

# **Internship Report**

## **On**

### **BRAC Malaria Control Programme**

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## SUMMARY OF THE FACT

### **Brief about the organisation: BRAC**

BRAC, an international development organisation based in Bangladesh, is the largest non-governmental development organisation in the world, in terms of number of employees as of September 2016. Established by Sir Fazle Hasan Abed in 1972 after the independence of Bangladesh, BRAC is present in all 64 districts of Bangladesh as well as other countries in Asia, Africa, and the Americas ("BRAC (NGO)", 2016).

BRAC employs over 100,000 people, roughly 70 percent of whom are women, reaching more than 126 million people. The organisation is 70-80% self-funded through a number of social enterprises that include a dairy and food project, a chain of retail handicraft stores called Aarong, Seed and Agro, Chicken etc. BRAC has operations in 14 countries of the world ("BRAC (NGO)", 2016).

### **Department: Malaria Control Programme**

BRAC Malaria Control Programme in Bangladesh aims to improve access, coverage and quality of malaria services in communities across the country. BRAC works in collaboration with the Government and various other partners and supported to achieve the malaria specific Millennium Development Goal in Bangladesh.

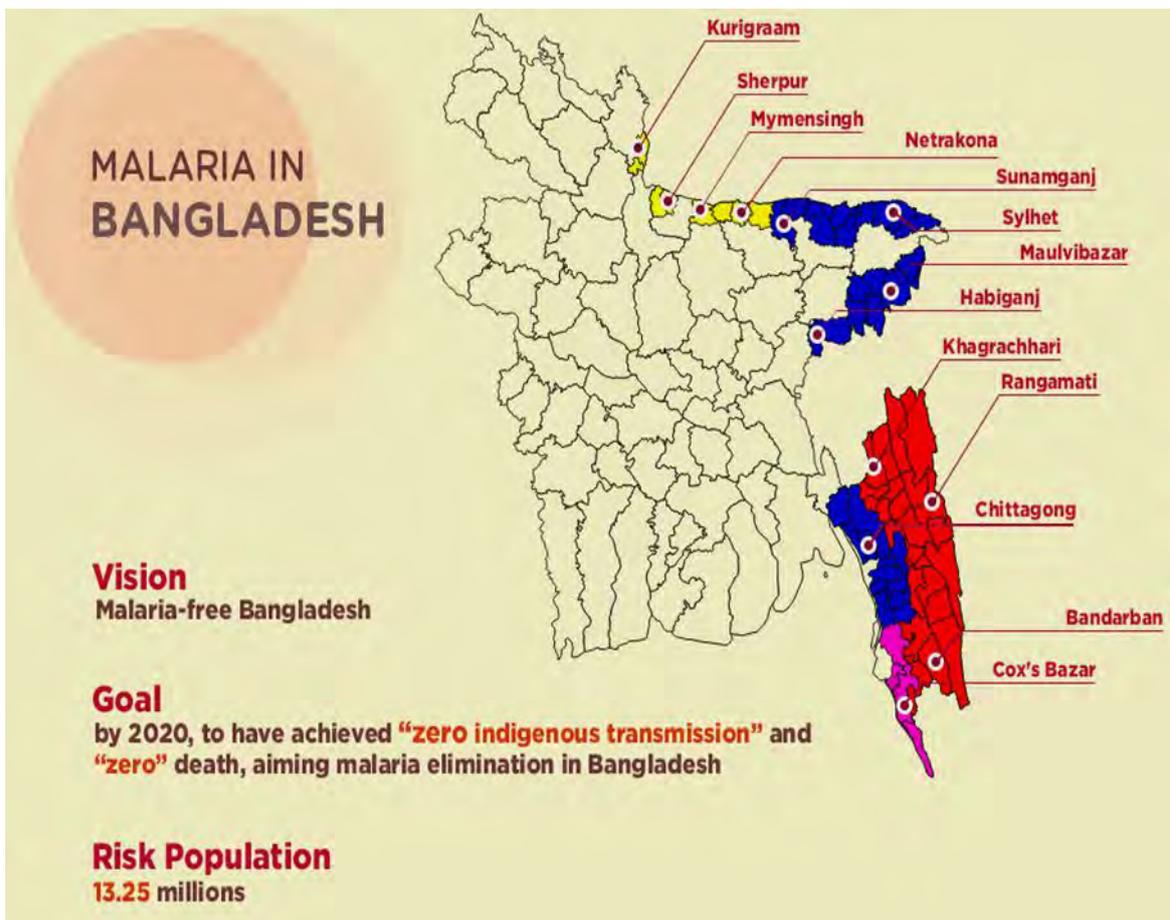


*Source: "MALARIA.com - Malaria Symptoms and Causes", 2016*

BRAC has been performing malaria control activities in Bangladesh since 1998 in the three hill tract districts, Rangamati, Bandarban and Khagrachhari. In 2007, after successfully securing a grant from the Global Fund in partnership with the government, the programme expanded and strengthened its malaria control activities in thirteen malaria endemic districts of Bangladesh. BRAC as the Principal Recipient leads a consortium of 21 NGOs of Malaria Control Programme in the country. BRAC is also directly implementing the programme in all sub-districts (upazila) of Chittagong hill tracts and three sub-districts of Moulvibazar district.

BRAC’s main approach for malaria control is to inform and educate people at the community level, promote use of insecticidal nets, and early diagnosis and prompt treatment (EDPT) of malaria. Information, Education and Communication (IEC) materials are used regularly during health education sessions and individual communication. Diagnostic and treatment services are delivered mainly through community based health workers.

The female front-line community health workers from the locality, the “Shasthya Shebikas” (2,250 in number), Special health worker (230 in number) and the “Shasthya Kormis” (600 in number) play a pivotal role in malaria interventions at the community level by promoting community participation and bridging the community and the government’s formal healthcare services. During household visits, they encourage malaria awareness, educate people about the use of bed nets, diagnose and treat malaria patients and follow up the prognosis. They also refer the patient to the nearest health facility if the patient is a pregnant woman or a child under 5 kg of weight or if there are signs of severe malaria, without any delay (BRAC, 2015).



Map: National Malaria Control Programme (“NMCP”, 2016))

The number of reported malaria cases and deaths were coming down gradually compared to the previous years. This was possible due to increased access to diagnosis and treatment at the community level. With the active participation of the community and the BRAC led 21 NGO consortium, the targets were achieved even before the target year. The availability of diagnostics like Rapid Diagnostic Test (RDT) and an effective drug like Artemisinin-Based Combination Therapies (ACT) plays an important role in this regard. Distribution and use of LLINs also showed effective role in preventing malaria transmission. A high coverage of LLIN (targeted to achieve 100%) has been achieved in three CHT districts and hot-spot villages of low and moderate endemic areas till 2015. LLINs were distributed two per household, based on the findings that the average HH size is nearly 5 members per household. Intensive Behaviour Change Communication (BCC) was done by NGO workers for promotion of use of LLINs and that intervention has shown significant impact in reducing malaria transmission.

## **RESPONSIBILITIES AND LEARNINGS**

### **My Assignment under the Programme**

During the internship period, I was assigned to work with the severe malaria investigation with an objective to create evidence(s). To generate report on this issue I had to gone through some intense actions which are summarized below:

#### **Literature review**

One of my major tasks was to go through several documents to get some idea about the basics of malaria control both in Bangladesh and other countries. These documents include different reports, concepts note, strategic plan etc. Severe malaria specific documents was also reviewed to generate an understanding on symptom, treatment facilities, consequences etc. As the component has wide range of documents in the form of printed and soft copy published under different journal and websites, adequate information was available to be understand the issue. Such review both web based and printed version, helped me to understand my assignment.

#### **Data accumulation and digitalization**

BRAC malaria control programme practices collecting data for every severe malaria patient at Chittagong Medical College. A form has been designed by the central team and provided to field offices where dedicated staff is responsible to work with medical college to facilitate treatment of severe malaria. The staff practices collecting data using the provided form for each severe patients in recent days. And then store these form at the working station. Thus, I was required to coordinate with the staff, located at Chittagong Regional Office of malaria control programme, to make these forms available at my working station using proper communication channel, mainly mobile and email communication. After receiving these forms, I had to computerize those information. I used MS Excel for entry as primary database. The excel database was designed to be compatible with Statistical Package for Social Science (SPSS).

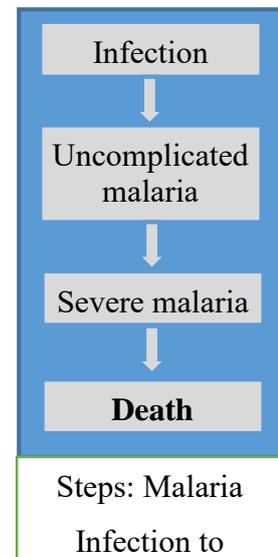
#### **Data analysis and interpretation**

I had to conduct some statistical analysis to generate some acceptable summary of information collected throughout the year. For such action, I used SPSS to regenerate report and used my learnings from the course of Basic Statistics under MDMP to explain the results generated through the SPSS.

## Learning from literature review

### Malaria: Types and consequences

Malaria is a mosquito-borne infectious disease. Primary symptom is fever. Symptoms usually begin seven to fifteen days after being bitten. If not treated properly, the disease may cause severity through damaging other organs of the body e.g. kidney failure, brain infection etc. and leads to death. Malaria can be diagnosed and treated at community level at early staged which is known as uncomplicated malaria. But if untreated, it can result multi organ failure which needs high quality and intensive care at facility level usually done at hospital. Failure to detect and treat severe malaria then lead to death ("Severe Malaria", 2014).



Malaria is a major public health problem in Bangladesh, 13 out of 64 districts are endemic. About 14 million people are at risk. Chittagong hill tracts are the highest malaria endemic areas of the country followed by moderate endemic area, Cox's Bazar. About 95% malaria cases occurs from these high and medium endemic areas of the country. In Bangladesh, malaria case and death has been reducing since the expansion of the programme under GF fund in 2008 till 2013.

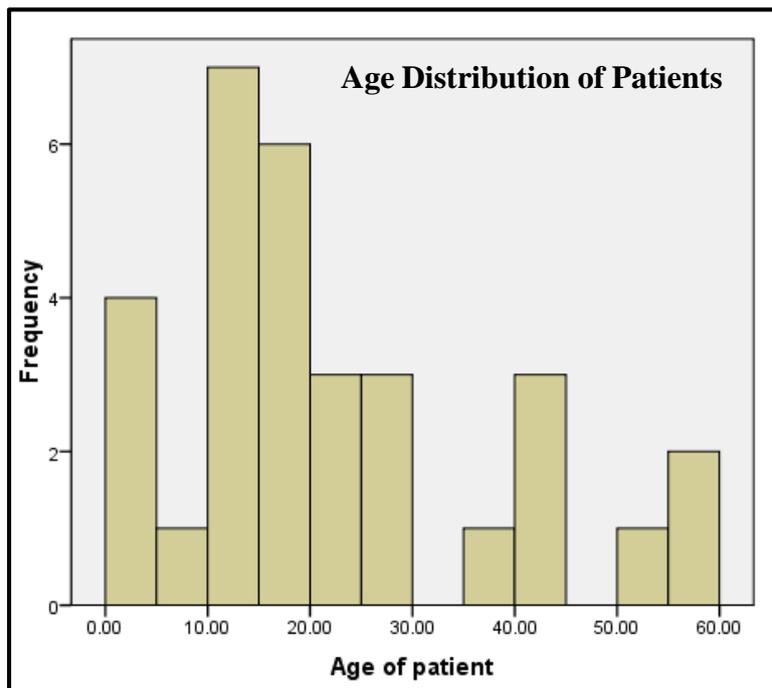
Bangladesh malaria control programme has been expanded to ensure EDPT (early diagnosis and effective treatment) up to door step of the risk population through GO-NGO partnership with the financial support of Global Fund. Community Health Workers and volunteers diagnose fever cases using RDT (Rapid Diagnosis Test) and treats, if positive, uncomplicated cases with ACT (artemisinin-combination therapy) and then follow up during/end of the course. In addition, peripheral laboratories has been established to provide facility based diagnosis and treatment services.

Upazila Health Complex (UHC) also provides diagnosis and treatment services for both uncomplicated and sever cases. Community based service providers refers pregnant women and children of under <5kg body weight to the UHC to ensure appropriate treatment. UHC provides treatment to the patients and, if needed, refers to the district hospital. Chittagong Medical College is the tertiary hospital where malaria patients are referred for the highest level of care with multiple complication.

## Learnings from data analysis

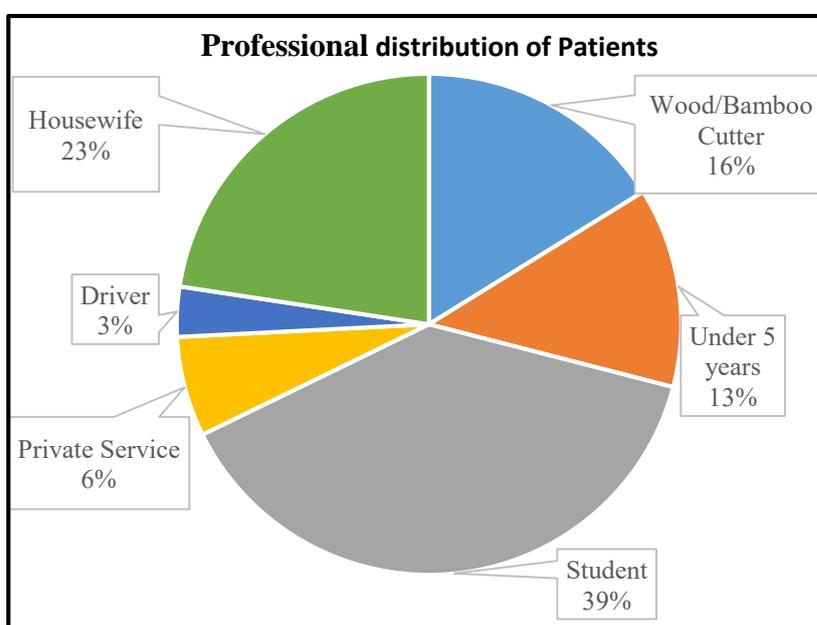
### Demography of severe malaria patients

During the year 2016, gender distribution among severe malaria patients who got admitted in Chittagong Medical College Hospital are almost equal, male 53% and female 48%. The average age of severe malaria patients of the year 2016 is 21.48 years with standard deviation of 15.03. Most of these patients are between the ages of 10 – 20 years of age where the oldest



Source: Generated from Patient Information

person is of 55 years age and youngest one was of 9 months of age. Most of the patients are student accounting about 39% followed by housewife and Wood/Bamboo cutters accounting 23% and 16% respectively. Though Chittagong is the lowest endemic area of the region, it contributed the most severe malaria cases in this year. 12 out of 31 patients



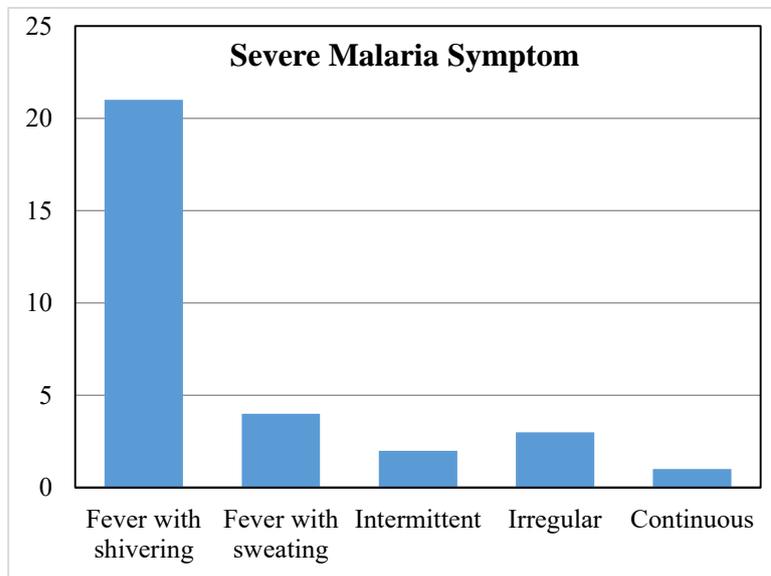
Source: Generated from Patient Information

were from Chittagong. If Upazila is the basis of consideration, Lama Uapazila of Bandarban district is the highest contributors. If we focus on the seasonality, data indicates that most of the patients are admitted in June followed by July and May in 2016 (42%,

32% and 13%). This result is almost similar with the trends of total malaria patient's trend.

### Malaria symptom, test and primary treatment

History of these patients reflect suffering from fever. Out of 31 patients, 21 cases informed about the fever with shivering which is the primary symptom of malaria. About 50% patients



Source: Generated from Patient Information

have started their treatment within 0-5 days of fever and most of them are attending doctors whether in government or private. Only 13% of these patients collected their medicine from dispensary. Even lower portion (about 7%) of them attended Health Workers though they are the community level service

provider of both GoB and NGOs Malaria Control Programme.

In most of the cases, malaria test has been done, about 90%, before inception of primary treatment regardless of treatment provider. Such result leads to idea of adequate awareness on malaria. However, duration of primary treatment was one day for half of the patients, which may have an

Did test malaria before starting primary treatment?		
	Frequency	Percent
No	4	12.9
Yes	27	87.1
Total	31	100.0

indication of reduced immunity. On the other hand average duration of treatment at Chittagong Medical College Hospital is 5-6 days. Result shows that more than 50% of admitted patients requires 4-6 days of treatment service.

## **SELF-EVALUATION**

### **Strength of the programme**

Malaria control programme is one of the successful programme of Bangladesh which has achieved its MDG two years before the deadline. The programme has some strengths that supported such achievements. Some of these strengths are as below:

Firstly, the community based service and intervention. Community based services includes the home based diagnosis and treatment of malaria, education on prevention, distribution of Long Lasting Insecticidal Net (LLIN) etc.

Secondly, GoB and NGO partnership. The programme has been expanded at the community level through the joint effort GoB and 21 NGOs. Such collaborative effort has generated a momentum that has led to the landmark of success.

Thirdly, intensive monitoring and evaluation. The programme has developed and is implementing rigorous monitoring activities at different level starting from the community to the national level.

### **Weakness of the programme**

Despite of these strengths, malaria control programme is facing challenges from several aspects. Malaria is highly endemic in the Chittagong Hill Tracts (CHT) areas and it suffers to reach target population due to the scattered location of households. Geographically, these areas are highly inaccessible. Most of the areas are still out of electricity coverage. Few roads or transportation facilities are available. There are many pockets where accessibility is still challenging considering the security and transportation. Another challenges is current epidemiology. Due to the decrease of malaria prevalence, the immunity has also reduces which may cause more vulnerability among the people living in the endemic areas.

### **Summary of my experience**

It was an opportunity for me to work with BRAC malaria control programme. Throughout the internship period, I received great cooperation from the team members and I found myself as a part of them. Beyond cooperation, it is to be noted that the programme is so organised that I got every documents to support my work that is supposed to be there.

Another advantage I enjoyed was the assignment. My assignment was very much analytical with updated data. It provided me the opportunity to take a deep look at the risk group from malaria. As severe malaria is the preceding stage of death, it is highly important to identify the causes, relationship with stylized factors of human life and the treatment process. These understanding should help to suggest preventive action and finally reduce death from malaria. Thus, I felt myself fortunate to work with such crucial information and contribute to the programme.

At the very beginning of my joining, I was attached with an experienced staff of this programme. The administration also provided me sufficient time to review available literature to acquire adequate knowledge to work with. Having properly introduced with the programme through literature review and several consultation meeting, I was then assigned for the job being considered to have strength on analysis.

The worst thing was time constraints. As I had very limited time, I had to rush through. Due to time constraint, I was unable to conduct any field visit which might have strengthened my understanding on the working modelity at community level and thus could be able to recommend more realistic action.

A major limitation was data quality. Data I worked with was routine data being collected by dedicated staff to ensure proper treatment of malaria. At this stage, treatment is the first priority. Thus the staff might have paid major focus on the treatment initiation and compliance rather than data quality. However, the form was not designed to conduct study, rather the objective was to make programatic understanding. This caused some lacks on data sequencing.

Another problem was the seasonality of the disease. As malaria, severe malaria as well, is high during May – September period. When I joined, the season is over. Thus I had no opportunity to collect data for my work. Thus I had to rely on existing data regardless of the quality.

## **CONCLUSION**

Malaria control programme of Bangladesh is an example of public private partnership in achieving national goal. It was great opportunity for me to be a part of such successful programme. During the course, we learned about health services of Bangladesh, role of communication in development, programme management and other related issues. Thus, this internship has provided me the opportunity to relate my knowledge acquired throughout the course in a real scenario.

Severe malaria is the most vulnerable stage of the disease that causes death. Thus, treatment of severe malaria is saving life, in other words failure costs life. As a consequence it contributes to increase poverty. In such way, malaria is not only achieving the health indicators, contributing to achieve other development goals also.

Malaria control programme is currently being managed very effectively from community to the tertiary level. As a result, malaria death has decreased significantly. However, timely and effective decision and efficient implementation has resulted success for the programme. Continuation of government commitments, community participation and support from Global Fund may lead to achieve the vision of malaria free Bangladesh in near future.

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