CHAPTER 8: HEALTH, POPULATION AND NUTRITION SECTOR DEVELOPMENT PROGRAMS

PAST PROGRESS AND CHALLENGES IN THE HPN SECTOR

Health is now universally regarded as an important index of human development. Poor health is both the cause and effect of poverty, illiteracy and ignorance. Policies of human development not only raise the income level of the people but also improve other components of their standard of living, such as life expectancy, health, literacy, knowledge and control over their destiny. Health is both a major pathway to human development as well as an end product of it. Health and development converge and contribute to each other.

Alma Ata conference in 1978 heralded the vision of a new and better future for all of the human family: Better health is one of the prime objectives of development. The interrelationship between health and general economic development is complex and poorly understood. The social components of a better quality of life are benefits in themselves, but more importantly, they can be used as instruments of change or as means of increasing productivity. Better health is both an objective of and an instrument for development. Poverty leads to hunger and malnutrition and resultant diseases – low birth – weight (LBW) babies', malnourished adolescents and malnourished mothers.

The ultimate focus of economic development is human development. The ultimate concern is what people are capable of doing or being. Human fulfillment is about whether people live or die, whether people eat well, are malnourished or starve, whether women lead healthy and tolerable lives or are burdened with annual child bearing, a high risk of maternal mortality; whether people have easy access to modern medicare. These are all aspects of standard of living. But in spite of sustained efforts to reduce poverty and high rates of morbidity and mortality and to improve nutritional status, a great deal remains to be done, especially for the poor in general, and women and children in particular.

The goal of the health, population and nutrition (HPN) sector is to achieve sustainable improvement in the health, nutrition, and reproductive health, including family planning, for the people, particularly of vulnerable groups, including women, children, the elderly, and the poor.

The HPN sector emphasizes reducing severe malnutrition, high mortality, and fertility, promoting healthy life styles, and reducing risk factors to human health from environmental, economic, social and behavioral causes with a sharp focus on improving the health of the poor. More specifically, with regard to MDG/PRSP in the health sector, the main emphasis is on the

human dimension of poverty, i.e. deprivation in health, deprivation in nutrition including water and sanitation, as well as related gender gaps. The major MDG/PRSP targets include the following: (i) reducing infant and under-five mortality by 65% and eliminate gender disparity in child mortality; (ii) reducing the proportion of malnourished children by 50% and eliminate gender disparity in child malnutrition; (iii) reducing MMR by 75% and ensure availability of reproductive health services to all; and (iv) reducing the burden of TB and other diseases.

Past Progress

Bangladesh has been implementing Sector-Wide Approach (SWAp) in HNP sector since 1998 and currently implementing health, nutrition and population sector program (HNPSP) for 2003-2011, being the second SWAp ,while the first one was health and population sector program (HPSP) for 1998-2003. Since Bangladesh was the first country in the world to implement SWAp, much of the learning was by doing. The major policy shift in development from project approach to program approach (SWAp) suffered from the problems like weak coordination, inadequate capacity and conflict with existing systems. Persistent procurement problems lowered the timeliness and efficiency of spending. Inadequate understanding of the procedures coupled with frequent change of key personnel in the program implementation constrained and the long time required settling the audit objections reduced program implementation. Changes in the policy level, delay and complicated fund release system, World Bank lengthy and complicated procurement process and poor retention of trained personnel contributed in this respect. Effective outputs in HPN sector depends upon inter and intra-subsector coordination among health, population and nutrition. Unfortunately not much progress could be achieved in inter sub-sectors coordination resulting duplication, wastage and missed opportunities. Similarly coordination and collaboration could not be effectively established and operationalized between HPN and other sectors, which affect HPN sector.

Despite these shortcomings some important results in terms of improved health outcomes were achieved, as evidenced by the findings of successive Bangladesh Demographic and Health Surveys:

- Total fertility rate declined to 2.7 in 2007 from 3.3 in 1996-1997.
- Percentage of children underweight for age declined to 41 in 2007 from 56.3 in 1996-1997.
- Percentage of children underweight for height declined from 17.7 in 1996-1997 to 17.4 in 2007.
- Percentage of children short for age was 54.6 in 1996-1997, which has reduced to 43.2 in 2007.
- Under-five mortality rate per 1000 live births declined to 65 in2007 from 116 in 1996-1997.
- Infant mortality rate per 1000 live births declined to 52 in 2007 from 82 in 1996-1997.
- Percentage of children's vaccination has improved to 81.9 in 2007 from 54.1 in 1996-1997.

- Percentage of ante-natal check –ups by the trained providers has improved from 29 in 1996-1997 to 51.7 in 2007.
- Percentage of delivery by trained person also increased from 8 in 1996-1997 to 18 in 2007.

Nevertheless, the achievement of universal health coverage, the removal of rural-urban, rich-poor and other form of inequities and the provision of essential services for vast majority of the population continue to remain as major challenges for the health sector. More specifically, issues such as poverty related infectious diseases, mothers suffering from nutritional deficiency, children suffering from malnutrition, pregnant women not receiving delivery assistance by trained providers, poor maternal and child health, unmet need for family planning and the rise in STD infections constitute major challenges.

The lessons of experience suggest three major areas of weakness that needs to be corrected.

Weak implementation of the HNPSP initiative

The Government's flagship HNPSP initiative suffered from a number of problems that limited to effectiveness of the program. These include:

- Although HNPSP has been able to mobilize sufficient amount of resources, overall public spending on health has remained low. In FY 11 the activities under HNPSP suffered due to sudden withdraw of fund by DP's.
- HNPSP did have pro-poor essential service package (ESP) but lacked an effective M&E system to monitor health-related inequalities.
- Public resource allocation is based on historical norms for facilities, number of beds and staffing, rather than on indicators of individual and household health needs, taking into account the extent of poverty.
- While the ESP was directed towards rural areas by the MoHFW as the bulk of poverty is found there, this left major gap in primary health care coverage of urban areas by the MoLGRD, MOHFW was failed to cover urban primary health care under HNPSP. Urban poverty and health status remain as major concerns.
- Attempts at institutional unification and coordination under HNPSP did not work and contributed towards loss of momentum in family planning and fertility reduction. Deficiency in the approach of permanent and semi permanent method of family planning, high dropout rate of temporary methods also contributed in this respect.
- HNPSP could not able to alter substantially the structure of improved gender equity in health sector plans and programs. But implementation of policies and plans was limited due to weak institutional mechanism and lack of resources.
- Whilst HNPSP was formulated and initially planned using extensive consultative processes, it did not involve users and other key stakeholders fully in program implementation.
- Whilst HPSP/ HNPSP introduced some important budget reforms, the revenue and development budgets were planned and managed separately.

- HPSP/ HNPSP did not go beyond the bounds of the MOHFW to help shape policies in other sectors that produce health gains.
- Although decentralization was an important feature in HPSP, in reality centralized procurement of logistics for all programs in DGHS and DGFP by CMSD of DGHS and Logistics & Management Unit of DGFP resulted in delays in providing supplies and logistics. This kept the newly constructed hospitals from functioning send ultimately resulted in the low utilization of Project Aid.

Inadequate attention to gender dimension in health and nutrition.

Findings from various studies indicate that women and girl children are more vulnerable to death and disease compared to their male counterparts. Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters relating to the reproductive system and its functions and processes. Reproductive health therefore implies that (a) people have the ability to reproduce as well as to regulate their fertility; (b) women are able to go through pregnancy and child-birth safely; (c) the outcome of pregnancy is successful in terms of maternal and infant survival and well-being and (d) couples should be able to have sexual relationships free of the fear of unwanted pregnancy and of contacting diseases.

While reproductive health programs should also address the needs, roles and responsibilities of men and young persons, the real thrust of reproductive health strategies and programs must ensure that women are able to fulfill their reproductive roles safely because, to a great extent, the burden of reproductive ill health is borne by women:

There is no denying the fact that the rights of men and women to be informed of and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, and the right of access to appropriate health care services that will enable women to go safely through pregnancy and child birth and provide couples with the best chance of having a healthy infant.

The reproductive health status of Bangladesh women is very poor, poorer than that found in many developing countries in South Asia. However many deaths associated with pregnancy and childbirth can be avoided. In this context, safe motherhood requires action on three fronts simultaneously: (a*)* reducing the numbers of high-risk and unwanted pregnancies, (b) reducing the numbers of obstetric complications, and (c) reducing fatality rates in women with complications.

Inadequate attention to the link between poverty and health

At the preventive level the poor have inadequate ability to acquire a nutritious diet, better living and working conditions and other attendant factors that would prevent ill-health. The result is endemic occurrence of communicable diseases and diseases related to deficient nutrition. At the same time, health care services available to the poor in terms of physical

accessibility, monetary cost and effectiveness are minimal. Gender bias in nutrition and health care in childhood, early marriage and conception, lack of voluntary check on the family size and poor state of pre-natal and maternal health care services only intensify women's health problems.

Further, women's poor health status through various intervening variables affects their reproductive choice. Poor health leads, for example, to a high incidence of wasted pregnancies and secondary infertility. This is an important reason why women do not want to voluntarily limit their family size. Also, poor living conditions and other factors increase infant mortality rate (IMR), and wherever IMR is high, couples are reluctant to limit their family size. Poverty also leads to the belief that more mouths to feed also mean twice the number of hands to work. Thus, children are considered as economic assets and the greater the number of children greater the sense of security. Environmental degradation makes fuel wood gathering, livestock pasturing and water fetching more difficult. As these are tasks that children can do the value of children increases for parents. And these links are strongest where female fertility is already high. Poverty also indirectly denies access to contraceptive knowledge and methods to an impoverished woman even if she is inclined to limit her family.

Health, Population & Nutrition Sector Development Programs

The Government of Bangladesh (GOB) seeks to create conditions whereby its people have the opportunity to reach and maintain the highest attainable level of health as a fundamental human right and social justice. GOB has targeted to achieve MDG 4, 5, 6 and part of the MDG 1 and 8 and also part of the vision 2021 through the next health sector program. The HPNSDP is targeted towards this goal and sets out the sector’s strategic priorities and explains how these will be addressed to a certain extent, taking into account the strengths, lessons learned and challenges of implementing the last two sector programs, the HPSP and the current HNPSP.

The key components of the HPNSDP are: (i) Improving Health Services and (ii) Strengthening Health Systems. The component one comprises of (a) improving health services and (b) improving service provisions. These two components are interdependent and mutually reinforcing. Responsibilities for improving and providing health services are shared among the Directorate General of Health Services (DGHS), the Directorate General of Family Planning (DGFP) and the Directorate of Nursing Services (DNS). Other Directorates like the Directorate General of Drug Administration (DGDA), Health Engineering Department (HED), National Institute of Preventive and Social Medicine (NIPSOM), Institute of Epidemiology, Disease Control and Research (IEDCR), Institute of Public Health and Nutrition (IPHN), Institute of Public Health (IPH), National Institute of Population Research and Training (NIPORT) and other relevant institutes share the responsibility of strengthening health systems.

Total Health Expenditure

In the Bangladesh National Health Accounts III, Total Health Expenditure is estimated at Taka 160.9 billion ($2,331 million) in 2007, Taka 74.2 billion ($1,375 million) in 2001, and Taka 48.7 million ($1,140 million) in 1997. In real terms, THE has continuously increased during 1997 to 2007, from Taka 74.4 billion in 1997 to Taka 160.9 billion in 2007, when measured in constant 2007 prices. Over the 1998–2007 periods the average annual total health expenditure growth rate was 12.7% in nominal terms and 8.1% in real terms.

The ratio of Bangladesh's health expenditure to Gross Domestic Product (GDP) provides an indication of the proportion of overall economic activity contributed by the health sector. Total health expenditure as a percent of GDP was 3.4% in 2007. Health expenditures as a ratio to GDP show a slow but steady increase over time– averaging 2.8% during 1998–2002 compared to an average of 3.2% during 2003–2007. In 2007, per capita spending on health was Taka 1,118 ($16.2), which if adjusted for Purchasing Power Parity (PPP), becomes Taka 3,178 ($46).

International Comparison

Within South Asia, Sri Lanka had the highest per capita expenditure on health in 2006 – $57. Using the international comparable SHA definitions of total health expenditure, expenditure per capita in Bangladesh in 2007 was $16 (SHA estimate). In 2006, Bangladesh had the lowest per capita expenditure at $14.4, followed by Nepal ($17). Total health expenditure as share of GDP constituted 3.3% for Bangladesh in 2006, whilst Pakistan had the lowest share at 2.6%. Public health expenditure as percentage of total health expenditure is highest in Sri Lank (51%), whilst Bangladesh's and India's public expenditure ratios are similar, accounting for about one fourth of total health expenditure.

Table 8.1: International Comparison of Health spending in Bangladesh, 2006

Country	Per Capita Health Expenditure ($)	Total Health Expenditure as % of GDP	Public Exp as % of total health expenditure	Public Exp as % of GDP
Bangladesh	14	3.3	27	0.9
India	29	3.6	25	0.9
Nepal	17	5.1	30	1.6
Pakistan	19	2.6	32	0.8
Sri Lanka	57	4.2	49	2.1

Source: Bangladesh National Health Accounts (BNHA III), 2010, Ministry of Health and Family Welfare

Challenges in the HPN Sector

- There are major differences in health conditions and health care consumption between different groups. Improvements in some areas are relatively more difficult to sustain while there are indications of stagnation in others.
- In order to reduce maternal mortality and neonatal mortality, Bangladesh's current challenge is to improve effective service delivery, to improve health sector governance (especially in primary and maternal health services), to increase the number of trained birth attendants and to make them available at the community level.
- Further sharp reduction in fertility supply of contraceptives especially to reduce unmet need, dropout rate, to overcome regional variation in contraceptive use, might demand new ways of interventions for which conceited inter and multisectoral efforts would be required.
- It is important to address "Population momentum effect", early child bearing and adolescent health.
- It is a challenge to reduce child mortality and to address district and regional variations.
- Popularize community clinic approach as a one stop community level information and service delivery point.
- Threats of HIV/AIDS, particularly from injectable drug users, pockets of malaria, kal-azar and filaria and multi-drug resistant TB are also emerging as challenges.
- Challenges remain in the context of decentralization, maintenance of electro-medical equipments, proper resource mobilization, and proper translation of HR strategy. Emerging and changing pattern of threats include arsenic related diseases, avian flu, childhood disabilities, mental health problems, road-railway-river accidents and violence (particularly against women).
- The challenge of reducing malnutrition essentially that of women and children needs coordinated multi-sectoral interventions on sustained basis.
- Meeting the health needs of the fast growing urban poor including the slum dwellers will continue to pose major challenge.
- Demographic and life-style changes give rise to emerging health threats: more youths, more females, more ageing population, and rise of non-communicable diseases. The inevitable effect of climate change over health poses additional challenges.
- With increasing dominance of technologies in health care, the requirement of human resources in health in appropriate number, skill-mix and make them available at the right place, will continue to remain another challenge.

- There is a challenge of coordinated activities across the different wings/different directorate of MoHFW to make the newly constructed or upgraded physical facilities fully functional.

- The development of appropriate strategies to handle the large number of informal semi or un-qualified health care providers (village doctors, drug sellers, kobiraj, totka, herbalist, faith healers, untrained traditional birth attendants etc.) catering to the needs of majority of the population particularly of poor and women poses some challenge.

- Centralized management system of the government health services and prevalent practices at the facility levels result in absenteeism of service providers. These are emerging as mal' or obstacles to effective and efficient utilization of the countrywide health care infrastructure network.
- Preparation of HR master plan including career plan incentive mechanism and deployment strategy seems to be difficult to address the absenteeism.

- Increase health expenditure and public sector (including Development Partners) contribution to health expenditure. This will require appropriate policy to mobilize resource and utilize local resources (such as user fees, community insurance etc.)

GOALS, OBJECTIVES AND TARGETS FOR HPN IN THE SFYP

The HPN and Millennium Development Goals

Within the broader context of Millennium Development Goals (MDG), the Government's vision for HPN sector is as follows:

The Government seeks to create conditions whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. It is a vision that recognizes health as a fundamental human right and, therefore, the need to promote health and to alleviate ill health and suffering in the spirit of social justice. This vision derives from a value framework that is based on the core values of access, equity, gender equality and ethical conduct.

By 2021, Govt. of Bangladesh (GoB) envisions a Bangladesh of middle income country, where poverty will be drastically reduced; citizens will be able to meet every basic need and development will be on fast truck, with ever increasing rates of growth. Within this broad context, the vision for health sector is to create conditions whereby the people of Bangladesh have the opportunity to reach and maintain the highest attainable level of health. This vision also derives from the framework of Vision 2021, which is based on the core values of access equity, gender equity and ethical conduct.

Milestones for Vision 2021

To achieve the goals of vision 2021, the Government has set the following milestones:

• 2011: Supply of pure drinking water for the entire population.

• 2012: Self-sufficiency in food.

• 2013: Each house brought under hygienic sanitation.

• 2021: Poverty rate comes down to 15%.

• 2021: 85% of the population have standard nutritional food.

• 2021: Poor people ensured a minimum of 2122 kilo calories of food.

• 2021: All kinds of contagious diseases eliminated.

• 2021: Longevity increases to 70 years.

• 2021: Infant mortality comes down to 15 from 54 per thousand at present

• 2021: Maternal death rate reduced to 1.5% from 3.8%.

• 2021: Use of birth control methods increased to 80%.

The HPN sector emphasizes reducing severe malnutrition, high mortality (of children and women) and fertility, promoting healthy life styles, and reducing risk factors to human health from environmental, economic, social and behavioral causes with a sharp focus on improving the health of the poor. The main emphasis is on the human dimension of poverty, i.e. deprivation in health, deprivation in nutrition including water and sanitation, as well as related gender gaps.

Major Objectives

- To ensure access and utilization of HPN services for every citizen of the country, particularly elderly, women, children, poor, disadvantaged and those living in difficult areas
- To revitalize of community health care under an effective and integrated Upazila Health system with essential service package
- To reduce maternal mortality
- To reduce the rate of child mortality
- To control HIV/AIDS, TB, Leprosy, Malaria
- To reduce total fertility rate
- To ensure adolescent and reproductive health care

- To decentralize and to strengthen local level planning to obtain better results in implementation of programs
- To bring self-sufficiency in the production of medicines of international standard and to promote their export
- To ensure nutrition to children and women.
- To take effective measures to promote alternate medicines and to improve the quality of care
- To control/eliminate infectious diseases
- To meet challenges of emerging, re-emerging and non-communicable diseases, health hazards due to climate change and emergency response to catastrophe.
- To enhance national capacity for pre-service education (SBA/nursing, Paramedics, midwifery), provide in-service training and better management of Human Resources.
- To improve the quality hospitals and maternity services and to make these accessible especially to the women, children and poor.

Specific HPN Targets for the Sixth Plan

The HPN targets for the SFYP are listed in Table 8.2.

Table 8.2: HPN Targets for the Sixth Plan

SI	Indicators	Base value with Year	2014-15
	Impact/Outcome		
1	Life- Expectancy	66.6 (SVRS 2007)	70
2	Population Growth Rate	1.40 (SVRS 2007)	1.3
3	Maternal Mortality Ratio (MMR) (per 100,000 live births)	194 (BM MS 2010)	143
4	Neonatal Mortality Rate (per 1000 live births)	37 (BDHS 2007)	27
5	Infant Mortality Rate (per 1000 live births)	52 (BDHS 2007)	31
6	Under 5 Mortality Rate (per 1000 live births)	65 (BDHS 2007)	50
7	Malaria mortality-(per 100000 population)	4.4	2.2
8	Maintain low prevalence of HIV	<1%	<1%
9	Prevalence of Night blindness among pregnant women	2.90%	1%
10	Underweight of Under 5 children (6-59 months)	41% (BDHS 2007)	33%
11	Stunting of Under- 5 children 16-59 months)	43% (BDHS 2007)	25%
12	Total Fertility Rate (TFR)	2.7 (BDHS 2007)	2.2
	Output		
13	Contraceptive Prevalence Rate (CPR)	55.8% (BDHS 2007)	74%
14	Modern Method of Contraceptives	47.5 (BDHS 2007)	63%
15	Discontinuation rate of FP methods	56.5% (BDHS 2007)	20%
16	Unmet need for Family Planning	17.1% (BDHS 2007)	7.60%
17	Contraceptives use rate of married adolescent	37.6% (BDHS 2007)	50%
18	Permanent & Long acting FP (of CPR)	7.3% (BDHS 2007)	20%
19	TB case detection rate	73% (NTP 2008)	75%
20	TB cure rate from	92% (NTP 2008)	95%
21	Provide effective malaria prevention to 100% population at risk	5 districts	5 districts
22	Proportion of h/h own at least 1 Insecticide Treated Net (ITN)	64%	80%

SI	Indicators	Base value with Year	2014-15
	Impact/Outcome		
23	Under 5 children sleep under (ITN)	70%	80%
24	Births attended by skilled health personnel	26.5% (UESD 2010)	50%
25	Facility level delivery	15% (BDHS 2007)	40%
26	ANC coverage (4 visits)	20.6% (BDHS 2007)	50%
27	PNC coverage (Mother)	21.3% (BDHS 2007)	50%
28	PNC coverage (children)	21.9% (BDHS 2007)	50%
29	Met need for EOC services	22.43% (BDHS 2007)	80%
30	TT coverage (children protected at birth from Tetanus)	93% (CES, 2008)	95%
31	Valid coverage of full Immunized children	75.2% (CES, 2008)	90%
32	Immunization of 1- year old children against Measles	83% (CES, 2008)	100%
33	VAC coverage (6 m-6 y)	98%- 100%	98%- 100%
34	Postnatal VAC supplementation	29%	80%
35	Severe anemia (Children)	64%	50%
36	Severe anemia (Pregnant women)	46%	40%
37	Exclusive breast feeding of children (less than 6 months)	42%	80%

Source: BDHS (2007) Bangladesh Demographic and Health Survey, National Institute of Population Research and Training, NIPORT, 2007; BMMS (2010) Bangladesh Maternal Mortality Survey, National Institute of Population Research and Training, NIPORT CES (2006) EPI Coverage Evaluation Survey, Directorate General of Health Services, Ministry of Health and Family Welfare, 2006 ; National Tuberculosis Control Program -NTCP (2007): Tuberculosis Program in Bangladesh, Annual Report, 2007 SVRS (2007) Sample Vital Registration Survey, Bangladesh Bureau of Statistics (BBS), Ministry of Planning

Health, Population & Nutrition Sector Development Programs

To achieve the Vision 2021 and Sixth Plan targets, the Government has adopted a comprehensive health, population and Nutrition Sector Development Programs (HPNSDP). The HNSDP seeks to create conditions whereby people have the opportunity to reach and maintain the highest attainable level of health as a fundamental human right and social justice. It targets to achieve MDGs 4, 5, 6 and part of the MDG 1 and 8 and also part of the vision 2021 through the next health sector program.

The key components of the HPNSDP are: (i) Improving Health Services and (ii) Strengthening Health Systems. The component one comprises of (a) improving health services and (b) improving service provisions. These two components are interdependent and mutually reinforcing. Responsibilities for improving and providing health services are shared among the Directorate General of Health Services (DGHS), the Directorate General of Family Planning (DGFP) and the Directorate of Nursing Services (DNS). Other Directorates like the Directorate General of Drug Administration (DGDA), Health Engineering Department (HED), National Institute of Preventive and Social Medicine (NIPSOM), Institute of Epidemiology, Disease Control and Research (IEDCR), Institute of Public Health and Nutrition (IPHN), Institute of Public Health (IPH), National Institute of Population Research and Training (NIPORT) and other relevant institutes share the responsibility of strengthening health systems.

HEALTH SECTOR STRATEGIES AND POLICIES IN THE SFYP

The strategies and policies for realizing the Vision 2021 and achieving the targets of the Sixth Plan for the health subsector build on the lessons of experience of the implementation of the past health policies. It takes a comprehensive approach to improving the health sector service delivery including stronger partnership with private sector. The main elements of the health sector strategy adopted in the HPNSDP are elaborated below.

(a) ***Public Health Service Delivery Strategy***

Improving health system linkages: Theoretically, Bangladesh seems to have a health system of some sophistication. There is a network of hospitals, health centers and dispensaries, thousands of staffs and extensive training centers. This network, now in its advanced stage of development, comprises of 402 health complexes at the Upazila level (UHCs), about 4000 health and family welfare centers (HFWCs) at the union level and several thousand community clinics (13,500) at the ward level.

The roles of the Upazila health complexes and union health and family welfare centers are of key importance to the delivery of primary health care in rural areas. It has been recognized that proper and effective curative care greatly influences the process of the people's acceptance of preventive and promotive health care. Without active support of the former, the latter cannot be geared up to a significant extent, particularly in the existing socio-economic conditions of rural Bangladesh. What is primarily needed is effective curative care with adequate provision of preventive, promotive services with health education.

The country's health system is hierarchically structured and can be compared to a five layer pyramid. First, at the base of the pyramid, there is the ward level health facility (CC), consisting of a health assistant and a family welfare assistant. At the next level is the union health and family welfare center (HFWC) staffed by a medical assistant, one family welfare visitor and one pharmacist, which concentrates on the provision of maternal and child health care and provides only limited curative care. Third, there is the Upazila Health Complex (UHC) with nine doctors, two medical assistants, one pharmacist and one radiographer and EPI technician. The UHC is responsible for inpatient and outpatient care, maternal and child health services and disease control. Operation theatre is also functioning in the UHCs especially in the 50 bedded UHCs. Fourth, the district hospital is the first layer of the health care pyramid to have theatre facilities, but some selected UHCs have got EOC facilities. Finally, the medical colleges and post-graduate institutes form the top of the health services pyramid offering a wide range of specialty services.

Under the recently introduced Sector Program (HPNSDP) efforts are being made to achieve "health for all" within the shortest possible time and to ensure equity of access for all Bangladeshi citizens, especially those who live in rural areas and in urban slums. The health centers that need most attention in order to achieve better health outcomes for the population

at large are the community clinics and the Upazila health complex.

Community Clinic: Re-commissioning of the community clinic, established during the earlier tenure of the present government on the principle of one for 6,000 rural population to bring the services to the door step, has already been started by mobilizing appropriate human resources, drugs and equipments. Community clinics is expected to deliver one stop integrated health, population and nutrition services to the respective communities and will be first point of contact of the rural community with the public sector health services. In addition to thorough repair of 10,723 community clinics established earlier, another 2,777 are planned for construction, of which 700 at coastal belt will be double storied for the provision of using as shelter in case of emergencies. In addition to service providers (health assistant and family welfare assistant), a new post of community health organizers have been created in each of 13,500 community clinics, which will not only strengthen service delivery but also employment opportunities to rural women. For demand creation effective information dissemination (IEC) programs will be planned.

With the re-vitalization of the community clinic management groups, community participation in community clinics will be ensured and this is expected to be the model of community driven primary health care delivery. Community clinics are also expected to be foundation of a strengthened, improved and effective Upazila health system catering the need of the rural population.

Upazila Health System: Functioning of the Upazila health complexes, union health and family welfare centers/sub-centers will be strengthened and further consolidated through providing adequate human resources, drugs and other medical aids. The provision of essential services package (ESP) delivery through Upazila health system will be strengthened and popularized. Up-gradation of 31 bed Upazila health complex in 50 beds with the provision of more specialist service (like orthopedics, ophthalmology, cardiology, pediatrics and ear-nose-throat) will continue. So also the up-gradation of the union health and family welfare centers. 31 bed hospital and 20 bed hospitals will be established as when needed. Involvement of the local government institutions and non-government organizations will be explored for demand creation, effective service delivery and appropriate utilization, particularly by the poor, women, elderly, marginalized and vulnerable. The current commitment of spending at least 60 per cent of total budgetary allocation of the health, nutrition and population sectors at Upazila and below level will continue to be pursued to improve the quality of primary health care and make it accessible and acceptable to the people.

Urban Health: The services offered by secondary and tertiary hospitals will, depending on bed capacity, be standardized along with human resource needs and table of equipments (TOE) linked to the services. Appropriate human resources development and management structure will be developed for the existing hospitals. New branches of sub-specialization will be created in all medical college hospitals, so that patients do not need to rush to the capital city. Hospital autonomy will be introduced initially for the tertiary level specialized hospitals and

gradually extended to medical college and district hospitals. Management Committees at hospitals will be strengthened for better monitoring and vigilance team for hospitals will be further strengthened and its jurisdiction will be expanded. Government will establish new specialized hospitals under its private public partnership initiative. Accountability and quality of care will be ensured and death audit will be introduced as part of such initiative.

The existing practices of providing urban primary health care (UPHC) services through contracted NGOs for the city corporations and selected municipalities under the LG Division will continue to be pursued. In addition, MOHFW will continue to provide PHC services in urban areas not covered by the UPHC project. Similarly, it will also continue to provide secondary and tertiary level health care in urban areas and try to improve both coverage and quality in response to demand. A priority objective for improving urban health services will be to facilitate access and effective use of available essential services packages (ESP) delivery services by urban poor and slum dwellers. To this end, an urban health strategy in collaboration with LG Division will be developed with a view to streamlining urban primary health care services and establishing strong institutional linkage and ensuring primary health care, family planning, reproductive health and nutrition services for the urban poor. Existing linkage with LG Division will also be strengthened for urban disease surveillance and monitoring including management information system, capacity development and quality assurance, etc. Moreover, MOHFW will strengthen its policy directive and stewardship roles in providing effective urban health care services including ensuring adequate doctors and medicines.

Maternal and Newborn Health: Several critical issues hamper progress in maternal and newborn health. A very high percent (about 80%) of childbirths occur in the home with traditionally trained and unqualified birth attendants – a scenario that restricts the potential to improve maternal and newborn health. According to the Survey of Maternal Mortality 2010, for every 1 lac live birth, the rate of maternal mortality is 194. Capacity will be improved to provide care of adequate quality particularly for the poor for normal childbirth (basic essential obstetrics care) through trained (community) skilled birth attendants, community clinics, union health and family welfare centers, Upazila health complexes and facilities at and above districts including maternal and child welfare centers, and for the prevention and management of complications (comprehensive essential obstetrics care) by expanding services in more Upazila health complexes and ensuring the same through all maternal and child welfare centers and district hospitals and facilities above. A midwifery plan and category according to international standard will be formulated inclusive of participation from non-public sectors. Existing family welfare visitors training institutes (FWVTI) will start family welfare training courses as pre-service and will also provide (community) skilled birth attendants (C-SBA) training. Through developing guidelines FWV and C-SBA training will also be open for non-public sectors to provide. In addition, existing nursing institutes will be strengthened. Possibilities will also be explored to utilize nurse-midwives for providing maternity services. These initiatives are expected to produce significant numbers of skilled service providers to

care for normal childbirths. Efforts will be strengthened for more Upazila health complexes to provide comprehensive and emergency essential obstetrical care by training and placement of requisite human resources and providing required instruments and supplies. Governance will be ensured through improved monitoring in providing comprehensive and emergency essential obstetrical care in designated facilities. To improve maternity services in urban areas, particularly for the poor, delegating nurse-midwives for performing midwifery functions in public sector facilities and engagement of non-public actors to provide required services will be explored. The maternal health strategy will be updated with the formulation of maternal and newborn health strategy. The ongoing maternal voucher scheme (demand side financing) will be evaluated and based on findings a revised program will be launched in coordination with the maternal allowances provided by the ministry of women and children affairs. Initiatives will be explored to utilize community support groups for awareness raising and supporting to utilize maternity services through removing social, economic and other barriers. Coordination between health and family planning department will be strengthened, so that patient gets a well coordinated continuum of care crossing the boundaries if the departments and not constrained with silo of the departments. Coordination and monitoring will be improved to get best possible outcomes from the on-going/upcoming multiple development partners supported maternal and newborn services. In order to reduce maternal mortality, media participation and education on reproductive health will be given special emphasis.

Antenatal Care: WHO recommends a minimum of four antenatal visits during pregnancy with care provided by skilled health personnel. In Bangladesh, skilled health personnel include doctors, nurses/midwives, FWV, community skilled birth attendants (CSBA), medical assistants/SACMO and paramedic. Prenatal care should include immunization against tetanus, iron and foliate tablets supplementation, hookworm treatment and management of STIs and RTIs. Besides, educating women on danger signs of pregnancy complications, performing screening tests including urine and blood tests, and measuring weight gain, height and blood pressure are essential components of ANC. It can be inferred that ANC visits to skilled health personnel prevent complications that would arise due to anemia, infection and other preventable causes.

The proportion of pregnant mothers seeking at least one antenatal care visit by skilled health personnel has increased from 26% in 1991-93 to 52% in 2002-06 (Table 8.3). Only 21% of women made four or more antenatal visits in 2007, far below the target of universal coverage. The UN Joint Maternal and Neonatal Health (MNH) Program has set a target of 60% ANC coverage (four visits) for 2011. ANC coverage from a medically trained provider increased by 18 per cent between 1999/2000 and 2007 BDHS. The increase in coverage was significantly higher in rural areas than in urban areas.

Table 8.3: Percentage of Women who Received ANC from a Medically Trained Provider

Characteristics	BDHS 1999-00* (1995-99)	BDHS 2004 (1999-03)	BDHS 2007 (2002-06)
Residence			
Urban	58.6	71.0	71.3
Rural	28.0	43.0	46.4
Division			
Barisal	33.8	39.5	43.7
Chittagong	30.6	47.4	52.4
Dhaka	32.5	48.7	48.2
Khulna	43.7	54.8	62.6
Rajshahi	33.5	51.2	55.0
Sylhet	27.0	43.8	46.9
Wealth Quintile			
Lowest		24.9	30.8
Second		38.6	36.3
Middle		48.8	48.0
Fourth		60.6	65.5
Highest		81.1	83.6
All	**33.3**	**48.4**	**51.7**

* Wealth Quintile data of 1999-2000 are not available

Source: BDHS various years

Hard to reach populations and the disadvantaged: It is estimated that there are 2.5 million people in Bangladesh, who are members of 'ethnic populations'. Majority of them (42%) live in three hill districts of the Chittagong Hill Tracts (CHT), while others are scattered in northern hilly regions and some coastal districts. They belong to 45 different communities with a very low level of literacy and nutritional status. These communities are particularly poorly served by health facilities. As they live in remote areas, it is difficult to attract health workers to stay in the area. These communities have specific needs in their cultural settings which necessitates special measures and adjustment in delivery mechanisms. Collaboration with MOCHTA and the CHT Board would be strengthened with a view to increase support of the health sector, in partnership with NGOs.

People with disabilities (PWD): Many of the disabilities linked to poverty are preventable, such as through actions on low birth-weight, malnutrition, iodine deficiency, eye care, injury prevention and skilled management of complications. Disabled girls face multifaceted problems, e.g., sexual abuse, unwanted pregnancies, marginalization in the family and society. They have limited access to health services due to physical, psychological, social and economic barriers. Both infrastructure and services will need to adequately address their needs such as accessibility and human resources development that addresses issues of attitudes and behavior of service

providers towards them. Inter-sectoral coordination is important in this area, as various other government ministries are also involved, such as the Ministry of Social Welfare (MOSW).

Elderly: People > 60 years of age constitute 8% of the total population of Bangladesh and are likely to increase the numbers as life expectancy increases. Widowhood and poverty affect the elderly women more socially and economically. The main aim for geriatric care is to promote health, well being and independence of the elderly. The specific program objectives are to create awareness for geriatric care management, train the geriatric caregivers and increase service facilities for elderly at all levels. The MOSW has introduced a Hospital Social Service Program (HSSP) in both government and non-government hospitals, where the needs of elderly patients are emphasized. This program needs to be reviewed and scaled up along with encouraging the private initiatives in this area.

Geographically excluded population: Difficulties in accessing different geographic locations have left some areas of the country isolated from the mainstream public services. These include the chars, the haor areas and the remote coastal areas. Particularly in the rainy season, access to these areas is difficult for government staff and access to government facilities is difficult for inhabitant of these areas. While government initiatives in infrastructural development are improving access, this is still insufficient. Alternative methods of increasing access of health service would be further explored and expanded including initiation of mobile clinic units and involvement of the NGOs, private and individual social institutions.

Professionally marginalized and socially excluded groups: Various professional groups are socially marginalized and excluded because of their professions. These include sweepers and sex workers who are also impoverished. They are often unaware of the health consequences of their professional activities, unable to take the necessary preventive or curative measures and are unable to switch occupations due to various social constraints. The health services providers are often unwilling to treat or advise such patients and also not always capable of dealing with their specific needs. In order to ensure equity in access for all, both the clients and the service providers have to be motivated to use the health services available and to enable these groups to access health services.

Priority interventions to address hard to reach populations and the disadvantaged will include:

- Preparing a map of the hard to reach areas of Bangladesh and ensuring need based provision of HPN services for the hard to reach population through the GOB network where available. Motivating the service providers through counseling for giving adequate care to the marginalized and socially excluded group of population.

- Strengthening collaboration with the MOSW, MOCHTA, the CHT Board, the NGOs and the private sector to address the health service of the hard to reach population and the disadvantaged.

- Engaging locally available private individuals, social clubs, CBOs and NGOs by MOHFW for stimulating informed demand of the hard to reach population and ensuring quality health services and appropriate utilization.

- Providing essential service packages with support from NGOs/CBOs, due to shortage of public sector human resources, through agreed arrangements, in the hard to reach areas.

Institutional deliveries: The proportion of births delivered at a health facility increased from 4 per cent in 1989-93 to 15% in 2002-06. The recent increase in institutional deliveries is mainly due to increase in deliveries at private facilities. However, there are high rural-urban, regional, educational, and wealth status disparities. Women in urban areas are three times as likely as women in rural areas to give birth in a health facility. Institutional deliveries of uneducated mothers is 3% compared to 43% for secondary and higher educated mothers. Similarly, women from the top wealth quintile are nearly ten times more likely to deliver at a health facility than women in the bottom quintile. Institutional deliveries are the highest in Khulna division (22%), while Sylhet division has the lowest percentage (8%) of institutional deliveries.

Facility deliveries increased moderately from 9% in 2004 to 15% in 2007 partly due to the introduction of Maternal Voucher Scheme in 33 selected Upazilas with a view to increasing access to poor women to maternal health services. Under this scheme, eligible pregnant women are entitled to receive 3 ANC, safe delivery including c-section, complication management and one PNC. In addition, cash benefits are provided for transport, nutritious food and other items and for referral. With the increase in facility deliveries, deliveries in NGO and private sector facilities increased from 3% in 2004 to 8% in 2007. NGO and private sectors are performing double the number of C-sections as the public sector.

Births attended by skilled health personnel: Assistance by medically trained personnel during delivery is a key intervention for reducing both maternal and neonatal mortality. Assistance during delivery by medically trained providers was only 5% in 1990 which increased to 18% in 2007. Additionally, trained traditional birth attendants (TBA) assist 11% of deliveries. However, more than 60% of births in Bangladesh are assisted by dais or untrained traditional birth attendants. Medically assisted births have increased from 12% in 1999-2000 13% in 2004 and further to 18% in 2007. Births in Khulna (27%) are more likely to be assisted by medically trained personnel than births occurring in other divisions. However, the highest differential in delivery assisted by a medically trained provider was by wealth quintile: the proportion of medically assisted births in 2007 among women from the richest quintile was 51%, while the poorest quintile had the lowest proportion (4.8%) (Table 8.4). The SFYP will conduct 3 month training program for the midwives for improving their skill level and equip them with necessary medical kit boxes for smooth and effective service delivery. Training Centers for Safe Birth Attendant will be developed in every district.

Table 8.4: Percentage of Delivery Assisted by Medically Trained Provider

Characteristics	BDHS 1999-00 (1995-99)*	BDHS 2004 (1999-03)	BDHS 2007 (2002-06)
Residence			
Urban	33.0	29.4	36.6
Rural	8.0	9.2	13.2
Division			
Barisal	10.5	11.4	13.4
Chittagong	11.8	11.7	18.5
Dhaka	12.3	14.9	19.8
Khulna	19.2	21.2	26.6
Rajshahi	10.3	10.6	15.4
Sylhet	9.3	11.1	10.9
Wealth Quintile			
Lowest		3.4	4.8
Second		4.5	6.7
Middle		10.5	12.1
Fourth		17.4	22.5
Highest		39.6	50.9
Total	**12.1**	**13.2**	**18.0**

- Wealth Quintile data of 1999-2000 are not available
- *Source: BDHS various years*

The percentage of births by caesarean section is sometimes considered to be a proxy indicator of women's access to skilled care for maternal complication. In 2007, 8 percent of babies born were delivered by caesarean section, an increase of 4 percentage points from 2004. Caesarean sections are more common among first births (13%), births in urban areas (16%), among women with secondary or higher education (26%), and among women in the highest wealth quintile (26%).

Postnatal care: Maternal mortality can occur during postnatal period due to maternal complications. Postnatal care provides an opportunity to assess and treat delivery complications and to counsel mothers on how to care for themselves and their children. A large proportion of maternal and neonatal deaths occur during the 24 hours following birth. In Bangladesh, about 30% women received postnatal care following their last birth, among them 22% received care from a medically trained provider.

Child health: Reducing childhood deaths, Bangladesh is on track to achieve MDG 4 with impressive declines in infant and under-five mortality rates. Most of the effective health interventions (like immunization, vitamin A, oral rehydration etc.) has taken care of equity issues – gender and economic. Build on the success already achieved, efforts will be strengthen for maintenance and achieving further. Integrated management of childhood illness will be further expanded, particularly of community component to cover the entire country. Alternate strategies will be explored to train informal and semi/un-qualified providers. Efforts will be made to include more children (already achieved 85%) to have suffered diarrhea

provided with appropriate oral rehydration. Similarly efforts will be undertaken to increase the proportion of children suffering from acute respiratory illness who went to a trained providers. Number of the vaccines in the routine immunization program will be further expanded. Existing excellent quality surveillance will be maintained for well and prompt investigations of outbreaks. Special activities will be undertaken for maintenance of zero polio status, measles catch-up and neonatal tetanus campaigns.

Reproductive health: The life-cycle approach will be undertaken to address the need of women for general reproductive health and to ensure reproductive health in phases. The vast network of state facilities will be further strengthened for appropriate women, adolescents and reproductive health. The demand for services will be created through strengthened health production involving community and different stakeholders.

Referral system: As far as possible, outdoor treatment will be encouraged. All medical college and tertiary hospitals will accept referred patients. A network of well-worked out referral system will be developed so that patients are assured of receiving treatment from health facilities and that patient load at the higher levels is not needlessly burdened by those who can be treated at the local level. In addition, structured two ways referral system linked to ESP services will be established for creating an opportunity for a patient attending at the lowest service delivery level to have the opportunity to get the treatment at the highest level. Support of tele-medicine and e-health will be used to make specialist services available to all people irrespective of their geographical locations at low cost. At least equal opportunity will be provided to women for recruitment in telemedicine and e-health. Number of women recruited for these services should be sufficient to respond to the demand from women for these services.

Health education and promotion: A major strategy to ensure better health would be to promote public health through health education within MOHFW and channels outside it. The existing institutions of MOHFW will be strengthened for providing effective health messages. Coalition will be built with mass media for providing health education to the population on a continuing basis regarding methods of preventing communicable and non-communicable diseases, caring practice for children, adolescents, physically and mentally challenged and the old aged, and creating awareness on nutrition, personal hygiene, use of safe water and proper sanitation. Effective health education through educational curriculum, mass media etc. on disciplined life style and healthy food habit will certainly reduce the risk of different diseases. Steps will also be taken to reach basic health and reproductive health information through school curricula and utilize NGOs and different religious centers to influence health behavior of the people. Moreover, activities of existing school health clinics will be reviewed and based on learnt lessons, school health program will be scaled up through developing a strategy in collaboration with Ministry of Education, Ministry of Primary and Mass Education, Girl's Guides, Boy's Scouts, etc. The strategy will also include training of Primary School Teachers on Primary Health Care.

Communicable diseases: The existing programs along with focus will further be expanded and strengthened to intensify prevention and control of communicable diseases, such as, acute respiratory infection, diarrhea, dengue, etc. In order to control water borne diseases, emphasis will be given to improve the existing sanitation facilities, especially those in urban slums. *Malaria* is a disease that cannot be eliminated, but it can be kept at a low and manageable level by well-organized early ease detection and treatment and by protection against the vector, which requires a close and permanent relationship with the affected communities. The affected communities live in 13 eastern districts, with 3 hill tract districts accounting for 80% of all cases 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. In line with these programs, several strategies have been undertaken under the SFYP e.g. bed net availability and use will be expanded with indoor residual spraying will also be expanded. Diagnostic and treatment facilities will also be expanded. Case finding, treatment and vector control will be strengthened. Gradually existing responsibilities of contracted NGOs vertical workers will be shifted to the government health workers. Cooperation of private sector will also be strengthened. *Filariasis* is endemic in 34 districts, with a population of approximately 70 million people. Filariasis can be eradicated if the total population in an area has received mass drug administration with two types of drugs once a year during 5 years. Efforts will be undertaken to appropriately motivate volunteers administering mass drugs and to motivate all people to take the drugs as prescribed to increase coverage at appropriate level. Vector control (e.g. with bed nets) will also be explored. Elimination is being defined as a microfilariaemia rate of less than 1 % among people at risk. Elimination is aimed by the program.

Tuberculosis control is one of the successful public health programs. 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. has also an impact on reducing the burden of TB. The National Strategic Plan to Control TB (2011-2015) aims at halving the prevalence and mortality and begin 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 three programs have been developed. Under the SFYP, measures will be undertaken for the sustainability of the success achieved: more involvement of government workers in the detection and treatment of tuberculosis including private providers and urban PHC providers, finding out additional technical staff - district program organizers and control assistants, improved and additional laboratory facilities.

Kala-azar occurs in about half of the country, with a higher prevalence in 10-12 districts and with the single district of Mymensingh accounting for more than half of all cases. Case detection, surveillance, confirmation of diagnosis and treatment will be strengthened along with vector control measures. Elimination is being defined as a prevalence of less than 1 case per 10,000 populations in an Upazila. Program will be geared to the goal of elimination.

Leprosy is eliminated (as defined with prevalence of less than 1 per 10,000 populations) nationally in 1998. However, it was still over 1/1 0,000 in 4 districts and 5,251 new cases of leprosy detected in 2008. Training of health care staff, awareness programs among the population, treatment of the patients and assistance to cured but deformed patients will be continued. MOHFW will strengthen its linkage with LG Division and other appropriate ministries in improving facilities for safe drinking water and sanitary latrines (including same arrangements in all riverine transports and railway) and making the environment clean with a view to combating communicable diseases.

HIV/AIDS: In order to achieve the MDG (Goal 6) the target is to (i) have halted by 2015 and begun to reverse the spread of HIV/AIDS and (ii) achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it. The prevalence of HIV/AIDS in Bangladesh is currently less than 0.1% and thus still below an epidemic level. However, in Bangladesh, behavioral factors among most at risk populations (MARPs), explored in several rounds of Behavioral Surveillance Survey shows a trend that could fuel the spread of HIV from MARPs to the general population. HIV Voluntary Counseling and Testing (VCT) services and the uptake of VCT remain limited. Thus, many people who are infected with HIV may not be aware of their HIV status. The 8th round national serological surveillance (2007) found a HIV prevalence rate of 7% overall and 11% in one of the neighborhoods of Dhaka. The HIV prevalence among sex workers overall is below 1%, but at hilly areas the prevalence was 2.7% among casual sex workers. Such concentrated prevalence has potentially far reaching implications on HIV transmission to other vulnerable segments.

The Bangladesh National HIV/AIDS Strategic Plan (2006-2010) is focused on five key areas: (i) to provide support and services for priority groups; (ii) to prevent vulnerability to HIV infection; (iii) promote safe practices in the health care system; (iv) to provide care and treatment services to people living with HIV; and (v) to minimize the impact of the HIV/AIDS epidemic. Under the SFYP, interventions with high-risk groups will continue to implement with enhanced monitoring and supervision. Capacity of the national AIDS/STD program (NASP) will be strengthened - both in management and in HIV / AIDS technical, for providing stewardship in the program, including setting-up permanent structures in revenue budget. A new comprehensive national strategic plan for HIV / AIDS prevention and control will also be formulated.

Non-communicable diseases*:* Reduction of morbidity and premature mortality due to non-communicable diseases (NCDs) will require appropriate actions at all levels from primary prevention to treatment and rehabilitation in an integrated manner. The government will, in

partnership with local government administration and private sector create greater awareness of, and provide services for the control of unhealthy diet and lifestyle related major NCDs like-- cardio-vascular diseases, cancer, diabetes, mental illness, etc. It will also take steps to combat common NCDs, such as, hypertension, asthma, blindness, etc., which particularly afflict the poor. Existing preventive and curative measures with respect to all NCDs will further be expanded and strengthened to increase access of all for health care services. Capacity to plan and implement NCD programs will be developed. Initiatives will be taken to obtain reliable base-line data on the epidemiology of NCD and their risk factors. Population screening for risk factors such as hypertension or cancer screening will not be undertaken as unrealistic.

(b) Strategy for Strengthening Health Inputs

Promotion of public awareness: A major strategy to ensure better health would be to promote public health through better health public awareness of health hazards. The existing institution will be strengthened and partnership will be built with mass media for providing health education to the population on a continuing bases regarding methods of preventing communicable and non-communicable diseases, caring practice for children, adolescents, physically and mentally challenged and the old aged, and creating awareness on nutrition, personal hygiene, use of safe water and proper sanitation. Steps will also be taken to reach basic health and reproductive health information through school curricula and utilize NGOs and different religious centers to influence health behavior of the people. Moreover, activities of existing school health clinics will be reviewed and based on lessons learnt, school health program will be scaled up through a strategy developed in collaboration with the various educational institutions

Nursing: Nursing and midwifery services is planned to strengthen in public sector by creating adequate posts and filling-up the same, so that existing mismatch of physicians-nurses and nurses-patients ratios can be improved substantially. Nursing and midwifery services is also planned to expand to cover specialist nursing services like cardiology, orthopedic, neurology etc. Nursing and midwifery education will be expanded for training more nurses both in public and non-public sectors covering diploma and bachelor courses. Quality of nursing and midwifery education is planned to be improved at international leveling addition, to meet the domestic requirement and also to export manpower abroad. Up-gradation of Directorate of Nursing services to Directorate General Nursing services, appropriate career and human resources planning in the nursing services/ teaching profession is the demand of the time to ensure the quality of health services for the people.

Drugs: Initiatives have been taken to revise the existing drug policy to ensure easy access to essential drugs at fair prices and to supply quality drugs and also to bring self-sufficiency in the production of medicines of international standard along with promotion of their export. Directorate of Drug Administration is planned to strengthen, expand and modernize to improve its regulatory capacities. Increased attention will be given to popularize rational use

of drugs by educating both the prescribers and users on appropriate prescription practices and use of appropriate drugs with dosages. Both the existing drug testing laboratories at Dhaka and Chittagong are planned for modernization. In addition, another drug testing laboratory of international standard is planned to be established.

Medical education: Proper medical education system is very crucial for effective HPN service delivery. Measures will be taken for the production of appropriate skill-mixed workforce (super-specialist physicians and surgeons, specialist physicians and surgeons, general duty doctors, specialist nurses, general duty nurses, mid-wives, nutritionist, dieticians, paramedics, technologists, electro-medical engineers/ technicians etc.) in both public and private sectors. Private sector participation in medical education has expanded over the past few years. Maintaining the quality of medical education has since become crucial. The MOHFW will reexamine the current accreditation arrangements for pre-service educational institutions of both public and non-public health professionals and will consider the need for a uniform accreditation body to coordinate and regulate all types of medical education. Client's satisfaction is an important outcome of quality of care combined with the perception of provider's behavior. Awareness of the importance of this issue needs to be inculcated during pre-service education. To this end, steps will be taken to provide community exposure and patient-friendly orientation in medical education and training. Bangabandhu Sheikh Mujib Medical University will be made as center of excellence. Bio-engineering education has always been a neglected area and in this regard emphasis will be given to encourage such education and to develop skilled people in this area. During the period of internship, a mandatory time (e.g. 6 months) should be spent in Upazila Health Complex for improving the health service provided at the upazila level.

Food quality: The problem of major health hazards stems from unsafe drinking water and consuming unhygienic and low quality food. Definitive food standards will be established to serve as benchmark for evaluating and maintaining standards. Initiatives will be undertaken for reviewing all existing food safety laws and upgrading laboratories with clear assignment of responsibilities for different entities within public and private sectors. The government will examine the need for an authority for food (independently or integrate with existing drug administration) to take necessary follow-up action with the aim of removing threat to health of the citizens from substandard and/or adulterated food. By removing food deficit, nutrition needs of 85 percent of the population will be ensured.

Emergency preparedness response: The level of readiness at all tiers of the health system will be strengthened for emergency response and capacity of the sector will be increased for coordinated post-disaster management. Standard national guidelines for mass casualty management as well as manual for local level health response will be issued and necessary training will be conducted. Standardization of emergency health supplies and their stockpiling will be part of the readiness program. Partnership will also be forged with disaster management agencies, groups and individuals for improving emergency preparedness, prevention and mitigation.

Climate change and health protection: A concerted effort will have to be made to protect health from adverse effects of climate change. To this end, a national program outline will be developed in order to reduce the burden of diseases due to climate change. Public health services will be strengthened as part of central component of adaptation to climate change. The existing health research agenda will include the adverse effect of climate change on health, and field surveys and studies will be conducted to identify the short, medium, and long term effects of climate change on health. Various steps will be taken to raise public awareness through coordinated efforts and sharing of research findings with all concerned actors. An advanced preparedness plan will be developed to face the consequences of climate change. Moreover, climate change being a global challenge, calls for an unprecedented degree of partnership. An effective response will require actions across the society and from global community, in order to safeguard and enhance national as well as global public health security.

Alternate medical care: Homeopathy, ayurvedic and unani are included in alternate medical care (AMC). Necessary actions will be taken for improvement of the standard of alternate medicine, increase the demand for quality care and thereby reduce unsound practices. Capacity building of the AMC providers and proper monitoring and evaluation of the AMC provider will be undertaken. AMC education and AMC provision in public sector facilities will be further expanded.

Affordable health care services: Existing system of affordable health care services will be further expanded and consolidated ensuring proper safety net for the poor. Facilities providing health care outside the public sector (but receiving government fund) will ensure that at least 30 per cent of their all types of services are kept for free treatment for those who cannot pay. Necessary fund will be mobilized through user fees, government allotment, social organizations, private contributions, corporate social responsibility, community financing schemes, and social insurance. Fees for providing medical advice or diagnostic service will be reviewed and regulated as necessary. The government will also encourage establishment of network of evenly spread specialist and super-specialist services through private investment for patients who can pay.

Surveillance of diseases: The existing disease surveillance system will be reviewed for its updating to incorporate NCDs along with CDs and keeping in view the international health regulation system. Disease information monitoring and management system will be strengthened not only to issue public alert and increase availability of adequate information concerning the incidence and prevalence of diseases at regional and national levels, but also to establish a network with the global disease information system. Maps of all major diseases, on the basis of their incidence and prevalence, will be constructed for each district.

Medical waste management: The government has recently introduced waste management initiative for hospitals at the Upazila and below to ensure safe, environment friendly and cost-effective management of sharps and other hospital wastes derived from curative, diagnostic,

immunization and other services both in public and private sector. The on-going efforts of hospital waste management at all levels will be strengthened further and expanded all over the country. The government has already decided that in house medical waste management should be the responsibility of MOH&FW and out house management should be the responsibility of MOLGRD. A coordinated mechanism along with committees at different levels will be established involving hospital authorities, city corporations and municipalities, and Ministry of Environment (MOE) for management of both in-and-out house hospital wastes. This will require direct involvement of, and increased investment by, both the public and private sectors. Steps will also be taken to improve the capacity of DGHS for inspection and monitoring of medical waste management. In addition, NGOs and private sector's engagement for the out-house management will also be encouraged.

Physical facilities*:* Need based repair/renovation and up-gradation of the existing facilities (community clinics, union health and family welfare centers, Upazila health complexes, maternity and child welfare centers, district hospitals, medical college hospitals, tertiary level specialized hospitals and other installations) will continue along side of setting up new facilities and installations. Capacity of Public Works Division (PWD) and Health Engineering Department (HED) will be strengthened.

Telemedicine and e-HPN: In order to contribute to the vision of Digital Bangladesh, HPN sector will connect all its facilities and installation with computerized network. Data /information will be continuously used for making management decisions, policy formulation, program design, monitoring and evaluation. Moreover audio-video conferencing and mobile phone services will be used to provide need based services to the people. Moreover all the training institutes under MOHFW will include computer training in all of its courses. Public hospitals and MCWCs will be gradually brought under functional e-health as smooth operational and management tool. Support of tele-medicine and e-health will be used to make specialist services available to all people irrespective of their geographical locations at low cost

Strengthening research and training: Research will emphasize on priority areas of biomedical, public health, family planning, epidemiological, HPN systems and policy, social and behavioral, and operational issues. National HPN research system will play a stewardship role in identifying priority and engaging research institutions and researchers including non-public for generating reliable evidences. It will also play a vital role in advocating research findings for policy and programmatic adoption, as well as for raising citizen's awareness. The capacity of various research institutions and individuals will be augmented to achieve the above stated goals. Bangladesh Medical Research Council (BMRC) and National Institute of Population Research and Training (NIPORT) will be strengthened after reviewing its mandate and structure for assuming strategic stewardship and governance roles for HPN related research. NIPORT's training institutes will be strengthened to produce more pre-service FWV, midwives and Community SBA personnel to cope with need. Recently constructed "National Institute of Health Management" will be responsible for capacity development of the service

providers under DGHS. In addition to that, IST (TTU) of DGHS, NIPSOM, IEDCR, ICMH, BSMMU, Medical colleges and specialized institutes are also contributing significantly in strengthening research and training.

(c) Strengthening Public Service Delivery Capacity and Accountability:

Health sector management/governance: Governance is an important element of health system performance linked with improved quality of care and efficient utilization of scarce human, infrastructural and financial resources. There are a number of problems in the public health service provision, which contributes to poor governance. These include inefficiency in service delivery, (medicine, logistics), inefficiency in managing health personnel, poor quality of services and negative perception about type of services available. The poor quality of services is indicated by staff absenteeism, inadequate attention given by doctors, non-availability of medicines and supplies, long waiting time, poor maintenance of equipment and unhygienic conditions.

Another problem is inadequate supply of medicines from the hospital. Only 12% of the outpatients and 1% of inpatients received the full course of medicine from the hospital. Government facilities are the last resort for the hapless poor who cannot afford to consult a private qualified doctor. But the findings from the same study show that doctors do not pay adequate attention to the patients who visit hospitals for obtaining services.

There is a widespread absenteeism either in the form of staff actually not being present or mental absenteeism in the form of indifference with the clientele or strong preferential treatment of patients. Regarding staff absenteeism, there are two problems to confront. One problem is that many posts at the public hospitals do not get filled at all, that is these posts are lying vacant. The other important problem is that even when filled, the doctor may not be there to attend to the patients i.e. the doctor is 'absent' from duty.

It is found that hospital doctors, especially senior doctors (Professors/Associate Professors) spend most of their time attending private patients either in the facility when they are present in the hospital or in their private chambers/clinics during afternoon. Thus, the "effective" number of public doctors in hospitals is much less than the filled in positions (or government norms) would imply. It is found that the total time spent by doctors at the District Hospitals, patient care accounts for 49% as against 45% of unproductive/idle time, while administrative works (5.2%) and time spent in meeting/health promotion activities are a very small proportion of doctor's time at the district hospital. Similar picture also emerges for UHCs and the situation is even worse at the HFWCs.

The findings suggest that many health centers are not fully utilized and most staff have slack time. It is clear that available resources can be used more efficiently freeing up resources for expanding activities. There is an urgent need to take appropriate steps to ensure more efficient use of time by service providers.

The findings from the same survey show that staffing costs comprise a significant share of total costs of a health facility. Personnel costs account for as much as 76% of total recurrent costs at the UHC, followed by 70% at the HFWC and 62% at the district hospital. Again, spending on drugs and MSR accounts for 29% of total costs at the HFWC, which decreases to 19% at the DH and only 10% at the UHC.

Results from an exit survey indicate that the majority of the service users are dissatisfied with the existing level of quality of care of public health care institutions. They are found to be dissatisfied with such aspects of care as waiting time, cleanliness and privacy of treatment, and expressed serious concern about the quality of inpatient food, availability of prescribed drugs and medical supplies at the health centers. Outdoor patients were found to be relatively more satisfied than the indoor patients on almost all dimensions of care. Further, females appeared to be disadvantaged than males in receiving inpatient care.

About 75% of the inpatients reported that they bought medicines for their treatment in hospitals. This figure was lowest in case of UHC (64%) and was highest for district hospitals (78%). Poor governance in the management of drugs becomes apparent as there seems to be higher levels of supply to facilities than to patients. Several measures will be taken to improve the governance and management of the health care system. Important reforms include:

Improved management: MOHFW will continue to pursue sector-wide approach in its development planning and implementation of HPN program. It is expected to result better government ownership and leadership; improved partnership with the DPs; an agreed sector policy framework and strategies based on shared vision and priorities; common sector program/expenditure framework; better coordination and alignment of resources; and strengthened harmonized implementation mechanisms and use of local systems and procedures.

Capacity development particularly in the areas of planning, monitoring, procurement and financial management are extremely crucial for improving implementation capacity of the public sector program. All the officials in key positions like line directors, program managers and deputy program managers will be trained in above areas with follow-up support on the job. Trained people in key positions need to be retained to get the benefit of investment. In this regard, MOHFW, in addition to practice retention seriously by itself, will engage with other ministries like establishment, planning and finance for compliance of retention of trained human resources in key positions. In order to enhance the capacity for the implementation, geographical distribution of available Human Resource (HR), appropriate utilization of them through revising job description will be critical. Filling up of all vacant positions is very important to ensure proper implementation of the program. In addition to current move of recruitment of doctors, nurses and other positions, efforts in future will aim to continue recruitment regularly to avoid such huge vacancies as experienced recently.

Coordination among planning, hospitals and administration wings with physical facilities construction agencies need to ensure timely securing of equipments (by placing orders at appropriate advance time) and placement of human resources (by initiating post creation move at appropriate advance time) as soon as the construction of facilities have been finished so that these can be made functional immediately. Fund release procedures need to be streamlined so that first quarter can be released soon the financial years starts, without wasting time as prevailing. MOHFW in consultation with the Ministry of Finance will work out alternate procedure for timely release of fund for second and onward quarters as currently obstructed for the requirement of evidence of expenditure of 75% of funds in the previous quarters, which has the limitation due to existing practice of central procurement. More delegation of financial and administrative power, procurement, repair and maintenance will be explored and exercised to strengthen district and below level service delivery facilities.

Better governance: Good governance in the health sector will be strengthened through prudent staff deployment, preventing all sorts of mal practices, prohibiting strike and creating a more customer friendly health service delivery system in the public facilities in partnership with all stakeholders. The stewardship capacity of public sector will be improved for monitoring quality of care and safety of patients in both public and private sectors.

The on-going collaborations between the state and the non-state actors in strengthening family planning, nutrition, EPl, TB and leprosy, HlV / AIDS etc. activities have been found encouraging through active involvement of the communities. Therefore, these initiatives will be scaled up as necessary and lessons from these experiences will be replicated in other areas of concern. The community-based organizations will be involved in monitoring the quality and coverage of services.

Expansion of private sector's health service provision will continue to be encouraged, so that private sector can support and complement the government activities. But, the private sector will also be kept under constant review to ensure proper treatment of patients and make them more transparent and accountable to the citizens. The existing regulations relating to the operation of the private clinics and diagnostic centers would be strictly enforced.

The Citizen's Charter for health service delivery has been put in practice in the public hospitals and health complexes. Practicing of the said charter will be monitored and strict adherence to its implementation will be ensured.

With the recent renewed commitment of strengthening the local government administration and institutions at different levels, opportunities have cropped up for exploring devolution of health programs and utilization of fund through different levels of local government institutions. Adaptation of such approach will enable need based allocation of resources and close supervision through the locally elected representatives.

Focus on improvement of public health services through better planning, reallocation of existing resources as well as increasing resources, establishing transparency and accountability, reducing wastage and improving efficiency by better management practices will be continued.

Transparency, accountability and stakeholder participation: Management committees along with government service associations, and professional organizations like Bangladesh Medical Association (BMA), Bangladesh Private Practitioners Association (BPPA), etc., as key stakeholders can play a more effective role in achieving good governance and ensuring transparency and accountability in health sector. The stakeholders, including non-state actors, media and civil societies will be involved in formulating policies and included in managing committees of hospitals. They will also be consulted on major issues of health sector's development in order to increase participation, transparency and accountability.

Sectoral reforms: The ongoing health sector reforms will be carried out under the ongoing HNPSP and upcoming next sector program. The on-going reform measures need to be closely monitored and reviewed for their successful implementation. Efforts are on to reestablish functioning of the Bangladesh Medical and Dental Council through an amendment of the concerned law. Gradually other laws relating to regulatory bodies will be reviewed and strengthened to make them functional and effective. Both administrative and financial authority, as far as possible, will be decentralized with a view to increasing accountability and establishing quality health care services at all levels. A system of collection, retention and utilization of "user fees" at all public health facilities (ensuring adequate safety net for the poor) will be established and for this a set of guidelines developed.

Stewardship role of the Ministry of Health and Family Welfare: The government has been emphasizing on wider involvement of the private sector including non-state institutions for enhancing effective health service delivery. To this end, the stewardship role of the MOHFW has to be strengthened. The following are some of the important areas where effective regulatory mechanism of the government will be established.

1. MOHFW will gradually assume strategic stewardship and governance roles for policy management in the following and related areas.

- Setting up a coordinating system for synergistic, effective and efficient contribution from public and non-public including private sector and health related NGOs for extending and improving health services.
- Necessary steps will be taken for formulation, implementation, review and periodic updating of a comprehensive (i) Maternal, Neonatal and Child Health Strategy, (ii) Population Strategy by updating the existing NPP, (iii) Infant and Young Child Feeding Strategy, (iv) Strategy for Combating HIV/AIDS, (v) Strategy to reduce the burden of TB, Malaria, Kalazar and Filaria, (vi) Urban Health Strategy, (vii) Non-Communicable Diseases Strategy,(viii) Emergency Preparedness and Response Strategy, (ix) Accident and

Violence Management Strategy, (x) Occupational Health Strategy, (xi) Mental Health and Drug Addiction Strategy, (xii) Tribal Health Strategy, and (xiii) Food Safety and Drug Strategy.

II. MOHFW strengthens its regulatory and supervisory roles

- Regulatory bodies (Bangladesh Medical and Dental Council (BMDC), State Medical Faculty (SMF), Bangladesh Nursing Council (BNC), Bangladesh Pharmacy Council (BPC), and Ayurvedic, Homeopathy and Unani Board will be made more effective and functional through revising their mandate, structure and capacity building for enforcement of standards.
- The existing structure and capacity of DOHS will be reviewed and strengthened for increasing supervisory performance and enhancing institutional capacity.
- Professional medical ethics and code of conduct will be established among the service providers through enforcement of regulatory framework in consultation with the professional associations.
- The need for separate regulatory body for effective service delivery system for both the public and private sectors will be reviewed.

Ill. Public sector notably MOHFW will increasingly focus on ensuring proper safety net for the poor, vulnerable and marginalized.

- Existing health delivery system in both public and private sectors will be further expanded and strengthened, ensuring proper safety net for the poor, vulnerable and marginalized. Individuals receiving old age stipends from the government will get full free treatment in all public hospitals.
- Alternative health delivery systems will be explored leading to an eventually self managed system with community participation in managing the facilities on pilot basis and then scaled-up, based on lessons learnt.
- Public-private partnership in health delivery system will be further expanded and strengthened with an effective monitoring and regulatory mechanism.

IV. MOHFW assumes responsibilities for proper information generation, collection and effective management feeding into policy formulation and planning.

- Develop comprehensive plan including performance indicators for monitoring and evaluation of health interventions and HPN facilities with sound demographic and socio-economic data including those on burden of disease, inequality and gender disparity.
- Improve existing communicable disease surveillance system to support a more rapid response to tackle disease outbreaks. Surveillance of major non-communicable diseases will also be integrated with communicable disease surveillance.
- Formulation, implementation and periodic review of comprehensive behavior change communication strategy for stimulating informed demand for health services.

- Formulation of an improved planning and budget through pilot introduction of local level planning (decentralized at district and Upazila level) supported with resource allocation.

Strengthening human resources: The comprehensive human resources strategy under preparation by MOHFW will address the issues of shortages, mal distribution of personnel, skill-mix imbalance, negative work environment and weak knowledge base. Steps will be devised for improving the quality of existing workforce in both the formal and the informal sectors. Measures will also be taken for production of additional workforce (doctors, nurses, paramedics, technologists, etc.) in the public sector and the private sector, based on need assessment. Moreover, the following are some of the important areas of focus for HPN sector's human resources development (HRD).

- The public sector HRD strategy will, among other things, involve establishing career plans for specific lines of specialization, based on competence and experience, and clear principles for promotions, posting and transfers.

- The marked imbalance in the skill-mix of service providers needs to be addressed on an urgent basis. Priority will be given to the pre-service education, recruitment and training of additional nurses, midwives, technicians and C-SBAs to meet existing shortage and improve service delivery. Efforts will be taken to recruit a number of female doctors, nurses and Family Welfare Visitors to provide health care services to women in Community Clinics, Union Health Complexes, District Hospitals and Urban Health Centers

- Personnel management procedures will be reviewed and updated as required. The updates will include introduction of incentives for service providers working in remote and hard-to-reach areas and modifications of the transfer-posting practices for field level managers.
- Performance management (supervision and annual performance evaluations) of individual staff will be strengthened through individual performance, performance management. This will include application of merit-based incentives as well as disciplinary measures in response to absenteeism or misuse of public-sector resources for private gain.
- The large and critical role of the informal health care providers will have to be recognized and appropriate strategies developed with a view to managing and improving their practices to minimum levels of acceptable care. They will be given need based short training of different durations at both public and non-state facilities, particularly on appropriate drug use and prevention of drug resistance, routine curative care management and referral of complex cases to the appropriate facility.
- Bangladesh needs to take more initiatives to accelerate the reduction of infant and maternal mortality. To this end, in addition to strengthening SBA training programs, the untrained TBAs will be given appropriate training of short duration on maternal and neo-natal care and safe delivery. A system of supervision will be established to regulate the quality of their service.

Improving supply management: The MOHFW has continuously been monitoring and reviewing the process of procurement for developing a need based, efficient and cost-effective system. The new contracting-out system is already in place keeping provision for repair and maintenance for ten years by the supplier for certain electro-medical equipment. This system along with functioning of the National Electro-Medical Equipment Workshop (NEMEW) will be further reviewed for strengthening the repair and maintenance of electro medical equipment for their proper functioning. Further emphasize will be provided on improvement in Central Medical Stores Depot's capacity, staff training, storage and distribution, Computerized Inventory Control System (CICS) and Logistics Management Information System (LMIS). The scope for further expansion of decentralized procurement will be explored to achieve greater timeliness in procurement of supplies.

(d) Strengthening Access to and Utilization of Public Health Services for the Poor and Needy

Primary health care services can be characterized by their availability, accessibility, utilization, coverage, quality, and impact. Of particular concern in a country like Bangladesh is ensuring that high-quality primary health care services reach those most in need, namely the poorest, least educated, and geographically most isolated members of the society. The three aspects of health, viz. status, access and utilization, are distinct though interrelated. Indicators of health status (e.g. mortality and morbidity rates) can reflect whether health services have had any impact on the health of the population. A greater availability of health services is obviously intended to improve health status and to reduce inequity in the distribution of health services. However, it is important to consider the actual utilization of available health facilities since equity and access are likely to have an impact on health status only if these facilities are actually utilized.

Access to health services can be defined in terms of (a) access of available health facilities to rural and urban areas and different social classes and (b) their actual utilization, which would determine the level of satisfaction of health needs. The factors determining access and utilization are diverse. Income is only one factor that might explain access to health services in developing countries. It is necessary but not sufficient – other factors such as the nature of government policies and their effectiveness, income distribution and institutional and non-economic factors (such as cultural and social constraints) play an equally important role in determining access to health services and their utilization.

To be effective, health services should be available, accessible and affordable. But mere availability of health facilities does not result in their utilization. Accessibility has a number of dimensions, which include:

- Physical Accessibility (distance, travel time and travel costs);
- Economic Accessibility (cost of medicine, cost of consultation, cost of hospitalization, cost incurred with respect to tests/investigations);

- Social and cultural context (Gender) affecting accessibility;
- Perceived quality of services: (i) availability of doctors; (ii) availability of medicine; and (iii) attitudes of doctors/nurses.

Physical accessibility: The three main aspects of physical accessibility are distance from the health facility, travel time and travel cost to arrive at the facility. Physical accessibility is not a major barrier in the sense that patients do not have to travel a long distance to reach health facilities at the Upazila level and below. Once patients arrive at the facilities, they do not have to wait for a long time to get to the services as well. However, patients visiting higher-level facilities have to wait much longer to see the doctor. However, physical access is a barrier to maternal and child health services in particular. In the 1999-2000 DHS, 79% of women reported that the lack of a health facility nearby was a constraint to consumption. In the same survey, 50% of women responded that getting to the health facility was a problem to them. There is significant negative association between both distance to the provider and travel time and the use of health services. If the travel time was 40 minutes or greater compared with travel time of 15 minutes or less a child is less likely to be taken to a qualified allopathic provider or a traditional practitioner than a village doctor, . Other research has shown that a majority (74%) of sick children in a rural area of Bangladesh are taken less than two miles for treatment; and that a majority of those children are seen by private practitioners. In contrast, children who are taken more than two miles for treatment received health care from qualified allopathic providers.

Social and cultural context – utilization by age and gender: The social and cultural context has an important impact on the utilization of health services in Bangladesh. Social and cultural factors particularly affect the role of gender and the participation of women in household decision-making. Women are less likely to utilize health services, the DHS (Demographic and Health Survey) data show that 44% of women reported difficulty in getting permission to go to a health provider as a constraint to health service consumption .In addition, 49% of women reported that finding someone to accompany them was a problem. It is found that men who were sick were more likely than women to utilize modern qualified providers in rural Bangladesh. The gender bias may reflect beliefs that it may not be appropriate for women to be seen by a male provider. In addition to the long-standing cultural biases against women, the fact that the health providers available in rural Bangladesh are predominantly male suggests that the problem of women's access to care will not be easily solved.

Findings from various studies have shown that in Bangladesh, females generally do not get proper treatment during their childhood as well as during their reproductive age span. There is considerable evidence that in rural Bangladesh females have less access to food, health care and other resources than males within the same household. Utilization patterns of health facilities for females are inversely related to the levels of care i.e. female utilization decreases as one goes up along the levels of care (from HFWC to UHC to DH). The findings suggest that males dominate utilization of government facilities, at all age groups except for the reproductive one. The gender differential in utilization rate was particularly striking for under-

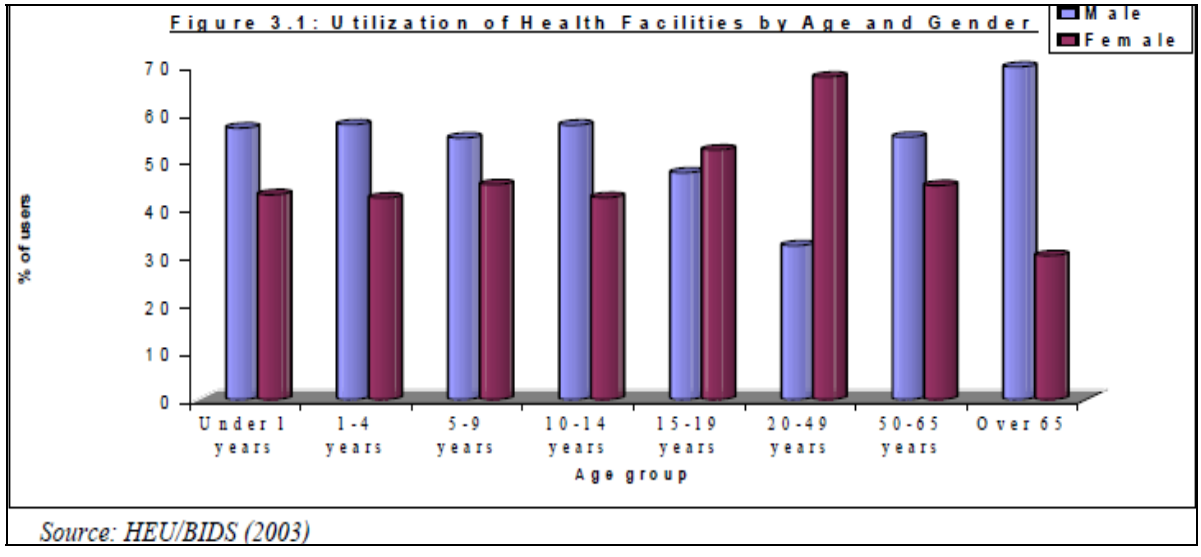
five children and also for women in the age group 65 years and above.

- For young infants, utilization of inpatient facilities was 62 per cent for males compared to 38 per cent for females, indicating that the younger the child – the higher the disparity.
- For older persons aged 65 years and above, utilization of outpatient facilities was only 30 per cent for females as against 70 per cent for males. This indicates that in terms of receiving care and treatment during old age females are much more disadvantaged compared to their male counterparts.

These findings imply that despite nearly comparable incidence of diseases for males and females, male children are brought to the health facilities by their guardians far more frequently than female children. While less is known about the incidence of diseases by gender, findings from Matlab (ICDDR, B) data do not show any sex differential up to 5 years of age in terms of exposure to infections. Thus, one can assume that the probability of being sick is more or less the same for male and female children. But the frequency of hospitalization of male children (< 5 years) has been found to be much higher than among cases involving females (60% males as against 40% females), which clearly indicate that in terms of receiving health care, female children are especially disadvantaged compared to their male counterparts.

Reproductive age bracket (15-49 years) is the only age group where female utilization exceeds that of males. This can be explained by the fact that compared to their male counterparts, females in the age group 15-49 years are more vulnerable to death and disease because of pregnancy and associated health risks during and after delivery.

Figure 8.1: Utilization of Health facilities by Age and Gender



Source: HEU/BIDS (2003)

Economic accessibility: From an economic perspective, healthcare utilization decisions depend on the relative magnitude of costs and benefits involved from the standpoint of persons who make these decisions to use healthcare for themselves or for others. The costs of seeking

care typically include financial expenses and income losses that may be incurred as a result. Income losses can be high if considerable time is spent in commuting or standing in queues to obtain medical care.

For the same reason, the amounts paid for healthcare services, such as consultancy fees and hospital charges are also likely to be an important determinant of health care utilization. There are other factors that influence healthcare utilization behavior. For people with higher education, the perceived benefits from effective treatment and/or preventive care may be higher than for the rest of the population. Benefits could be higher for individuals whose health is considered intrinsically more important in certain cultural settings, as for people belonging to higher socio-economic classes and for males. The perceived need for medical care would depend both on the availability of healthcare facilities and the capacity to pay for health services.

The cost of health care can be a strong determining factor of health care utilization, as well as a cause of poverty. Ability to pay is a particularly important determinant of access when a high proportion of health care is financed privately, and without any type of financial risk protection from health insurance. In Bangladesh, 60% of total health expenditure in 2000 was in the form of out-of-pocket payments by individuals (64% of total health expenditure was from private sources), so that households' ability to pay for care is important. There is essentially no social security or private health insurance, although public hospitals are intended to provide a form of insurance in case of serious illness.

Impact of treatment cost on household consumption: Expenditure incurred for health care has some adverse impact on household consumption. The data as presented in Tables 8.5 and 8.6 shows the type of inconvenience households face in meeting their outpatient and inpatient needs. Findings show that expenditure on health resulted in withholding of other subsistence resources. Treatment costs have had adverse effect on other household consumption items for 70 per cent of inpatients and 12 per cent of outpatients**.** Among the inpatients who were adversely affected because of hospitalization, food consumption was reduced or there was inadequate food in 68 per cent of the households; expenditure had to be curtailed on other essential household items for inpatients and 12 per cent of outpatients**.** Among the inpatients who were adversely affected because of hospitalization, food consumption was reduced or there was inadequate food in 68 per cent of the households; expenditure had to be curtailed on other essential household items for another 64 per cent cases because of treatment cost, while 13 per cent households had to face problems in financing their children's education. Illness requiring treatment and hospitalization has significant adverse implications for the economic well-being of affected households and individuals, particularly for poor households.

Table 8.5: Problems Faced by Households Due to Health Expenditure: by Income Groups

Monthly Income (Tk)	Outpatients			Inpatients		
		Cases having problem			Cases having problem	
	All Cases	No.	%	All Cases	No.	%
up to 1000	354	51	14.40	105	81	77.14
1001-1500	639	92	14.40	148	116	78.37
1501-2000	642	92	14.33	143	119	83.21
2001-3000	1030	137	13.30	236	186	78.21
3001-5000	1104	136	12.31	235	152	64.68
5001-7500	487	33	6.78	123	72	58.53
7501-10,000	214	18	8.41	43	19	44.18
10001+	196	7	3.57	53	15	28.30
All	**4666**	**566**	**12.13**	**1086**	**760**	**69.98**

Source: BIDS/HEU, 2003

One way by which this occurs is in the form of out-of-pocket health expenditures for diseases that are relatively expensive to treat or require hospitalization. Another way in which illness can influence the economic well-being of affected households arises from incomes foregone on account of the morbidity of affected members, or taking time off from work to care for the sick. A single episode of hospitalization can account for 30 to 50 per cent of annual per capita income, with the proportion being even higher for poorer groups. This can lead to tremendous financial burden on poor households and indebtedness, sometimes resulting in liquidation of their assets/property. This would certainly indicate that episodes of illness affect the economic position of the households rather badly.

Table 8.6: Type of Problems Faced by Households due to Expenditures Incurred for Treatment Purposes

Type of Problems Faced	Outpatients		Inpatients	
	No.	%	No.	%
Insufficient food for the family	272	48.06	516	67.89
Children's education affected	29	5.12	98	12.89
Essential purchases affected	311	54.95	488	64.21
Others	15	2.65	24	3.16
All	**566**	-	**760**	-

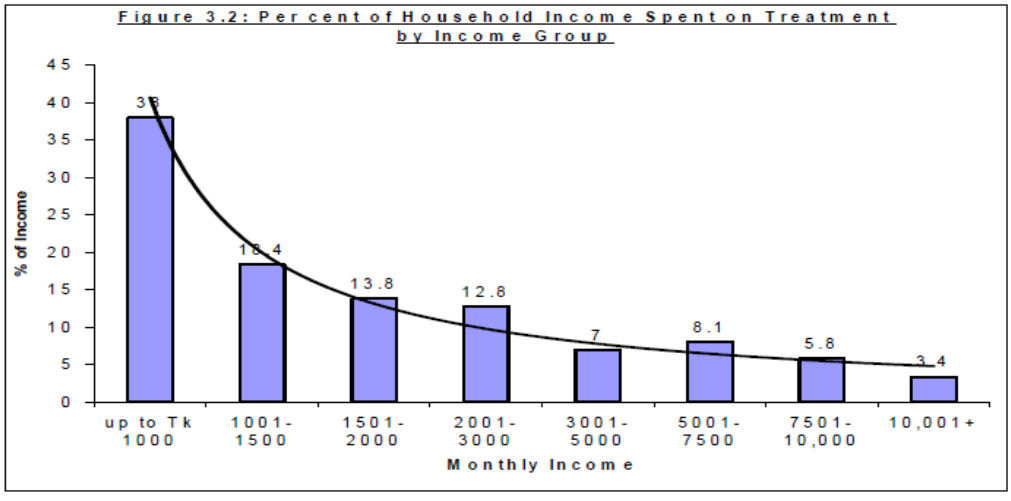
Source: BIDS/HEU, 2003

Disease burden on the poor*:* The poor bear a disproportionate share of the burden of ill health and suffering. On the whole, 8.8 per cent of monthly household income was spent on illness treatment. But the poorest households had to spend about 38 per cent of household income to meet the treatment cost of illness episodes, which is a heavy burden by any reckoning. On the other hand, the richest households spent only 3.4 per cent of household income for treatment of illness episode. Again, the poorest households spent much less in absolute sense for treatment purposes compared to the richest households (Tk 283 vs. Tk 572). This is primarily because of the fact that due to very low income of the poorest group, most of their income is spent on purchasing food and other daily necessities of life leaving very little scope for spending on health care. The findings clearly indicate that members from the poorer households have less access to resources available for health care and that they undergo a lot of economic pressure to finance their treatment cost/medical needs. Thus, for low-income households there is a real risk of indebtedness in times of illness requiring treatment.

The situation becomes really precarious for patients who need hospitalization. In the case of inpatient treatment in a government facility, especially if surgical intervention is required, the households have to incur a huge amount as out-of-pocket expenditures on medicines, diagnostic tests and other related items. To meet the hospitalization expenses many households have to borrow money and even liquidate their assets.

Any hospitalization in the household involves huge expenditure; both medical and non-medical expenses and this can very badly affect the household budget. This brings us to the question of providing financial protection to the poor households against such contingencies. Insurance schemes to cover the poor and/or low-income households who are mostly in the informal or unorganized sector can be devised. Also, even if the government hospitals want to levy user charges, people below a certain income level should be exempt from paying such charges and this could be achieved through proper targeting.

Figure 8.2: Percent of Household Income spent on treatment by Income



Source: BIDS/HEU, 2003

(e) Ensuring Gender Equality

Efforts will focus on (i) ensuring rights of women for a better physical and mental health at all stages of their life cycle, (ii) strengthening PHC for women with emphasis on reducing MMR and IMR, (iii) strengthening reproductive rights and reproductive health of women at all stages of population planning and implementation, (iv) addressing nutritional needs of women, specially of lactating mothers and the adolescents girls, (v) preventing women from HIV/AIDS and STD through awareness raising, and (vi) creating women-friendly physical facilities at all public health complexes and improving access to health services for women and girls. Moreover, efforts will continue to (i) communicate the importance of ANC, delivery care and PNC to all household heads at the grass root level, (ii) give special training to service providers at the community and higher levels on gender equity and (iii) include topics on the health needs of both males and females and their impact on gender disparities in school curricula. At present, DGHS is implementing women friendly hospital initiative activities for promoting gender equality. Further steps will be undertaken for improving gender equality in HPN in close cooperation of Ministry of Women and Children's Affairs. The existing Gender Equality Strategy of the MOHFW will also be reviewed and revised appropriately.

(f) Budget and Financing

The share of budgetary allocation to the HPN sectors needs an upward rise year by year. It is, therefore, imperative to adequately raise the share of HPN allocation to national budget in phases, and gradually raise it to 12 per cent by 2015 from the present level of around 7 per cent. Efforts will be taken to make the HPN allocation sex disaggregated. A significant part of the increased budget will be devoted to improving supply of drugs in public hospitals, especially for providing PHC services, with provision for strict monitoring of its utilization. HPN Sector's financing by the government alone is insufficient to ensure improved health care for all in Bangladesh. Expansion of private sector investment will help to bridge the gap in needed resources for extending and improving the services. The government may consider providing incentives (e.g., land at a lower price, bank loan, tax exemption for import of electro-medical equipment, training to health professionals and workers, lump sum grant, etc.) through a set of guidelines to the private sector engaged in health care service provision. In rural areas HPN sector's financing will be raised through cost-sharing by well-to-do patients' when they are treated in public hospitals. Moreover, the government (through a set of guidelines) will encourage promotion of health insurance pilots at different levels. There is substantial involvement of external funding in the health sector, e.g., project aid funds, global funds, social business funds, etc. The government will welcome increase in such funding in a harmonized way and well aligned with the national system.

(g) Public Private Partnership (PPP) in Health Sector

Role of private sector and public-private provision: The private health care sector constitutes an important part of health care delivery system. Through a wide network of health care facilities providing services in different systems of medicine, this sector caters to the

growing demand for health care in both urban and rural areas.

In the private sector, providers can be grouped into three main categories: first, the organized private sector which includes qualified practitioners of different systems of medicine; second, the not-for-profit NGOs; and third, the private informal sector which consists of providers not having any formal qualifications, such as untrained allopath, homeopaths and kobiraj etc. known as Alternative Private Providers (APPs).

Most of the private hospital facilities are concentrated in urban areas and small in size in terms of hospital beds. However, private clinics show lower lengths of stay and higher occupancy rates than public facilities of comparable size. This indicates a greater degree of resource efficiency in the private sector. However there is a lack of sensitivity to local needs in providing service-mix, which is mostly guided by profit motive.

Evidence also shows that the doctors practicing in private sector prescribe excessive, expensive and more risky drugs and often excessive diagnostic tests. Private health providers operate in non-competitive market conditions that tend to exhibit oligopolistic behavior. This allows them to maintain high prices and gaining higher profits. Therefore, efforts need to be undertaken to regulate the provision of private health services in an appropriate manner through regulation of service charges, quality of care, location and distribution.

The Sixth Plan will seek to develop effective partnership with the private sector by focusing on the relative strengths of the two sectors and strengthening collaboration and coordination. A major strength of the private sector is that private providers are more diverse in terms of the services offered, training level of the medical staff, legal organizational status, and system for medicine use. Private providers range from NGOs, mainly offering promotional and family planning services, for-profit providers (both very small practices and large modern health facilities) to traditional healers and homeopathic providers as well as licensed pharmacists and unlicensed drug sellers. If PPPs are processed correctly, wide-ranging benefits may be derived for all stakeholders. Benefits include efficiency gains; output focus; economies generated from integrating the design, building, financing and operation of assets; innovative use of assets; managerial expertise; and better project identification.

The following factors are important to consider as one proceeds along the challenging road of PPP:

- For government departments, PPPs must be an accessible, relevant, viable and beneficial service delivery option.
- The government's focus should shift from managing the inputs to managing the outcomes, i.e. becoming a contract manager rather than a resource manager.
- There should be coherence and consistency in government policy and legislation when introducing legislation and policies pertaining to PPPs.
- For the users of public services, PPPs must result in accessible, affordable and safe health services that meet acceptable quality standards leading to improved efficiency and

accountability to the public.

- For private parties, PPPs should be sufficiently rewarding in relation to the investment required and the risks undertaken.
- Private sector bidders should be allowed and prompted to respond with imagination and innovation.
- For society, PPPs must promote goals such as social equity, economic empowerment, efficient utilization of scarce resources, and protection of the environment.

Public private partnership for ESP in Bangladesh: With the introduction of Essential Services Package (ESP), the Government of Bangladesh, Ministry of Health and Family Welfare, has laid down the range of promotive, preventive and curative health services to be made available to all. As already mentioned the ESP includes established services for Reproductive and Child Health Services and Control of Communicable Diseases as well as services for Prevention and Management of Non-Communicable Diseases and Injuries.

Promotive health services are integrated in all ESP components as a cross-cutting element. They incorporate the approaches of IEC (Information, Education and Communication) and BCCC (Behavioral Change Communication), but reach towards the more comprehensive vision of Health Promotion. Essential promotive services are defined at three levels: (a) Healthy lifestyles/self-management of health problems, (b) health and health related service seeking behavior and equity of access, (c) advocacy for relevant regulatory and voluntary standards regarding environmental and occupational health and product safety.

Four areas may be identified for private sector involvement in ESP services: (1) Inclusion of private providers in capacity assessment and capacity development; (2) Contractual arrangements for defined services–e.g., ambulance services, laboratory services, out–contracting of Sub-Centers and Primary Health Care Centers; (3) Joint initiatives and contributions–e.g. government (project) support to improve health and sanitation services for vulnerable groups; (4) Promotion and support of social responsibility in business and corporate activities; e.g. concerning food safety, pollution control, occupational health and work place policies. In this context, it is worth mentioning that, out contracting of sub-centers and primary health care center needs consultation among the policy makers, service delivery providers and professional bodies. Repair and maintenance of electro medical equipment and out house management of medical waste will be considered for the private sector.

Informal private sector: It is well known that APPs provide the majority of health care in Bangladesh, especially in rural areas. The majority of the APPs do not have any formal education in their system of medicine, though a significant proportion has received some semi-formal training. They charge a very small consultation fees, and a greater share of their income comes from selling medicines. Poor people at a large proportion seek medical care from the APPs. The results indicate a very low quality of care among the APPs. However, the allopathic drug vendors usually perform better than the homeopaths and traditional providers in case of common ailments.

Private informal sector, therefore, mobilizes a considerable portion of out-of-pocket expenditure from households that is largely ineffective. It is estimated that 40% bottom poorest households contribute 40% of total health expenditure, which may otherwise be mobilized through community health insurance program for the poor.

(h) Health Care Services through NGOs

Voluntarism in Bangladesh has its roots in her social, religious and economic conditions. Individualized and ad-hoc voluntary activities in the form of giving money or food are quite common so is helping someone from one's village or distantly related. There are also organized group-oriented voluntary activities spread across Bangladesh.

Compared to voluntary organizations, NGOs are associations of persons, who comes together through the initiative of one or more dedicated persons. NGOs are run in a professional manner. Their staffs are hired for their professional skills and expertise. NGOs ability to reach poor and vulnerable groups and emphasis on participatory mode has been appreciated.

NGO sector: In health care delivery, many NGOs have displayed innovativeness and cost-effectiveness. The collaborations between the MOHFW and NGOs in strengthening family planning, EPI, TB and leprosy activities have been effective through active involvement of the communities. Community health workers can also motivate communities to better utilize government health services. These workers through increasing contacts with the local population could expand the coverage of health and family planning services while reducing the dependence on government employees. Therefore, such contacts should continue to play an important role in the provision of services to under-served and disadvantaged sections of the community.

Recently, the Government has been increasing NGO involvement in providing primary and community-based health care and nutrition services. There has been noteworthy collaboration with NGOs, in BINP, social marketing of contraceptives and urban primary health care. These initiatives require further scaling up and lessons from these experiences may be replicated in other areas of concern. The community-based organizations can be involved in monitoring the quality and coverage of services.

NGO services in the health sector have largely been confined to consultations and raising awareness, as major treatments need huge investment. Collaboration between government and the private sector is observed in health care delivery. However, collaboration of the public sector with private sector has not been satisfactory. The range and extent of public sector collaboration with the private sector in the area of health, nutrition and population (HNP) is incongruent with their importance. The major interactions were in terms of regulations of private clinics and hospitals. Informal (or less formal) providers such as non-allopathic practitioners, traditional birth attendants, drug vendors have had very little interaction with government. Thus, the public-private collaboration failed to include agents who are most important for the poor. Appropriate public policies are needed to raise the effectiveness of the

private sector's contribution to public health goals.

In health and family welfare sectors NGOs have been contributing significantly. NGOs were given the responsibility to run family welfare centers, in terms of reaching the eligible couple at door steps, which saw increase in contraceptive usages. NGOs are playing a significant role in providing urban primary health care in four largest cities in Bangladesh – Dhaka, Chittagong, Khulna and Rajshahi. In addition, some hospitals are run by NGOs and these also provide highly subsidized curative care to urban poor and others.

POPULATION PLANNING AND WELFARE

Recent trends in fertility: An examination of trend of fertility by looking at the estimates of TFR over the past three decades shows that it declined by 57 per cent during the period 1975-2004, at the rate of 1.8 per cent per year (Table 8.7). The pace of decline was steeper during the 1980s and early 1990s and since then it remained stalled until 1999. But the decline started again in 2001 and continued till 2006.

A comparison between age-specific fertility rates of 1975 and 2007 indicates that compared to 1975 age-specific fertility rates in 2007 fell steeply in all age-groups and particularly among older age groups, with the exception of the 15-19 age group which increased by 16%. The age pattern of fertility has shifted towards early childbearing and fertility of older women has reduced sharply over the years.

An examination of the decline in cumulative fertility by age cohort for selected survey years shows a consistent pattern of declining trend in fertility, which fell from a mean number of ever born children of 3.8 in 1975 to 2.3 in 2007, a decline of 40 per cent. The cumulative fertility declined in all age groups including 15-19 age groups. The reduction of fertility is steeper with the increase in age of women, it declined by nearly three children in the 35-39 age groups. A comparison of completed cohort fertility (4.9) with current fertility (2.7) demonstrates that fertility level has fallen substantially during the recent past. A comparison of completed fertility between 1975 and 2007 shows that it declined by less than two children or 27% between these periods. A drawback of the cohort measure is that it is primarily affected by childbearing levels in the past. However, completed fertility level has the advantage that it is the real measure of fertility, while TFR is a hypothetical measure and is subject to various biases.

Table 8.7: Trends in Current Fertility Rates

Age group	Survey and approximate time period						
	1995 BFS	1993-1994 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS		
	1971-1975	1991-1993	1994-1996	2001-2003	2004-2006	1975-2007	1999-2000-2007
15-19	109	140	144	135	126	15.6%	-12.5%
20-24	289	196	188	192	173	-40.1%	-8.0%
25-29	291	158	165	135	127	-56.4%	-23.0%
30-34	250	105	99	83	70	-72.0%	-29.3%
35-39	185	56	44	41	34	-81.6%	-22.7%
40-44	107	19	18	16	10	-90.7%	-44.4%
45-49	35	14	3	3	1	-97.1%	-66.7%
TFR 15-49	**6.3**	**3.4**	**3.3**	**3.0**	**2.7**	**-57.1%**	**-18.2%**
Source: BDHS, various years							

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Effects of population momentum: Achieving faster reduction of population growth will require attaining replacement level fertility as well as addressing the effects of population momentum. Even if replacement level fertility is achieved in the near future, the population of Bangladesh will continue of grow due to the effects of population momentum as the proportion of women in the reproductive age group will continue to grow until the population stabilizes. However, the eventual size of the stable population hinges on the time of attaining

replacement level. The age composition of the population undergoes changes with the progress in demographic transition. The proportion of population under age 15 has declined from 46.7% in 1981 to 39.1% in 2001 due to reduction in fertility. On the other hand, the proportion of population in the economically active age group has marked an increase from 47.7% in 1981 to 54.4% in 2001, while there is a slight increase in the proportion of older population (>60).

The changes in the age distribution of the population have many socio-economic implications. First, the age-dependency ratio of the population has declined from 109 in 1981 to 83 in 2001. Second, it has resulted in an increase in the young and working age population which can create a virtual cycle of growth, known as demographic dividend. Third, the higher size of women in the reproductive age group will mean that the population will continue to grow until population stabilization takes place, say by the year 2050. The level of fertility will remain high at the initial stage due to tempo effect caused by the downward shift in mean age at childbearing. Hence, the effect of momentum can be reduced by delaying the first birth as well as widening birth spacing.

Population Management Strategies and Policies in the Sixth Plan

Recognizing the significance of the population problem, the government has initiated updating of the population policy to reflect recent realities and ensure effective delivery of population control and reproductive health services. Population as number one problem will be re-emphasized with undertaking of appropriate multi-sectoral programs to address the problem. It is expected that TFR will be reduced to 2.2 in 2015 from current 2.7 (2007) to attain replacement level fertility. To address the "Population momentum effect", measures will be undertaken to increase retention of girls in secondary schools and provide employment opportunities to young women, delay in marriage and childbearing, encourage spacing and limit family size. Mobilizing high political commitment, the entire nation is planned to energize to contribute to this effort.

The re-commissioned community clinics will address the challenges in the population sector with renewed thrust. Target-oriented population planning programs will be strengthened to achieve the goal. The large geographic variations in fertility and related factors and in use of contraception indicate the need for differential strategies both for information and motivational efforts and for service delivery. For example, in Sylhet and Chittagong age at marriage is higher than the national average, but fertility was also higher indicating a need to focus on lowering fertility within marriage. And high 'unmet need' (17.1%) indicates that service delivery in these districts needs to be strengthened. District specific strategies will be undertaken to address local constraints such as, poor access to services during certain parts of the year.

To achieve contraceptive prevalence rate of 74%, dropout will be reduced through door step service delivery, supportive supervision and motivational works with information on side

effect. Service delivery will be enhanced to the hard to reach areas, hilly and riverine areas as well as low performing areas. Quality services delivery will be ensured to the target groups by segmenting the client on the basis of sexual, educational, geographical location, socioeconomic status, age of parity and particularly the ultra poor and illiterate clients. Besides these, proper counseling and motivation will be continued to increase the age of marriage and child bearing and also to cover the unmet needs of the couples with GO-NGO collaboration along with local leaders' involvement. The major impact on fertility reduction could be achieved by rising age at marriage and by bringing the couples into contraceptive uses those have unmet needs for family planning services. These will push up both age at first birth and CPR and thereby again trigger a tempo effect to bring fertility down. Bangladesh has great scope to reduce early marriage, where at present 50 percent of teenage girls (15-19 years) are married compared to other developing countries. Moreover 17.1% couples have unmet-Needs for FP services of which 6.8% for spacing purposes and 10.8% for limiting their births. They are the potential couples to adopt longer acting and permanent FP methods. If all of those women having unmet need to space or limit their births, are to use FP methods the CPR would rise to 74 percent with the share of longer acting and permanent methods which is about to the desired level of CPR for achieving replacement level of fertility.

Emphasis will be given on delaying age at marriage for which coordinated inter-sectoral efforts will be needed. Thus each district and in some cases groups of Upazilas require specific strategies on which to develop action plans. In this context, special attention should be given to Sylhet and Chittagong division as the TFR of these two divisions are higher than the national average. Contraceptives along with FP services will continue to be made widely available and further expanded to the poor and the marginalized population in both rural and urban areas and different regions and to meet the un-met need. Procurement and logistics supply management will be strengthened to avoid stock-out of contraceptives. Alternate methods of public sector distribution of contraceptive commodities will be explored. Efforts are underway to popularize the slogan of having one child per couple. The existing FP program will be expanded and strengthened involving both men and women, and will be popularized through an intensive motivational campaign under the BCC program. Long Acting and Permanent Method (LAPM) playing vital role to achieve national target replacement level of fertility of 2.2 per woman by the year 2015. To achieve CPR 74% method-mix proportion of all modern contraceptive methods has to be made with giving special emphasis on LAPM. However through method mix of different family planning methods, TFR of 2.2 can be achieved even if the CPR is below 74%. Low use effectiveness of oral pills, condoms and injectables and their discontinuation rates are major constraints in declining of fertility though the use rates of those methods are highest. It is expected that by performing long acting and permanent method that is VSC, IUD, Implant with 20% share in method mix CPR the replacement level TFR of 2.2 per woman could be achieved with in 2015. The SFYP emphasizes on the availability of family planning services and to make such services and materials available to the general mass at an affordable price. Achievement of replacement level of fertility could only be possible by regaining the momentum of the robust

FP-MCH program supported by public information and motivation campaign to bring about overall changes in attitude and awareness creation among all stake-holders; and also requires cross-sectoral efforts for raising quality female education and employment.

Reproductive health problem remain the leading cause of ill health and death for women of childbearing age. Impoverished women, especially the marginalized rural populations suffer disproportionately from maternal death and disability, sexually transmitted infections, unintended pregnancy and nutritional deficiencies.

United Nations through its Millennium Development Goals (MDG) call for a 75% reduction in maternal mortality between 1990 and 2015. A three-pronged strategy is key to the accomplishment of the goal:

- All pregnant women have access to skilled care at the time of birth
- All those with complications have timely access to quality emergency obstetric care
- All women have the access to the contraception to avoid the unintended pregnancies

Under MDG, child mortality will have to be reduced by two thirds between 1990 and 2015. To achieve the MDG 4 & 5 and also vision 2021 goals and targets under SFYP require new infrastructure development, recruitment of adequate doctors and paramedics and changes in supply of drugs and other MSR.

Comprehensive EOC services and other Reproductive Health (RH) services through Mother and Child Welfare Center (MCWC) at district, Upazila and also in some selected union level are satisfactory in rendering the quality of care. To meet the future need, MCWCs require to be expanded with more beds and trained manpower. One Consultant (Obs/Gyn) along with one Consultant (Anesthesia) and one Medical Officer (trained in Paediatrics) supported by Four Diploma nurses with existing manpower can able to bring tangible changes in maternal mortality, morbidity and other RH indicators.

To increase the institutional delivery, Union Health and Family Welfare Centers (UH&FWC) need to be upgraded with the provision of trained midwifery nurses. This should be considered as the first line referral center bridging the services between Community Clinics and Upazila Health Complex and district level hospital MCWCs.

Adolescent Reproductive Health Strategy should be implemented in the form of services in the community. It is estimated that the Adolescent are in the state of population momentum in the population pyramid and need to be addressed vigilantly. In addition, emphasis will be given on treating various diseases like that of breast cancer ovarian cancer, cervical cancer etc. Many new activities are to be incorporated in line with the budgetary allocations.

A comprehensive digitalization of information system can able to identify the gaps in service delivery and also ensure effective monitoring and supervision. Mapping of all the service facilities with extensive networking may able to bring major changes in maternal mortality and morbidity.

Government has strong commitment to supply essential drugs through primary care unit to every citizen of the country. At each service delivery center, essential drugs through DDS kit need to increase in quantity every year keeping pace with the increasing number of population. Beside this, there are drugs for RTI/STD case management. Also there are provisions of drugs for under five child care in the DDS kit. Adequate supply of Mounimix to the children can reduce the prevalence of childhood anemia.

In order to provide information and services on FP-MCH catering specially to the needs of the rural poor, community clinics are being constructed for every 6,000 population throughout the country. Out of 13,500 community clinics already 8,464 community clinics are functioning and 2876 more community clinics will be constructed within a short span time. To aware the people about the services available in these clinics and to involve the communities, proper IEC activities should have taken.

The National Communication Strategy for Family Planning and Reproductive Health has been developed and accordingly IEC activities for the year 2010-2015 have been considered. This will promote MCH-FP based services as well as provide need based IEC support and increase community participation in the ongoing family planning program. So major thrust has been given to some of the main issues as follows:

- To promote reproductive health care by strengthening IEC support at all levels with the emphasis on Adolescent Reproductive Health Care,
- To promote Family Planning through strong advocacy programs,
- To improve nutritional status (calorie intake) of the people through IEC interventions,
- To promote services offered by Community Clinics
- To increase IEC Knowledge among the service providers and develop the community groups through IEC advocacy workshop in support of "The Sixth Five Year Plan". In this regard some strategic components are incorporated in this program which will facilitate the process of implementation of "The Sixth Five Year Plan". These events are as follows:

a) Audience Survey (IEC program) **b)** Providers ownership **c)** Social ownership, **d)** Involvement of Print media, Population, Health & Nutrition Cell of Bangladesh Betar, Private Radio channels, BTV, and all Private TV channels.

Efforts will be undertaken to have required human resources for the effective delivery of the program. Moreover through appropriate coordination with the health department and through their support of trained human resources, issue of lack of skilled providers will be resolved and all opportunities to offer permanent and long term methods will be utilized. Opportunities will also be explored to optimize and expand partnerships with the social marketing network particularly in urban and peri-urban areas that are relatively underserved.

NUTRITION ISSUES AND MANAGEMENT IN THE SIXTH PLAN

Overall Nutritional Status and Challenges

There is no denying the fact that malnutrition has multitude of linkages to poverty. Chronic energy deficiency is directly related to the inability of involvement in income generation activities and learning capacity. Malnutrition is an underlying cause of childhood illness and maternal mortality. Therefore, strategies targeted towards improving nutrition have positive impact towards eradication of poverty.

Despite several natural calamities and high food prices, Bangladesh has achieved a slow but sustained reduction in prevalence of underweight and stunting. However prevalence of malnutrition is still alarming and it is even higher than countries like, Nepal, Cambodia, Ethiopia and Uganda. Bangladesh is placed in the bottom 25% of the Global Hunger Index and that signifies its vulnerability in the context of recent food price hikes.

Chronic energy deficiency, protein-energy malnutrition, low birth weight, micronutrient deficiency are critical issues faced by Bangladesh. Although it affects people of all ages, the children, women and female adolescents are mostly affected. Of the various micronutrient deficiencies, vitamin A, iodine deficiency disorders, iron deficiency anemia are major concerns, imparting cognitive development in children and threatening life to pregnant women.

Though the nutritional status of children is improving, the MDG goal of reduction of child malnutrition remains a formidable task. In order to achieve the MDG of halving the proportion of people suffering from hunger between 1990 and 2015, Bangladesh needs to make significant progress in the context of meeting basic nutritional requirement of its people. As of 2009, 45% of children under five years of age are found to be underweight where the corresponding figure for 1990 was 66%, indicating considerable progress over the last two decades. This decline was however not quite smooth- it fell drastically between 1992 and 2000 but since 2000 the fall has been quite slow and in the 2005-2009 periods there has hardly been any improvement. Against this backdrop, it seems unlikely that Bangladesh will reach the MDG target of 33% prevalence rate by 2015. The key impediments towards achieving such target are lack of access to health care facilities, especially in rural areas, inadequate and nutritional deficient food intake, inaccessibility of safe water and sanitation practices and absence of better breast-feeding practices. Another crucial factor behind child's nutrition is the nutritional status of mother and malnutrition among pregnant women is another serious issue where the performance of Bangladesh is far below satisfactory.

In terms of Bangladesh's progress towards achieving the MDGs, the 'Countdown to 2015' report of the UNICEF (2008) considered Bangladesh as a country which is 'making progress' in terms of goal 4 of MDG on child mortality and which is 'on track' for achieving goal 1 of MDG on underweight. However, in order to attain the MDG goal, it is also essential to improve the calorie intake of adults. Between 1990 and 2005, there was a modest decrease in

the population not obtaining the minimum level of dietary energy consumption (2,122 kcal/day) from 48% to 40% (HIES 2005). In terms of more acute benchmark of dietary intake, the proportion of people consuming less than 1,805 kcals/day has declined by 8-percentage points within the same time period and was 20% in 2005. Despite the aforementioned progress, it is highly optimistic to assume that Bangladesh will meet its targets for halving the proportion of the population below the minimum level of dietary energy consumption by 2015. In this context, a recent study conducted by FAO (2009) has estimated an increase in the number of food-insecure people by 7.5 million in 2007-08 from the previous year.

The high prevalence of under-nutrition also poses serious threat towards achieving the MDG goal of reducing under 5 mortality rate by two-thirds between 1990 and 2015. The BDHS 2007 found that 41% of children under-five years of age were underweight, while a national Household Food Security and Nutrition Assessment found a comparable underweight prevalence of 38% for this age group. As a result of infections and poor intake of food rich in iron and folic acid, anemia affects around 46% of pregnant women, 39% of non-pregnant women, and almost one-third of adolescent girls in Bangladesh. The nutritional status of girls affects the nutritional status of the adolescents and women they become. Their nutritional status during pregnancy, in turn, affects intrauterine development. Pregnant women with poor nutritional status face greater risks of complications during pregnancy and childbirth leading to low birth weight and increased neonatal mortality. The lifecycle approach to child and adolescent development is essential to address the overall issue of reducing maternal and neonatal mortality.

Further to the above mentioned issues, the existing levels of population with the problems of underweight, stunting and wasting are also quite formidable. Bangladesh is in the 4th position after India, Indonesia, and Nigeria of the list of 36 countries having stunting prevalence greater than 20% as about 9 million Bangladeshi children are stunted. In addition, rates of wasted children also found to be quite high, especially in the aftermath of natural disasters and in the lean season. In spite of the reduction of underweight children from 43% to 36%, and for stunted children from 48% to 46% between 2004 and 2007, there is no evidence of reduction in wasted children in corresponding years.

Under-nutrition in pregnant women often results in infant born with a low birth weight. Low birth weight greatly increases risk of neonatal death and is an important cause of poor growth and development in later childhood, even with consequences for later life. Over the years, the body-mass index of women with measurements less than 18.5% has declined by 4-percentage points to 30% in 2007. This is still quite a high percentage and therefore as a consequence indicates high risk of malnourished children. Such figures are largely a reflection of micronutrient deficiencies among Bangladeshi women and as high as 46% pregnant women, 39% non-pregnant women, and 39.7% of adolescent girls are found to be anemic. The consequence of such deficiency is high maternal mortality, infant mortality, malnourished children and finally unhealthy adults.

The Government is planning to accelerate the progress in reducing the persistently high rates of maternal and child under nutrition by mainstreaming the implementation of high-impact evidence-based nutrition interventions into health and family planning services, scaling-up the provision of community based nutrition services, updating the National Plan of Action on Nutrition in the light of food and nutrition policies, amongst other important priority actions.

Nutrition service will be mainstreamed with the DGHS and DGFP. All facilities under DGHS and DGFP providing MNCH services will be made available for integrated nutrition service delivery. For this, the Directorates will be staffed with adequately trained personnel who possess the necessary technical as well as management skills to mainstream the nutrition services. Both the Directorates will streamline and strengthen nutrition service through their regular channels and identify respective focal points at the level of program managers for monitoring and coordinating nutritional services/activities.

The strengthened nutrition service will be housed in the DGHS and implemented through an OP titled "National Nutrition Service (NNS)". The overall leadership of NNS will be provided by the Line Director, NNS who will oversee the delivery of the program, manage the budget and maintain liaison with other LDs of DGHS and DGFP implementing nutrition activities and with the Program Managers (Nutrition) respectively. The LD, NNS will report directly to the Director General of DGHS. The NNS will coordinate its activities with the activities of MNCH related OPs of DGHS and DGFP. In addition, NNS will become part of other national plans of action, notably the National Food Policy Plan of Action (2008 -2015). One of the medical officers of the UHC will be designated as medical officer (public health and nutrition) and assigned the responsibility of coordinating NNS activities at upazila level and below, while the nutrition officer (under DGHS) will be responsible for the technical management of nutrition activities.

As like current arrangements, area based nutrition activities will be performed by the health personnel working in the CCs and through the NGOs contracted for community based IMCI work. Scaling up of the NNS will be done in the remaining Upazilas, with particular priority given to remote and poorer areas. The NNS will also include the (i) facility based services, (ii) training of staff in nutrition and (iii) the development of relevant manuals, micronutrient-related activities, research and surveillance. Capacities of UHC and district hospitals will be strengthened to adequately manage severe malnourished cases. Effective nutrition surveillance will be developed as part of the existing surveillance system.

Strategies for Improving Nutritional Status

Improving Maternal and Infant Nutrition: Longer term interventions with nutrition and poverty alleviation objectives contribute to reduction in child malnutrition. However, child nutrition is strongly related with maternal nutrition and therefore malnutrition among pregnant and lactating mothers should be strongly dealt with. The priority interventions in this context are:

- Iron-folic acid supplementation among pregnant and lactating women and adolescent girls will be undertaken through health and family planning facilities. Such programs will be

strengthened through complementary policies to regular programs e.g. community based programs to cover the hard-to-reach vulnerable communities.

- Post partum Vitamin A distribution to improve vitamin A status of neonates through breast milk will be scaled up.
- The national strategy for infant and young child feeding will be implemented.
- Early initiation and exclusive breast-feeding up to six months of age will be encouraged.
- Supplementary feeding for malnourished and marginalized pregnant and lactating women through strengthening and scaling-up maternal iron and foliate supplementation will be introduced.

Strengthening Institutional Capacity: Combating malnutrition and child mortality certainly requires improving the bureaucracies and administrative complexities. Given the large numbers of malnourished mother and children and high under 5 mortality rate, the best institutional strategy would be to implement assistance programs at both facility and community levels. The SFYP in this context will take the following strategies:

- The institutional home for nutrition within the MOHFW will be identified and responsibilities of the selected institute will be expanded and capacity will be developed.
- Roles and responsibilities of other stakeholders for nutrition will be specified with arrangements of appropriate coordination and synergistic action.
- Capacities of Upazila health complexes and district hospitals will be strengthened to adequately manage severely malnourished cases.
- Effective nutrition surveillance will be developed.
- All types of health workers (health assistants, family welfare assistants, assistant health inspectors, family planning inspectors, family welfare visitors, medical assistants/sub-assistant community medical officers) will be appropriately trained in nutrition education.
- The value of women status in reducing malnutrition and dissemination of proper knowledge about nutrition amongst the citizens will be strengthened.
- Appropriate inter-sectoral collaboration will be established for controlling prices of food grains and products and for ensuring food security.
- A comprehensive nutrition policy will be formulated.
- Strategies will be designed to link nutrition programs with safety net programs of the government, e.g. Vulnerable Group Development Program. In this context problems related to leakages and mis-targeting will be seriously taken care of.
- Nutrition interventions which are interlinked with food-based, economic empowerment programs should be strengthened and should be targeted towards the most vulnerable communities and districts.
- Division specific nutritional management program will be introduced with more vulnerable regions receiving priorities in terms of allocation of development expenditure.

- Information systems related to food security and nutritional issues will be strengthened.

Improving Overall Nutritional Status: With a view to combating malnutrition and various diseases related to nutritional deficiency, the SFYP will undertake several strategies, focusing primarily on the nutritional status of children:

- Existing half-yearly Vitamin A capsules distribution for children will be continued.
- Age specific complementary feeding and micronutrient supplements for children will be introduced.
- Monitoring of universal iodization of edible salt will be strengthened to ensure quality through adequacy of potassium iodide in salt.
- Zinc for treatment of diarrhea will be adequately promoted. With the coverage of IMCI, zinc tablets are expected to provide free to children with diarrhea.
- Community management of severely acute malnutrition in children through therapeutic and supplementary feeding will be emphasized.
- Complementary feeding will be linked to multiple micronutrient supplementation programs to improve the quality of diets of children aged 6 to 23 months.
- Strategies to increased coverage of access to safe water and improved sanitation in urban slums and rural areas will be under taken.
- Emphasis will be given on local homestead food production.
- Nutrition education to promote diet diversity will be encouraged.
- Preventive and Therapeutic interventions while incorporating the seasonal dimension of malnutrition will be designed.
- Translating nutrition related research into action.

Treatment of Severe Acute Malnutrition: Mainstreaming the implementation of nutrition interventions into health and family planning services will ensure more coordination in the treatment of moderate and severe acute malnutrition at the health facility as well as community level. At the health facility level, children with severe acute malnutrition and who have additional medical complications will be treated according to internationally recommended protocols. At the community level, the GOB will address community-based management of acute malnutrition through the community based IMCI program.

BCC to Promote Good Nutritional Practices: Social mobilization and behavioral change and communication activities at health facility and community levels will be implemented to promote good health and nutrition practices. Specific behaviors to be targeted will include; promotion of exclusive breast feeding for 6 months and continued breastfeeding up to 2 years; introduction of complementary foods of adequate nutritional quality and quantity after the age of 6 months; and improved hygiene practices including hand washing.

Mainstreaming Gender into Nutrition Programming: Gender and nutrition are closely associated in Bangladesh, and there are strong linkages between a woman's status and both her health and her children's nutritional outcomes. Therefore, both the health facility and the

community-based nutrition interventions will involve all community and household members who are responsible for decision making and those who can influence maternal, infant and young child feeding practices as well as other nutrition behaviors. Such an approach will ensure that the concerns of men and women, when it comes to household food and nutrition security, are considered as the joint responsibilities for the nutritional well-being of all household members of men, women and the community as a whole.

INSTITUTIONAL ARRANGEMENTS FOR MONITORING PROGRESS WITH IMPLEMENTATION OF HPN PROGRAMS IN THE SIXTH PLAN

Establishing a functioning system of coordination among health, nutrition and family planning and between other Ministries (notably MOLGRDC) at all levels of service delivery, including DPs and UN agencies, NGOs and the private sector will be required to avoid duplication and diversify service delivery and to enhance performance. MOHFW will continue its effort to strengthen inter-ministerial coordination through the Secretary's Committee Meetings and holding inter-ministerial meetings at a regular interval. Moreover, a separate coordination mechanism will be developed during the next sector program with the MOLGRDC for improving the urban health service in Bangladesh.

Different directorates and departments (like Directorate Generals of Health and Family Planning, Directorates of Nursing and Drug Administration, National Nutrition Program, NIPORT, CMMU etc.) under the MOHFW will continue to monitor implementation under the supervision of respective heads of the institutions. Annual Development Program implementation progress review will be done on monthly under the chairmanship of the Secretary, MOHFW.

The MOHFW has developed a Result Framework (RFW) for HPNSDP at program as well as at Operational Plan (OP) levels. An effectively functioning unit in the name of Program Management and Monitoring Unit (PMMU) will be established in MOHFW, equipped with adequate skilled professionals and logistics, to work on program management and monitoring of different indicators. The Implementation Monitoring and Evaluation Division (IMED) will continue to play a vital role in routine monitoring of activities of the HPNSDP. In addition, the MOHFW will conduct routine surveys to assess the progress of the HPN related indicators.

The LCG sub-group on Health will provide a platform for continuous GOB-DP dialogue in order to promote harmonization and alignment of activities. This LCG-sub-group will facilitate and coordinate the overall development program of the HPN sector in Bangladesh through effective policy formulation. Two co-chairs will lead the working group, one representing the DPs and the other representing GoB.

An external and independent review of the sector program will be conducted annually (APR) and at mid-term (MTR). The review will be undertaken by independent international and national consultants, during a period that will allow its conclusions and recommendations to be included in the annual revision of the Operational Plan by the various LDs. The review will be followed by a 'policy dialogue' and the development of an agreed joint action plan (Aide

Memoire) by the MOHFW and DPs that is subsequently used for the new annual work plan along with the budget (ADP) relating to the OPs.

Various joint task groups and technical committees operate under the sector program. The most important Task Groups are: MNCH, Nutrition, Public Health, M&E, HRH, HFRG, Procurement, Financial Management and Gender, Equity and Voice and QM. These arrangements will continue to work during the next sector program and additional task groups may also be formed with new membership when new issues and challenges arise.

ALLOCATION OF DEVELOPMENT RESOURCES FOR HEALTH SECTOR IN THE SIXTH PLAN

As in most countries, much of health care pending will come from the private sector. Public sector spending will be strategically focused on meeting the key social health concerns. Under the SFYP, goals of Health and Family Planning sector is to reduce morbidities and mortalities, especially those of infant, child and maternal, reduce population growth rate and to improve nutritional status especially those of women and children. In order to fulfill such goal and to meet the strategies and policies, the planned development budget allocations over the Sixth Plan period in current and constant prices are shown in Table 8.8 and Table 8.9.

Table 8.8: Development Expenditure Allocation of Health Sector in the Sixth Plan

(Crore taka; current price)

Ministry/Sector	FY2011	FY2012	FY2013	FY2014	FY2015
Health & Family Welfare	3473	4499	5404	6823	8361

Table 8.9: Development Expenditure Allocation of Health Sector in the Sixth Plan

(Crore taka; FY2011 prices)

Ministry/Sector	FY2011	FY2012	FY2013	FY2014	FY2015
Health & Family Welfare	3473	4185	4698	5570	6439