

## Annex 8. Bangladesh case study

### Background

The People's Republic of Bangladesh is a country located in South Asia. Bangladesh is one of the world's most densely populated countries, mainly constituting a delta of rivers that empties into the Bay of Bengal. It was a part of Pakistan up until 1971, when political tensions with West Pakistan led to the Bangladesh Liberation War, and an independent Bangladesh was created. We review Bangladesh's health statistics and analyze important health indicators to better contextualize the impact of mid-level health workers (MLHW) on health-related Millennium Development Goals (MDGs) in this country.

Straddling the Tropic of Cancer implies a warm and humid monsoon season in Bangladesh that not only supplies most of the country's rainfall, but also leads to natural calamities, such as floods, tropical cyclones, tornadoes, and tidal bores, which occur almost every year, in addition to the more continuous environmental struggles, such as deforestation, soil degradation, and erosion. These issues seriously affect agriculture, water and food security, human health, and shelter. Additionally, many people are forced to live on and cultivate flood-prone land, in which there are waterborne diseases prevalent in surface water; water pollution, especially of fishing areas, that results from the use of commercial pesticides; ground water contaminated by naturally occurring arsenic; intermittent water shortages due to falling water tables in the northern and central parts of the country, soil degradation, erosion, deforestation, and severe overpopulation.

Politically, Bangladesh is a parliamentary democracy, but while laws are loosely based on English common law, family laws such as marriage and inheritance are based on religious scripts, and therefore differ between religious communities. Politics are highly polarized, as each party identifies with different leaders of the independence movement.

Bangladesh is predominantly Muslim (89.7%), but a significant percentage of the population adheres to Hinduism.<sup>8</sup> Bangladesh's economy has grown 5-6% per year since 1996, despite political instability, poor infrastructure, governance challenges, insufficient power supplies, and slow implementation of economic reforms. However, according to the CIA World Fact Book, 40% of the population lies below the poverty line.

The Constitution of the People's Republic of Bangladesh states that *"Health is the basic right of every citizen of the Republic,"* as health is fundamental to human development. It is still in the early stages of both demographic and epidemiological transitions, and the government faces major issues concerning its capacity to plan and implement a broad range of both population and health services.<sup>46</sup>

The Ministry of Health and Family Welfare has the overall responsibility for health sector policy and planning and has two wings – one for health services and one for family planning.<sup>46</sup> Non-governmental organizations are significant and growing sources of health, nutrition, and population (HNP) services in both rural and urban Bangladesh. Overall, there are 4 levels of health facilities in Bangladesh: primary health care (UHC, UHFWC, USC, and CCs), secondary healthcare (District Hospitals), tertiary health care (Medical College Hospitals), and super specialized care (specialized institutions). Bangladesh is one of the 57 countries facing an acute crisis in human resources for health (HRH), with only 3 physicians per 10,000 population.<sup>47</sup> The overall policy framework of the government of Bangladesh with regard to

development is to achieve sustainable improvement in health, nutrition, and reproductive health, especially amongst women, children, and the elderly.

Bangladesh ranks 67 out of 84 countries in the Global Hunger Index 2009. Malnutrition is thus a major cause of the high maternal, infant, and under-five morbidity and mortality rates. Millions of children and women suffer from one or more forms of malnutrition, including: low birth weight (LBW), stunting, underweight, vitamin A deficiency, iodine deficiency disorders, and anemia. Malnutrition passes from one generation to the next because malnourished mothers give birth to infants who struggle to thrive. Tuberculosis (TB) also is a major public health problem in Bangladesh.<sup>48</sup>

In Bangladesh, Millennium Development Goals (MDG) 4, 5, and 6 focus directly on health with targets to reduce child mortality, improve maternal health, and combat HIV, malaria and other diseases, respectively.

Since the country's inception, primary health care (PHC) services have been rendered focused on 8 elements: health education, nutrition, adequate and safe water and sanitation, maternal and child health, immunization, prevention and control of endemic diseases, treatment of common ailments and injuries, and provision of essential drugs.<sup>49</sup> Detailed analysis of health expenditure shows 46% of spending to be on drug retail outlets, 30% on curative care, and 11% on public health services.<sup>50</sup>

In Bangladesh, historically, supply-side financing of health care services has been the strategy for improving the access of poor households to essential health care services. A bulk of health care financing is paid out-of-pocket, which indicates that people are willing to pay for better care. The main bilateral donors to the health and population sector in Bangladesh are the governments of Australia, Belgium, Canada, Germany, Japan, Netherlands, Norway, Sweden, UK, and the United States. The World Bank, European Union, UNICEF, and Asian Development Bank are also major donors.<sup>46</sup>

Public health facilities in Bangladesh function poorly due to lack of proper decentralization with the result that a majority of clients seek medical services in the private sector – both for-profit and not-for-profit.<sup>51</sup> The quality and access to these services are far from satisfactory because the government has failed to perform its roles of regulator and coordinator. Decentralization is thought to be one of the ways to bring service provision close to the people, who should hold the service providers accountable. In Bangladesh, decentralization has not been as effective as had been hoped, although a decentralized administrative structure exists. The latter is not far-reaching and has been interrupted by different political profiles of the government in power. One of the ways in which the government can improve health service provision is through appropriate decentralization. It is possible that complete devolution of power to the local level may not have benefitted the common people in Bangladesh due to the risk of instability among local level workers in policy formulation, and design and delivery of health services.<sup>51</sup>

## Situational analysis of MLHW in Bangladesh

Nursing and midwifery services are vital resources for attaining health and development targets. To succeed in improving health systems performance, urgent action is needed to overcome the problems that seriously undermine the contribution these services can make towards improving health for all communities.

Bangladesh is one of the few countries that has more doctors than nurses with a ratio of 3:1. There is a severe shortage of nursing personnel in the country. Due to this shortage and a challenging working environment, for example, lack of nursing equipment and effective nursing management system, the overall quality of nursing care is being called in to question.<sup>52</sup>

The professional nurse in Bangladesh is currently registered as a nurse-midwife, which allows for a non-specialized nurse, who is generally able to be posted wherever they are needed. There are currently no midwifery posts. Due to this, most midwives do not have sufficient experience in midwifery to provide skilled care to women in childbirth.

For every 1,000 people, there are 0.3 nurses and midwives. This statistic shows the extreme lack of midwives and nurses in the country. Overall, the country lacks a strong health workforce, as there are only 0.58 health workers for every 1,000 people in the country.

Table 20: Health worker density in Bangladesh	
Number of health workers	0.58 for every 1000 people
Number of nurses and midwives	0.3 for every 1000 people
Ratio of nurses and midwives to doctors	1:1
Source : Bangladesh Health Watch 2008, WHO 2009	

Table 21: Health worker distribution in Bangladesh							
Cadre	Number	Public	Private	Mean age	Female	Male	Ratio (for every 1000 people)
Family planning officer	546						0.004
Community based skilled birth attendant	3000						0.019
Assistant family planning officer	1440						0.009
Health assistant	21016						0.135
Family welfare visitor	5705						0.036
Family welfare assistant	23500						0.151
Community health worker	48692			34.5	83.8%	16.3%	0.312
Village doctor				39.6	5.5%	94.5%	
Traditional birth attendant				51.5	98.8%	1.2%	
Traditional healer	21000			52.9	24.4%	75.6%	0.135
Trained dai							1 per village
Registered nurse	27732	14686		41	96.6%	3.4%	0.178
Midwife	18516				4110	22350	0.119
Medical assistant	5598	5598	720				0.036
Doctor	50004	19002	31002	43	10.6%	89.4%	0.321
Source: Bangladesh Health Watch 2008; MoHFW Bangladesh 2009a; AAAH 2008; MoHFW Bangladesh 2009;WHO 2009; WHO 2010							

There are about 83,000 positions available in the health services of Bangladesh, of which 71,441 (86%) are occupied.<sup>53</sup> Doctors and nurses represent about 19% of the total health work-force.<sup>53</sup> Of the total health workforce, more than 37% is support staff who help the administration either as office support staff or as lower level staff.<sup>53</sup> Positions remain unfilled in all categories of health personnel with the largest per cent of vacant positions among dentists (62%) and doctors (26%).<sup>53</sup>

## *National HRH strategic plan and policy*

Human Resources for Health (HRH) is a determinant of the quality of health care provided. It is also the most expensive resource in any health system. HRH issues are a constraint in achieving the MDGs and in scaling up interventions on major health problems in Bangladesh. Bangladesh has managed to develop a nationwide network of health services delivering different levels of health care.

Bangladesh has developed a number of government and non-government institutes with the purpose of providing a need-based health workforce that is capable of addressing the health of people and efficient in utilizing available resources. It has managed to develop a nationwide network of health services delivering different levels of health care. The government-owned health workforce-producing institutes include one medical university, 5 post-graduate medical institutes, 13 medical colleges, 1 dental college, 1 nursing college, 38 nursing institutes, 2 institutes for health technology and 8 medical assistant training schools.<sup>52</sup> The non-government sector runs 19 medical colleges, 6 dental colleges, and 3 IHTs. Admission capacity and output of each category and institute varies.<sup>52</sup>

The service delivery survey and repeated Annual Performance Review of the Health and Population Sector Program highlighted the essential need for improving the human resource management and development functions, in order to achieve the goal of the health system in Bangladesh of improving the health of the people and fulfilling their expectations.

To improve the quality of human resources production and to meet the challenges of globalization and the rapidly growing private sector involvement in medical education, there is a need to strengthen the QA scheme in medical education and establish an accreditation system for medical nursing education.<sup>52</sup> The NGO institutions and professional bodies active in health need to be fully involved in the process of improving the performance of the system, through continuing professional development of the health workforce.<sup>52</sup>

WHO's work plan in Bangladesh is to support Human Resources Development activities, under the Organization of Health Services area of work methods, guidelines and tools devised for planning, managing, and improving the performance of the health workforce in achieving the national health goals, which is the expected result of these activities. This includes the production of health workforce, with proper skills mix between attitude and abilities necessary to deliver health care, which will effectively address the health needs of the people.

The teaching-learning process within the medical and nursing education system, most of the time, is traditional. There is a need to strengthen the capacity of the teaching staff of medical and paramedical institutes.<sup>52</sup> The capacity of health workers needs to be strengthened in order to ensure quality and need-based production of specialists to conduct research on public health problems and issues.<sup>52</sup> There is increasing demand for improving the quality of nursing education and services as part of improving health workforce performance. Intervention will be planned and implemented to improve the quality of nursing education and service.<sup>52</sup> The capacity of the Directorate of Nursing will be strengthened to ensure improvement of nursing education and services.

HRH Programs provide support to the Bangladesh College of Physicians and Surgeons, Bangabandhu Sheikh Mujib Medical University, National Institute of Preventive and Social medicine, medical colleges and paramedical institutes to enhance managerial and technical capacity.<sup>52</sup> While implementing the collaborative work plan 2002-2003, WHO supported the achievement of the following:

- Enhancing administrative and technical capacity of the Bangladesh College of Physicians & Surgeons (BCPS)
- Improving standards of fellowship examinations in BCPS
- Enhancing teaching resource of medical colleges
- Updating and facilitating implementation of medical and para-medical curricula
- Technical capacity building of teaching staff of medical and public health institutes through external training and study tour
- Institutionalizing Quality Assurance in medical and para-medical institutes.
- Enhancing teaching resources of BSMMU
- Enhancing teaching resources of NIPSOM
- Establishing continuing medical education program (CME) for teachers of medical colleges.
- Generating evidence for health workforce planning and best teaching practices
- Generating evidence about best public health practices

### *MLHW Strategic Plan and Policy*

Bangladesh faces major public health challenges. To overcome this, the country needs a skilled health care workforce that can provide sufficient public quality care. Difficulties will be faced in attaining MDGs 4 and 5 due to the gaps in quantity and quality of nurse and midwife services and education.<sup>52</sup> The BNC and DNS are provided support through the WHO nursing and midwifery programs. Their programs aim to help alleviate the severe shortage in the number of nurses and midwives, and to improve their quality of education. A sense of urgency has been created to deal with health care issues, such as current and future health effects of climate change, and this has worked as a catalyst to improve nursing and midwifery in the country.

To address the challenges facing the health workforce in the country the government of Bangladesh has pledged to raise the image, improve the quality of services and education, and to meet the shortage of nurses and midwives.<sup>52</sup> They plan to do this by:<sup>52</sup>

- Upgrading the status of nurses and midwives
- Creating midwifery posts
- Establishing more nursing and midwifery educational institutes
- Increasing the seats for students
- Increasing capacity for development of nursing and midwifery professionals
- Improving the health systems that will create the positive practice environment necessary for provision of quality nursing and midwifery services.

The WHO is working in collaboration with the BNC to strengthen the nursing and midwifery services. Support is given to the following areas:

- To further develop the nurse and midwife workforce
- To assure provision of quality holistic, client-centered services
- To accelerate progress towards meeting the health related MDGs, with special emphasis on MDGs 4 and 5

Some examples of the support are revealed by the following actions and attempts at making progress:<sup>52</sup>

- Augmented the quality of nursing training capacity through international fellowships, development of tailored modules and guidelines and support of in-service training. Leadership and management, gender, mental health, trauma management, & dialysis, were among the topics addressed.
- Assisted BNC to draft regulations, accreditation guidelines and legislation for nursing and midwifery.
- Supported development and expansion of an innovative “model wards” program. Originally begun on a few wards in order to provide a better quality of clinical experience for nursing students, it has created an organizational culture of quality, and nursing and other services are now client-centered, evidence-based, and more holistic.
- Supported BNC and DNS to develop a strategic framework, endorsed by MOHFW, for strengthening midwifery education and services in the country, which will help the country’s efforts towards attaining MDGs 4 and 5.
- Strengthened nursing and midwifery management information system for informed decision-making.
- Provided technical assistance in the development and introduction of the BSc nursing program, as well as in the implementation of the Diploma of nursing and midwifery program.

## Typology

### NURSES

#### Demographics

There is less than 1 nurse per doctor in the health services of Bangladesh. This is an indication of inappropriate skill mix in the health services of Bangladesh. According to the findings of a Bangladesh Health Watch report 2007, the nurse-to-patient ratio is very poor with a shortage of 28,000 nurses. Proportionately, more doctors (35%) and nurses (30%) in the health services are located in the 4 metropolitan districts where only 14.5% of the population resides. This implies that a highly unequal distribution of doctors and nurses exists between urban and rural areas. The distribution of the health workforce by level of care shows that more than two-thirds of the workforce works at the primary level and about 20% are at the tertiary level.

The impact of the under-representation of women in certain professions and cadres has to be assessed. For example, the absence of women at the decision-making level means that it is less likely that decisions and actions concerning women will reflect their views and concerns. It might even lead to some problems specific to women being ignored or given low priority. Since women will not be able to access a service provider of the same gender, the female workforce may not be fully utilized. Active measures need to be taken to resolve this situation.

The recent changes in the qualifying requirements for admission into the nursing course (HSC qualified as opposed to SSC qualified) has restricted the entry of women from rural areas in nursing profession. There is also a sustained cultural notion that this profession is not for men. On the other hand, some private institutions have expressed interest in setting up nursing institutes with high standards, catering to the needs of the international market. However, the bureaucratic mechanisms have slowed down such initiatives.

According to the Ministry of Health and Family Welfare, the total number of registered nurses in Bangladesh is 22,803. Out of these, 18,707 are females and only 1,927 are males, females being the dominant gender in this profession. According to the WHO, the age structure of nurses in Bangladesh

shows that 11,721 of them lie between the ages of 30-49 years, followed by 8,130 in the age bracket 0-29 years and the remaining 483 are above 50 years of age.

<b>Table 22: Nursing demographics</b>	
Total Number of registered nurses (n)	26,899
Estimated nurses currently available (n)	15,023
Number of nursing schools in the public and private sector (n)	84
<b>Source: HRD Unit, Ministry of Health and Family Welfare, Dhaka 2011</b>	
<b>Table 23: age structure of nurses in Bangladesh</b>	
0-29	8130
30-49	11721
50+	483
<b>Source: WHO, 2004</b>	
<b>Table 24: number of nurses by gender</b>	
Males	1927
Females	18707
<b>Source: WHO, 2004</b>	

## Training

The philosophy of the Bangladesh Nursing Council states that nursing education is a dynamic, continuous learning process of acquiring nursing and midwifery knowledge and skills that brings about changes in student behaviors. It states that nursing education requires active and life-long learning, with new learning building on previous knowledge and experience. Learning in nursing education is best achieved when a student is motivated and ready to learn. Each year, a total of 2,280 students are admitted in the diploma program and 1,200 qualify as diploma nurses.

The training course offered by the BNC is a Diploma in Nursing Science and Midwifery. The degree awarded is also a Diploma in Nursing and Midwifery. The curriculum was last revised in 2006. The International University of Agriculture, Business and Technology (Dhaka), with assistance from educators from Vancouver, has started a Bachelor of Science in Nursing with a strong focus on primary health care. There are 65 students currently enrolled in this 4-year course (Bangladesh Health Watch 2008). There is a realization that the nursing program should be upgraded from a diploma to a bachelor program but that has not been possible all over the country due to the shortage of teachers and other facilities.

## Pre-requisites

Applicants must fulfill the following criteria to be eligible to apply for the program:

- Bangladesh Citizenship
- Age > 18 years according to birth certificate
- Higher secondary certificate (12<sup>th</sup> grade), science subjects preferable
- GPA >2.50
- Single
- Medical certificate indicates that candidate is healthy and physically fit

## Recruitment

The methods of recruitment are:



- Written examination conducted by the Directorate of Nursing Services
- Two letters of reference, one from the Local Union Parishad Chairman and one from the head of the educational institute.

## Duration

The duration of the program is 3 years.

## Objectives of the Course

The objective of this program is to develop a registered nurse-midwife who will be able to:

1. Demonstrate and have knowledge in basic, applied, human and nursing science. Nursing science should focus on interpersonal communication, the nursing process, holistic nursing, community oriented nursing, and knowledge required for making clinical nursing judgment in common and simple health problems of nursing clients across the life span and health-illness continuum. They should know the national health policy of the country, emerging local and global health issues, basic research and evidence-based nursing and basic self-inquiry and have computer skills. They should have leadership and management qualities.
2. Demonstrate being skilled in the nursing process with knowledge-based clinical skills and critical thinking skills, especially in caring for clients with common and simple health problems across the life span and the health illness continuum, in order to promote, maintain and restore health. They should provide client-centered and holistic care with caring behaviors. They should have skills in carrying out knowledge-based and community oriented nursing practices with a positive attitude, ethical behavior and accountability in accordance with the BNC rules and regulations and professional standards. They should communicate effectively with patients and co-workers, and should be able to work collaboratively in a health care team and as a member or a novice leader of the nursing care team. They should manage their own work on a daily basis and should guide and foster a good clinical environment to nursing students and other staff. They should think critically and be committed to self-directed learning.
3. They should appreciate oneself as a nurse-midwife and have a positive attitude towards professional nursing and lifelong learning.

## Courses

During the course of training, there are 2 semesters each year. Each semester is equal to 18 weeks with one week for a mid-term exam and another week for a final exam. Between semesters, there is a school break for 4 weeks, which allows time for students who have failed to re-take the exam or to do additional studying to improve their academic performance in order to fulfill the requirements of the course. At the end of the 3 years, the student is required to take a BNC certification examination, and after passing this, he/she becomes certified and licensed to practice as a registered nurse.

The medium of instruction is the English language, but the course is supplemented with the Bangla language, as needed. The general courses include social sciences, psychology of human behaviors, chemistry and physics, general biology, English, and introduction to computers. The specific courses include foundation courses, such as communication in nursing, anatomy and physiology, microbiology and parasitology, nutrition and nutrition support, pathophysiology, biostatistics and epidemiology and pharmacology. The specific courses also include professional courses, such as introduction and conceptual basis of nursing, introduction to health assessment, fundamentals of nursing, introduction to



nursing inquiry, community health nursing, adult nursing, orthopedic nursing, pediatric nursing, basis of gerontological nursing, mental health and introduction to psychiatric nursing, midwifery, leadership and management, nursing of newborns, research and evidence based nursing, and a nurse internship.

## Graduation

A student is eligible to graduate if they meet the following criteria:

- Pass and complete the requirements of all courses including the clinical experience specified in the checklist book
- Earn a GPA of >2.00

**Table 25: Course outline for Diploma in Nursing Science and Midwifery**

Year 1		Year 2		Year 3	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
Social sciences	Microbiology	English II	Adult nursing II	English III	Midwifery II
Psychology of human behavior	Nutrition and nutritional support	Pharmacology	Pediatric nursing	Adult Nursing III	Leadership and management
Chemistry and physics	Pathophysiology	Community health nursing II	Community health nursing III	Midwifery I	Nursing of newborns
General biology	Biostatistics and epidemiology	Adult nursing I	Basis of gerontological nursing		Research and evidence-based nursing
English	Introduction to health assessment	Orthopedic nursing	Mental health and intro. Psychiatric nursing		Nurse internship
Introduction to computers	Fundamentals of nursing				
Communication in nursing	Introduction to nursing inquiry				
Anatomy and physiology	Community health nursing				
Introduction and conceptual bases of nursing					

**SOURCE: Diploma in Nursing Science and Midwifery Curriculum, 2006.**

## Continuing further education

There are 4 Divisional Continuing Education Centers and 2 Rural Teaching Centers for continuing education and in-service training of nurses.

**Table 26: Registered nurses under the BNC**

Diploma in nursing	20,159
Diploma in midwifery	23,934
Orthopedic nursing	1,564

B.Sc./P.H. Nursing	1,075
Psychiatric Nurse	82
Ophthalmic nursing	31
Pediatric nursing	58
Intensive care nursing	121
Chest disease nursing	42
Rehabilitation nursing	28
Assistant nurse	2,420
M.C.H. visitor	504
Family welfare visitor	5,754
Junior midwifery	802
Junior nursing	181
C.S.B. attendant	3,156
Source: Bangladesh Nursing Council, 2010	

Selected nurses have had the chance to go abroad for higher education to obtain a B.S. and M.S. degree, along with diplomas and certificate course in specialized areas of nursing through fellowship programs. However, such programs are not available on a regular basis.

### Pay Scale

According to the Bangladesh Health Watch Report of 2008, a number of cadres have reported earning over 10,000 Taka (US \$147) a month. 36% of nurses report earning over this amount.

### MIDWIVES

In Bangladesh, midwifery is still not recognized as an independent vocation, though BNC has been trying for the recognition and integration of midwives into the mainstream nursing profession. With approximately 3.4 million births per year, Bangladesh would need 20,000 midwives to provide service to every birth in the country by 2015.<sup>54</sup> Many more would be needed to serve the entire population for antenatal care, postnatal care and family planning.<sup>55</sup> Ideally, this number should be easily attained, as there are almost 26,000 nurse-midwives in the country. However, the under-utilization of nurse-midwives for midwifery services triggers the need for more specialized midwifery cadres.

Table 27: Midwifery barometer	
Midwives per 1000 live births	8
Birth complications per day; rural	1415; 1005
Lifetime risk of maternal death	1 in 110
Intrapartum stillbirth rate (per 1,000 births)	21
Neonatal mortality as % of under-5 mortality	57
Source: Midwifery in Bangladesh In depth country analysis 2011	

### Demographics

In Bangladesh, a nurse-midwife performs the function of a midwife. They provide maternal and neonatal services when other health providers are not available or when they have a strong personal interest in midwifery services.<sup>56</sup> Currently, there are approximately 27,000 nurse-midwives working in health facilities down to the Upazila level, and nearly 2,000 new nurse-midwife graduates of both public and private sectors register every year.<sup>56</sup> However, it is estimated that not even 20% of these professional nurse-midwives perform midwifery services at any given time.<sup>56</sup> The goal was to train 13,000 community skilled birth attendants by 2010; so far, only 3,000 have been trained.<sup>56</sup> As a result, there is a shortage of workers to provide a 24 hour maternity service at union level. This problem is further aggravated by absenteeism and unfilled vacancies.<sup>56</sup>

The majority of the population in Bangladesh resides in rural areas, but the majority of health professionals work in urban areas. This is because they have no incentives for posting and retaining health workers in rural and remote areas. The shortage of health providers is acute in spite of the country's good coverage in health facilities. There are 419 health facilities performing BEmONC (at least 1 midwife per facility) and 132 sub-district hospitals performing CEmONC (more than 1 midwife per facility and at least 1 surgeon).<sup>56</sup> At the Union level 3,725 facilities (at least 1 auxiliary midwife) provide essential midwifery services (i.e. normal deliveries, non BEmONC and CEmONC).<sup>56</sup>

<b>Table 28: Midwifery Workforce</b>	
Number of midwives (including nurse-midwives)	26,899
Obstetricians	1250
Community health workers with some midwifery training	6167
A live registry of licensed midwives exists	No
<b>Source: Midwifery in Bangladesh In depth country analysis 2011</b>	

## Pre-requisites

Applicants must fulfill the following criteria to be eligible to apply for the program:

- Bangladesh Citizenship
- Age > 18 years according to birth certificate
- Higher secondary certificate (12<sup>th</sup> grade), science subjects preferable
- GPA >2.50
- Single
- Medical certificate indicates that candidate is healthy and physically fit

## Recruitment

The methods of recruitment are:

- Written examination conducted by the Directorate of Nursing Services
- Two letters of reference, one from the Local Union Parishad Chairman and one from the head of the educational institute.

The 6-month post-basic midwifery training (seen as a short-term solution) and the direct-entry midwifery program (the long-term solution) are the most recent related initiatives.

## Training

Since the establishment of Bangladesh, a 3 year diploma in nursing and midwifery has been offered in nursing institutes. During these 3 years, a total of 6 months is dedicated to midwifery training.

Graduates from these programs are officially registered as nurse-midwives by the Bangladesh Nursing Council.

Currently, Bangladesh has a total of 74 schools for midwifery education:<sup>56</sup>

- 47 public schools for nursing + midwifery programs (3 years)
- 24 private schools for nursing + midwifery programs (3 years)
- 3 public schools for nursing education followed by midwifery education program (6 months)

Both the public and private schools of combined nursing and midwifery programs are licensed. The curriculum of the diploma course is the same as mentioned above for nurses.

**Table 29: Midwifery Education**

Midwifery education programs direct entry; combined; sequential	No ; Yes ; Yes
Number of midwifery education institutes (total ; private)	74; 24
Duration of midwifery education program (in months)	36
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	7710
Midwifery education programs are accredited	Yes
SOURCE: Midwifery in Bangladesh In depth country analysis 2011	

The 3-year direct entry midwifery diploma course is one of the current top priorities for human resources for maternal and newborn health, scheduled to start in 2012.<sup>56</sup> The Ministry of Health has asked UNFPA to provide arguments and projections for this initiative. Meanwhile, a private university (BRAC University) is making strides towards starting a School of Midwifery in 2011-2012, with the support from several international donors (DFID, Gates Foundation) and technical support from ICM.<sup>56</sup>

After graduation, the nurse-midwives will work as rotational nurse-midwives, and the 6 month post-graduation trained nurse-midwives will be posted in the area they worked before as midwives in the maternity units.<sup>56</sup>

## Training of trainees

In 2010, the BNC along with WHO and UNFPA organized a month long training course for trainers of qualified nurse-midwives.<sup>56</sup> So far, 20 nurse-midwives have been trained to run the 6 month post-basic midwifery training according to international standards.<sup>56</sup> The trainers enter the training program based on self-selection as they have to agree to spend 6 months training at the center, speak English and continue pursuing their interest in midwifery activities.<sup>56</sup>



<b><u>NURSE-MIDWIVES</u></b>	
<b>Brief illustration</b>	<p>Nursing is an integral part of the delivery of healthcare. It encompasses the promotion of health and prevention of illness across all health care, including the community. It includes care of both physical and mental illness, as well as the disabled from birth to death. Within this broad spectrum of health care, the aspects of particular concern to the nurse are the individual, the family and group responses to actual or potential health problems.</p> <p>The Nurse will have successfully completed a BNC approved course of Nursing training and education, from a BNC approved educational institution for Nursing, and will have subsequently registered with the Bangladesh Nursing Council to practice in Bangladesh. Nurses are registered as nurse-midwives in Bangladesh.</p>
<b>Recruitment and selection</b>	Applicants applying to the training program must be Bangladeshi nationals, older than 18 years of age, must have completed their education till the 12 <sup>th</sup> grade preferably in science subjects with a GPA of more than 2.50, they should be single, and a medical certificate must indicate that the candidate is healthy and physically fit. They are selected after clearing a written test and they need 2 letters of recommendation.
<b>Roles and responsibilities</b>	Nurses should care for clients with common and simple health problems across the life span and across health illness continuum in order to promote, maintain and restore health. They should provide client centered and holistic care with caring behaviors. They should have skills in carrying out knowledge based and community oriented nursing practice with positive attitudes, ethical behaviors and accountability in accordance with the BNC rules and regulations and professional standards. They should communicate effectively with patients and co-workers, and should be able to work collaboratively in a health care team and as a member or a novice leader of the nursing care team
<b>Training</b>	The training program is 3 years long.
<b>Accreditation/licensing bodies</b>	Bangladesh Nursing Council (BNC)
<b>Who trains them?</b>	Nurse-midwives
<b>Place of work</b>	Tertiary level hospitals or medical college hospitals, district hospital; only a few are working at Upazilla hospitals.
<b>Supervision</b>	Registered nurses are under the management and supervision of the Directorate of Nursing Service (DNS)
<b>Salary/incentives</b>	36% of nurses earn above 10,000 Taka (147\$) a month. There are no added incentives for nurses in Bangladesh.
<b>Retention</b>	Due to poor salaries, bad working conditions, lack of incentives and career path, no promotion prospects, lack of professional autonomy, inconsistent transfer and posting policy, availability of better opportunities in the private sector and abroad retention in this field is difficult.
<b>Job satisfaction</b>	A recent DFID survey showed that 90% of nurses are unsatisfied with their jobs.
<b>Professional advancement</b>	Nurses in Bangladesh have the opportunity to go abroad and obtain B.Sc. and M.Sc. degrees, diplomas and certificates course in specialized areas of nursing through fellowship programs.

## Continuing education

Following the 3-year diploma, graduates have two options for continuing education:

- The 1-year post-basic bachelor degree in nursing science is opened for those who have successfully completed the 3-year diploma in nursing and midwifery course; or
- The 2-year post-basic Bachelor of Science in nursing/public health nursing offered at the College of Nursing, University of Dhaka.

Table 30: Regulation of midwives	
Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulated midwifery practice	No
A license is required practice midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes
Source: Midwifery in Bangladesh In depth country analysis 2011	

## Retention

Retention in this field is difficult due to poor salaries, bad working conditions, lack of incentives and career path, no promotion prospects, lack of professional autonomy, inconsistent transfer and posting policy, and availability of better opportunities in the private sector and abroad.

## Key challenges

The main problem faced by Bangladesh with regards to MLHWs is a shortage in their number, as well as a lack of their training and education. There are limited facilities and other resources that lead to poor quality of health care in the country. The nursing B.S. degree program needs to be strengthened in order to improve the quality of health care. There is also a lack of a proper code of conduct. There is also a shortage of qualified teachers and there are inadequate teaching and learning facilities. There needs to be adequate monitoring and mentorship in nursing and midwifery education, which seems to be lacking. There is also lack of job satisfaction and professional motivation, which leads to poor retention of these workers. The training curriculum of these programs needs to be updated on a regular basis.

The reasons for such a huge shortage in the numbers of nurses and midwives need to be recognized and efforts should be made to resolve them so as to attract more people to these professions. These workers need to be given financial and non-financial incentives in order to retain them in their cadres.

## Appendix 8.1

### Country Context

#### Country Profile



The People's Republic of Bangladesh is a country located in South Asia. It is mostly engulfed by India, except for a small portion of the southeast, which is bordered by Burma. Bangladesh is one of the world's most densely populated countries, mainly constituting a delta of rivers that empties into the Bay of Bengal. It was a part of Pakistan up until 1971, when political tensions with West Pakistan led to the Bangladesh Liberation War, which the Bengali people won and an independent Bangladesh was mapped.

We review Bangladesh's health statistics and analyze important health indicators to better contextualize the impact of mid-level health providers on health related Millenium Development Goals (MDGs) in this country.

## Demographic information

Bangladesh has a population of approximately 150,494,000 people with 28% of them settled in urban areas.<sup>57</sup> Between 1990 and 2011, there has been a decline in the population growth rate from 2.6 to 1.566. The most populated city is the capital, Dhaka, with 14.251 million people. The number of births per year is reported to be 3,401 (in thousands). (Table 31)

Over the past 10 years, Bangladesh has made considerable progress in its attempts to curb population growth: the average Bangladeshi woman now bears fewer than 3 children in her lifetime, down from more than 6 in the 1970s. Nonetheless, projections forecast more than 50% growth in Bangladesh's population, to approximately 250 million, over the next four decades. This poses massive challenges for the government in terms of employment and the delivery of social services.<sup>58</sup>

**Table 31: Selected demographic information for Bangladesh**

Population (thousands)	150494 (2011)
Population (thousands) under 18	61091
Population (thousands) under 5	16463
Annual no. of births (thousands)	3401
Annual no. of under-5 deaths (thousands)	171
% Urban population	28
Average annual growth rate of urban population 1970-1990	7.4
Average annual growth rate of urban population 2000-2009	3.3
<b>SOURCE: United Nations Population Division UNICEF, United Nations Population Division and United Nations Statistics Division. 2009</b>	

## Geographical characteristics

Bangladesh lies in the Ganges Delta between latitudes of 20° and 27°N, and longitudes of 88° and 93°E. The alluvial soil deposited by these rivers has created some of the most fertile plains in the world. Most parts of Bangladesh are less than 12 m (39.4 ft) above sea level, and it is believed that about 10% of the land would be flooded if the sea level were to rise by 1 m (3.28 ft).<sup>59</sup>

Straddling the Tropic of Cancer, Bangladesh's climate is tropical with a mild winter from October to March, and a hot, humid summer from March to June. A warm and humid monsoon season lasts from June to October and supplies most of the country's rainfall. Natural calamities, such as floods, tropical cyclones, tornadoes, and tidal bores, occur almost every year, in addition to the more continuous environmental struggles, such as deforestation, soil degradation and erosion. Currently, Bangladesh is recognized as one of the countries most vulnerable to climate change. Natural hazards that come from

increased rainfall, rising sea levels, and tropical cyclones are expected to increase as climate change, each seriously affecting agriculture, water and food security, human health and shelter. It is believed that in the coming decades, the rising sea level alone will create more than 20 million climate refugees. Additionally, water in Bangladesh is frequently contaminated with arsenic because of the high arsenic contents in the soil. Approximately 77 million people are exposed to toxic arsenic from drinking water.<sup>60</sup> Bangladesh ranks high among those countries prone to natural floods, tornados and cyclones.

**Figure 4: Map of Bangladesh**



**Source:** <http://geography.about.com/library/cia/blcbangladesh.htm>

Many people are forced to live on and cultivate flood-prone land, where they are exposed to waterborne diseases that are prevalent in surface water, water pollution, especially of fishing areas that results from the use of commercial pesticides, ground water contaminated by naturally occurring arsenic, intermittent water shortages because of falling water tables in the northern and central parts of the country, soil degradation and erosion, deforestation, and severe overpopulation.

Bangladesh is divided into 7 administrative divisions, each named after their respective divisional headquarters: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Sylhet, and Rangpur. The divisions are subdivided into 64 districts, each further subdivided into sub-districts. The area within each police station, except for those in metropolitan areas, is divided into several unions, with each union consisting of multiple villages. In the metropolitan areas, police stations are divided into wards, which are further divided into mahallas. There are no elected officials at the divisional, district or sub-district levels, and the administration is composed only of government officials. Direct elections are held for each union (or ward), electing a chairperson and a number of members. Dhaka is the capital and largest city of Bangladesh. Other major cities include Chittagong, Khulna, Rajshahi, Sylhet, Barisal, Bogra, Comilla, Mymensinghand Rangpur. These cities

have mayoral elections, while other municipalities elect a chairperson. Mayors and chairpersons are elected for a term of 5 years.

### Socio-political profile

Politically, Bangladesh is a parliamentary democracy. The current Prime Minister, Sheikh Hasina, was most recently re-elected on December 29, 2008. Direct elections, in which all citizens aged 18 or over can vote, are held every 5 years for the unicameral parliament known as Jatiya Sangsad. Currently, the parliament has 345 members, including 45 seats reserved for women, elected from single-member constituencies. The Prime Minister, as the head of government, forms the cabinet and runs the day-to-day affairs of state. The Prime Minister is formally appointed by the President. The President is technically the head of state, but in reality, is mainly a ceremonial post elected by the parliament.

The Constitution of Bangladesh was drafted in 1972 and has undergone 14 amendments. The highest judicial body is the Supreme Court, where its Justices are appointed by the President. It is expected that this separation will make the judiciary stronger and impartial. Laws are loosely based on English common law, but family laws such as marriage and inheritance are based on religious scripts, and therefore differ between religious communities.

Major parties in Bangladesh are the Bangladesh Awami League and the Bangladesh Nationalist Party (BNP). BNP is led by Khaleda Zia, and has traditionally been allied with Islamist parties like Jamaat-e-Islami Bangladesh and Islami Oikya Jot, while Sheikh Hasina's Awami League has generally been aligned with the leftist and secularist parties. Politics are highly polarized, as each party identifies with different leaders of the independence movement. Student politics are particularly strong in Bangladesh, a legacy from the liberation movement era. Almost all parties have highly active student wings, and student leaders have been elected to the Parliament.

### Demographics, religion and languages

The overwhelming majority of Bangladeshis are ethnic Bengalis, comprising 98% of the population. The remaining 2% are mostly Biharis and indigenous tribal groups. There is also a small, but growing, population of Rohingya refugees from Burma around Cox's Bazaar, which Bangladesh seeks to repatriate to Burma. The indigenous tribal peoples are concentrated in the Chittagong Hill Tracts in the southeast. There are 13 tribal groups located in this region.

Nearly all Bangladeshis speak Bangla as their official language. English is used as a second language among the middle and upper classes and is used in the higher education and the legal system. The Bihari population speaks Urdu, which was also the language associated with the government prior to separation from Pakistan.

The main religion practiced in Bangladesh is Islam (89.7%), but a significant percentage of the population adheres to Hinduism.<sup>61</sup> The majority of Muslims are Sunni. Many people in Bangladesh practice Sufism, because historically Islam was brought to the region by Sufi saints. Ethnic Biharis are predominantly Shia Muslims. There are also a small number of Muslims, numbering about 100,000 individuals belonging to the Ahmadiyya community. Other religious groups include Buddhists (0.7%, mostly Theravada), Christians (0.3%, mostly Roman Catholic), and Animists (0.1%). Bangladesh has the fourth largest Muslim population after Indonesia, Pakistan, and India, with over 130 million. Bangladesh was founded as a secular state, but Islam was briefly made the state religion, before returning by decree

of the High Court to the principles of its 1972 constitution.<sup>62</sup> The High Court also strengthened its stance against punishments by Islamic edict (fatwa), following complaints of brutal sentences carried out against women by extra-legal village courts.

## Economy and Poverty

Bangladesh's economy has grown 5-6% per year since 1996, despite political instability, poor infrastructure, governance challenges, insufficient power supplies, and slow implementation of economic reforms. The current Gross National Income (GNI) per capita of Bangladesh is US\$700.<sup>63</sup> Bangladesh remains a poor, overpopulated, and inefficiently governed nation. Although more than half of Gross Domestic Product (GDP) is generated through the service sector, 45% of the people are employed in the agriculture sector, with rice as the most important product.<sup>64</sup> Bangladesh's growth was resilient during the 2008-2009 global financial crisis and recession. Garment exports, totaling US\$12.3 billion in FY09, and remittances from overseas Bangladeshis, totaling \$11 billion in FY10, accounted for almost 25% of GDP.<sup>64</sup> According to the CIA World Fact Book, 40% of the population lies below the poverty line (Table 32). In 2010, the unemployment rate was estimated to be 5.1%.

The industrial production growth rate was 7% in 2010, the major industries being cotton textiles, jute, garments, tea processing, paper newsprint, cement, chemical fertilizer, light engineering and sugar. The major agriculture products include rice, jute, tea, wheat, sugarcane, potatoes, tobacco, pulses, oilseeds, spices, fruit; beef, milk and poultry.

Table 32: Poverty Rates	
GINI index	33.2
Income share held by highest 10%	26.6
Income share held by highest 20%	40.6
Income share held by lowest 10%	4.25
Income share held by lowest 20%	9.3
Poverty gap at \$ 1.25 a day (PPP)%	50
Poverty gap at \$ 2 a day (PPP)%	80.6
Poverty gap at national poverty line (%)	9
Poverty headcount ratio at \$1.25 a day (PPP) (% of population )	49
Poverty headcount ratio at \$2 a day (PPP) % of population	81
Poverty headcount ratio at national poverty line (% of population)	40
<b>SOURCES : World Bank Data (2005)</b>	

## Health System Overview

Bangladesh is one of the poorest and most densely populated countries in the developing world. The Constitution of the People's Republic of Bangladesh states that *"Health is the basic right of every citizen of the Republic,"* as health is fundamental to human development. It is still in the early stages of both the demographic and epidemiological transitions, and the government faces major challenges concerning its capacity to plan and implement a broad range of both population and health services.<sup>46</sup>

The Ministry of Health and Family Welfare has the overall responsibility for health sector policy and planning, and it has 2 wings – one for health services and one for family planning. They are both vertical programs and each has separate services particularly for primary health care at district, sub-district and village levels. This separation of services has led to the development of specialized cadres of health

personnel and training institutes, together with separate health facilities, supporting services and information systems.<sup>46</sup>

Non-government organizations are significant and growing sources of health, nutrition and population (HNP) services in both rural and urban Bangladesh. Their services have mainly been in the areas of family planning and Maternal and Child Health. More recently, they have extended their range of services and are now the major providers of urban primary care.

There are mainly 4 levels of health facilities in Bangladesh, which are primary health care (UHC, UHFWC, USC, and CCs), secondary healthcare (District Hospitals), tertiary health care (Medical College Hospitals), and super specialized care (specialized institutions). Under HPSP, about 13,500 new community clinics, each for 6000 population, were supposed to be constructed.<sup>50</sup> Currently 6708 CCs are functioning with DGHS Health Assistant (HA) and DGFP Family Welfare Assistant (FWA) and another 7156 CCs are handed over to NGOs (HEU 2007).<sup>50</sup> The HA and FWA perform home visits and work from CCs (if operational) and provide family planning services, maternal and child health care, including immunization, communicable disease control, symptomatic curative care for common complaints, and upward referrals (HNPS 2005).<sup>50</sup>

**Table 33: Bangladeshi Public Health System (CEmOC , BEmOC)**

Division	6	CEmOC facilities: medical colleges with 650 beds, CEmOC
District	64	CEmOC facilities: there is either a sadar hospital (52) or a general hospital (13) in each district head quarter, each having 100-250 beds. Other special facilities for emergency obstetric care and a number of teaching hospitals.
Sub-district	481	CEmOC facilities: Upazila health complexes, with 30-50 beds (obstetrician + anesthesiologist)
Union	4,498	There are four types of static health facilities at the union level with BEmOC facilities: rural health centres, union sub-centres (1,362), union health and family welfare centres (87) and community clinics. The main workforce at this level are Has (males), FWA (females), medical assistants and family welfare visitors (midwives role)
Village	80,000	Community-based SBAs for home delivery
<b>SOURCE: Government of the People's Republic of Bangladesh Ministry of Health &amp; Family Welfare. Health Bulletin 2008. Management Information System (MIS) Directorate General of Health Services (DGHS).</b>		

Bangladesh is declared by WHO as one of the 57 crisis countries facing an acute HRH crisis with only 3 physicians per 10,000 people.<sup>47</sup> The percentage of people with access to an improved water source was estimated at 80% in 2008, which is an achievement for any low-income country. This was achieved by construction of hand pumps made possible through foreign donations.

**Table 34: Selected health system indicators**

Health workforce per 10,000 population	Physicians	3
	Nurses and midwives	
Births attended by skilled health personnel (%)	Country	24
Measles immunization in 1 year olds (%)	Country	89
% of population using improved drinking water sources	Total	80
	Urban	85
	Rural	78
% of population using improved sanitation facilities	Total	53
	Urban	56

**SOURCE: WHO, World Health Statistics 2011. UNICEF, Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS) 2011**

Bangladesh has made notable progress in health outcomes since its independence in 1971, and the government has stuck to a policy of health development that ensures provision of basic services to the entire population, particularly in the rural areas. The overall policy framework of the government of Bangladesh with regards to development is to achieve sustainable improvement in health, nutrition and reproductive health, especially amongst women, children and the elderly.

## Health Problems

Despite some notable improvements in a few health indicators since the 1970s, the health status still remains poor, and health and population remain important development issues.

Bangladesh ranks 67th out of 84 countries in the Global Hunger Index 2009 and over 10 million children under the age of 5 suffer from malnutrition, which contributes to 2 in 3 child deaths. A weak public health system hampers the delivery of care. The maternal mortality ratio is one of the highest in the region, but recently witnessed a 40% decrease to 194 deaths per 100,000 live births.<sup>58</sup> 49% of children under 5 and 46% of women are anemic.<sup>58</sup> Inequalities and challenges for women and girls are not adequately addressed, and improvement in this area is especially important given their role as gatekeepers of the country's social capital. Further, Tuberculosis (TB) is still the major cause of adult mortality as Bangladesh has the fifth highest level of TB cases in the world.<sup>58</sup>

Neonatal deaths account for about half of all deaths among children under-5 years of age in Bangladesh. Under-5 mortality, defined as the probability of a child dying before their fifth birthday, is expressed per 1,000 live births. Similarly, neonatal mortality, defined as the probability of a child dying within the first month of life, is expressed per 1,000 live births. In 2009, the neonatal mortality rate was 30, and under-5 mortality rate was 52.<sup>49</sup> Pneumonia, diarrhea, measles, malaria, malnutrition, injuries and the high number of neonatal deaths, and poor care-seeking behavior, all contribute to the high levels of child mortality. There is evidence of a decline in neonatal mortality in recent years in rural areas of Bangladesh served by 27 non-governmental organizations (NGOs), based on data from the management information system (MIS).<sup>65</sup>

A key achievement has been seen in the form of a 50% decline in the under-5 mortality rate since 1993. Most deliveries take place at home; only 24% of which are attended by a skilled attendant.<sup>47</sup> Most pregnancy-related deaths are due to postpartum hemorrhage and eclampsia, which are both preventable causes if proper antenatal, perinatal and postnatal care is provided to the mother. As most deliveries take place at home, the maternal and neonatal mortality can be reduced if these deliveries are attended by a skilled health worker. Also, attitudes of women and their families in terms of seeking available health services needs to be changed. The healthcare seeking behavior of women during pregnancy and childbirth is low: only 48% utilize antenatal care and 16% utilize postnatal care.<sup>66</sup> Given adequate policy measures however, the government can transform these challenges into opportunities.

Malnutrition is also a major cause for the high infant and under-5 morbidity and mortality rates. Millions of children and women suffer from one or more forms of malnutrition, including: low birth weight (LBW), stunting, underweight, vitamin A deficiency, iodine deficiency disorders and anemia. Malnutrition passes from one generation to the next because malnourished mothers give birth to



infants who struggle to thrive. Malnutrition contributes to about one half of all child deaths, often by weakening immunity. The body mass index (BMI) of 52% of women of reproductive age is less than 18.5; this means they are very underweight. Amongst this group, there is a high prevalence of iron deficiency anemia (more than 50%) and Vitamin A deficiency (more than 2.8% suffer from night blindness).<sup>66</sup> The 2007 DHS reported that 46% of children under 5 were underweight. 91% of children (6-59 months) receive vitamin A supplementation twice a year through successful campaigns led by the Government of Bangladesh (GOB).<sup>49</sup> The government is also placing an emphasis on mainstreaming nutrition in their new 5 year health sector program.

The prevalence of HIV in Bangladesh is less than 0.1% in the general population and the estimated number of HIV positive cases in the country is around 7,500. The prevalence rate among the MARPs – sex workers (both female and male), males who have sex with males (MSM) and transgender (Hijra)—is below 1%, with the exception of Injecting Drug Users (IDUs) which is just above 1% (1.6%).<sup>58</sup>

Tuberculosis (TB) is a major public health problem in Bangladesh. In 2008, the World Health Organization (WHO) ranked Bangladesh sixth among the world's 22 high-burden TB countries. The TB mortality rate in Bangladesh is 51% as compared to 27% in South Asia and 20% globally.<sup>48</sup> Bangladesh's National TB Control Program (NTCP) began implementing DOTS (the internationally recommended strategy for TB control) in 1993. DOTS coverage reached 100% in 2006 and remained at that level in 2007.

<b>Table 35: Selected health, mortality and burden of disease indicators for Bangladesh</b>			
<b>Indicators</b>	<b>Country</b>	<b>Regional average</b>	<b>Global average</b>
Life expectancy at birth	65	65	68
Neonatal mortality rate (under 28 days of life )	30	31	26
Infant mortality rate (1 year and more per 1000 births)	41	45	40
Adult mortality rate (per 1000 adults 15-59years)	234	209	180
Under-5 mortality rate (per 1000 live births)	52	59	57
Maternal mortality ratio ( per 100,000 live births)	340	240	260
HIV prevalence (per 100 adults 15-49 years)	<0.1	0.3	0.8
TB prevalence (per 100000 population)	425	278	10
TB death rate (per 100000 people)	51	27	20
<b>Source: WHO – World Health Statistics 2011.</b>			

## Major drivers of National Health Policy

### Millennium Development Goals

In September 2000, 189 nations adopted the Millennium Declaration during the UN Summit. The Millennium Development Goals (MDG) reflects the actions and targets contained in this declaration. In Bangladesh, goals 4, 5 and 6 focus directly on health and their targets are to reduce child mortality, improve maternal health and combat HIV, malaria and other diseases, respectively.

The indicators for MDG 4 are under-5 mortality rate, infant mortality rate and proportion of 1-year-old children immunized against measles. During 2003-2006 the under-5 mortality rate reduced from 88 to 65 at a rate of 4.3% per year.<sup>50</sup> Given this situation, the under-5 mortality rate will have to reduce at a rate of 2.6% per year to attain the MDG target level, which is 50 per 1000 live births by 2015.<sup>50</sup> Therefore, it can be said that Bangladesh is on track to meeting this target. The infant mortality rate in Bangladesh has also decreased impressively from 1990 to 2006. The infant mortality rate was 87 per



1000 live births in the Bangladesh Demographic and Health survey 1993-1994, and reduced to 66 in the period 1999-2003. Data from the Sample Vita Registration System 2006 show that the infant mortality rate was 45 per 1,000 live births, which indicates that the decreasing trend is consistent with achieving the MDG target of 31 per 1,000 live births in 2015. Under the government's Expanded Program for Immunization (EPI), children under one year of age should receive immunization for 6 vaccine-preventable diseases (tuberculosis; diphtheria, pertussis, and tetanus (DPT); poliomyelitis; and measles). Vaccinations against Hepatitis B are a new addition. According to MDG indicator 15, all children should be immunized against measles by 2015.<sup>50</sup> There has been significant improvement in immunization against measles in recent years. The proportion of children vaccinated to protect against measles increased from 76% during 1999-2003 to 83% during 2002-2006.<sup>50</sup>

The indicators for MDG 5 are maternal mortality ratio and births attended by skilled health personnel. Bangladesh has made significant progress towards achieving the MDG 5 target of 75% reduction in the maternal mortality ratio (MMR) between 1990 and 2015.<sup>67</sup> Starting at 570/100,000 live births in 1990, there was a 44% decline by 2001 to an MMR of 322/100,000 live births.<sup>67</sup> However, this decline in the MMR does not correspond to improvements in the universal United Nations (UN) process indicators, e.g. skilled attendance at birth and population-based caesarean-section rate. According to the Bangladesh Demographic and Health Survey (BDHS) of 2007, a medically-trained provider attended only 18% of births, and 15% of deliveries took place in health facilities. Progress on the other process indicators, e.g. use of antenatal care and postnatal care, has been significant. The BDHS 2007 reported that 52% of mothers received at least one antenatal check-up, and 21% of mothers received at least one postnatal check-up from a trained care provider. Despite this, inequities in the use of maternal health services are striking. The use of antenatal care, skilled birth attendants, institutional delivery, and caesarean sections, is substantially lower in the lower 3 socio-economic quintiles. If the current trend in the MMR decline continues, the MMR in Bangladesh will reach 191/100,000 live births in 2015, while the target is 143/100,000 live births.<sup>67</sup>

MDG 6, which is to combat the spread of HIV, malaria and other diseases, has 7 indicators which are HIV prevalence, condom use rate of CPR, school attendance of HIV orphans, prevalence and prevention of malaria and TB. The Bangladesh National HIV/AIDS Strategic Plan (2006-2010) is focused on 5 key areas: (i) provide support and services for priority groups; (ii) prevent vulnerability to HIV infection; (iii) promote safe practices in the health care system; (iv) provide care and treatment services to people living with HIV; and (v) minimize the impact of the HIV/ AIDS epidemic.<sup>68</sup> The National Malaria Control Program pursues the achievement of the MDG targets aligned with the targets set in the Strategic Plan (2007-2015). The program envisions a 60% reduction of malaria deaths by 2015. Major interventions for malaria control include expanding quality diagnosis and effective treatment of 90% of malaria cases; promoting the use of long lasting nets and insecticide-treated nets in all households in the 3 hill tract districts and 80% of the households in the remaining 10 high burden districts by 2015; and intensive Information, Education and Communication (IEC) for increasing mass awareness of the people for prevention and control of malaria.<sup>68</sup> The National TB Control strategy focuses on the role of the health sector in controlling TB. As TB is a poverty-related disease, any contribution in the area of improving overall living conditions, increasing household income, improving nutrition, etc., also has an impact on reducing the burden of TB. The National Strategic Plan to Control TB (2011-2015) aims at reducing the prevalence and mortality by half, and beginning to reduce the incidence includes through the following strategies: (i) pursue quality Directly Observed Treatment Short Course expansion and enhancement; (ii) establish interventions to address HIV associated TB and drug-resistant TB; (iii) contribute to health system strengthening; (iv) forge partnerships to ensure equitable access to an Essential Standard of Care to all TB Patients; (v) engage people with TB, and affected communities; and (vi) promote operational

research. Several national guidelines, manuals and policies/strategies to guide specific intervention areas of the 3 programs have been developed.

### Primary health care

Bangladesh is a signatory to the historic declaration in the International Conference on PHC held at Alma Ata in 1978 where the concept of primary health care (PHC) as the strategy for achieving the goal of health for all (HFA) by the year 2000 was developed. Bangladesh started with pilot projects in 6 Upazilas in the year 1979-1980, which subsequently led to the PHC Program that began in 1980.<sup>49</sup> The basis of the government policy was to provide health care to the un-served and underserved populations as far as possible, at their door steps, at a cost that the people can afford. Interventions of operationalizing PHC in Bangladesh were based on 3 important strategies: (i) training of staff on the elements and principles of PHC; (ii) provision of basic essential equipment, and (iii) ensuring uninterrupted supply to facilitate effective preventive, curative, and rehabilitative services to the vulnerable, the disadvantaged and the poor. In Bangladesh, the Upazila, Union and Ward levels constitute the operational levels of PHC, while the district, divisional and national levels provide managerial support and technical backstopping to the operational levels.<sup>49</sup>

Since its inception, PHC services in Bangladesh have been rendered in terms of 8 elements: health education, nutrition, adequate and safe water and sanitation, maternal and child health, immunization, prevention and control of endemic diseases, treatment of common ailments and injuries and provision of essential drugs.<sup>49</sup> In the 5th five year plan, Health and Population Sector Program 1998-2003 (HPSP), these services were remodeled as the Essential Service Package with prioritization of the most of the PHC activities. The 2003-2010 Health, Nutrition and Population Sector Program (HNPSPP) required that nutrition come with the essential service delivery (ESD) program. The National Health Policy approved by the Council of Ministers on May 10, 1999, reaffirms the PHC approach as a strategy to achieve the goal of HFA and envisages the delivery of PHC services through a four tier system, namely a) at the community level - through community health workers; b) at the ward level - through satellite clinics/health posts; c) at the union level -through union health and family welfare centers (HFWC); and d) at the Upazila level - through the Upazila Health Complex.<sup>49</sup>

### Financing the Health Care system

In Bangladesh, about 3.4% of GDP is spent on health, of which the government contribution is about 1.1%. Total health expenditure in the country is about US\$8 per capita per annum, of which the public health expenditure is around US\$19.

Detailed analysis of health expenditures show 46% of spending to be on drug retail outlets, 30% on curative care, and 11% on public health services.<sup>50</sup> There is inequity in healthcare expenditure in Bangladesh. People belonging to the poorest income decile spend only 8% of health expenditure while the people from the richest income decile spend more than 15% (NHA 2000).

In Bangladesh, supply-side financing of health care services has historically been the backbone strategy for improving the access of poor households to essential health care services. A bulk of health care financing here is coming from out-of-pocket, which indicates that people are willing to pay for better care. More than two-thirds of the total expenditure on health is privately financed, through out-of-pocket payments. Of the remaining one-third (public financing), about 60% is financed by the government out of tax revenues, development outlays, and the remaining 40% through international

development assistance.<sup>69</sup> An implication for this out-of-pocket payment for the lower class is that they are forced to pay for health care.

A few NGOs have started a health insurance component within their package of micro-credit programs. Bangladesh has now acquired experience in implementing activities under demand-side financing mechanisms through piloting the maternal health voucher scheme in 33 Upazilas of the country. After only 2 years of operation of the pilot, a case-control evaluation concluded that the scheme had an unprecedented impact on access equity and utilization of maternal health services.<sup>69</sup> The cost-effective evidences generated by the evaluation can form the basis for scale-up of the current initiative and extension of the mechanism in other areas during the next health sector program.

The main bi-lateral donors to the health and population sector in Bangladesh are the governments of Australia, Belgium, Canada, Germany, Japan, Netherlands, Norway, Sweden, UK and the United States. The World Bank, European Union, UNICEF and Asian Development Bank are also major donors.<sup>46</sup>

<b>Table 36: Financing the health system</b>				
Health expenditure per capita, PPP (current international \$)	13	15	17	18
Health expenditure, total (% of GDP)	3.4	3.5	3.3	3.4
Health expenditure, public (% of total health expenditure)	36.5	34.4	31.4	31.7
Out-of-pocket health expenditure (% of private expenditure on health)	96.3	96.5	96.5	96.5
<b>Source: World Bank Data</b>				

## Decentralization

The public health facilities in Bangladesh function poorly due to lack of proper decentralization with the result that a majority of the clients seek medical services in the private sector – both for-profit and not-for-profit.<sup>51</sup> The quality and access to these services are far from satisfactory because the government has failed to perform its roles of regulator and coordinator. Decentralization is thought to be one of the ways to bring service provision close to the people who should hold the service providers accountable. In Bangladesh, decentralization has not worked in practice, although a decentralized administrative structure exists. It is not far-reaching and has been interrupted by different political profiles of the government in power. One of the ways in which the government can improve health service provision is through decentralization. It may be viewed as either delegation of central government duties to lower levels or as devolution of the central government authority with respect to policy, finance and administration.

## Rationale behind decentralization

Decentralized governance and local level participation can contribute to improving the health care system, through better monitoring and supervision of the functioning of the health system at the local level.<sup>51</sup> The small jurisdiction of decentralized local bodies allows them to adjust to local social and cultural particularities while the adoption of short and simple administrative process facilitates quick and focused responses to immediate needs. In short, it can improve both allocative and production efficiencies.<sup>70</sup>

The choice of institutions should be based on the goods characteristics of services to be provided, i.e. measurability, information asymmetry and contestability. While plurality of institutions is called for, government-owned facilities may also be decentralized to fit the needs of the clients and to improve

technical efficiency.<sup>51</sup> The success of decentralization depends on intergovernmental discipline, vigilance of civil society and general political and social institutions specific to a given country.<sup>51</sup> Most developing countries are moving towards institutional pluralism with more involvement of the private sector in health service delivery, including both for-profit and not-for-profit providers. It is important to understand the role of the government demanded by the new situation – coordinator, regulator, and commissioner of services.<sup>51</sup>

The system of local government has a strong impact on service provisions in general. When it comes to the health sector, it is apparent that health facilities are brought down to the local level, but actual devolution is lacking as decisions on policy, finance and administration are in the hands of the central government. Complete devolution of power to the local level may not have worked to the benefit of the common people in Bangladesh because of the risk of instability of the local-level workers in policy formulation, and design and delivery of health services.<sup>51</sup> Given these problems, delegation of authority under proper regulation and control of the central government is probably more desirable. At present, while the central authority delegates the functions at lower levels, monitor, control and evaluation and feedbacks do not work properly. There are problems that pertain to the rigidities in budget management and the duality of the health budget, leading to sub-optimal geographic allocation rules and imbalances between recurrent and development expenditures” (Bangladesh Public Expenditure Review May 2003). In recent years, some improvements have taken place in budgeting and auditing procedures. How they will affect service delivery remains to be seen. The main problem with ineffective decentralization is the lack of civic discipline and the bureaucratic culture affected by inefficiency.<sup>51</sup>