

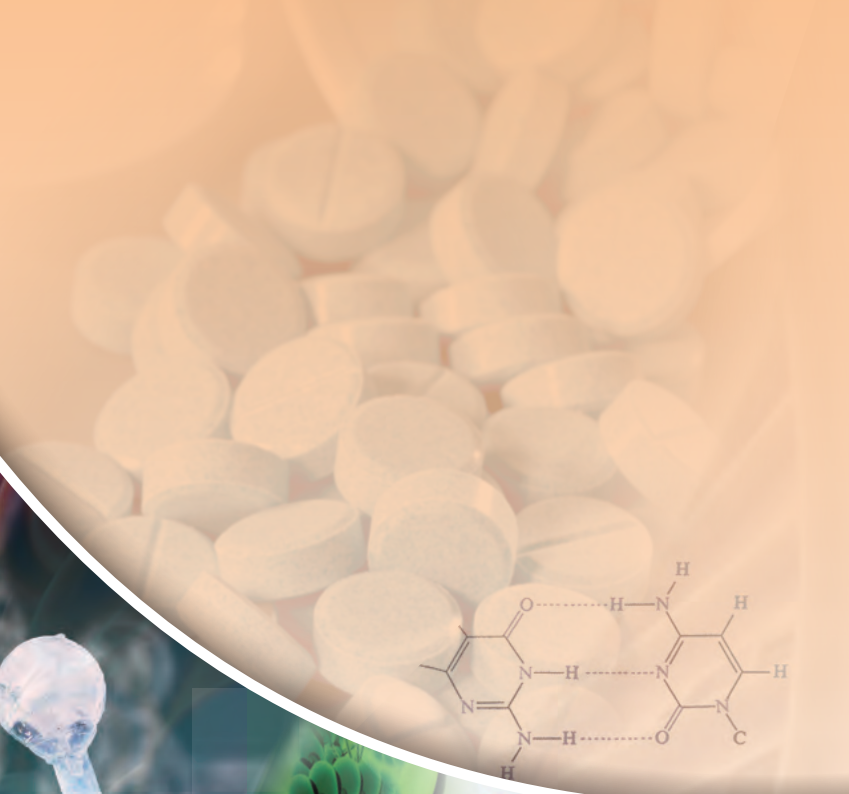
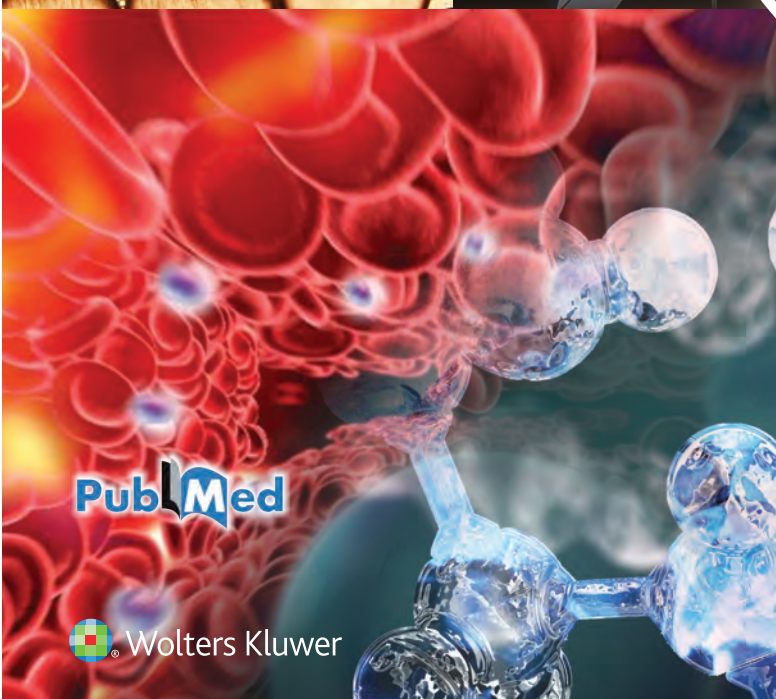
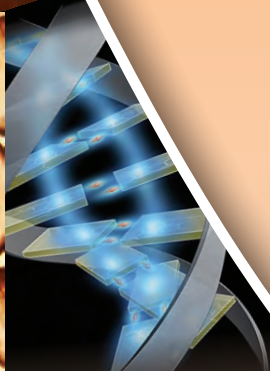
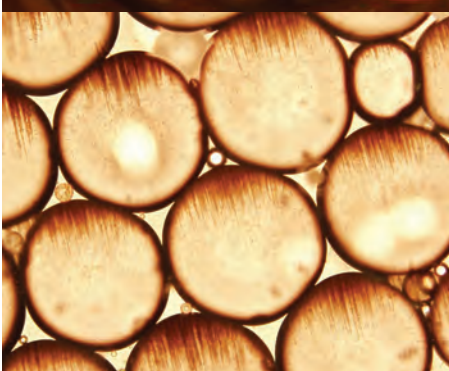
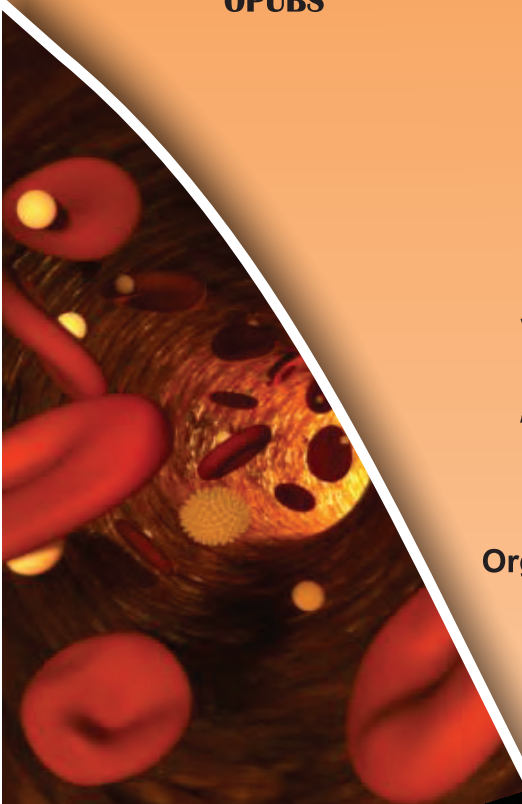


ISSN : 0976-4879

# Journal of Pharmacy & BioAllied Sciences

An Official Publication of  
Organization of Pharmaceutical Unity with BioAllied Sciences (OPUBS)

Vol 12/ Issue 2/ April-June 2020



PubMed

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## Review Article

# Hits and Misses of Bangladesh National Health Policy 2011

Munzur-E- Murshid<sup>1</sup>, Mainul Haque<sup>2</sup>

<sup>1</sup>WISH2Action Project, Handicap International, Kurigram, Bangladesh, <sup>2</sup>Unit of Pharmacology, Faculty of Medicine and Defense Health, Universiti Pertahanan Nasional Malaysia (National Defense University of Malaysia), Kuala Lumpur, Malaysia

ABSTRACT

National Health Policy (NHP) is a guiding principle for a country to identify the priority of health-care needs, resource allocations according to prioritization, and to achieve specific health-care goals. In addition, NHP is usually wide-ranging, all-inclusive plan that pursues each and every population to move on the road to better health. NHP targets to achieve universal health coverage and delivering quality health-care services to all at inexpensive cost, through a preemptive, protective, and prophylactic health-care program in all national and international developmental policy and planning. There are quite a few constituents that are valuable in executing health policy. These elements include novelty, technical compendium, communiqué, conglomerates, administration, supervision, and political awareness and promise. Health policies can be implemented at all levels of the government system. It helps in strengthening the overall health-care system of the country by effective public-private coordination and collaboration. In the year 1990, the Government of Bangladesh (GoB) tried to promulgate an NHP. Unfortunately, the attempt failed. The health-care system of the country operated without a policy until 2011. In the year 2011, the country's first health policy was published by the GoB. Though the country has achieved excellent progress in providing health care, but yet Bangladesh has a few critical challenges that need immediate attention. In this article, we will try to address the pros and cons of the Bangladesh NHP 1990 and the positive aspects and challenges of NHP 2011.

**KEYWORDS:** 2011, Bangladesh, cons, hits, misses, national health policy, pros, public health

Received : 24-10-2019.

Revised : 05-11-2019.

Accepted : 27-11-2019.

Published : 15-04-2020.

## WHAT IS THE NATIONAL HEALTH POLICY?

World Health Organization (WHO) describes health policy as a guideline to make “decisions, plans, and actions that are undertaken to achieve specific health-care goals within society.”<sup>[1]</sup> The Indian Ministry of Health and Family Welfare (MOHFW) describes it as the country's “aims at attainment of the highest possible level of good health and well-being, through a preventive and promotive health-care orientation in all developmental policies, and universal access to good quality health-care services without anyone having to face financial hardship as a consequence.”<sup>[2]</sup>

WHO additionally describes that each country's health policies, strategies, and plans take an indispensable role in representing the nation's perception, perspective, policy guidelines, and approaches for safeguarding the health of the majority ordinary people.<sup>[3]</sup> The principal idea of any national health policy is to develop an equitable situation that confirms functional health

**Address for correspondence:** Prof. Mainul Haque, Unit of Pharmacology, Faculty of Medicine and Defense Health, Universiti Pertahanan Nasional Malaysia (National Defense University of Malaysia), Kem Sungai Besi, 57000 Kuala Lumpur, Malaysia. E-mail: runurono@gmail.com

### Access this article online

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Website: [www.jpbonline.org](http://www.jpbonline.org)

DOI: 10.4103/jpbs.JPBS\_236\_19

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**How to cite this article:** Munzur-E- Murshid, Haque M. Hits and misses of bangladesh national health policy 2011. J Pharm Bioall Sci 2020;12:83-93.

status for the people of that country. Regrettably, most of the countries of this globe consider health policy as “medical care policy.”<sup>[4]</sup> All segments, stakeholders related to health care of the community, are accountable and answerable for developing a situation to safeguard access to health care and health. Nevertheless, the national establishment and management system, most likely, the ministry of health, consequently, is the main body in charge of evolving a national health policy.<sup>[4]</sup>

### WHY NATIONAL HEALTH POLICY IS ESSENTIAL?

Health policy identifies the priority health needs of the nation based on the country’s health problem.<sup>[5]</sup> It guides the government in prioritizing the budget according to the health needs of the country.<sup>[6,7]</sup> National health policy governs the operative and well-organized use of the health-care budget. Consequently, people of that country can enjoy better access to quality health-care services.<sup>[8,9]</sup> Thereafter, the national health policy helps in strengthening the health-care system of the country.<sup>[3]</sup> It supports to cooperate between the public health sector and other health-related sectors of the country.<sup>[10]</sup> It helps in raising external aid effectiveness, where aid plays a significant role.<sup>[11,12]</sup>

### REVIEW ON BANGLADESH HEALTH SYSTEM

The social elements of health comprise multiple issues, which include “income, social support, early childhood development, education, employment, housing, and gender.”<sup>[13]</sup> The health system of Bangladesh is a diverse health-care system.<sup>[14,15]</sup> Bangladesh has four different types of the health-care system actors: public, profit-making independent establishments, principally nongovernmental organizations (NGOs), nonprofit charitable institutions, and the international development organizations.<sup>[14,16]</sup> The public sector plays the lead role. The Bangladesh Government is responsible for policy, planning, and regulation of the country’s health system. The MOHFW manages the country’s health and family welfare services by the two directorates, Directorate General of Health Services (DGHS) and Directorate General of Family Planning (DGFP).<sup>[17]</sup> Broadly, the health-care providers are categorized into two classes—formal and informal health-care providers.<sup>[18,19]</sup> Bangladesh’s health system has three tiers—primary, secondary, and tertiary level of care.<sup>[20]</sup> Primary health-care centers in Bangladesh extend from the Upazila level (subdistrict level) to community clinics.<sup>[21]</sup> A community health-care provider is the key personnel of community clinics to provide care in the community. Union Health and Family Welfare center exists in the union level

(administrative unit made of a collection of few villages).<sup>[22,23]</sup> The uppermost primary care center is Upazila health complexes. Upazila health complexes are the first comprehensive point of care with inpatient care facilities. District Hospital and District Maternal and Family Welfare Center acts as a secondary care center. District hospital operates under the supervision of the DGHS. District Maternal and Family Welfare Center serves as a secondary care center, focusing on family planning services and performing under the control of the DGFP.<sup>[21,24-26]</sup> There is one community clinic for every 6000 population in Bangladesh. A total of 18,000 community clinics are running all over the country.<sup>[27]</sup> These clinics follow a very innovative way of delivery of primary health-care services on behalf of the government of Bangladesh.<sup>[28-30]</sup> Nationwide, there are 472 government primary healthcare facilities (Upazila health complex) excluding community clinics.<sup>[31]</sup> The total number of available beds in the primary care facilities is 18,880. On the contrary, there are 126 secondary and tertiary care facilities across Bangladesh. The secondary and tertiary public care facilities have 27,053 beds. There are 2983 registered hospitals in the private sector of Bangladesh. These hospitals have a total of 45,485 beds.<sup>[31]</sup> World Bank reported that 0.8 bed is allocated per 1000 population in Bangladesh.<sup>[32]</sup> Although Bangladesh’s health system structure extended from community to regional to national level, nevertheless, the health workforce is mostly concentrated around the cities like many other developing countries.<sup>[33,34]</sup> Subsequently, 43%, 22%, 16%, and 7% of patients of Bangladesh receive treatments from traditional healers, traditional birth attendants, unqualified allopathic providers (village doctors and drug sellers), and community health worker, respectively.<sup>[35]</sup> Bangladesh is undergoing demographic and health transition.<sup>[36,37]</sup> Currently, the country is bearing the double burden of communicable and noncommunicable diseases.<sup>[38,39]</sup>

### THE FIRST/FAILED ATTEMPT OF BANGLADESH GOVERNMENT TO PROMULGATE NATIONAL HEALTH POLICY IN 1990

The then military dictator and president of Bangladesh, Mr. Hussain Muhammad Ershad, in the middle of 1990, wished for a new national health policy.<sup>[40,41]</sup> It was approximately 8 years before the same regime successfully implemented National Drug Policy–1982. The success of National Drug Policy–1982 was one of the main driving forces for the proposed health policy 1990 in Bangladesh.<sup>[40,42-44]</sup> The proposed National Health Policy 1990 of Bangladesh emerged from

the recommendations of the Health Care System Improvement Committee.<sup>[40,45,46]</sup> The Health Care System Improvement Committee was formed by the Government of Bangladesh in the year 1987, and Dr. Zafrullah Chowdhury was one of the critical members of that committee.<sup>[40,47,48]</sup> Their recommended proposed policy was to ensure curative and preventive care services for the people of Bangladesh in all tiers of the health system. There were 16 objectives in the proposed Bangladesh Health Policy 1990. Provision of health care, sanitation, nutrition, and family planning services were the key areas of concern of that policy. The disadvantaged group of people of the society was the target group under the national health policy. The plan proposed critical structural changes in the public health system of Bangladesh.<sup>[40,45,46]</sup> There were 14 proposed structural changes. Fundamental proposed structural changes include free primary health-care services primarily for the marginalized community, efficient audit system to ensure accountability, efficient supply chain management of medicine and logistic supply in the health-care facilities, and practical devolution of the health system. According to the proposed policy, the Government of Bangladesh put ban on private practice by medical doctors who are in civil service, with limited permission of private practice for senior and chief consultants.<sup>[40]</sup> Nonetheless, there was the provision of nonpracticing allowance for doctors. The aim of the ban on private practice was to establish an efficient referral mechanism.<sup>[40]</sup> Despite the provision of nonpracticing allowance, doctor's community did not welcome the prohibition of private practice.<sup>[40]</sup> Subsequently, they rejected the policy. Bangladesh Medical Association (BMA), the national doctors' association, was continuously noncooperative with the government. The BMA continually demanded and started street protests for withdrawing the proposed plan. Dr. Shamsul Alam Khan Milon, the joint secretary of BMA, was killed on November 27, 1990, which ignited the massive mass upsurge and strike.<sup>[40]</sup>

The military director President Ershad's government of Bangladesh successfully implement the National Drug Policy 1982. That inspired the same military ruler to proceed for the National Health Policy 1990. The health policy 1990 create anxiety among vested group that ultimately generate mass street protest and ensure downfall President Ershad's government. Many years later Bangladesh supreme declare verdict that all military rulers of the country were illegal government. Additionally, privileged health establishment or in other words, influential doctors' community, was not affected by the National Drug Policy 1982. Then, by banning the

private practice, doctor community was apprehended of their enormous financial loss by the National Health Policy. Doctors working in civil service in Bangladesh carry out private practice after office hours. Private practice generates a vast amount of earning, and the amount usually is many folds higher than their salary as a public servant.<sup>[40]</sup> Bangladeshi community mainly believes that doctors working in civil service are the high quality of expertise. The proposed policy had an accountability mechanism of doctors to the local administration, headed by the elected representative of the subdistrict region. The doctor's community had a significant disagreement regarding this issue. BMA thought this is a rubbish law and strongly rejected this clause of the policy.<sup>[40]</sup> The then Bangladesh government did not test the feasibility of the proposed health policy among the medical doctor's community. Even they did not create a supporter group of the policy from the young professionals.<sup>[40]</sup>

Another critical issue was that multinational medicine companies faced a significant loss due to the Bangladesh Nation Drug Policy 1982. All these issues had been going against Ershad's regime; these companies reaped the advantages and contributed to the unrest.<sup>[40,49,50]</sup> Several layers of the Bangladeshi communities (journalists, lawyers, doctors, teachers, road transport workers, and civil servants), advanced with time, moved together against the military regimen.<sup>[40]</sup> The movement against the military dictator got legitimacy and gear when BMA joined in the campaign. Gradually, the overall condition worsened over the country. The government called a state of emergency in response to strikes. The Bangladesh Armed Forces withdrew its support toward military dictator and the president of the country due to economic loss, rising political instability, and increasing striking group mobilization.<sup>[40]</sup> The proposed health policy brought unintended political consequences that led to the resignation of the military ruler.<sup>[40]</sup> The country's chief justice replaced President Ershad after these episodes, and the president of the BMA was one of the key advisors of the replaced interim president. The first action of the new government was to repeal the proposed health policy.<sup>[40]</sup> Later, the new government reviewed drug policy in March 1992 due to internal and external pressure from multinational companies and donor bodies (World Bank). Reviewed Drug Policy 1992 withdrew the price control mechanism of the Government of the People's Republic of Bangladesh.<sup>[39]</sup> Revised Drug Policy 1992 generated a massive price hike of medicine in Bangladesh.<sup>[51]</sup> Thereafter, pro-people Drug Policy 1990 instigated and executed by a military regimen was scrapped by the elected government.

## THE BANGLADESH NATIONAL HEALTH POLICY 2011

The specific aims of the Bangladesh National Health Policy 2011<sup>[16,52]</sup> are as follows:

1. Ensure accessibility of primary health care and emergency care for all
2. Ensure quality health-care services for all based on equity. Extend the coverage of quality health-care services
3. Increase community demand for health care considering rights and dignity

The primary goals of Bangladesh National Health Policy 2011<sup>[16,34,52]</sup> are as follows:

1. Establish health care as a right in all layers of society by ensuring essential elements of care, nutrition, and public health improvement
2. Providing quality and easily accessible care, irrespective of an urban and rural community, mainly focusing on the poor and disadvantaged population
3. Establish a community clinic to provide primary health care for every citizen. Every 6000 population will be under one community clinic
4. Prioritize emergency care
5. Reduce maternal and child mortality rates significantly
6. Achieve a replacement level of fertility within 2021

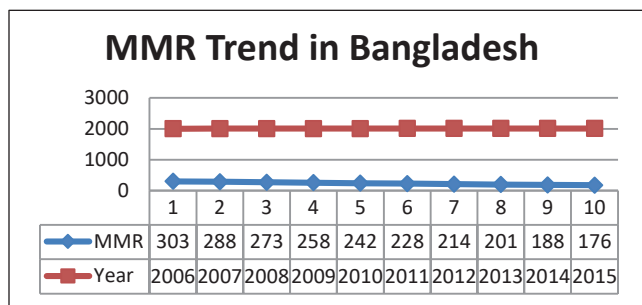
7. Ensure the necessary steps to improve maternal and child health status and ensure safe delivery services in each village
8. Ensure easy accessibility and availability of family planning services, especially to poor- and low-income community people
9. Ensure gender equality in health-care services
10. Make certain effective and efficient use of information technology in the health-care management system
11. Ensure adequate supply of logistics and manpower in government health-care facilities to deliver quality health-care services
12. Ensure a mechanism to regulate the quality and price of care and educational expenses in private facilities
13. According to the need of the country, ensure modernization and adaptation of medical education and technology
14. Ensure coordination between different health-care-related departments, ministry of GoB, and MOHFW, in addition to coordination between the Government of Bangladesh and NGOs
15. Strengthening preventive services specially expanded program on immunization activities
16. Access to health-related information is right. Steps will be taken to ensure the right
17. Ensuring the availability of essential drugs by regulating prices for essential medicines

**Table 1: People's Republic of Bangladesh basic health status**

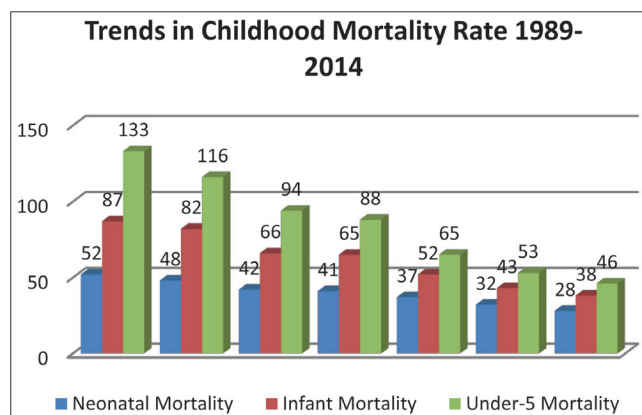
Name of index	2007	2017
Total population	142,660,376	159,670,593
Population density (per sq. km)	1,095.954	1,226.631
Crude birth rate (per 1,000 population)	22.747	18.501
Crude death rate (per 1,000 population)	5.987	5.533
Life expectancy at birth	68.648	72.052
Infant mortality rate (per 1,000 live births)	45.5	26.5
Maternal mortality ratio (modeled estimate, per 100,000 live births)	297	173
Number of neonatal deaths	103,407	53,785

**Table 2: Target under the National Health Policy 2011<sup>[52-54]</sup>**

Data	Current	Target
Contraceptive prevalence rate	62.4%	75%
Neonatal mortality rate	28/1000 live births	2022 Sustainable development goal 18/1000 live births 12/1000 live births
Infant mortality rate	38/1000 live births	31/1000 live births
Maternal mortality ratio	176/100,000 live births	2022 121/100,000 live births 70/100,000 live births
The proportion of births attended by skilled health personnel	42.1%	2020 2022 65%



**Figure 1:** Maternal mortality rate in Bangladesh from 2006 to 2015 (Source: <https://tradingeconomics.com/bangladesh/maternal-mortality-ratio-modeled-estimate-per-100-000-live-births-wb-data.html>)



**Figure 2:** Childhood mortality rate in Bangladesh from 1989 to 2014 (Source: Bangladesh Demographic and Health Survey 2014. National Institute of Population Research and Training. Ministry of Health and Family Welfare. Dhaka, Bangladesh. Available from: <https://dhsprogram.com/pubs/pdf/FR311/FR311.pdf>)

18. Ensure adequate epidemiological tracking of disease patterns and impacts of climate change on health
19. Ensure improvement of allied health care (Unani, Ayurveda, and homeopathic) education and care delivery system

## BANGLADESH HEALTH STATUS

Bangladesh health status and target of NHP 2011 are depicted in Tables 1 and 2 and Figures 1 and 2.

The total area of Bangladesh in square kilometers (km<sup>2</sup>) 147,570 (Source: World Bank Web Page. <https://data.worldbank.org/indicator/SH.DTH.COMM.ZS?end=2018&locations=BD&start=1990>).

### Positive arenas

1. Bangladesh has exemplary community-based health-care programs. Among all the achievements, expanded program on immunization activities

achieved global appraisal significantly.<sup>[55,56]</sup> The current the expanded program on immunization coverage in Bangladesh is 82.5.<sup>[57,58]</sup> On March 27, 2014, WHO declared Bangladesh as a polio-free country.<sup>[59]</sup>

2. Community clinics are an essential people's health-oriented program in Bangladesh.<sup>[60]</sup> A total of 18,000 community clinics exist in Bangladesh.<sup>[27,61]</sup> Currently in Bangladesh, it is the first point of care for the mass people. Primary health care is provided from community clinics.<sup>[62,63]</sup> It remarkably promotes overall health care, cost-effective program, reduces expenses of the patient, and better utilization of health-care budget in Bangladesh.<sup>[61,64-66]</sup>
3. Bangladesh has not yet achieved sustainable development goals targets in the case of maternal mortality ratio, infant mortality rate, and under-five mortality rate.<sup>[67]</sup> Nonetheless, the health-care situation in Bangladesh has improved dramatically in the last decades.<sup>[20,68-70]</sup>
4. Comprehensive community-based family planning programs are playing a significant role in reducing the fertility rate in Bangladesh.<sup>[23,71,72]</sup> The contemporary total fertility rate in Bangladesh is 2.104 and 2.1 births per woman in 2016 and 2017, respectively.<sup>[73,74]</sup> In the year 1971, it was 6.940 births per woman.<sup>[75]</sup> Various demanding issues remain to be addressed in the sector of ongoing activities in family planning in Bangladesh, although the country has achieved notable progress in birth and population control.<sup>[71,76]</sup> Multiple studies reported that yet 12%–25.3% of Bangladeshi couples' were not able to achieve family planning services.<sup>[77-79]</sup>
5. Regular, efficient public-owned health-care services (preventive, promotive, and curative), promote more life expectancy at birth in Bangladesh, although there are several deficiencies and a lot more to achieve. The life expectancy at birth in Bangladesh was 72.49 years in 2016,<sup>[80]</sup> and 47.14 and 48.87 years in 1971 and 1975, respectively.<sup>[80]</sup>
6. Bangladesh has achieved cure rates targets of the Millennium Development Goals (MDGs) target of newly diagnosed smear-positive tuberculosis (TB) through the Directly Observed Treatment, Short Course (DOTS).<sup>[81]</sup> WHO enthusiastically expected globally to reduce the incidence rate (to less than 10 cases per 100,000 populations) of TB and TB-related death 95% and 90%, by the year 2035. Afterward, to bring into line with the mission for universal health coverage and social safety by wide-ranging eradication of disaster TB in saving life and enormous financial load all over the planet.<sup>[82,83]</sup> Although the country achieved a lot by treating

TB but the country carried top health-care liability because of this deadly infectious disease. The year-on-year incidence rate was 225 per 100,000 people, and on average, every 12 months' death rate was 45 per 100,000.<sup>[84]</sup>

### Misses

1. Lack of required financial resources is one of the significant problems of the Bangladesh Health Care System.<sup>[20]</sup> Current health-care budget allocation is 1.02% of Bangladesh's gross domestic product (GDP) for the year 2019–2020.<sup>[85]</sup> The health-care budgetary allocation in Sri Lanka was 3.893% of GDP in the year 2016.<sup>[86]</sup> Even the country of Islands, Maldives, allocates more over 10 times than Bangladesh. The health-care expenditure of Maldives was 10.611% of GDP in the year 2016.<sup>[87]</sup> Currently, per capita, total health expenditure in Bangladesh is US\$34,218 only.<sup>[88]</sup> This is less than half of the Chatham House's recommended amount of US\$86. Thus, it is less than half.<sup>[89]</sup> There is no specific strategy to increase the GDP contribution and per capita total health expenditure in the health sector of Bangladesh in the National Health Policy 2011.<sup>[52]</sup>
2. Bangladesh's health system has another striking problem of the insufficiently skilled human resource.<sup>[90]</sup> The current health workforce is skewed toward physicians.<sup>[91]</sup> The doctors to nurses to technologist's ratio is 1:0.4:0.24, whereas the WHO recommendation for the doctor-nurse-technologist ratio is 1:3:5.<sup>[92]</sup> Currently, Bangladesh has one physician for every 1847 people.<sup>[93]</sup> There is no specific strategy on how the government will fulfill the gap.<sup>[52]</sup>
3. Out-of-pocket health-care spending in Bangladesh is gradually going to touch the zenith threshold,<sup>[16,94]</sup> and currently, the out-of-pocket health-related expense is 67%.<sup>[95]</sup> Out-of-pocket payment outlays annually push 3.5% of households into poverty.<sup>[96]</sup> Ensuring the availability and affordability of essential medicine by price controlling mechanism is one of the main objectives of the health policy.<sup>[97-99]</sup> Unfortunately, the cost of medicine in Bangladesh appears to be the primary component (approximately 65%) of out-of-pocket payments.<sup>[100]</sup> Thereafter, the present scenario denotes that the price controlling mechanism of essential medicines<sup>[49,50]</sup> in Bangladesh is not effectively working.
4. In Bangladesh, approximately 200,000 patients are newly diagnosed with cancer each year.<sup>[101]</sup> Conversely, due to the increase in life expectancy at birth, gradually, the elderly population is increasing.<sup>[102,103]</sup> There is no endowment in the policy to notify these issues considered at the national level.<sup>[52]</sup>
5. Bangladesh yet does not have an active referral network. This creates an unnecessary burden on health-care providers and in the health system of Bangladesh.<sup>[104,105]</sup> Regrettably, there is no provision in the policy to strengthen the referral network of the health system.<sup>[52]</sup>
6. Inequality is a great challenge for Bangladesh Health Care System.<sup>[20]</sup> There is a far difference in different health indicators among wealthier and deprived household quintiles.<sup>[100]</sup> The under-five mortality rate has been decreased from 133 to 46 per 1000 live births in 15 years' time (1989–2014). Nevertheless, the under-five child mortality rate was statistically significant ( $P = 0.001$ ) and different when compared between financial status.<sup>[106]</sup> Overall, health-care welfares in Bangladesh were focused on more affluent clusters [a confidence interval (CI)=0.2290]. There was little difference in the research results between countryside (CI = 0.227) and metropolitan (CI = 0.223) inhabitants.<sup>[107]</sup>
7. There is a significant lack of devolution in the health-care system.<sup>[108,109]</sup> Health-care institutes are operated under the leadership of chief of staff of that institute. But there is no local level planning and implementation activities according to the planning. All the decisions are decided centrally by the MOHFW, Bangladesh.<sup>[16]</sup> The health resource allocations do not reflect the local needs.<sup>[20]</sup> Health-care institutes do not have any decision-making power. Even they cannot retain their income to conduct small-scale maintenance work.<sup>[16]</sup>
8. One of the primary building blocks of a health system is the health information system (HIS).<sup>[110]</sup> Bangladesh's HIS is still in the growing phase.<sup>[20]</sup> Currently, there is a HIS named "District Health Information System 2 (DHIS2)."<sup>[111]</sup> There is no specific strategy to improve the HIS.<sup>[52]</sup>
9. The government mentioned they would prioritize emergency care, but there is no crucial strategy to develop such care.<sup>[52]</sup> Indian National Health Policy: the specific aim of the policy was to ensure the availability of two beds per 1000 population for the golden hour of treatment after injury or accidents.<sup>[112]</sup>
10. It is progressively deteriorating the relationship between health-care service provider and patient party in Bangladesh. Multiple reports are published in the daily newspaper of the county.<sup>[113-115]</sup> These days the relationship between the doctors'

community and the patient's family is so bad that it can be considered as a public health problem. There is no strategy in the policy to improve this situation.<sup>[52]</sup>

### Way forward

1. The government contribution to the total health-care expenditure should be increased. We are going to be a middle-income country. Gradually, foreign aid will be reduced. To ensure efficient and effective utilization of our financial resources on health, the government should have priority plans for preventive actions.
2. To protect people from catastrophic health expenditures nationwide, compulsory participation in a health insurance scheme is mandatory. Initially, it can be started among formal service providers.
3. Still marginalized persons with a disability and those who find it hard to reach an area are facing barriers in accessing quality, affordable health-care services. These barriers should be identified effectively and efficiently. Quick, sustainable solutions should be on the ground as soon as possible.
4. The government should develop an adequate health service management expert so that available resources can be used efficiently and effectively.
5. The hospital works are carried out by a team. Here doctors are the key players, but they need other team members. Thereafter, graduate medical doctor to work efficiently in a hospital always need a good team-work among all health professionals. The government should concern about the recruitment of a full team along with the placement of the doctor in the hospital.
6. To retain the health workforce, promoting the accountability of health-care providers by community engagement might be a good option. On the contrary, there should be a special promotional offer for those who want to serve the hard to reach community. The safety and security of health-care providers should be ensured by the authority and by the community.
7. There should be a strict regulatory mechanism to ensure affordable quality care in private health-care facilities.
8. The final most important fact is that there should be an effective referral mechanism throughout the country. Without a proper referral network, it is impossible to ensure the quality of care in a country.

### CONCLUSION

Bangladesh has minimal health-care resource allocation, but its care system achievement is remarkable. The country need to keep up the threshold

of improvement; for this, Bangladesh need effective and efficient utilization of resources. Bangladesh have very critical challenges. Healthcare out-of-pocket expenses of Bangladeshi citizens are one of the tops around the globe. It is an enormous crippling issue for almost all households. Another urgent health issue of the country is the gradual and steady increase of non-communicable diseases and its' burden. A comprehensive effort is needed, possibly emphasizing preventive medicine over therapeutic medicine to overcome these significant public health delinquents.

### Acknowledgement

We are much grateful to Professor (Dr.) Mohammed S. Razzaque of Lake Erie College of Osteopathic Medicine, 1858 West Grandview Boulevard, Erie, PA 16509, Pennsylvania, USA, for helpful suggestions.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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