray and Lopez 1996), well-designed studies have shown prevalence of 4–10 per cent, the rate expected in populations where smoking prevalence is high and exposure to biomass fuel is significant (Halbert et al. 2003). In Bangladesh, COPD has yet to be fully examined at the population level. For people over 30 years, the prevalence estimate is 3 per cent; however, it is 6 per cent among patients in medical colleges (WHO 2007b). The National Institute of Diseases of Chest and Hospital, the only

tertiary referral hospital for chest diseases in Bangladesh, admits about 4,500 patients annually in the department of respiratory medicine; 19 per cent of them suffer from COPD. Smoking and indoor air pollution are believed to be the two most important causes of COPD in Bangladesh (MOHFW, DGHS 2007).

Hypertension

Although much has been published, there is no representative sample of hypertension among adults in Bangladesh and in the studies that exist no standardised methodology has been employed to distinguish between high blood pressure readings and a diagnosis of hypertension.

The Bangladesh Urban Health Survey 2006 (BUHS 2006) looked at hypertension (using a single reading of blood pressure and self-reported medication use for hypertension in adults over 35 years) in slum and non-slum areas of the six largest city corporations in Bangladesh (Dhaka, Chittagong, Khulna, Rajshahi, Barisal, and Sylhet). The survey found that 25 per cent of slum-dwelling women and 38 per cent of non-slum-dwelling women had hypertension. Eighteen per cent of men were found to be hypertensive in the slums and 25 per cent in the non-slum areas. Hypertension increased with age, wealth quintile, and education. For example, 64 per cent of non-slum women over the age of 60 had hypertension compared with 37.1 per cent of slum women of the same age; 28.5 per cent of men in the richest households in the non-slum areas reported having hypertension compared with 6 per cent for the lowest quintile in the non-slum areas. The extreme was greater in the slum areas where 31.2 per cent of men in the highest quintile had hypertension versus 13 per cent in the lowest (BUHS 2006).

Mental illness

A nationwide survey on mental health in Bangladesh revealed that 16.1 per cent of the adult population was suffering from some sort of mental illness (Firoz et al. 2005). However, awareness of mental illness was very low overall (8.5–15.1 per cent) and medical care sought for the mental illnesses ranged from very low (15.1 per cent) to fairly acceptable levels (63.5 per cent) depending on the type and severity of illness. The burden was higher in females. Studies indicate that psychiatric morbidity is a significant but under-recognised public health problem in Bangladesh. The government acknowledges mental illness as an issue in need of attention in the NCD strategy; however, the scope and scale of interventions required are unclear.

Blindness

According to the Bangladesh National Blindness and Low Vision Survey 2000, the age-standardised blindness prevalence rate is 1.5 per cent and, thus, there are approximately 675,000 blind adults (aged 30 or above). Cataracts are the predominant cause of bilateral blindness (79.6 per cent). Cataract surgical coverage is notably low (32.5 per cent). The main causes of low vision were retinal diseases (38.4 per cent), corneal diseases (21.5 per cent), glaucoma (15.4 per cent), and optic atrophy (10.8 per cent). The government recognises blindness prevention as a priority agenda. Bangladesh is a signatory of the Vision 2020 plan and, in line with the plan, strategic and programmatic interventions against blindness are included in the HNPSP.

Injuries (drowning, road traffic accidents, animal bites, and suicide)[13]

Injuries are the largest killer of children between one and 17 years of age, accounting for 38 per cent of all classifiable deaths. The leading cause of injury related death in this age group is drowning (59.3 per cent) followed by road traffic accidents (12.3 per cent), animal bites (9.3 per cent), and suicide (8.0 per cent). It is estimated that injuries permanently disable around 13,000 children per year in Bangladesh. Non-fatal injuries occur in about

[13] BHIS 2003.

1 million children per year or two per minute. When injury-related deaths are broken down by type and by age group, children aged one to four and five to nine are most likely to die from drowning at the rate of 86.3 per 100,000 child deaths and 26 per 100,000 child deaths. In the 10–14 age group, road traffic accidents account for 7.5 per 100,000 and in the 15–17 age group suicide accounts for 24 per 100,000 child deaths.

The overall estimates are that road traffic accidents accounted for 2 per cent of all deaths (19,000) in 2002 (WHO 2006a). Yet police reports only captured 3,160 traffic fatalities in 2006 (WHO 2009b). Road accidents are the most common cause of serious injury for men, responsible for 40–45 per cent of serious injuries among urban men regardless of slum/non-slum residence (BUHS 2006). Fifty-four per cent of deaths are among pedestrians (WHO 2009b). In Bangladesh there is no seatbelt law and there is no child restraint law. Aeron-Thomas et al. (2004) found that men were more likely to die in road traffic accidents and showed that about half of rural poor households in Bangladesh that had experienced a serious road accident had not been poor before it. It is estimated that the total annual cost of road traffic accidents is about US$ 230 million per year (DGHS 2007).

Self-inflicted injuries irrespective of gender accounted for 2 per cent (17,000) of all deaths in 2002. The leading cause of injuries in women is domestic accidents. In the Bangladesh Urban Health Survey 2006, 57 per cent of women reported a serious injury due to a domestic accident, 60 per cent in non-slum areas and 64 per cent in district municipalities (BUHS 2006). A separate area of injury is that resulting from domestic violence. Forty-two per cent of urban slum dwelling women who had ever experienced domestic violence reported that they had suffered an injury as a result of that violence. Non-slum urban women (35.3 per cent) and women in the district municipalities (30.5 per cent) reported slightly lower numbers of injury from domestic violence (BUHS 2006).

2.2.7 Environment and behavioural factors

Indoor air pollution

In Bangladesh, 89 per cent of the population uses solid fuels, including biomass like dung and wood or coal, for routine cooking and heating. The burden of disease due to indoor air pollution related to solid fuel use for 2002 was 3.6 per cent. In total some 46,000 deaths could be attributed to solid fuel use, of which 13,620 were deaths from chronic obstructive pulmonary disorder. The total DALYs lost due to solid fuel use were 1,316,400 (WHO DPHE 2007). During the same period an estimated 32,330 deaths could be attributed to solid fuel use leading to acute lower respiratory infection in children under five. A study by Das Gupta et al. (2006) revealed that the poorest and least educated households had twice the indoor air pollution levels of households whose residents were more educated and had higher incomes.

Arsenic

Excessive arsenic in drinking water is a risk factor for non-communicable diseases in Bangladesh, particularly in West Bengal where arsenic levels are naturally high. Tube-wells, introduced during the 1970's and 1980's to gather water free of bacteria and pesticides, literally tap into the surface level that contains the arsenic. For short duration of exposure generally revealed through skin lesions or darkening, the cure is merely to abstain from arsenic-laced water; however, for those with long-term exposure there is an increased risk of hypertension, diabetes (due to insulin deficiency) and skin, lung, bladder, and kidney cancer. Of 4.7 million tube-wells in Bangladesh, 1.7 million were found to contain an unacceptable level of contamination. Approximately 20 million people in Bangladesh are exposed to this risk factor. Early efforts focused primarily on diagnosing impact through the observation of skin lesions; however, it is hypothesised that the greatest morbidity impact from arsenic exposure will be from lung cancer (UNICEF 2008; Kaufmann et al. 2001). During July 2007–

June 2008, 450 doctors and health workers were reported by the government to have been trained on arsenicosis, among other NCDs.

Tobacco use

Tobacco use (smoking or smokeless) among all adults is 43.3 per cent (41.3 million) (WHO 2009). The proportion is higher in males (58.0 per cent) than females (28.7 per cent); and more prevalent in rural areas (45.1 per cent) than urban areas (38.1 per cent), among persons with no formal education (62.9 per cent), and in the lowest socioeconomic quintiles (55.6 per cent).

Smoking tobacco products in Bangladesh include manufactured cigarettes, *bidis*, hand-rolled cigarettes, pipes, cigars, water-pipes or hukkah, and other smoked tobacco products. Smokeless tobacco products come in a wide range: betel quid with *zarda, zarda* only, or *zarda* with *supari*; betel quid with *sada pata*; pan masala with tobacco; *sada pata* chewing; *gul*; *khoinee*; and other smokeless tobacco products. Among male current tobacco users, 54.6 per cent smoked tobacco only, 23.0 per cent used smokeless tobacco mainly and 22.4 per cent used both smokeless and smoking tobacco. Among female current tobacco users, 2.7 per cent smoked tobacco only, 94.7 per cent used smokeless tobacco products only and 2.6 per cent used both.

Among all adults, 45 per cent were exposed to second-hand smoke in public places. Males (69.4 per cent) were more exposed than females (20.8 per cent). Restaurants (27.6 per cent) and public transport (26.3 per cent) were the most common places people were exposed to second-hand smoke. Among all persons engaged in some occupation who work in indoor areas, 63 per cent (11.5 million) were exposed to it in indoor areas of the workplace, and among non-smokers, 75.7 per cent (5.1 million) were exposed at these workplaces.

About two-thirds of males and one-third of the females aged 15 years and above are smoking regularly or at least occasionally. Prevalence of smoking tends to increase with age. There are over 1.2 million cases of tobacco-attributable illness in Bangladesh each year and around 9 per cent of all deaths in a year (57,000 deaths) in the country are result of tobacco use (WHO 2008). In addition, exposure to second-hand smoking kills tens of thousands of non-smokers every year (WHO SEARO 2007).

A further complication in Bangladesh concerning tobacco usage is the impact of household tobacco consumption on issues like household food security and child malnutrition. About 5 per cent of household expenditure goes towards tobacco in the homes of smokers[81] and it is estimated that total expenditure on cigarettes is 1 per cent of GDP and on *bidis* is 0.4 per cent of GDP.[79]

That more tobacco use occurs among lower socioeconomic groups is a common finding in Bangladesh-based tobacco studies (Choudhury et al. 2007; DGHS 2007). In fact, in poor families where scarce family resources are spent on tobacco products instead of on food, this can cause immediate harm to family members. It was estimated that if poor people did not smoke, 10.5 million fewer Bangladeshis would be malnourished (Efroymson et al. 2001). Nonnemaker and Sur (2007) evaluated the relationship between tobacco prices and child health outcomes and found that higher tobacco prices were associated with better height for age and weight for age.

Alcohol consumption and drug abuse[14]

In Bangladesh, the consumption of alcohol is strictly prohibited by most religions. However, information obtained from law enforcement authorities, treatment providers, and other

[14] WHO 2004d.

sources indicate that a problem of alcohol abuse is becoming more common. Although the problem is more serious in urban areas (probably due to easy accessibility of alcoholic beverages), there are indications that it is emerging at an increasing rate in rural areas. Alcohol is being produced by some pharmaceutical industries in Bangladesh. Some crude forms are produced and used by the poor, usually by fermentation of boiled rice, sugar-cane, and molasses. At least 90 Bangladeshis died in 1998, including 70 in Gaibandha, after consuming illegal homemade alcohol. The following year, there was an incident of alcohol poisoning in the north-eastern town of Narsingdi, about 50 miles from Dhaka, where 96 people reportedly died and more than 100 were hospitalised as a result of drinking illegal homemade liquor.

In a 1995 study of 30 male multiple drug users (aged 20 years and above), it was found that alcohol was one of the most frequently used illicit substances (50 per cent of the sample reported use of alcohol prior to the interview) (Ahmed and Ara 2001). Although no systematic assessment has been undertaken so far to establish the prevalence and patterns of substance abuse in Bangladesh, reports from different governmental and non-governmental drug addiction and treatment centres and from various journals and studies report increasing drug-related crimes in the country. It is noted that the younger generation, especially students, are most vulnerable to this problem. Drug abuse has been a rising social and economic problem in post-war Bangladesh. The number of drug addicts in Bangladesh is estimated to be about 2 million, of whom more than half live in Dhaka. As in other countries, the spread of drug use among adolescents, who are the most vulnerable, is of concern to public health professionals (Ahmed and Ara 2001).

Climate change

Studies undertaken in the years leading up to 2010 indicate that the adverse health impacts will be the greatest in low-income countries. The major concerns for Bangladesh are as follows:

- *Increasing frequency of heat waves*. These promise increased risk of heat stroke, dehydration, and aggravation of cardiovascular diseases in elderly people as well as increases in diarrhoeal diseases, particularly in children.
- *Variable precipitation patterns.* These compromise the supply of fresh water, thus increasing the risk of waterborne diseases. Waterborne diseases are also associated with floods and water logging that increase the incidence of diarrhoea, cholera, and skin and eye diseases. Agricultural production and food security are also linked directly to precipitation patterns—this impacts the nutritional status of the population.
- *Malnutrition.* Rising temperatures and variable precipitation are likely to decrease agricultural production, increasing the risk of malnutrition. Malnutrition will further increase the vulnerability of those affected to infectious and water- and vector-borne diseases.
- *Vector-borne diseases.* Changes in climate are likely to lengthen the transmission seasons of important vector-borne diseases and alter their geographic range. Already, dengue is a common disease in Dhaka and Chittagong.
- *Rising sea levels.* These increase the risk of coastal flooding, and may necessitate population displacement and cause many other health-related problems such as cholera, diarrhoea, malnutrition, and skin diseases. Some of the most vulnerable regions in the world include the Ganges–Brahmaputra delta in Bangladesh.

Bangladesh already carries a burden of high population, natural disasters, and diminishing and polluted natural resources. The added burden of increased health problems, possibly due to climate change and climate variability, will dilute its developmental achievements (Rahman 2008).

Natural disasters—emergency response preparedness

In 2007 two natural disasters, floods and a devastating cyclone, occurred within a few months of each other. Linked to climate change, natural disasters have serious implications for the health of the population. The government recognises the need to be prepared for natural disasters as a matter of public health concern. It has a well-developed emergency preparedness infrastructure, with many agencies providing support to emergency preparedness and humanitarian assistance during these regular emergencies. Progress has been made in emergency preparedness in the last few years, in particular through the publication of guidelines, protocols, and standard operating procedures on best public health practices in humanitarian emergencies.

Further orientation and institutional capacity building of the health sector for emergency preparedness, health risk assessment, vulnerability reduction, and disaster mitigation are critical to ensure that the adverse health consequences of frequent emergencies and disasters do not offset the long-term health development gains, and that public health risks are substantially reduced.

2.3 Summary of principle causes of mortality and morbidity in Bangladesh

Bangladesh has made considerable progress over the last two decades in improving the health and nutritional status of its citizens. Life expectancy is increasing, and maternal, infant, and child mortality have decreased significantly. High levels of immunisation have been achieved and polio and leprosy have almost been eradicated. Though the prevalence of malaria has increased from 42 (per 100,000) in 2001 to 58.6 in 2008, death cases have dropped dramatically due to tremendous improvement in treatment (Planning Commission 2008). Bangladesh has achieved significant success in halting and reversing the spread of TB; detection under DOTS tripled between 1994 and 2007 from 24 per cent to 73 per cent, and the cure rate progressed from 73 per cent in 1994 to 91 per cent in 2006 (Planning Commission 2008). HIV prevalence remains very low and is currently concentrated among high-risk groups.

However, Bangladesh faces many challenges in improving the health status of the population, in particular managing the epidemiological transition that is a hallmark of middle-income economies. Table 2.3 and figure 2.13 illustrate the leading causes of mortality and morbidity.

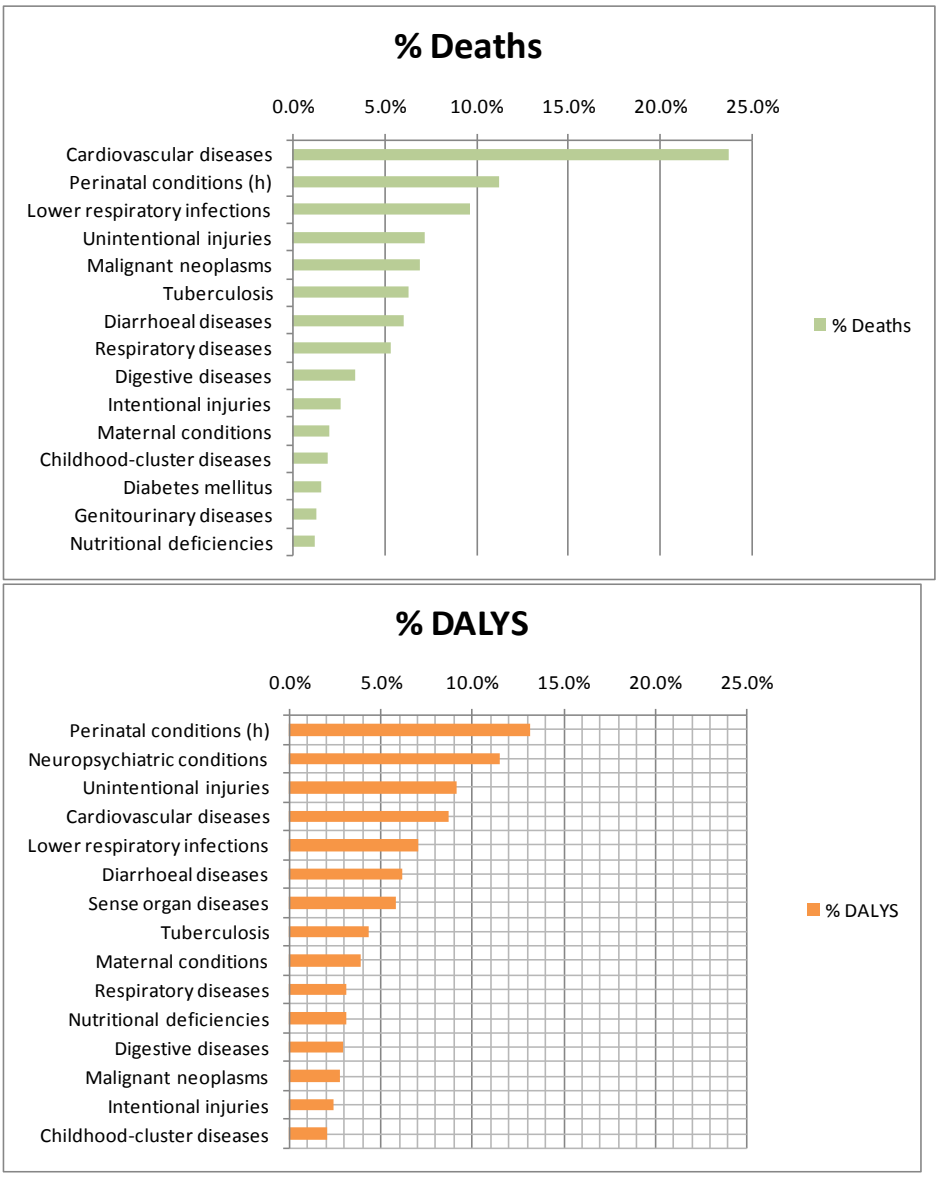
Table 2.3 Leading causes of mortality and morbidity, 2004

	% Deaths		% DALYS	
1	23.7	Cardiovascular diseases	13.2	Perinatal conditions
2	11.2	Perinatal conditions	11.5	Neuropsychiatric conditions
3	9.6	Lower respiratory infections	9.1	Unintentional injuries
4	7.2	Unintentional injuries	8.7	Cardiovascular diseases
5	6.9	Malignant neoplasms	7.0	Lower respiratory infections
6	6.3	Tuberculosis	6.2	Diarrhoeal diseases
7	6.0	Diarrhoeal diseases	5.8	Sense organ diseases
8	5.3	Respiratory diseases	4.3	Tuberculosis
9	3.4	Digestive diseases	3.9	Maternal conditions
10	2.6	Intentional injuries	3.1	Respiratory diseases
11	2.0	Maternal conditions	3.1	Nutritional deficiencies
12	1.9	Childhood-cluster diseases	2.9	Digestive diseases
13	1.5	Diabetes mellitus	2.8	Malignant neoplasms

14	1.3	Genitourinary diseases	2.4	Intentional injuries
15	1.2	Nutritional deficiencies	2.1	Childhood-cluster diseases

Source: WHO Burden of Disease Statistics. http://www.who.int/healthinfo/bod/en/index.html.

Figure 2.13 Leading causes of death and DALYs, 2004



Source: WHO Burden of Disease Statistics. http://www.who.int/healthinfo/bod/en/index.html.

3. Health sector organisation

3.1 Historical background—development of the health sector

The Constitution of Bangladesh (Article 15) ensures the provision of basic necessities including food, education, and health care for all citizens. In keeping with this obligation, the government has developed and implemented policies and plans to endeavour to ensure universal coverage and improve access to health services by rural communities.

The health and population sector in Bangladesh evolved, from the first steps taken in the early 1970s, to create an integrated Health and Family Planning Programme by moving the Family Planning Programme, which had been managed from its inception in the 1950s by an autonomous board, into the Ministry of Health and Family Planning. In 1976, the government declared population growth as the number one national problem and launched the first National Population Policy. A high-level National Population Council was established, chaired by the President and comprising key ministers with support from a Central Coordinating Committee chaired by the Minister of Health. A separate Directorate for Family Planning was established in the Ministry as the executing unit for the policy and programme.

From the 1980s to early 1990s, there were a series of aggressive developments aimed at achieving replacement level population growth as a key strategy for addressing poverty levels and improving the health status and well-being of the people of Bangladesh.

More recently, in 1997, initiatives were introduced to begin the functional integration of health and family planning activities and staff at the upazila level and below. This was elaborated in the National Health Policy 2000 and the first SWAp programme (HPSP). However, by 2001 this decision was reversed and the current structure of MOHFW was reinstated. (See chapter 9 for details of the health sector response.)

3.2 Organisational arrangements of MOHFW

3.2.1 Roles and responsibilities of MOHFW

MOHFW is responsible for the implementation, management, coordination, and regulation of national health and family planning related activities, programmes, and policies. The core functions are planning and monitoring, budget management, information management, reform management, aid management, and the management of contracts and commissions.

The public sector health services provider structure as a whole is built on the country's administrative pattern, which follows the national government then divisional, district, upazila (sub-district), union, and ward administration (IRT 2009a p.50). No single organogram represents the structure of MOHFW. The charts presented in this chapter are intended to illustrate broad functional groupings.

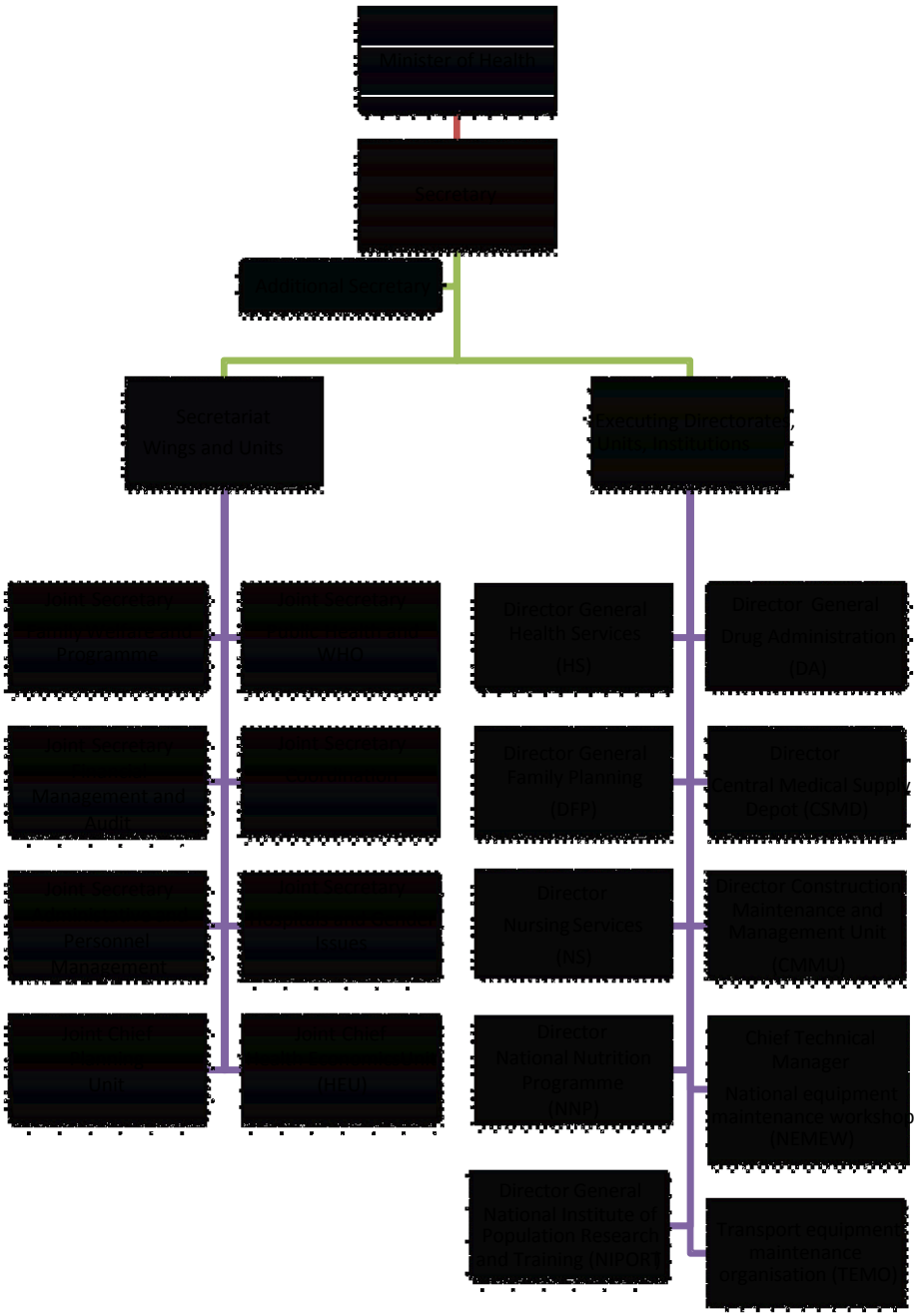
3.2.2 MOHFW management structure

In line with the general system of public administration in Bangladesh, the MOHFW management structure comprises of two main groupings:

- the Secretariat responsible for policy development and administration comprising eight functional wings and units headed by a Joint Secretary or a Joint Chief; and
- executing agencies through which MOHFW implements its programmes and policies, comprising 10 directorates, units, and institutions.

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

Figure 3.1 MOHFW senior management structure



Source: Authors.

The Secretary, in principle, has 18 executive managers reporting directly to him. The Programme Support Office, Management Support Agency (MSA), and the Monitoring and Evaluation (M&E) Unit report to the Joint Chief Planning. The Secretary chairs monthly coordination meetings, which are attended by all professional staff of the Ministry. This is in addition to the monthly ADP review meetings (IRT 2009a p.47).

The following roles and responsibilities for different parts of MOHFW were proposed in the late 1990s as part of the early stages of the SWAp:

Table 3.1 Proposed roles and responsibilities in MOHFW, late 1990s

Secretariat	Policy, strategy, regulation and resource allocation
Directorate/s	Standard setting, performance review, human resource management, training
District	Performance review, support functions
Upazilas, district hospitals, other services	Health care delivery, including the Essential Services Package

Source: Adapted from Walford and Grant 1997.

Since this was envisaged the directorates have largely taken on their roles. The Secretariat, however, is still largely preoccupied with administrative and regulatory issues such as approvals for posting and overseas training, which leaves less time for policy formulation and planning.

Box 3.1 Role of the Secretariat of MOHFW

"The officers in the Secretariat are generalist administrators posted from the administrative cadre, with the exception of officers in the planning wing who are from the economist cadre. Officers stay for up to three years but can be moved after as little as six months in the post. As a result, Secretariat staff have wide experience of government procedures and administrative processes, but lack specific knowledge or training on the health sector".

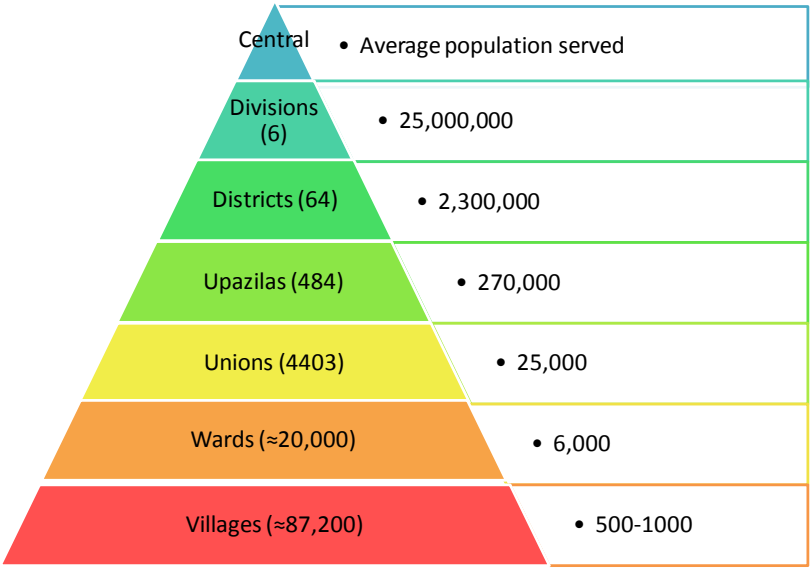
Officers in the Secretariat spend much of their time reviewing proposals from the directorates concerning the implementation of projects (in the development budget) and utilisation of revenue budgets, and their role mainly involves authorising expenditure from budgets. Several Joint Secretaries are also involved in decisions on who should be sent for external training. The Joint Secretaries' responsibilities also include postings and other personnel matters. The Planning Wing had a technical role, but the major activities were the preparation of projects and processing the annual development budget, with less time spent on strategic planning. The requirement for upwards approval also leads to delays in implementation in some cases.

Source: IRT 2009a.

In addition, another layer of health sector organisation reflects the geographical arrangements of the country: six divisions, each divided into 64 districts, districts again divided into 484 sub-districts (upazilas), and sub-districts into unions and wards,[15] which are the smallest administrative unit. Wards comprise the community-level villages, which on average have a population of 500–1,000 people (figure 3.2).

[15] The health sector uses at times a different definition of ward; whereas nationally there are on average 9 wards per union, in health there are 3.

Figure 3.2 Administrative levels (numbers) and average population

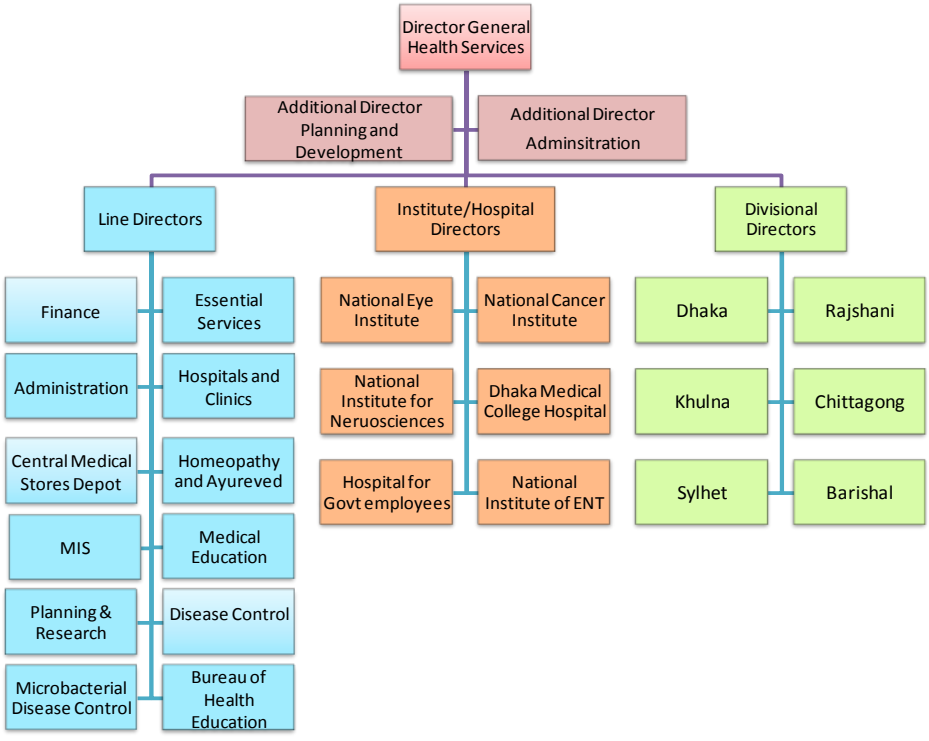


Source: Authors.

3.2.3 Directorate General of Health Services

The Directorate General of Health Services (DGHS) works through administrative structures and institutes at national, divisional, district, and lower levels. At the national level, there are the director general, additional director generals, line directors, divisional directors, and institute or hospital directors. Figure 3.3 illustrates the top level of the directorate structure.

Figure 3.3 Functional organisation of the directorate general health services, MOHFW



Source: Authors.

The divisional directors are responsible for a range of services providers at the decentralised level covering district hospitals, TB hospitals, UHCs, rural health centres, union sub-centre/rural dispensaries, and community clinics (table 3.2).

Table 3.2 Health managers, institution heads, and supervisory staff, DGHS

Level	Designation of manager	Responsibility
National	Director general of health services	Overall administration
	Additional directors general	Assist Director General
	Line directors	Implement operational plans of HNPSP
	Project directors	Implement projects under HNPSP
	Programme managers	Assist line directors
	Deputy programme managers	Assist programme managers
	Directors of national institutions level	Administer and manage national institutions
Regional	Principals of academic institutions	Administer and manage medical colleges, institutes of health technology, medical assistants' training
	Directors of medical colleges	Administer and manage medical college hospitals
Division	Divisional directors for health	Administer and supervise activities of health managers at district and lower levels
District	Civil surgeons	Implement, administer and manage health programmes at district level; look after district hospitals
	Superintendents	Administer and manage Sadar hospitals, general hospitals, mental hospitals, chest hospitals, etc.
Upazila	Upazila health and family planning officers	Implement and manage health programmes at upazila level, run UHCs
Union	Health inspectors/Assistant health inspectors	Manage/supervise health programmes at union level and below

Source: MOHFW and Tulane University Associates 2010.

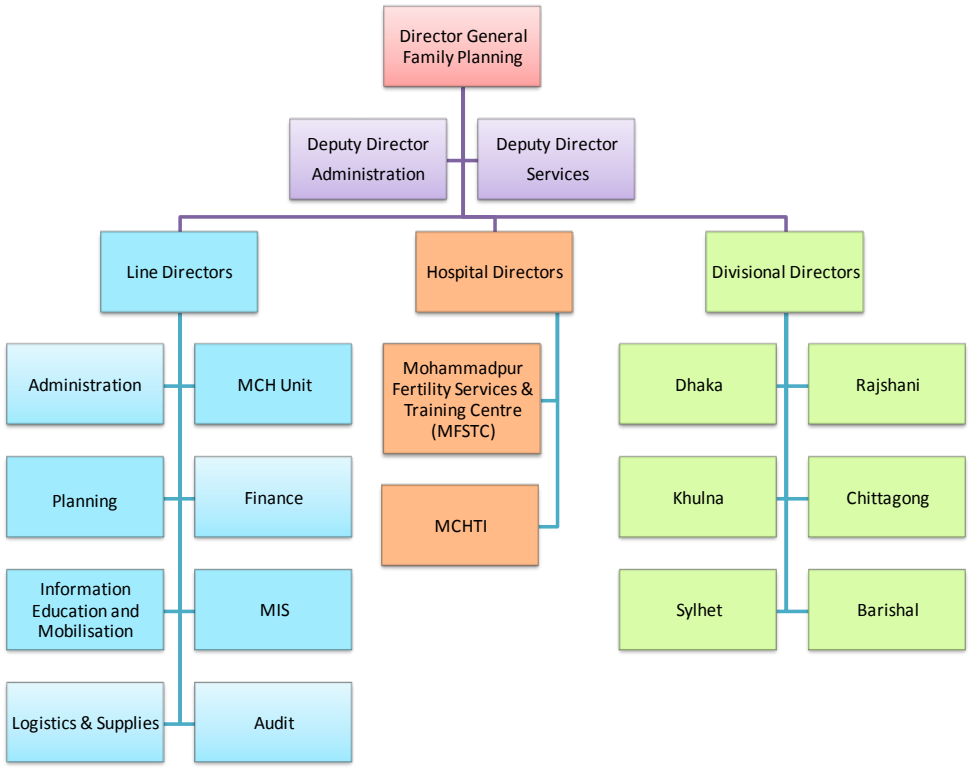
DGHS has responsibility for 19 of 38 operational plans. The extent to which the HNPSP operational plans are mainstreamed within the workplan of the line director varies. Some are fully integrated while others are managed separately and considered additional to the work of the directorate, which results in ambiguity about the organisational structure of the directorate

3.2.4 Directorate General of Family Planning

The Directorate General of Family Planning (DGFP) works through administrative structures and institutes at national, divisional, district, and lower levels. At the national level, there are the director general, additional director generals, line directors, divisional directors and hospital directors (figure 3.4). Under the HNPSP, DGFP has responsibility for nine of 38 operational plans.

Maternal and child health (MCH) and family planning (FP) services are provided through a network of field workers (family welfare assistants), satellite clinics organised by field workers, Union Health and Family Welfare Centres (UHFWCs), MCH-FP units of UHCs, mother and child welfare centres (MCWCs), clinics of non-governmental organisations (NGOs), mother and child clinics at district hospitals, model clinics attached to medical college hospitals, and corresponding administrative and training centres and institutes (table 3.3).

Figure 3.4 Functional organisation of the top level of DGFP, MOHFW



Source: Authors.

Table 3.3 Health managers, institution heads and supervisory staff, DGFP

Level	Designation of manager	Responsibility
National	Director general	Looks after overall administration and implementation for the FP-MCH Programme throughout the country
	Line directors	Implement operational plans of HNPSP
	Project directors	Implement projects under HNPSP
	Deputy programme managers	Assist programme managers
	Directors of different national institutions	Manage national level institutions (Family Welfare Visitors Training Institute, MCH Training Centre, Fertility Services and Training Centre, etc.)
Regional	Principals of academic institutions	Manage model clinics attached to medical college hospitals
	Directors of family planning hospitals and NGO clinics	Administer and manage hospitals and NGO clinics
District	Deputy director family planning Assistant director family planning	Implement, administer, and manage health and family planning programmes of district level.
	Assistant director for clinical Contraception Medical officer for clinical contraception	Administer and manage MCH-FP Unit at district or Sadar hospital or MCWC
Upazila	Upazila family planning officers	Manage family planning programmes at upazila level (located at respective UHC)
Union	Family planning inspector	Manage and supervise family planning and health programmes under the auspices of DGFP at union level and below

Source: MOHFW and Tulane University Associates 2010.

3.2.5 National Nutrition Programme

The Bangladesh Integrated Nutrition Programme (BINP) was launched in 1995 and in 2004 was incorporated into the HNPSP as the Bangladesh National Nutrition Programme (NNP). The NNP has since been established as a Directorate in MOHFW and is funded through the HNPSP as well as a number of international organisations, including the World Bank, Department for International Development (DFID), Kreditanstalt für Wiederaufbau, European Commission, Sida, UNFPA, Canadian International Development Agency, and the Royal Netherlands government. The programme helped reduce severe malnutrition from over 10 per cent in 1997 to less than 1 per cent today in the areas it covered. The Nutrition Programme Management Unit works with selected NGOs to implement area-based nutrition services in 109 upazilas. NGOs are providing services as implementing partners with the government.

3.3 Other government ministries and agencies involved in the health sector

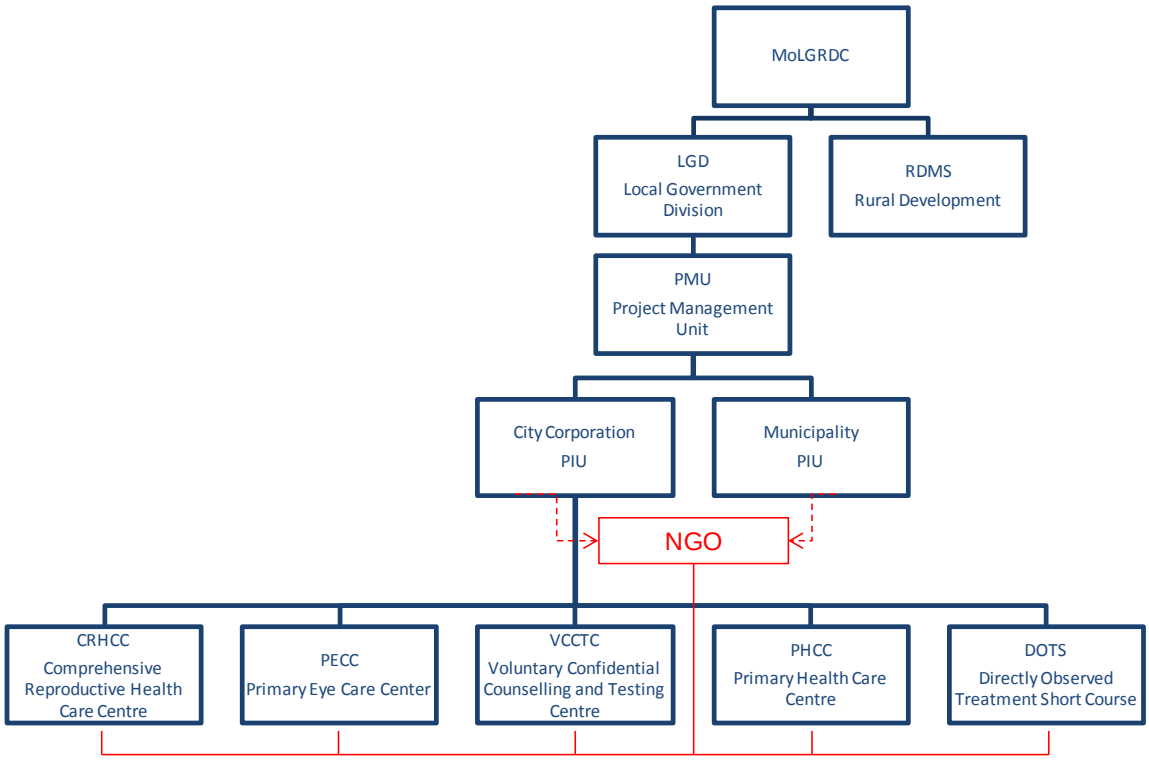
3.3.1 Ministry of Local Government, Rural Development and Cooperatives

Unlike the rural areas, primary health care in urban areas is coordinated by the Ministry of Local Government, Rural Development and Cooperatives (MOLGRD). This division of responsibility has historical roots in three ordinances dating back to the 1970s and 1980s. This has been further influenced by different funding sources and unconnected health programmes supported by different development partners. The Urban Primary Health Care Project (UPHCP) started in 1998. Its second phase, UPHCP II, began in mid-2005 and runs until 2011. A third phase is planned from 2012.

UPHCP II activities are funded by MOLGRD and pooled funds from ADB, DFID, Sida, and ORBIS International with in-kind support from UNFPA.

Health services are provided by 11 partner NGOs and two city corporations in 24 partnerships areas, covering six city corporations and five municipalities with a population of 10 million people. The project is managed by different committees at different levels. The two ministries (MOHFW and MOLGRD) partly coordinate their activities through the National Urban Primary Health Care Committee and National Project Steering Committee (figure 3.5).

Figure 3.5 Management arrangements for delivery of essential services in urban areas



Source: MOHFW 2009.

3.3.2 Other government ministries

Other ministries have health facilities for their staff and to a lesser extent families and do not play a role in managing the health sector. (See chapter 4.)

3.4 Roles of the private sector and NGOs

The key role of the private sector (including non-profit or non-governmental organisations) is in services provision as well as advocacy, community mobilisation, and communication. (See chapter 4.)

3.5 Public health, and research and development

The public health research and development roles and functions, including knowledge management, are spread among several specialist agencies mostly under the aegis of DGHS. These include the:

- National Institute of Preventive and Social Medicine (NIPSOM)
- Institute of Epidemiology, Disease Control and Research (IEDCR)
- Institute of Public Health (IPH)
- National Institute of Population Research and Training (NIPORT)
- Bangladesh Medical Research Council (BMRC)
- Centre for Medical Education (CME)
- Institute for Child and Maternal Health (ICMH).

In addition, the Bureau of Health Education (BHE) in DGHS is an integral part of the public health and knowledge-sharing capacity. It has 232 professional health educators at different levels of the public health system. Its main objective is to improve the level of knowledge,

attitude, and practices of the people in relation to health. It is involved in coordinating a wide range of health promotion activities, both through national programmes and through outsourcing of promotion activities to private companies and NGOs. All MOHFW health programmes have adopted a behaviour change communication (BCC) approach to health promotion and the TB Programme has adopted an advocacy, social mobilisation, and communication approach to stimulate informed demand (IRT 2008a). DGHS has also established a Research and Development Unit to improve coordination of related activity.

Research and development capacity has also been encouraged and developed in the private sector, the lead agencies including the:

- International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B)
- BRAC School of Public Health (BSPH), BRAC University
- Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM)
- Sheikh Mujib Medical University (BSMMU) and other medical colleges.

Table 3.4 summarises the key roles by lead agency.

Table 3.4 List of leading agencies for public health, and research and development

Agency/Department	Role and Competence
National Institute of Preventive and Social Medicine (NIPSOM)	Only national level public health institute under the University of Dhaka, established in 1978: • MPH and M Phil Post-graduate Public Health Programme • Research, training and to support the government in the formulation and implementation of health policy
Institute of Epidemiology, Disease Control and Research (IEDCR)	National Institute for conducting disease surveillance and outbreak investigation established in 1978 through a bill approved in the Parliament: • Original mandate as the Malaria Control Programme, then in 1981 merged with NIPSOM with a focus for the development of specialists in preventive medicine, decision was reversed in 1986 • Departments in medical entomology, microbiology, parasitology, virology and zoonosis • Conduct disease surveillance both routine and disease specific with e-connection with all 64 districts for web based disease surveillance • Outbreak investigation and response for public health emergencies • Nominated as National Influenza Centre (NIC), Bangladesh by WHO in 200, member of International Association of National Public Health Institutes (IANPHI) since 2006, member of Global Outbreak Alert Response Network (GOARN) and Global Influenza Surveillance Network since 2008 • Laboratory capacity for parasitic and fungal disease, malaria, dermatophytes, viral disease, bacterial, biochemical, biological efficacy of insecticides, Giosafey Level 2 and 3 labs and RPTCR • Training focusing on areas of core competences • Development of standard operating procedures, training manuals, plans and guidelines for specialist areas • Research of public health importance including Dengue, gastroenteritis, kala-azar, hepatitis C, HIV influenza, National Health Accounts (2007–8)
Institute of Public Health (IPH)	National level Institute established in 1953: • Testing for quality of food and water, drugs, production of vaccines, intravenous fluids, antisera and diagnostic agents • Diagnosis of infectious disease and related research • Provides training to public health workers on laboratory quality, food and water quality checking

Agency/Department	Role and Competence
National Institute of Population Research and Training (NIPORT)	National level Institute of MOHFW established in 1978 • provide task oriented in-service training to health & family planning programme personnel • conduct programme focused studies and operations research in the health & population sector in Bangladesh, e.g. Demographic and Health Surveys
Bangladesh Medical Research Council (BMRC)	Focal point of MOHFW for health research established by order of the President as an Autonomous Body in 1972: • identify problems and issues relating to medical and health sciences and to determine priority areas in research on the basis of health care needs, goals, policies and objectives. • organisation and promotion of scientific research in various fields of Health Science, • training of personnel in the field of health research and • dissemination of research results for proper utilisation • provide Literature Search Services: National Retrieval System, Medline, Online-Literature Search Services (OLSS), Intellidoc
Centre for Medical Education (CME)	Post-graduate institute established in 1983 and since 2004 operating under University of Dhaka • improve the health professions education • training of medical and nurse trainers • admission testing for doctors and nurses • secretariat of National Quality Assurance body for medical colleges since 2998
Institute of Child and Maternal Health (ICMH)	National level institute working for the improvement of health and nutrition of children and mothers established as autonomous body through an act of Parliament in 2002: • lead training organisation on child and maternal health and nutrition • conduct essential health service research • specialist referral centre for children and mothers
Bureau of Health Education (BHE)	Department of the Directorate Health Services to support the health programmes BCC activities by: • providing training to health workers on interpersonal communication and counselling; group discussion and peer group education • production and distribution of documentary films and videos • distribution and display of IEC materials • social mobilisation and advocacy • use of electronic and print media • dissemination of health messages through AV equipment at hospitals and clinics • health education and promotion campaigns

Agency/Department	Role and Competence
International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B)	Health research institute established in 1960, as the Pak-SEATO Cholera Research Laboratory: • strategic objectives are to: a) contribute to the improvement in health of the Bangladeshi population through effective translation of knowledge and research at a national level b) Achieve excellence in the priority areas of research c) Provide services that support the Mission statement by leveraging research and the generation of knowledge and its effective application d) Develop organisational capacity to achieve identified objectives • mix of national (95 per cent) and international staff, including public health scientists, laboratory scientists, clinicians, nutritionists, epidemiologists, demographers, social and behavioural scientists, IT professionals, and experts in emerging and re-emerging infectious diseases, and vaccine sciences • Provides training in topics such as hospital management of diarrhoeal diseases, epidemiology, biostatistics, family planning, demographic surveillance and child survival strategies. • Runs the ICDDR, B Hospital specialising in diarrhoeal disease management • Programmes being managed and developed in child health, infectious diseases, vaccine sciences, reproductive health, population sciences, health systems, poverty and health, and HIV/AIDS. • conducts research, training and extension activities, as well as Programme-based activities, to develop and share knowledge for global lifesaving solutions
BRAC School of Public Health, BRAC University	BRAC University is a 'not for profit' institution accredited by the University Grants Commission (UGC) and approved by the Ministry of Education. The James P Grant School of Public Health (popularly known as BRAC School of Public Health or BSPH) was established in 2005: • was set up by BRAC with active support from ICDDR,B. allowing access to BRAC and ICDDR,B and their facilities and formal links with several of the top schools of Public Health in Europe and America • flagship programme is the Master of Public Health (MPH) • one of the six schools in the world promoting and practicing innovative higher public health education with an emphasis on community-based experiential learning • delivers several short courses, e.g. short courses on health equity in collaboration with the World Bank Institute, short courses on health sector financing • initiated several researches projects, many of these are done in collaboration with universities in the North and the South to ensure that the faculty is involved with knowledge generation, the science of public health • contributes to production of the BHW reports

Agency/Department	Role and Competence
Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM)	Established in the mid-1970s as an Institution of the Diabetic Association of Bangladesh (BADAS) which is a non-profit voluntary socio-medical service organisation registered with the Ministry of Social Welfare under the Society's Registration Act, 1860. BIRDEM • provides diabetic care to almost 3.5 lakh patients from which about 3500 registered patients are taking health services from BIRDEM out-patient department every day • uses a multidisciplinary approach to its services and has established specialised disciplines like, cardiology, gastro-enterology, surgery, gynaecology and obstetrics, nephrology • Since 1982 BIRDEM was designated as the WHO Collaborating Centre for Research on prevention and control of diabetes, endocrine and metabolic disorders. It is first of its kind outside Europe
Sheikh Mujib Medical University (BSMMU) and other medical colleges	Research by teaching faculty in keeping with clinical areas of focus and health issues of local communities

3.6 MOHFW governance arrangements

Governance broadly comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences (UNDP 2007). Much of the progress to date in establishing governance arrangements, particularly within the context of a SWAp, has been around development of mechanisms for governance and establishing HNPSP review processes as a stepping stone to broader sector dialogue and processes with a broader range of stakeholders beyond development partners.

3.6.1 Mechanisms for governance

Key policy instruments have been developed and many are in the process of being updated including the National Health Policy 2000 and follow-on draft National Health Policy 2010; National Nutrition Policy; National Population Policy; National Drug Policy; National HIV Policy; National Maternal and Child Health Strategy; Citizen charters for DGHS and DGFP; and Health, Nutrition and Population Sector Programme 2004–10.

3.6.2 Processes for governance

Annual programme implementation reports and annual programme reviews (APRs) of the HNPSP are conducted consistently by both MOHFW and an independent review team respectively. A revised and simplified M&E framework (see chapter 6) was launched in 2010, comprising 30 high-level indicators.

The lead technical directorates produce separate annual performance reports. The Health Bulletin 2009 produced by the MIS DGHS, supported by the M&E Unit, begins to consolidate those departments reporting to DGHS and has begun to include data from NGOs. Parallel funded projects have separate review processes and reports.

There is limited development of processes that could include on a routine and consistent basis other government ministries, like the Ministry of Finance and the Ministry of Establishment, the private sector, and NGOs.

3.6.3 Governance structures and institutions

At the highest level, the Parliamentary Standing Committee for MOHFW has the important role to oversee functions to ensure transparent and effective health care delivery for the people.

The HNP Consortium consists of all development partners supporting the HNPSP; those partners are members of the Local Consultative Group cooperating with government for the development of the HNP sector (the Local Consultative Group Sub-Group for HNP). The HNP Consortium represents both pool funding development partners as well as non-pool funders. It aims to coordinate and streamline actions and procedures among partners. A secretariat office assists the chairperson of the consortium to perform their tasks and to follow up the activities required for development partner coordination.

The government has established different professional regulatory and statutory bodies with the objectives of overseeing the development of a competent professional workforce, ensuring provision of standardised and quality health services and protecting the people's right to health. These bodies are meant to play important oversight roles to ensure transparency and accountability of the sector.

At the decentralised services delivery level, districts and upazilas set up facility and/or programme specific committees. These committees include representation from the local communities at the community clinic level and local government and private sector representation at district and upazila level.

3.7 Formal regulatory structures

Bangladesh has a wide range of legal instruments and gazetted policies which assign different mandates, responsibilities, and authority for the regulation of health sector. The origin of much of the legislation dates back to pre-independence times, ranging from The Vaccination Act of 1880 to more recent legislation such as the Medical and Dental Council Act of 1980. These acts are periodically revised and updated through ordinances.

The main regulation functions under MOHFW are the accreditation of hospitals, private health services, blood banks, diagnostic centres, and training institutions (including medical colleges); the licensing and control of pharmaceuticals; the licensing of some cadres of health workers; and overall setting of standards including for alternative medical care and medical waste management. MOHFW also works in close collaboration with other statutory bodies in the area of health sector regulation, in particular the Bangladesh Medical and Dental Council (BMDC), the Pharmacy Council of Bangladesh (PCB), the Bangladesh Nursing Council (BNC), the Bangladesh Medical Association, the State Medical Faculty, and the Ayurvedic, Homeopathy and Unani Board (table 3.5).

Table 3.5 Main regulatory authorities in the health sector in Bangladesh

Name of agency	Function
Ministry of Health and Family Welfare	Setting standards
Director General Health Services	License health facilities to function License the administration of controlled medicines Approve non-medical and non-nursing health cadre training institutions Standard operating procedures for laboratory and diagnostic centres
Director General Family Planning	License the administration of controlled family planning methods
Director Drug Administration	License of pharmacy cadres Quality assurance and registration of pharmaceuticals
Joint Secretary Development and Medical Education	Approve medical colleges
Director Homeopathy and Traditional Medicines	Accredits training
Civil Surgeons	Inspectors for health and safety in Factories
Bangladesh Medical and Dental Council	Accredit medical colleges for the training of doctors and dentists Register medical and dental officers
Pharmacy Council of Bangladesh	Accredits training institutions for pharmacy cadres
Bangladesh Nursing Council	Register nursing cadres Accredit nursing training institutions
Ayurvedic, Homeopathy and Unani Board	Registers practitioners Quality assurance and registration of traditional medicines

Source: IRT 2009b.

There are many challenges to ensuring adherence to regulatory requirements for the health sector in Bangladesh, especially with the growth of private medical colleges, diagnostic centres, and the pharmaceutical sector.

Approval and accreditation of new medical colleges involves three bodies, MOHFW, the BMDC, and Dhaka University; each has a defined role. However, there is no overall coordinating body. New medical colleges have to first get MOHFW approval and then apply for accreditation to BMDC. MOHFW approval is based on physical aspects related to the provision of services, e.g. floor space per bed (a minimum 80 square feet space per patient, etc.), while the BMDC criteria for accreditation relate to the physical and services capability to adequately provide sufficient training environment for undergraduates. These criteria are set out and updated regularly. The practice is for private medical college hospitals to first apply for MOHFW approval to operate and then apply for accreditation to the BMDC. However, there is no system for provisional accreditation so many private medical colleges do not fulfil all the criteria as training colleges but they continue to operate based on their MOHFW approval.

Although MOHFW and the other statutory bodies meet to better coordinate their roles, there is no formal coordination mechanism to ensure that the roles of each agency are respected,

adhered to, and coordinated. Such a coordination mechanism could provide a more comprehensive oversight of this part of the sector, replacing the current system whereby each agency performs its individual responsibilities independently.

The legal framework to regulate the pharmaceutical sector in Bangladesh is contained in the Drug Act of 1940, revised in 1946, the Drug Control Ordinance 1982, and the National Drug Policy 2005. The main agencies that regulate the pharmaceutical sector are the Directorate of Drug Administration (DDA) in MOHFW and the Bangladesh Pharmacy Council (BPC). The DDA has responsibility for quality control of pharmaceutical products and licensing the pharmacy cadres to practice, while the main role of the BPC is to regulate training of the professional pharmacy cadres and their registration. (See chapter 8 for a more detailed description of pharmaceutical sub-sector.)

Under the current national development plan (MOP 2005b) MOHFW proposes to increase the effectiveness and functionality of the national regulatory bodies (BMDC, BNC, BPC, etc.) through revision of their mandates and structures as well as by building their capacity. The existing structure and capacity of the MOHFW directorates—DGHS, DGFP, and DDA—will also need to be reviewed and strengthened for increasing supervisory performance and enhancing institutional capacity.

3.8 Community empowerment in the HNP sector of Bangladesh—regulation through information

There are two elements of community empowerment: voice of the community and service users; and accountability of the authorities and service providers. By empowering members of the community to effectively voice their legitimate claims and concerns to the authorities and service providers, conditions are created for making the latter more accountable for their actions and improving the quality of service provision.

3.8.1 Community empowerment initiatives[16]

MOHFW in both the HPSP and follow-on HNPSP has emphasised the role of community empowerment in making HNP services responsive, effective, and need-based. HPSP considered clients the main stakeholder and emphasised their inclusion in planning and implementing service delivery; the service provider was the other stakeholder. HPSP also emphasised increasing the involvement of local communities in delivering several elements of the Essential Services Package, for instance, immunisation and maternal and child health, by including their representatives in various management committees. It is believed that local planning and community involvement in implementation and monitoring of the Essential Services Package would foster partnership between the government and the community (MOHFW 1998).

During the period of HPSP, the major community empowerment initiatives were community groups (for management of community clinics); local-level planning; and the National Stakeholder Committee. Progress is as follows.

Community groups. During 1998–2001, under HPSP, around 11,000 community clinics were established throughout the country for providing basic primary health care services at the village level. These clinics were to have been managed jointly by government representatives and local people through community groups that were formed for the purpose. Group members were given orientation and training. However, with the change in government in 2001, the functioning of the community clinics was discontinued. Since 2009,

[16] IRT 2009a; Talukdar and Rob 2009.

with the advent of the current government, these clinics are being reactivated and community groups formed once again.

Local-level planning. Introduced during HPSP, local-level planning was aimed at involving local communities in the planning process, effectively utilising local resources and reflecting local needs in the national plans. It was meant to serve as a monitoring tool for managers at the upazila and district levels. Implementation of local level planning has so far been largely limited to training and developing a toolkit. Problems encountered included inadequate capacity for assisting upazila managers in planning, weak supervision, and limited understanding of the overall objective of local level planning among programme managers. Implementation of local level planning and budgeting pilots in six districts and 14 upazilas are at the preparation stage. MOHFW has decided to form a national committee and six district committees to carry forward the task of decentralising planning.

National Stakeholder Committee. This was formed in 1999 under HPSP along with a number of community-based stakeholder committees in pilot unions and upazilas. The objectives of the pilot committees were to ensure participation of health service users and other stakeholders in the implementation and monitoring of HPSP; facilitate transparency; and establish a basis for programme accountability. However, the involvement of health service users was low. The National Stakeholder Committee hardly met and community-based committees did not receive any official support. A strategy for stakeholder participation could not be developed because the consultative process was given low priority.

The current HNPSP proposed undertaking a number of activities aimed at strengthening consultations with communities and stakeholders, particularly the poor and women, in order to make their participation more effective. The HNPSP suggested three mechanisms for promoting the voice of the community: a National Health Service Users' Forum; a Health Advisory Committee; and a Citizens' Charter of Rights. The status of these initiatives is as follows.

National Health Service Users' Forum. This was proposed and specified by the HNPSP with the aim of promoting government and civil society initiatives, including the patients' charter of rights, and health watch groups. The Forum was designed to involve all stakeholders—government, service providers, clients and communities—in working together to organise their own services through public health facilities. Forums were also planned to be established at the local level and were expected to form the basis for local planning, as well as monitoring and evaluation. However, the concept has remained a policy document without being implemented.

Health Advisory Committee. This mechanism was established in 2002 under the HNPSP for promoting community voice and ensuring accountability of service providers through oversight. Health advisory committees, chaired by Members of Parliament, were to be composed of elected public representatives, service providers, local government officials, and NGOs. The committees were to meet and oversee service provision in health facilities and provide recommendations up to line directors and the Secretary. These committees for the most part have not been active because of limitations of membership, information, and resources.

Citizens' Charter of Rights. This was developed at the initiative of MOHFW, which emphasised the citizens' rights to health. In 2004, the Ministry and some NGOs launched a media campaign to publicise the charter, the latest version of which was published in 2007. The charter introduced a standard set of clients' rights to health care services. Individual charters covering services at medical college hospitals, district hospitals, UHCs, and union sub-centres have also been developed. The charters suffer from some drawbacks: they lack institutional and legal mechanisms for use both by citizens and the government; the majority

of the population, including service providers, are unaware of their existence; and they were developed by a small group of government and health service personnel without the involvement of the community.

3.8.2 Innovative civil society initiatives for community empowerment

In addition to government efforts, NGOs, civil society organisations, consumer associations, and the media were expected to amplify the voices of the poor, demand more and better accountability of service providers, and generate information through public disclosures. Two innovative initiatives are now described.

Bangladesh Health Watch (BHW) is a multi-organisation civil society network formed in 2006 to establish a tradition of holding the state as well as non-state actors to account for their performance in delivering quality health care to the citizens. BHW produces an annual report on the state of health in Bangladesh focusing on a theme that deserves priority attention. The intent of the BHW is to raise awareness about aspects of the theme and catalyse concrete action to address these challenges so as to result in better health services delivery to citizens. BHW has produced three health watch reports. The secretariat is in the James P Grant Public Health School of BRAC University.

Reality Check, which started in 2007, is structured as a qualitative longitudinal “listening” study over five years. The overall goal is to listen to and try to understand the perspectives of people living in poverty on the national health and education programmes in Bangladesh. It gathers experiences and insights of people living in poverty, which complement the more conventional M&E mechanisms within the health and education SWAps. This approach provides an opportunity to put faces and voices to the numbers as well as some answers to how and why. It deliberately explores the range of experiences of poor people and consciously embraces context specific differences. The approach used is a combination of immersion (actually living with poor households and joining in their lives for several days and nights) and conventional participatory approaches. This combination creates the best possible environment for open communication and enables the study team to experience, to some extent, for themselves what people are talking about. The study focuses on households and their neighbours rather than public forums to include voices which are rarely heard such as the elderly, young, persons with disabilities, and minorities.

It studies the same communities and same households at the same time each year to track changes over time. The field work takes place over a period of one month each year in October/November in three different divisions (one in the North, one in the South, and one in Central). In each division one of three field teams stays in a rural, urban, and peri-urban community. These three communities all relate to the same municipal town. Thus, in total nine communities are included in the study.

The Reality Check is primarily a qualitative study with a focus on how and why rather than what, when and how many. It is not intended to provide statistical, representative, or consensus views but deliberately seeks to explore the range of experiences concerning health and education of people living in poverty. It complements other forms of research by providing valid, up-to-date, people-centred information.

Triangulation, or getting multiple perspectives on the same issues, has a rather different purpose in this study than in conventional studies. It is not only used to verify information but rather to explore the range of multiple realities among the poor.

3.9 Gender mainstreaming in the health sector

In Bangladesh, as in many other developing countries, women and girls by and large do not have equal access to health care and suffer from discrimination and deprivation. This is manifested in the following statistics:

- Severe malnutrition among girls is 18 per cent higher than among boys (BDHS 2007)
- Mortality rates for girls aged one to four years are higher than those for boys (BDHS 2007)
- Maternal mortality is one of the highest in Asia (320 per 100,000 live births) (Bangladesh Maternal Mortality Survey 2001)
- About 70 per cent of mothers suffer from nutritional deficiency anaemia
- 40 per cent of pregnant women do not receive antenatal care (BDHS 2007)
- 85 per cent of all deliveries take place at home without assistance from appropriately skilled personnel (BDHS 2007)
- Violence against women is common. (BDHS 2007),

3.9.1 Gender Equity Strategy

Against this backdrop, the government took positive steps for addressing the issue of gender discrimination in the country. For instance, it ratified key international conventions and agreements on women's rights such as the Convention on the Elimination of all Forms of Discrimination against Women, the Beijing Platform for Action, and the declaration of the International Conference on Population and Development. The government also prepared documents expressing its commitment and resolve to reduce gender inequity in Bangladesh, such as the Development Policy Letter and its Supplement (1998); the Bangladesh Country Paper response to Beijing Platform for Action; the National Action Plan for Women's Development: Implementation of Beijing Platform for Action (1996); the Health Policy (2000); the Gender Issues Paper; and Gender Mainstreaming in Health: Towards Gender Strategy of MOHFW (2000).

In 2001, MOHFW adopted its Gender Equity Strategy for the HPSP. It was the first for MOHFW and was considered a ground-breaking document. It was designed to provide coordination to the efforts of health planners and providers in identifying and dealing with gender equity issues in planning and implementing health policy.

The aim of the strategy was to "enhance the capacity of HPSP to meet its objective of improving the health of the people of Bangladesh by addressing the gender differentials and inequities that undermine the health of women and children, particularly the poor." The overall objective of the strategy was to "contribute in the implementation of national policies and priorities on gender equity and women's rights by providing overall strategic guidance to facilitate the incorporation and mainstreaming of gender equity priorities at all levels from MOHFW up to field services" (MOHFW 2001 p.8).

The strategy identified a number of gender issues in the five component areas of HPSP and suggested activities ("strategic objectives") for addressing those issues (table 3.6).

Table 3.6 Issues identified in the Gender Equity Strategy of 2001

Component area	Gender issue
Service delivery: Essential Services Package/ hospitals	Imbalance in responsibility for contraception
	Poor maternal health outcomes among poor rural women
	Lack of awareness of gender equity issues in communicable diseases among girls and women
	Gender differentials in uptake of services
	High levels of violence among women
	Poor access of women to hospital services
	Poor nutrition of girls and women
	Need for increased access to reproductive health care for adolescents
Human resource development	Lack of up-to-date information on where women are working at what grade
	Gender imbalance in health sector employment and seniority
	Conditions of service that do not take into account particular family responsibilities and women's special needs during pregnancy and breast-feeding
	Poor physical working conditions and security in rural postings and in some health facilities
	Sexual harassment in the workplace
	Providers/managers lack positive attitudes and skills in relation to gender equity both in relation to staff and service users
Behaviour change communication	Lack of understanding of and commitment to gender equity strategy at all levels, including within BCC
	Lack of attention to gender issues in IEC materials
	IEC focus on sex workers for HIV/AIDS targeting is too narrow and should be broadened to include wider population
	Neglect of gender issues in IEC materials for child health
	Neglect of adolescents' IEC needs
Support services	Lack of privacy in health facilities
	Irrational male-female hospital bed ratio
	Difficulties in procurement/distribution of essential drugs and equipment affecting women's access to health care
	Lack of clear knowledge of job description/responsibilities among providers
Sector-wide management	Need for gender disaggregated data
	Relationship between policy and research
	Awareness and ownership of gender equity strategy
	Coordination and accountability across the sector
	Gender equity issues in local level planning

Source: MOHFW 2001.

The strategy proposed a process for moving the gender equity work forward within MOHFW. It identified specific gender issues within the five components and described activities aimed at addressing them. It also proposed a two-year time frame (2001–2003) in which to fulfil the priority strategic objectives. The strategy was to be implemented as part of MOHFW's operational plans and monitored and reviewed as an integral part of the HPSP review process.

3.9.2 Review of gender equity in HNPSP

In 2003, the government launched the HNPSP, which was in line with the principles of gender equitable development and other issues reflected in the Gender Equity Strategy discussed above. The mid-term review of the HNPSP in 2008 recommended conducting a stock-taking of gender equity in the HNPSP (IRT 2008a).

The stock-taking exercise, carried out in 2009, concluded that, "despite specific targets that point to reducing gender equality and many examples of promising practice that can contribute to gender equity in HNPSP delivery, there is not a *systematic* approach in tackling gender equity issues across the HNPSP or adequate technical capacity to support it" (MOHFW 2009a). Authors of the stock-taking exercise provided an action plan containing short- and long-term actions for increasing the potential for the HNPSP to achieve its gender equity-related goals. The two top priority areas in which actions were recommended include provision of women-friendly services; and creation of an enabling environment. The action plan is being further developed by the Gender, Equity and Voice Task Group.

The major activities recommended for providing women-friendly services include the following:

- Sex-disaggregated data collected, analysed, and used in planning, policy formulation, interventions, and review
- Basic quality systems (e.g. complaints/suggestion procedures) are in place that are responsive to female service users
- Develop and implement plans for privacy (separate toilets for females and males), consultations, examinations and treatment
- Ensure bed ratio responds to need of both men and women (including community clinics)
- Capacity building for providers on violence against women and gender equity in service delivery
- Increased exploration of demand-side initiatives (e.g. voucher schemes).

The key activities recommended for creating an enabling environment were:

- Ensure gender equity approaches are integrated in policies for health, food and nutrition, and population
- Implement operational plan/strategy for media (ensuring it is gender sensitive)
- Ensure HNPSP communication strategy deals with gender equity, access, empowering women, etc.
- Ensure coordination, capacity building and dissemination in relation to gender equity (for MIS, M&E, planning)
- Reorganise gender equity structure/mechanisms to be fit for purpose (i.e. Gender Advisory Committee, Gender Equity Voice Task Group, Women in Development Focal Point, Gender Focal Point).

3.9.3 Status of gender mainstreaming[17]

Due to a number of social and cultural changes in the last decades, women and girls do not face the same kinds or degrees of discrimination, deprivation, and inequality that they had faced in the past. These positive changes are manifested in increasing life expectancy of women; decreasing maternal mortality rates; increased access of women to health care; and improved female nutritional status. The main reasons for the changes can be attributed to an

[17] Based on IRT 2009b.

increase in the education level of girls, reduction in poverty, improvement in communication, and a gradual increase in the age of marriage.

In some areas, gender inequality has been reduced. For instance, there is not much difference between the under-five mortality rates and malnutrition rates for girls and boys. The same is the case for child vaccination rates. However, in some other health care areas, for example treatment of ARI, disparity still persists.

Gender inequality is reflected in the use of in-patient services. For instance, in district hospitals, women and children are allocated 40 per cent of the hospital beds. In the area of family planning, contraceptive methods and use are disproportionately shared by women. There are also limitations on their freedom of choice of methods and use.

The proportions of pregnant women receiving health care services and the percentage of newborns receiving post-natal care are still very low. The main reasons, identified by various studies, are: dearth of health care personnel for antenatal care (ANC); scarcity of functioning emergency obstetrics care at the upazila level; absence of advice from family regarding when and where to seek medical care; and lack of decision-making authority of women.

Access to adequate health care services by women is hampered by a lack of women-friendly facilities capable of providing them privacy (for instance, separate toilets and space for breast-feeding) and addressing violence against women. The situation is worsened by the shortage of female medical personnel at the upazila and lower level, where only 10 per cent of women doctors are available. Due to social reasons, female doctors are preferred for pregnancy care and deliveries. Their acute shortage poses a serious constraint to women seeking ANC and deliveries at health facilities. Nurses and trained skilled birth attendants are also in short supply.

The gravity of violence against women and its consequences have been acknowledged by the HNPSP. According to the BDHS 2007, almost half of ever married women (49 per cent) reported they had experienced physical violence at the hands of their husband. Eighteen per cent reported experiencing sexual violence by their husband (BDHS 2007). This issue is being addressed through interventions like Women Friendly Hospitals and One-Stop Crisis Centres under the Improved Hospital Services Management operational plan. DGHS, in collaboration with United Nations Children's Fund (UNICEF), has upgraded seven district hospitals and three UHCs to serve as Women Friendly Hospitals which are provided technical help by Naripokkho, a women's organisation. One-Stop Crisis Centres have been set up in eight medical college hospitals for providing multi-dimensional services required by women subjected to violence. While the facilities have helped many victims of violence, they suffer from limitations of human resources, inadequate supplies of medicines and equipment, insufficient privacy, and low-quality counselling. But these interventions are not enough.

On the supply side, it is necessary to address the issue of female health care personnel and ensure that they are not discriminated against in terms of recruitment, posting, promotion, security, incentives, or sexual harassment. Although women constitute more than 50 per cent of new doctors joining the government health system, their drop-out rate is very high and only a small proportion continues to work in the public sector.

For strengthening the sectoral capacity for reducing gender disparity and gender-based discrimination, a number of institutional mechanisms were put in place such as a Gender Advisory Committee, chaired by the Secretary, MOHFW; a Gender Issue Office; a Gender NGO Stakeholder Participation Chapter (GNSP); a Women in Development Focal Point; and a Gender Equity Voice Task Group. Despite having various approved structures and policies, these institutional mechanisms have not been effective and were unable to provide

adequate direction to potential actors. Even the processes established under HPSP have not been maintained.

The APR 2009 concludes that “gender equity concerns need to be further integrated into the programmes (planning, implementation and monitoring) so that family planning and health services and facilities are better able to respond to the differential needs of women and men” (IRT 2009a p.83).

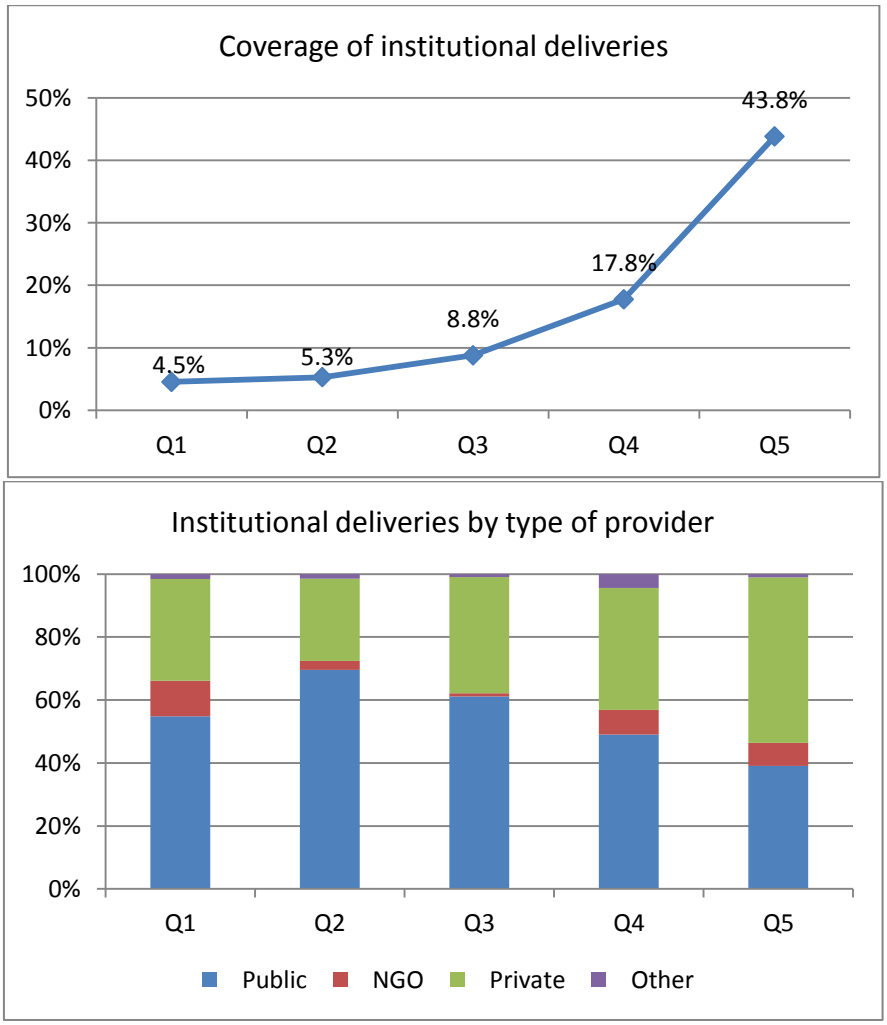
4. Health services

4.1 Utilisation of health care services

4.1.1 Where do wealthy and poor people go for care?

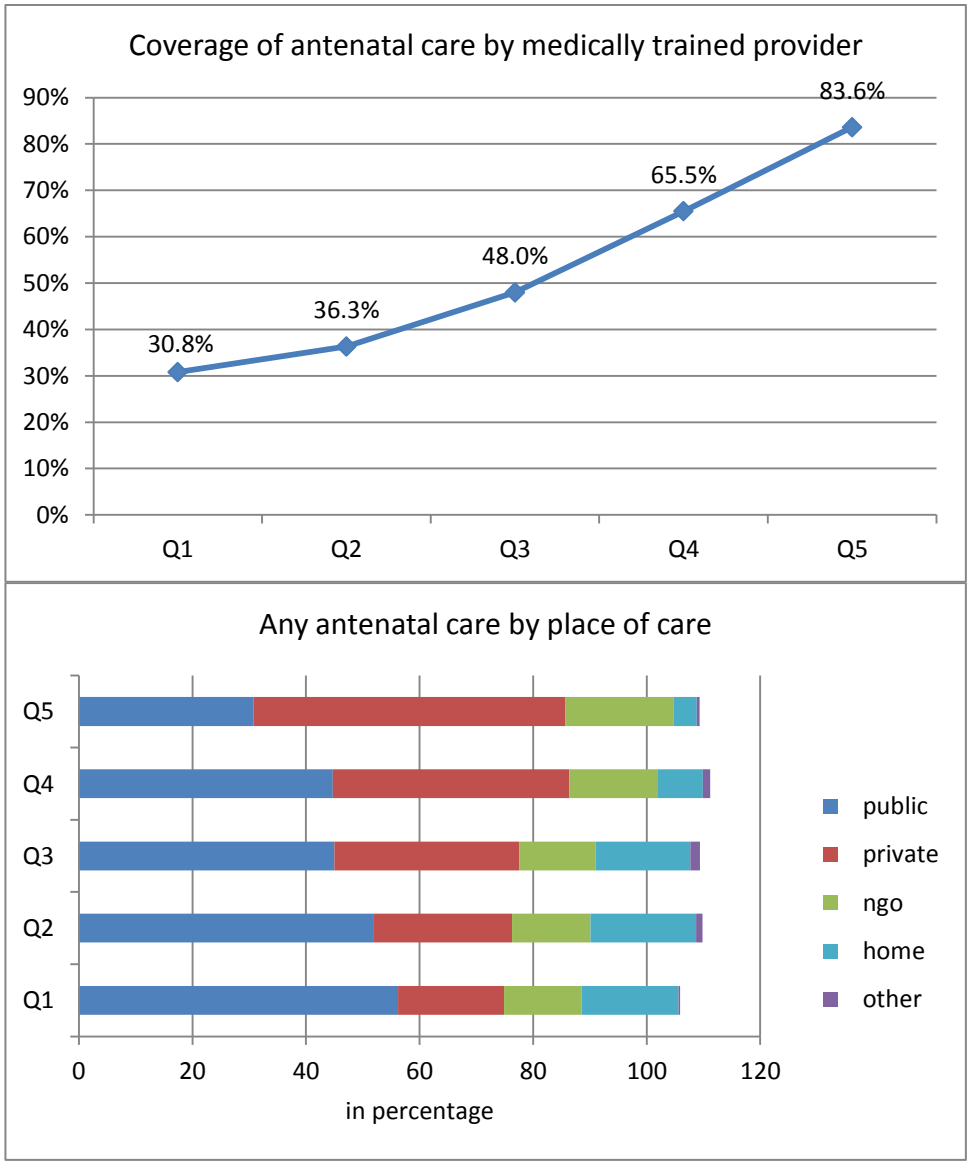
Utilisation of essential health services tends to be far better for higher income groups. This is dictated by access as well as differences in health care seeking behaviour. Although institutional deliveries increase from 4.6 per cent of women in the lowest income quintile to 43.8 per cent in the highest, the public sector is responsible for 54 per cent of deliveries in the lowest quintile and 39 per cent in the highest. Thus in the case of access to skilled birth attendance, although access by the bottom three quintiles is little more than 10 per cent, more than half of these services are provided by the public sector whereas the majority of women in the upper quintile avail themselves of services from private for-profit providers. The data also highlight the key role played by the for-profit sector for *all* income groups (it provides around 30 per cent of services to the poorest two quintiles) and the modest role played by the NGO sector, which typically provides less than 10 per cent of services for all income groups (slightly more for the poorest quintile). These trends are illustrated in figure 4.1. A similar pattern is also seen for ANC services in figure 4.2.

Figure 4.1 Institutional deliveries by income group



Source: BDHS 2007.

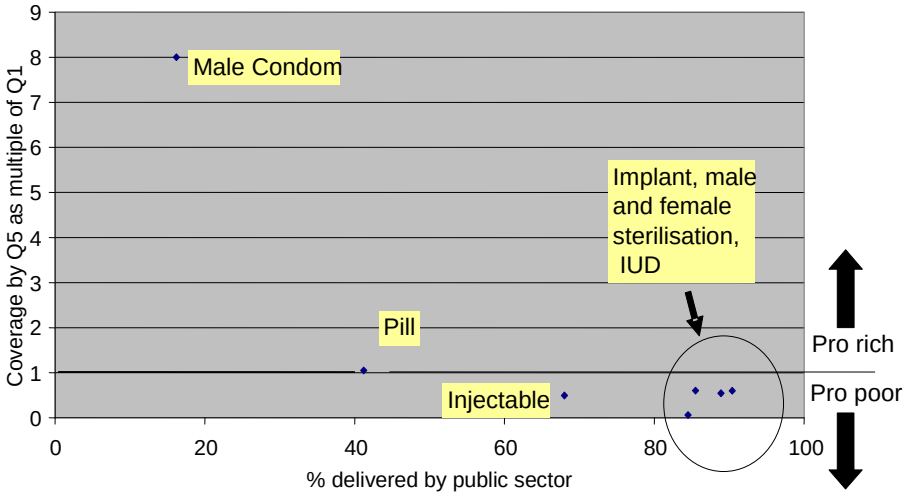
Figure 4.2 Antenatal care by income quintile



Source: BDHS 2007.

A similar picture emerges in figure 4.3 for family planning with the public sector delivering the products typically used by the poor and the private sector delivering those used by better-off groups (mainly male condoms through social marketing).

Figure 4.3 Rich-poor differences in access to family planning methods



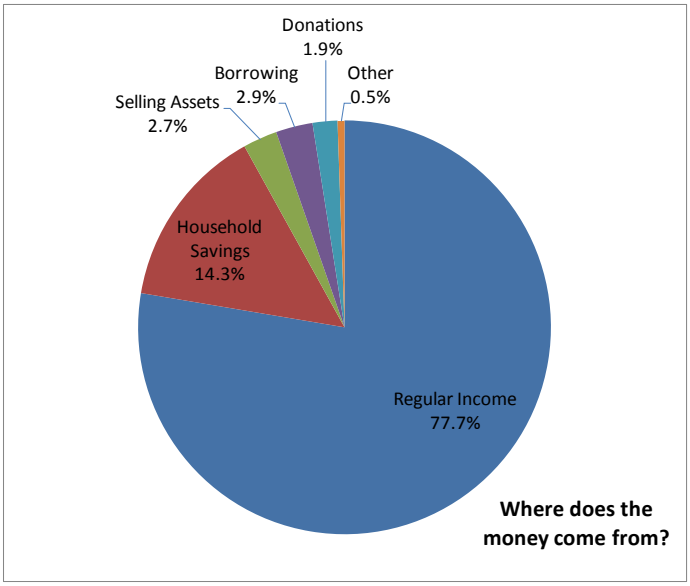
Source: BDHS 2007.
Note: IUD = intra-uterine device.

4.1.2 Why this pattern of health care seeking behaviour?

Of those reporting sickness during the previous 30 days almost three-quarters of those in urban areas and almost 60 per cent of those in rural areas did not seek treatment as they did not consider the illness to be serious (international experiences suggests that often this is not the case and delaying treatment can involve the need for later, more extensive, and often more expensive care).

Only 14.1 per cent of those in urban areas reported cost as the major barrier—roughly twice that level (28.2 per cent) did so in rural areas. As shown in figure 4.4, most people were able to meet health care costs through income or savings and did not need to resort to borrowing or sales of assets.

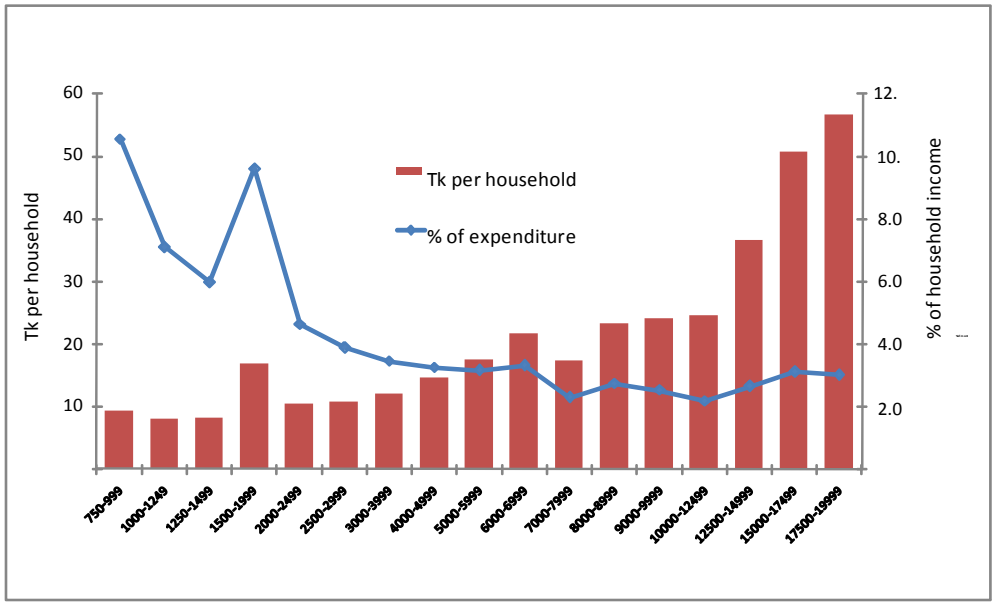
Figure 4.4 Means of meeting medical expense



Source: BBS 2005.

This figure is not disaggregated by income group—presumably lower income groups face larger constraints. As illustrated in figure 4.5, poorer households spend as much as 5 to 10 per cent of their monthly household expenditure to access health care, whereas richer households on average spend about 3 per cent.

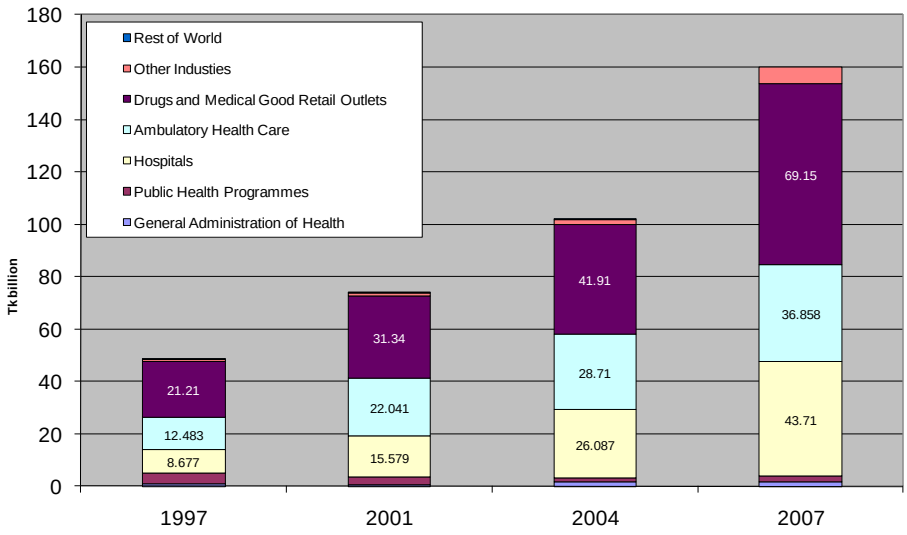
Figure 4.5 Private expenditure on health by income group



Source: BBS 2005.

Further to these findings, the HIES 2005 shows the significant rise over time in expenditure for hospitals, ambulatory care, and drugs (figure 4.6).

Figure 4.6 Expenditure by type of provider: Where is the money spent?

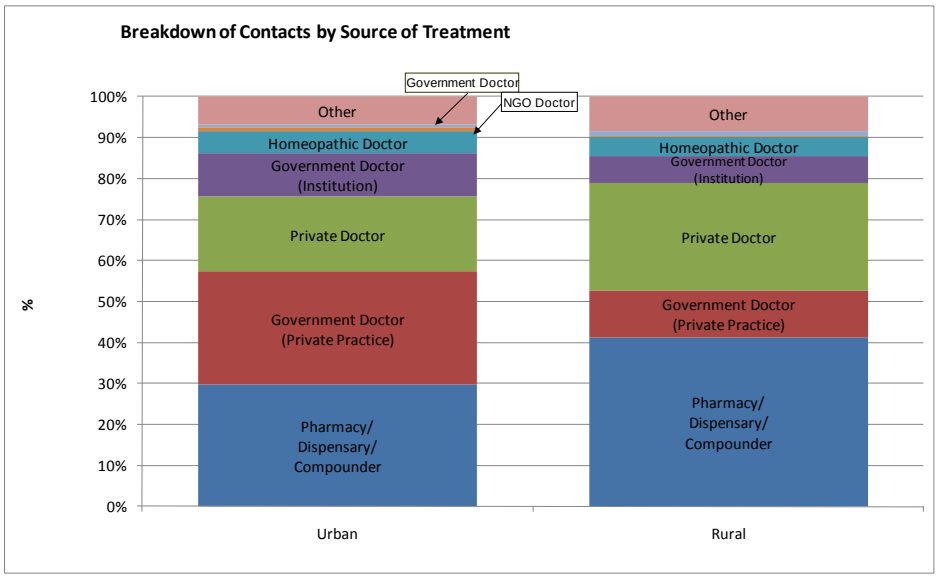


Source: BBS 2005.

Figure 4.7 shows that contacts with health providers for all services tend to be with the private sector—whether private doctors, retail outlets or public doctors working in private practice. Of particular note are:

- the relatively minor roles played by government doctors outside institutions, NGO doctors, and the informal sector;
- in urban areas patients are twice as likely to see a government doctor in private practice than in a government institution; and
- the scope for such private practice is much more restricted in rural areas.

Figure 4.7 Breakdown by contacts by source of treatment

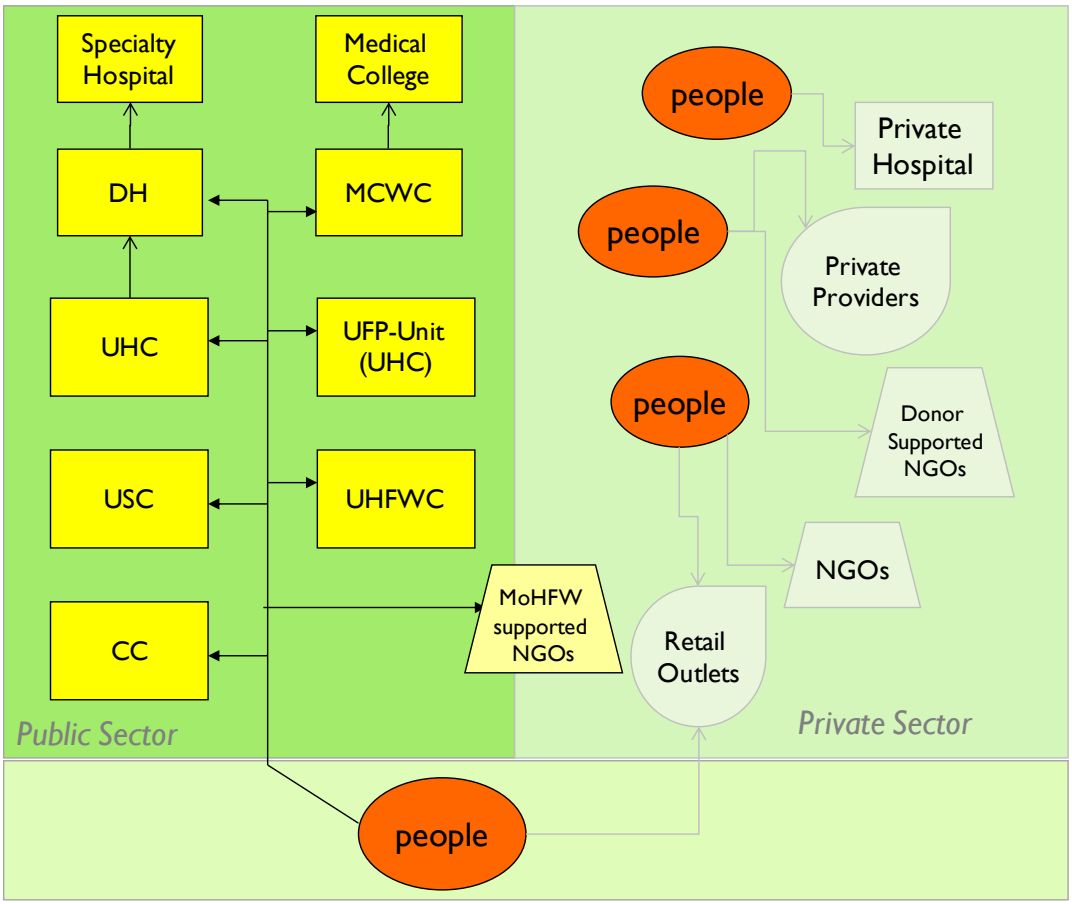


Source: BBS 2005.

4.2 Overview of the health services network

Similar to many transitional societies, a wide range of provider choices, formally and informally trained, is available when people seek health care. Figure 4.8 illustrates the pluralistic array of providers that make up the health services network in Bangladesh.

Figure 4.8 Schematic of the health service delivery networks in Bangladesh

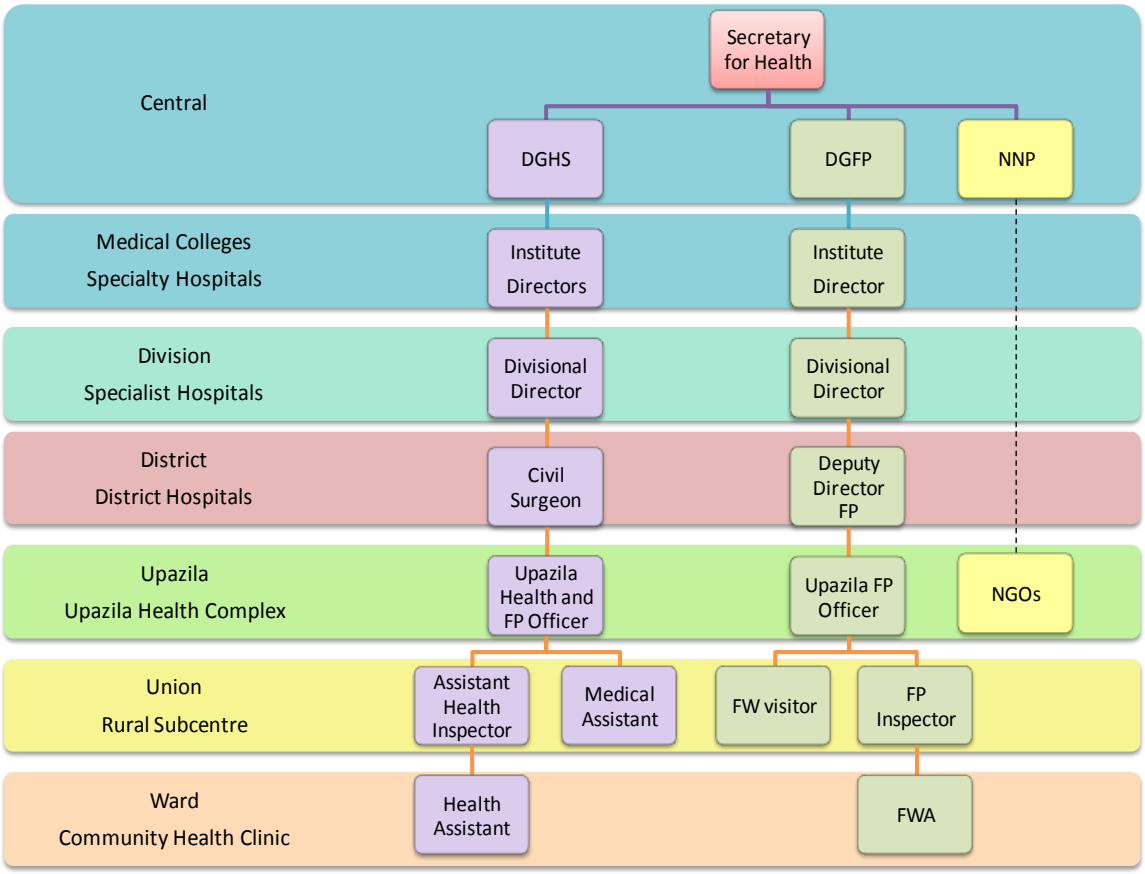


Source: Authors.

4.3 Public sector health services

As described in chapter 3, MOHFW delivers health services directly through its own facilities under the direction of two separate executing authorities, DGHS and DGFP. Primary health care services for both begin at ward level through a set of community-based health staff, with supervisory staff located at union level, and referral primary care facilities located at the union and upazila levels. Primary care services are also provided through publicly contracted NGOs. Nutrition services are part of the Essential Services Package, with area-based community nutrition services being delivered through NGOs contracted directly by the NNP. Public sector hospital services fall under the remit of DGHS. Figure 4.9 illustrates the public sector health services arrangements by administrative level.

Figure 4.9 Structure of the health service delivery system in the public sector



Source: Authors.

4.3.1 Primary health care services—Essential Services Package

In 1998, as part of the implementation of its SWAp programme, the government developed an essential services package as the means to prioritise delivery of cost effective services to the most vulnerable communities.[18] The package, built on the commitment to a primary health care approach already in place, places reproductive health as the centre-piece of the package, and includes:

- reproductive health care including safe motherhood, family planning, safe menstrual regulation, post abortion care, and management of sexually transmitted infections
- child health care
- communicable disease control—including TB, leprosy, malaria, filariasis, kala-azar, and emerging diseases
- limited curative care
- BCC.

The intent was to move to facility-based service with the Essential Services Package being delivered by an integrated team of health and family planning personnel up to the upazila level, with the entry point at community clinics at the ward level. Community clinics, each serving populations of about 6,000, would be the first point of contact with the health referral system—patients would be referred to UHFWC at union level and the UHC at the upazila level. The UHC is the first in-patient facility in the network, and provides both primary and

[18] The essential service package was developed out of recommendations from the 1994 International Conference on Population and Development, which were adopted in the Health and Population Sector Strategy in 1997.

secondary level services. Over time, “door-step” or domiciliary services would be replaced by fixed site services though, where necessary, mobile services would continue to ensure coverage of at risk populations. Table 4.1 summarises the range of facilities and services provided at facility level by level of care and Table 4.2 summarises the staff mix for the upazila level and below.

While there was a significant push to put in place the infrastructure to support delivery of the Essential Services Package, not enough attention was given to preparation of staff and the community for the move towards integrated, facility-based services. The first round of integration under the HPSP 1998–2003 was abandoned in 2001 with the change of government and DGFP was given an expanded mandate to include maternal and child health services as well as immunisation. In 2009, a new administration reinstated the policy directive about integrated community clinics as the “one-stop shop” for first-line access to health services from the public sector. Work has begun to restore already constructed community clinics and to construct new ones where needed.

Laboratory services are only available at district hospitals and UHCs. Treatment of TB takes place almost exclusively at the UHC. Services of the Expanded Programme on Immunisation (EPI) are often arranged through the UHC and not available at UHFWCs and Union Sub-Centres/Rural Dispensaries. Antenatal (ANC) and postnatal care (PNC) as well as counselling related to breast-feeding, family planning, vitamin A and iron supplementation, and vaccination services are provided at almost all public health facilities. Nutrition services are contracted out to NGOs. In selected urban areas, health care is provided by 12 partner NGOs (UPHCP II project) in 24 comprehensive reproductive health care centres, 161 primary health care centres, and 500 satellite clinics run by field workers. In addition, there are 24 centres for counselling and testing of HIV/AIDS patients; 24 centres for primary eye care, and 10 for TB treatment (DOTS).

Table 4.1 Summary of range of facility-based health services by referral level

Level of care	Geographic level	Urban/ rural	facility	Beds	Number of facilities (current and proposed)	Population served	Services offered In-patient/out-patient
Tertiary referral	Division and districts	Urban	Teaching hospital/ institute	250–1050	17 govt. medical college hospitals 1 armed forces medical college hospital (Ministry of Defence) 41 private medical college hospitals	10 million–15 million	Consultant level curative incl. surgery
			Speciality hospital/ institute				Consultant level curative incl. surgery
Second referral	District	Not in Dhaka	District hospital	100–250	60[a]	2.3 million	Consultant level curative incl. surgery
	District, upazila, union		Mother & Child Welfare Centre (MCWC)	10–20	98 proposed (70 built: 63 at district, 5 at upazila, 2 at union level)	2.3 million	Comprehensive obstetric care Clinical contraception
First referral	Upazila	Rural only	Upazila health complex (UHC)	31- 50	413[a]	270,000	Essential service delivery Treatment of general diseases Basic lab services and x-ray Normal deliveries only
	Union	Rural	Health Sub-centre/ Rural Dispensary (HC)	Out-patient	1,134 (estimated)[a]	30,000	Treatment of minor illness Basic child health care
		Rural	Union Health & Family Welfare Centre (UHFWC)	Out-patient	2,430 (estimated)[b]		Family planning Basic child and maternal care Menstrual regulation Treatment of minor illness
Community level	Ward (13,494 approx)		Community clinics	Out-patient	10,775 proposed (8,000 built)	6,000	Essential service delivery Preventive, promotion, and limited curative
			Family Welfare Centre (FWC)	Domiciliary care	23,000	7,000	Family planning Basic child and maternal care Menstrual regulation

Source: MOHFW; a from Tulane University Associates 2010; b DGFP website estimate is 3,500.

Table 4.2 Summary of staff mix for public sector health services at upazila level and below

Facility	Staff—health		Staff—family planning	
Upazila health complex	Upazila health and family planning officer, head of UHC	1	Upazila family planning officer Assistant upazila family planning officer	1 1
	Junior consultant gynaecology Junior consultant surgery Junior consultant medicine Junior consultant anaesthetics Residential medical officer General medical officers Dental surgeon	1 1 1 1 1 1 1	*Clinical service:* Medical officer MCH officer Family welfare visitor	 1 1 1
	Nursing supervisor Senior staff nurse Assistant nurse Nurse aide	1 9 1 1		
	Pharmacist Lab technician Dental tech Radiography technician	5 2 1 1		
	Sanitary inspector EPI technician Statistician Store keeper Health inspector TB/leprosy control assistant Med technician EPI 1	1 1 1 1 1 1 1		
	Health inspectors Junior mechanics			
	Others: Driver Cook *Aya*, ward boys, gardener, *mali* Security guards Cleaners	 1 2 Vary 2 5		
Health Sub-centre/Rural Dispensary (except where UHCs exist)	Medical assistant Pharmacist Health assistant Health inspector	1 2 1 1		
Union Health and Family Welfare Centre (UHFWC) (except where UHCs exist)			Sub-assistant community medical officer Family welfare visitor Family planning inspector (supervising family welfare assistants) Pharmacist MLSS	1 1 1 1
Community clinics	Health assistant (3 days)	1	Family welfare assistant (3 days)	1

4.3.2 Hospital services

The public sector has nearly 36,000 beds in a range of hospitals—district, speciality, and teaching or medical college hospitals (table 4.3). Hospital operations are provided under the aegis of the Directorate of Health Services.

Table 4.3 Listing of total bed complement of hospitals in the public sector by type of hospital

Number	Type of facility	No. of beds				
		Total	Revenue	Develop.	Proposed	Bed will Increase
7	Post-graduate Institute Hospital	2,014	1,700	314	250	200
14	Medical College Hospital	8,685	8,685	0	7,500	2,150
1	Pabna Mental Hospital	500	400	100	0	0
1	Dental College and Hospital, Dhaka	20	20	0	200	180
1	Unani & Ayurvedic College Hospital	100	100	0	0	0
1	Homoeopathic Degree College Hospital	100	100	0	0	0
1	Sheikh Abu Naser Specialised Hospital	250	0	250	0	0
1	National Asthma Centre	100	0	100	0	0
1	Burn Unit at DMCH	50	0	50	200	150
1	Sarkari Karmochari Hospital	100	100	0	0	0
1	Narayanganj Hospital	200	200	0	250	50
60	District Level Hospital	8,100	6,620	1,480	3,000	1,200
12	Chest Hospital	566	566	0	0	0
5	Infectious Diseases Hospital	180	180	0	0	0
3	Leprosy Hospital	130	130	0	0	0
1	Tongi Hospital	50	50	0	0	0
1	Saidpur Hospital, Nilphamari	50	50	0	0	0
1	Narsingdi Hospital (Development)	100	0	100	0	0
1	Bangladesh Korea Moitree Hospital	20	0	20	0	0
153	Upazila Health Complex (50 bed)	7,650	7,650	0	0	0
268	Upazila Health Complex (31 bed)	8,308	8,308	0	0	0
3	Health Complex (1 development)	93	62	31	0	0
1	Jhenaidah Sishu Hospital	25	0	25	0	0
28	20 Bed Hospital (2 development)	560	520	40	0	0
22	Hospital (RHC) (1 development)	220	220	0	0	0
1	National TB Control Project	0	0	0	250	250
6	General Hospital (Proposed)	0	0	0	2,000	2,000
596	**Total**	**38,171**	**35,661**	**2,510**	**13,650**	**6,180**

Source: MOHFW, DGHS, MIS, 2009b.

4.3.3 Capital planning and maintenance management: Facilities and equipment

Maintenance of equipment and facilities hampers the delivery of quality services in the public health sector. No national policy exists for management of infrastructure or health care technology in which all stages of needs assessment, planning, procurement, utilisation, maintenance, and overall operational management are defined (MOHFW and Simed International 2008). As such, these key roles are fragmented among the “owners” of the

facilities (district civil surgeon, UHC manager), the Public Works Department (PWD) and specialist units in MOHFW, which include the Construction Management and Maintenance Unit (CMMU), National Electro-Medical Equipment Workshop (NEMEW), Central Medical Supplies Depot (CMSD) and the Transportation and Equipment Maintenance Organisation (TEMO). Table 4.4 summarises the key roles and functions of these agencies.

The Medical Equipment Survey 2008 found that only 50 per cent of the equipment that was supplied under HPSP is effectively used at its final destination. Of the 50 per cent that was not effectively used, 16 per cent had not been installed, 17 per cent was out of order, and 17 per cent was in working order but not used. However, in terms of economic effectiveness, 75 per cent of the total value of the surveyed equipment was effectively used. This implies that more effort is made for more high technology and costly equipment.

This also implies that lower level facilities will have a higher rate of non-working equipment. The Bangladesh Health Facility Survey 2009 (MOHFW and Tulane University Associates 2010) reported that on average more than 30 per cent of basic equipment is missing from health facilities. Even if the equipment is present, one-third of the items were not in working condition. The survey also found that laboratory and diagnostic services are available only from district hospitals and UHCs. Among these facilities, more than 40 per cent of laboratory equipment and supplies were; only 18 per cent of facilities had 75 per cent of the basic laboratory equipment and supplies. Diagnostic machines like x-ray, ultrasound and electrocardiogram machines were also in poor supply. Even in district hospitals, one-third of the machines were not in working condition and in UHCs more than 70 per cent were not working.

Such low scores on the functionality index for key diagnostic and laboratory equipment, especially at the UHCs, indicate serious breakdown in the maintenance and repair system for medical equipment, either because of poor maintenance and repair mechanism or lack of incentives on the part of health facilities to maintain machines in proper running condition.

Under the HNPSP, the emphasis on improving procurement has been on process aspects, such as proper tender procedures (see chapter 8), and less so on needs assessment and other aspects such as delivery, commissioning or bringing facilities into operation. The issue of lack of synchronisation between infrastructure planning, including electricity and water supply, and technology planning needs to be addressed. At present, the “owner” of the facility has little say over the process and does not manage the budget for maintenance.

Table 4.4 Summary of key roles in construction and maintenance management

Organisation/Unit	Role and function
Construction Management and Maintenance Unit (CMMU)	• Constructs public health facilities: community clinics, sub-centres, UHCs, 100-bed district hospitals • Repair and maintenance (minor repairs) of facilities constructed included plant installed • No role for biomedical equipment • Manages 70 per cent of HNPSP infrastructure budget and only after decision is taken to construct • No role in planning infrastructure or developing maintenance budgets so maintenance role constrained by limited recurrent budgets • Unit staffed by engineers and project managers - 12 Divisional offices - Works as executing agency and project manager - Implements through contractors tendering through government systems
Central Medical Supplies Depot (CMSD)	• Procurement of biomedical equipment (medicines and supplies) and vehicles
National Electro-Medical Equipment Workshop (NEMEW)	• Maintains biomedical equipment in public sector health facilities including medical colleges • Trains persons in using equipment and routine maintenance • Provide on request advice on physical site for equipment and some aspects of plant (pumps, generators) • No role in procurement of equipment (this falls to the “owner” of the facility and CMSD) • Very little preventive maintenance done so mostly reactive or break-down maintenance in response to request for support • Little new recruitment so over 50 per cent vacancies and age profile of senior staff close to retirement age • No capacity to implement through contractors • No relationship with vendors if contracted for routine maintenance as part of purchase contract • Works through divisional workshops • Manual record keeping system of maintenance work but does not have an equipment inventory of what needs to be repaired • Responsible for parts inventory but not involved with equipment selection or procurement so often will only know need when equipment in need of repair
Transportation and Equipment Maintenance Organisation (TEMO)	• Maintenance of fleet of MOHFW • Not involved with procurement of vehicles
Public Works Department (PWD)	• Construction and maintenance of district hospitals over 100 beds and medical colleges and speciality hospitals
Facility “owner”	• Janitorial services on facilities • Supplies management for equipment • Ensuring routine maintenance but unclear who determines and holds the budget for this function • Initiates the request for maintenance and follows up with implementing unit

4.4 Non-state health services delivery

The non-state health sector in Bangladesh is diverse, which in some ways is a reflection of the diversity of its population. There is a wide range of providers who vary in qualification, skill, experience, and type of health care practised as well as organisation, scale, and legal status. The non-state health market is growing in an environment characterised by an underdeveloped regulatory framework, which lacks a clear categorisation of non-state entities or guidelines on standards of services or reporting requirements for these entities. As such, there are few data systematically available about non-state providers, detailing organisation, structures, range, and volume of services and quality of care. In the absence of uniform reporting, it is difficult to summarize accurately the range and extent of coverage of non-state providers. It is also difficult to assess the validity of the information that does exist. Given that data collection and reporting are not a priority and that monitoring and evaluation capacity is poor, particularly at sub-national level, data quality is likely to be subpar.

There are a number of studies and unstructured feedback loops (e.g. BHW and the Reality Checks) that point to the extensive utilisation of non-state providers, at least in terms of expenditures in that sector (see section 4.4 and chapter 7). However, there is no clear agreement around the efficacy and quality of the non-state sector or opportunities for scale up of coverage by investing more in this side of the market.

MOHFW is involved in many public–private partnerships, e.g. grant-in-aid, supply of equipment and commodities to private non-profit hospitals, extension of maternal vouchers to private providers, contracting out NGOs to deliver nutrition and HIV/AIDS services, and provision of drug and commodity support to health NGOs through projects such as the Smiling Sun Franchise Programme supported by USAID and the UPHCP II supported by the Asian Development Bank, DFID, and Sida. Under the HNPSP, pooled funds are supporting a number of these public–private partnerships, mainly in the areas of equipment, commodities, and logistics. However, outside of the NGO contracting that is taking place under the NNP and NASP operational plans, these partnerships are not being comprehensively monitored under the HNPSP governance framework.

The newly revised draft Health Policy (2010) is in favour of further diversification aiming to support a better enabling environment for greater participation of non-profit and for-profit institutions (MOHFW 2010a). However, it is unclear what the mechanism for engagement will eventually be now that structures that were envisaged to carry functions for NGO contracting, monitoring and evaluation under the HNPSP—namely, the MSA, Programme Support Office, and the Performance Monitoring Agency—are no longer in place or were never instituted.

For the purpose of describing their role in the Bangladesh health sector, non-state providers are grouped into five broad headings: traditional medicine, private health practitioners, private hospitals, NGOs, pharmacies/retail outlets. This section focuses primarily on the roles of NGOs, and provides a description of selected NGOs as a way of illustrating the scale and range of activity in the sector. Chapter 5 provides more information on traditional medicine providers and private health providers as part of the health workforce since they tend to be solo practitioners regulated by their professional affiliation rather than their place of work. Chapter 8 provides more on the pharmacies and retail outlets.

4.4.1 Traditional medicine

Bangladesh has a long history of traditional medicine, as distinct from the allopathic medicine developed in Western societies or alternative and complementary medicine practices that have their origin in eastern societies. The range of traditional health providers

includes the *kabiraj*, the *totka*, practitioners of “folk medicine”, and faith healers such as *pir*/*fakris*.

4.4.2 Private health providers

Private health providers include formally trained practitioners who work for the most part as independent solo practitioners on a fee for service basis, including doctors, nurses, and dentists, as well as community health workers, medical assistants, and sub-assistant community medical officers. All may market themselves as doctors or dentists or pharmacists. Many of these providers work full time in the public sector and part time in private practice.

The informally trained or partly trained practitioners include village doctors (rural medical practitioner/ *Palli Chikitsoks*), homeopathic practitioners, traditional birth attendants, community health workers, and the drug retail outlets. The latter not only sell medicines on demand, but will also diagnose, treat, and prescribe to customers. Informal practitioners are deeply embedded in the community in which they work and are usually the first point of contact for many families seeking care in rural settings. The BDHS 2007 and a smaller independent survey in 2007 (Cockcroft et al. 2007) estimate that as much as 60 per cent of treatment in rural Bangladesh is provided by the informal unqualified private practitioner group.

4.4.3 Private hospitals and clinics

From 1982, DGHS has registered 2,271 private hospitals and clinics and 4,735 laboratories and diagnostic clinics. Conditions for issuing and continuing a license include:

- adequate space and healthy environment
- a minimum of 80 square feet per patient
- air-conditioned operating theatre
- appropriate instruments as per prescribed guidelines
- adequate life-saving drugs and other medicines stored
- full-time doctors, nurses, and other staff as per prescribed guidelines (for every 10 beds—three doctors, six nurses, three cleaners, specialist doctors for surgery and follow up).

The total number of beds in the private hospitals and clinics is 36,669. International hospital networks have started operating in Bangladesh and include the Apollo Hospitals and Pan Pacific Hospitals. There are 22 private medical colleges which also provide clinical services in part to give clinical training opportunities for their students. The Bangabandhu Sheikh Mujib Medical University (BSMMU) is the premier post-graduate medical institution in Bangladesh, having moved to University status in 1998. BSMMU provides a full range of general and specialist hospital services with over 1,200 beds and 14 departments.

4.4.4 Non-governmental organisations

NGOs are organisations that are formally established as legal non-profit entities. Most national NGOs in the health sector are funded by international development partners either directly, or under contract from MOHFW or the MOLGRD, or through NGO contractors such as BRAC which manage funds for development agencies. There are also international NGOs which operate under bilateral or multilateral agreements as executing or management agencies for health-related projects.

For the most part, NGOs provide primary care services for maternal and child health, NNP, HIV/AIDS, and TB to hard-to-reach communities; advocacy, communication and social

mobilisation services; social marketing services; monitoring and evaluation; and community health fund management aligned to micro-credit schemes. Chapter 7 describes some of the activities of NGOs in health financing.

An estimated 2,000 national development NGOs are working in Bangladesh (across all sectors), most of which are relatively small though a few rank among the largest in the world, namely, BRAC, Grameen, ASA, and Proshika (World Bank 2006). NGO activities are concentrated in rural areas with recent expansion in semi-urban and urban slums.

The following paragraphs provide a brief description of the scope and scale of activity of selected NGOs in the health sector as a way of illustrating the range of NGO activity in the sector.

BRAC[19]

The largest NGO in the world, BRAC (formerly known as Bangladesh Rural Advancement Cooperative) is headquartered in Bangladesh with operations in countries with high levels of poverty or designated as lower-income countries under stress such as Sierra Leone, Liberia, and Afghanistan. Its original mandate in 1972 was to help returning refugees from India after the war for independence. BRAC quickly developed into a micro-finance agency providing a holistic approach combining health, adult education, and credit for rural enterprise development.

In Bangladesh, BRAC has about 2,600 offices spread across all upazilas. Through its network of village organisations and workers, BRAC's social development programme touches the lives of more than 110 million Bangladeshi citizens, who could also potentially be reached for health services and promotion activities. Its annual operating budget in 2008 was reported at US$ 535 million of which 27 per cent was from development partner contributions, as compared with 100 per cent development partner financing in 1980 and an operating budget of nearly US$ 1 million.

At the centre of BRAC's approach are village organisations—each with 30–40 women members—which are set up to provide social support and micro-finance services. These village organisations meet weekly to distribute loans, collect repayments and savings contributions, and raise awareness of social, legal, and personal issues affecting the everyday lives of poor women. They also give training and support to micro-finance borrowers so they can use the money productively and effectively.

The village organisations are also the recruiting ground for some of the key community workers—such as the community health volunteers, agricultural extension workers, and paralegal volunteers—who enable BRAC to increase the outreach and impact of their programmes. In 1977, they started training health volunteers from each village organisation to overcome the shortage of health workers in the rural areas. According to BRAC, there are now 68,000 community health volunteers who make home visits to 18 million village households every month and provide the first line of support in the BRAC essential health care programme. BRAC is the principal recipient for the TB grant from the Global Fund to Fight AIDS, Tuberculosis and Malaria.

In 2005, BRAC launched their flagship Water, Sanitation and Hygiene Programme, as a sanitation pilot under the Essential Health Care Programme and has since been rolled out to 150 sub-districts. It is the first integrated approach to water, sanitation and hygiene that involves the entire population of an area and they are aiming for national coverage by 2015.

[19] www.brac.net.

Social Marketing Company[20]

The Social Marketing project was started in Bangladesh in 1974 by a US based non-profit organisation Population Services International (PSI) in collaboration with the government and funded by USAID. In 1990, the project was transformed into the Social Marketing Company (SMC), registered under the Companies Act, 1913 in Bangladesh and governed by a voluntary Board of Directors. Its mission is to improve the quality of lives of vulnerable and less privileged population primarily in public health issues through sustainable social marketing efforts in collaboration with national and international governments and development partners.

Social marketing in Bangladesh was initiated to challenge the rapid population growth by marketing contraceptive products widely accessible at a price affordable to the general population and bring about behavioural change through extensive mass promotion. Currently, SMC implements major social marketing programmes not only for family planning but also child survival, maternal and child health promotion, and STD/AIDS prevention. In addition, SMC implements customer education and health communication programmes.

SMC is now regarded as a significant contributor to the reproductive and child health services in Bangladesh by complementing the public sector distribution with private sector social marketing model. In 2009, SMC provided 3.84 million couple years of protection through offering three modern methods—oral pills, condoms, and injectables. Under its family planning programme, SMC social markets a variety of non-clinical oral pills (Femicon, Nordette-28 and Femipil); and condoms (RAJA, HERO, Panther, Sensation, and U&ME); and clinical (Injectable SOMA-JECT) contraceptives. It positions its brands of contraceptive products at different price segments so that revenue generated from the moderately priced brands can cross-subsidise lower-end brands. The BDHS shows, 35 per cent of the modern contraceptive users reported that they use SMC brands.

Its reproductive health work also includes a telephone hotline, TeleJiggasha, which provides reproductive and health information and addresses problems faced by the youth. Additionally, since 1995, SMC has been working on reduction of the transmission of STD and HIV/AIDS among the defined high risk population through its Shurockkha (meaning “well protection”) Programme, which uses interpersonal, outreach programmes, and intensive training of front-line health providers through its nationwide Health Providers’ Training Programme.

In 2008, SMC introduced a small sachet of micronutrient powder, popularly known as Sprinkles, in the brand name of MoniMix to address childhood iron deficiency anaemia. It also started marketing Zinc dispersible tablets to reduce the severity of diarrhoea in children under five and, as part of its maternal and neonatal health programme, it launched a safe delivery kit branded as Safety Kit to ensure clean child delivery at household level.

ORSaline-N, SMC’s brand marketed WHO formula-based packaged oral rehydration salts, has its price is fixed by the government; it is produced in SMC’s own factory in-country, which has an annual production capacity of 208 million sachets.

SMC has increased availability and accessibility to its contraceptive products and oral rehydration salts by regularly servicing almost 220,000 retail outlets annually nationwide. Additionally, the Blue Star Social Franchising Programme seeks to enhance the capacity of the private health providers to offer high-quality public health priority services and products through its 3,700 Blue Star providers/outlets.

[20] www.smc-bd.org.

Smiling Sun Franchising Programme[21]

The Smiling Sun Franchise Programme is a project funded by USAID. Its mission is to improve the quality of life of all Bangladeshis by providing, superior, friendly, and affordable health services in a sustainable manner. It is intended to complement the wide network of health facilities set up by the government by adopting a health care franchising model.

The project works with partnering NGOs to convert the existing network into a viable social health system. Its objective is to strengthen the partner NGO's quality of care while continuing to serve important segments of Bangladeshi society, including the poorest of the poor. The project uses a build-operate-transfer methodology to develop franchise manager organisations that can fully assume franchise operations at the end of the project.

Currently 28 NGOs are providing health care services to women, children and youth through 320 static and 8,500 satellite clinics in 61 districts. This network will continue to expand the volume and types of quality health care for essential services provided to the able-to-pay customers as well as underserved and poor clients. By year four of the project, it aims to generate sufficient income to support approximately 70 per cent of the operational cost while maintaining access to those who cannot afford to pay for services.

NGO Service Delivery Programme[22]

The NGO Service Delivery Programme supports 41 local NGOs to deliver an essential services package including child health, maternal health care, reproductive health care, clinical and non-clinical family planning services, communicable disease control, TB, safe delivery (including first aid emergency obstetric care, and post-abortion care), and limited curative care. This network of NGOs works through 346 urban and rural clinics, nearly 8,000 satellite clinics and almost 7,000 female depot holders nationwide, serving approximately 17 per cent of the national population. Over 1.5 million customers are served each month.

Major objectives of the programme include expanding the range and quality of services; increasing access to services by the poor; building NGO institutional and financial capacity; and influencing policy to expand the role of NGOs as health care providers in Bangladesh. Pathfinder International implements the project in cooperation with seven partner organisations, including the Bangladesh Centre for Communications Programmes, CARE, Deloitte Touche Tohmatsu Markets, INTRAH of the University of North Carolina Medical School, Research Triangle Institute, Save the Children USA, and the University Research Corporation.

Marie Stopes International[23]

The branch of Marie Stopes International in Bangladesh was established in 1988. The organisation provides a full range of family planning services and methods, with a focus on clinical, long-term methods. MSI has 144 clinics, mainly in urban areas, which together with outreach strategies and roving teams at the South Asia regional level served more than 1.4 million clients in 2008. While many services are included in a cost recovery strategy, family planning services and supplies are free after an initial registration fee of 25 Taka (Tk) (US$ 0.36) as MSI relies on the government as its source of supply of contraceptives.

CARE Bangladesh[24]

CARE Bangladesh is one of the longest standing international NGOs operating in Bangladesh opening its first office in 1962 and signing its Basic Operating Agreement with

[21] www.smilingsunhealth.com.

[22] NGO Service Delivery Programme 2010.

[23] www.mariestopes.org.

[24] www.carebd.org.

the government in 1973. The core work of CARE Bangladesh is poverty alleviation with a stated mission to “amplify the voices of the poor and marginalised in ways that influence public opinion, development practice, and policy at all levels. This happens as knowledge drawn from our grass roots and global experience is channelled through purposeful relationships with civil society, government, and the private sector.”

Although not specifically a health NGO, CARE is one of the implementing agency of the Japan International Cooperation Agency (JICA) -funded Safe Motherhood Promotion Project in Narsingdi district 2006–2010. The Joint Terminal Evaluation Report assessed the project as successful in improving the health status of pregnant, postpartum women and neonates (JICA and MOHFW 2010). CARE’s role was to facilitate community mobilisation activities to support women and neonates to utilise obstetric and neonatal care. CARE worked to decrease the three delays that may lead to maternal and neonatal deaths: delay in decision to seek care, delay in reaching care and delay in receiving care. Its activities included establishment of a Community Support System, capacity building of the community change agent, awareness raising of the five danger signs, birth planning and timely referral. The Community Support System is a mechanism at community level for establishing a system, through collective efforts, which aims to provide support to pregnant women and newborn during any obstetric emergency.

4.5 Health services for special populations

4.5.1 Char Livelihood Programme—Primary Health care and Family Planning Project[25]

The Char Livelihood Programme, supported by DFID, aims to improve the livelihood security of extreme poor island chars dwellers living in the five districts of the northern Jamuna River, north-west Bangladesh. Working within 150 riverine unions, these five intervention districts are Kurigram, Gaibandha, Bogra, Jamalpur, and Sirajganj. The poorest and most vulnerable households in Bangladesh are concentrated in particularly marginal and extreme environments. The programme working areas within the Jamuna chars are no exception, with an estimated 3.5 million people isolated from major markets, suffering from erosion and near-annual flooding, seasonal *monga* and extremely limited health and education service provision by government.

The programme aims to improve the lives of at least 1 million of the poorest people living within its operating area, giving a particular emphasis to those households living on island chars. The majority of programme activities are conducted through local partner NGOs or implementing organisations. Currently there are 18 organisations executing the programme throughout the five districts. The cornerstone of the programme’s approach is the Asset Transfer Programme, the basis of which is a one-time transfer of investment capital to a minimum of 55,000 extreme poor island char households.

The five riverine districts of the Northern Jamuna are home to approximately 3.5 million people. One million of these inhabitants live on riverine islands and bars, commonly known as chars. The chars are formed as a result of river erosion and silt deposition, and are surrounded by water throughout the year. Near-annual flooding of the Jamuna region regularly forms and re-forms these chars, making them highly prone to acute erosion. These floods can force thousands of families to move their households each year, as floodwater either submerges their homes or erodes the land on which they live. It is estimated that char households often relocate between five to seven times in a generation, with poorer char households invariably moving many more times due to the inferior quality and location of the

[25] www.clp-bangladesh.org.

land they move to and from. Over the last 35 years, the Jamuna River has been gradually moving westwards, creating and destroying chars and people's lives in its wake.

The programme recognises the importance of improved health and education services in lifting and keeping poor households out of poverty. Providing low-cost quality health care services on the chars can be considered one of the next steps in ensuring extreme poor households remain protected from the often devastating economic consequences of a health shock. In January 2008, the Primary Health Care—Family Planning Pilot Project began operating 212 satellite health clinics each month through three implementing organisations in Gaibandha and Sirajganj, and a further two NGOs across Kurigram, Gaibandha, and Jamalpur.

During the first year of the pilot more than 4,700 satellite health clinics were active, providing nearly 194,000 patients with health care services. These patients were mostly women, often seeking essential ANC/PNC and family planning services. Services are channelled through trained and qualified paramedics in each clinic. These paramedics offer basic health care services and refer complex cases to designated referral centres at the upazila and district levels. In addition to the monthly clinics, programme also provides funding for 400 community health volunteers, who live within the community and can be seen by patients in their home at any time of the month. The volunteers provide simple health care services and stock family planning materials and medicines. These services are not free: consulting either the volunteer or the paramedic at the clinic costs Tk10. Payment can be made either in cash or via vouchers from the Health Cost Reimbursement Scheme. While only core beneficiary households are part of the scheme, it should be stressed that anyone is allowed to access and use the scheme services.

The rationale behind voucher provision to extremely poor households is evident, with a health care patient satisfaction study done in 2009 by the programme showing that 89 per cent of voucher recipients would not have sought health care support without voucher provision. In 2009 the pilot project has been dramatically scaled up, with five more organisations contracted to provide these services across all programme working areas. It is anticipated that each month, 800 satellite clinics will eventually operate providing vital health care services to an estimated 30,000 patients.

4.5.2 Tribal Health Services

The Chittagong Hill Tracts is a unique territory which differs significantly from the rest of the country in its geography, inhabitants, culture, and development. Situated in the south-eastern corner of Bangladesh, it covers an area of approximately 5,093 square miles, about one tenth of the landmass of the country. It shares a common international border with the States of Tripura and Mizoram of India to its north and north-east, and the Arakan Hills of Myanmar to the east and to its west; it is encircled by the district of Chittagong.

In stark contrast to the alluvial, monsoon-flooded plains of the rest of Bangladesh, the terrain in the Chittagong Hill Tracts is part of the great hill mass—an offshoot of the Himalayan range occupying parts of India, Myanmar, and Bangladesh. The hills inside Bangladesh rise up to a maximum of 4,000 feet, with the ranges running generally northwest to south-east and dividing the area into a number of large valleys. The valleys are covered for the most part with dense virgin forest, interspersed with small waterways and swamps. The districts comprise seven valleys formed by the Feni, Karnafuli, Chengi, Myani, Kassalong, Sangu, and Matamuhuri rivers. For the sake of convenience of general administration, the region has been partitioned in recent years into three separate administrative units (districts), namely Khagrachari Hill Tracts, Rangamati Hill Tracts and Bandarban Hill Tracts.

About 1 million people are estimated to live in the area, 51 per cent belong to various ethnic indigenous communities who are mostly tribal and have distinct lifestyles different from Bengalis. Each tribe has its own dialect, distinctive dress and rites and rituals that have evolved over hundreds of years. The majority of them are Buddhists and the rest are Hindus, Christians, and Animists. Elements of primitiveness are strongly displayed in their rites, rituals, and everyday life. The tribal families are matriarchal and are the main productive force. They are extremely self-reliant and generally speaking they live a simple life, grow their own food, and their girls weave their own clothes.

Providing health care to the tribal communities of the Chittagong Hill Tracts remains challenging. Tribal Health is included in the new National Health Policy in the context of updating the Tribal Health Strategy, and its importance is implicit in the focus on a pro-poor agenda.

5. Human resources for health

5.1 Human resource policy and strategic planning

Until the early 1990s, MOHFW human resource management activities in health and family planning concentrated mainly on training, with little attention paid to fundamental problems of deployment and retention or longer-term strategic thinking about human resource needs (Revised Programme Implementation Plan, p.244). The fourth health and population project (1993–98) attempted to address some of these issues, supporting the preparation of the first Human Resource Development Strategy, which was further developed into the Human Resource Strategy 2003.

In 2004, MOHFW established a new branch within the Secretariat headed by a Deputy Chief Human Resource Planning and Development 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. A series of initiatives was piloted 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 (Report on Individual Performance Management); and the two streams of service providers—DGHS and DGFP—were unified at upazila level and below (IRT 2009a p.168).

With a change of government in 2001, some of these initiatives were reversed. The HNPSP had separate operating plans for human resource development under each directorate and less focus on human resource management issues. However, the current government is renewing the interest in functional integration at the upazila level and below through development of the community clinic as an integrated “one-stop shop” for health services.

The current Bangladesh Health Workforce Strategy was finalised in 2008 (MOHFW 2008c). Similar to the 2003 strategy, it identifies staff shortages, inappropriate skill mix and deployment, the quality of education and training, and weak stewardship as key issues and challenges. The strategic objectives, which are an iteration of those of the last strategy, include to:

- have clear lines of accountability with defined roles and responsibilities, and establish performance management at all levels of the system, enabling appropriate delegation of authority to lower levels;
- develop and establish better more responsive systems for optimum staff deployment;
- develop a workforce information system that would support better planning and management of human resources;
- achieve better leadership and coordination of human resource matters by MOHFW;
- develop better processes for communication and consultation with professional and staff associations to enable more constructive engagement;
- develop a workforce planning process which could forecast requirements, identify surpluses and shortages, and consider the necessary training, education, and development;
- improve the quality of workforce education and training;
- build capacity for stewardship/regulation of human resources for health;
- address issues in recruitment, career development, and retention;
- develop and institute performance management processes;
- develop and expand the leadership and coordination of human resource functions to include other ministries and non-state contributors to the health sector such as NGOs;

- promote public–private partnerships for workforce production, development, and deployment; and
- build a more effective approach to workforce financing in terms of rationalising compensation packages and developing appropriate incentives.

MOHFW is developing a Human Resource Development Master Plan for 2010–2040 in support of the Bangladesh Health Workforce Strategy 2008 to address the issue of how to close the large gap between the human resources required over the next 10 years and the available output in both public and private sectors (IRT 2009a, p.169). A roadmap has been developed identifying the actions necessary to develop this plan, various committees have been formed to address specific issues, and in March 2009 a study of staffing levels, production, and utilisation of human resources in the sector (both public and private) was completed (Hussain and Hussain 2009).

5.2 Workforce estimates

Bangladesh has a critical shortage of health workers compared with the WHO-recommended level of 25 per 10,000 qualified health workers required to achieve the MDGs (WHO 2006c). Table 5.1 provides estimated workforce density ratios for the main health cadres in Bangladesh.

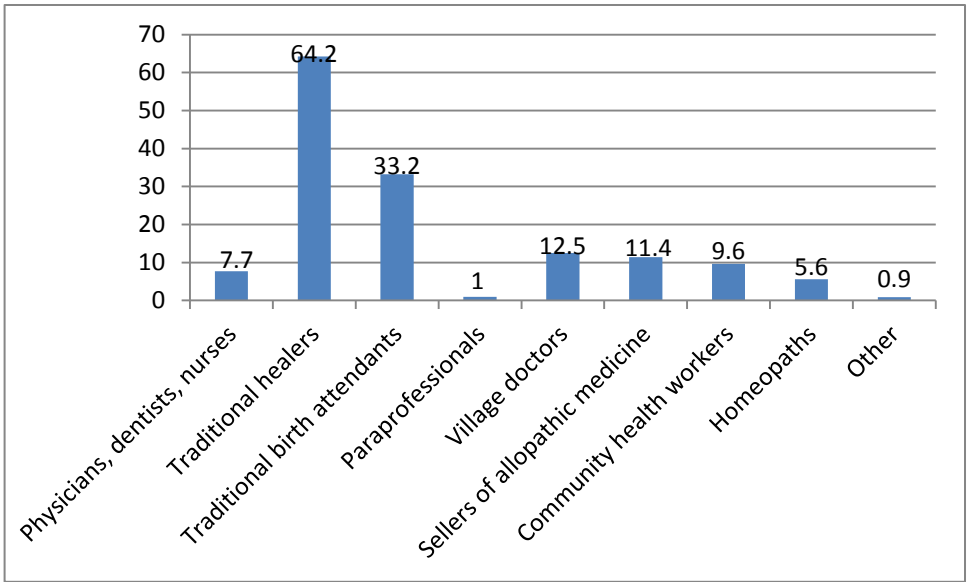
Table 5.1 Health workforce ratios per 10,000 population, 2001–2005

	2001	2004	2005
Physicians	2.3	2.6	3.0
Nurses/midwives		1.4/1.8	
Dentists		0.2	0.2
Pharmacists		0.6	
Laboratory workers		0.3	0.1
Public health workers		0.4	0.4
Community health workers		3.1	1.5
Other health workers		0.4	0.5

Source: WHO 2008.

Similar to other low-income countries, estimating workforce numbers and the gap is challenging as the quality of information on the health workforce is not comprehensive in scope and not updated routinely. MOHFW does not routinely generate health workforce estimates; the available information is patchy and not well correlated. The BHW 2007 provides estimates of the workforce based on a national survey completed in 2007 (figure 5.1). It estimates a health workforce density of 146 per 10,000 population, with a ratio of 7.7 per 10,000 qualified health care providers. In the following sections, the workforce information is organised under headings for MOHFW, other government ministries, private and NGOs, and the informal sector.

Figure 5.1 Density of providers per 10,000 population



Source: BHW 2007.
Note: Traditional healers include *kabiraj*, *totka*, herbalists, and faith healers. Traditional birth attendants are trained and untrained. Para-professionals include medical assistants, sub-assistant community medical officers, family welfare visitors, and laboratory technicians.

5.2.1 MOHFW workforce estimates

Table 5.2 summarises the estimates of MOHFW staffing and future projections.

Table 5.2 MOHFW present staff position and future projection

Categories of staff*	Current standard	Present number**	Possible standard	Gap
Physician	nk	48,104/ 38,000	91,000	42,896/ 53,000
Dentist	nk	3,238		
Nurse (graduate)	nk	826	91,000	56,146
Assistant nurse	nk	2,418		
Skilled birth attendant	34,000	2,234		
Junior midwife	nk	7,20		
Nurse (diploma)	nk	23,540		
Family welfare visitor	5,500	5,746		
Medical assistant	nk	5,598	11,000	5,402
Medical technologist (graduates)	nk	nk	91,000	78,559
Medical technologist (diploma)	nk	12,441		
Medical technologist (equipment)	nk	nk		
Monitor/supervisor	nk	18,400***	18,400	0
Community worker	1:4,000 population	44,516***	44,516	0
Total		**198,208**	**346,916**	

Source: Hussain and Hussain 2009, based on MOHFW, DGHS, 2007.
* Non-technical/administrative personnel have not been included but includes specialists and managers. Includes 1,966 public health specialists and 8,456 clinical specialists. The above also does not include 25 physician posts created for 5 trauma centres and 4,621 posts of physicians, 45 unani medical officer posts, 2,146 post of nurses and 4,677 other posts including those of medical technologists. ** Lesser number are in job, e.g., 39,327 physicians, 2,299 dentists and 23,056 nurses are in public sector job. *** Includes both health and family planning staff.
Note: Health managers are not recorded as a specific category. nk = not known.

5.2.2 Other government ministries and agencies

The Ministries of Home Affairs (Police), Defence and Bangladesh Railways have health facilities for their staff and, to a lesser extent, their families. MOHFW does not play a role in managing these facilities. Table 5.3 summarises the staffing situation in the public sector other than MOHFW.

Table 5.3 Scope of services and staffing in other government ministries and agencies

Agency/Ministry	Number	Size (beds)	Scope	Physicians	Nurses	Medical technologists
Bangladesh Railways						
Hospitals	3	75	In-patient and out-patient general; contracted specialist services	8/hospital including 2 as divisional administrators	14/ hospital	3/hospital
	6	20–50	In-patient and out-patient general			
Ministry of Home Affairs (Police)						
Hospital						
Dhaka	1	250	In-patient and out-patient	23 general, 24 specialist	32	6
City corporations	5	100		44 general; 6 dentists; 32 specialists	45	38
Training Institute	1	75				
Districts	13	20				
Narcotic Hospital	1	50				
Ministry of Defence						
Hospital	8	20–200	In-patient and out-patient	nk	nk	nk
Medical College Hospital	1			nk	nk	nk
Ministry of Local Government and Rural Development						
Category A municipalities			40 Health depts.	Chief medical officer; chief technical officer		
City Corporations	Variable		Health dept.			
Dhaka	1			5 medical officers		
Regional Offices	10			1 medical officer		
Hospitals	Variable		In-patient and out-patient general			
Primary health care	Variable		Contracted to NGOs			

Source: Hussain and Hussain 2009.

The MOLGRD is responsible for the delivery of primary health care services to the urban populations (see chapter 4).

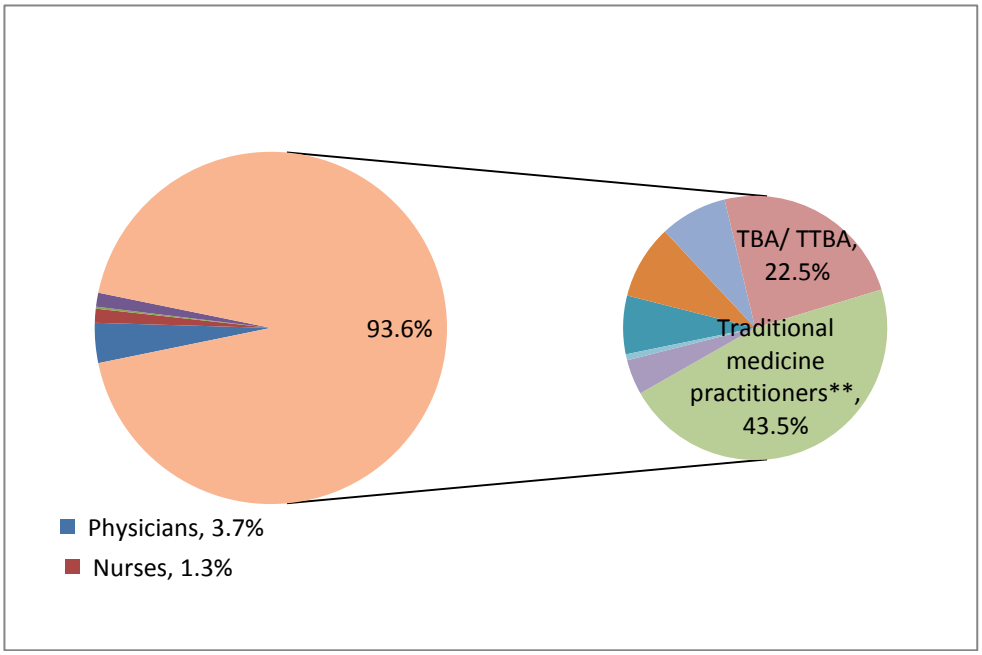
5.2.3 Private and NGO workforce

There are more than 483 private hospital and clinics approved by government. Also, 24 of 41 private medical colleges run their own hospital. There is little systematic data collected on the staffing of these facilities. Since there has been no recruitment of nurses in the public sector since 2003 and the production of nurses has been increasing in both public and private sector nursing schools, it is estimated that there could be around 10,000 nurses working exclusively in the private sector compared with about 17,000 nursing posts in the public sector.

5.2.4 Informally trained health care providers

In addition to formal allopathic health providers, there are a range of informally trained health care providers who are not regulated or accounted for in MOHFW health workforce estimates. However, the Household Income and Expenditure Survey and the National Health Accounts highlight the extensive use of these providers by all Bangladeshis, particularly the poorer communities. The largest group of health care providers is the informally trained, with traditional healers and traditional birth attendants (trained and untrained) representing 43.5 per cent and 22.5 per cent of all providers respectively. Figure 5.2 illustrates the relative proportion of the informally trained providers.

Figure 5.2 Schematic comparing the proportion of qualified and unqualified health care providers

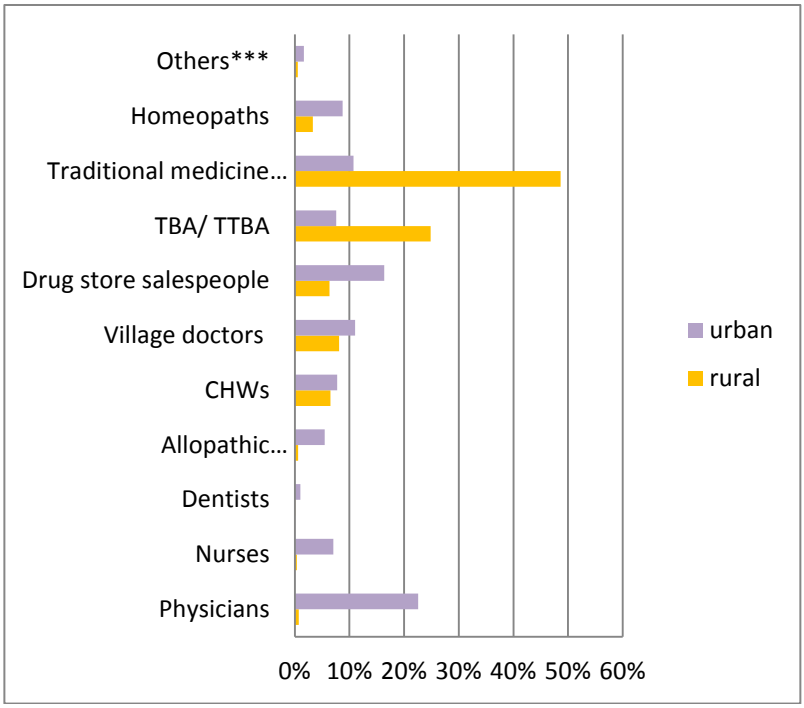


Source: BHW 2007.

5.2.5 Distribution of health care providers

There is also an urban-rural difference in the distribution of health care providers with the majority of qualified providers located in urban areas.

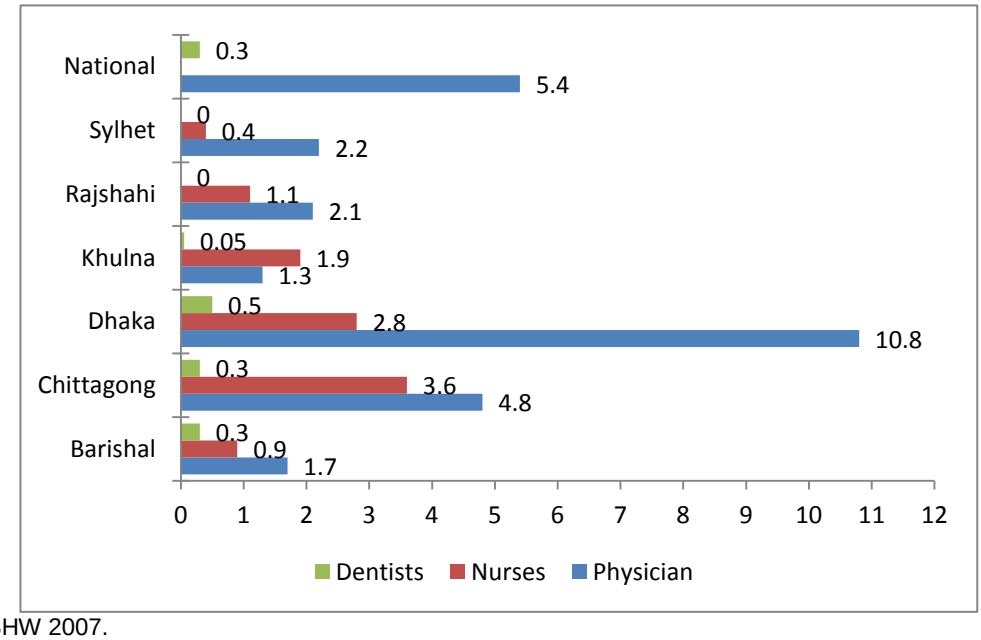
Figure 5.3 Proportion of health care providers by location by type



Source: BHW 2007.

Overall, there are about five physicians and two nurses per 10,000 population, that is two and half times more doctors than nurses. However, there are substantial variation in the density of physicians and nurses among divisions (figure 5.4).

Figure 5.4 Distribution of physician, nurse and dentist per 10,000 population by division



Source: BHW 2007.

5.2.6 Gender and age profile of the workforce

There is little routine data collected on gender and age of the health workforce. The BHW 2007 (BHW 2007) estimates that, at an aggregated level, the male : female ratio of the

health workforce is around 56:44. However, while females dominate in nursing (9:1), traditional birth attendants and community health workers, there are about five male doctors to one female doctor. Village doctors, drugstore salespeople and traditional practitioners are also predominantly male.

The BHW 2007 estimates the average age of all health care providers to be between 30–50 years. Community health workers are the youngest group, followed by nurses; non-allopathic or informally trained providers have the highest average age.

5.3 Estimating the health workforce gap

For the most part, Bangladesh's current health workforce density is well below WHO standards for low-income countries.

Table 5.4 Bangladesh estimated health workforce density per 10,000, 2006

Country	Physicians	Nurses	Midwives	Staff/10,000
Bangladesh	2.6	1.4	1.8	5.9

Source: WHO 2006c.

Based on the WHO recommended ratios and MOHFW 2007 workforce estimate, table 5.5 provides an estimation of the gap for doctors and nurses.

Table 5.5 Estimation of gap for doctors and nurses, 2007

Health care provider	MOHFW 2007 estimates	Estimated requirement	Shortage
Doctor	38,537	98,550	60,013
Nurse	15,023	178,200	163,177

Source: Developing options for addressing human resource gaps in maternal and neonatal health in selected districts, DFID 2009.

Noteworthy is that the skill mix of the current workforce is highly skewed towards doctors with a ratio of doctors to nurses to technologists at 1:0.48:0.24 against the WHO SEARO recommendation of 1:3:5 (MOHFW 2008c). MOHFW is using a ratio of 1:1:1 as its targeted skill mix and a target workforce of 91,000 of each of these main health cadres. Table 5.6 provides estimates of the projected workforce for doctors, nurses and technologists using MOHFW and WHO-recommended workforce skill mix ratios.

Table 5.6 Projected workforce ratios per 10,000 population based on 2007 data

Health care provider	MOHFW 2007 estimates	Workforce ratios 2007	MOHFW projected skill mix ratios	WHO-recommended skill mix ratios	MOHFW workforce projection	Workforce projection using WHO ratios
Doctor	38,537	1	1	1	91,000	91,000
Nurse	15,415	0.4	1	3	91,000	273,000
Technologist	9,249	0.24	1	5	91,000	455,000

Source: Hussain and Hussain 2009.

Box 5.1 Planning for nurse development

For nursing staff, the double problem of too few sanctioned posts plus many posts being unfilled has contributed to a particularly acute shortage, such that Bangladesh has one of the lowest doctor to nurse ratios in the world at 1:0.5 while the international standard recommends 1:3. However, the planning dilemma is to determine which norm should be used to estimate the gap and if this norm is in fact either achievable or appropriate.

For example, MOHFW estimates the nursing gap at 159,000 more nurses for Bangladesh to reach international standards. Currently, 62 nursing colleges produce 2,235 newly trained nurses a year makes reaching this target by 2020 unattainable within present capacities.

However, the staffing standards for nursing in Bangladesh are such that nurses are deployed to hospitals only and are only now being trained as midwives—whereas internationally nurses play a key role in primary care delivery. The technologists or para-professional cadres are the dominant workforce group for maternal and child health and at primary care level in the Bangladesh health sector. Until the role of the nurse in relationship to the rest of the team, both doctor and para-professional, is clarified, it is unlikely that a doctor to nurse ratio of 1:3 would be an appropriate target in Bangladesh.

5.4 Public sector health workforce

5.4.1 Structures for management of the health workforce

Authority for human resource management remains centralised although there are an increasing number of initiatives to delegate responsibility for services delivery to decentralised levels and improve responsiveness of health services to the community and individual clients. The operational processes of MOHFW divide responsibilities among different line management channels, with limited horizontal coordination. This includes the administrative and personnel management function of the MOHFW Secretariat; the directors of administration for DGHS, DGFP, and the Directorate of Nursing Services (DNS); and the institutions and units involved with training, such as NIPORT. The pre-service education and in-service training functions are separated from the human resource management function and there is little coordination across public and private sector on health workforce production.

In addition, for the public sector, authority and responsibility are further divided among the key ministries and organisations responsible for human resource management of public servants. Since many of the fundamental functions of human resources are funded out of the revenue budget or may have implications for the revenue budget, Ministry of Finance approval is required for key areas of human resource management. These include the creation of new posts, filling vacancies, and deployment of human resources to different levels and locations (because of implications for incentive awards and allowances). The Public Services Commission and the Ministry of Establishment are involved in various aspects of recruitment, promotion, and disciplinary functions—all of which are key to addressing human resource problems in the health sector.

Under the HNPSP, human resource functions are fragmented. Operational plans for human resources are funded from the development budget, with MOHFW (Joint Secretary Administration), DGHS (Director of Administration), and DGFP (Director of Administration) each having a human resource operational plan. Human resource activities of the DNS and DDA are reflected in their own operational plans. However, there are two further operational plans in DGHS which cover pre-service and in-service training and the NIPORT operational plan covers pre-service and in-service training for family planning staff (IRT 2009a). In addition, all operational plans for service delivery under DGHS, DGFP, or the NNP contain separate training activities for capacity development.

A Human Resource Task Group has been formed to address the problems of scope and coordination and the APR 2009 suggested the appointment of a common chairperson for all operational plans related to human resources. It also suggested that networks should be developed in DGHS and DGFP to improve communication on several key issues, of which human resources is a principal one.

5.4.2 Distribution of posts and level of vacancies

Estimates made by the World Bank in 2009 suggest that in aggregate number of sanctioned physician posts at district level and below is adequate for meeting in-patient and out-patient needs of the system; however, the analysis suggests that, when measured against "need", too high a proportion of these posts are sanctioned for district hospital and UHCs, leaving a dearth of posts at lower level facilities. At all levels the numbers of sanctioned nurses posts fall far short of those needed assuming measurement against the WHO SEARO recommendation of three nurses to one doctor (MOHFW 2008c).

Actual staff numbers show acute shortages for both doctors and nurses as well as other cadres. Of note is that whereas about 64 per cent of all sanctioned posts are filled, only 32 per cent of facilities have 75 per cent or more of the sanctioned staff working in them, implying that people may not be working in the location assigned. Table 5.7 shows 2009 workforce estimates by directorate and overall vacancy levels.

Table 5.7 Vacancies in different posts of DGHS, DGFP, and DNS, June 2008

Staff category	Total	Staff available	Vacancies	% vacancies
Class 1, DGHS*	18,653	10,431	8,222	44.07
Management positions, DGHS	817	711	106	12.97
Teaching staff, DGHS	16,843	11,724	511	30.39
Medical assistants, DGHS	5,251	3,729	1,522	28.98
Medical technologists, DGHS	6,005	4,514	1,491	24.83
Field staff, DGHS	26,095	18,918	7,186	27.54
Total, DGHS	**106,038**	**82,350**	**23,688**	**22.34**
Class 1, DGFP	1,925	1,270	755	39.22
Class 2, DGFP	1,023	588	435	42.52
Class 3, DGFP**	40,430	34,656	5,774	14.28
Total, DGFP	**52,334**	**44,187**	**8,249**	**18.67**
Nursing staff only	16,478	13,815	2,663	16.16
Total, DNS	**16,283**	**10,479**	**2,229**	**21.27**

Source: Hussain and Hussain 2009.
* Almost all are physician posts. ** Includes 23,500 field staff, 5,600 family welfare visitors and approximately 5,000 field supervisors

5.4.3 Recruitment

The process of recruitment to posts is determined by how the post is funded—whether through the revenue or development budget. Recruitment to revenue budget–funded posts is the more cumbersome and depends on the class and cadre of the post. Table 5.8 summarises the range of cadres that work in MOHFW.

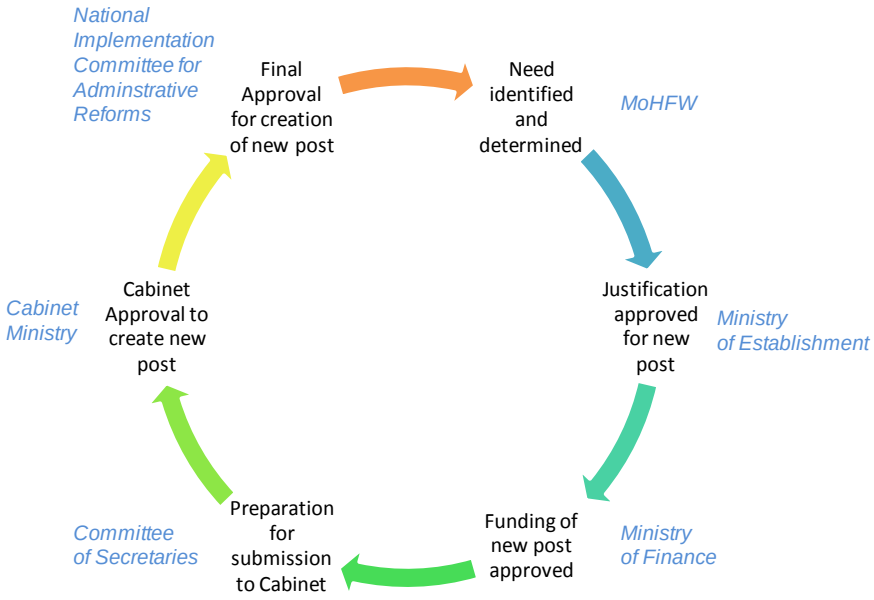
Table 5.8 Public service cadres in the health sector

Cadre	Description
Administrative	Found throughout the public sector, the highest level posts in MOHFW are held by the administration cadre who spend their careers moving around ministries serving in a variety of positions
Economics	Comprise the Planning Wing of MOHFW. Recruited into the Planning Commission and allocated to ministries usually on a three-year rotation
Health	Specific to MOHFW, e.g. doctors, nurses
Family planning	Specific to MOHFW
Bangladesh civil service health	Specific to MOHFW
Non-cadre	Recruited on ad hoc basis or emergency situation, usually using development funding

The class designation for the job determines not only benefits and status but also eventual access to higher-level jobs. Doctors are all class 1 and staff nurses as diploma holders are class 2, recently upgraded from class 3. Doctors could rise to the level of director general and secretary, whereas a staff nurse could not go higher than a nursing line manager.

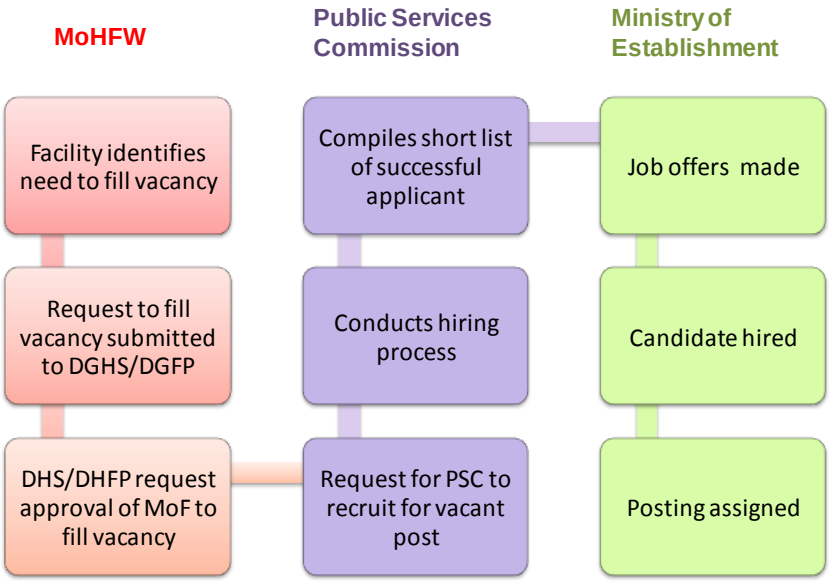
Creation of new posts is a long process. Once the directorate has identified the need, the MOHFW Secretariat, the Ministry of Establishment, the Ministry of Finance, the Committee of Secretaries, the Cabinet Ministry and the National Implementation Committee for Administrative Reform are all involved in the decision to approve creation of the post (figure 5.5).

Figure 5.5 Schematic outlining process and responsibilities for creation of a new post



The facility that has a vacant post identifies the need to fill the post (figure 5.6).

Figure 5.6 Schematic illustrating process for filling a vacant post



The Ministry of Establishment and Public Service Commission are always involved in the recruitment of class 1 officers to any cadre. When a vacancy becomes available the facility notifies DGHS, which then communicates this to MOHFW. MOHFW seeks the approval of the Ministry of Finance and then sends the request to the Public Services Commission, which conducts the hiring process. The Commission posts the advertisement calling for applications, conducts an examination, interviews, and finally selects the candidate. The Ministry of Establishment then makes a job offer. This entire process, from identification of a vacancy to final hiring, can take up to three years. Recruitment to medical posts is conducted in batches. No definitive number is mandated; it depends on the need to fill posts.

The recruitment of staff to classes two, three and four does not have to involve the Public Services Commission or Ministry of Establishment, as recruitment can be assigned to various levels of the Ministry and line directorates.

If there are a large number of shortages across the country in any one cadre, the Ministry may decide to do a single recruitment exercise rather than leaving it to lower level functions. Again, this can be a time consuming process and there can be delays of several years.

There is an option to recruit staff more quickly through ad hoc arrangements, but people appointed in this manner lack some of the benefits of cadre staff, such as a retirement pension. Ad hoc appointments are funded from the development budget for particular projects whereas as permanent positions are funded from the revenue budget. Ad hoc appointees may be able to transfer to a permanent position later, provided they pass the necessary exams, or a major decision can be taken by government to transfer the whole group to permanent positions. A large number of staff, many of them family planning cadre, were transferred from the development to the revenue budget a few year ago in the face of widespread discontent at disadvantageous terms and conditions.

The majority of recruitment takes place through the long and cumbersome recruitment process described above. However, with less recourse to ad hoc recruitment many facilities face long-term staff shortages. Successive health sector development programmes have failed to overcome recruitment barriers as this would involve civil service reform that is outside the purview of MOHFW.

5.4.4 Deployment of staff

Appropriate deployment of staff is another key problem that exacerbates staff shortages in some parts of the country, particularly in rural hard-to-reach areas. A 2006 study described how metropolitan areas then contained about 15 per cent of the country's population, but had 35 per cent of doctors and 30 per cent of nurses (Dussault and Franceschini 2003; INC p.11). This inequity is apparent among as well as within divisions. For example, Dhaka division has a disproportionately high number of nurses for its population (one nurse per 7,381 population, against a national figure of 8,668) whereas Chittagong has the lowest (one nurse per 11,899 population) (NAP p.20).

At present, there is little or no incentive for staff to serve in rural areas, resulting in vacancy rates in rural upazilas being much higher than in facilities in or near major cities (BHW 2007). Many factors contribute to this disparity, such as low-quality housing, problems with facilities for family, and security issues for female staff, but a particular issue is the perception that staff taking a rural posting will be "forgotten" and never have the chance for transfer or promotion.

Although authority levels for approving decisions on postings and transfers are clear (e.g. within a division medical officers are posted and transferred by the divisional directors whereas interdivisional transfers are done by DGHS), those decisions are reported to be made mostly on political grounds rather than managerial ones (ZH p.26).

A new human resource policy, issued in December 2008 as a Gazette Notification called the Transfer and Posting Policy for Officers in Health Service contains the principles to be followed for deployment of newly appointed physicians, a policy for posting to special posts and training posts, and policy details regarding training posts and service prerequisites for access to higher education. It is now a prerequisite (at least on paper) for a better career ladder that a doctor have two years minimum service at the union health sub-centre. There is no special provision for women employees. However, in the case of a couple both of whom are doctors, consideration can be given for posting them at the same station. Preference has been given to filling vacancies in remote and hard-to-reach areas in the case of newly appointed physicians. The Notification contains a list of 23 remote upazilas outside those in the Chittagong Hill Tracts. The opinion of the 2009 APR was that "The policy provides a rational instrument for needs-based deployment and contains elements of career path which can contribute to predictable retention" (IRT 2009a p.175).

A study by Abt Associates suggests however that this has not been sufficient to outweigh the fear of being stuck in an undesirable area (Luoma, Jobayda, and Chowdhury 2009). The fear remains that a two-year posting will run on indefinitely. Many medical staff, therefore, avoid remote posting or take the posting but arrange secondments to higher level facilities in "better" areas, leaving their posts officially filled but effectively vacant. In terms of ensuring adequate supplies of medical staff to remote areas the policy has not been a success.

Since this policy is effectively only being applied to doctors, family welfare visitor, upazila family planning officer and deputy director posts also still remain vacant, although there has been some success in filling family welfare assistant and family planning inspector posts.

5.4.5 Retention

In general, employment in public service brings status and visibility, and the opportunity to serve one's country also seems to be of significance to some health care providers (INC p.36). Job security and pension rights are valued despite limited career development opportunities and the risk of being stuck in a rural setting for much of their working life. As a

result, staff turnover tends to be relatively low. Public service incentive systems are designed around these general characteristics.

Whereas working with MOHFW is also generally regarded by all cadres of staff as a long-term career, retention in posts within the rural health services is a different matter. As discussed above, deployment to rural areas is problematic—both to get staff to go there, and to get them to stay once assigned—and the rate of turnover of medical staff is high. Incentive studies have primarily looked at how staff can be motivated not only to take up undesirable postings but to stay for the duration of their assignment. The study by Abt identified disincentives for remote posting including social isolation, cessation of professional and career advancement, shortages of water and electricity, shortages of medical supplies and equipment, and problems with basic living conditions that cause providers to incur additional out-of-pocket expenses (Luoma, Jobayda, and Chowdhury 2009). For doctors, these higher expenses are exacerbated by the lack of opportunity to augment one's salary through private practice.

However, the study suggested that "Perhaps the largest disincentive is the knowledge that, contrary to MOHFW personnel policy of time limits on rural and remote postings, once one is posted in a remote location, one will be "forgotten" and will never have the chance for transfer or promotion. Finally, without a clear performance support system, there is no way to know whether providers are giving high-quality care, and no way to reward those who work hard and perform well" (Luoma, Jobayda, and Chowdhury 2009, p. 41).

5.4.6 Promotions

Promotion for staff in all cadres is based on length of service, the candidate's annual confidential performance report, and length of time in the "feeder" post.

There are set standards for how long someone must have served overall and in a feeder post to qualify for consideration for promotion. The feeder post system and the requirement to have completed a certain number of years in it means that career progression is largely determined by longevity. At the time of writing MOHFW was on the point of publishing the graduation list for doctors which would accurately record length of service and promotion dates, an important tool for regulating access to higher jobs.

There are periodic efforts to increase the number of jobs at particular levels in order to give more people a chance at higher grade. Sometimes entirely new grades are created, e.g. the Additional Secretary grade. The Ministry also may change the rules about which posts qualify as feeders for others, or how long a candidate must serve in a post in order to allow more people to be qualified for promotion. A candidate may be promoted without having a new post to go to—he or she gets the benefits of the new post and will move into an appropriate job when one becomes available.

In spite of annual performance reports, performance is not a consideration in promotion beyond the need to have a clean and clear disciplinary record.

5.4.7 Performance management

Some initiatives have been undertaken to improve performance management. These include publishing job descriptions, workshops for individual performance monitoring, use of standard operating procedure, and quality check lists through the Quality Assurance operational plan in DGHS. The APR 2009, however, described these measures as "half-hearted measures—at best" and commented that "Supervision and monitoring remains very weak, the MIS system in DGHS and DGFP not being used seriously for performance review. There is no well laid out system for a rational reward and punishment system (...). Mis-

governance continues to be a serious issue throughout the social system in Bangladesh, made worse by virulent politicisation: one of the worst examples being the medical professional associations" (IRT 2009a).

5.4.8 Staff productivity

Given the lack of systems and incentives for routine performance management and appraisal, there are no systematic data on staff productivity. However, there are indications that productivity is a problem in the public sector. Contributing factors, in addition to those affecting rural deployment, include high rates of absenteeism, inappropriate skill mix, effect of migration, and factors relating to remuneration and conditions of service.

Absenteeism
Where staff are actually in post, high levels of absenteeism further undermine productivity. Absenteeism has been reported to be as high as 74 per cent; of those employees who had some form of private practice 56 per cent reported earning more from private practice than from their government salary (World Bank 2005c). Many people have turned away from public health provision, deterred by staff absenteeism, inconsistent quality, and demands for illegal payments (Walichi 2006). Lack of good governance and accountability to service recipients are the root causes of the high rate of absenteeism.

Skill mix
WHO SEARO has recommended 1:3:5 for the ratio of doctors to nurses to technologists for optimal productivity (MOHFW 2008c). However, this standard is based on roles and corresponding division of labour among professionals and para-professionals that do not always align to the socio-cultural and current staffing norms and practices in Bangladesh. For example, MOHFW has used a ratio of 1:1:1 for determining the workforce requirements as nurses are only used in hospitals and not in primary care.

International migration
Current workforce estimates and future projections do not take into account the attrition rates due to international migration. International migration of the professional health workforce, particularly nurses and doctors, has become a universal phenomenon exacerbating acute shortages. There are no systematic data on the extent of this emigration from Bangladesh. Recent studies showed that 65 per cent of the newly graduated doctors in Bangladesh attempt to get a job abroad. Nursing migration is declining partly due to the lack of skills of Bangladesh nurses compared with the demands of the international workforce. Given that nursing production has been increasing, public sector recruitment of nurses stopped in 2003 and the large international demand, this should be addressed (Aminuzamman 2007). Using available data, between June 2004 and November 2007, it was reported by the Bureau of Manpower that 102 doctors, 460 nurses, and 22 paramedics and technicians had left (BHW 2007).

A study sponsored by the Human Resource Development Unit of MOHFW in 2003 showed that only 23.6 per cent of various categories of staff interviewed were happy with their present overall employment status. Low salary was the major source of dissatisfaction; other causes included: lack of promotional opportunity, lack of support staff, lack of appreciation of their work, lack of conducive working environment, and problems with residence, including privacy and intrusion of outsiders. There are particular issues with women doctors in rural areas, discussed in section 3.9.

5.5 Production of the health workforce

University education of relevance to the health sector in Bangladesh can mainly be divided into three fields: medical education, nutrition and biochemistry and pharmacy education. In

the public sector, there are 18 governmental medical colleges, 35 nursing schools, four nursing colleges, two institutes for health technology, six post-graduate institutes, three specialised institutes and five medical assistant training colleges, all meant to impart training of relevance to both the pharmaceutical and health sector (Osman 2004). Among the university faculties, Dhaka University is the most highly reputed, with well-established departments that deal with pharmaceutical sciences, followed by others institutions such as Jehangir Nagar University. Apart from these public universities, Bangladesh has, in the years leading up to 2010, seen a mushrooming of private universities, such as BRAC University, North-South University, and Stanford University. There are 41 private medical colleges and 22 private nursing schools. Table 5.9 summarises the annual production capacity for doctors, dentists, nurses, and health technologists.

Table 5.9 Yearly production capacity of different categories of HRH inclusive of the private sector as of 2008

Institute	Number of institutes			Number of seats for admission		
	Total	Public	Private	Total	Public	Private
Post graduate	32	22	10	2,131	nk	nk
Medical college	59	18	41	5,549	2,494	3,055
Dental college	14	3	11	910	210	700
Sub-total of physicians	**105**	**43**	**62**	**8,590**	**2,704**	**3,755**
Inst. of health technology (Diploma)	45	3	42	6,646	1,010	5,636
Inst. of health technology (B. Sc.)	16	3	13	1,175	110	1,065
Inst. of health technology (Masters)	2	-	2	65	-	65
Sub-total of medical technologists	**63**	**6**	**57**	**7,886**	**1,120**	**6,766**
MATS	**32**	**7**	**25**	**2,475**	**650**	**1,825**
Nursing (Diploma)	57	35	22	2,395	1,820	575
Nursing (B. Sc.)	13	6	7	765	550	215
Midwifery	8	-	8	140	-	140
Community skilled birth attendant	41	39	2	nk	nk	nk
Nursing for ICU/CCU	1	-	1	20	-	20
Nursing for physical rehabilitation	1	-	1	20	-	20
Sub-total of nurses	**121**	**80**	**41**	**2,670**	**1,700**	**970**

Source: Hussain and Hussain 2009 based on Director Medical Education and Health Manpower, DGHS (Dec. 2008) and BNC (Feb. 2009).

Key issues identified for pre-service training include:

- regulation of training institutions including qualification and curriculum standards
- quality and upgrading of teaching capacity (qualifications and practices)
- quality of infrastructure
- needs assessment and development of new programmes, e.g. management development, public health.

5.6 Professional regulation and professional development

Chapter 3 provided an overview of the regulatory framework of the sector and table 5.10 summarises the lead institutions involved with professional regulation of the health workforce. Part of the regulatory function of the registering body is to ensure that continuous

professional education standards are met. BMDC is currently working to update the 1980 Act which does not provide enough regulatory authority. Both BMDC and BNC lack adequate human resources to manage their mandate. In the public sector, most professional development is done as part of in-service training offered by the various directorates and line directors. Needs assessment is not a regular practice. Training is not aligned to staff performance evaluation nor is it part of a personal development plan, linked to promotion or career planning.

Table 5.10 Overview of regulatory functions by professional category

Category of professionals	Registering body	Curriculum development	Accreditation body of education institutes	Association / professional body
Doctor	Bangladesh Medical and Dental Council (BMDC)	BMDC with support of Central Medical Education	BMDC	Bangladesh Medical Association
Nurse	Bangladesh Nursing Council (BNC)	Bangladesh Nursing Council	BNC	Bangladesh Nursing Association
Medical Assistant	State Medical Faculty (SMF)	SMF	BMDC	No recognised body
Medical technologist	SMF	SMF	SMF	No recognised body
Pharmacists	Pharmacy Council	Pharmacy Council	Pharmacy Council	No recognised body

Source: Hussain and Hussain 2009.

The role of the professional associations as distinct from the regulatory body is relatively undeveloped.

There is a gap in the regulation of informal health providers, whether in the form of licensing or training and development. Given their large numbers and that they are the first point of access for the rural populations, this will require some attention in the future.

6. Health information, monitoring, and evaluation systems

6.1 Information flows in the heath sector

Most of the data management processes follow the same routine: data are reported by service providers to the next level of service or programme management; data are compiled, consolidated reports established, and these are sent to the next higher authority. Finally these reports reach the national level and are used for service/programme performance reports addressed to directors and other decision makers. Line directors and programme managers are mostly concerned about the performance of their programmes in the light of specific targets. However, the present system, based on separate vertical data processing, does not easily provide a broader view (i.e. the system's performance).

The main sources of routine data are the MIS DGHS and all its sub-systems; the MIS FP and its sub-systems; the MIS NNP; and the MIS 2nd Urban Primary Health Care Programme (UPHCP II).

Additional sources of information include the Bangladesh Bureau of Statistics (BBS) and the National Institute of Population Research and Training (NIPORT). BBS conducts the decennial census with technical support from development partners such as UNFPA and the World Bank; BBS also maintains the Sample of Vital registration System collecting data on births, deaths, and marriages. This system's data are segregated by age, sex, and residence, thus providing baseline figures (denominators) for the analysis of population based indicators. NIPORT is responsible for training, especially in family planning and research including studies and surveys relevant to the HNPSP, including the BDHS and the Bangladesh Maternal Mortality Survey.

The only HNPSP-related overview is provided by annual programme implementation reports and for the health sector as a whole by the annual Health Bulletin (first published in 2007), which is available on the government website (www.dghs.gov.bd). The Bulletin is a compilation of information provided by different MISs under the two main directorates and from different vertical programmes. Statistics are mostly taken from survey data and only supplemented by routine data, which are considered unreliable. Therefore, comparison of survey and routine data is problematic.

6.1.1 Management Information System, DGHS

The Management Information System (MIS) DGHS is composed of many different sub-systems:

- Service statistics with the following components:
    - Integrated management of childhood illness
    - In-patient care
    - Emergency obstetric care
- Disease profile for in-patient, out-patient and emergency service providers—cause of death register
- Geographical Reconnaissance Information System
- Personnel Management Information System (PMIS)
- Logistics Management Information System (LMIS)
- ICT status and use in the field.

MIS DGHS further includes components operated by programmes under the umbrella of DGHS, but with rather independent sub-systems like EPI, NASP, and IEDCR. As typical for vertical programmes, their information systems are “stand-alone” solutions with no links to DGHS routine MIS.

There is no comprehensive software for service statistics, and the software for personnel management and logistics has limitations. MIS DGHS is in a transitory stage, partly offering the possibility for electronic data entry at upazila level, though for large parts it still relies on manual data entry at central level. The multitude of data entry forms needs urgent revision and streamlining; the data collection process needs to be standardised and sub-systems integrated. Data from vertical programmes need to be accessible to MIS users. To solve a great number of these problems, the Data Management Information System (DMIS) Project proposes use of customised DHIS-2 software.

Service statistics

Service statistics are reported on different forms according to the type of service. However, only a selection of collected data are registered in the central MIS DGHS database or its sub-systems, e.g. some divisions introduced additional reporting forms collecting information designated for use at district level only. In many cases reporting does not comply with requirements.

At the lowest level, health services are provided by health assistants who are responsible for several programmes (EPI, TB, ARI, primary health care) and enter data in several separate registers. Based on the area assigned to each assistant, he or she would have to visit around 1,400 households per month—an unrealistically high number, leading to the question of reliability of reports provided.

All health facilities record their activities daily and report monthly. Quality of records differs between types of health facilities and reports due to issues related to incomplete recording, lack of documentation standards for accurate and systematic data collection, and real cause of death not being properly investigated (no autopsy in most cases and poor diagnostic services in many facilities).

Information regularly reported by the health facilities include:

- activity reports: patients, BOR, emergency obstetric care, community clinics, ANC/PNC, integrated management of childhood illness, EPI
- TB/leprosy report
- morbidity and mortality report (disease profile)
- disease-specific reports (diarrhoea, bird flu, malaria, kala-azar, encephalitis, diphtheria, filaria, hepatitis, measles, meningitis, pneumonia, polio, STDs, tetanus, typhoid, upper respiratory tract infections, and whooping cough).

By the fifth of the following month, service statistics data have to be sent to the Civil Surgeon’s Office, as hardcopy or (if available) as softcopy. However, despite the fact that some data are provided in electronic format, there is no automatic data compilation system. Furthermore, there may be hardly any time for checks on data correctness and consistency. The district report is then sent by e-mail and hard-copy to MIS DGHS or other recipients, e.g. Divisional Director Health, IECDR, or the programme director. At MIS DGHS (or its sub-systems), again data are manually registered in the database. Changing this process will improve data quality, and efficiency of data handling.

MIS DGHS conducts annual geographic reconnaissance surveys to collect population data (Health Census). It began in 1961 under the malaria eradication programme and is being continued, however irregularly. Health workers visit every household of the country and

collect socio-demographic data that could be used for health indicators. However, for several reasons, the quality of data is questionable:

- about 30 million families have to be visited by health assistants within a period of just two months and an exhaustive number of facts need to be recorded;
- data collected are recorded centrally in Dhaka by only 12 people with no additional supervision.

The last geographic reconnaissance report was published in 2004 using data from 2002. To overcome these problems, it has been decided to give serious attention to the next reconnaissance exercise. Rather than using one form for 18 families, as currently practised, a separate form will be used for each family, with unique identification numbers for each individual member of the family (following the scheme used in the National ID project). The collection period will also be extended to six months (20–30 families per day) instead of two months (55–60 families per day). Community and multi-sector involvement as well as monitoring and supervision will be emphasised. Data will be recorded electronically at upazila level.

Personnel Management Information System for DGHS

The original PMIS was installed on a personal computer and records were updated ad hoc using forms containing new information. The data entry interface was not very user-friendly. Therefore, a new system has been developed, using web-based solutions. The current PMIS contains information about class 1 officers that can later be expanded to other types of employees. The web interface improved flexibility and allows for the establishment of feedback mechanisms, although irregular updating of data and records remains an issue.

Logistics Management Information System for DGHS

The current LMIS DGHS provides quarterly reports on the status of selected major equipment and ambulances available at public hospitals, but compliance is not very high. It is planned to improve the system by refining the list of major equipment and installing a web interface. Another system is operated by the CMSD. This system includes information on purchases and supply to the districts.

Evidence of information and communication technology status and use in the field

MIS DGHS collects information about supply and status of ICT to health care providers at different levels. Evidence is kept in an MS Excel file.

Immunisation information system

Information about EPI activities are recorded into the EPI register by health assistants. Reports are prepared on a monthly basis and collected by assistant health inspectors. The inspectors consolidate the reports and checks data against information provided with the register. They also conduct random checks, and visit households, especially when discrepancies in the reports are found. With the health assistants, the inspector provides measures to correct the report. This report is then submitted to the medical technologist. The technologist randomly crosschecks the reports submitted against daily reports from immunisation sessions, aggregates all reports from unions into one report, and conducts random checks before submitting the consolidated report to the EPI Supervisor at the district level. Data are then recorded to the Routine EPI Data Management System (REPIDMS).

The EPI has a system of quality monitoring in place called the Data Quality Self-Assessment Tool provided by WHO. Results of routine EPI data collection are comparable to EPI survey results, organised independently for the EPI by WHO.

TB/leprosy programme management information system
The TB/Leprosy MIS provides quarterly service statistics of specialised TB treatment centres (DOTs, chest clinics) and diagnostic facilities (TB laboratories):

- TB case findings (TB Form 10)
- Treatment results (TB Form 11)
- Sputum conversion at 2–3 months of smear-positive pulmonary TB (TB Form 12)
- TB diagnostic laboratories report quarterly
- Laboratory findings report (TB Form 13).

All reports go through upazila and district authorities to the National TB and Leprosy Centre where information is manually recorded into the MIS. The responsibility for data recording and further processing rests with the NTP data management unit. The TB MIS system is composed of a TB laboratory register and a TB patient register.

The MIS system is computerised only at central level but decentralisation of data entry to districts has been initiated. Regular data analysis and reporting is established as well as information feedback to the service providers and dissemination of results.

Disease surveillance system
Disease reporting is part of the Bangladesh Surveillance System that is composed of the following main elements.[26]

Priority communicable diseases surveillance (PCDS). Diseases listed under this surveillance system are diarrhoeal diseases (acute watery diarrhoea and bloody dysentery), malaria, kala-azar, TB, leprosy, encephalitis and unknown diseases. These diseases are reported from all levels to the national head quarter on a weekly basis, but on a daily basis during an outbreak situation. Upazila health and family planning officers and civil surgeons are responsible for conducting this surveillance locally.

Institutional disease surveillance (IDS). Institutional disease surveillance was started with the objective of developing disease profiles for each institution. It covers all medical college hospitals and specialised institutes in Bangladesh. Both communicable and non-communicable diseases are included. Besides the above mentioned priority communicable diseases, all diseases reported at out-patient and in-patient departments are reported—priority communicable diseases on a weekly basis, all other diseases on a monthly basis. Directors and superintendents of hospitals and institutes are responsible for conducting this surveillance locally.

Sentinel surveillance. Diseases selected for reporting are diarrhoeal diseases (acute watery diarrhoea and bloody dysentery), malaria, kala-azar, TB, diphtheria, filaria, hepatitis, measles, meningitis, pneumonia, polio, STDs, tetanus, typhoid, upper respiratory tract infections, and whooping cough. These diseases are reported bi-weekly by the concerned upazila health and family planning officer and civil surgeons.

National AIDS/STD Programme (NASP) data management processes. The NASP programme is implemented through collaboration between MOHFW and two NGOs acting as management agencies, which manage 104 implementing NGOs under two programs in 58 out of 64 districts. The reporting system is structured as follows:

- monthly intervention reports: female sex workers, injecting drug users, men having sex with men, and clients of sex workers

[26] www.iedcr.org.

- monthly reports on voluntary counselling and testing
- quarterly reports anti-retroviral treatment
- annual reports on HIV patient data collected from NGOs, medical college hospitals and diagnostic labs
- NASP reports to MOHFW and DGHS.

M&E structures at the NASP are not yet established. NASP collects data from field level NGOs in MS Word (60 per cent) and Excel Format (40 per cent). All incoming data are recorded into an Excel-based MIS manually (a proposal for a new MIS has been created and awaits approval). Another data flow from NGOs to the management agencies provides aggregated data per NGO to NASP quarterly. These data can be used for validation of the monthly consolidated reports from NGOs. The Global Fund has its own MIS which is used to create reports for NASP. The MSA aggregates information and creates reports manually.

6.1.2 Management Information System, DGFP

DGFP operates a separate MIS for data recording, analysis, and reporting. The system provides service statistics and includes two sub-systems for personnel (PMIS) and logistics (LMIS). Information flow and software applications are different for each of the three systems. To improve staff performance monitoring, a performance record form was introduced in 2009. All systems are running on different servers, not interconnected.

DGFP has a long tradition of reviewing and streamlining their forms (a review takes place every three years). Their collection processes are well established and organised, with little need for change. MIS FP collects information on service performance from field workers and service centres all over the country (both governmental and NGO providers). Training, especially at grass roots level, e.g. on data entry, takes place regularly. Reports are published regularly (monthly and quarterly). Though data collected by the MIS FP seem to be highly reliable, there are still problems with identifying consistent denominators for important indicators, limiting the comparability of data.

MIS FP would certainly benefit from innovation and modernisation. Currently all publications are paper-based and no website or web-based presentation are available. Computers have been installed even at upazila level, and Internet access will be provided for all facilities currently not connected. However, computer literacy is rather low, and no training is being offered to family planning staff on computer handling and on data management and utilisation, a missing subject in the training manual for programme management. As already mentioned the software used for MIS FP service statistics is not appropriate for effective data integration, presentation, analysis, feedback, and decentralised entries. DMIS has started discussing solutions with MIS FP and is developing a plan for improvements.

Service statistics for DGFP

Family planning activities at community level are recorded in the family welfare assistants register which is renewed and updated every three years. It is divided into several sections, used for recording different types of services and information on the target population (eligible couples, newborns and children less than five years, immunisation status of children less than one year, adolescents, contraceptive use, birth register, death register, etc.). Every family welfare assistant covers a population of about 1,000 eligible couples, in some areas even 2,000 couples. It means that every household is visited once every two or three months.

Summary statistics are prepared at the end of every day of service. With this system, it only takes about three to four hours to prepare the monthly report (FP Form 1). According to family planning inspectors interviewed, all reports are submitted on time. To check for correctness, the inspector compares reports from the previous month with the current

month's reports and conducts random checks two- three times a week. Four to five family welfare assistants are monitored by one inspector. After review, the inspector compiles all reports prepared by the family welfare assistants into one summary report on FP Form 2 and sends it to the Upazila Family Planning Officer.

A similar recording and reporting process is carried out at the facilities providing family planning services (UHFWC, MCWC) and by NGOs working under the UPHCP II project using FP Form 3 for reporting to the Upazila Family Planning Officer. The report content is principally the same. The officer then performs similar checks of the reported content, compiles all received information on FP Forms 2 and 3 into an upazila summary (aggregated) report (FP Form 4) and sends it to the Deputy Director Family Planning at the district level. Here the checks, compilation and aggregation process is repeated and a summary district report using FP Form 5 is prepared. The district report is sent to MIS FP and to the Divisional Director. Finally, this manual report is entered into the MIS FP database. The data collection process is illustrated below.

This reporting system is well developed and adequate for a paper-based system. Nevertheless, there is potential for improvement, mainly with regard to control mechanisms and use of information technology (IT). Verification/control mechanisms are developed but compliance may not be 100 per cent as there is no evidence of results of the controlling processes.

During compilation of reports up to the national level data manipulation is being made manually without IT support. This reduces efficiency and increases the probability for errors, difficult to detect. Even if typing and calculation errors are detected, it is very difficult to identify the source, as all reports from the lower level need to be included in the analysis. Therefore, the real cause of error is usually not found and figures may be corrected based on the "best guess" principle. Systematic and efficient error detection and data quality assurance can only be achieved by wider use of IT (at the level of primary data entry).

Logistics Management Information System for DHFP

Supply data for all major contraceptives and drug and dietary supplement kits from 20 warehouses and 483 upazila stores are reported monthly on FP Form 7 (warehouse) and FP Form 7B (Upazila Family Planning Officer). Unlike the other systems, LMIS is equipped with a web interface allowing direct data transmission from the reporting entities to the central MIS system. The elimination of manual data handling procedures after the registration of the primary data reduces the risk for errors and increases the flexibility and functionality of the LMIS.

Personnel Management Information System for DGFP

PMIS includes information about class 1 and class 2 officers working under DGFP: Identification data, type of the post, qualification and training, date of joining government service, and date of joining DGFP. Data have been collected since 2006 using the Personal Data Sheet form. However, updating and maintenance procedures do not seem to be well defined and it is difficult to evaluate the accuracy and reliability of PMIS data. The PMIS does not have a web interface and data entry and updating is based on paper forms submitted by officers and institutions. There is no mechanism in place to guarantee that changes of personal information or assignments will systematically be registered in the PMIS.

6.1.3 National Nutrition Programme

NNP works through NGOs to deliver community-based nutrition services including growth monitoring, supplementary feeding, nutrition education, homestead gardening, poultry for nutrition, and other broader health and nutrition services. NNP is currently working in 172

upazilas out of 484. Although coverage is limited, NNP data are important for the calculation of key indicators under the HNPSP. NNP publishes paper-based monthly progress reviews and uses other tools and instruments for monitoring of project results and activities and for feedback mechanisms, such as the field visit checklist, the inspection report, the NGO performance review checklist, and meeting minutes from regular meetings at all organisational levels.

The MIS NNP software was developed by an external company. It is deployed on a standalone computer without Internet or intranet connectivity. The system is built on an MS SQL 2000 server and connectivity could be provided by adding necessary network components. However, software flexibility and maintenance remains an issue, and adding of new or revision of existing data elements becomes a difficult procedure. Low capacity and limited availability of computers for data entry at the field level are other challenges faced by NNP. Sharing hardware with and joining training programmes of MIS DGHS could improve MIS NNP capacity.

Community nutrition centres maintain a set of registers, including:

- Pregnant Women and Lactating Mothers Register
- Pregnant Women's Husband Register
- Adolescent Girls and Boys Register
- Newly Wed Register
- BCC Register
- Vitamin—A Capsule, Iron Tablet and Deworming Tablet Stock Register
- Supplementary Feeding Bill Form
- Community Nutrition Organizers/Community Nutrition Promoters Notebook
- Father and Mother in Law Register
- Household Survey Chart
- Monitoring Chart.

These registers are the sources for compilation of the monthly progress reviews prepared by community nutrition promoters. Community nutrition organizers, working at union level, review and compile all reports into the consolidated monthly progress review, which is sent to the upazila manager at the Upazila Nutrition Office for review and compilation. The consolidated review at upazila level is forwarded to the corresponding NGO and NNP, where data are finally entered into MIS NNP system by data operators. All reports up to the national level are compiled and handled manually.

6.1.4 Second Urban Primary Health Care Project

A web-based health MIS with integrated data approval mechanism has been developed and deployed for UPHCP II since 2007. It is a managed, hosted application with the basic objective to enhance data acquisition, approval, and publishing processes for the quarterly progress reports of the project. It allows data to be routed and verified to the project management unit in a transparent manner.

- Data are collected monthly by grass root level workers and compiled and verified by the clinic/centre in charge who forwards the report to the project manager. Each centre should compile data on the first working day of the following month.
- The MIS officer of the project manager office enters data via www.uphcp.org into the Internet application and shares them with the project manager, who, after checking the reports, forwards the same to the senior M&E officer (SMEO/MEO). This step must be completed during the following two working days.

- The SMEO/MEO is responsible for ensuring the quality of data before the report is forwarded to the project officer. This step must be completed by during the following three working days.
- The project officers will then approve and forward report(s) to the project management unit after validation. This step has to be completed in one working day.
- The senior monitoring and quality assurance officer checks and verifies the report(s) and forwards them to the MIS and data management officer. This step should be completed in two working days.
- The MIS and data management officer approves reports and forwards them to DPD (Tech). The process should be completed in the following two working days.
- Finally, the deputy project director (technical) approves and publishes the report on the web side. This step should be completed in two working days.

6.2 Monitoring and evaluation systems under the SWAp[27]

6.2.1 Review processes

The HNPSP APR is the main feature of the sector monitoring system. The process is conducted in April and includes:

- the preparation of the annual programme implementation report by the MOHFW M&E Unit
- an external review by an independent review team
- a policy dialogue with development partners.

At sub-sector level some of the large national vertical programmes do produce their own annual reports (e.g. disease control programmes like malaria, TB). However, sub-sector reviews are not undertaken systematically though they could help make the APR process more focused (on priority areas) and effective (not being requested to look at all components of the health sector).

The review process therefore focuses primarily on the activities funded by the development budget and the timing of the review is not aligned to the government annual planning and budgeting cycles, i.e. it would need to be conducted in September rather than April. There is limited opportunity for systematic involvement of key national stakeholders in the government such as the Ministry of Finance, the Ministry of Establishment, MOLGRD, and the private sector, including NGOs. A consolidated annual sector report across all stakeholders is not produced.

6.2.2 Monitoring and evaluation framework and priority indicators

Indicators of the HNPSP results framework are grouped according to the three main components of the programme:

- Accelerating achievements with regard to MDGs and National Strategy for Accelerating Poverty Reduction (NSAPR) goals
- Meeting emerging HNP sector challenges
- Advancing modernisation of the sector/implementing key reform areas.

Following recommendations from the mid-term review (MTR) to reduce the number of indicators, the results framework for the HNPSP (which is in fact an indicator framework)

[27] MOHFW, GTZ, and EPOS 2010.

was revised in 2008. Basically, the exercise involved a reduction of indicators from 62 to 30, with reformulation of some indicators.

Table 6.1 shows the revised results framework, now included in the Revised Programme Implementation Plan.

Table 6.1 HNPSP results framework

		Status/Target				Comments
Indicators		**Reference period**	**2004**	**2007**	**2010 (2015)**	
Component I: Accelerating achievement of MDG/poverty reduction strategy outcomes						
a) Impact/Outcome Indicators						
1. Infant mortality rate		94 (1990)	65 BDHS 2004	52 BDHS 2007	37 (31)	
2. Neonatal mortality rate		52 BDHS 1993/94	41 BDHS 2004	37 BDHS 2007	30 (22)	
3. Under-5 mortality rate		151 (1990)	88 BDHS 2004	65 BDHS 2007	52 (48)	
4. Maternal mortality ratio		574 (1990)	320 BMMS 2001	290 MDG rep. 2007	240 (147)	
5. Under-5 underweight (6–59 months) (in %)		67 (1990)	47.5 BDHS 2004	46.3 BDHS 2007	34 (33)	Age-group should be either 6–59 or 24–59 months for both indicators
6. Under-5 stunted (24–59 months) (in %)		54.6 BDHS 1996	43.0 BDHS 2004	36.2 BDHS 2007	30 (25)	
7. Total fertility rate		3.4 BDHS 1993/94	3.0 BDHS 2004	2.7 BDHS 2007	2.2 (2.2)	
b) Output Indicators						
8. TB case detection rate		41.0 NTP 2003	46 NTP 2004	72 NTP 2007	70	
9. TB cure rate		83.7 NTP 2003	85 NTP 2004	91.5 NTP 2007	85	
10. Children (under 1 yr) fully immunised (in %)		52.8 CES, 1999/00	73 CES, 2003	78 CES, 2006	85	
11. Newborns protected at birth against tetanus (in %)		83 CES, 1995	86 CES, 2003	93 CES, 2006	95	
12. Children 1–5 receiving vit-A supplements in last 6 months (in %)		73.3 BDHS 1999/00	81.8 BDHS 2004	88.3 BDHS 2007	>90	
13. Utilisation rate of essential services of the two lowest income quintiles						
a) Births attended by skill attendants (in %)	Total	12.1 (1999/00)	13.4	17.8	43	
	Lowest Wealth Quintile	3.5 (1999/00)	3.3 BDHS 2004	5.2 USED 2006	3% increase	
b) ANC by medically trained providers (in %)	Total	33.3 (1999/00)	48.7	51.7	75	
	Lowest Wealth Quintile	19.4 (1999/00)	24.9 BDHS 2004	23.4 USED 2006	3% increase	

		Status/Target				Comments
Indicators		**Reference period**	**2004**	**2007**	**2010 (2015)**	
14. Contraceptive prevalence rate (modern methods) (in %)		43.4 (1999/00)	47.3	47.5	72 (any) >60 (modern)	
15. Eligible couple/women on long lasting birth control methods (in %)		8.9 (1999/00)	7.2	7.3	9.3	
Component II: Meeting HNP sector challenges						
16. Tobacco usage among men and women aged 15+ (in %)	Smoking tobacco	20.9 (2004) WHO(SEARO) 2007	20.9	NA	15	
	Smokeless	19.7 (2004) WHO(SEARO) 2007	19.7	NA	15	
17. NCD strategy developed and implemented as per details in the results framework		Nil	Nil	Strategy developed and approved	Strategy implemented and indicators identified	Intermediate process indicator—outcome indicators still to be de-fined
18. Share of total government expenditure allocated to MOHFW expenditure		6.5 (2004)	6.5	7.42	10	
Component III: HNP sector modernisation Budget Management						
19. Proportion of total MOHFW expenditure allocated to the 25% poorest districts		NA	NA	NA	40	Problem of measurement—to be reformulated (see below)
20. MOHFW expenditure on medical and surgical requisites at districts and below (in %)		NA	9	5 (FY 2005/06)		Process indicator that can only be interpreted considering needs
21. Share of MOHFW expenditure at upazila and below		NA	51	42 (FY 2005/06)	>50	Budget share or actual expenditure—what should be measured?
22. Serious audit objections (part a of audit report) settled within the last 12 months (in %)		NA	NA	5	100	
Diversifying service provisions						
23. HNP services commissioned to non-public providers by MOHFW						Process indicator—does it lead to increased accessibility/improved service quality?

	Status/Target				Comments
Indicators	**Reference period**	**2004**	**2007**	**2010 (2015)**	
Decentralised planning					
24. Pilot on management autonomy in 6 district hospitals and 14 UHCs	Nil	Nil	Nil	6 district hospitals & 14 UHC	Action plan still to be developed
25. Pilot local level planning at 6 districts and its upazilas and FY 2009 budget to reflect these pilots.	Nil	Nil	Nil	6 districts & upazila below	
Demand-side financing					
26. Women targeted by voucher scheme delivered by skilled birth attendants (at facility or home) (in %)	NA	NA	NA		To be assessed through survey
Aid Management					
27. Development partners reporting their planned expenditure on HNP sector (annually)	NA	NA	NA	100	Budget plan? Relevance of the indicator?
28. Development partners reporting their actual expenditure on HNP sector (quarterly)	NA	NA	NA	100	Financial Monitoring System in place?
Procurement					
29. Contracts awarded within initial bid validity period (in %)					Needs further specification/who is measuring?
a) For national competitive bidding b) For international competitive bidding				90	
Monitoring and evaluation					
30. MIS (DGHS & FP) delivering management information to agreed specifications					
a) Coverage of disease profile preparation by upazila and district health facilities	NA	NA	50	100	
b) Districts with Disease Surveillance Reports (in %)	NA	53 in 2006	56.5	100	Introduce evidence for the utilisation/interpretation of these reports

Source: MOHFW, GTZ, and EPOS 2010.
Note: BMMS = Bangladesh Maternal Mortality Survey.

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6.3 Information systems development

With the onset of the HPSP in 1998, several fundamental reforms were implemented to strengthen service delivery and overall performance of the health system. Considering the fact that data collection and analysis and information dissemination was insufficient (incomplete, delayed, non-reliable, and dispersed), the idea of a Unified Management Information System (UMIS) was introduced, reflecting the strategic approach of merging parallel structures maintained with both DGHS and DGFP. Though the idea was sound, the way in which it was implemented was not, particularly the decision to suspend existing systems (except for the FP LMIS) before a new one became operational. Finally, at the end of the HPSP, in 2003, the UMIS effort was abandoned, its office closed and assets were distributed to the DGHS and DGFP MIS departments which started reconstituting their previously suspended information systems.

While the UMIS has not produced any routine data information, efforts were undertaken to establish standard modules and forms for service statistics, logistics, personnel, and financial information, some of which are still in use with the current MIS.

There are two major constraints for improved M&E processes in the Bangladesh health care system:

- ineffective and inefficient organisation of the existing information systems with centralised decision making; and
- lack of skilled personnel with a positive attitude.

The lack of or non-reliability of routine data needed for performance monitoring and decision making has been identified as one of the major problems of the current health MISs. Periodic surveys are being used to fill the gap—a method that is ineffective (data are historical, incomplete, not available in time, and exposed to multiple modifications), and inefficient (additional efforts to gather existing data in the field).

The fact that health service and facility managers in the periphery of the system are not involved in data analysis and evaluation is by itself an important weakness of the system. The capacities and potential of the existing MIS could be used more effectively by establishing feed-back mechanisms already at service and facility level. M&E is a key element of any quality management system aiming and continuous quality improvement. Systematic feed-back on routine data may help improving the quality of health services and health care delivery.

Furthermore, regular performance assessment audits should also be introduced—at least for key health services and facilities. These assessments would use a standard list of indicators based on routine data information. The auditing process would serve two purposes: providing reliable information on performance of health services and facilities; and providing feedback to the health facilities in order to help them improving the quality of their services.

Information provided through performance audits (being a kind of regular quality survey) will be useful for planners and decision makers at upazila, district, and national levels. They would help in analysing and evaluating the quality of health care provided at various services and facilities (based on national guidelines and standards—as far as available) and defining measures and action plans (training, supervision, investments) to continuously improve service quality.

A workshop on the Implementation of Digital Health in the Government Health System was organised by the DGHS Management Information System in June 2009 in the presence of the Honourable Minister of Health, the Secretary Health, and the Director General Health, all

stressing the need for adequate computer literacy among health staff to allow digitalisation of health care services. An important aspect would be the possibility for online monitoring of key performance and quality indicators at all district hospitals, UHCs, and union hospitals by MOHFW.

Mindful of the lessons learnt from previous attempts at integrating prematurely information systems, the DMIS Project was launched at the beginning of March 2009. During the first two months (inception phase), stakeholders, key issues and indicators for decision making and consequently the scope of work (and mandate) of the DMIS were defined (MOHFW, EPOS, HB, GOPA Worldwide, and GTZ 2009).

During the analysis phase, the present data management (collection, analysis, and reporting) system was under review and data needs (and appropriate measures to develop the MIS) were identified. The design phase focused on the development of a concept for a composite database and the identification of related software solutions, both to be introduced during the current implementation phase, accompanied by training and other capacity building measures to improve availability, quality, and utilisation of data.

By developing and implementing key instruments and tools of effective data management, the DMIS project will help enable health service managers at all levels to use the MOHFW MIS for performance monitoring of their services and consequently for evidence based decision making. Progressively integrating different data sources in one composite database, considering the need for relevant and reliable data is certainly the main task and challenge of the project. A post-implementation Phase (June 2010) will allow analysing achievements of this 16-month project and developing suggestions for further enhancements.

The M&E Unit of MOHFW was formally established under the MOHFW Planning Wing and was provided with renovated offices in a new location (Azimpur). Technical resources comprise two persons (team leader and M&E expert) currently under GTZ contracts and two staff members to be seconded from DGHS and DGFP. However, the directorates also staff their own MIS departments and the M&E Unit has not had a full complement since it was launched. The main task of the M&E Unit is follow up and reporting on the set of core indicators of the HNPSP results framework.

However, in 2009, the M&E Unit launched the M&E Improvement Action Plan (MOHFW, GTZ, and EPOS 2010) which has as its goal to develop the culture and building capacities with regard to monitoring and evaluation of health services at all levels of the health system. The purpose of the plan is to improve organisational structures, instruments, and tools to assure effective monitoring of service performance and resource allocation at all levels of the health care system. Results expected by 2014 include:

- The Indicator Framework (results framework and operational plans) has been reviewed and updated.
- An M&E Plan has been developed and is being used to standardise and streamline data collection and analysis, starting with the next annual programme implementation report.
- The institutional development and reform of M&E structures within MOHFW is ongoing.
- A capacity development programme on M&E in the health sector has been developed and is being implemented.

6.4 Information communications and technology

Against the backdrop of the decision to move away from unification of services in MOHFW in 2003, development of information systems has focused on M&E systems and processes and prioritisation of the use of available information through the development of the DMIS. As

such, there is no sector information and communications technology (ICT) strategy or policy driving the scale up of the application and use of ICT within the sector.

There continues to be strengthening of separate systems and the use of different platforms, both hardware and software to support these systems. These are highlighted below (MOHFW, DGHS, MIS, 2009c).

6.4.1 Distribution of ICT

The offices of all line directors have been connected with a local area network and/or Internet service. Additional servers are being added to MIS DGHS office. All officers at MOHFW have also computers and Internet connection as do the offices of all divisional health directors and 45 district civil surgeons. Medical colleges and hospitals, post-graduate institutes, and hospitals and other large hospitals have computers; more than 80 per cent of UHCs have computers. However, Internet connectivity in all UHCs and in some of academic institutions and hospitals is yet to be established. To handle power supply problem, in addition to existing instant power supply devices, a large generator has been put in place.

The website for DGHS, launched on 1 July 2008, it is virtually a web portal allowing multiple websites of hundreds of organisations in a single portal. It was developed by MIS DGHS to be an information warehouse for health organisations, services, and programmes.

6.4.2 Extending Internet connectivity

It is planned to provide to the upazila health offices wireless modems (GPRS or EDGE) for Internet connectivity. A few village health workers will be given personal digital assistants to pilot the update of household data directly on the central server. Staff and managers will be able to input data through the web portal.

6.4.3 Upazila health complex health line

As part of association of MOHFW with the QuickWin projects of the e-governance cell of the Chief Adviser's Office, the MIS DGHS is introducing a tele-health service for community people based in each UHC. The UHCs will be supplied mobile phones for dedicated use (hotlines). The service will be available all working days. The phone number will be well-circulated locally through local government, educational and religious institutions, NGOs, as well as social, religious, and other communication channels. Doctors working in the health centre will answer calls of people for medical advice. It is expected that this UHC-based service will help build the confidence of local people in the nearby health centre, improve doctor-patient relationships, encourage patients to visits more to public health facilities, and indirectly influence doctors to remain available in health centres. This technology-based service solution has potentially far-reaching benefits, which include wider coverage of the population, reaching people living in the remote areas, availability to economically deprived communities, and ease of use by technologically challenged people.

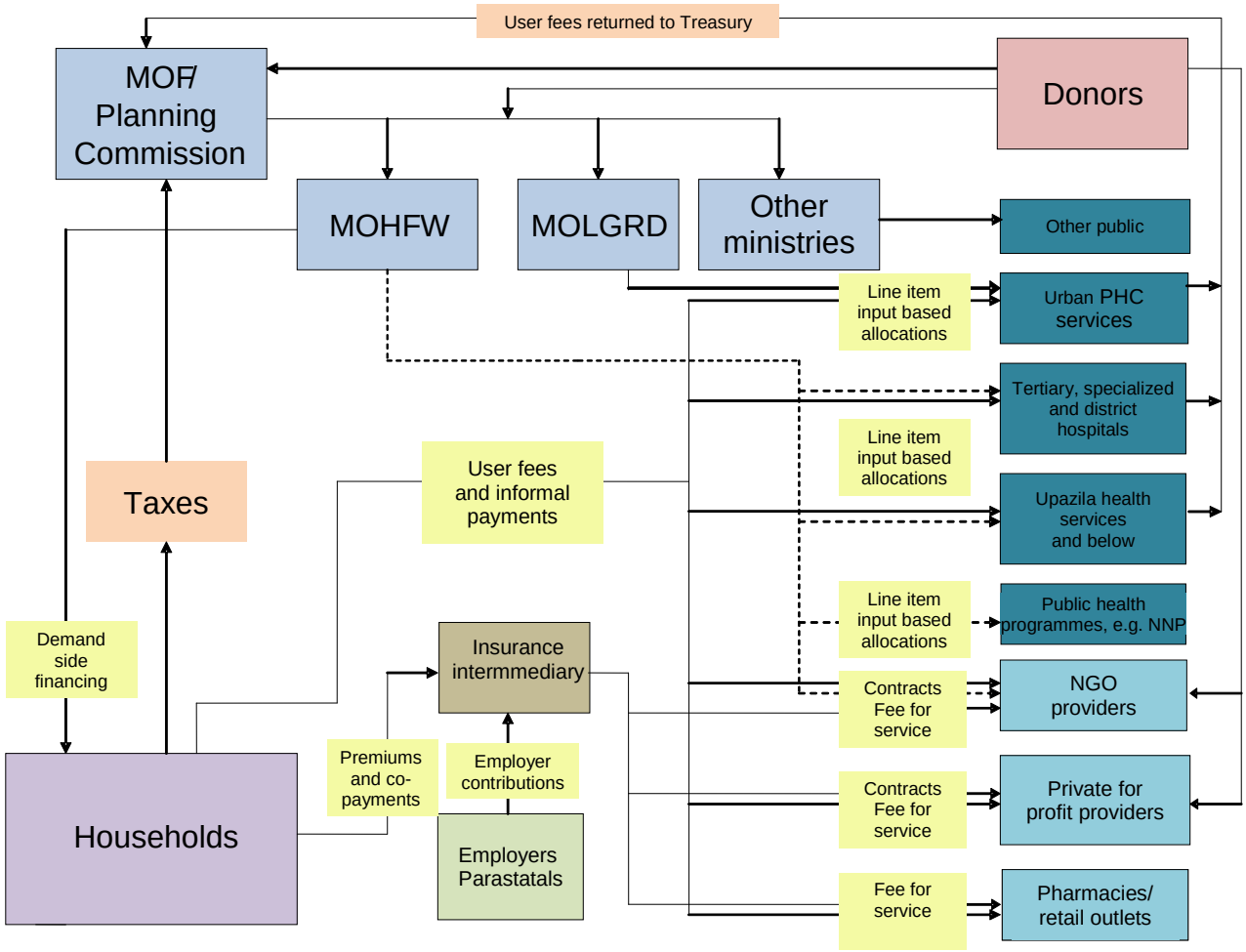
7. Health financing and expenditures

7.1 Funding flows

Figure 7.1 maps funding flows, outlining the key channels and the main ways providers are reimbursed. It highlights the fact that:

- government supports health care delivery through both supply- and demand-side financing channels to both public and NGO providers
- revenues collected at public facilities are required to be sent to the Treasury
- donors channel support through government and directly to NGOs.

Figure 7.1 Map of funding flows

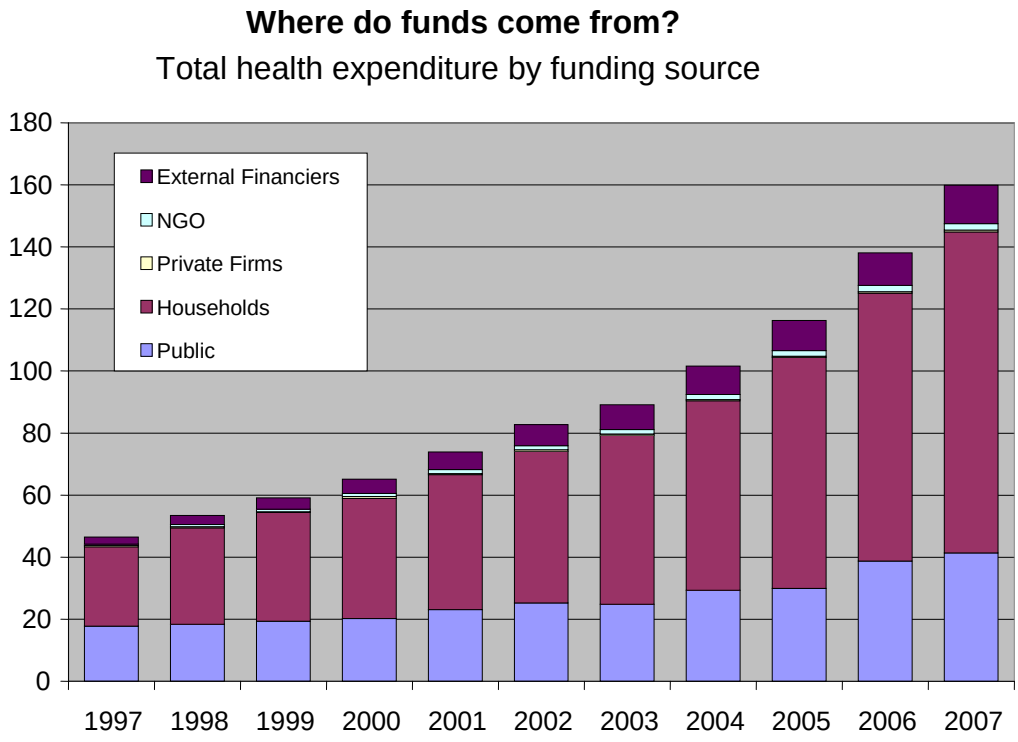


7.2 Health financing trends in Bangladesh

7.2.1 Overview

According to the Bangladesh National Health Accounts 1997–2007, total public funding for health stood at Tk41.3 billion in 2007, which includes donor funds provided directly to the government with a further Tk12.4 billion of donor money channelled through NGOs. Together these amount to some US$ 5.4 per head in 2007 or around 33.5 per cent of total health spending.

Figure 7.2 Total health expenditure by funding source (constant Tk billion)



Source: NHA 1997–2007.
Note: NGO reflects internally generated resources. Rest of world reflect direct donor support to NGOs.

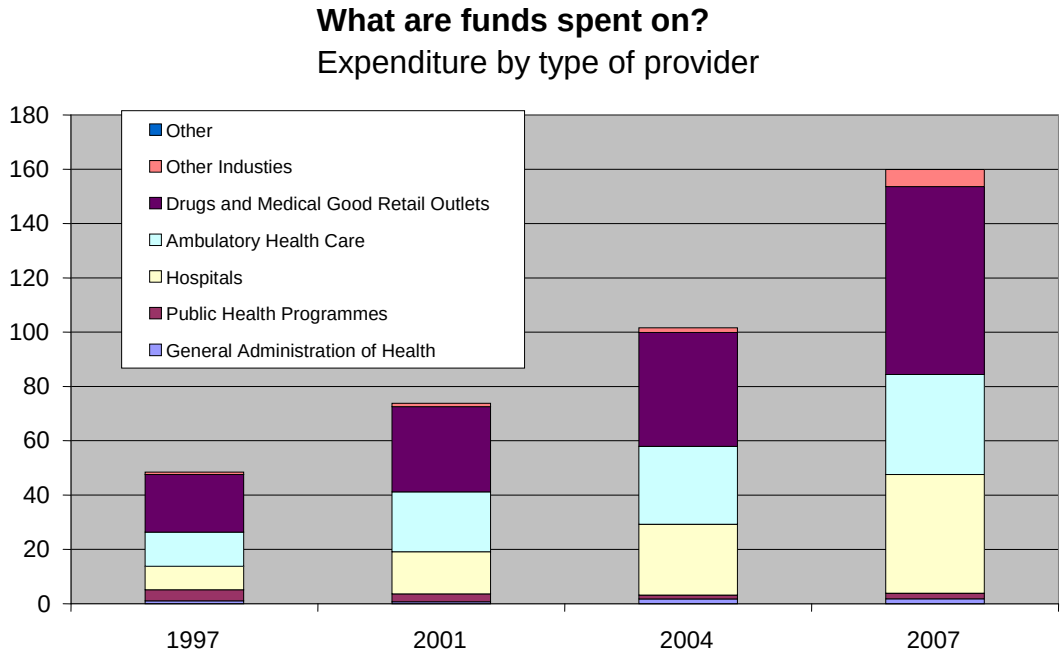
Total health expenditure more than doubled in real terms between 2001 and 2007, reaching an estimated Tk159.9 billion in 2007. This equates to around Tk1,012 per head or approximately US$ 15.80. It has risen modestly as a share of GDP from 2.7 per cent in 1997 to 3.1 per cent in 2005 to 3.4 per cent in 2007 (NHA 1997–2007).

Though public spending—including development partner contributions—increased from Tk17.7 billion in 1997 to Tk43.1 billion in 2007, it declined as a share of total health spending from 36.5 to 25.6 per cent. The share of household spending, by contrast, rose from 56.9 per cent to 64.7 per cent. Other funding sources account for a small, but increasing, share of total spending (NHA 1997–2007).

Real per capita expenditure almost doubled between 1997 and 2007 from US$ 8.90 per head to more than US$ 15. Public spending as a share of GDP has declined from 0.98 per cent in 1997 to 0.87 per cent in 2007, which is low by international standards (NHA 1997–2007). (See also next chapter.)

MOHFW remains the dominant health funding agency within government, accounting for 97 per cent of total health spending by government. The MOHFW revenue budget accounted for 55.8 per cent of total public spending in 2007 (up from 45.2 per cent in 1997) with its development budget accounting for a further 41.2 per cent, of which about 50 per cent comes from development partners. MOLGRD accounts for around 1 per cent of total public spending and the Ministry of Home Affairs 0.6 per cent (NHA 1997–2007).

Figure 7.3 Health expenditure by type of provider (constant Tk billion)



Source: NHA 1997–2007.

With regard to the spending of funds, the main change in recent years has been a large increase in the share of funds spent in hospitals, an increase from 17.9 per cent in 1997 to 27.3 per cent in 2007. There was a correspondingly significant decline in spending on public health programmes (from 8.5 per cent of total health spending to 1.3 per cent). The increase in hospital spending has been driven largely by spending in private and NGO hospitals, which increased from 22.5 per cent of hospital expenditure to 54 per cent.[28] The share spent on the upazila level and below declined from 33.1 to 23.7 per cent over the same period (NHA 1997–2007).

Total spending remains well below estimated needs irrespective of which estimate is used; various estimates of requirements to meet basic needs in the health sector range from around US$ 20 per head (Millennium Project 2004) to over US$ 50 (High Level Taskforce on Innovative International Financing for Health Systems).

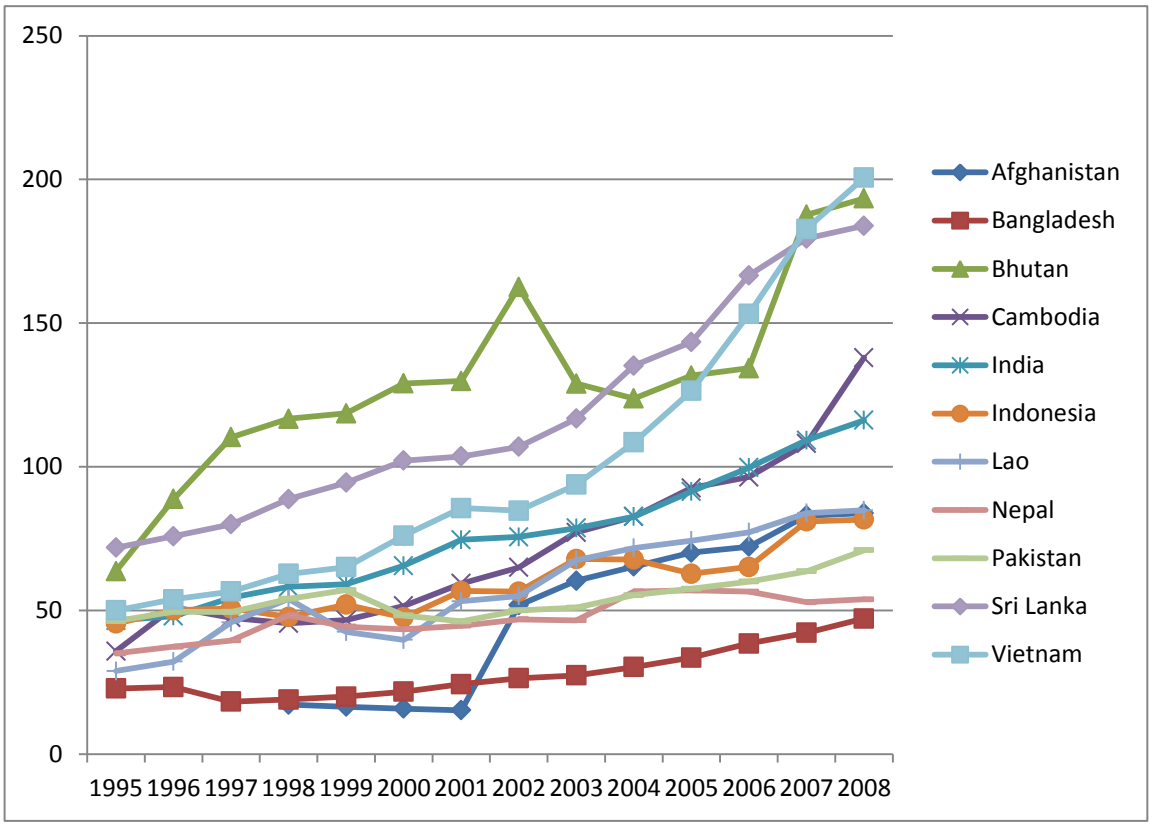
7.2.2 International comparisons

Per capita expenditure on health remains the lowest in the South Asia region (figure 7.4), reflecting Bangladesh's low level of income as well as the country's low revenue generation (less than 10 per cent of GDP) and fiscal discipline (with the deficit being kept at around 4 per cent of GDP). As a share of national income, health spending has hovered just over the 3 per cent mark since 2005, well below figures in South and East Asia and Nepal but well above Pakistan and Indonesia. Aid dependence is relatively high and has risen by over half since 1995 but remains below levels in Cambodia. The role of government spending is low—just over 30 per cent—and though it increased modestly since the turn of the century and is comparable with many other countries in Asia, it remains well below that in Sri Lanka and Indonesia. Like most countries in the region, with the Lao PDR and Indonesia being

[28] Private hospitals now account for about half of the 70,000 hospital beds in Bangladesh. Over two thirds of private beds are in small facilities with less than twenty beds. Larger private hospitals are few in number and mostly located in Dhaka. Although the private sector has half of the beds, spending on private hospitals still represents less than 10 per cent of total health expenditure.

partial exceptions, there is little risk pooling and out of pocket spending accounts for almost 90 per cent of private spending. The share of the budget going to health has remained broadly constant at around 7 per cent, which places it in the mid-range of countries. However, Cambodia, Nepal, Sri Lanka, and Vietnam have enjoyed significant increases in the share of the budget to health and are now all in the 8–12 per cent range. By contrast, the shares in India, Lao PDR, and Pakistan are around half or less that in Bangladesh and have been declining.

Figure 7.4 Per capita expenditure on health in selected countries in Asia (PPP $)



Source: WHO 2010a.
Note: Figures do not always correspond with national estimates.

7.2.3 Public expenditure

Table 7.1 shows recent increases in the MOHFW budget and illustrates the issue of under-spending, particularly of the development budget. However, under-spending of the ADP is a problem in all sectors, not only health. This was one of the central issues raised during the Bangladesh Development Forum in February 2010. Further, under-spending of the ADP is not linked to the source of funding.

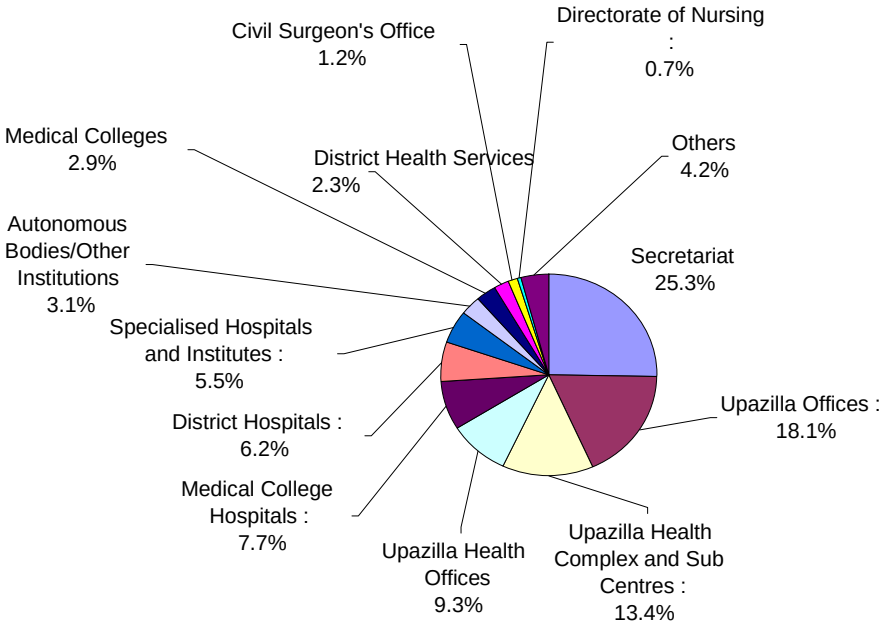
Table 7.1 Overview of the MOHFW budget

	Revenue			Development		
	Original budget	Revised budget	Actual spending	Original budget	Revised budget	Actual spending
2003/4	980	1,040	1,006	1,051	1,284	930
2004/5	1,078	1,177	1,112	1,357	895	741
2005/6	1,257	1,257	1,179	1,326	1,247	1,077
2006/7	1,368	1,524	1,273	1,349	1,292	966

Source: MOHFW, Begum, et al. 2010.

Looking at spending at a more disaggregated level, expenditure on salaries as a proportion of recurrent spending increased from 42 per cent in 2005/06 to 50 per cent in 2006/07 according to the Public Expenditure Review (MOHFW, Begum, et al. 2010). Spending at UHCs and union sub-centres represented 52 per cent of the total expenditure in 2006/07 (figure 7.5), a 23 per cent increase from the previous year. Spending at district and above facilities (including tertiary facilities) fluctuated and, in 2006/07, was 18 per cent lower than the preceding year. (A more detailed breakdown is presented in later sections.)

Figure 7.5 Allocation of the revenue budget, 2009/10



Source: MOHFW, Begum, et al. 2010.

The share of the government budget to health has been declining (4.4 per cent of the revised budget in 2007/08 compared with 6.1 per cent the preceding year and 5.4 per cent in 2003/04) and remains well below the 10 per cent target set out in the HNPSP (MOHFW, Begum, et al. 2010).

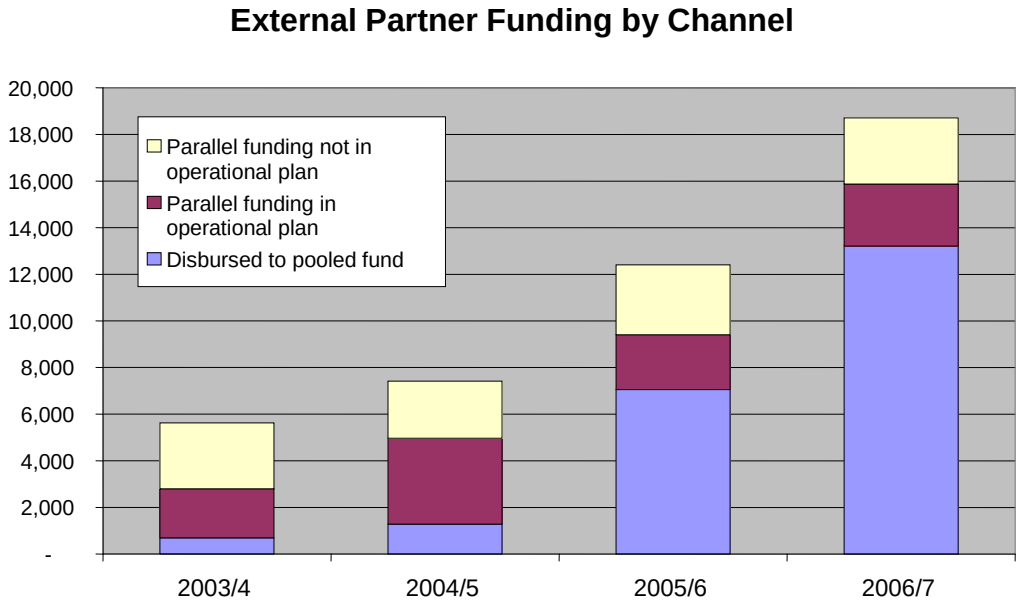
7.2.4 Donor support

Reliance on external partners for the ADP has increased. This was not unintended and remains roughly in line with second Revised Programme Implementation Plan for the entire HNPSP period (2003–2011).[29] Figure 7.6 illustrates that over the period 2003–07, the implementation of the SWAp has facilitated almost a 10-fold increase in pooled funding,[30] while parallel funding has remained relatively stable. According to the Public Expenditure Review, the development partner contribution to per capita MOHFW development spending increased by 14 per cent, ultimately accounting for 61 per cent of total development spending in 2006/07 (MOHFW, Begum, et al. 2010).

[29] Approximately 65 per cent of the revised PIP was expected to be funded by development partners, 39 per cent through pooled funding and 26 per cent through direct project aid.

[30] Pooled funding is when one or more development partners put non-earmarked funds in to one budget, 'the pool' to support the MOFHW budget for the sector programme.

Figure 7.6 External partner funding by channel, 2003–7 (taka million)



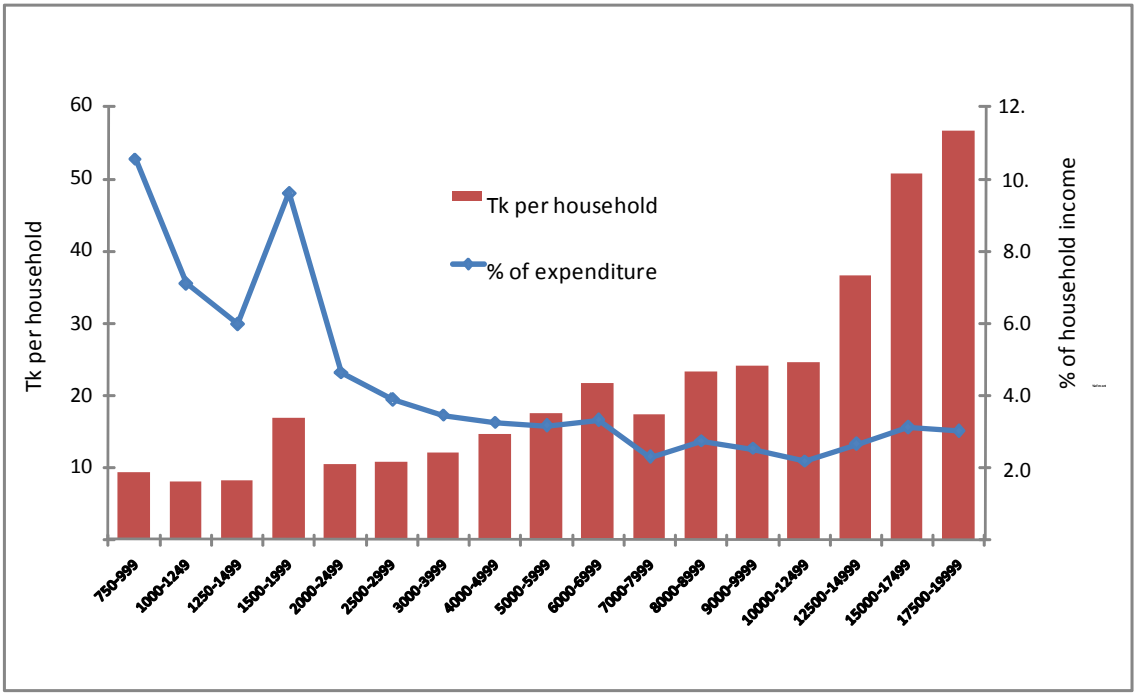
Source: NHA 1997–2007, table 3.4.

7.2.5 Out-of-pocket spending

Almost two-thirds of health spending in Bangladesh is out of pocket, i.e. people paying fee for services at the point of delivery (NHA 1997–2007). Figure 7.7 shows that although the better off spend more in absolute terms, as expected, poorer groups spend more as a share of their income. When spending on health exceeds a certain share of the household budget, these expenditures are considered to be catastrophic, that is, they put households at risk of impoverishment (Van Doorslaer et al. 2007).

Applying the often used 10 per cent threshold, approximately 12 per cent of the population would fall in this category in Bangladesh (using the weighted headcount rank) (Van Doorslaer et al. 2007). However, a limitation of the catastrophic health expenditure metric is that it does not take into account households that forgo health services because they cannot afford to pay. According to the HIES 2005, a quarter of those who fell ill and did not seek care stated that high cost was the reason for non-treatment; this is the second highest reason given by respondents, the main one being that the problem was not perceived as serious (63 per cent), which similarly implies an economic weighting by households.

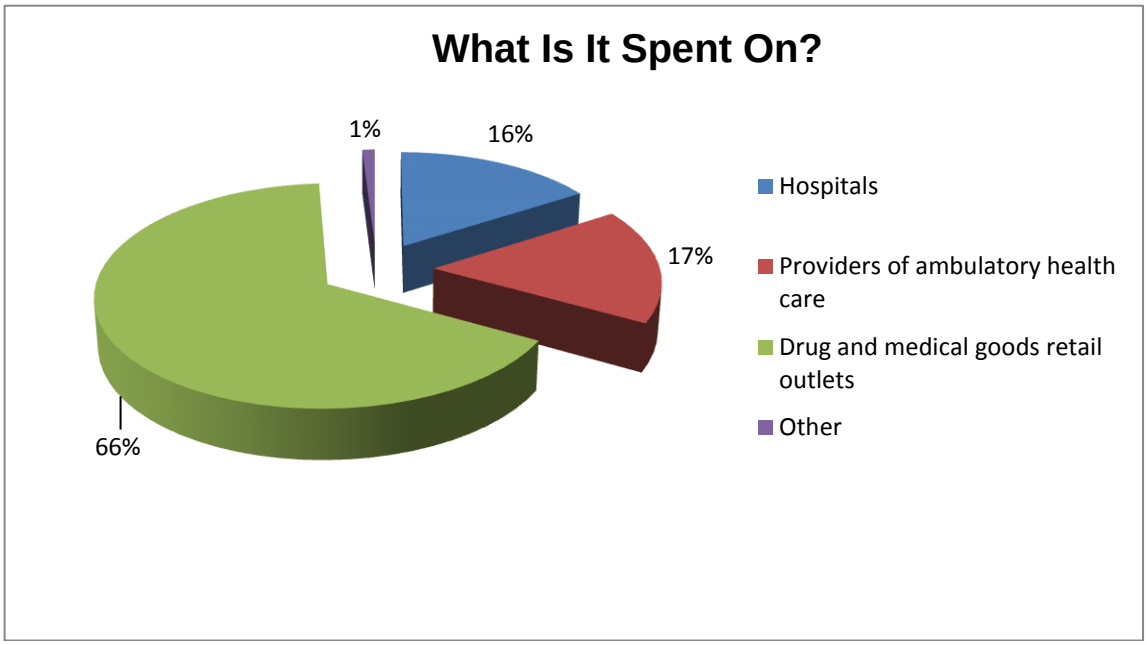
Figure 7.7 Private expenditure on health by income group



Source: BBS 2005.

Figure 7.8 shows that much of this out-of-pocket spending is on medicines—most of which is purchased from private pharmacies and dispensaries. Spending in private hospitals is also substantial and has increased significantly in the last decade.

Figure 7.8 Distribution of household expenditures on health by type of provider



Source: NHA 1997–2007.

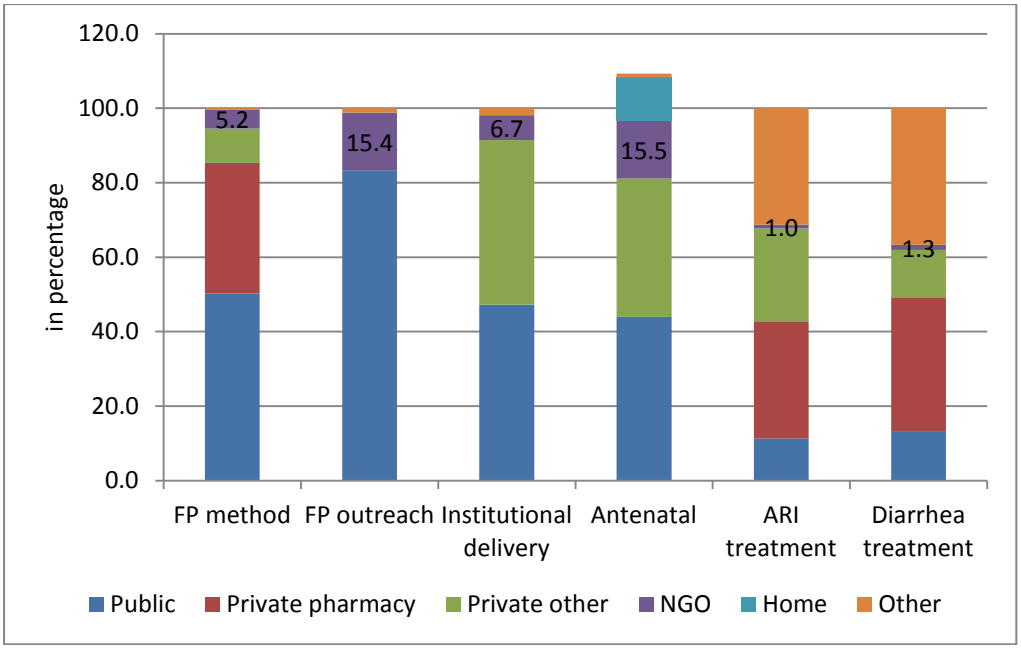
7.2.6 The role of NGOs in health financing

Bangladesh is known worldwide for having one of the most dynamic NGO sectors, with over 4,000 NGOs working in population, health, and nutrition (Perry 2000). Traditionally, NGOs have been active in disaster relief efforts and health promotion activities, particularly at the

community level, and on family planning, as well as maternal and child health. There is generally a good working relationship between government and NGOs, as exemplified by the number of public-private partnerships, such as contracting out NGOs to deliver urban primary care under the UPHCP II, community nutrition services under NNP, and HIV/AIDS under NASP, as well as support for the national TB and leprosy control programs.

The role of NGOs is growing as donors are channelling increasing amounts of funding directly to them. In 2007, 9 per cent of total health expenditures were managed by NGO, up from 6 per cent in 1997; more than 80 per cent of NGO funding comes from donors (NHA 1997–2007). Though NGOs are playing an increasingly prominent role in service delivery, the sub-sector is not well understood or monitored; with few exceptions, MOHFW does not collect or report data on health services delivered by NGOs. There is a wide gap between data on NGO service utilisation from population-based surveys, such as the HIES and the BDHS (figure 7.9), and those presented in various reports by the NGOs themselves or funding agencies.[31]

Figure 7.9 Place of care for those who sought services for selected interventions



Source: BDHS 2007.
Note: For ANC the categories are not mutually exclusive because women can visit more than one provider for the same pregnancy; therefore, the sum exceeds 100 per cent.

7.3 Alternative financing mechanisms

7.3.1 Demand-side financing

The Demand-Side Financing (DFS) scheme—which aims to address some of the demand-side constraints preventing better uptake of maternal and child health services—was launched in 21 upazilas in 2004. It includes a variety of demand-side financing initiatives including vouchers for transport, antenatal care and treatment as well as cash transfers and incentives. Following initial disbursement problems it was re-launched in January 2007 and

[31] According to BRAC, they serve 110 million Bangladeshi's (or more than two-thirds of the population) with essential health services. According to a POPTECH 1995 report, 115 USAID-funded NGOs provided 19 per cent of overall FP services, whereas the 2008 World Bank *Sparing Lives* report states that "NGOs provide as much as 40 of all reproductive health services".

has since been expanded to cover 33 upazilas in 31 districts. There are plans to expand it to a further 7–10 upazilas. In nine of the (poorer) upazilas all pregnant mothers are covered; in the rest, the scheme is targeted to pregnant women in their first or second pregnancy who are considered extremely poor and vulnerable.[32]

The programme is implemented by DGHS and DGFP with guidance from MOHFW and technical support from UNFPA, UNICEF, and WHO. One upazila is funded through WHO, three through UNFPA, and 30 through pooled funds. The initiative is overseen by the National Demand-Side Financing (DSF) Committee, which is chaired by the Minister of Health and provides strategic and policy oversight. The Secretary of MOHFW is the designated line director with overall responsibility for implementation. The National DSF Programme Implementation Committee is responsible for overall programme operations. Upazila DSF committees have financial and managerial responsibility with union DSF committees helping to identify eligible voucher recipients, distribute vouchers, and publicise the initiative at the community level.

If they wish to participate, private and NGO providers need to be accredited by district designation bodies, headed by the district civil surgeon; government facilities are automatically eligible. Quality criteria for private and NGO providers include the presence of an operating theatre and qualified providers. Though there is growing interest, few private providers participate.

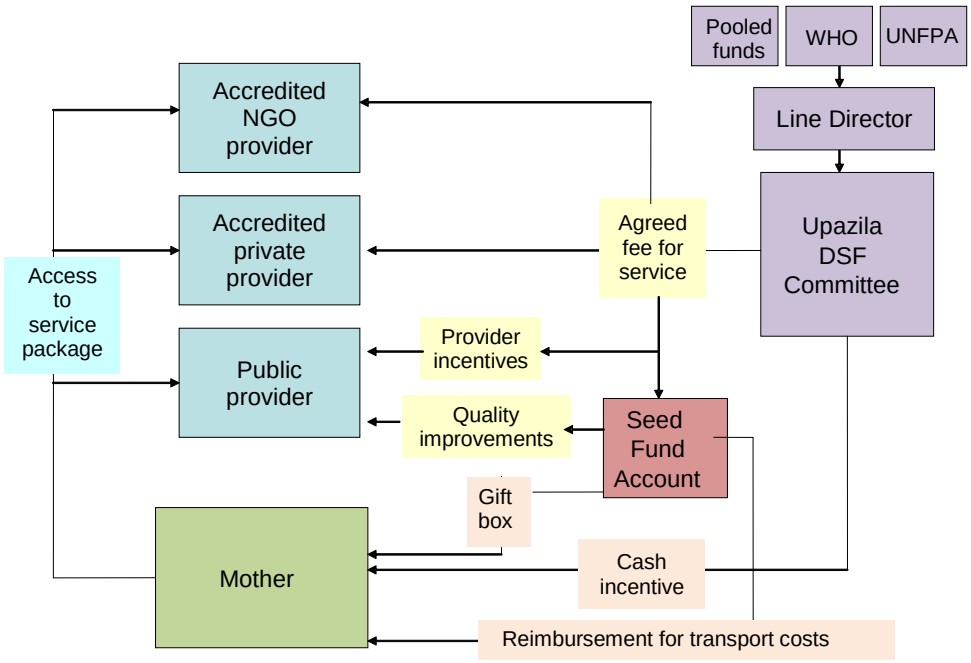
Initially the Maternal Health Voucher scheme was focused on reimbursement of direct health-related costs, but has since been revised to include greater coverage of indirect costs (with a five-fold increase in the value of a transport voucher—table 7.2) as well as incorporate elements of a conditional cash transfer approach with the inclusion of a cash incentive paid to the mother. Funding flows are shown in figure 7.10.

Table 7.2 Maternal Health Voucher scheme reimbursement rates

Service	Original	Revised
Paid to providers:		
Registration	10.	10
Lab tests for 3 ANC visits (2 blood and 2 urine tests)	140	140
Consultation fees for 3 ANC visits and 1 PNC visit	200	200
Safe delivery	300	300
Medicines	100	100
Forceps/removal of placenta/dilation & curettage/vacuum	1,000	1,000
Management of eclampsia	1,000	1,000
C-section	2,000	6,000
Paid to women:		
Transport	100	500
Cash incentive to mother (intended to be used for the purchase of food and medicines for the mother and infant)		2,000
Gift box		500 (in kind)

[32] Eligibility criteria include permanent residence, pregnant for the first or second time, landownership below 0.15 acres, income less than Tk2,500 per household per month and owning no productive assets, such as livestock, orchards, rickshaw or van.

Figure 7.10 Fund flows for Maternal Health Voucher scheme



Mothers receive a Tk2,000 cash incentive when redeeming a voucher. They are also entitled to a gift box[33] paid for through the "seed fund account" (the Maternal Health Voucher Account at Sonali Bank) and can have their transport costs reimbursed. The resident medical officer in each UHC is responsible for signing and approving vouchers and submitting them for reimbursement, while the upazila health and family planning officer is responsible for distributing incentive payments to women and service providers.

Providers are paid according to set reimbursement rates which are the same for government and non-government providers. Within public facilities half of the funds received are paid to health workers according to set rates. The other half is deposited in the seed account and is used to pay staff incentives, make quality improvements, provide gift boxes for mothers, and reimburse their transport costs.

According to the Annual Programme Implementation Report 2009, by January 2009 a total of 191,834 vouchers had been distributed against a targeted 250,595.

The economic evaluation of the scheme (Hatt et al. 2010)[34] found that it is having "an unprecedented positive effect on the utilisation of maternal health services in the short time since its initiation." Most notably it has significantly increased deliveries by skilled birth attendants at home, institutional deliveries, ANC, and PNC services in intervention areas as compared with control upazilas, despite the fact that women did not always redeem the vouchers. Women in voucher areas spent significantly less on ANC, delivery care, and PNC than women in control areas and the evaluation most women reported using the cash incentive for food and medicine.

The principal drawback of the scheme is its high cost: average cost per voucher distributed is estimated to be Tk2,836 or approximately US$ 41. Key operational and financial

[33] This includes baby clothes and other items for neonatal care

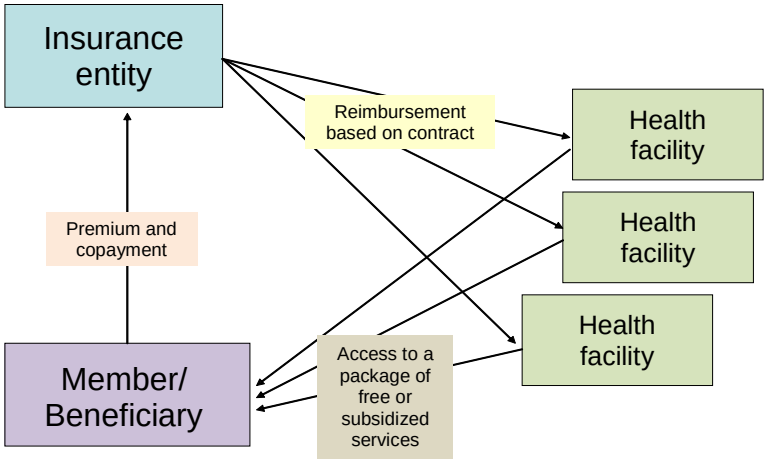
[34] The evaluation focuses on the 21 upazilas where the programme was functioning by mid-2007 and thus covers two years of experience with the programme.

management issues relate to ensuring benefits are focused on the desired target groups; delays in disbursement of cash incentives and gift box to voucher users; inadequate quality of care at facilities; limited involvement of private and NGO facilities; and insufficient monitoring.

7.3.2 Health insurance

Health insurance is a possible way of protecting the poor against the financial costs of ill health (figure 7.11).[35]

Figure 7.11 Schematic illustrating principles of a health insurance function



The private health insurance market in Bangladesh remains less developed than in neighbouring countries. Under the Insurance Act only life insurance companies and composite insurance companies are able to offer health insurance. A survey carried out in 2002 suggested that less than half of the life insurance companies offered any form of health insurance. Those that did not cited concerns about lack of demand for insurance, risk of false claims and lack of health infrastructure. Some regulated insurers have entered the micro insurance market (McCord and Churchill 2005).

MOHFW has approved an insurance pilot being supported by Kreditanstalt für Wiederaufbau. There are also a number of innovative community-based insurance schemes,[36] the most notable of which are Gonoshashtho Kendra, Sajida Foundation, Shakti and Dhaka Community Hospital, BRAC, Grameen Kalyan, Nari Uddug Kendra, Dushtha Shasthya Kendra, Integrated Development Foundation, and Society for Social Development**.** These are basically micro insurance NGOs which see a benefit from incorporating health into their programmes (as health people are more likely to repay loans) and health NGOs that have identified the need for financing mechanisms which provide greater financial

[35] Health insurance allows people pay for health care when they are healthy rather than when they are sick by allowing for the pooling of risks. As individuals are often willing to pay to reduce the risk of incurring large health expenditures health insurance may be commercially viable. However, governments will typically need to subsidise the poor—and poor countries with large numbers of poor people are the least able to do so. Insurance markets tend to suffer from market failures such as adverse selection and morale hazard. In order to maximise the pooling of risks, therefore, government may also need to make insurance mandatory. This can be extremely challenging in countries such as Bangladesh where the formal sector is small. Measures will also typically be needed to control costs.

[36] There is a lack of clarify as to whether such schemes fall under the Chief Controller of Insurance or the NGO Affairs Bureau.

protection for poorer groups. Some have achieved impressive rates of cost recovery despite lack of external funding or cross-subsidisation. At the same time the high levels of cost recovery and limited degrees of cross-subsidisation or external subsidies raise questions about the extent to which such schemes benefit the poor.

Table 7.3 Key financing characteristics of selected NGO programmes on health financing

	Cost recovery rate	Cross-subsidisation	External funding
BRAC	50–60	Yes	Yes
Grameen Kalyan	77	Yes	Yes
Dhaka Community Hospital	100	No	No
Dushtha Shasthya Kendra	n/a	Yes	Yes
Nari Uddug Kendra	10	Yes	No
Sajida Foundation	53	Yes	Yes
Society for Social Services	100	No	No

The typical approach has been for the schemes to have an integrated insurance/delivery arrangement and to provide a limited range of services. Most schemes are based on community-based facilities with limited laboratory facilities, though some have larger clinical facilities and in some cases hospitals. Some NGOs have developed links with other providers.

Though a wide variety of approaches exist in Bangladesh there are a number of common characteristics. The focus tends to be on a range of preventive services and limited out-patient care including medicines and tests. Few offer in-patient services, which would also tend to exclude catastrophic care (BRAC is an exception offering delivery services). Some of the schemes have their own referral centres, while others have contracts with other centres. Most charge nominal co-payments (as a way of containing costs). Schemes tend not to be reinsured.

Few of the schemes appear to have reached a scale necessary to benefit from economies of scale. The integrated insurance/provider arrangement means that the schemes are primarily a means of internal revenue mobilisation and do not necessarily offer the possible benefits in terms of lower cost and better quality that might result from competition between providers. In addition, though insurance is best placed to deal with unpredictable, high-cost events (e.g., obstetric complications and surgeries), very few schemes actually cover this—most focus on lower cost, more predictable services (where the benefits from insurance are modest at best) (Werner 2009).

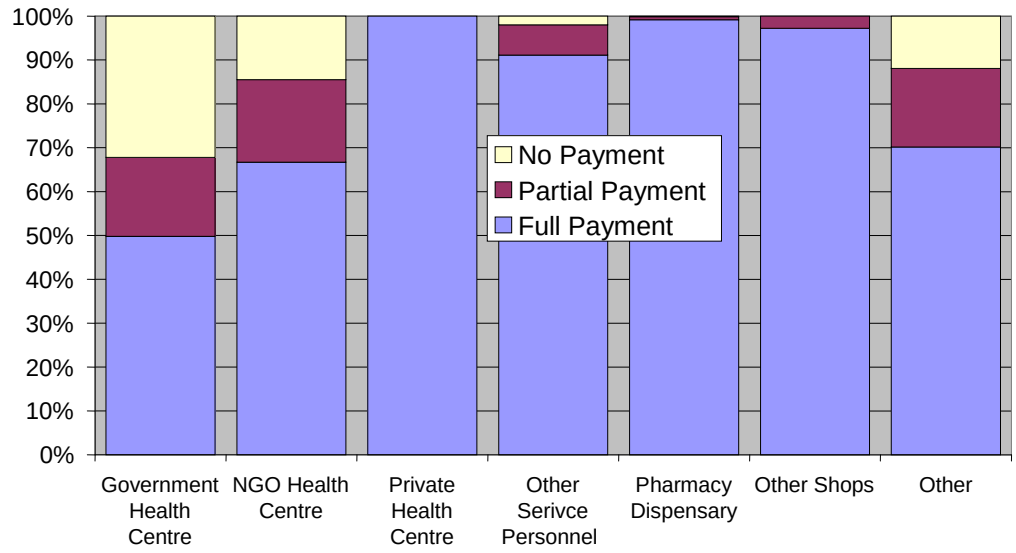
7.3.3 User fees

User fees were initially introduced at tertiary and higher level hospitals in Bangladesh with token fees subsequently introduced at lower facilities. According to government financial procedures, user fee revenue has to be returned to the Treasury. Under the Thana Functional Improvement Pilot Project, which covered 48 thana (now upazila) health complexes, facilities were allowed to retain such revenues and use them to support local plans; this approach was deemed successful on the grounds of its perceived quality as well as the increased utilisation and coverage of services.

NGOs have a long history of mobilising resources through user fees. NGOs focused on community-based delivery of family planning and maternal and child health services and commodities could typically expect to recover 5–20 per cent of their costs through fees, while those providing in-patient services might expect to recover 80–100 per cent (Islam

2003). Figure 7.12 shows that, whereas private health centres always charge for services, government and NGO services provide some drugs at no cost.

Figure 7.12 Payment arrangements for drug purchases by type of provider



Source: BDHS 2007.

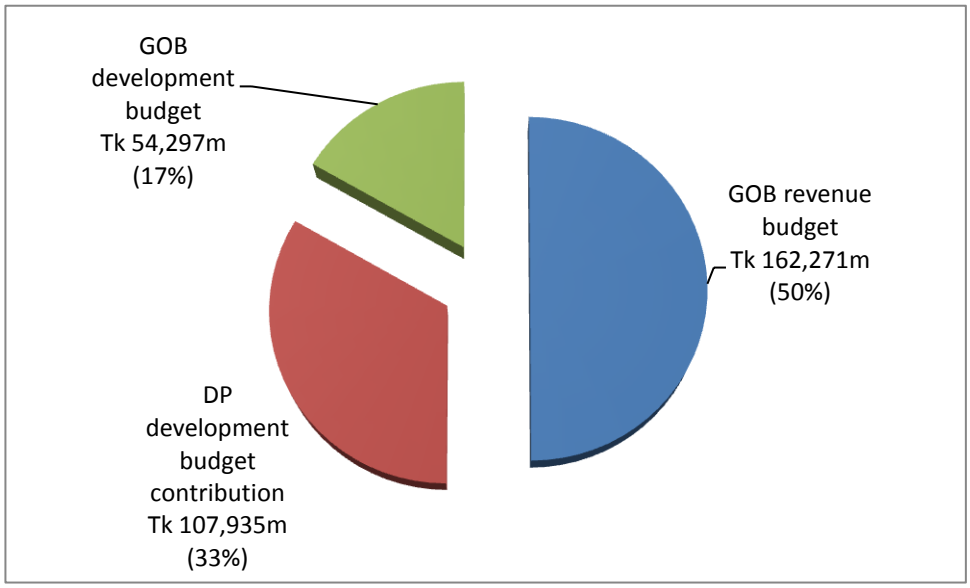
7.4 Resource allocation: Planning and budgeting processes

7.4.1 Overview of the system

As the previous chapter suggests, Bangladesh has made good progress in terms of delivering public health interventions and relatively pro-poor services. However, weaknesses in planning and budgeting processes mean that results may not be as good as they could have been. Specific costed strategies are set out in the Revised Programme Implementation Plan: July 2003–June 2011, which was approved by the Executive Committee of the National Economic Council (ECNEC) chaired by the Prime Minister. Key funding sources for the plan are set out in figure 7.13.

Donor support for the programme was based on a Health, Nutrition and Population Programme Proposal (HNPPP) which was, in turn, based on the Strategic Investment Plan, Conceptual Framework and Programme Implementation Plan of HNPSP (2003–2006). Donor support takes the form of a mix of pooled funding and parallel funding.

Figure 7.13 Funding sources for the Revised Programme Implementation Plan, July 2003–June 2011



Source: MOHFW, Planning Wing 2005.

MOHFW is the implementing agency through its attached departments. Line directors, with programme managers and deputy programme managers as required, are responsible for implementation of the 38 programme areas set out in the HNPSP.

7.4.2 Planning and budgeting

Within this overarching sector framework, three-year operational plans are prepared by line directors. They are reviewed by the Planning Wing for consistency with national and sector policies and priorities and approved by the National Steering Committee chaired by the Minister for Health and Family Welfare. APRs are a joint government/donor process to monitor progress of the implementation of the HNPSP and can recommend changes as needed. A shortcoming of the APR is that it covers activities funded by government and pool funds, but does not review donor-funded or NGO activities more broadly.

The Ministry has tried to adopt a more strategic, long term approach to planning through a Medium-Term Budget Framework (MTBF), which aims to better align resource allocations with strategic priorities. Since 2005/06, MOHFW has been a pilot ministry for MTBF, which has now been extended to 32 ministries/agencies.

The Finance Division (FD) and the Planning Commission (PC) are responsible for overall design and management of the MTBF and the budget process concerning the overall budget framework, intersectoral budget strategies and proposing individual line ministry ceilings. MOHFW is responsible for the identification of its budget priorities—including detailed budget estimates and projections—and the development of medium-term expenditure plans as well as subsequent implementation, monitoring, and reporting at the sector level. This process is overseen by the Budget Management Committee, chaired by the Secretary/Principal Accounting Officer of MOHFW supported by the Budget Working Group (BWG), which is headed by the Joint Secretary Administration. At the beginning of the financial year, line directors prepare a breakdown of their requirements by line item after receiving notification of their budget allocation.

Table 7.4 Summary of budget cycle

Stage/Activity	Dead-line	Respons-ibility	Remarks
Strategic Phase Activities			
1. Preparation of MTBF and budget guidelines	15 Aug	FD & PC	▪ Includes review of previous MTBF exercise; updated deadlines for MTBF and budget preparation; identification of key strategies and priorities; guidelines for line ministry statement of spending Programme priorities.
2. First update of macroeconomic and fiscal framework	30 Sep	FD & MFWG	▪ Includes macroeconomic and fiscal forecasts; projections of budget aggregates; analysis of underlying national policies and priorities.
3. Line ministry statements of policy objectives and spending priorities.	30 Sep	BWGs in line ministries	▪ Includes policy objectives; associated actions; resource implications in main programme areas; expenditure reform measures; key performance indicators.
4. Review of line ministry spending policy statements	20 Oct	FD & PC BWGs	▪ Result of review provides input into determining sector ministry MTBF resource ceilings.
5. Expenditure review and determining expenditure resource ceilings recommendations	25 Oct	FD & PC assisted by EPWG	▪ Includes analysis of recent expenditure trends; selected cross-cutting resource use issues; inter-sectoral expenditure priorities linked to policy priorities; and sector and ministry resource ceilings.
6. Finalisation of draft MTBPS and its approval by BMRC.	31 Oct	FD & MFWG and EPWG	▪ Sets out macro-fiscal framework; medium-term budget strategy; and sector and ministry resource ceilings and their justification.
Budget Estimates Phase			
7. Preparation and issuing of Budget Call Circular	07 Nov	FD & PC	▪ Involves review and updating of instructions to line ministries; budget forms; and IT applications.
8. Preparation of departmental estimates submissions	31 Dec	Departments in line ministries	▪ Involves desegregation of resource ceilings; guidance to departments; preparation of budget proposals by departments; submission to parent ministry.
9. Ministry review and finalisation of estimates submissions	31 Jan	BWGs	▪ Involves compilation and technical review; ministry estimates review meetings; approval by ministry Budget Management Committee; submission to FD and Ministry of Planning.
10. Second update of Macroeconomic and Fiscal Framework	28 Feb	FD & MFWG and EPWG	▪ Incorporates latest update of macroeconomic and fiscal forecast; analysis of implications for budget sector and ministry resource ceilings.
11. Review of ministry budget submissions	15 Mar	FD & PC	▪ Involves review; resolution of technical issues; and identification of key issues for budget discussions.
12. Budget discussions with line ministries	30 Apr	FD & PC	▪ Final resource allocation proposals for MTBF. ▪ Revised estimates for current fiscal year.
Budget Finalisation and Approval			
13. Finalisation of MTBPS.	30 Apr	FD & PC	▪ Involves revision of draft MTBPS to accommodate updated macroeconomic and fiscal forecasts; final budget aggregates and sector resource allocations.
14. Compilation and finalisation of draft budget	07 May	FD & PC	▪ Incorporates adjustments following discussion with line ministries; supporting commentary for Cabinet.
15. Submission of MTBPS and draft budget to Cabinet	15 May	FD	
16. Revision of draft budget to include cabinet decisions.	22 May	FD	
17. Printing of budget documents.	31 May	FD	▪ Comprises MTBPS; Ministry spending aggregates; detailed budget estimates.
18. Presentation of budget and MTBF to Parliament	7 Jun	Finance Minister	

Source: Manual for Planning and Budgeting, MOHFW 2007.

Table 7.5 Summary of planning and monitoring cycle

Approximate date	Planning action	Monitoring action
1 July	Budget announced in parliament *Minister of Finance*	
July	Operational plans revised to meet allocated budget and officially approved by *line directors, coordinated by Planning Wing*	Administrative approval *Secretary* and fund release *Joint Secretary (Finance)*
September	Annual planning guidelines issued for next year *Planning Wing*	
October		Line directors prepare reports on activities under previous year's annual operational plan. Reports consolidated. Output monitoring indicators added *Line directors coordinated by line directors Planning & Planning Wing/PCC*
November		Preparation of Annual Programme Implementation Report *Planning Wing/PCC* Annual Programme Review Part 1. Review of consolidated report and "reality testing" *Government and donors facilitated by consultants*
January	Mid-year review of current annual operational plans commences *line directors.* Preparation of next year's annual operational plans commences *line directors*	Milestones and financial disbursement assessed as plans revised *Line directors, Planning Wing/PCC, Secretary*
February	Revised current year annual operational plans consolidated and matched to resource envelop/approved budget. Revised annual operational plans approved *Coordinated by line directors Planning & Planning Wing*	
March	Next year annual operational plans consolidated, revised and matched to estimated next year resource envelope *Coordinated by line directors Planning & Planning Wing*	
April	Annual Programme Review Part 2. Proposed next year AOPs and annual PIP reviewed and agreed *Government and donors facilitated by consultants*	
May	Annual operational plans revised *line directors, coordinated by Planning Wing*	
June	AOPs approved by MOHFW *Joint donor/government committees*	
1 July	Budget announced in parliament *Minister of Finance*	

7.4.3 Financial management

The existing government system involves line directors disbursing funds to various cost centres, i.e. drawing and disbursement officers (DDOs) at divisional, district, and upazila level (the lowest cost centres are at the upazila level). On the basis of the line director's line-item budgets, MOHFW issues a release order to the line director and a sanction notice to the

Chief Accounts Officer (CAO). Line directors, in turn, determine the allocation to each DDO and issue a release order to them and a sanction notice to the CAO.

Disbursements are made quarterly on the basis of an approved administrative order for each operational plan. The CAO of MOHFW sends the administrative order to the Divisional Comptroller of Accounts (DCA), District Accounts Officer, and Upazila Accounts Officer to ensure that expenditures are consistent with approved spending. In order to reduce delays, MOHFW releases funds for three-quarters by issuing a single order at the beginning of the year and treats HNPSP as a single programme for the purposes of funds release. For the fourth quarter fund release, MOHFW has to submit utilisation reports to the Ministry of Finance showing funds have been spent. A key problem is the late collection of statement of expenditures showing development partners' expenditure from the various DDOs.

For development expenditures, MOHFW is empowered to release government allocations up to the third quarter and reimbursable project aid up to second quarter without going through the Ministry of Finance. For the release of the fourth quarter of the government allocation and the third and fourth quarters of reimbursable project aid, concurrence from the Ministry of Finance is required and this is dependent on MOHFW providing information on utilisation of funds in the previous quarters.

The existing government system operated by Controller General of Accounts (CGA) is in the process of transiting from a manual accounts consolidation system to an Integrated Financial Management Information System. Data on transactions of the upazila and district accounts officers is consolidated through the Treasury systems to enable the CGA to report monthly on government expenditures. The system is now computerised at district accounts offices and data is fed online from there and from the CAO of MOHFW to the CGA centrally. There appears to have been significant improvement with the completeness and timeliness of data available through this system, though weaknesses in internal financial controls persist.

In terms of financial reporting under the SWAp, government and pool funders have agreed to accept a single set of financial monitoring reports largely based on the financial statements currently prepared by MOHFW. This separate system is required because the 13 digit classification system used to code all government transactions is not sufficiently flexible to enable pool fund expenditure to be separately coded by the CAO in the CGA. All payments are made through Treasury offices on production, checking, and verification of bills presented by DDOs. DDOs maintain a register of payments and prepare a monthly statement of expenditures which is reconciled with the Treasury accounts office.

Line directors consolidate the statements submitted by DDOs and the Financial Management and Audit Unit consolidates these through a computerised system (MACS) to generate the reports required for reimbursement of expenditure claims using pooled funds. It is also used to provide information to the Implementation, Monitoring and Evaluation Division, the apex government organisation for monitoring and evaluation of public sector development projects included in the ADP. A shortage of finance staff has hampered efforts to extend MACS to line directorates. The fund release processes are mapped out in figures 7.14 and 7.15.

Although the fund release process has accelerated, regular and timely release remains an issue. As the system is manual it is subject to time lags and inadequate monitoring of actual expenditure against the disbursed budget. A computerised fund disbursement system was developed by the Financial Management and Audit Unit to automate disbursement and record-keeping procedures; however, it has not been implemented in most of the line directorates.

Figure 7.14 Government funds release process

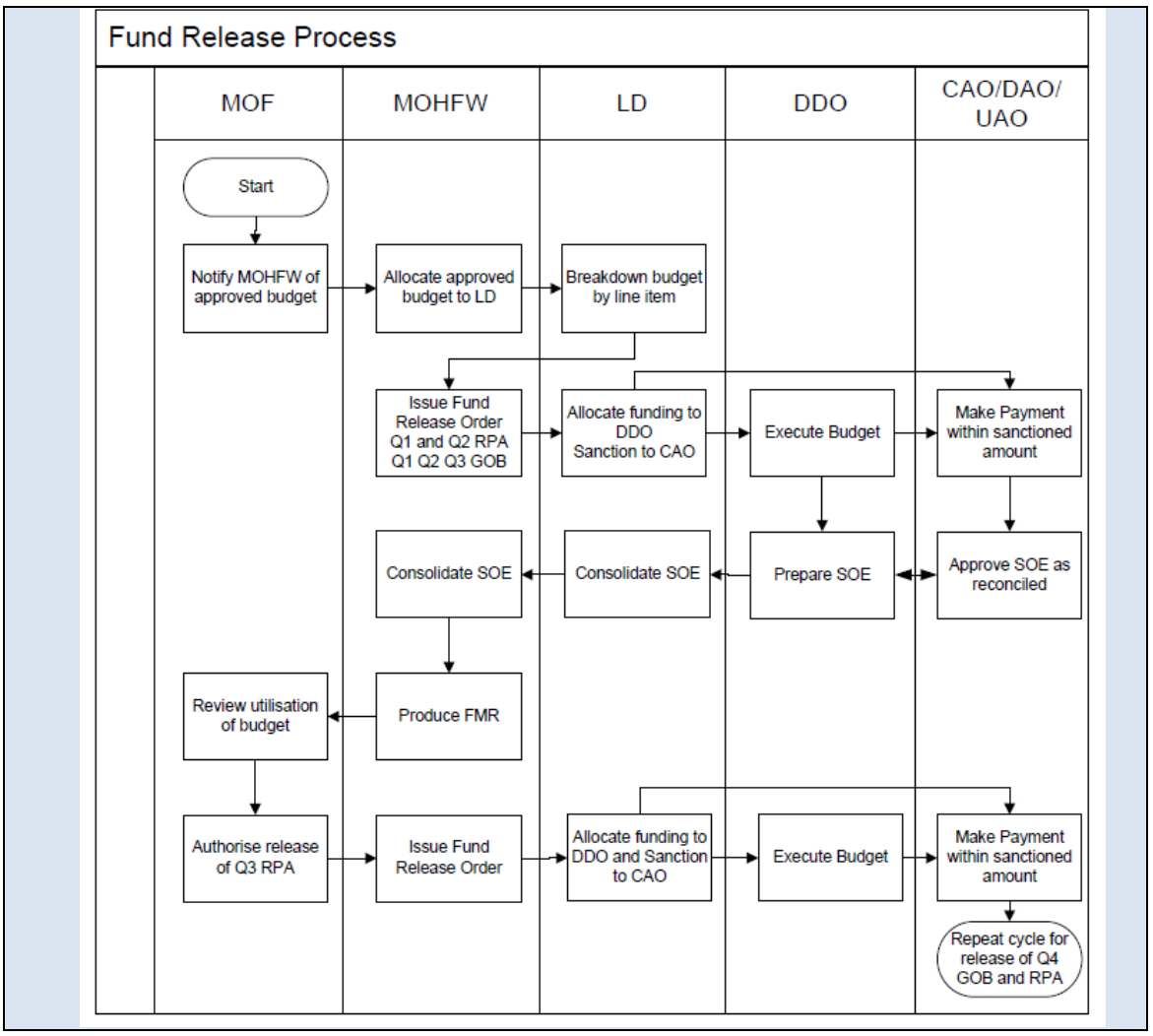
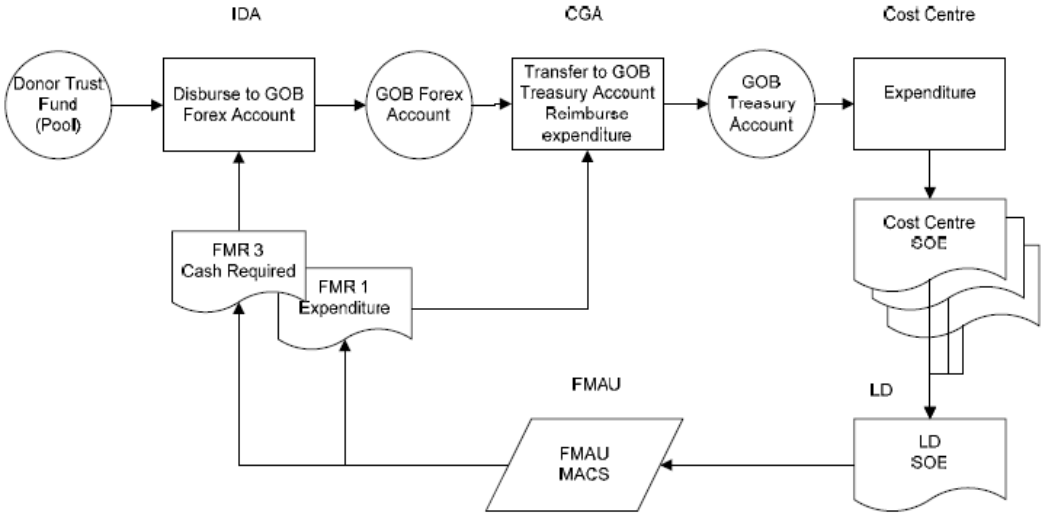


Figure 7.15 Multi-Donor Trust Fund release process



7.4.4 Audit

MOHFW has adopted a creative approach to skill shortages by contracting internal audit services and proposing to contract financial support staff for line directors and the Financial Management and Audit Unit. The first two phases of the contracted internal audit services were completed and an audit report produced together with a proposed strategy and audit training plan. The Audit Committee has been active in managing the resolution of observations arising from both internal and external audits. Tripartite meetings have been held to discuss audit findings of the Foreign Aided Projects Audit Directorate and task groups have been constituted to assist in this process.

7.5 Financing flows at the upazila level

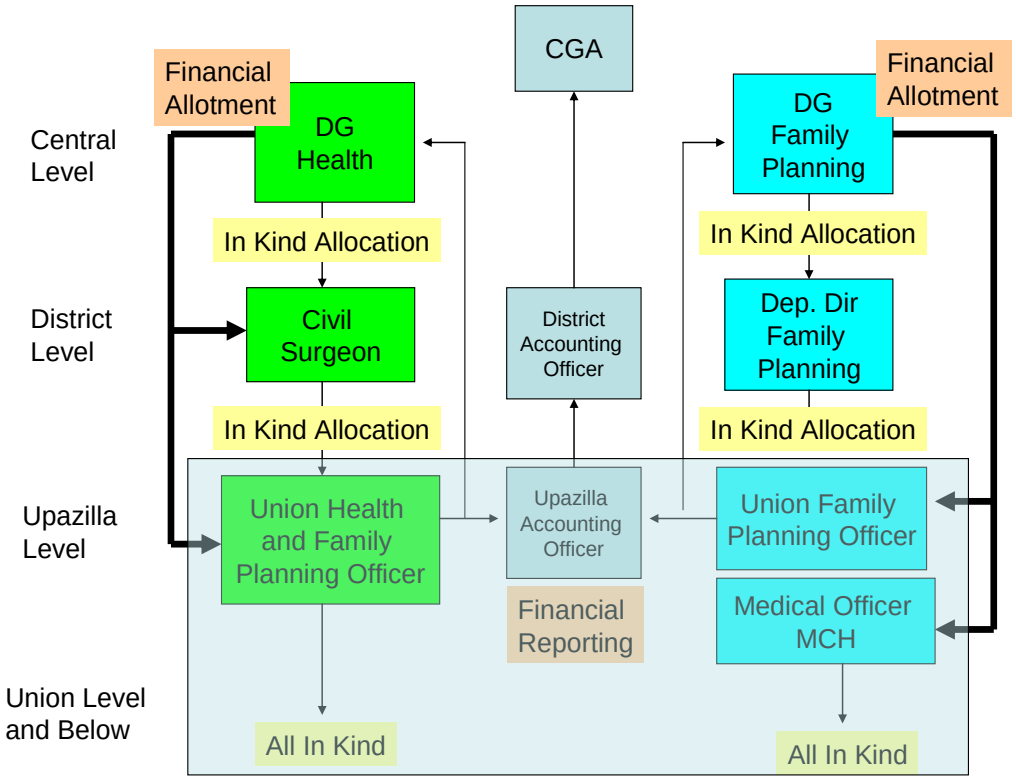
The Social Sector Performance Survey (2005) describes a system in which "management and accounting systems that can be used to strengthen service delivery are in place and largely operating. Budgetary allotments arrive at spending units, audits take place, salaries are paid, drugs are procured and supplied, and maintenance is requisitioned. Some of the systems are performing reasonably well: most health workers in DGHS are paid on time throughout the year; supervision appears to be reasonably regular; much of the local drug procurement appears to be at reasonable prices; and there is limited evidence of drug loss from investigation of drug records". However, the survey also identified a number of problems:

- Funding levels are very low in absolute terms. The Social Sector Performance Survey found that MOHFW expenditure was Tk75 per capita (compared with an allotment of Tk80).
- Allocations were particularly low for operational expenses such as medical and surgical requirements, maintenance, and allotments from the development budget. At the same time, there is some degree of under-spending in key areas (e.g., at the upazila level only around 55 per cent of CMMU's allotment was actually spent).
- A disproportionate share of the funding is for salaries, which account for around 84 per cent of resources for DGHS and 91 per cent for DGFP.
- Managers have little managerial control over resources. Drugs, maintenance, and human resource budgets are effectively controlled by higher levels; upazila managers have managerial discretion over less than 9 per cent of the total allotment.
- Late release of funds is a problem. DGHS allotments were found to arrive at least one and often two months late in the first quarter of the fiscal year. Allotments are also late in the final quarter of the year. Expenditure was found to be concentrated towards the end of the fiscal year: DGHS offices posted 22 per cent of total annual utility expenditure and 40 per cent of travel expenses in the final month of the year.
- Large levels of debt and arrears with electricity suppliers were also found. Debt levels are substantial, averaging around Tk160,000 per upazila.

7.5.1 Resource availability: Allocation process, funding levels, and funding sources

The allocation of resources at the upazila level is driven by the MOHFW resource allocation system (figure 7.16). Most resources are earmarked on a per facility basis. There are set standards for the numbers of worker at each facility; there are fixed budgets for medical and surgical requirements. Thus unless facilities are optimally placed to serve evenly sized populations, there are large per capita variations in supply.

Figure 7.16 Overview of funds allocation and reporting flows at upazila level



7.5.2 Sources of funding

With regard to their overall resource envelope—on the DGHS side the development budget accounts for only around 1 per cent of the total—for DGFP it is around 30 per cent. Around 85 per cent of DGHS funding is for salaries with around 7 per cent for medical and surgical requirements and other operational costs. On the family planning side, salaries account for over 90 per cent of funding.

7.5.3 Expenditure process

MOHFW issues allotments (spending authorisation) from its directorate finance offices to its spending units. The lowest spending unit for both DGHS and DGFP is the upazila office. The upazila health and family planning officer, upazila family planning officer (for non-clinical family planning services), and medical officer for MCH (for clinical family planning services) are DDOs. At lower levels, the supply of goods and services is in kind so staff have no managerial control over resources

The expenditure process is as follows (Social Sector Performance Survey 2005). DDOs, after citing the budgetary authorisation (or allotment) and after verification that there is sufficient balance on account, submit bills for expenditure to the local Accountant General's Office This office will “pass” the bill and issue a payment instruction and/or cheque. Accounting for monies spent is the responsibility of both the Accountant General's office and the finance department in MOHFW spending units. This is done mostly through maintenance of the allotment register. This keeps a running total of the balance against each economic code for each spending unit, with credits as indicated by the periodic allotment letters, and debits as entered from individual bills.

7.5.4 Managerial control over resources

Human resources
Payment of pay and allowances for staff is made by the DDO for the upazila. This implies, for DGHS for example, that all staff must come to the upazila health accountant (normally located at the UHC) to collect their monthly salary, which they take in cash. A roll or quittance register is maintained and it is against this that staffing details and a record of salary payments are kept. The register must be consulted in raising the bill for pay and allowances. Class 1 and 2 officers are self-drawing officers for pay and allowances and submit individual bills for their own salary and allowances. The DDOs have no power of authorisation over these payments

Drugs
The budget for medical and surgical requirements is nominally allocated to the upazila level, but it is financially controlled by the district civil surgeon's office. He or she will use approximately 70 per cent of the upazila budget for medical and surgical requirements to procure items from central organisations and para-statals (chiefly the Essential Drug Supply Company), with the remaining 30 per cent procured from local sources. In practice, Social Sector Performance Survey found that a larger share of drugs was being procured locally.

The drug supply system is ostensibly a “pull” system, i.e. upazila and union managers request and are supplied items via an indent system. At each level the drug store has a register that lists incoming (receipt) and outgoing (issues) of drugs and supplies, as well as the current stock (the internal control register). It will normally also keep track of the value of supply, so that managers may monitor within-year “expenditure” against their allocation. This also allows for tracking of receipt against issue between levels. Requisition and supply are normally made on a monthly basis for UHCs and a quarterly basis for union facilities. There is a drug requisition process but supply volumes tend to be far less than the volume requested.

DGFP has an entirely separate supply system (see section 8.3.2).

In addition to the directorate-based supply systems, central block budgets and development budgets finance the procurement of items through the CMSD. These supplies are mainly “pushed” down to service delivery units and the value of supply is not posted against the Civil Surgeon or UHC budgets.

Maintenance
Individual facilities do not hold their own maintenance budget; they rely on the CMMU to provide maintenance inputs. The DDO for CMMU is actually the executive engineer who sits at the divisional level. It is from this office that expenditure bills are drawn up and paid. The function of district offices is more to help to prioritise works, draw up tender documents, and to supervise works once they are under way. It is therefore possible that CMMU district office accounts are not kept as completely or as up to date as at the divisional level, and thus data collection from these offices could have omitted some expenditure.

7.5.5 Expenditure flows and accounting channels

Typically the first releases of the fiscal year are delayed as the previous year's accounts must be settled. This issue is faced in all sectors but a key challenge facing the health sector is that the demands are often greatest during the early part of the financial year resulting from the onset of the monsoon. The Social Sector Performance Survey found that the situation for DGFP was even worse, with very few resources being allotted before January. It found that the majority of the delay in receiving allotments was in getting the allotment letters approved and issued at the directorate head office and central ministry level.

There are two formal accounting channels: one is through the upazila accounts officer, who is the Accountant General's representative. Expenditures are recorded from every bill, and these are compiled into a set of expenditure accounts available through the CGA office in Dhaka. Another accounting channel is through the Finance Department in DGHS and then to the MOHFW Financial Management Unit and depends on periodic statements of expenditures drawn from the allotment registers at the facilities. There is often significant variation between the two.

8. Procurement and supply of medicines

8.1 Overview

Procurement and logistics are integral to the delivery of health services. Funding for goods represents a significant proportion of overall expenditure in the Bangladesh health sector at about 30 per cent, and yet it is clear that the full benefits of this are not seen. For example the Health Facility Survey 2009 (MOHFW and Tulane University Associates 2010) found that out of 19 essential drugs, on average only 58 per cent of them were present in the facilities. Only 9 per cent of all the facilities surveyed at district level and below had more than 75 per cent of the essential drugs in stock. The survey also looked at basic equipment and items needed for proper functioning of health facilities and found that on average more than 30 per cent were missing. Although most facilities reported providing ANC services, 40 per cent of them were not equipped to provide basic services; among those delivering babies only 40 per cent had a delivery light, 25 per cent had vacuum extractors, and 65 per cent had forceps. On a more encouraging note, the survey concluded that about two-thirds of UHCs, MCWCs, and UHFWCs had all four surveyed family planning items in stock.

Issues of effective procurement and logistics, as well as the attempts to address them, are long standing. When the SWAp first started in 1998 under HPSP, the funding for goods and services was incorporated into the programme and a more unified approach to procurement was proposed—it was seen as an important step in promoting coherence of planning and implementation. Of the total funding for HPSP, about US$ 3 billion of the pooled funds was to be channelled through government systems. The agreement between the World Bank and the government stipulated that for HPSP-funded procurement above a certain threshold World Bank procurement guidelines for international competitive bidding would apply. Given the lack of experience within the government with these procurement requirements, the agreement called for MOHFW to contract a private procurement agent to handle HPSP procurement requirements. After two years of failed efforts to reach agreement between MOHFW and the World Bank on the selection of a private procurement agent the attempt was abandoned and the World Bank agreed to use government entities but carry out oversight of the procurement to ensure compliance with agreed guidelines.

8.2 Procurement in the public sector

The budgets for procuring goods and services rest with line directors as does the technical responsibility for identifying the quantity and type of item required. However various procurement entities are responsible for aggregating the requirements into lots and carrying out the tendering exercise. Most items are procured by Directorate General of Family Planning and Central Medical Stores Depot (CMSD), but there are others operating on a smaller scale:

- CMSD procures medical equipment, office equipment, imported drugs, and medical supplies and drugs outside the standard requirements, and carries out emergency procurement. Distribution from CMSD is funded and organised by the receiving bodies.
- DGFP is responsible for the centralised national and international procurement for the family planning wing, including contraceptives and drugs and dietary supplement kits. DGFP has its own distribution system.
- NNP carries out all procurement for the limited number of goods and services required by the project with the exception of micronutrients (vitamin A supplement) which are procured by the Line Director, Micro Nutrient Supplementation (IRT 2009a p.204). The programme looks after its own distribution.

- Public Works Department does contracting for large works contracts.
- Construction Management and Maintenance Unit does contracting for smaller works contracts and for building maintenance.
- The directors of tertiary and specialised facilities do procurement of standard packages of medicines and supplies for their own institutions.
- Civil surgeons do procurement of standard packages of medicines and supplies for DGHS facilities up to and including district hospitals.

Although procurement is carried out by several different entities and there are many issues with efficiency and coordination (see below), the system as a whole has been judged as being of basically sound configuration (IRT 2009a p.187). It is based on the principle that specific groups of products can be procured and distributed using different processes. Potentially complicated procurement is centralised (at CMSD) whereas procurement for most regular products is decentralised (to civil surgeons); autonomous institutions are responsible for their own procurement but can use specialised procurement entities, if they choose to; large budget procurement is done by the centralised agencies (CMSD and DGFP) and, where capacity is lacking (e.g., in some of the national disease programmes), a procurement agent such as CMSD is used. Moreover, external procurement agents (development partners) act as a built-in safety valve when the routine system cannot produce the desired results, e.g. for procurement for emergencies.

8.2.1 Procurement of services

The procurement of consultancy services is similar to that of goods in that the budget sits with the line directors and procurement must follow national and international rules, with additional riders related to use of pooled funds. The World Bank Project Implementation Manual—which was adopted throughout the HNPSP, provides procurement procedures, copies of standard bidding documents, requests for proposal, and model contracts.

The HNPSP has aimed to diversify service provision by subcontracting with service delivery organisations such as NGOs, private non-profit agencies, para-statal bodies and United Nations agencies. The MSA was set up as an independent body, an extended arm of MOHFW to handle contracting, supervision, and financing on MOHFW's behalf. The procurement of an organisation to run the MSA was a particularly lengthy process, taking 1,080 days until the point that the contract was approved by the Cabinet Committee for Government Purchase; the midterm review judged that this was primarily caused by committee meetings that could not take place (425 days); obtaining no objection from the World Bank (123 days given exchanges requesting clarification and corrections to the documents); and the successful firm's inability to provide the initially proposed consultants (174 days). The contract was finally signed in March 2009 but the MSA in its original design was never fully established.

The 2009 APR notes that "MSA's institutional place within MOHFW is not clear. It is treated as a project (reports to a committee and is not a member of the procurement task group) but its functions are equivalent to those of other specialised procurement agencies as CMSD. It should be embedded in the MOHFW structure" (IRT 2009a p.198).The MSA contract was not continued into the HNPSP extension period, July 2010–June 2011.

8.2.2 Meeting national and international standards

All procurement of goods and services is governed by the Public Procurement Act 2006 and the 2008 Public Procurement Rules. It is generally felt that these have established a sound national procurement policy and procedural foundation that has brought government procurement, both national and international, in line with good international procurement practices. For procurement of goods, each procurement plan follows the same process of

being converted into a schedule of requirements, followed by the preparation, approval, and publication of tender documents, evaluation of bids and notification of award. A similar system exists for procurement of services.

As mentioned above, over the period of the HNPSP, pool-funded procurement using international competitive bidding has been governed by World Bank procurement guidelines, which has necessitated World Bank approval at various points in the procurement process to ensure compliance. For example, when line directors have completed their procurement plans a no objection has been required from the World Bank. The World Bank also reviewed and provided no objection for some tender packages before they were issued (prior review). Further, the World Bank has carried out an annual procurement audit and investigated complaints when necessary.

8.2.3 Performance of the procurement system

The procurement and supply of goods under government Public Procurement Regulations (as well as World Bank guidelines) is a complex and lengthy process and has presented considerable challenges to line directors and those entities that procure using pooled funds, namely CMSD and DGFP. The period was longer when World Bank prior approval was necessary. The Bangladesh Medical Equipment Survey in 2008 carried out a survey of procurement of core medical equipment and for these items estimated that "total average lead-time of the whole procurement process comes close to four years" from the start of the procurement exercise to the point of delivery at the facility.[37] For a significant proportion of this time—nearly 19 months—the equipment was sitting in CMSD. As a result by the time the equipment was delivered most of the one year warranties had expired and no direct responsibility for adequate installation and commissioning of the goods was taken.

The MTR 2008 however reported that CMSD were then managing tender processes better and line directors were getting better at completing their procurement plans in time. Also the APR 2009 (IRT 2009a) reported that performance of the procurement agencies had improved when measured against two indicators, namely percentage of contracts awarded within bid validity (this had increased), and mis-procurement (none in the preceding year). However, opening letters of credit for international procurement remained a problem.

Implementing various changes in the system to address these new demands was a condition of the World Bank's financing, but developing the appropriate capacity has proved a challenge. Issues concerning the functioning and capacity of the procurement and logistics system have reoccurred in annual programme reviews and are now described.

Strengthening leadership

The MTR observed that "despite the recognition of the existing problems by senior management, there is little leadership in the health sector procurement. There is no health sector procurement strategy on how to build an efficient and effective procurement system over time. No discussion is taking place on how to tackle in an integrated and comprehensive manner the procurement problems. Training, technical assistance, procurement human resources and investments in management tools are four main elements of a solution. However, these elements are approached in an ad hoc and opportunistic way." According to the APR 2009, while the technical procurement process is improving, various key issues that could scale up the performance of the procurement and logistics system are not addressed including delegation of authority, and efficiency of the authority approval process (IRT 2009a, p.186).

[37] ES 2008, p. 38.

Improving capacity for coordination

A key feature of the agreement between the development partners and the government for HNPSP in 2005 was the introduction of a new procurement and logistics management cell (PLMC) under the Joint Secretary (Development and M&E) which would have adequate authority to coordinate and supervise the functions of the various procuring units. It would be an instrument for the leadership needed in procurement. The intention was for it to "provide quality assurance and quality control to the procurement function by strengthening MOHFW's coordination and supervisory role with respect to procurement carried out by CMSD and DGFP". It would "ensure compliance of MOHFW procurement actions with the processing and approval timetable and the Public Procurement Regulations 2003" and would "be responsible for coordinating and supervising decentralisation, training and capacity building efforts" (World Bank 2005c p.21). To date this PLMC has not been established and the MTR 2008 expressed concern that the cell that was under discussion in MOHFW "has been significantly downgraded" in terms of its staffing capacity to address its tasks and its perceived importance.

Since then the APR 2009 observed that MOHFW has initiated the development of a web-based procurement tracking system and has reiterated its need for reinforcement of its procurement capacity, producing a shortlist of candidates for PLMC candidates (IRT 2009a). Also a procurement status review meeting has been initiated to address procurement issues on a regular basis. Although it does not have formal terms of reference, it does meet regularly to monitor progress of ongoing procurement, identifying delays and problems and trying to find solutions.

Building information systems

CMSD has had to manage detailed and complicated processes with poor tracking systems. This problem is now being addressed and CMSD acquired information systems to support its three main activities—a procurement tracking system, an inventory management that records the arrival and departure of goods in CMSD, and "installation, service, and maintenance" software which, when complete, will show the medical equipment per facility, district, and supplier, as well as details of repairs. MOHFW has initiated the development of a web-based procurement tracking system.

Increasing skilled procurement personnel

The government does not have a professional procurement cadre. The procuring entities are therefore staffed by officers on secondment/deputation from other administrative departments in the positions from desk officers to directors and have no specialist procurement knowledge other than what is gained on the job and through training. Although the HNPSP Project Appraisal Document stated that assigned officers should stay for at least five years, in practice the procurement staff are subject to the usual high turnover and transfer rate as other officers, even once an investment has been made in their training. This constantly erodes the capacity of the procurement entities. Other staff in the directorates also need to be trained in elements of procurement such as tender and bid evaluation. This training has been provided, but again staff turnover curtails its benefit beyond the short term.

Correctly identifying procurement needs

The procurement agencies receive requests from clients to procure certain quantities of certain products and supply them to certain destinations. Although they have to adhere to MOHFW instructions regarding standardised types of products, they are not responsible for the accuracy of the quantities, the types of products, the destination, or whether the need actually exists. This lies with the line directors, but internal processes in the Directorates and staff capacity makes carrying out these responsibilities difficult.

For example, the equipment survey established that that the procurement requests in DGHS are "essentially based on the needs as expressed by the Civil Surgeon in response to an

annual circular by DGHS. At DGHS it is not known whether a request that is submitted by a civil surgeon is based on a proper needs assessment in the district. The probability of such needs assessment is reportedly small indeed, partly because of the absence of a tool to make such an assessment and partly because of the absence of a table of equipment for each level of health services."[38] It is therefore quite possible that some of the procurement is inappropriate.

Delays related to World Bank review process

The impact of the involvement of the World Bank in procurement has been an issue, not so much because of the nature of the rules that are imposed, but because of the time it takes to make sure they are being followed. The World Bank reviews every tender exercise, some after they have been completed, and some at various stages before the tender package is issued. It is these last, the "prior reviews", that cause delays in the system because there can be a lengthy back and forth of documents as the World Bank considers compliance and then raises queries to which the government has to respond. This is due to the low capacity of MOHFW to produce documents and adhere to procurement guidelines (government or World Bank) the work to address this is better characterised as technical assistance. Neither MOHFW nor the local World Bank office have the legal option to avoid the queries or the complaints and therefore efforts have been made by both parties to improve communication in the hope that this will help speed up the process. The creation of the PLMC is expected to solve some of the problems as it will act as go-between.

Delays in government approvals

Within the government different levels of authority are required for various sizes of tender. The bulk of procurement packages fall within the authority of the line director but some have to be referred to the Minister of Health or up to the Cabinet Committee on Government Purchase. The latter causes particularly lengthy delays as the Committee meets infrequently (delays of nine months were estimated in the case of procurement of implants in 2007).[39] Moreover, these tenders, because of their scale, are subject to World Bank prior review, which slows the process down even further. The authorisation levels have, however, now been revised upwards with much higher thresholds for referrals to the Minister and Cabinet Committee, which hopefully will reduce delays.

An absence of prequalification and framework contracts

The MTR 2008 points out that both pre-qualification and framework contracts are allowed under the Public Procurement Act and under Word Bank guidelines, but neither of these methods is routinely used by CMSD or DGFP**.** Pre-qualification would reduce the number of "opportunistic" bidders and increase the number of "genuine" bidders. For procurement of complex and specialised goods and equipment this would increase the quality of the bids and reduce the time needed for the tender process. Framework contracts, used for frequent purchases of similar goods, would reduce the time needed to get the goods delivered, as contractual arrangements for a longer period of time would have been put in place based on the outcome of one tender procedure (IRT 2008a p.88).

Decentralisation of procurement

Since 1988, the procurement of standard packages of medicines and surgical requirements for primary, secondary, and tertiary level has been decentralised to the civil surgeons and the directors of the tertiary institutions. However, decentralisation as intended in the HNPSP has not happened—this would involve unbundling procurement packages and giving increased authority to the level of line directors and institutions. The MTR questions the merits of decentralisation beyond this suggesting that "It would not likely increase efficiency

[38] ES 2008, p. 36.

[39] Bott 2008, p. 23.

in the short or medium term. Leaving procurement with PWD and CMMU as well as CMSD makes sense taking into account their respective specialisations. Part of the DGFP procurement could be decentralised (specifically the requirements that are now being 'pushed' to the FWC facilities in the form of drug and dietary supplements kits but that system seems to be working satisfactorily. This should not be changed without a long-term health sector procurement strategy in place. Decentralisation of the contraceptive procurement is presently not advisable taking into account the economies of scale that are enjoyed, the limited number of suppliers for contraceptives and the absence of local suppliers" (IRT 2008a p.80).

Moreover any further decentralisation to line directors or further down to districts would, according to the last APR, necessitate reinforcement of the MOHFW internal audit function. "Decentralisation should only be done when MOHFW has indeed the capacity to monitor on-going procurement and has the capacity to support technical procurement at all levels if and when necessary" (IRT 2009a p.186).

8.3 Logistics and supply chain for medicines in the public sector

Two separate logistics and distribution systems, operating in parallel, remain in MOHFW in keeping with the organisational structure and separation of roles and functions between DGHS and DGFP (see chapter 4). In addition, medical college hospitals and other specialised hospitals have separate logistical management systems, although CMSD plays a role in procurement of the medicines and supplies for these institutions. The drug supply system is ostensibly a "pull" system (discussed in section 7.5.3).

8.3.1 Supply chain, DGHS

CMSD manages the supply chain for the DGHS in three tiers—CMSD Central Warehouse in Dhaka, district regional stores or civil surgeon stores and upazila stores. CMSD has the responsibility to supply district regional stores and civil surgeon stores with necessary materials for the Essential Services Package other than reproductive health items. The upazila stores receive supplies from district facilities and have the responsibility to supply these to UHFWC, MCWC, and community clinics. In addition, civil surgeons have been maintaining their authority to buy medical and surgical requirements for the district hospitals. The present supply chain is therefore characterised by centralised procurements with some decentralised provisions.

At CMSD, information systems have been developed and made operational for the three main activities: procurement, logistics management, storage and distribution as standalone applications rather than as a seamless business application.

CMSD collaborates with the Line Director (Improved Hospital Services Management) for improved inventory control of medical and surgical equipment procured by CMSD. Development budget costs incurred by CMSD will, in addition, include customary charges related to the various steps in procurement and distribution of goods to the end user as well as charges for servicing, by appointed local agents, of electro-medical equipment procured abroad by CMSD.

8.3.2 Procurement, storage and supply management, DGFP

The Logistics and Supply Unit of DGFP functions with a line director at the top of the logistics hierarchy comprising different sections, such as local procurement, foreign procurement, port clearance, warehousing, distribution and monitoring. The supply chain is managed in three tiers: central, regional, and upazila stores. From the upazila stores, medicines are distributed directly to the services delivery points. The supply system is

entirely indent-based all the way up to central levels where all procurement is managed. There are no drug or equipment funds managed by DGFP upazila or district managers. The system has fairly sophisticated stock control monitoring systems (including maintenance of a buffer stock) and supply is “pushed”, but based on reported usage. Much of the management of the DGFP system is subcontracted to an external supplier.

DGFP Logistics have received significant technical support from USAID, through the Family Planning Logistics Management Project (1997 to 2002) followed by the DELIVER (USAID project for strengthening health and family planning supply chains) project (2002–2010), in key areas of procurement, information systems, capacity building, and distribution management. Over half of the contraceptive supplies are distributed using commercial carriers under contract arrangements with the directorate.

A web-based Logistics Management Information System (LMIS) has been operationalised with consumption data from the services delivery points being entered at the regional warehouses and fed up to central level. However, there is no provision for an automatic interface with the inventory management system (Warehouse Management Information System) in place at the warehouses.

8.3.3 Other medicines and supplies

In addition to the directorate-based supply systems, central block budgets and development budgets finance the procurement of items through the CMSD. These supplies are mainly “pushed” down to service delivery units and the value of supply is not posted against the civil surgeon or UHC budgets.

8.4 Pharmaceuticals regulation

8.4.1 National Drug Policy

The National Drug Policy was introduced in 1982 to eliminate a number of harmful, useless, and unnecessary drugs from the market and to ensure availability of essential drugs at reasonable price by developing an administrative mechanism under proper management. The Drug Control Ordinance 1982 was promulgated for implementation of this policy, and to control traditional medicines (unanni, ayurvedha, and homeopathic) in addition to allopathic drugs. The process of updating the policy is under way (2010).

The National Drug Policy was instrumental to improve the supply of quality essential drugs in Bangladesh as affordable prices. An Essential Drug List initially identified 150 drugs, 45 for rural primary health care facilities, with controlled prices. The list was revised and updated in 2007 to 209 drugs. In 2005, the local pharmaceutical market was worth US$ 504 million and has been increasing at a steady average of about 17 per cent annually, and is capable of producing all 209 items on the Essential Drug List, 177 of which are amenable to price control.

A 2009 study (BHW 2009) on availability and use of essential drugs shows a rise in polypharmacies, insufficient use of essential drugs, increased antibiotic use, increased use of drugs not on the list, and reduced availability of list drugs. The BHW 2009 recommends a review of the National Drug Policy and strengthening of the regulatory mechanisms of the pharmaceutical sector, including building capacity of the DDA.

8.4.2 Directorate Drug Administration

The DDA was established as a drug regulatory authority under MOHFW in 1976. It is entrusted with administration, control, and management of the pharmaceutical sector. It

regulates and performs other functions in areas related to manufacturing, quality control, storage, distribution, sale, post-marketing surveillance, import, and export of drugs in the country. In addition, it acts as the licensing authority and issues permit for manufacturing, import, and retail sale of drugs and medicines.

The long-term objective of the DDA in exercising the pharmaceutical regulatory and monitoring function of MOHFW is to oversee the implementation of the National Drug Policy and supporting Drug Control Ordinance. The DDA operational plan is funded through government and pooled funds. The HNPSP operational plan objectives included strengthening capacity of the DDA; improving regulatory control on medicines; promoting rational use of drugs and its monitoring; enhancing surveillance on medicine quality and availability; developing MIS in DDA; and establishing new and expanding existing drug-testing laboratories.

Current funding is being used to strengthen the capacity of the Chittagong laboratory (the only government quality assurance laboratory in the country) and provide logistic support (vehicles and office supplies) to the DDA office in Dhaka. The DDA is restricted due to a lack of appropriate human resources: of the current sanctioned 220 posts, 69 are vacant, especially in class 1 and 2, the professional cadres. There are currently 38 staff in the DDA that are empowered to carry out inspections, including seizure of drugs. This level of staffing is inadequate even for effective inspection for Dhaka city, much less in all 64 districts.

In March 2010, MOHFW announced the approval by the Ministry of Establishment for upgrading the director of the DDA to director general and for expanding both the management cadre and size of the inspectorate workforce.

The functions of the DDA are summarised as follows.

National surveillance of storage, distribution, and dispensing of drugs

The Inspectors of the DDA regularly inspect manufacturing premises, monitoring their activities and carrying out post-marketing surveillance. This is to ensure that enough high-quality drugs are available at affordable and reasonable prices. Side-by-side inspection and supervision of drug and medicine stores, premises of the distributors, stockists, community pharmacies, and retail drug shops are carried out regularly to ensure proper storage, environment, transport, distribution, and dispensing. One of the prime duties of the DDA is to ensure that the products available in the market meet the regulatory requirements including the states of their registration, shelf-life, expiry period, potency, quality, and approved price. This is accomplished by regular testing and supervision of the drugs available to the public.

Bangladesh's long borders leave it vulnerable to the importation of unregistered, spurious, fake, adulterated, and substandard drugs. To stop the marketing and use of these unauthorised drugs and to discourage this type of activity, regular surveillance of the medicine market by DDA inspectors is needed. This surveillance helps them identify the culprits and to take necessary lawful actions against them. The DDA suffers, however, from a shortage of personnel and inadequate facilities, which seriously hinders its activities.

Regulatory control of manufacturing of medicine covers monitoring of the following:

- manufacturing facilities and capacity of the manufacturing units
- quality assurance and quality control systems in the manufacturing units
- Good Manufacturing Practice status of the manufacturers
- pricing of finished drugs and medicines
- procurement and distribution mechanism and sale of drugs and raw materials.

With the growth of drug manufacturing and the potential of this to increase further, the role of the DDA inspectorate needs to be strengthened (see section 8.5).

Quality assurance
Every registered pharmaceutical product, whether manufactured locally or imported, undergoes testing in the two government drug-testing laboratories before its commercial marketing in the country. In order to monitor the quality of the marketed products, random samples are collected from the market at regular intervals by the DDA inspectors. They are then tested for quality in these laboratories. This process was strengthened under the HNPSP.

Since the officials/inspectors of the DDA have to pay for the collected drug samples sufficient funding is required for this purpose every year. This fund was made available from HNPSP. Efforts were made to arrange vehicles for inspectors for post-marketing surveillance and factory visits.

Establishment and expansion of drug-testing laboratories
In 2009 there were two government drug-testing laboratories: one at Chittagong under the direct administrative control of the DDA and the other at Dhaka under the control of the DGHS. However, the DDA has easy access to the services of this Dhaka Laboratory. Available statistics reveal that the drug-testing capacity of these two laboratories is around 6,000 drug samples per year.

As of 2009 there were about 15,000 brand-named drugs available in the country. But because of lack of facilities, some complicated drugs, e.g., proteins, amino acids, sera, vaccines, and hormones, could not be tested in these laboratories. This situation is further aggravated by the absence of any independent drug-testing laboratory in the country.

Construction of a central drug-testing laboratory is taking place under the HNPSP. This laboratory will have all the facilities to test any kind of drug samples, including complicated ones. In addition, the capacity and facilities of the laboratories at Chittagong and Dhaka will be improved.

Rational use of drugs: Promotion and monitoring
The DDA works on the rational use of drugs and coordinates the Essential Drug List, which was updated in 2008, and the Bangladesh National Formulary, last updated in 2006. The DDA is supported by WHO to address rational drug use and have carried out a number of activities both in the training of some health workers and civil education through IEC campaigns. USAID supports work with private pharmacy shops to strengthen their capacity for more rational drug use also through their social marketing programme. This is an important public–private partnership and has great potential for expansion and supports improving the quality of service being provided through private providers, which is an important part of regulation.

An increasingly important aspect of the DDA's role is to provide the technical leadership to the services directorates as far as promotion of rational drug use is concerned. This is critical as a means to balance the marketing practices of the pharmaceutical industry (see section 8.5).

8.5 Pharmaceuticals manufacturing[40]

The Drug Control Ordinance of 1982 placed a ceiling on selling imported drugs in the local market in an effort to promote self-reliance in its pharmaceutical sector. As opposed to

[40] BRAC School of Public Health 2009.

relying on foreign companies for 75 per cent of their drug supply prior to the ordinance, local firms now cater to 82 per cent of the market, whereas subsidiaries of MNCs supply 13 per cent of the market and 5 per cent of the drugs are imported. Approximately 450 generic drugs, in 5,300 registered brands with 8,300 different presentations of dosage forms and strengths are manufactured in the sector. The local companies produce a wide range of products that include antiulcerants, flouroquinolones, antirheumatic non-steroid drugs, non-narcotic analgesics, antihistamines, and oral antidiabetic drugs. BHW (2009) shows that many of the bigger firms are now venturing into the production of anti-cancer drugs, anti-retroviral drugs for HIV/AIDS (MOF 2008a), and anti-Bird Flu drugs.

The companies include specialised multinational companies, local large companies with international links, and smaller local companies. Out of the 237 registered companies, five are multinational corporations and only around 150 are estimated to be in a functional state.[12] Square Pharmaceuticals is the largest firm in the market, followed closely by Beximco, Incepta, ACME and Eskayef (IMS 2006). Other firms in the top 10 include Aristopharma, General, Healthcare Pharma, Novartis, and Drug International. Bangladesh exports a wide range of pharmaceutical products (therapeutic class and dosage forms) to 67 countries. Local exports have risen from USD 0.04 million in 1985 to USD 27.54 million in 2006 (Export Promotion Bureau).

Pharmaceutical firms in Bangladesh are mainly engaged in the formulation of active pharmaceutical ingredients requiring manufacturing skills only, and are struggling to build capacity in the more knowledge-intensive processes of reverse engineering active pharmaceutical ingredients. Formulation activities are carried out in most indigenous firms and a small percentage of subsidiaries of international firms that operate in the market.

The Bangladesh Association of Pharmaceutical Industries is the main professional association for the sector and has 150 member companies that lobby the government for policy changes, among other activities. The local market is extremely concentrated with the top 10 firms catering to about 70 per cent of the market and two companies, Beximco and Square, holding 25 per cent of the entire market (Chowdhury et al. 2006). This also points towards the extreme disparities in firm sizes and capabilities as far as innovation and marketing are concerned.

Key issues in the pharmaceuticals manufacturing sub-sector are as follows.

8.5.1 Research and development institutions in biomedical sector

There are a number of R&D institutions under MOHFW. These institutions conduct study and research in specific areas. Some of these are Institute of Public Health; Bangladesh Medical Research Council; Bangladesh National Research Council; Institute of Epidemiology Disease Control and Research; International Centre for Diarrhoeal Disease Research, Bangladesh; National Institute of Cancer Research and Hospital; National Institute of Cardiovascular Disease; National Institute of Ophthalmology and Hospital; National Institute of Population Research; National Institute of Preventive and Social Medicine; and Rehabilitation Institute and Hospital for the Disabled.

Despite their presence, very low levels of collaboration between firms and public sector institutions involved in R&D, teaching, and delivery of health services is observed in Bangladesh. Almost no universities and public research institutes and no hospitals are involved in new product development (5 per cent and 2 per cent respectively) and new process development activities (7 per cent and 2 per cent respectively). Furthermore, a very small percentage of universities and public research institutes (2 per cent) and none of the hospitals are involved in both product and process development. As for the pharmaceutical firms, a majority of them (96 per cent) are involved in new product development. While the

percentage of firms involved in new process development is much higher than universities/public research institutes and hospitals, it is much lower (31 per cent) than that of firms involved in new product development. When the sector is taken as a whole, 33 per cent of all actors are involved in new product development and 13 per cent are involved in new process development and 11 per cent are involved in both.

Furthermore, the internal market is characterised by branded competition: each product essentially a generic, competing on the basis of brand names. In the absence of control mechanisms that check for Good Manufacturing Practice standards and bio-equivalence of drugs marketed locally, the drug distribution system is organised solely around pharmacies (run by unqualified or inadequately qualified personnel) and doctors. This offers ample scope for the sale of low-quality drugs at high prices, with firms relying solely on extensive distribution systems that promote their brand name products through medical practitioners, often in unethical ways. This is the reason for the skewed patterns of collaboration with medical practitioners for distribution of their products. Also, drug supplies through both institutional and private pharmacies proceed through suppliers and retailers in a market that is not well regulated, and offers ample scope for price-fixing and other anti-competitive practices (BHW 2009).

8.5.2 Lack of a coherent policy framework to promote pharmaceutical innovation

The problems of disarticulation between public sector research and product development, as well as misallocation of skills owing to perverse overlaps between the pharmaceutical and health sectors, can all be credited to the lack of a coherent policy regime for the pharmaceutical sector. The Drug Control Ordinance of 1982 was in several ways very similar to India's policy initiative of a similar kind that triggered self-reliance in its pharmaceutical sector, but this policy has not been supported by complementary industrial policy measures. Thus, although it promoted the growth of the sector, its present deficiencies can be traced back to the absence of a consistent, strategic policy framework and costed implementation plan that could steer it into a profitable and competitive trajectory.

8.5.3 Capacity for regulatory oversight of the manufacturing sub-sector

The oversight of pharmaceutical manufacturing falls under MOHFW in Bangladesh, rather than the Ministry of Industry and Commerce (or Ministry of Science and Technology), which is generally the case in other countries. The sector has not been a leading sector in the most recent economic policies that seek to provide a variety of incentives for exports, although the government has enacted a National Biotechnology Policy (2005), and is in the process of establishing an active pharmaceutical ingredients park. The New Biotechnology Policy (2005) contains provisions for technology transfer and some other incentives to MNCs to set up production facilities in the country both on a joint venture or independent basis, although it is not clear how this alone will help in the absence of other institutional incentives that promote knowledge intensive activities, such as human skills.

The DDA (see section 8.4.2) is the key department in charge of the sector, and is supported by the Institute of Public Health, which has the mandate of supporting public health activities, quality control, and production of biomedicals, training, and research. Both organisations are severely under-equipped and under-funded.

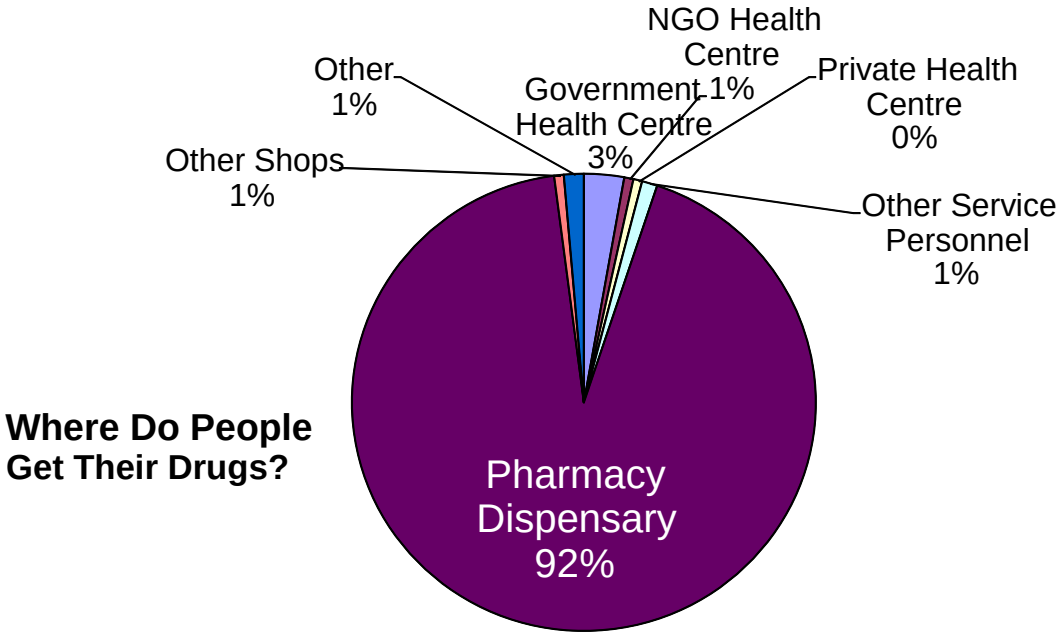
Another problem with MOHFW is that most government officials (except those that specifically occupy technical positions) that work for the Ministry are medical doctors, who are forced to undertake tasks without necessary specialised skills. Doctors are assigned the task of planning and strategy, overseeing functions of the various departments, and even handle financial management responsibilities. This seriously affects performance of the

various organisations under the Ministry. Within specialised institutions like the Institute of Public Health, production specialist occupations (for production of vaccines) are occupied by medical doctors. The civil service system is also based on regular two-year transfers for many of these positions. Those who invest the time to learn to perform the tasks that they are assigned to are transferred soon thereafter.

8.6 Pharmacies and drug retail outlets

Due to the limited capacity of the DDA, there is no monitoring and supervision system in place for drug retail outlets, and no reliable data exist on the number of outlets or volume of their sales. However, based on health workforce estimates, the ratio of drugstore salespeople (BHW 2007) to qualified pharmacists (WHO 2004) is estimated to be about 200:1. Drug retail shops are often the first source of health care outside home for people who seek care and the HIES 2005 reports that 92 per cent of patients get their medicines from pharmacies or retail outlets (figure 8.1). In practice, anybody can buy any drug in any amount from these drug stores without a prescription.

Figure 8.1 Source of medicines for patients seeking care



Source: BBS 2005.

The country produces a large number of qualified pharmacists most of whom are absorbed by the pharmaceutical firms, and employed for quality assurance and quality control activities for the manufacture of drugs. As a result, most pharmacies in the country are run by pharmacy owners, or personnel who have very little professional training (Sampath 2007).

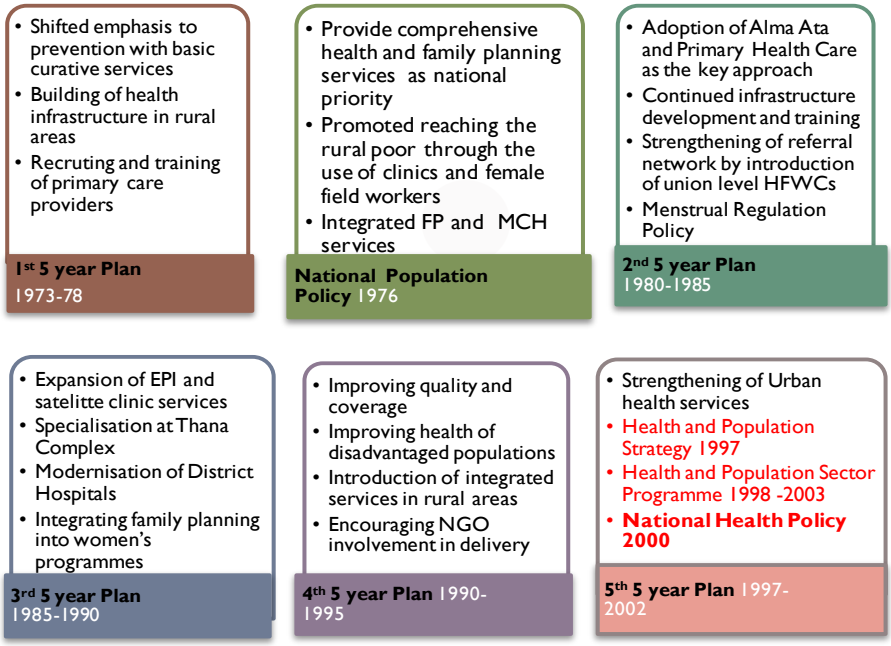
9. Sector response

9.1 Background and rationale for reform

9.1.1 Before 2003

Starting from the First Five Year Plan 1973–78, to the 1976 National Population Policy, successive five-year plans have adopted primary health care as the key approach for the improvement of the health of the poor (BHW 2006). Figure 9.1 summarises the progression of milestones towards the National Health Policy 2000.

Figure 9.1 Key milestones of the health and population sector policy and plans



The Health and Population Strategy 1997 broadly intended to provide a universal essential services package, slow population growth, and emphasise "client-centred" and accessible services, particularly for children, women, and the poor. An important feature of the strategy was to mark the decision to move away from a project-based modality (in the fourth five-year health plan) to a SWAp/development programme (in the fifth five-year plan which began in 1998), which became known as the HPSP. In the new programme (and in the spirit of a SWAp) development partners would be required to contribute to one comprehensive and integrated health sector programme led and owned by the government. Although HPSP did not cover all the development partner activities in the sector, it transformed 126 donor-funded projects into one programme implemented by MOHFW (Martinez 2006).

The implementation of HPSP was led by the government and funded by government and donors through pooled support as part of a consortium led by the World Bank and through additional donor earmarked support. The main focus of the HPSP was to decentralise the delivery of the Essential Services Package in "one-stop" service models, with increased involvement of the private sector and NGOs. In 2003 in recognition that nutrition was a critical factor in achieving better health outcomes, the HPSP became the HNPSP.

9.1.2 Since 2003

The overall objective of the HNPSP is to increase the availability and utilisation of user-centred, effective, efficient, equitable, affordable, and accessible high-quality HNP services (IRT 2009a). It is organised into three components:

- Accelerating achievements with regard to MDGs and National Strategy for Accelerating Poverty Reduction (NSAPR) goals
- Meeting emerging HNP sector challenges
- Advancing modernisation of the sector/implementing key reform areas.

(See table 6.1 for the HNPSP results framework based on the MTR 2008 recommendations and feedback from stakeholders.)

Operationally, the health care reform agenda sits within the third of the above components. The agenda is broad and essentially addresses each of the fundamental health systems building blocks as defined by WHO: leadership and governance, human resources, health information system, health systems financing, medical supplies, and service delivery. The reform areas include:

- Decentralising health service delivery, effected through local planning.
- Diversifying the health sector, aiming to harness national capacity for provision of HNP services by setting up mechanisms for greater involvement of non-public service providers.
- Stimulating demand for HNP services, by aiming to address the demand-side issues influencing low levels of utilisation of public services, including addressing demand-side financing.
- Strengthening public health sector management and stewardship capacity, including budget management, aid management, sector management, human resources, procurement, and M&E.

Each component in organised into 38 operational plans, 19 of which fall under DGHS, 9 within DGFP, and 10 among the other directorates and agencies.[41] The policy reform operational plan aims to translate Strategic Investment Plan/HNPSP policy intentions into programmes and activities needed to achieve the policy reforms outlined. The two SWAp management operational plans (29 and 33) also directly support the reform agenda. Each of these operational plans has a separate line director responsible for its implementation. Table 9.1 summarises the list of operational plans.

[41] HNPSP objectives and targets are operationalised via 38 operational plans managed by 34 line directors. Each operational plan includes aims, objectives, strategies, and programmes for its delivery and it functions as an umbrella for programmes and projects designed to improve the efficiency of the health system.

Table 9.1 List of HNPSP operational plans

SLNO	Operational Plan
Directorate General of Health Services	
1	Essential Service Delivery (ESD)
2	Communicable Disease Control (CDC)
3	TB & Leprosy Control (TB&LC)
4	Health Education & Promotion (HEP)
5	Improved Hospital Services Management (IHSM)
6	Alternative Medical Care (AMC)
7	Public Health Intervention & Non-Com. Disease Control (PHI&NCD)
8	National AIDS/STD Programme and Safe Blood Transfusion (NASP & HIV/AIDS)
9	Pre Service Education (PSE)
10	In Service Training (IST)
11	Procurement, Logistics and Supply Management (PLSM DGHS)
12	Research & Development (R&D)
13	MIS-Health Services and Personnel (MIS DGHS)
14	Quality Assurance (QA)
15	Sector-wide Programme Management (SWPM)
16	Human Resource Management (HRM DGHS)
17	Improved Financial Management (IFM DGHS)
18	Micronutrient Supplementation (MS)
19	National Eye Care (NEC)
Directorate of Nursing Services	
20	Nursing Education & Services (NES)
Directorate of Drug Administration	
21	Strengthening & Drug Admin and Management (SDAM)
Directorate General of Family Planning	
22	Clinical Contraception Service Delivery (CCSD)
23	Family Planning Field Services Delivery (FPFSD)
24	Maternal, Child & Reproductive Health Services (MCRH)
25	Information, Education & Communication (IEC)
26	MIS-Services & Personnel (MIS FP)
27	Training, Research & Development (NIPORT)
28	Procurement, Storage & Supply Management (PSSM FP)
29	Sector-wide Programme Management (SWPM FP)
30	Human Resource Management (HRM FP)
31	Improved Financial Management (IFM FP)
Ministry of Health and Family Welfare	
32	National Nutrition Programme (NNP)
33	Sector-wide Programme Management (SWPM MOHFW)
34	Human Resource Management (HRM MOHFW)
35	Physical Facilities Development—Construction, Repair & Maintenance (PFD)
36	Health Economics Unit (HEU)
37	Improved Financial Management (IFM MOHFW)
38	Policy Reforms (PR)

Source: MOHFW 2009d, Annex A.

9.1.3 Status of HNPSP implementation

The APR 2009 summarises the overall status of HNPSP implementation as mixed (table 9.2 and box 9.1).

Table 9.2 HNPSP performance against six core performance indicators

Indicator	Baseline and results over the years				
Year	2004/05	2006/07	2007/08	2008/09	2009/10
	Baseline	Results	Results	Results	Target
1. Share of total govt budget allocated to MOHFW budget (in %)	6.5	6.7	7.0	6.5	10
2.Total MOHFW expenditure allocated to 25% poorest districts (in %)	17	16	NA	NA	40
3. Utilisation rate of essential services among the 2 lowest quintiles.		NA	NA	NA	
4. Proportion contracts awarded within initial bid validity period	DGHS: 91 DGFP: NA	DGHS: 80 DGFP: 05	DGHS: 90 DGFP: 55	DGHS: 90 DGFP: 100	> 95% in 2006
5. Births attended by skilled health personnel (in %) Average Lowest quintile Second quintile	 Av: 13.5 LQ: 3.3 SQ: 4.3	 Av: 18.8 LQ: 5.2 SQ: 10.1	 Av: 18.0 LQ: 4.8 SQ: 6.7	 Av 21.4 LQ: 5.1 SQ:11.1	43
5b. Any ANC from medically trained provider: Average Lowest quintile Second quintile	 48.8 24.9 38.2	 46.3 23.4 37.7	 51.7 30.8 36.3	 51.3 30.9 40.7	 ANC not mentioned
6. TB Case Detection Rate /NTP	46	71	723	73	70

Source: IRT 2009a.

Box 9.1 Summary observations on the HNPSP Independent Review Team, APR 2009

In general our observations show mixed results:

- Vertical programmes under HNPSP have continued to record good progress, reflected in improved coverage, with reduced gaps between rich and poor, and continued progress in health outcomes—lower child mortality, reduction of some communicable diseases, continued reduction in chronic malnutrition (stunting), and some improvements in maternity services from a low base. Overall contraceptive prevalence has not improved.
- Little progress has been made in improving utilisation of public sector health services, especially by the poorest segments. Major problems affecting utilisation are lack of sufficient drugs, staff shortages (especially in remote facilities), poor prioritisation of spending, and pervasive problems of management and coordination. MOHFW has not yet tackled the internal reforms to address these problems, nor has it exploited the potential to improve the contribution of non-public sector service providers. These issues now need to be given higher priority, because Bangladesh has already achieved most of the reduction in mortality that can be achieved through vertical programmes; future progress will increasingly depend on more complex interventions requiring a more efficient, effective, and equitable health system, able to respond to diverse and unpredictable needs.

Source: IRT 2009a.

The weakest areas of implementation are around the areas of public sector management and stewardship, including planning, budgeting, aid, and sector management of the HNPSP. Governance of the sector is also weak and contributes to making decentralisation efforts all the more challenging. Limited progress is reported to be owing to a number of factors, including the fact that there is no one clear action plan outlining who is responsible for doing

what. This leads to a lack of ownership and accountability for respective areas of reform. Further, the fact that there is limited coordination leads to duplication of efforts and activities (e.g. with separate line directors responsible for different operational plans that have a bearing on reforms). Finally, overall there is insufficient capacity to implement reforms.

In recognition of limited progress having been made in the area of reforms and the resonance of the reform agenda with "systems thinking" and development, the MTR 2008 recommended changing the focus of component 3 of the reform agenda to technical support for systems development. It argued that changes in planning, human resource management, procurement, and monitoring would be possible if MOHFW and all other stakeholders supporting HNPSP were to refocus towards technical strengthening of the systems and the governance structures that support service delivery.

Following the MTR the decision was taken to merge and revise components 2 (Meeting emerging sector challenges) and 3 (Implementing key reform areas) into Systems support and Governance strengthening. According to the APR 2009, an informal shift from components to systems development had been made, but these changes have not yet been reflected in the operational plans or in the HNPSP itself, as it was anticipated that this would change in the next sector programme (IRT 2009a).

In terms of approximate funding allocated to respective reform areas, between 2003 and 2011 (as per the 2008 revised operational plan), 36 per cent of funds reserved for reforms were allocated to diversifying service delivery (funding NGOs), 53 per cent to stimulating demand for HNP services (predominant focus on demand side financing via the maternal health voucher scheme), with around 10 per cent spent on strengthening of public sector management and stewardship functions, and the remaining 0.16 per cent spent on decentralisation efforts via local level planning. However, that many of these categories overlap, e.g. the voucher scheme is also reinforcing the diversification of services, as is the contracting out of community clinic service provision, for example.

9.2 Donor coordination

During the last 10 years repeated effort has been made to align with accepted principles of aid effectiveness via pursuit of the SWAp (HNPSP). Despite these efforts progress on harmonisation and alignment is limited.

9.2.1 Development partner coordination

The donor community in Bangladesh, organised under the umbrella of the Local Consultative Group, is the group that coordinates development partner and government collaboration in development issues. In 2008, in line with the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action, 15 donors, including multi- and bilaterals, with the government, signed a Statement of Intent to develop a Joint Cooperation Strategy. A Government–Donor Steering Committee and a Joint Cooperation Strategy Working Group were formally established under the Local Consultative Group, comprising both development partners and representatives from the government (Economic Relations Division, Planning, Finance Division and the Prime Minister's Office). The government has participated in several international aid effectiveness events and has agreed for Bangladesh to be part of the Paris Evaluation 2010, followed by the next OECD Development Assistance Committee Survey and the High Level Meeting on Aid Effectiveness in South Korea 2011. The overall goal of the Joint Cooperation Strategy is to make aid in Bangladesh more effective by

creating common platforms for national and sector dialogues and a nationally owned change processes for improving delivery of aid.[42]

9.2.2 Health sector coordination

A major difficulty in Bangladesh that makes sector coordination more challenging is the lack of clear definition as to what constitutes its SWAp. The HNPSP, although described as a SWAp, is treated as a large, co-financed World Bank project. Most activities will fit within the framework, but anything that does not is pursued outside the HNPSP plan and expenditure framework (as with several specialised hospitals included in the ADP, and as with major programmes negotiated with the Global Fund and the GAVI Alliance) (IRT 2008a). For example, urban health care is outside the Ministry, while some infrastructure projects within the Ministry are outside the HNPSP. A number of vertical programmes like TB, malaria, and HIV/AIDS as well as the numerous other NGO programmes are implemented under separate financing arrangements to that of HNPSP.

For the HNPSP specifically, coordinating bodies include the HNP Forum and the HNP Consortium Committee. They are important to the HNPSP. However, broader collaboration including all vertical programmes, as well as between MOHFW and MOLGRD, remains weak and uncoordinated.

9.2.3 National ownership

One of the principles of aid effectiveness is for governments to achieve ownership of their development strategies and programmes. The major indicator for having achieved ownership is for governments to have in place "national development strategies (including poverty reduction strategies) that have clear strategic priorities linked to a medium-term expenditure framework and reflected in annual budgets."[43] Bangladesh has had a national poverty reduction strategy in place since 2005 and it is currently working towards an MTEF for health.

However, ownership is a difficult concept in Bangladesh due to the fragmented and changing nature of government priorities and decisions. For example, government and MOHFW and directorates contain many competing interests, and the consensus view on critical reform issues will change as governments change and leading personalities change jobs. In addition, HNPSP is seen as *a* sector programme, not *the* sector programme. Government recognises constraints on its ownership of HNPSP because it needs to seek World Bank approval on most of it. This is acceptable because it currently has access to other channels for bypassing these constraints when agreement cannot be reached (IRT 2008a).

9.2.4 Alignment with national instruments

The new draft National Health Policy will be finalised in line with the second poverty reduction strategy (NSAPR-2) to ensure access to health services are pro-poor growth and equitable. This is the first time that the health policy has been linked to the broader government's poverty reduction strategy since at the time of developing the first National Health Policy, there was no poverty reduction strategy in place. Further, donor objectives and interventions could also be considered aligned in intent with national priorities and operational objectives (i.e. those within the HNPSP Revised Programme Implementation Plan), but nevertheless a significant share of donor funding remains off budget (about 47 per cent in 2007). Aside the administrative burden associated with parallel financing, this

[42] The Bangladesh Multi-Donor Fund Initiaitve, Terms of Reference**.**
http://www.lcgbangladesh.org/lcg/MDF_ToR.pdf

[43] OECD: Indicators of Progress: http://www.oecd.org/dataoecd/57/60/36080258.pdf.

also means that reporting is not aligned to the HNPSP results framework. In addition, HNPSP is not comprehensive in addressing all health sector needs.

In relation to how sector funds are allocated, seven donors pool their funds into a Multi-Donor Trust Fund (administered by the World Bank), which funds the HNPSP. In addition, 10 donors[44] also take part in the programme through parallel funding mechanisms. Led by MOHFW, HNPSP uses mainstream government financial management system and procurements. The biggest remaining challenge, according to the 2008 OECD Development Assistance Committee report, is strengthening financial management and procurement systems in MOHFW (MOF 2008a).

Pool funding is predictable in theory, but not in practice, due to difficulties associated with going through the administrative hurdles of both government and World Bank requirements before funding can be withdrawn (in particular causing problems at the end of the financial year). Beyond the pool, aid continues to be separately negotiated, outside the common arrangements of the pool, using parallel procedures, and with gaps in reporting to government.

9.2.5 Harmonisation

The current degree of harmonisation in Bangladesh remains poor. For example, the pool fund is only partly harmonised with government procedures. Additional procurement approvals and reporting requirements make pool funding harder to use which results in a far lower utilisation rate than government funds. Under-spending of the budget is not unique to MOHFW, rather, it is a government-wide problem. In 2006/07, 16 per cent of the revised MOHFW revenue budget and one-quarter of the revised MOHFW development budget remained unspent, much higher than in 2005/06 (MOHFW 2007c).

In terms of specific progress, however, both the Coordination Committee and the wider HNP Forum are reported to have been meeting more frequently than previous years to review progress against the HNPSP results framework, and to exchange information. The present chair of the Consortium has endeavoured to harmonise development partner practices by preparing a paper that identifies four principles: joint analytical work where possible, e.g. for instance in respect of missions; a division of labour where lead partners are identified for particular themes; coordinated technical assistance including support to task groups; and common harmonised procedures (IRT 2009a).

There has been some progress on establishing a division of labour between development partners for thematic areas. However, it has not proved possible to translate these core principles into a concrete action plan for harmonisation and alignment. There is a wide variation in development partners' positions, making it difficult to achieve a consensus on how to move forwards. As a result, what is acceptable to the group will tend to reflect what is acceptable to the least harmonised donor. Technical assistance and studies still continue to be pursued by different agencies on a bilateral basis. Furthermore, the programme support office's function to coordinate technical assistance is not apparently recognised by development partners (IRT 2009a). Overall, the intention of one plan financed through a single prioritised expenditure programme using aligned and harmonised procedures is far from being achieved.

[44] Canadian International Development Agency, GTZ, GFATM, GAVI, Japan, Sida, UNICEF, UNFPA, WHO, and USAID.

9.3 Draft National Health Policy 2010

The National Health Policy of 2001 was updated in 2008 and the draft launched to the public in early 2010, with the aim of providing "a broad framework of goals and priorities" consistent with the National Development Strategy and National Poverty Reduction Plan (box 9.2).

Box 9.2 Draft National Health Policy 2010

Vision

The health sector seeks to support creation of an enabling environment whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. With a vision that recognizes health as a fundamental human right the need to promote health is imperative for social justice. This vision derives from a value framework that is based on the core values of access equity, gender equality, and ethical conduct.

Goal

The goal is sustainable improvement in health, nutrition, and family welfare status of the people, particularly of the poor and vulnerable groups, including women, children and the elderly with ultimate aims of their economic and social emancipation and physical and mental well-being.

Overall objectives

1. *Increase availability of user-centred quality services for delivery of a defined essential services package along with other health related services.*
2. *Develop a sustainable quality health service system to meet people's needs*

Source: MOHFW 2010a.

The revised policy presents a stock-take of recent sector achievements, summarises remaining challenges (box 9.3) and identifies priority areas and strategies to address these.

Box 9.3 Remaining challenges outlined in the draft National Health Policy

- *Equity issues (e.g. large disparities in progress made in health outcomes);*
- *Slow reductions in maternal and neonatal mortality;*
- *Inadequate disease surveillance systems; emerging and changing patterns of disease (such as arsenic, mental health, accidents, violence (particularly against women), Avian Flu, childhood disabilities, etc.);*
- *Persistent malnutrition;*
- *Urban health;*
- *Demographic and lifestyle changes that contribute to a population growth, increases in non-communicable diseases and additional pressure on social services; climate change;*
- *Human resource issues;*
- *Informal health service provision (catering for 80 per cent of the population and particularly the poor and women); and*
- *Existing centralised management system of government health services (in particular impacting on timely procurement of drugs, maintenance of facilities at local levels); and insufficient levels of health research.*

Looking ahead, the draft policy (box 9.4) outlines strategies and priority intervention areas that aim to address the challenges outlined in box 9.3.

Box 9.4 Key features of the draft National Health Policy

- *Working within the context of the government's overall poverty reduction strategy (NSAPR-2: Moving Ahead: National Strategy for Accelerated Poverty Reduction)—this was not the case for the 2001 Health Policy, as the first poverty reduction strategy was only introduced in 2005*
- *Priority attention on raising the health status of, especially, women, children, and the elderly*
- *Improved public sector services including greater participation of the private for profit and non-profit institutions*
- *Greater focus on health sector reforms*
- *Strengthening the government's stewardship role*
- *Operating in a broader SWAp to various issues including planning, budgeting, implementation, financial management, and human development with a specific focus on poverty reduction.*

The new health policy promises to continue focusing on addressing existing and emerging diseases and threats to the health status of the population with action for scaling up family planning, nutrition, maternal and child health, and a renewed emphasis on public–private partnerships.

New elements not in the last policy include urban health, mitigation of the impacts of climate change, medical waste management, food safety and quality, recognition of informal health care providers, and decentralisation alongside devolution of autonomy.

It also has an increased commitment on the health sector reform agenda. This implies strengthening the government's stewardship role in support of decentralising authority/capacity to deliver health services and to provide improved primary health care, at the same time as strengthening government regulatory capacity among the whole sector, including the informal sector given its relative importance. The government's stewardship role is defined in the draft National Health Policy as providing overall policy management, playing a regulatory and supervisory role, and ensuring that an appropriate safety net for the poor, vulnerable, and marginalised is in place.

The focus on primary health care and decentralisation of autonomy is to include a focus on delivering care to the most vulnerable through addressing demand- and supply-side issues. Demand-side efforts include addressing user fees and alternative safety nets for the poor/cost sharing of the wealthier, promoting citizen voice, and increasing accountability for health services. Supply-side interventions include improved (via decentralised) drug supplies at community level (including allocating more money on the proviso that the total health budget increases from around 7 per cent to 12 per cent by 2015); promoting an enabling environment for public–private partnerships to deliver better/complementary health services; improving planning, budgeting, and management of government health services; and ensuring at least 60 per cent of all health spending is at the upazila level and below.

Cross-cutting issues within the new health policy include a major focus on addressing gender disparities and reaching the poor and most vulnerable. Although progress has been made in addressing absolute poverty levels and access to services, both the HNP and NSARP-2 recognise that much more needs to be done to address regional inequalities.

The draft policy refers to a number of strategies and policies the government aims to update in future:

- Maternal, neonatal and child health
- Population, by updating the existing National Population Policy
- Infant and young child feeding

- Combating HIV/AIDS
- Reducing the burden of TB, malaria, kala-azar, and filaria
- Urban health
- Non-communicable diseases
- Emergency preparedness and response
- Accident and violence management
- Occupational health
- Mental health and drug addiction
- Tribal health
- Food safety and drugs.

The focus on the vulnerable and poor throughout the policy promises to have a positive impact on service delivery at the upazila level and below.

10. Conclusion

Key features of the performance of the health sector stand out from this Health Sector Profile. There has been considerable progress over the last two decades in improving health and nutritional status. Life expectancy is increasing, infant and child mortality have decreased significantly, high levels of immunisation have been achieved, and polio and leprosy have almost been eradicated.

However, many challenges remain in improving the health status of the population and, in particular, of the poor and vulnerable. For example, maternal and neonatal mortality, although falling, are not declining at an acceptable rate and at the current pace the MDG for maternal health will not be met. Improvements in nutrition are unsatisfactory and interventions continue to be peripheral and insufficiently integrated in health interventions. Bangladesh has one of the highest proportions of its population undernourished in the world with prevalence of childhood malnutrition still high at over 40 per cent of children under five undernourished with weight for age below two standard deviations.

There is considerable inequity with progress in reaching the MDGs not evenly distributed either across the country or within upazilas. Fifty per cent of children under five in the lowest quintile are undernourished compared with 26 per cent in the highest quintile. The higher income quintiles have better utilisation rates of public, private, and NGO curative primary care services while the poor rely predominantly on pharmacies, untrained village doctors, and traditional healers for their curative primary care. Utilisation of hospital services is also significantly biased towards the better off.

One of the most striking features is the rapid increase in NCDs. Although there is not yet a reliable NCD surveillance system, various studies all point towards them being the major cause of death and disability. Ischaemic heart disease is now the major individual cause of death with cancer deaths also increasing rapidly. Diabetes prevalence is currently thought to be about 7 per cent, with Bangladesh projected to be among the top 10 countries with the highest number of people living with diabetes by 2025. Diabetes impacts particularly on the poor with one study showing that 40 per cent of those with diabetes could not support themselves productively, and another that in a few years of onset of diabetes, 95 per cent of women were left by their husbands.

Rapid urbanisation—in the absence of the necessary service infrastructure—is placing a hugely increased burden on the health system. Historically, urban health services in the cities have been the responsibility of the city corporations or municipalities, which fall under the responsibility of MOLGRD. MOHFW is not involved in service delivery in urban centres, apart from the medical college hospitals in larger cities. Development partners have historically focused on rural areas where the majority of the poor resided. However, MOLGRD does not have the capacity of MOHFW to carry out the health sector stewardship function or the resources to meet growing needs. Addressing the situation requires a paradigm shift.

The gains in reducing maternal and child mortality and reducing and eliminating key infectious diseases have been mainly achieved by limited but effective vertical programmes, such as immunisation and family planning, as well as non-health interventions such as the increases in female literacy, income generation, and access to safe drinking water. Further gains in maternal and neonatal mortality will require access to skilled birth attendants backed by access to institutional delivery and emergency obstetric care and facilities that can treat neonatal disorders. Further gains in under-five mortality will require access to good curative care.

That does not mean current preventive maternal, neonatal, and child health services will have to take a back seat. Indeed the immunisation programme needs to be maintained, family planning services strengthened, and nutrition services mainstreamed. Further, quality and inequities in access to service delivery need to be addressed if the gains to date are to be sustained and scale-up achieved.

Low investments in health and weak health systems remain major barriers to improving service delivery. The government invests less than 7 per cent of its total budget on health and overall annual spending is less than US$ 16 per capita. Human resource constraints—recruitment, retention, and deployment of adequately trained staff with the appropriate skill mix—remains the single most intractable issue hampering effective delivery of services. Weak capacity and highly centralised structures for planning, budgeting, and monitoring pose further constraints. Scarce government resources are directed primarily at service delivery, limiting the exercise of its stewardship role, including its regulatory and quality assurance functions.

Bangladesh aims to have a health service appropriate to a middle-income economy by its Golden Jubilee in 2022. That is only 12 years away. It is, therefore, essential to look for synergies, using a health systems approach, otherwise the country will be unable to afford to begin to address the triple needs of reproductive health, communicable diseases, and non-communicable diseases.

References

Ahmed S. K. and Ara, N. 2001. “An exploratory study of buprenorphine use in Bangladesh: a note.” *Substance Use and Misuse* 36:1071–1083.

Ahmed, S., Rana A. K. M., Chowdhury, S. M., Mills, A. and Bennett, S. n.d. “Substance and Drug Abuse: Knowledge, Attitude and Perception of School going Adolescents in Bangladesh.” N.p: World Health Organization Regional Office for South East Asia. http://www.searo.who.int/en/Section1243/Section1310/Section1343/Section1344/Section1356_5328.htm accessed 3rd February 2010.

Allison, C. et al. 1999. “Fourth Population and Health Project: End of Project Evaluation.” Dhaka: World Bank.

Aminuzamman, S. M. 2007. “Migration of Skilled Nurses from Bangladesh: An Exploratory Study”. United Kingdom: Development Research Centre on Migration, Globalisation and Poverty, University of Sussex.

Anam S., Kabir R. and Rai P. 1997. “Staying alive: urban poor in Bangladesh.” Dhaka: United Nations Children’s Fund.

Baatsen, P., Alban, A. and Mallick, P., S. 2009. “Joint Assessment of Targeted Interventions for HIV in Bangladesh”. Netherlands: The Royal tropical Institutes.

Bangladesh Awami League, 2008. “Election Manifesto of 9th Parliamentary Elections 2008. A Charter for Change.” Dhaka.

BBS (Bangladesh Bureau of Statistics). 2005. “Household Income and Expenditure Survey (HIES) 2005.” Dhaka.

BBS. 2007. “Sample Vital Registration System.” Dhaka.

———. 2008. “Gender Statistics of Bangladesh”. Dhaka.

BBS and UNESCO. 2008. “The Bangladesh Literacy Assessment Survey.” Dhaka: BBS.

“The Bangladesh Multi-Donor Fund Initiative, Terms of Reference”. N.d. N.p. http://www.lcgbangladesh.org/lcg/MDF_ToR.pdf

Begum, Shafira. and Ali, Zulfriqar, S.M., Bangladesh Institute of Development Studies (BIDS), 2007. “Annual Programme Review 2007; Stakeholders’ Consultation Report.” Dhaka.

Begum, Shafira. and Ali, Zulfriqar, S.M., Bangladesh Institute of Development Studies (BIDS), 2008. “Mid Term Review 2008; Stakeholders’ Consultation Report on Maternal, Neonatal and Child Health.” Dhaka.

Bhuiya, A. 2009. “Health for the Rural Masses (Insights from Chakaria).” Dhaka: ICDDR,B.

BHW (Bangladesh Health Watch). 2006. “Challenges of Achieving Equity.” James P. Grant School of Public Health, BRAC University, Dhaka.

———. 2007. “Health Workforce in Bangladesh, Who Constitutes the Health Care Systems.” Dhaka: James P Grant School of Public Health.

———. 2009. “How Healthy is Health Sector Governance?” Dhaka: The University Press Limited.

BHIS (Bangladesh Health and Injuries Survey) 2003. *See* XX

BUHS (Bangladesh Urban Health Survey) 2006. *See* NIPORT, MEASURE Evaluation, ICDDR,B, and ACPR 2010.

Celli,B.R., Halbert, R.J., Isonaka, S., and Schau, B. 2003. “Population impact of different definitions of airway obstruction.” *Eur Respir J*, 22. 268-273.

Central Intelligence Agency. 2010. *The World Factbook 2010*. https://www.cia.gov/library/publications/download/download-2010/index.html

Chankova, S., S.R. Howlader, S.A. Hamid, S. A., S. Routh, T. Sultana, and H. Wang. 2010. *Costing of Maternal Health Services in Bangladesh*. Bethesda, MD: Abt Associates, Inc.

Choudhury, K., S.M.A., Hanifi, Shehrin S. Mahmood and A. Bhuiya. 2007. “Sociodemographic Characteristics of Tobacco Consumers in a Rural Area of Bangladesh.” *Journal of Health, Population and Nutrition* 25(4): 456–464.

Cockcroft, A; Anderson, N; Milne, D; Hossain, M. and Karim, E. 2007. “What did the Public Think of the Health Reform in Bangladesh? Three National Community- Based Surveys 1999-2003.” *Health Research Policy and Systems*. 5:1 doi:10.1186/1478-4505-5-1.

Communities and Local Government. 2008. “Communities in Control: Real People, Real Power.“ United Kingdom: The Stationery Office.

Contraceptive Prevalence Survey 1991. *See* Mitra et al. 1993.

Cortez, Rafael. 2005. “NGO Contracting Evaluation for the HNP Sector in Bangladesh Evidence and Policy Options.” *Discussion Paper Series*, World Bank, Dhaka.

Das Gupta, Monica. 1987. “Selective discrimination against female children in rural Punjab, India.” *Population and Development Review,* 13. 77-100.

Das Gupta, S., Khaliquzzaman, H. M., Pandey K. M. and Wheeler D. 2006. “Who Suffers from Indoor Air Pollution? Evidence from Bangladesh”. *Health Policy and Planning* 21:444-458.

Demographic Health Website. 2010. “Demographic Health Survey final report (and specific tables).”

Dussault, G. and Franceschini, M. 2003. “Not enough here, too many there: understanding geographical imbalances in the distribution of the health workforce.” Washington, DC: The World Bank Institute.

Efroymson, D., Ahmed, S., Townsend, Alam, S. M., Dey, A. R., Saha, R., Dhar, R., Sujon, A. I., Ahmed, K. A. and Rahman O. 2001. “Hungry for tobacco: an analysis of the economic impact of tobacco consumption on the poor in Bangladesh.” *Tobacco Control* 10:212–217.

Emenus, M., Bjork, S., Christiansen, T. and Green. 2005. “The Societal Impact of Diabetes Mellitus and Diabetes Care: A Case Study from Bangladesh.” *Proceedings of the 9th Global Forum*, Mumbai, India September 12-16.

Ensor, T., Hossain, A., Ali, L. Q., Begum, S. A. and Moral, A. H. 2001. “Geographic Resource Allocation in Bangladesh.” Dhaka: Health Economics Unit.

Firoz, A.H.M., Karim, M.E., Alam. M.F et al. 2005. “Prevalence, medical Care, awareness and attitude towards Mental Illness in Bangladesh. National Survey 2003 – 2005.” n.p: WHO & Government of Bangladesh.

Foster, M, 2008. “Bangladesh Health, Nutrition and Population Sector Programme: Review of the Revised Programme Implementation Operational Plans Analysis.” n.p: HNPSP.

Government of Bangladesh (GOB) and the United Nations Country Team in Bangladesh (UNCTB). 2005. Millennium Development Goals: Bangladesh Progress Report. February.

Gwatkin, D. R. S., Rutstein, K., Johnson E., Suliman A., Wagstaff A. and Amouzou. 2007. "Socio-Economic Differences in Health, Nutrition and Population: Bangladesh 1996/97, 1999/2000, 2004". Washington DC: The World Bank

Halbert, R.J., Isonaka, S., George, D., and Iqbal, A. 2003. "Interpreting COPD prevalence estimates: what is the true burden of disease?". *Chest,* 123. 1684-92.

Hatt, L., Nguyen, H., Sloan, N., Miner, S., Magvanjav, O., Sharma,A., Chowdhury, J., Islam, M. and Wang, H. 2010. "Economic Evaluation of Demand-Side Financing for Maternal Health in Bangladesh." Bethesda, MD: Abt Associates Inc.

HB Consultants Ltd. 2009. "Reviewing the Current Process of Planning and Budgeting within the Ministry of Health and Family Welfare and the line directors". N.d: DFID.

Health Metrics Network Secretariat and MOHFW. 2009. "Health Information System Assessment: Bangladesh Country Report." Dhaka.

HLSP. 2001. Development of Administrative and Financial Management Capacity for Sector-Wide Approaches (SWAPs): the experience of the Bangladesh health sector. London: HLSP.

Hunt, S. 2005. "Primary health and Family Planning in Bangladesh: Assessing Service Delivery". Dhaka: Financial Management Reform Programme.

Hussain, A. M. Z., and Hussain, I. 2009. "Study on HRD in Bangladesh as a Prelude to the HRH Master Plan 2010–2040." Dhaka: HNPSP.

Hussain, A., Rahim, M. A., Khan, A. K., Ali, S. M. K. and Vaaler, S. 2005. "Type 2 Diabetes in Rural and Urban Population: Diverse Prevalence and Associated Risk Factors in Bangladesh". *Diabetic Medicine* 22: 931-936.

IRT (Independent Review Team) 2007a. "Annual Programme Review Main Report." Bangladesh Health, Nutrition & Population Sector Programme, Dhaka.

IRT 2007b. "Annual Programme Review Technical Reports." Bangladesh Health, Nutrition & Population Sector Programme, Dhaka.

IRT 2008a. "Mid Term Review Main Report (Vol I)." Bangladesh Health, Nutrition & Population Sector Programme, Dhaka.

IRT 2008b. "Mid Term Review Technical Reports (Vol II)." Bangladesh Health, Nutrition & Population Sector Programme, Dhaka.

IRT 2009a. "The Health, Nutrition and Population Sector Programme Annual Programme Review (APR) Volume I Main Consolidated Report, Key Findings, Conclusions and Recommendations." Dhaka.

IRT 2009b. "The Health, Nutrition and Population Sector Programme Annual Programme Review (APR) Volume II Technical Reports." Dhaka.

International Centre for Diarrhoeal Disease Research, Bangladesh. 2009. "20 Years of HIV in Bangladesh: Experiences and Way Forward." Shurid Printers, Dhaka.

Islam M. K. 2003. "Health Financing Options for the Poor: A National Review. An Assessment of Health Care Financing Options for the Poor". Bangladesh: WHO.

Islam, M. M. and Azad, K. M. A. K. 2007. "Rural–Urban Migration And Child Survival In Urban Bangladesh: Are The Urban Migrants And Poor Disadvantaged?" *Journal of Biosocial Science*, 40:83-96. Cambridge University Press.

JICA (Japan International Cooperation Agency) and MOHFW. 2010. “Joint Terminal Evaluation Report, Safe Motherhood Promotion Project in Bangladesh.” Dhaka.

Kabiruzzaman. M. 2007. “Heart Failure: Incidence, Prevalence &Mortality NHFH&RI Perspective” presented at the National Conference on Cardiovascular Diseases, Dhaka, Bangladesh.

Karar, Z. A., Alam, N. and Streatfield, P. K. 2009. “Epidemiological transition in rural Bangladesh, 1986-2006.” *Global Health Action* 19;2 doi: 10.3402/gha.v2i0.1904

Kaufmann, R., Sorensen, B., Rahman, M., Streatfield, P. K. and Persson, L. 2001. “Addressing the Public Health Crisis Caused by Aresenic Contamination of Drinking Water in Bangladesh.” N.p. World Bank-South Asia Health, Nutrition, and Population Unit.

Koblinsky, M., Anwar, I,. Mridha, M. K,. Chowdhury, M. E. and Botlero, R. 2007. “Reducing Maternal Mortality and Improving Maternal Health: Bangladesh and MGD-5”. *Journal of Health Population and Nutrition* 26:280-294.

Koehlmoos, T. In press. *Bangladesh. Responding to Non-Communicable Diseases in South Asia: A Framework for Developing Regional and Country Policy.* World Bank: Washington, DC.

Koehlmoos, T. P., Uddin, M. J., Ashraf, A. and Rashid, M. 2009. “Homeless in Dhaka: Violence, Sexual Harassment, and Drug-abuse.” *Journal of Health, Population and Nutrition*, 27(4):452-461.

Loevinsohn, B. 2005. “A review of NGO Contracting in the Urban Primary Health Care Project II.” *Lancet,* 366: 676–81.

Luoma, M, Jobayda, F. and Chowdhury, J. 2009. “Review of National and International Experiences with Human Resources Incentive Packages (DRAFT)”. Bethesda, MD: Abt Associates Inc.

Mahmood, Shakeel. 2009. “Public Health Care System in Bangladesh: The Role of Public administration.” Abstract presented the XXVI IUSSP International Population Conference, Marrakesh, Morocco, 27th September-2nd October.

Mahtab, H. and Chowdhury, P. M. 2002. “Rural women: The Bangladesh perspective.” *Diabetes Voice* 47 (Special Issue): 49–51.

Martinez, J. 2006. “Improving TA in the Context of SWAps: a Brief Review of Options and Lessons From the Available Literature.” London: DFID.

Martinez, J. 2008. “Review of Mechanisms for Donor Coordination, Harmonisation and Alignment in the Health Sector.” London: DFID.

McCord, M.J. and Churchill, C. 2005. “Delta Life, Bangladesh, CGAP Working Group on Microinsurance: Good and Bad Practices Case Study No. 7.” Geneva: ILO Social Finance Programme.

Millennium Project. 2004. “Millennium Development Goals Needs Assessment (Bangladesh case study): Working Paper”. N.p: Millennium Project.

Mitra, S.N., C. Lerman, and S. Islam. 1993. Bangladesh Contraceptive Prevalence Survey 1991. Final report. Mitra and Associates, Dhaka.

MOF (Ministry of Finance), PRS-HAP Cell: Economic Relations Division. 2008a. “Monitoring the Paris Declaration 2008, Survey Country Chapters—Qualitative Assessment-Bangladesh.” Dhaka.

———. 2008b. Economic Relations Division report. N.p.

Ministry of Health and Family Welfare (MOHFW). 1998. “Health and Population Sector Programme (1998-2003), Programme Implementation Plan, Part 1”. Dhaka.

———. 2000. “Draft National Health Policy 2000.” Dhaka.

———. 2001. Gender Equity Strategy, June. Dhaka.

———. 2004. “Strategic Investment Plan (SIP July 2003 – June 2010).” Dhaka.

———. 2004a. “Gender Equity Strategy.” Dhaka.

———. 2004b. ”Health, Nutrition and Population Sector Programme (HNPSP), July 2003-June 2006. Programme Implementation Plan”. Dhaka.

———. 2004c. “Institutional & Management Capacity Assessment.” Dhaka.

———. 2005. “The Health, Nutrition and Population Sector Programme (HNPSP) Implementation Manual.” Dhaka.

———. 2007a. “The Health, Nutrition and Population Sector Programme Aide Memoire Supervision Mission 2007”. Dhaka.

———. 2007b. “The Health, Nutrition and Population Sector Programme Mid Year Stock-take.” Dhaka.

———. 2007c. “Public Expenditure Review of the Health Sector 2003/04 to 2005/06.” Dhaka: Health Economics Unit.

———. 2008a. “The Health, Nutrition and Population Sector Programme Annual Programme Implementation Report (APIR).” Dhaka.

———. 2008b. “The Health, Nutrition and Population Sector Programme Implementation Report (PIR) 2.” Dhaka.

———. 2008c. “Bangladesh Health Workforce Strategy 2008”. Dhaka.

———. 2008d. “The Health, Nutrition and Population Sector Programme Aide Memoire Mid Term Review 2008.” Dhaka.

———. 2008e. “Policy Brief: A Rapid Assessment of Demand Side Financing (DSF) Pilot.” Dhaka: Health Economics Unit.

———. 2009a. “Gender Equity in The Health, Nutrition and Population Sector Programme Stock-take and Way Forward: Getting the Basics in Place: Building on Success.“ Dhaka.

———. 2009b. ”Draft Concept Note, New Health Sector Programme 2011-2015.” Dhaka.

———. 2009c. “The Health, Nutrition and Population Sector Programme Aide Memoire Mid Term Review 2009.” Dhaka.

———. 2009d. “The Health, Nutrition and Population Sector Programme Annual Programme Implementation Report (APIR).” Dhaka.

———. 2010a. “National Health Policy 2010. Final Draft.” Dhaka. January.

MOHFW, Directorate General of Health Services (DGHS). 2007. “Strategic Plan for Surveillance and Prevention of Non-Communicable Diseases in Bangladesh 2007-2010.” Dhaka.

MOHFW, DGHS, Human Resource Management. N.d. “Incentives Plan for Rural Services.” Dhaka.

MOHFW, DGHS, MIS (Management Information System). 2009a. “Health Bulletin 2008”. Dhaka.

———. 2009b. “Health Bulletin 2009”. Dhaka.

MOHFW and Research Evaluation Associates For Development Ltd. (READ). 2007. “Facility Efficiency Study”. Dhaka: Health Economics Unit.

MOHFW and Simed International. 2008. “Bangladesh Medical Equipment Survey Final Report.” April. N.p.

MOHFW and Tulane University Associates for Community and Population Research. 2010. “Bangladesh Health Facility Survey 2009.” Creative Idea, Dhaka. October.

MOHFW, Data International Limited, and Ravi P. Rannan-Eliya (ed.). 2007. “Bangladesh National Health Accounts 1997-2007”. Research Paper 39a. Dhaka: Health Economics Unit. December.

MOHFW, EPOS Health Management, HB Consultants Ltd, GOPA Worldwide, and GTZ. 2009. “Data Management and Information System (DMIS) Support to MOHFW Analysis Phase Report”. Dhaka.

MOHFW, GTZ, and EPOS Health Management. 2010. “Health Sector Monitoring and Evaluation M&E Framework and Draft Action Plan for M&E Strengthening and Improvement.” N.p.

MOHFW, Human Resources Development Unit. N.d. “Human Resource Development In Health and Family Planning in Bangladesh, A Strategy for Change, Preliminary Draft.” (hard copy only). N.p.

MOHFW and Begum, T., Mustafa, A., Moral, A. H. and Hossain, A. 2010. “Public Expenditure Review of the Health Sector 2006/07”. Research Paper 37. January. Dhaka: Health Economics Unit (HEU), MOHFW.

MOHFW, Planning Wing. 2005. “Revised Programme Implementation Plan (R-PIP July 2003 – June 2010).” Dhaka.

———. 2007. “The Health, Nutrition and Population Sector Programme Implementation Report (PIR)“. Dhaka.

———. 2008a. “Revised Programme Implementation Plan Final (July 2003 – June 2011)“. Dhaka.

———. 2008b. “Revised Programme Implementation Plan Final (July 2003- June 2011 with 38 Operational Plans, Tables and with Expenditure up to June 2008 and budget till June 2011.” Dhaka.

MOP. 2005a. “National Strategy for Accelerated Poverty Reduction (NSAPR).” Dhaka: Planning Commission.

———. 2005b. “National Strategy for Accelerated Poverty Reduction II (Revised) (NSAPR II): Steps towards Change.” Dhaka: Planning Commission.

Mortuza A. K. M. 2002. “Requirements for Providing Sustainable Health Care and Health Insurance Schemes in Bangladesh”, *Insurance Journal*, 53.

Mossialos, E., S. Allin, and J. Figueras (Eds.). 2006. *Health Systems in Transition Template.* Copenhagen: European Observatory on Health Care Systems.

Murray, C.J.L. & Lopez, A.D.1996. “The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990, and projected to 2020.” Cambridge, MA: Harvard University Press.

National Health Accounts (NHA) 1997-2007. *See* MOHFW, Data International Limited, and Ravi P. Rannan-Eliya (ed.). 2007.

National Institute of Population Research and Training (NIPORT), Macro ORC, Johns Hopkins University, and ICDDR,B. 2003. “Bangladesh maternal health services and maternal mortality survey 2001.” Dhaka, Bangladesh and Calverton/Maryland, USA: NIPORT, ORC Macro, JHU and ICDDR,B.

NIPORT, Mitra and Associates, and ORC Macro. 2005. “Bangladesh Demographic and Health Survey (BDHS) 2004.” Dhaka, Bangladesh and Calverton, Maryland, USA: National Institute of Population Research and Training, Mitra and Associates, and ORC Macro.

NIPORT, Mitra and Associates, and Macro International. 2009. “Bangladesh Demographic and Health Survey (BDHS) 2007.” Dhaka and Calverton, Maryland, US.

NIPORT and Institute of Epidemiology, Disease Control & Research (IEDCR). 2007. “Utilisation of Essential Service Delivery (UESD) 2006.” Dhaka.

———. 2008. “Utilisation of Essential Service Delivery (UESD) 2008.” Dhaka.

NIPORT, MEASURE Evaluation, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), and Associates for Community and Population Research (ACPR). 2008. “Bangladesh Urban Health Survey 2006.” Dhaka and Chapel Hill, NC.

NIPORT.n.d. “Power point presentations on specific tables: Overview, Maternal Health, Child Health, Fertility and Nutrition.” Dhaka: NIPORT.

NGO Service Delivery Programme. 2010. “USAID/Bangladesh Partnerships within the National Integrated Health and Population Program.” www.usaid.gov/bd/files/niphp.doc.

Nonnemaker J. and Sur M. 2007. “Tobacco expenditures and child health and nutritional outcomes in rural Bangladesh.” Social Science and Medicine 65:2517-26.

Noorunnabi, T. and Ubaidur, R. 2009. “Strengthening Voice and Accountability in the Health Sector, Workshop Report, Population Council.” Dhaka: The Population Council Inc.

Osman, F.A. 2004. “Policy Making in Bangladesh: A Study of the Health Policy Process”. Bangladesh: A H Development Publishing House.

Pathey, P. 2006. “Multiple Indicator Cluster Survey. Volume I: Technical Report.” BBS and UNICEF, Dhaka. http://www.childinfo.org/mics/mics3/archives/bangladesh/survey0/data/Reports/Final%20MICS%202006%20Report_BGD_Vol%20I.pdf

Patykewich, L. and Leahy, E. 2008. “A Case Study of Reproductive Health Supplies in Bangladesh.” N.p: Population Action International.

Pearson, M. 2006. “Global Health Partnerships and Health Systems Strengthening (HSS).” London: DFID.

———. 2007. “A Review of Aid Instruments and Approaches Used in the Health Sector in South Asia.” London: DFID.

Perry, H. 2000. “Health for All in Bangladesh: Lessons in primary health care for the twenty-first century. Dhaka: University Press.

Planning Commission. 2008. “Millennium Development Goals: Bangladesh Progress Report 2008.” General Economics Division, Planning Commission, Dhaka.

Rahim, M. A. 2008. “Epidemiology of Diabetes in Bangladesh”. Ph.D. diss., Faculty of Medicine, University of Oslo.

Rahman, Atiq. 2008. “Climate Change and its Impact on Health in Bangladesh.” *Regional Health Forum*, 12: 16-26.

Rahman, J. and Yusuf, A. 2009. “Economic Growth in Bangladesh: Experience and Policy Priorities.” Paper presented at the Conference on Ideas and Innovations for the Development of Bangladesh: The Next Decade, Harvard University, Cambridge, MA, USA, October 9-10.

Rannan R, Somanthan A. 1997. “*The Bangladesh health facility efficiency study.”* Colombo: Institute of Policy Studies.

Research, Training and Management International/ KATALYST/Directorate General of Nursing, MOHFW. “Needs assessment study on Nurses in Private and Public Sector.” Bangladesh: RTM International.

Sampath, P. G. 2007. “Innovation and Competitive Capacity in Bangladesh’s Pharmaceutical Sector: United Nations University Working Series Paper #2007-031.” Maastricht: United Nations University

Social Sector Performance Survey. 2005. “Health and Family Planning.” Oxford Policy Management Ltd, United Kingdom. Draft. June.

Streatfield, P. K. and Karar, Z. A. 2008. “Population Challenges for Bangladesh in the Coming Decades.”*Journal of Health and Population Nutrition* 26: 261-272

Swedish International Development Cooperation Agency. 2008. “Bangladesh Reality Check, Listening to Poor People’s Realities Annual Report 2008”. Stockholm: SIDA.

———. 2009. “Bangladesh Reality Check, Listening to Poor People’s Realities Annual Report 2009.” Stockholm: SIDA.

Swedish International Development Cooperation Agency/ GRM International. 2008. Bangladesh Reality Check Listening to Poor People’s Realities Annual Report 2007. Stockholm: SIDA.

Talukdar, S.I., Haque, M.A., Alam, M.O., Huq, M.H., Ali, M.S., Debnath, C.R., Rashid, M.M., Roushan, A., Jahan, M.K. and Nahar, K. 2007.

Talukdar, M. N. and U. Rob. 2009. Strengthening Voice and Accountability in the Health Sector, Workshop Report, Population Council.

Towards 4+5 Research Programme Consortium. 2009. “Progress Towards MDG5 Explaining the Reduction in Maternal Deaths in Bangladesh, Briefing paper 4.” N.p.

UNICEF. 2005. *Bangladesh Health and Injury Survey 2003.* Dhaka, Bangladesh: UNICEF.

———. 2008. “Countdown to 2015: Taking stock of maternal, newborn and child survival.” New York: UNICEF.

UNDP (United Nations Development Programme). 2007. United Nations Development Programme Annual Report 2007: Making Globalization Work for All. New York: UNDP.

———. 2009. *Human Development Report 2009: Overcoming Barriers: Human Mobility and Development.* New York: UNDP.

USAID. 2008. “Bangladesh: HIV/AIDS Health Profile.” Dhaka.

Van Doorslaer, E, O’Donnell, O., R Rannan-Eliya et al (23 authors). 2007. “Catastrophic payments for health care in Asia”. *Health Economics* 16: 1159-1184.

Walford, V. and Grant, K. 1997. “Management Capacity Appraisal for Sector Wide Management.” London: HLSP.

Werner, W. J. 2009. “Micro insurance in Bangladesh: Risk Protection for the Poor.” *Journal of Health Population and Nutrition* 27: 563–573.

World Bank 2005a. “Comparative Advantage of Public and Private Health Care Providers in Bangladesh, Bangladesh Development Series.” Washington, DC.

———. 2005b. “Implementation Completion Report (ICR).” Washington, DC.

———. 2005c. “Project Appraisal Document on a Proposed Credit in the Amount of SDR 196.1 million (US$300 million equivalent) to the People’s Republic of Bangladesh for a Health Nutrition and Population Sector Program. March 28.” Washington, DC.

———. 2006. “Project Performance Assessment Report on the Fourth Population and Health Project and the Health and Population Programme Project.” n.p.

———. 2007. “Strengthening Management and Governance in the Health, Nutrition and Population Sector of Bangladesh, Development Series Paper No. 15.” Dhaka.

———. 2007a. “The Health, Nutrition and Population Sector Programme Implementation Status Report.” Dhaka.

———. 2007b. “To the MDGs and Beyond: Accountability and Institutional Innovation in Bangladesh. Paper No 14.” Dhaka. http://siteresources.worldbank.org/BANGLADESHEXTN/Resources/295759-1171499457708/complete.pdf

———. 2008. “Bangladesh Poverty Assessment for Bangladesh Creating Opportunities and Bridging the East-West Divide.” N.p: Poverty Reduction, Economic Management, Finance and Private Sector Development Sector Unit, South Asia Region.

———. 2009. “Bangladesh Public Expenditure and Institutional Review: Towards a Better Quality of Public Expenditure.” N.p: Poverty Reduction and Economic Management Sector Unit, South Asia Region.

———. 2010a. Bangladesh Public Expenditure and Institutional Review: Towards a Better Quality of Public Expenditure. Volume II: Sectoral Analysis. Poverty Reduction and Economic Management Sector Unit, South Asia Region. Report No. 47767-BD.

———. 2010b. Bangladesh Public Expenditure and Institutional Review: Towards a Better Quality of Public Expenditure. Volume I: Main Report. Poverty Reduction and Economic Management Sector Unit, South Asia Region. Report No. 47767-BD.

———. 2010c. *World Development Report 2010: Development and Climate Change.* Washington, DC.

WHO (World Health Organization). 2004a. “Atlas of Heart Disease and Stroke, Risk Factor estimates for 2002.” Geneva.

———. 2004b. “Burden of Disease Statistics.” Geneva.

———. 2004c. “Death and DALY Estimates for 2002 by Cause for WHO Member States.” Geneva.

———. 2004d. “World Health Organization Global Status Report on Alcohol 2004.” Geneva.

———. 2004e. “Atlas of Heart Disease and Stroke.” Geneva.

———. 2005. “Bangladesh Health Sector Profile”. n.p.

———. 2006a. “Mortality Country Fact Sheet.” Dhaka.

———. 2006b. “Substance and Drug Abuse: Knowledge, Attitude and Perception of School going Adolescents in Bangladesh.” Dhaka.

———. 2006c. “World Health Report: Working Together for Health.” Geneva: WHO.

———. 2007a. Everybody business: strengthening health systems to improve health outcomes: WHO's framework for action.WHO. Geneva: WHO.

———. 2007b. Communicable Diseases: Filariasis." N.p: Country Office for Bangladesh http://www.whoban.org/en/Section15/Section16_24.htm

———. 2008. "Global Atlas of the Health Workforce." http://apps.who.int/globalatlas/

———. 2009. "Global Adult Tobacco Survey (GATS)." Dhaka.

———. 2010a. "National Health Accounts database." http://www.who.int/nha/en/

———. 2010b. Global Burden of Disease http://www.who.int/healthinfo/global_burden_disease/en/index.html

WHO, Country Office for Bangladesh. "Sustainable Development and Healthy Environment." http://www.searo.who.int/en/Section23.htm.

Zaman M. M., Nargis N., Perucic A. M. and Rahman K. 2007. "Impact of Tobacco Related Illnesses in Bangladesh." New Delhi: WHO, Regional Office for South East Asia.

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