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Abstract

Public health information service plays a crucial role in upgrading the health status of the population of any country by providing valuable information on issues like health, sanitation, nutrition and family planning. Bangladesh, with one of the highest concentrations of non government organizations in the world, has been grappling with many health related problems including weak and insufficient infrastructure, corruption, population explosion, lack of health professionals, lack of awareness, etc. Although the organizations working in the region are making considerable efforts for reaching out to the larger cross-sections of rural people, their efforts are hampered by various socio-economic problems and other limitations. The survey conducted under the study yields valuable information regarding the problems and possibilities of the public health information system in the northern region of Bangladesh in particular and the whole country in general. Based on the findings, it puts forward a number of suggestions for the improvement of the situation.

Keyword: Bangladesh, Northern Bangladesh, Public health information service, Health, Nutrition, Family planning.

Introduction

In spite of the prevalence of various socio-economic problems, Bangladesh has made significant progress in healthcare. According to the World Health Organization statistics (2004) the life expectancy at birth for both sexes increased from 56.1 in 1991 to 64.9. in 2002. Male life expectancy has increased from 56.5 years in 1991 to 64.5 years in 2002 and female life expectancy increased from 55.7 years to 65.4 years during the same period. However, many of the rural people of Bangladesh still lack access to critical healthcare services. They also suffer from a lack of access to public health information services, which seriously undermine their scope of receiving timely and effective healthcare. Especially the people living in rural and far-flung areas find little opportunity to keep abreast of latest information on healthcare facilities. As a result of this, poor and underprivileged people cannot avail themselves of the public healthcare services and facilities provided by the government and non-government organizations.

Public health information service and its importance for Bangladesh

Public health has been defined by various authorities in different ways. According to the United States' Institute of Medicine (2009), 'Public health is what we, as a society, do collectively to assure the conditions for people to be healthy. This requires that continuing and emerging threats to the health of the public be successfully countered. These threats include immediate crises, such as the AIDS epidemic; enduring problems, such as injuries and chronic illness; and growing challenges, such as the aging of our population and the toxic by-products of a modern economy, transmitted through air, water, soil, or food. These and many other problems raise in common the need to protect the nation's health through effective, organized, and sustained efforts led by the public sector.' The United Kingdom's Faculty of Public Health (2012) defines public health as the 'science and art of promoting and protecting health and well-being, preventing ill-health and prolonging life through the organised efforts of society. College of Public Health at the University of South Florida (2012) observes, 'with its focus on health promotion and disease prevention, public health provides a foundation for our health care system that ultimately means lower health care costs. While physicians treat the ills of individuals, public health professionals attack society's health problems--domestic violence, teen smoking, sexually transmitted diseases, hazardous waste and dangerous workplaces.'

Receiving appropriate, timely and need- based information on healthcare is the key to guaranteeing timely and effective healthcare services. Public Health Information Services support health professionals and partners to improve the health of people by providing quality health information and resources. Some of the important areas covered by these services are public health, health inequalities and health improvement, disease detection, outbreak management and lifestyle information on specific health topics. These services are equipped with a strong search and retrieval system which assists people in retrieving their desired information. As Tilson and Berkowitz (2012) show, information system capacity of the public health information service is of particular importance. Providers within the system need to collaborate rapidly around the collection, analysis and reporting of data related to healthcare and the detection, prevention and treatment of diseases. Improving the two-way flow of information could help providers get disease prevention information at the point of care, and it could

help public entities more quickly gain health data to spot trends quickly.

Bangladesh has been suffering from a severe shortage of health workers, in terms of a shortage of qualified providers, an inappropriate skills-mix and inequity in distribution (Ahmed et al 2011). This has created severe pressure on the limited number of public health workers working in the rural areas. They are grappling with various financial and socio-economic problems, and are in constant need for maximizing the effectiveness of their limited resources. An informed population can help health workers achieve this effectiveness. If community people's knowledge on health related issues could be enriched, they can realize the significance of public health, and improve their livelihood by receiving up-to-date health information from public health workers and information professionals. In context of a developing country like Bangladesh, the public health workers, therefore, must build empathy with the local people so that the local people not only contact public health workers to fulfill their needs, but also take an active part in sharing and promoting public health information. In this regard, the information and expertise of the rural people could also be utilized for promoting public health concern among the larger cross-sections of people. Robert Chambers (1983) observed, 'In most countries of the third world, rural people's knowledge is an enormous national resource' (p. 92). This necessitates the use of a variety of information, education and communication tools for wider sharing and distribution of public health information. Forsyth (2005) observes that, health information could be made available in books, pamphlets, audio, audiovisual or web-based forms. He emphasizes the role of government health workers at the grassroots level in this regard and advised them to work in collaboration with rural library workers for disseminating health information and raising health awareness on health issues.

Public health information system in Bangladesh

The pattern of Bangladesh's public health information system is hierarchically structured from the national level to the village level. The structure is based on a top-down approach. Different levels of health imitations, hospitals, health centers provide different public healthcare information to the beneficiaries.

a) Central or National level:

The supervisory structure of Bangladesh's health information begins with the The Ministry of Health and Family welfare (MOHFW), which is responsible for

policy formulation and decision making. Besides the MOHFW, the Planning Section in the planning commission under the Ministry of Planning acts as a technical body with regard to the development plan of the health sector.

2. Regional/ Division level:

Within Bangladesh's six divisions, there are fourteen medical college hospitals which provide tertiary care across the nation. Government medical college hospitals have been working as referral imitations for the districts. The divisional health authority is the functional unit at the divisional level headed by a divisional health director.

3. District (Zilla) Level:

Secondary healthcare facilities are available at the districts level hospitals. At present there are 36 hospitals with bed capacity of 50 each, 21 hospitals have 100 beds each, two have 150 each and one has 200 bed capacities.

4. Thana / Upazila level:

Bangladesh has currently 482 Upazilas and 599 administrative thanes. The Upazila are the lowest level of administrative government in Bangladesh. At the Upazila level, the Upazila Health and family planning services of the Thana/ Upazila. The Upazila Health Complex (UHC) consists of doctors, pharmacists, laboratory technicians and other professionals.

5. Union Level:

About fifteen health and family planning personnel are managing the static healthcare facility at each Union. A Union Sub-Center (USC) is managed by one medical officer, one medical assistant, one pharmacist and other support staff while Union Health and Family Welfare Center (UHFWC) is managed by one visiting physician, one pharmacist and other support staff.

6. Village level:

At the village, there are community clinics which are the most peripheral level health information facilities with a view to provide minimum care. The staffing pattern of the clinic is one health assistant, one family welfare visitor, and one assistant health inspector. Each village is divided into several wards.

Objectives and methodology

This article aims to find out the problems and prospects of public health information service in the northern region of Bangladesh. Its specific

objectives include:

1) To find out which government and non-government organizations are engaged in providing public health information services in the northern areas of Bangladesh.
2) To know what procedures are followed for disseminating public health information.
3) To gain a better understanding of the status of public health information in Bangladesh and to put forward recommendations for improvement.

The northern region of Bangladesh includes the Rajshahi and Rangpur Divisions. Generally it is the area lying west of Jamuna River and north of Padma River, and includes the Barind Tract. The area accounts for roughly 21% of Bangladesh's total population of approximately 160 million. Topography and climate make the area ecologically vulnerable to natural disasters like floods, river bank erosion, drought spells, and cold waves as compared to other regions of the country. The northern region is characterized by comparatively higher level of poverty and natural calamities like droughts, river erosion and seasonal flooding (Rural Poverty Portal, 2012). As a result, various livelihood problems like unemployment, social inequality, human rights violation, etc. are prevalent in this region.

The population of this study was government and non-government organizations working in the northern region of Bangladesh which consists of 16 districts. A questionnaire was administered among some leading public health service providers who have been operating in different areas of the northern region. Collected data was classified, tabulated and analyzed. Analysis of the questionnaire resulted in the identification of relevant problems, which led to the formulation of the recommendations. Main focus of the questionnaire was the public health information services provided by these organizations. These organizations are:

BRAC: The world's largest Non Government Organization, BRAC has been working in different parts of Bangladesh and abroad since 1972. As of December 2007, 70,000 community health volunteers and 18,000 health workers have been trained and mobilized by BRAC to deliver door-to-door healthcare services to the rural poor. It has established 37 static health centers and a Limb and Brace Fitting Center that provides low cost devices and services for the physically disabled. (Bangladesh Rural Advancement Committee, n.d.)

Directorate of Family Planning, Government of Bangladesh: A Directorate under the Ministry of Health and Family Welfare, the Directorate of Family Planning has been providing different kind of health and family planning services all over the country through its model clinics, mother and child welfare centers, satellite clinics and other outlets. It works in national, district, Upazila, Union and peripheral levels and employs thousands of health and family welfare workers. (Directorate General of Family Planning, 2012).

Smiling Sun Clinics: The Smiling Sun Franchise Program is a project funded by the United States Agency for International Development (USAID). It is intended to complement the wide network of health-care facilities set up by the Government of Bangladesh resorting to an innovative approach to healthcare franchising. SSFP works jointly with partner NGOs. Currently 26 NGOs are providing healthcare services to women, children and youth through 325 static and 8,819 satellite clinics in 64 districts of Bangladesh. (United States Agency International Development, 2012)

ORBIS: ORBIS International is a non-profit humanitarian organization which has been working with the aim to eliminate avoidable blindness and restore sight in the developing world. ORBIS works closely with local communities, governments and hospitals to design programs that increase local skills, improve healthcare facilities and foster awareness of eye health. (ORBIS, 2012)

UPHCP: UPHCP is the urban healthcare project of the Government of the People's Republic of Bangladesh (GOB) under Local Government Division, Ministry of Local Government Rural Development & Cooperatives. This project is funded by GOB, Asian Development Bank (ADB), Department for International Development (DFID) of the United Kingdom, Swedish International Development Cooperation Agency (SIDA), United Nations Population Fund (UNFPA) and ORBIS International. (Urban Primary Health Care Project, 2012)

Data Analysis and findings:

Table 1: Mode of dissemination of public information on health

Name of the Respondent	Group discussion	Home visits	Poster leaflet
BRAC	×	√	√
Directorate of Family Planning	×	√	√
Smiling Sun Clinics	×	√	√
ORBIS	×	√	√
UPHCP	×	√	√

The above table reveals that BRAC, Directorate of Family Planning, Smiling Sun Clinics, ORBIS and UPHCP use different methods to disseminate public information on health issues. It is notable that none of the organization surveyed provide or arrange group discussion on health topics. However home visits are pursued by all other organizations for distributing health information. All these organizations also use posters and leaflets to disseminate public information.

Table 2: Provision of information on HIV/AIDS

Name of the Respondent	Creating awareness of public health	Reproductive Health	Use of condoms
BRAC	√	×	×
DFP	√	×	×
Smiling Sun Clinics	√	√	√
ORBIS	√	√	√
UPHCP	√	√	√

From Table 2 it is evident that that all the surveyed organizations organize awareness programs on public health, which shows that, creating social awareness raising features prominently among their activities and is considered a core activity by them. Except BRAC and the DFP, all other organizations provide information on reproductive health and the use of condoms.

Table 3: Provision of information on communicable disease control

Name of the Respondent	Whooping cough control	Malaria, Filaria	Dengue
BRAC	√	√	√
DFP	√	√	√

Smiling Sun Clinics	√	×	×
ORBIS	×	×	×
UPHCP	√	√	√

Table 3 shows that, except ORBIS, all other organizations surveyed provide information on the controlling of whooping cough. They also provide information on common health hazards like malaria, filaria and dengue. The spread of communicable diseases is a growing threat in the rural areas of Bangladesh, therefore, providing information on communicable disease control is a common feature or rural-based healthcare services.

Table 4: Provision of on family planning

Name of the Respondent	Yes	No
BRAC	√	×
Family Planning	√	×
Smiling Sun Clinics	√	×
ORBIS	×	×
UPHCP	√	×

Table 4 reveals that BRAC, DFP, Smiling Sun Clinics and UPHCP provide information on family planning. Unchecked growth of population is a long-standing problem in Bangladesh and more so in the rural areas of the country. Therefore, presence of family planning in the health agenda of major healthcare services is quite natural. Understandably, ORBIS does not provide information on family planning since its activities covers only eye related topics.

Table 5: Providing information on eye

Name of the Respondent	Treatment of Eye	Eye Camps	Eye surgery Facilities
BRAC	×	×	×
DFP	√	×	×
Smiling Sun Clinics	×	×	×
ORBIS	√	√	√
UPHCP	√	√	√

As a world renowned eye-care service provider, ORBIS provides all kind of eye-disease and eye-care information. However, UPHCP also provides information on the treatment of eyes, eye camps and eye surgery facilities. DFP provides information on the treatment of eye diseases.

Table 6: Use of media for raising child healthcare awareness

Name of the Respondent	Broadcasting cartoons on TV	Use of computer Game	Use of movie
BRAC	×	×	×
DFP	×	×	×
Smiling Sun Clinics	×	×	×
ORBIS	×	×	×
UPHCP	√	×	×

Table 6 shows that, except UPHCP, none of the surveyed organization broadcast cartoons on television for raising awareness on child healthcare issues. It also shows that, none of the surveyed organizations use computer games and movies in this purpose. This is deplorable, because, in other parts of the world, these broadcast and mass media are widely used by government and NGO service providers for raising awareness on critical issues.

Table 7: Mobile information service/outreach service for providing information to the grassroots people

Name of the Respondent	Yes/No
BRAC	Yes
DFP	Yes
Smiling Sun Clinics	No
ORBIS	Yes
UPHCP	Yes

The table shows that, except the Smiling Sun clinics, all other organizations maintain mobile information service/outreach service for making information available to the doorstep of grassroots people. In recent times, mobile information service/outreach services have proved very effective for information dissemination on a wide scale. As they have limited mobility, and also lack necessary abilities as well as awareness, many people living in the far-flung and inaccessible areas cannot collect information from Upazila or District levels, hence the prevalence of ignorance. Mobile information service is therefore crucial for keeping these people up-to-date on health topics.

Table 8: Level of working/work areas

Name of the Respondent	District	Upazila	Union	Ward	Village
BRAC	√	√	√	√	√
DFP	√	×	×	√	×

Smiling Sun Clinics	√	√	√	√	√
ORBIS	×	×	×	√	×
UPHCP	×	×	×	×	√

As it is evident from the table, BRAC and the Smiling Sun Clinics have the most extensive coverage in terms of work areas of levels and their activities are carried out in District, Upazila, Union, Ward and Village levels while the UPHCP works only at the village level and ORBIS works at Ward level.

Table 9: Dissemination of health information through website

Name of the Respondent	Yes/No
BRAC	No
DFP	No
Smiling Sun Clinics	No
ORBIS	Yes
UPHCP	Yes

Although these days websites are considered to be very powerful means for providing information, table 9 shows that only ORBIS and UPHCP disseminate health related information through their website. Websites are accessible to a large number of people and can make important information available to people from home and abroad by overcoming boundaries of time, language and geography. For this reason, providing health related critical information through websites should get more attention from various heath service providers.

Table 10: Collection of public health information from local levels for sharing

Name of the Respondent	Yes/No
BRAC	Yes
DFP	No
Smiling Sun Clinics	No
ORBIS	Yes
UPHCP	Yes

The flow of information needs to be two-way, rather than one way. The rural and grassroots people should not only be treated as receivers of information, but also providers of information. Therefore, collection of health information from the grassroots level and sharing that information to the wider communities is also very important. Table 10 shows that, BRAC, ORBIS and UPHCP have mechanisms in place for collecting information from local people

and share it with others. DFP and Smiling Sun Clinics do not follow this practice.

Table 11: Networking activities with other organizations for information sharing

Name of the Respondent	Yes/No
BRAC	Yes
DFP	Yes
Smiling Sun Clinics	Yes
ORBIS	Yes
UPHCP	Yes

It is heartening to notice that all the organizations surveyed pursue networking activities with other organizations for information sharing. It shows that, with the explosion of information and gradual increase in the number of information seekers, the organizations have come to realize the importance of networking, information and resource sharing. It may be noted that, this networking activity is not only confined within the country, it extends to the regional and international levels as well.

Major observations and significant problems

The organizations covered by the survey represent a substantial portion of the healthcare service of Bangladesh. Considering the importance of timely, up-to-date information for solving the health and livelihood problems of the larger cross-sections of people and the ever growing needs of common people for health service, the information providing functions of these organizations must be strengthened at all cost.

The health service sector of Bangladesh has been gradually improving since independence. The Government has invested substantially in the institutionalization and strengthening of health and family planning services, with special attention to rural areas. Information on healthcare has always been a major requirement of the rural people. They need information on symptoms, causes, prevention and treatment of various diseases. They also need up-to-date information on other health, sanitation and nutrition issues like obstetrics and general care, diagnostics and prescription, adolescent awareness like precaution from unsafe sex, HIV/AIDS and safety, information about sexually transmitted diseases and precaution, malnutrition, indigenous and herbal treatment, public health service, availability and location of government healthcare institutions, rights and privileges of the patients, types

of services, availability of facilities, charges, location, transportation, appointment, referral system, center for rehabilitation from drug addiction, sources of sanitary system, cost, government and NGO support available, alternative technology and cost, etc. (D.Net, 2003). However, some salient points become evident from the current survey, which are:

1. It appears that, the health service providers are not fully aware of the importance of information for improving the health status of the people they serve. It is also evident that, their level of awareness regarding their own role as information providers is also low. Many of the field level health workers do not know what information, if any, they should provide and to whom. This absence of direction from their upper levels undermines their duties as well as their utility as information service providers.

2. The government campaign for providing health information service, such as family planning, safe motherhood, expanded program of immunization is not very satisfactory. At the same time, the campaign pursued by the non government organizations covered under this survey also is not up to the satisfactory level.

3. There is also a lack of qualified and competent health professionals who will be able to disseminate information among the rural people. There area of coverage is not extensive enough and their level of motivation also is inadequate. Besides, as a result of lack of regular and intensive training, the knowledge and skills of health professionals quickly become obsolete.

4. The salary and other benefits of the government health worker are not at par with that of the non government organizations. Therefore, government health workers fail to motivate themselves to carry out their jobs effectively. They quickly switch to other professions if and when the opportunity arises, thus occasioning poor staff retention and high turnover.

5. Because of widespread illiteracy, superstition and age-old lack of awareness, rural people usually do not consult the institutional sources of information for receiving health information. Instead, they consult and keep faith in traditional, un-institutional sources of information many of which are faulty, unreliable and even dangerous. There is a wide prevalence of quacks and fake physicians in the rural areas of Bangladesh. Receiving health services from these unscrupulous people lead to many kinds of

problems including death. Therefore, the absence of public awareness on health issues is undoubtedly a major cause for concern.

6. Adequate financial assistance from the government is an important prerequisite for ensuring health service for all, especially the disadvantaged communities. It is evident that, because of various limitations, the Government of Bangladesh cannot allocate enough money for various governmental health and family planning services. Health information service of the service providing agencies also suffer from this lack of financial assistance.

7. These days, ICT facility is a must for information sharing and dissemination on a broad scale. But the telecommunication facilities, especially Internet, are not quite good in the rural areas of Bangladesh. This has seriously weakened the ability of various organizations to share their information with others and carry out networking activities.

8. The study reveals that, the extent of international assistance and collaboration in the health sector also is inadequate. In this globalized world, international collaboration and networking are very important for effective provision of services. Besides, international collaboration is crucial for research and development purposes as well. As long as the healthcare sector of Bangladesh does not receive enough international help, it cannot serve its clientele effectively.

9. Insufficient and weak infrastructure and inadequate logistic facilities are two major hindrances for the health sector of Bangladesh. Excessive load shedding, corruption of government and non-government officials, bureaucratic complexities, apathy of community leaders and public representatives, etc. also pose significant challenges in the smooth provision of health as well as health information services.

10. For creating critical awareness on health issues among the people, advocacy and information sharing exercises like seminars, study circles, debates, knowledge fairs, conferences, workshops, discussion meetings, exhibitions, rallies, observation of important days, etc. are very important. But these kinds of exercises are few and far between in Bangladesh. The main reason for this is apathy of concerned people, lack of fund, lack of networking, etc. Until and unless advocacy and policy lobbying activities

are strengthened, we cannot expect to see any change in this regard.

Recommendations:

In order to effectively deal with the unsatisfactory condition of the status of healthcare, especially at the grassroots level, a massive nationwide campaign should be undertaken. But first of all, the concerned authorities must be aware of the significance of timely and up-to-date information on various issues relating to health, sanitation, nutrition, family planning, etc. In view of the problems identified regarding the health information service in the northern region of Bangladesh, the following recommendations could be put forward to improve the situation not only in the regions surveyed, but also in the whole country.

1. As the largest healthcare service providers, the government's role is most crucial for bringing sustainable improvement to the present scenario. The government must invest more money, efforts and planning for strengthening the information providing role of the health workers. Regular training, more financial inputs, supply of adequate Information, Education and Communication (IEC) materials, etc. are some priority areas. Besides, there should be strong communication, coordination and collaboration among every level of GO and NGO health sector.

2. The role of non government organizations, also, is very crucial. Bangladesh has one of the largest concentrations of NGOs in the whole world and a huge majority of the NGOs provide various kinds of health services. Like the government agencies, the NGOs, too, should strengthen the information providing role of their health workers. They should take immediate steps so that rural people can receive all kinds of health as well as health information services from their various outlets, regional centers and health centers. They should also substantially increase the production and dissemination of IEC materials on health issues.

3. Information and Communications Technologies (ICTs) have been proved to be effective tools not only for disseminating health information, but also for building the capacity of the rural and marginal people to receive health services by communicating with the healthcare providers. Therefore, the healthcare providers should consider ICT to be an important aid for strengthening and services and pursue various kinds of ICT activities for promoting their services and making these available to the larger cross-

sections of people. They should regularly update their web sites and provide different kinds of health information on their sites. They should also make the best use of other ICT tools like email, chat, social networks and blogs.

4. Lack of awareness of the common people about important health issues has been a major stumbling block for the advancement of the health sector in Bangladesh. Therefore, it is crucial to raise social awareness on health issues among the people, especially the rural people, because, owing to high rate of illiteracy, they are easily manipulated and misguided by quacks and other unscrupulous people. A large scale information and education campaign needs to be carried out by both government and non-government authorities for raising awareness of common people on critical health issues.

5. For bringing desired momentum in the health information services, the motivation level of of the field level health workers should be raised. This can be done by increasing their salaries and professional status, upgrading their skills and knowledge, arranging training programs and offering different kinds of benefits. Their exposure to the national, regional and international stage also should be increased.

6. Time-tested and well thought-out policies should be formulated and implemented for strengthening health information services. If the health information service providers receive strong policy supports, they will be more motivated to carry out information providing activities. Information providing activities should be made an integral part of the regular occupational activities and functions of the health workers.

7. Library and information science professionals should be encouraged to assist the health workers in designing and producing health information materials and disseminating same widely among the health professionals, GO and NGO workers, journalists, social activists, etc. Besides, government should encourage and empower rural libraries and other information centers to act as health information service providers. Carrying out mobile and door-to-door information service also is quite important.

8. Unstable and unreliable infrastructure has been a major problem for the advancement of the health information service as well as the health sector.

For this reason, the infrastructural facilities, including the electricity, transportation, communication, logistics, etc. should be strengthened so that people can receive their desired services as and when necessary.

9. Considering the ephemeral nature of rural peoples' knowledge, this knowledge must be captured, processed, documented, institutionalized and shared so that people from all corners of the globe can be benefited from this. Various organizations can collect local information through website and other tools and make them available widely.

Conclusion

Considering the importance of information services for making 'health for all' a global reality, it is imperative for government as well as non government organizations to invigorate their information providing activities. For countries like Bangladesh, this is doubly important because of the low level of awareness of common people on health issues. Therefore, the government and non-government agencies in Bangladesh should take the matter seriously and beef up their information services for the benefit of the common people.

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