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Review

# World Health Statistics 2011: How does Bangladesh compare with other South-East Asian countries?

*Md. Anwarul Azim Majumder*

Lecturer, Department of Clinical Sciences, School of Medical Sciences, University of Bradford, Bradford BD7 1DP, UK.

## Abstract

The World Health Statistics 2011 compiles the health and related data of its member states including a summary of the progress made towards achieving the health-related Millennium Development Goals (MDGs) and associated targets. This analysis examined data for Bangladesh and compares with the other ten member states of the WHO South-East Asia region. From the analysis, it is evident that considerable progress is being made to improve the health of the people of Bangladesh. Nevertheless, there remain many areas of concern over health development and provision of healthcare delivery. In Bangladesh, annual population growth rate and adolescent fertility rate are higher than regional averages. Life expectancy and mortality rates are not impressive in comparison to other regional countries. Overall burden of cause-specific mortality and morbidity is higher; however reported cases of selected infectious diseases are lower than regional average. In terms of health service coverage, in one hand some real concerns were noted (e.g. poor antenatal coverage and availability of skilled health personnel etc.) and on the other hand some achievements were accomplished (e.g. vaccination of measles, DTP3 etc.). Increasing number of underweight children and smoking among male adults are also the key areas of concerns. Bangladesh ranks in the bottom quartile of healthcare spending in the region; the percentage of GDP allocation for health is 3.3% which is far below the level needed to scale up essential health interventions. The country has also relatively few healthcare personnel and hospital beds, and health inequality is observed in the provision of health care delivery which is most prominent in lower socio-economic groups. With regards to health-related MDGs, except child mortality, other target may not be met. Findings from these cross-national comparisons can inform national policy, highlight areas where Bangladesh could improve, and yield benchmarks for improved healthcare performance.

**Keywords:** Health statistics, Health indicators, SEA countries, MDGs, Bangladesh.

## Introduction

The World Health organization (WHO) publishes the health statistics annually which compiles the health and related data of its member states. The World Health Statistics 2011[1] also included a summary of the progress made towards achieving the health-related Millennium Development Goals (MDGs) and associated targets. Health and related indicators were included on the basis of their relevance, availability, quality, reliability and comparability of the data which provide a comprehensive summary of the current status of health and health systems in the member states, regions and globally. This analysis examined data of the World Health Statistics 2011 for Bangladesh and compares it to the other ten member states of the WHO Southeast Asia (SEA) region (Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste).

Although Bangladesh is in the category of low-income economy countries[2] (GNI per capita $1005 or less), it has

## Practice points

- WHO annually publishes the health and related data of its member states including health-related MDGs and associated targets.
- Though Bangladesh made considerable progress to improve the health of the people, there remain many areas of concern.
- The data on morbidity, mortality, healthcare provision and financing, and health equality is not impressive in comparison to other SEA countries.
- With regards to health-related MDGs, except child mortality, other targets are not expected to be met by 2015.
- Cross-national comparisons can inform national policy, highlight areas for improvement, and yield benchmarks for improved healthcare performance.

**Correspondence:** Dr. Md. Anwarul Azim Majumder, Lecturer, Department of Clinical Sciences, School of Medical Sciences, University of Bradford, Bradford BD7 1DP, UK. E-mail: a.a.majumder@bradford.ac.uk.

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shown marked improvement in health and other socio-economic indicators in the recent past. It is home to more than 2% of the world's population with more than 75% of the total (142 million) population living in rural areas. Income inequalities rose with the Gini coefficient (0=perfect equality; 100=perfect inequality) going up to 32.1 in 2010 from 27.6 in 1992.[3] Basic needs of living particularly health and education remain largely unmet and only less than half of the population has access to basic healthcare. The country has some poor health indicators, and important gender and other inequalities. According to the WHO composite index for overall health system attainment of 191 member states, Bangladesh was ranked 131, worse than Sri Lanka, Thailand, India, Indonesia, DPR of Korea, and the Maldives.[4] Bangladesh's Human development Index (HDI) is 0.500, which gives the country a rank of 146 out of 187 countries and places the country in low human development category.[5] The HDI of South Asia as a region increased from 0.356 in 1980 to 0.548 today, placing Bangladesh even below the regional average (Table 1). The key findings of the data of the World Health Statistics 2011 for Bangladesh were discussed in the following sections and comparisons were made with other SEA countries (Table 1).

## Key findings

*Demographic and socioeconomic determinants: Population growth rate and fertility rates are higher than regional averages*

The annual population growth rate in Bangladesh is 1.6, which is higher than regional and global averages. The population under 15 year of age is 31% and over 60 is 6%. Total fertility rate (per woman) is also higher than the regional average. The adolescent fertility rate (MDG 5) is 133, which is 2.5 times higher than the regional average. The gross national income per capita (PPP int. $) is approximately half of the regional average, and almost half of the population (49.6%) in Bangladesh lives on <$1 (PPP int. $) a day (MDG 1) (regional average 39%) - which is almost double of the global average of 25.9%.

**Table 1**: Health and MDG-related indicators of Bangladesh[1*]

| | Human Development Index [HDI] | | MDG 1 Population living on <$1 a day (%)[a] | Life expectancy at birth (years) | MDG 5 Adolescent fertility rate[b] | MDG 4 Infant mortality rate (2009) | MDG 5 Maternal mortality ratio (2008) | MDG 5 Antenatal care coverage (%) (2000-2010) | | MDG 5 Births attended by skilled health personnel (%) | MDG 4 Measles[c] | Low-birth-weight newborns (%) (20002009) | Physicians Density[d] | Nursing and midwifery personnel Density[d] | Hospital beds[d] (2000-2009) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rank | Indices | | | | | | At least 1 visit | At least 4 visits | | | | | | |
| Bangladesh | 146 | 0.50 | 49.6 | 65 | 55 | 41 | 340 | 52 | 21 | 7.5 | 89 | 22 | 3.0 | 2.7 | 4 |
| Bhutan | 141 | 0.522 | 26.2 | 63 | 53 | 52 | 200 | 88 | … | … | 98 | 9 | 0.2 | 3.2 | 17 |
| DPR Korea | … | … | … | 70 | 100 | 26 | 250 | 97 | 95 | … | 98 | 7 | 32.9 | 41.2 | 132 |
| India | 134 | 0.547 | 41.6 | 65 | 63 | 50 | 230 | 75 | 50 | 8.5 | 71 | 28 | 6.0 | 13.0 | 9 |
| Indonesia | 124 | 0.671 | 29.4 | 68 | 92 | 30 | 240 | 93 | 82 | 6.8 | 82 | 9 | 2.9 | 20.4 | 6 |
| Maldives | 109 | 0.661 | … | 75 | 98 | 11 | 37 | 99 | 85 | 32.4 | 98 | 22 | 4.6 | 8.0 | 6 |
| Myanmar | 149 | 0.483 | … | 64 | 92 | 54 | 240 | 80 | 43y | … | 87 | 15 | 16.0 | 44.5 | 26 |
| Nepal | 157 | 0.458 | 55.1 | 67 | 58 | 39 | 380 | 44 | 29 | 2.7 | 79 | 21 | 2.1 | 4.6 | 50 |
| Sri Lanka | 97 | 0.691 | 14.0 | 71 | 91 | 13 | 39 | 99 | 93 | 23.8 | 96 | 17 | 4.9 | 19.3 | 31 |
| Thailand | 103 | 0.682 | <2.0 | 70 | 94 | 12 | 48 | 99 | 80 | 17.4 | 98 | 9 | 3.0 | 15.2 | 22 |
| Timor-Leste | 147 | 0.495 | … | 67 | … | 48 | 370 | 84 | 55 | 1.7 | 70 | 12 | 1.0 | 21.9 | … |
| SEA Region | … | 0.548 | 39.0 | 65 | 69 | 45 | 240 | 76 | 52 | 8.5 | 76 | 24 | 5.4 | 13.3 | 11 |

[a]PPP int. $ (2000-2008); [b]Per 1000 girls aged 1519 years (2000-2008); [c]Immunization coverage among 1-year-olds (%) (2009); [d]Per 10000 population.

*All the data except HDI are from World Health Statistics 2011.[1] The data of HDI are from Human Development Report 2011.[5]

*Mortality: Life expectancy and mortality rates are not impressive in comparison to other countries*

All the countries of the SEA region have enjoyed large gains in life expectancy over the past two decades, linked to improvements in living conditions, public health interventions and progress in medical care. Life expectancy at birth in Bangladesh was 65 years, placing the nation in the bottom three among the 11 countries (Table 1). However, four countries (Maldives, Sri Lanka, Thailand and DPR of Korea) had registered life expectancies at birth of over 70 years. Bangladesh had an increase in life expectancy of 11 years from 1990 to 2009; Maldives had the highest gain of 18 years and Timor-Leste had 17 years in the same period. The infant mortality rate (MGD 4) in Bangladesh**,** as in other regional countries, has fallen significantly over the past decades. It stood at 41 per 1,000 live births in 2009, close to the regional average, but still higher in comparison to other regional countries. The lowest infant mortality rates are reported in Indonesia (11), Thailand (12) and Sri Lanka (13). The neonatal mortality rate is also higher in Bangladesh (30 per 1,000 live births); Maldives and Thailand had the lowest rate (8). The under-five mortality rate in Bangladesh is 52, which is lower than the regional average (59); Maldives and Thailand had the lowest rate, at 13. Bangladesh had an adult mortality rate of 234 which is the highest in the region.

*Cause-specific mortality and morbidity: Overall burden is higher than other countries*

The maternal mortality ratio (MGD 5) in Bangladesh is 340, which is one of the highest in the region; Nepal had the highest at 380 and Maldives had the lowest ratio, at 37. The mortality rate (per 100 000 population) due to malaria (MDG 6) is 1.8 which is lower than regional average (2.9). The tuberculosis-specific mortality rate among HIV-negative people (MDG 6) is almost two times higher than the regional average. The age-standardized mortality rate (per 100,000 population) for communicable diseases is also higher than regional average. Though the mortality rate of non-communicable diseases is better than regional average, the rate is second highest in the region. Mortality due to injuries is lower than regional and global averages. The percentage of years of life lost by communicable diseases is higher than regional average (52 vs. 49). The prevalence and incidence of tuberculosis (per 100,000 population) (MDG 6) are higher than regional average.

*Selected infectious diseases: Reported cases are lower than regional averages*

This section reported the case numbers for selected infectious diseases. Despite ongoing efforts to enhance disease surveillance and response, many countries face challenges in accurately identifying, diagnosing and reporting infectious diseases due to the remoteness of communities, lack of transport and communication infrastructures, and a shortage of skilled health-care workers and laboratory facilities to ensure accurate diagnosis. The reported cases for leprosy, malaria and tuberculosis are lower in Bangladesh than regional averages.

*Health service coverage: some concerns, some success stories*

Bangladesh has the poorest antenatal care coverage (MGD 5) in the region; 52% had at least one visit which is second lowest in the region (Thailand, Sri Lanka and Maldives had the highest coverage of 99%) and 21% completed at least four visits which is lowest in the region (Korea had the highest coverage with 95%). The regional averages for first visit and fourth visits are 76% and 52% respectively. The percentage of births attended by skilled health personnel (MDG 5) (18%) is much lower than the regional (49%) and global (66%) averages. However, the data on vaccination [neonatal tetanus, measles (MDG 3), DTP3, HepB3], children receiving Vitamin A supplementation and ORT, and smear-positive tuberculosis treatment-success (MDG 6) are much better than regional and global averages. The contraceptive prevalence rate (MDG 5) in Bangladesh is 55.8% - Thailand had the highest, at 81.1%. Bangladesh has the lowest (44%) case-detection rate for all forms of tuberculosis (MDG 6) which is much lower than other countries of the region Bhutan had the highest rate (100%) and Myanmar had the second lowest rate (64%) and the regional average is 65%.

*Risk factors: Underweight children and smoking among male adults are the key areas of concerns*

The data on population using improved drinking-water sources (MDG 7), population using improved sanitation ((MDG 7), low-birth-weight newborns, and infants exclusively breastfed for the first 6 months of life are in line with regional or global averages. Bangladesh has the lowest rate of obese in adults aged 20 years in the region. However, the percentage of underweight children aged <5 years is one of the highest (41.3%) in the region India had highest, at 43.5% and Thailand had lowest with 7%. Though the prevalence of smoking any tobacco product among male adults aged 15 years is higher than regional average, the prevalence of current tobacco use among male adolescents aged 13-15 years is almost one third of regional average and half the global averages.

*Health workforce and infrastructure: Bangladesh has relatively few health personnel and hospital beds*

On a per capita basis, there are fewer practicing physicians in the Bangladesh 3 per 10,000 population. The regional average is 5.4 physicians and DPR of Korea has the highest number with 32.9 physicians. The average number of other categories of health personnel (nurse, dentists, pharmacists etc.) in Bangladesh is lower than the regional average (Table 1). Bangladesh has the lowest number of nursing and

midwifery personnel in the region, 2.7/10,000 population Myanmar has the highest, 44.5 and the regional average is 13.3. Bangladesh has also the lowest number of hospital beds in the region, 4/10,000 population. DPR of Korea has the highest, 132 and the regional average is 11 (Table 1).

*Healthcare spending: Bangladesh ranks in the bottom quartile of healthcare spending in the region*

Health spending accounted for 3.3 % of GDP in the Bangladesh in 2008, below than the regional (3.8%), low income countries (5.4%) and global (8.5%) averages one fourth of Timor-Leste (13.9%) and Maldives (13.7%) (Figure 1). Myanmar (2.3%) and Indonesia (2.3%) are the only countries in the region which spend less than Bangladesh. General government expenditure on health as % of total expenditure on health in Bangladesh is 31.4%, which approximately half of the global average (60.5%) and less than the average of low income countries (40.5%). The regional average of general government expenditure on health is 41.3%; Timor-Leste spends 82.9% followed by Bhutan (82.5%), Thailand (74.3%) and Maldives (61.2%). In terms of per capita spending on health (PPP int. $), Bangladesh also spends much lower than the regional average, with spending of $44 in 2008, compared with a regional average of $116. Health spending per capita in Bangladesh remains much lower than other regional countries 17.5 times lower than Maldives ($769), 7.5 times less than Thailand ($328) and 6 times lower than Bhutan ($263) (Fig. 2). Myanmar ($27) is the only country in the region which spends less than Bangladesh. The per capita government expenditure on health (PPP int. $) in Bangladesh is $14 which is one third of regional average ($46); 33.6 times lower than Maldives ($470), 17.4 times less than Thailand ($244) and 15.5 times lower than Bhutan ($217).

*Health inequality: Prominent in low socio-economic groups*

In Bangladesh, the percentage of births attended by skilled health personnel (MDG 5) is the lowest in the region. The difference is more prominent in rural areas (rural vs. urban: 13% vs. 37%), lowest wealth quintile (lowest vs. upper: 5% vs. 51%) and lowest educational level of mothers (lowest vs. highest: 5% vs. 33%). The under-five mortality rate (MDG4) is also much higher than some of the countries in the region. Similarly, the difference is more marked in rural areas (rural vs. urban: 77% vs. 63%), lowest wealth quintile (lowest vs. upper: 86% vs. 43%) and lowest educational level of mothers (lowest vs. highest: 93% vs. 52%). However, the coverage of measles immunization among 1-year-olds (%) (MDG4) is one of the highest in the region; however inequality remains in the place of residence, wealth quintile and educational level of mother.

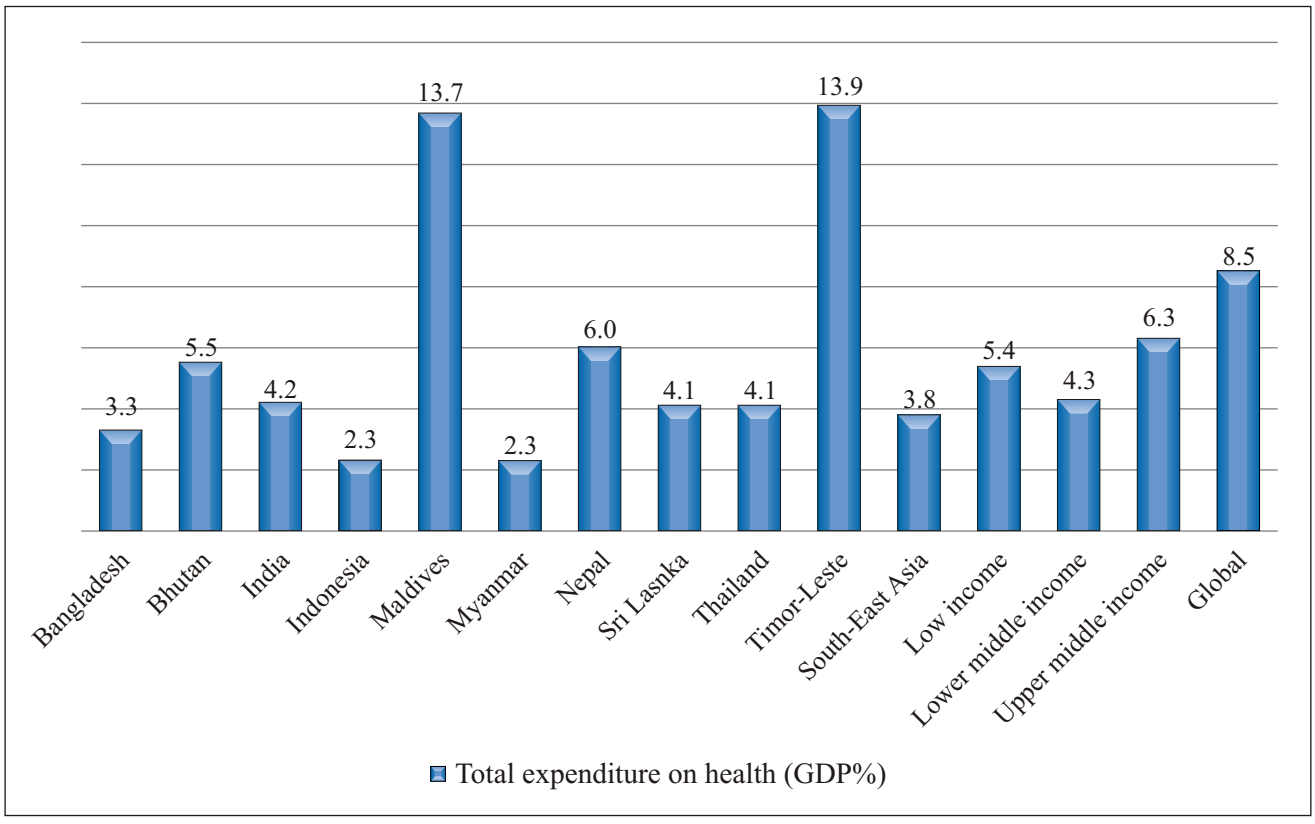


**Figure 1**: Health expenditure as a share of GDP in SEA countries, 2008[1]

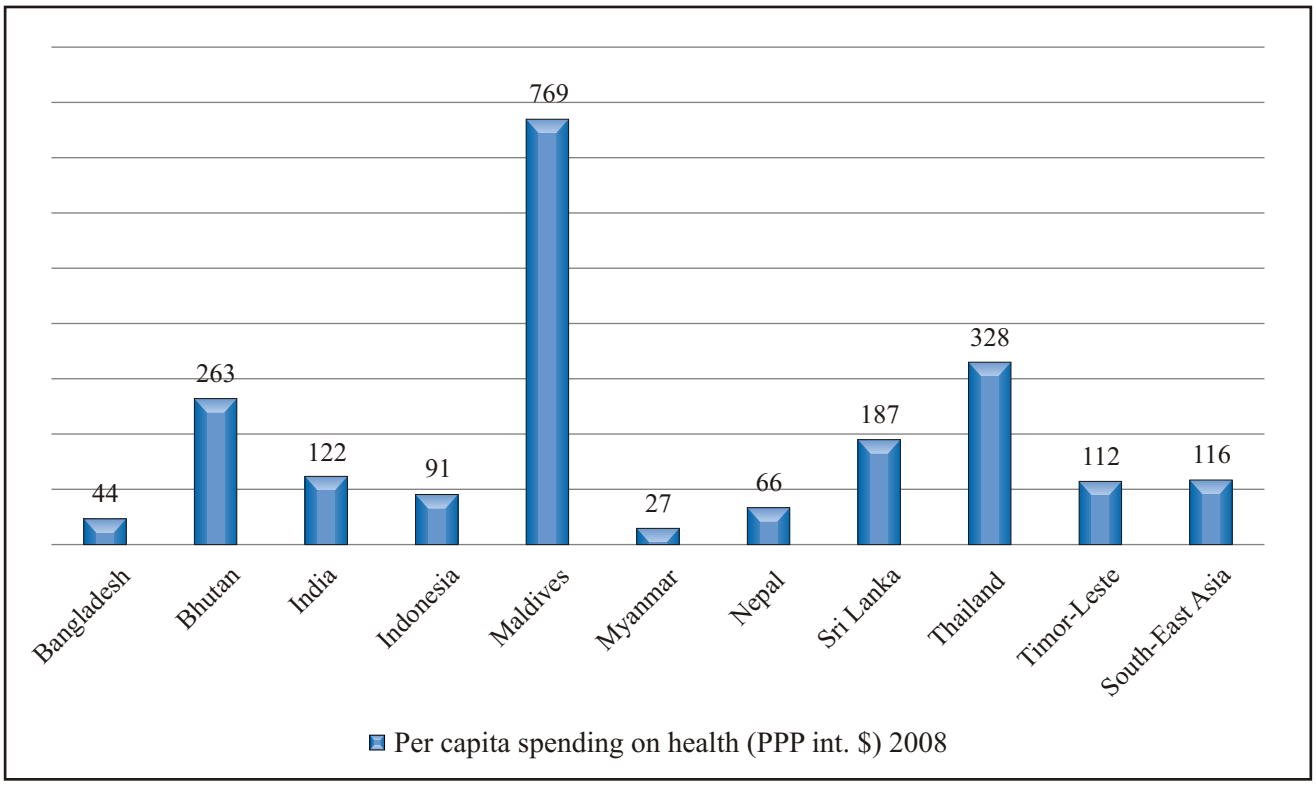


**Figure 2**: Health expenditure per capita in SEA countries, 2008[1]

## Discussion

From the analysis, it is clear that Bangladesh made considerable progress to improve the health of the people; nevertheless, there remain many areas of concern over health development and healthcare provision and financing. The government is committed to attain the health-related MDGs and other associated targets which are reflected in recent national programs.[6] Despite remarkable progress, except child mortality, targets are not expected to be met by 2015, if the prevailing trends persist in several areas (Table 2).[6] Table 3 shows striking disparities across SEA countries and the status of Bangladesh in the MDG attainments.[7] To reduce these disparities and raise standards of health, governments will have to focus much more sharply on the needs of the poor and vulnerable.

Bangladesh is a densely populated country. The density of population is 1142 per sq km. (2010), which is the highest in the region, 2.8 times that of India, 3.4 times that of Sri Lanka, 5.5 times that of Nepal, and 15.6 times that of the Myanmar.[8] It is estimated that by 2020, the population of Bangladesh will be around 167 million people, which will put more strain on the limited healthcare resources. Even with a slowing down of the population growth rate, the size of the population will continue to grow because of the young age structure of the population.[9] Adolescents form more than one fifth of the total population of Bangladesh and adolescent fertility rate is the second highest in the world.[10] Adolescent health requires closer attention, particularly in the context of reproductive health.

Of the health targets, one of the priority areas is child mortality. Over the last decade life expectancy at birth has increased, and both infant and child mortality rates have decreased.[11] Bangladesh is one of the 16 countries in the world that are on track to achieve MDG 4 on child mortality.[12] Despite these advances, challenges still remain. Even though the infant mortality rate has been reduced, the neonatal mortality rate remains high. The deaths are associated with a low rate of hospital delivery, low birth attendance by skilled personnel, high incidence of low birth weight and poor utilization of antenatal care services.[6] There has been a remarkable decline in the under-five mortality rate; however, major inequalities still need to be addressed in relation to socio-economic and educational status of mothers.

Another major health concern is maternal mortality. Maternal mortality in Bangladesh is still one of the highest in the world.[6,11] Despite efforts to expand emergency obstetric care, hospital deliveries remain at a low level.[6] There are also concerns about the availability and quality of skilled birth attendance. It is forecasted that achieving the MDG target of 50% skilled delivery attendance by 2015 will be extremely challenging.[6]

Malnutrition continues to be a serious problem with nearly half of the children being moderately underweight, one-third suffering from stunting and a large number of adolescents,

**Table 2:** Health-related MDGs: Bangladesh progress at a glance[6]

| Goals, Targets and Indicators (revised) | Base year 1990/1991 | Current Status 2009 | Target by 2015 | Status of progress |
|---|---|---|---|---|
| **Goal 4: Reduce Child Mortality** | | | | |
| Under-five mortality rate | 146 | 53.8 (2008) | 48 | → |
| Infant mortality rate | 92 | 41.3 (2008) | 31 | → |
| Proportion of 1 year-old children immunized against measles % | 54 | 82.3 (2009) | 100 | → |
| **Goal 5: Improve Maternal Health** | | | | |
| Maternal mortality rate | 574 (1990) | 348 (2008 | 144 | ↓ |
| Proportion of births attended by skilled health personnel, % | 5.0 | 24 (2009) | 50 | ↓ |
| Antenatal care coverage (at least one visit) % | 27.5 (1993) | 60 (2007) | 100 | ↓ |
| Antenatal care coverage (at least four visits) % | 5.5 (1993) | 21(2007) | 100 | ↓ |
| Unmet need for family planning % | 19.4 (1993) | 17 (2007) | 7.6 | ↓ |
| **Goal 6: Combat HIV/AIDS, malaria and other diseases** | | | | |
| HIV prevalence among population (per 100,000 population) | 0.1 | 0.005 | Halting | → |
| Condom use rate at last high risk sex % | | 43-66 (2009) | no target | ↓ |
| Deaths of Malaria per 100,000 population | 1.4 (2008) | 0.4 (2009) | Halting | → |
| Prevalence of TB per 100,000 population | 264 (1990) | 225 (2007)<br>225 (2008) | Halting | → |
| Deaths of TB per 100,000 population | 76 (1990) | 45 (2007)<br>50 (2008) | Halving | → |
| Detection rate of TB under DOTS, % | 21 (1994) | 72.2 (2007)<br>70 (2009) | Sustain | → |
| Cure rate of TB under DOTS, % | 73 (1994) | 92 (2007) | Sustain | → |

→ = *On-track*; ↑ = Will be achieved before 2015; ↓ = Needs attention

girls in particular, being malnourished.[6] Infections and anemia affects women and adolescent girls and poor nutritional status cause greater risks of complications during pregnancy and childbirth leading to low birth weight and increased neonatal mortality.[13] The underweight and stunted data is far above the MDG target of reducing it to 33% for underweight.[6]

Communicable diseases are still predominant and more than one-tenth of equivalent life is lost due to various illnesses.[6,11] Like many regional countries, Bangladesh is also experiencing continued economic growth and demographic transition and these lead to increase prevalence of non-communicable diseases (NCDs).[6,14] As population aging will increase in the future, the health burden from NCDs will rise in parallel with aging. Historically, the percent of GDP allocation on healthcare is lower in Bangladesh in comparison to other neighboring countries (Fig. 3).[8] The government allocation in health in the region was increased by 22% from 2000-2008, whereas it was decreased in Bangladesh by 24% and as a result out of pocket and private expenditure increased unlike regional trends.[1] In 2008, the government allocation in total health expenditure was less than one-third of the total expenditure.[1] The per capita total expenditure on health is also below the average of low income countries and this is well below the level needed to scale up essential health interventions. For universal coverage of health care, public investment in health should be at least 5% of GDP and WHO suggested minimum 4% as the appropriate percentages for countries of Asia-Pacific region.[7] The number of people in the health workforce is limited and the government

**Table 3**: Health-related MDGs: Progress in SEA countries[7]

| | MDG 1 | MDG 1 | | MDG 1 | | | MDG 1 | | | MDG 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Underweight children | Under-five mortality rate | Infant mortality rate | Maternal mortality rate | skilled births attendance | Antenatal care | HIV prevalence | TB incidence | TB prevalence | Basic sanitation |
| Bangladesh | ▶ | ▶ | ▶ | ■ | ■ | ■ | ▶ | ▶ | ● | ■ |
| Bhutan | | ■ | ■ | ● | ▶ | ▶ | ▶ | ● | ● | ■ |
| DPR Korea | | ◀ | ◀ | ■ | ◀ | | ▶ | ▶ | ● | ◀ |
| India | ■ | ■ | ■ | ■ | ■ | ■ | ● | ▶ | ● | ■ |
| Indonesia | | ■ | ■ | ■ | ▶ | ▶ | ◀ | ▶ | ● | ■ |
| Maldives | | ● | ● | ● | ◀ | | ▶ | ● | ● | ● |
| Myanmar | | ■ | ■ | ■ | ■ | ◀ | ● | ▶ | ● | ● |
| Nepal | ■ | ▶ | ▶ | ■ | ■ | ■ | ▶ | ▶ | ◀ | ■ |
| Sri Lanka | ▶ | ■ | ■ | ■ | ▶ | ● | ▶ | ▶ | ● | ● |
| Thailand | ● | ▶ | ■ | ■ | ◀ | ● | ● | ▶ | ● | ● |
| Timor-Leste | ◀ | ■ | ■ | ■ | ◀ | ◀ | | ▶ | ● | ▶ |

● *Early achiever* Already achieved the 2015 target; ▶ *On-track* Expected to meet the target by 2015; ◀ *Off-track: slow* Expected to meet the target, but after 2015; ■ *Off-track: no progress/regressing* Stagnating or slipping backwards

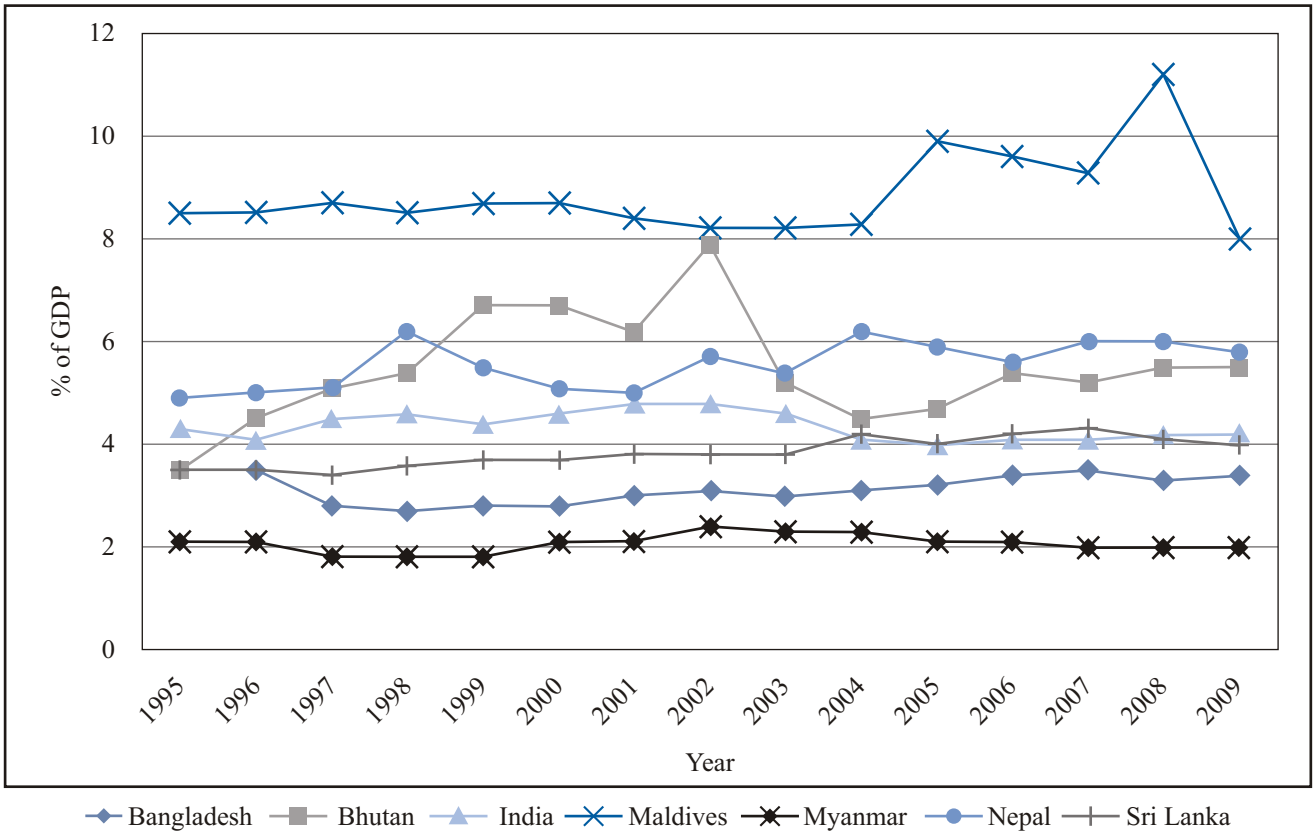


**Figure 3:** Health expenditure as a share of GDP in selected WHO SEA Region- 1995-2009[8]

healthcare system remains a very minor source of health care in rural areas. Health professionals are reluctant and less motivated to work in the rural areas and in the field of public health.[15] According to the WHO, Bangladesh will experience a critical and chronic shortage and imbalance of skill mix and deployment of health workforce.[16] The nurse-doctor and medical technologist-doctor are also among the poorest in the world. Major reforms are needed in healthcare and medical education to attract and retain health workforce to ensure equitable and quality healthcare for the population of Bangladesh.[15,16]

## Conclusion

The World Health Statistics 2011 compiles and reports health-related data ranging from population health status and nonmedical determinants of health to health care resources and utilization. Findings from these cross-national comparisons highlighted areas where Bangladesh could improve, and yielded benchmarks for improved performance. In Bangladesh, there are clear evidences of many important achievements in health during recent decades, however there remain principal health development challenges to improve quality of life of the people. Strong initiatives have to be taken to strengthen the human resources for health development, ensure equitable access to quality health care, adopt appropriate health-care financing methods, reducing under-five and maternal deaths, combating major communicable and NCDs, and formulation of a national health policy to address the issues and shortcoming of health development of the population. Moreover, improved data and monitoring tools are crucial for devising appropriate policies and interventions needed to achieve the MDG and other health-related targets.

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