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BEST PRACTICES & ALTERNATIVE INTEGRATED COMMUNITY BASED MODEL IN DELIVERING PRIMARY HEALTH CARE SERVICE FOR CHITTAGONG HILL TRACTS OF BANGLADESH

Appropriate primary health care strategy for Chittagong Hill Tracts of Bangladesh

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
ARI	Acute Respiratory Infections
AHI	Assistant health inspector
BBS	Bangladesh Bureau of Statistics
BCC	Behavior Change and Communications
BMMS	Bangladesh Maternal Health Services and Maternal Mortality Survey
BRAC	Bangladesh Rural Advancement Committee
CBO	Community Based Organizations
CC	Community Clinic
CHW	Community Health Workers (in general)
CHSW	Community Health Service Workers
CHT	Chittagong Hill Tracts
CHTDB	Chittagong Hill Tracts Development Board
CMNS	Child and Mother Nutrition Survey of Bangladesh
C-IMCI	Community Integrated management of childhood illness
CS / CSO	Civil Surgeon / Civil Surgeon Office
CFR	Case fatality rate
CSBA	Community skill birth attendant
DDFP	Deputy Director of Family Planning
DGHS/DGFP	Director general health service / Family planning
DH	District Hospital
DOT	Direct Observation Therapy
DHO	District Health officer
EC	European Commission
EOC	Emergency Obstetrics Care
EPI	Expanded Programme on Immunization
EU	European Union
EDPT	Early diagnosis and prompt treatment
FGD	Focus group discussion

FWA	Family Welfare Assistants
FWV	Family Welfare Visitors
FPAB	Family planning association of Bangladesh
GoB	Government of Bangladesh
GIS	Geographical information system
HDC	Hill District Council
HI	Health inspector
HIV	Human Immunodeficiency Virus
H&FPO	Health and family planning officer
HKI	Helen Keller International
HNPSP	Health, Nutrition and Population Strategy Paper
HPNSDP	Health, Population & Nutrition Sector Development Program
HMIS	Health and management information system
HR	Human Resource
HSC	Higher School Certificate
ICDP	Integrated Community Development Project
IDF	Integrated Development Foundation
IGA	Income Generation Activities
IMR	Infant Mortality Rate
INGO	International NGO
ICDP	Integrated community development project
MA	Medical Assistant
M&E	Monitoring and Evaluation
MCWC	Mother and Child Welfare Centre
MDG	Millennium Development Goal
MCH	Maternal and child health
MICS	Bangladesh Multiple Indicator Cluster Survey
MIS	Management Information System
MMR	Maternal Mortality Rate
MoCHTA	Ministry of CHT Affairs
MoHFW	Ministry of Health and Family Welfare
MSF	Medicine Sans Frontiers

NGO	Non Governmental Organization
PHC	Primary Health Care
PNC	Post Natal Care
PRSP	Poverty Reduction Strategy Paper
PW	Para Worker UNICEF Program
RC	Regional Council
RMO	Residential medical officer
RDT	Rapid Diagnostic Test
RTI	Respiratory Tract Infection
SBA	Skilled Birth Attendant
SC	Satellite clinic
SK	Shyastha Kormi
SS	Shyastha Sebika
SSC	Secondary School Certificate
STD	Sexually Transmitted Diseases
SWOT	Strength weakness opportunity and treat,
TBA	Traditional Birth Attendants
THNPP	Tribal Health, Nutrition and Population Plan
TOR	Terms of Reference
UFPO	Upazila Family Planning Officer
UH & FWC	Upazila Health and Family Welfare Centre
UHC	Upazila Health Centre
UHFPO	Upazila Health and Family Planning Officer
UN	United Nations
UNAIDS	UN Joint Programme on AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Funds
VGD	Vulnerable Group Development
WFP	World Food Programme
WHO	World Health Organization

Contents

Abstract:

Chittagong Hill Tracts (CHT) is a region where most of the indigenous people of Bangladesh live with diverse culture and social environment. The health system of delivering primary health care (PHC) is not up to the standard to meet the health need of indigenous people. *Objective:* The objective of the study was to develop an alternative integrated community based model for the delivering of PHC services according to need and the priority of rural communities of the CHT. Specific objective of the study was to explore the health needs of local people and to identify the best practices of the existing community based health programmes in the CHT. The study has finally recommended an effective and integrated community based model by adapting the existing model. *Methods:* This was an observational study. 12 FGDs were conducted in remote villages. SWOT analysis of major health programme and government intervention was done through interviews with key personnel within the programme. Secondary data was collected from the government and the NGO offices for analysis. Interview with key personnel and the stakeholder's workshop was conducted to design the alternative integrated community based model. *Findings:* FGDs revealed 21 major health problems in the community and the existing government services only cover a small part of the problem. The community people have set their priorities for the health services required. They also mentioned different ideas for an effective referral system. SWOT analysis revealed that the community based approach is the best method to cover CHT with basic health services. But the existing community based model and the services delivered by the community health worker (CHW) is not sufficient. The CHW's services need to be revised to integrate more services. In the new integrated community based model, at village level two new posts were recommended along with a district based health team to support those groups. CHW will provide a comprehensive package of health service in the community which will include C-IMCI, pregnancy care, health education and dealing with village pharmacy. Community Skill Birth Attendants (CSBA) will conduct normal delivery in the field. There will be an additional technical support group at district level to provide support especially in the health management issues for CHW. The new model will cost 7% less than the existing model at upazila level. The role and place of posting of some government existing post has been modified. At district level, the hospital will be equipped with modern facilities and be upgraded from 100 beds to 300-500 beds. There will be some human resource sharing with staff at upazila level. During the stakeholder's workshop, the participants proposed different possibilities to sustain this new model. The key personnel interviews also suggested different ways to solve the health problem in the CHT. *Conclusion:* The unmet health need in CHT is growing larger day by day. Government should revisit the health needs of CHT during planning of national programme. This study has explored the real health needs and services required for the local people. This study also recommended an effective model to meet up the health need of CHT. The local government is already implementing a partial community based model. This can be aligned with the recommended community based model to make the existing services more effective with wide access to sustainable health services in CHT.

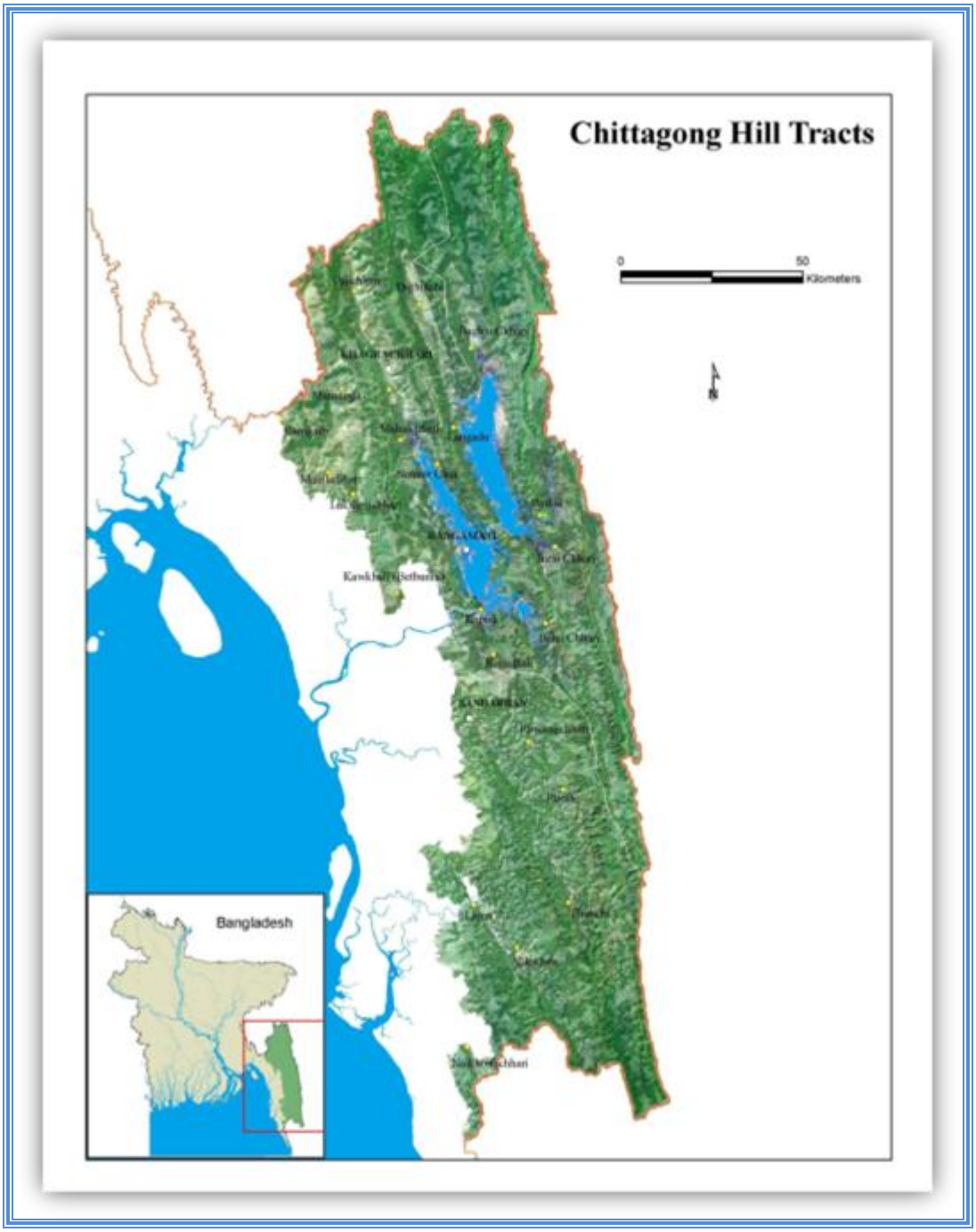


Figure 1: Chittagong Hill Tracts (Rangamati, Bandarban and Khagrachari)

1. Introduction

Bangladesh is one of the most highly populated countries of the world. About 36.1% of its population is living under poverty line[1]. The Chittagong Hill Tracts (CHT) comprises three hilly districts, Rangamati, Khagrachari and Bandarban in the south-east region. Here the population distribution is scattered and they are living in poor socio-economic conditions. The area of the CHT is 13,295 sq km, which is approximately one-tenth of the total area of Bangladesh. The total estimated population for CHT in the 2008 census was 15,59,717[2]. Around 50% of its population is tribal and the rest is from different communities. The local tribes collectively known as the Jumma, include the 11 ethnic groups of Chakma, Marma, Tripura, Tanchangya, Chak, Pankhoa, Mro, Bawm, Lushai, Khyang, and Khumi. Among the non tribal communities most of the inhabitants are Bengali. Tribes have their own languages, social structures, cultures and economic activities. This area is considered as a post conflict area and clashes still persist between the tribal and non tribal population mainly due to land issue and ethnic conflict. The main occupation of the people of the CHT is agriculture where a traditional system called Jhum cultivation is practiced. Tribal people mostly depend on village doctors or tribal/traditional healers for health care services. This diverse health seeking behavior limits the use of existing modern health facilities.

1.1 Health Policies in Bangladesh

Health Nutrition and Population Sector Strategy are regarded as Bangladesh's national health policies introduced in 1998. Priority is given to ensuring universal accessibility and equity in healthcare, with particular attention to the rural population. There have been improvements in the government's financial allocation for health. Efforts are being made to develop a package of essential services based on the priority needs of clients, to be delivered from a fixed service point, rather than providing door to door visits by community health workers. This is a major shift in strategy and will require complete reorganization of the existing service structure. This is expected to reduce costs and increase efficiency as well as meet "peoples' demand". Privatization of medical care at the tertiary level, on a selective basis, is also being considered.

This is a general strategy for all of Bangladesh but implementation in the CHT is hampered due to geographical, political and ethno-lingual differences. For instance, in

the plain geographical areas one field worker serves 4000[5] people where as in CHT this would not be possible due to the scattered nature of dwelling of tribal people. Often it is difficult for the community health worker (CHW) to reach the targeted people. So the Health & nutrition population sector program (HNPSP) cannot fully cover the health problem in CHT but there is a need for the revision of the health and population strategy for CHT. A tribal health plan was develop in 2004 but has never been implemented due to lack of reliable data on proportion of tribal population at union level. There are also no ethnographic studies on tribal population. The data we have is very old and is measured by the division and sometimes by only the districts. It is therefore harder in the CHT to measure the progress by health indicator.

The capacity of post-conflict governments to provide health services is often weak[6]. As the country moves from relief to development, to make an impact on health status, the basic elements of a health system must be built or rebuilt. In CHT the administrative and maintenance of health system has transferred to the hill district council (HDC) which is not similar to the other 61 districts of Bangladesh. In other districts the health administration is directly under the MoH. HDCs are also lacking the capacity to supervise the health authorities properly in CHT due to lack of human resource and technical incapability.

1.2 Health system of Bangladesh

The Ministry of Health & Family Welfare (MoH&FW) is responsible for policy, planning and decision making at the macro level. There are four directorates.

- Directorate General of Health Services
- Directorate General of Family Planning
- Directorate of Drug Administration
- Directorate of Nursing Services

Each of the six Divisions in Bangladesh has a Divisional Director of health from both the Health and Family Planning department. At the District level, the Civil Surgeon reports to the Directorate of Health Services and is responsible for general health services and

the services at district hospital. The Deputy Director Family Planning (DDFP) looks after family planning, MCH and reproductive health services at district.

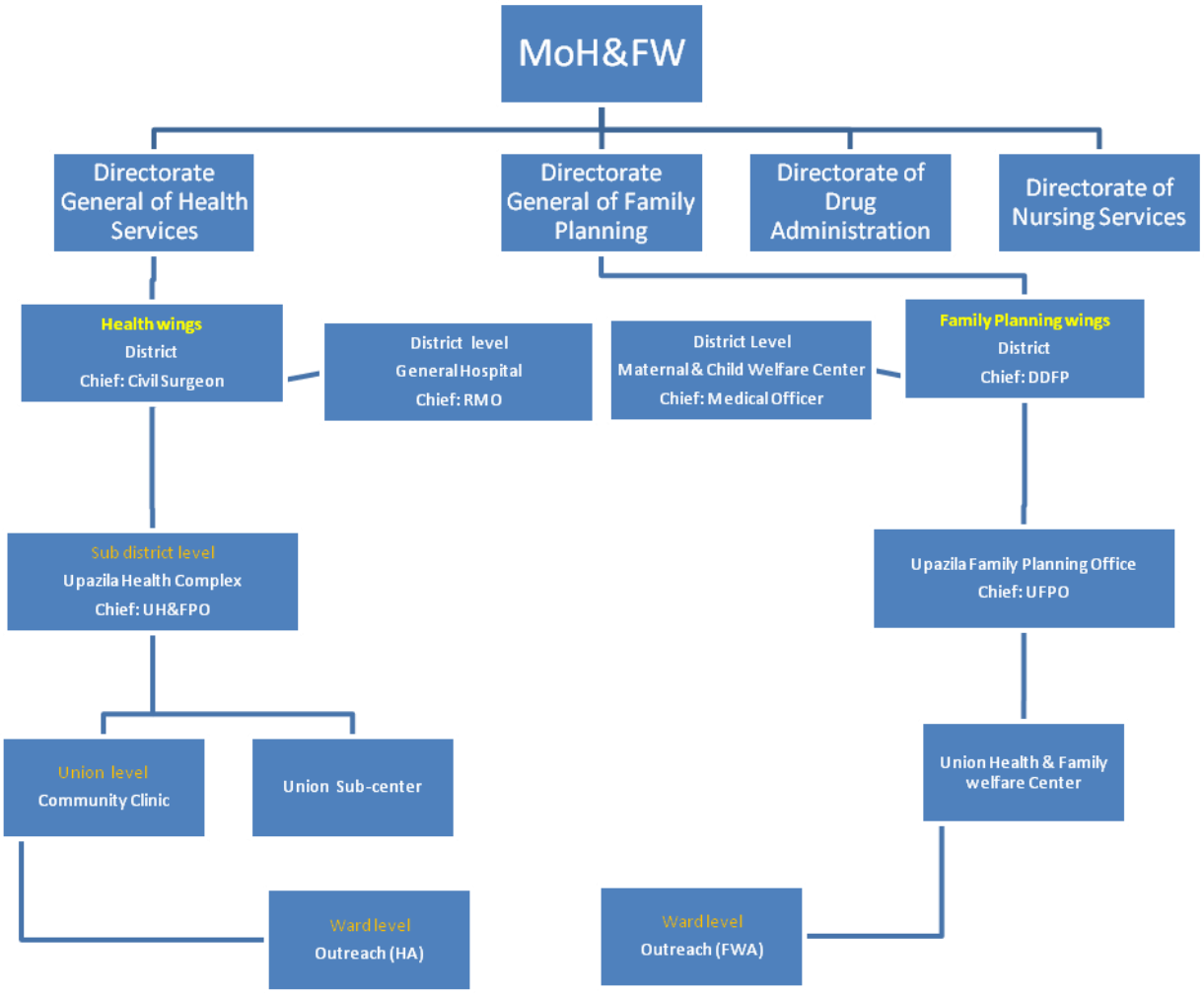


Figure 2: Existing Health facilities and health service system at different level in Bangladesh

Out of 476 Upazilas, 400 rural Upazilas have health complexes, with 31-50 beds all over Bangladesh. At the next level 1362 of the 4484 Unions have sub-centres delivering health services, and 3648 Health & Family Welfare Centres run by the Family Planning (FP) Department. There is a duplication of both health and FP facilities in some unions, and there are some unions with no facilities. Besides this, there are 671 hospitals with a

total number of 35500 beds operated by Directorate General of Health Services (DGHS) and 91 Maternity and Child Welfare Centers run by Directorate General of Family Planning (DGFP).

1.3 Government Administrative Frameworks within CHT

The Government administrative system in the CHT is different from other parts of Bangladesh. At present there are three different types of administrative systems in the CHT where as only one general administrative system exists in other district of Bangladesh. The three different systems are

i) General Administrative System (All over Bangladesh)
ii) Self Rule Government or Decentralized Local Government System (only in CHT)
iii) Traditional Administrative System (only in CHT)

The CHT is divided into three administrative districts. These are further subdivided into Upazila, Union and Para (village/communities).

1.4 Traditional System

Alongside the central and decentralized Local Government systems, the CHT practices a traditional system of administration formalized under the CHT Regulation of 1900. Under this system, there are three administrative Circles in the CHT (Mong, Chakma and Bohmong) each with their own Chief or Raja (King). The administrative areas of the Mong, Chakma and Bohmong circles broadly correspond to the decentralized Local Government administrative areas of Khagrachari, Rangamati and Bandarban Hill Districts. The Circle Chiefs are advisors to their relevant HDC(s) and are engaged in other formal governance networks.

Each circle is subdivided into Mouzas where the Headman is the traditional leader. Each Mouza has several Paras (villages), where a Karbari is the leader. Headmen are appointed by the Deputy Commissioner (Head of general administration) on the recommendation from the Circle Chiefs and Karbaris are appointed by the Circle Chiefs. Headmen and Karbaris have responsibilities for maintaining social law and order, revenue collection and land registration in their communities.

2. Health system in CHT

In CHT, a decentralized Local Government system is being followed, with responsibilities for the management of health services delegated to the Regional Council and three HDCs. The Ministry of CHT Affairs (MoCHTA) is responsible for overseeing all activities in the CHT and approves the staffing for the Regional Council and three HDCs. The HDCs recruits 3rd and 4th class employees for the transferred departments, and officers of the transferred departments are appointed by the concerned Ministry. All department staff report to department heads and the departmental heads report to the HDC Chairman.

As per the three HDC Acts of 1900 (as amended by the 1997 CHT Peace Accord), a total of 33 subjects are supposed to be transferred from the Ministries to each of the three HDCs. Of these, 18 have already been transferred, including health. Health was transferred from the Ministry of Health and Family Welfare (MoHFW); in the CHT the Civil Surgeon, and the Deputy Director of Family Planning both report to the HDC Chairman. The HDCs with their own funds or fund received from the Government may formulate and implement development plans on the subjects and department transferred to them. The concerned Ministries, Divisions or Departments are required to implement through the HDCs, all national development works on the subjects transferred to the HDCs.

2.1 Health Priorities in CHT

The CHT is the highly endemic districts for malaria out of the 13 malaria prone districts of Bangladesh[3]. Diarrhea and malnutrition is still a big issue for the CHT due to a lack of sources for drinkable water and food scarcity. The Health service delivered by the Government is not satisfactory and the subsequent take up is very low [4]. Most of the health service provider's post is vacant (around 50%) in the health services. So most often the hospitals at a sub-district level are run by medical assistants and nurses. Most of the patients are referred to the district hospital for better patient care where the hospital is equipped with few logistics. The health awareness is very low in the population. Moreover health seeking behavior varies in different ethnic groups and the modern health system is not user friendly to some of the ethnic groups which make the

traditional healers more popular. Maternal and child mortality are still high in the CHT. (Annex: 7)

2.2 Millennium Development Goals in CHT

Bangladesh is committed to achieving the MDGs, and has covered significant ground towards achievement of most of the targets. However, progress towards different MDG targets remain uneven in different parts of the country, with the CHT region still considerably lagging behind. According to the results of the Multiple Indicator Cluster Survey of 2009, the three hill districts of the CHT were among the bottom quintile of worst performing districts with Bandarban at the very bottom, followed by Khagrachari, with Rangamati in fourth position

2.3 Tribal Health, Nutrition and Population Plan

The Government has made provisions for a Tribal Health, Nutrition and Population Plan (THNPP) which recognizes the specific social, cultural, economic and special factors to be taken into account for HNP service delivery in tribal areas. The THNPP calls for 'tribal sensitive' and participatory implementation of HNP services in tribal areas. Tribal areas are defined as those having (over) 25 percent tribal population, and include the CHT. The THP has not been implemented since formulated and already expired in 2010. In the new government proposal from July 2011-June 2016 (HPNSDP), there is separate budget line for CHT health which was submitted for approval.

2.4 Health Interventions in CHT

The HDCs, through the Civil Surgeons' offices and the offices of the Deputy Directors of Family Planning, supervise over 300 doctors and nurses, and over 800 community health workers. They are responsible for delivering health services across all Upazila in the CHT, and are responsible for over 235 health facilities, at district, upazila, union and community level (Annex: 8 & 9).

For many years Medicine Sans Frontiers (MSF) provided health services in some areas in the CHT, staffing standing clinics and deploying mobile teams, to treat malaria and other diseases. But the majority of these clinics have now closed, following MSF withdrawal from the CHT in 2006.

UNDP modified the MSF model and in 2006 established 15 Satellite Clinics and gradually increased them up to 75 mobile clinics across 15 Upazila of CHT out of a total of 25 upazila. The clinic locations were determined following a series of consultations with local stakeholders and decision makers at union, upazila and district level, with the final decision in each district resting with the HDC Chairman. The clinics are staffed by mobile teams on a one day per week rotational basis, and receive on average 1,000 patients a month. In addition to running Satellite Clinics, UNDP, through the HDCs, has recruited and trained over 1000 women as Community Health Service Workers (CHSWs). Each CHSW is responsible for between 120 and 140 households in the village in which they reside and the surrounding area. They provide a basic package of health services including malaria testing and treatment of malaria, diarrhea and ARI, basic health education, referrals and maternal services etc, and are fully supported by Satellite Clinics.

UNICEF and WFP also support community-based health initiatives in the CHT. UNICEF, through the Integrated Community Development Project (ICDP) has supported the Government in establishing a network of Para Centers in selected communities throughout the CHT. These are community-based facilities run by Para Workers. ICDP uses the Para Centre as a base from which to offer a range of community development activities, organized by the Para Worker. It focuses primarily on educational activities and early childhood development, but also supports awareness raising and promotional activities for health, water and sanitation. WFP works closely with UNICEF, providing fortified biscuits to pre-school age children through their Food for Education programme (FFE). WFP programme phased out in 2010.

UNFPA provides technical support to the Mother and Child Welfare Centers (MCWCs) in each district, prioritizing Antenatal Care (ANC) and Postnatal Care (PNC), Safe Delivery and Emergency Obstetric Care (EOC). At the community level, UNFPA is providing Skilled Birth Attendants training to Family Welfare Assistants (FWAs) and Health Assistants (HAs). With this training they are able to provide ‘safe delivery’ at home and are able to support and provide midwifery training to Family Welfare Visitors

(FWVs). UNFPA also supports family planning services to distribute contraceptives and provide counseling for long-term methods of contraception.

WHO does not work directly in the CHT, but works with Government Ministries and other stakeholders at the national level to improve health management systems and good governance in the health sector. WHO provide technical support to immunization and involved in active and passive surveillance of communicable disease in CHT.

UNAIDS also does not work directly in the CHT, but supports campaigns nationally to raise awareness on HIV and AIDS.

In addition to the work being done by the Government and UN Agencies, there are many International and National NGOs working in the health sector in the CHT, including Bangladesh Rural Advancement Committee (BRAC), the Christian Mission Hospital, Family Planning Association of Bangladesh (FPAB), the Leprosy Mission, World Vision, Save the children UK, Sajeda Foundation and also a growing number of local NGOs. The scope of these agencies is often limited, both geographically and by sector. BRAC is working against TB and malaria in CHT with their network of Shastha sebika and Shastha karmi at field level.

Given the multiple stakeholders and resources available, better coordination among the various agencies working in the CHT could substantially improve the coverage and quality of services being provided, maximizing limited resources and consolidating benefits for CHT communities. The role and responsibilities of different field based staff is mentioned in the Annex: 10.

Ministry of Health has a similar health setup in CHT like in other district of Bangladesh. Most of the health facilities in the CHT are underused for many reasons. Many middle- and low-income countries suffer from severe staff shortages and/or mal-distribution of health personnel which has been aggravated more recently by the disintegration of health systems in low-income countries and by the global policy environment[7]. One of the most damaging effects of severely weakened and under-resourced health systems

is the difficulty they face in producing, recruiting, and retaining health professionals, particularly in remote areas[7]. Low wages, poor working conditions, lack of supervision, lack of equipment and infrastructure made the health services more ineffective. Communal conflict and fear of abduction among the health staffs from outside also create loss of interest and risks to working in these remote areas. In this situation, so many development partners and NGOs are keen to improve the situation through different strategies focusing on different areas of interest.

3. Literature review

The concept of using community members to render certain basic health services to the communities from which they come has at least a 50-year history. The Chinese barefoot doctor's programme is the best known of the early programmes, although Thailand, for example, has also made use of village health volunteers and communicators since the early 1950s [22 & 23]

Barefoot doctors were health auxiliaries who began to emerge from the mid 1950s and became a nationwide programme from the mid 1960s, ensuring basic health care at the brigade (production unit) level[24]. Partly in response to the successes of this movement and partly in response to the inability of conventional allopathic health services to deliver basic health care, a number of countries subsequently began to experiment with the village health worker concept[27]. The early literature emphasizes the role of the village health workers (VHWs), which was the term most commonly used at the time, as not only a health care provider, but also as an advocate for the community and an agent of social change, functioning as a community mouthpiece to fight against inequities and advocate community rights and needs to government structures: in David Werner's famous words, the health worker as "liberator" rather than "lackey"[28]. This view is reflected in the Alma Ata Declaration, which identified CHWs as one of the cornerstones of comprehensive primary health care.

The Community based model has been introduced in many countries of the world. WHO has been actively promoting community-based initiatives for over two decades through

the Basic Development Needs Programme[17], the Healthy Cities and Healthy Villages Programmes and the Women in Health and Development Programme in Afghanistan, Djibouti, Egypt, Iraq, Islamic Republic of Iran, Jordan, Lebanon, Morocco, Oman, Palestine, Pakistan, Saudi Arabia, Somalia, Tunisia, Sudan, Syrian Arab Republic and Yemen. The case studies in those intervention areas elucidate some of the hardships that are faced by the poorest communities in the Region but demonstrate how, through the initiatives, communities are able to improve the quality of their own lives simply by becoming active participants in the development process. They also demonstrate how through the establishment of cooperatives communities can work together to improve their income, health, nutritional status and environment.

In Jordan healthy villages programme covering 25000 population has improved many health indicators. The programme has reduced infant and child mortality rates and also improved immunization rates of children and mothers (almost 100%). The programme also ensured mothers practicing safe motherhood (95%–100 %) and improved family-planning awareness and practices.

In all regions of the world, traditional healing systems and Western biomedical care co-exist. However, for indigenous peoples, the traditional systems play a particularly vital role in their healing strategies. According to WHO estimates, at least 80% of the populations in developing countries rely on traditional healing systems as their primary source of care.[18]

"Information and statistics are powerful tools for creating a culture of accountability and for realizing human rights" (Source: United Nations Development Programme, Human Development Report 2000, New York and Oxford: Oxford University Press, p. 10.) Statistical data on the health status of indigenous peoples is scarce. This is especially notable for indigenous peoples in Africa, Asia and Eastern Europe. To bridge this information gap, it is important that data is disaggregated based on variables relevant to indigenous peoples such as ethnicity, cultural and tribal affiliation, language and/or geography.

With improved information on indigenous peoples' health, action can be taken to ensure access to culturally appropriate health care, as well as to safe and potable water, adequate housing and health-related education.[19]

IMCI was designed to reduce child mortality in countries with high rates of child mortality. Although most children in these countries are poor, addressing (or redressing) child health inequity is not a specific objective of IMCI. It is increasingly recognized that IMCI and other child health interventions will not necessarily reach the poorest of the poor, but that they are nonetheless an essential part of a public health effort to reduce child mortality.

Evidence has shown that up to 80% of deaths of children under five years of age may occur at home with little or no contact with health providers. Community IMCI(C-IMCI) seeks to strengthen the linkage between health services and communities. Sixteen practices have been identified by UNICEF and WHO to be of key importance in providing good home care for the child in order to ensure survival, reduce morbidity, and promote healthy growth and development[20].

Community IMCI was a weak component of IMCI in nearly all countries. Community IMCI, planned to include the delivery of messages in 12 key areas[20], but they had not achieved high levels of coverage at community level in any of the countries visited, even within the limited geographical areas being considered for inclusion in multi-country evaluation. In some countries, vertical national programmes (malaria, immunization, diarrhea, or ARI programmes, for example) had delivered IMCI compatible messages through community health workers, health facilities or mass media.

However there is no “one size fits all” type community based health model which will fit every country of the world. In most of the cases the community based health model was designed by following the geographical situation with the integration of health needs according to community demand. In many countries WHO has integrated this health model with many other components like women empowerment and economic development which they termed as Community based initiatives (CBI). So it is important

to obtain input at the community level and participation of local stakeholders is also necessary to design such an effective model for CHT. There should be a balance between the objective of the project and the flexibility to customize the programme according to the local situation. In CHT such an integrated health model is required to deliver PHC to increase the access to quality service.

4. Thesis statement

To develop an alternative integrated community based model for delivering of primary health care services according to local need and the priority of rural communities of the CHT.

4.1 Specific objective of study

1. To explore the health needs of local indigenous people and the factors influencing the sustainability of community based health programmes.
2. To identify the best practices of the different community based health programmes in the CHT.
3. To develop a more effective and integrated community based model by adapting the existing model.

5. Rationale of study

In Bangladesh, the community based approach to the implementation of primary health care has been successful. The Government of Bangladesh also adopted this strategy in the CHT. But in the CHT the model is not modified according to their cultural and linguistic background. Similarly different NGOs and international organizations are also implementing health programmes following the same strategy. But no health programme has been adapted according to CHT culture and other issues like geographical complexity, settlement pattern of community and the real health needs exist in the community.

Some studies show that in a successful community based approach cultural and social [7 & 9] issues should be incorporated in the Community Based health model. In the CHT no study has been conducted to see the effectiveness of the community based health programme. This study will revisit the basic health need of the community according to their culture. The best practices of existing community based health programme will listed to design an effective model. At the end, this study will be able to recommend an integrated community based model to deliver PHC for the people of the CHT. The model will be useful for the donor and the government who will invest in health in CHT in future. The ongoing community based programme will also take advantage of this document to align those programmes.

6. Methodology

6.1 STUDY DESIGN

This is an observational study.

6.2 DURATION OF THE STUDY

1st June 2010 to 30th April 2011

6.3 STUDY POPULATION

The total population of the study area is about 1.55 million.

6.4 ELIGIBLE RESPONDENTS

Only adult (18+ years both male and female) personnel were involved in the study during FGD and during FGD group consent has been signed for ethical consideration.

6.5 SITE OF THE STUDY:

The study was conducted in all three district of CHT (Rangamati, Khagrachari and Bandarban) which are located around 300 km away from the capital of Bangladesh (Dhaka). The study has conducted FGD in 12 sub-district out of 25 sub-districts in CHT. Three district headquarters were covered for key personnel interview. Some of other sub district was also visited for programme activities.

6.6 STUDY TOOLS AND THEIR PURPOSES

The study has used up different tool to extract the information at different level starting from village to district level. Following tools were used for the study.

6.6.1 Focus Group Discussion: 12 FGDs has been conducted with community people and community leaders in remote areas to identify the common health problem in different community. FGD was conducted using standard FGD guideline and a questionnaire was formed.

6.6.2 Sample and site of FGD: 12 sub districts have been chosen randomly out of 25 sub district in CHT. The location of the village was selected according to the following criteria.

6 Villages located close to government health facility (UHFWC, FWC, and CC).

6 Villages located away (5hrs on foot) from government health facility.

All ethnic group was covered during selection of villages.

Date and place of FGDs are in the annex: 6

6.6.3 Population size for FGD: The FGD was conducted in a group of 15-20 people from the village. In total the FGD covered around 210 people from 11 ethnic groups. In every FGD there was one community leader (Headman/Karbai who is head of the village) and other were the people both men and women who are living in that community. All the participants were above 18 years of age. Most of the community people were tribal except few.

6.6.4 Method of analysis: The information from FGD was inserted in a excel sheet to analyze the frequencies of different answers from the FGD. Details information was also noted during the FGD.

6.6.5 Informed consent: Group consent was taken before starting the FGD. The author explained about the study and the also declared that the information of the FGD will be used for this study and the participant can quit anytime if they do not want to participate in the FGD.

6.7 SWOT ANALYSIS OF EXISTING COMMUNITY BASED MODELS IN CHT

5 community based health programme and 2 facility based services were evaluated through SWOT analysis.

6.7.1 Selection of health programmes: The major health programme was identified through a discussion with the civil surgeon and stakeholders. Both government and NGO service were analyzed to get a good idea about all the services available. Best practices within the community based programme was identified through several field visit and meeting with the programme managers.

6.7.2 Eligibility of the programme: The programmes were selected following certain criteria. The programme must have community based approach and should provide either health service or awareness activity. The government facilities were selected after discussing with the civil surgeon.

6.7.3 Method of analysis: Data has been compiled in a tabulated form. Positive and negative side of the programme was discussed with the manager and field based staff of the programme. Several field visits were conducted to see the activity of the programme in the ground.

6.7.4 Verbal consent: Verbal consent was ensured from the organization for this study. The author also got approval from the HDC for conducting this study. See annex: 13

6.8 SECONDARY DATA COLLECTION

Secondary data was collected to see the disease trend and correlation with different health programmes. Launching of different programme had shown an effect in disease incidence and mortality recorded by health authority. Data was collected from MOH&FW and concerned programme officers of donors and NGOs. This data was collected to see the impact of different programme over a period of time. Reported government data of 2000 was considered as the baseline data for CHT and recent data was compared with base line data to see the changes. Disease trends for malaria, diarrhea and pneumonia will be observed from the data and the impact of different interventions on the trend was analyzed. Malaria mortality data was collected from the

government office to see the death trend after different interventions by partner NGOs and UN agencies.

6.8.1 Method of analysis: Data has analyzed using Microsoft excel to see case fatality rate (CFR=death case/total case X 100) and incidence of diseases.

6.9 IN-DEPTHS INTERVIEWS WITH KEY INFORMANTS

Based on the understanding gained through FGD a plan was prepared for conducting key informant discussion with a few government functionaries (HDCs, Civil Surgeons., and DDFPs) and programme manager of development partners. Discussion points were varied for each key informant interviews. From interview of key informant has tried to explore the possibility of alternative management of health system.

6.10 STAKEHOLDER WORKSHOP

Finally there was 2 stakeholder's workshop to present the finding of the study and the proposals for the newly developed model. Views of different key personnel were noted about how to sustain the new community based model.

7. Results

7.1 FGD

Findings

As per study design, 12 FGD were conducted in remote places of CHT. A FGD questionnaire (Annex: 1) was designed to know the health problem and possible solution of the problems. The group was also asked about an appropriate referral system for the community. Following are the result of FGD.

The community people identified 21 different diseases and symptoms as their common health problem (Annex: 2). The top 5 diseases are diarrhea, malaria, ARI, peptic ulcer disease and fever. The other diseases and symptoms are headache/vertigo, skin disease, eye disease, dental problem, jaundice, female problems, vomiting, loss of appetite, delivery related problems, anemia, typhoid, leg edema, pain, asthma,

weakness, diabetes, and some unknown disease. Few communities identified pregnancy as a problem for them.

When the community people were asked what they do when someone is sick, they said that they first prefer bazar pharmacy to buy medicine from the drug seller. If the sickness is more serious then they prefer to go to a government hospital. They also mentioned that in some upazila they have CHWs and NGO run clinics where they could easily go for common diseases. It was interesting that very few people preferred to go to traditional healers and village doctors for their sickness though their visibility is higher in the remote areas. People also mentioned about Community Clinic (CC) which are available in few places. In the CHT there are few functional CCs. The participants were asked to prioritize their needed service in to following category. (Top priority 1)

Table 1 Priorities of services required by community people (1=Top priority, 2=Medium priority, 3=Low priority)

Among 12 focus groups, 4 groups mentioned that they do not have any kind of health services available in the community. The other 8 group said that they have either government or NGO run health services beside their community.

The community however doesn't have any health services, most of their demands are for doctors and community health workers. Some communities also requested for clinic, nurse, hospital and pharmacy for their community.

The community who are already enjoying some health services either from government and NGOs, mentioned specifically the need for the improvement. Like the community who have clinic services, mentioned the need for providing a drinking water and sanitary latrine for the patients attending the mobile clinic. Some people preferred full time doctor

and some community people asked for mobile clinic on a weekly basis. Other communities requested that the clinic should be closer to the community.

The community situated near hospitals, recommended improvements to the drinking water and sanitation system of the hospital. While asking more deeply in to the issue, they mentioned that after arriving at hospital, they do not have any place for drinking water and no toilet facility is available. Some groups mentioned that they are not used to modern toilets and service delivery system in the hospital. This indicates that the available modern system needs to be designed accordingly which is culturally and socially acceptable to the patients and attendants.

The community where community based health workers work, the beneficiaries requested to broaden the treatment ranges of CHWs. The community people like to get more services from the service provider.

In general, some leaders also recommended improving the road condition and to ensure safe drinking water and a sanitary latrine in every village to improve the health situation in their village. Because they believe, safe drinking water and sanitary latrine can prevent many diseases. Some communities mention that they need only road to reach the hospital.

Figure 3: Typical patient transportation in emergency referral in CHT from remote areas.

In health emergency (danger sign in pregnancy, fracture on any life threatening condition) most of the community people prefer hospital. They said in reality it is very difficult to reach the health facility as most of the place there is no road communication. In some upazila they said that they have road but the upazila health facility is not functional or partially functional. Financial constrain is also a factor which inhibit the patient to stay home during emergency. They

said hospital treatment is very costly and they spend a lot of money for emergency health care but unfortunately the outcome is not satisfactory. So the sometimes poor people remain home even in health emergency. The headman and Karbari said that during health emergency they share the cost from the community to save life. They also mentioned that it is difficult to transfer a patient from a rural village as it requires young people to carry the patient (figure 3). There are some community who is far away from health facility seeks services to traditional healers and Traditional birth attendants (TBAs). Some people also prefer private hospital as the services in the government hospital is not satisfactory. Some community also goes to medical college hospital (tertiary hospital). Few people mentioned that they seek advice from community health worker or family welfare visitors in emergency. This discussion proves that the community is well aware of the facilities which provide emergency services.

To improve the emergency health services most of the communities demanded to improve the communication (roads and bridge). Other community also recommended to provide ambulance service and trained village doctor for emergency referral service. Some communities requested to build hospital for the emergency services and also to increase trained doctors and nurses in the hospital. CSBA at community level was also an option to improve the referral service. Some community mentioned to provide referral cost for the emergency services and they also mentioned to organize community fund to ensure timely fund during referral. Some communities identified that CHWs, pharmacy and proper health education can also help in the improvement of peoples knowledge to ensure timely referral.

Discussion

From the FGD, we have listed 21 health problems as the community people perceived as their health problem. So are we addressing the problem with our existing government and NGO health programme? Government through their field based health workers (Health Assistants) is providing mainly immunization and treatment of some common disease like fever and diarrhea. In some areas they have been trained on malaria. So government is offering few part of health problem required by the community. UNICEF funded ICDP Para kormi are responsible mainly for motivational work for immunization

and nutrition. They are also working to ensure child in primary education. UNDP funded CHSWs are treating malaria, diarrhea, pneumonia fever and also providing pregnancy care with health education in 21 health issue. So CHSWs are also not covering the all the health problems. Most of the diseases identified by the community, can be managed by simply trained community based health workers for instance malaria, diarrhea, ARI, peptic ulcer disease, fever, pain, weakness, anemia, and headache etc. In the bazaar pharmacy, the untrained drug seller sells medicines to treat those patients. A trained CHW can easily treat those diseases with medicines after an effective training. So we need to design an integrated model where CHWs can cover most of the health problem at community level with a good referral link for complicated disease. In Bangladesh there 11 drugs which can be prescribed by the CHWs worker as per government rule.

It is observed that most of the community people prefer pharmacy as 1st access to health service. Usually at a bazaar pharmacy they get the drug seller and the medicine at the same time from their health problem. A bazaar pharmacy usually run by an untrained drug seller, they prescribe medicine according to the patient ability to pay. Most of the indigenous people go to bazaar twice a week to sale their product and at that time they take to opportunity to bring their sick family member for treatment by the drug seller. The drug sellers are usually known as doctor in the village are they sale all kind of drugs. The patient also gets benefit from him as he provides one stop services. It was amazing that the community people kept the traditional healers at the end of their priority list though most of the patient knocks their door at the end when they are helpless. It is interesting that the coverage of tradition healers is very high in CHT but their demand is decreasing day by day. While discussion with the group, we found that there were still some villages that didn't have any access to health. However, the community who have no access to health services, have requested at least for CHWs.

In general, some community emphasized to develop road and communication to improve the access to health services. They believe if there is a road communication with the town, people can go for better services. Many of the sub-districts in CHT do not

have any road communication within the sub-district and with the town. Some upazila who have only water communication in rainy season and in dry season they have walk on foot to reach the town and sometime it take even a day to reach the sub-district headquarter from a village.

This is encouraging that the community people are aware of their health need during emergency. So the demand is there, but there is problem in delivering the service and some factors which hampering the access to health. Most of the community people know that during health emergency hospital is the main destination, but lack of road communication and poor financial condition is delaying their decision making process. In reality, a better functioning health complex will fail to solve the issue if there is no road communication. In some areas the health facilities are not functioning properly and the patients is moving towards private services for better services. Financial reimbursement could be a solution in some areas where there is no road communication but improvement in hospital services is urgent for those areas.

7.2 SWOT analysis of different programme in CHT

7.2.1 Findings

In CHT, there are several health programmes executed by different organization and every programme has different funding sources. BRAC, UNDP, UNICEF, MSF and government health programme of HNPSP are considered as major health programme. There are also other NGOs who run health programme but in small scale. Key personnel from the above 5 organization was interviewed in details regarding their programme strategy and results. Two hospitals were visited to observe the services available in reality. Several field visits was conducted to observe the activity at field and to interview the community health workers. The SWOT table is in the annex 3 & 4.

7.2.2 Strength analysis

The strength of all the programme was the community based approach because the coverage is good and the community get a 24X7 hour service from the service provider. The community appreciated the satellite clinic at the remote place through NGOs as

they get the medical doctor at least a day in a week. The community ownership and participation was very good and which will ultimately support the NGOs to work during the security emergency due to communal conflict. The government has already set up infrastructures in remote place which can be used as a service point for patient. The clinic will be act a first contact point for the patient and will help the patient to choose the right facility in acute emergencies.

Different national and international NGO and UN agencies have already developed a big number of skilled staffs in the field and this work force can be utilized in the future programme designed by HDC or they can be recruited by the government as priority.

7.2.3 Weakness analysis

The referral network of most of the programme implemented in the CHT was weak. The patients complained about the unavailability of the doctors at facility. Health provider confessed their failure to manage moderate to severe case at upazila level due to lack of equipments and experts. So they always refer the cases to district hospital. Most of the programme intervention is near the sadar areas except in few programmes. There is duplication of the service and intervention of similar program. As the CHT has multiple partners, the coordination was not well established among the partners. The results are not analyzed on regular basis. The capacity of the local government is not up to the standard to control those programme run by NGOs and INGOs. They are also limitation of human resource and technical expertise. Though the government has built good infrastructure in remote places, the human resource is not ensured to run those facilities. So the facility and equipments remained unused for a long time and now out of order. The reporting system is very poor in CHT. Disease and death surveillance is very difficult in CHT due to communication and lack of field worker. The reporting channel is also weak. On the other hand, if a death occurs in a community, the dead body is not taken in the hospital and not reported. The cultural issues also sometimes influence this reporting in some communities. As the CHT is an interesting area, increased in death or disease repot put the health authorities in political pressure. So there is always hiding tendencies in the health authorities. The donor program has conducted some surveys

which revealed so and they have designed the program accordingly. Most of the donor programme will be phasing out in next few years in CHT.

7.2.4 Opportunity analysis

CHT is famous for its cultural and indigenous mandate. Many UN agencies and INGOs are involved in developing CHT. The local government handles many donors to approve different interventions. It is a good opportunity to utilize those funds to design such a good model for CHT. On the other hand, as the donor has a good influence over the government while reforming of national strategy, the local government can use this channel for CHT specific health plans. CHT already have health infrastructure in place which is underutilized and can be used by the exiting NGO program to run and maintain those facilities. Due the multi donor intervention, the data of CHT is improving day by day. The donor has good information on CHT and the information is available online. The CHT has already developed the GIS mapping and the studies on major ethnic groups on health seeking behavior. This information could be used for current and future planning for CHT.

7.2.5 Threat analysis

CHT is a conflict area and communal clash is very common. During communal clash, all the intervention remains non-functional to avoid unnecessary coalition among the groups. As the population of non-indigenous people is increasing, the conflict is also rising at the same time. Even there is a discussion going whether the government should name these groups as indigenous or ethnic minority people.

As per law, the local government was supposed to be selected through election. But the political government has placed their people in the HDC. So the development activity is not running in full phase. There are so many people who believe that there is corruption going on at HDC due to this non-elected local government.

Due to this threat, the current local government may perhaps plan to implement this new model which might not be accepted by the upcoming local leader of opposite party. It is very important to fade away the undue political pressure during the recruitment

process of CHWs. The political leader can play a vital role in recruiting the appropriate CHWs but sometime the situation can get reverse as well.

7.2.6 Discussion and recommendation

The advantage of the community based model is to have a good coverage. Still there are some uncovered areas in every program due to overlapping of field workers. In CHT it is difficult to discover un-served areas as there is no clear maps and information regarding its population habitation. Every month the number of para/village is changing due to division of one village in two. There are still some villages where only 4-5 family lives together. So it is quite difficult to distribute health workers according to need in CHT. This problem can be solved if we use GIS mapping done by UNDP.

The treatment option of the community health worker is limited in most of the health programme. The CHW treat only few diseases and in some places they only motivate the community to go for the treatment in the health facility. Here the government should broaden the treatment range of the community health workers as government field staff is mainly assigned for immunization activity. The CHWs need to address the 21 health problem revealed from the FGD. The government curriculum needs revision to add more topics on treatment and health promotion.

The selection criteria should be flexible for the CHWs as the literacy rate is low in CHT. Most of the government advertisement for job requires at least SSC (Class ten equivalents) for application. So most of the time people residing in the town apply for those posts and after getting the job they usually stay at town. Selection of female worker has more benefit for the programme as there is less staff turnover. The women usually stay home for the service and get more patient than male worker. A CHW can serve a cluster of village or a village in hard to reach areas. The appropriate location of the CHWs should be identified by using the GIS mapping developed by UNDP.

In community based programme the salary is usually low for community based workers which help the programme to run for a long time with fewer budgets. In CHT, it is difficult to provide health service through health facility as the road communication is not

established in most of the place. As the government health system is not serving well, the community based intervention is the only choice to deliver primary health care. The government health facility also needs improvement to deliver all services. For example, all the sub district health facility has X-ray machine installed but it is not functioning due to adequate electricity problem. Here appropriate technology was not used at health facility.

Most of the health programme provides health education and motivational activity in the field. So there are very few programmes who have integrated the health service. The training of CHWs should cover all the disease as revealed in the FDG and preventing those diseases through health education. It is possible that majority of the disease revealed in the FGD can be treated by the CHW and other can be referred to appropriate facility.

Involvement of local community has a great advantage in implementing health programme. It also helps to involve people residing in the community to monitor the programme. So the community people can find their own problem and find a solution at community level. Community people can also help in selecting appropriate candidate from their community which again increases the acceptability of the service provider. It has been observed that after selection and training of the CHW, some CHW never stay at their community. After investigation the documents found original that she is from that community. While asking more deep into that, the CHW said that she moved to get education facility for herself or to her children. And it is true that everyone has right to move for better life. Sometimes the young unmarried CHW also move from the community due to marriage to other community. So these issues can be solved involving the community people in the selection of CHWs.

Facility based health service by the government is mostly underutilized because of its poor health services and lack of human resource. The facility is also lacking equipments and logistics. There is also shortage of human resource to provide the adequate services in a big facility. Available maternal health care services in the district level are not adequate and they are always overloaded with huge patient and the service quality

is not ensured most of the time. So the facility needs to be properly equipped and staffed proportionately in different facility. The local government has the authority to redistribute the human resource according to need.

From the SWOT analysis it is clear that every programme has some good points as well as some negative points. No programme could fulfill all the health needs. There are always lacking either in delivering or designing the programme. The community people need one stop service where they can get most of the things to ensure good health. So we need to rethink and reorganize the system according to need. From the analysis it is clear that most of the services are required at community level and the service is available only in facility for government programme. The NGO are trying to serve at the root level but they are lacking integrated services and funding.

7.3 Secondary Data

Year wise morbidity and mortality data on major disease like malaria, diarrhea and ARI was collected from government office to see the trend of disease in CHT. The data show significant decrease of disease burden and case fatality rate in all three districts of CHT.

7.3.1 Findings

The data on malaria was collected since 1994 till 2010. Data of 2000 was considered as the year of baseline because in this year the data management system was to strengthen from government. In the Figure 5, the trend of CFR malaria has started to decrease since 2002 with an exception in Khagrachari. The CFR gradually increase from the year 1994 till 2002 and rapidly fallen in the year of 2006. The CFR at Khagrachari was always low from the beginning.

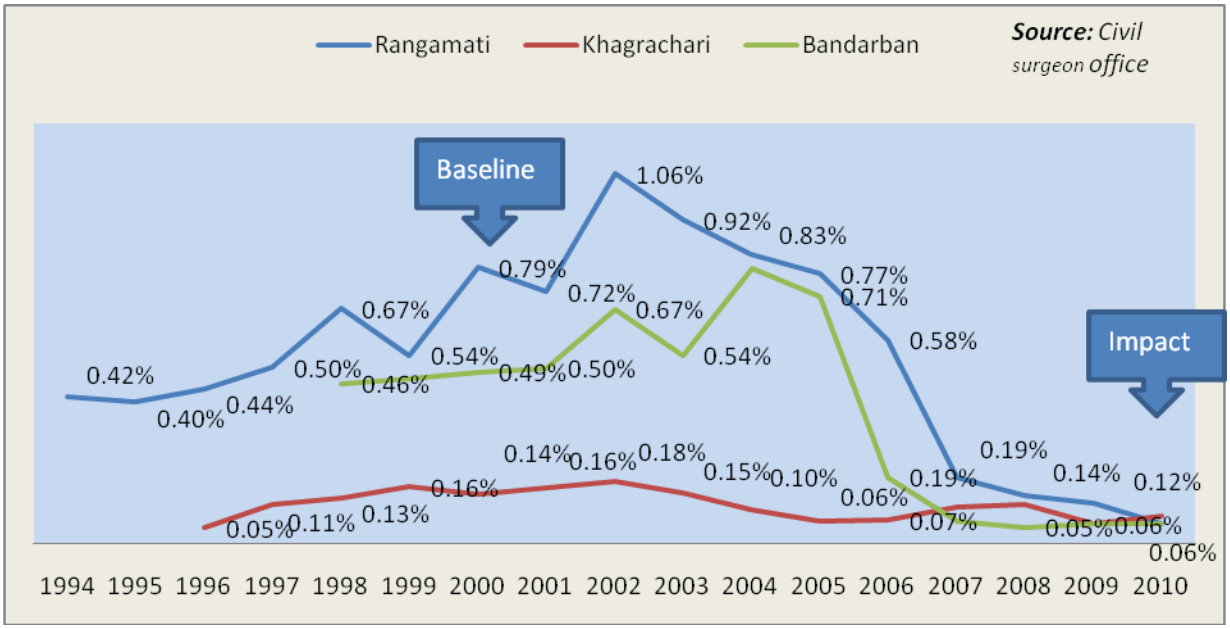


Figure 4: CFR malaria in CHT

7.3.2 Discussion

The major cause of the declination of CFR was launching of some community based programme during that time. MSF, UNDP stated to work in the field level with their field workers. In CHT, BRAC started their intervention in 2004 in all upazila of CHT with "Shasta shebika/karmi". In 2001 there was an increase of cases and case fatality rate as the detection of death cases was high and surveillance was improved during the initial period by the community based workers by BRAC. Vast health awareness activity was launched and facility based malaria detection was started. In Khagrachari, the CFR was low from the beginning. Still the CFR has decrease from the baseline in 2000 than in 2010. When asking about the cause of low CFR at Khagrachari, the civil surgeon said that the road communication in Khagrachari is very good and the referred patient can easily come for treatment at district hospital within one hour travel. In case of Rangamati and Bandarban the, the average travelling hour from upazila to district is around 5.5 hours. Most of the people prefer traditional healers and low cost treatment which is available in the community. So community based programme had a good impact on reducing CFR.

7.3.3 Findings

This graph Figure 5 shows the comparison of CFR malaria in two sub-districts of Khagrachari. One of the sub districts has community based health programme supported by UNDP and other sub district has only the government health programme. The case fatality rate is higher in the non intervention sub district.

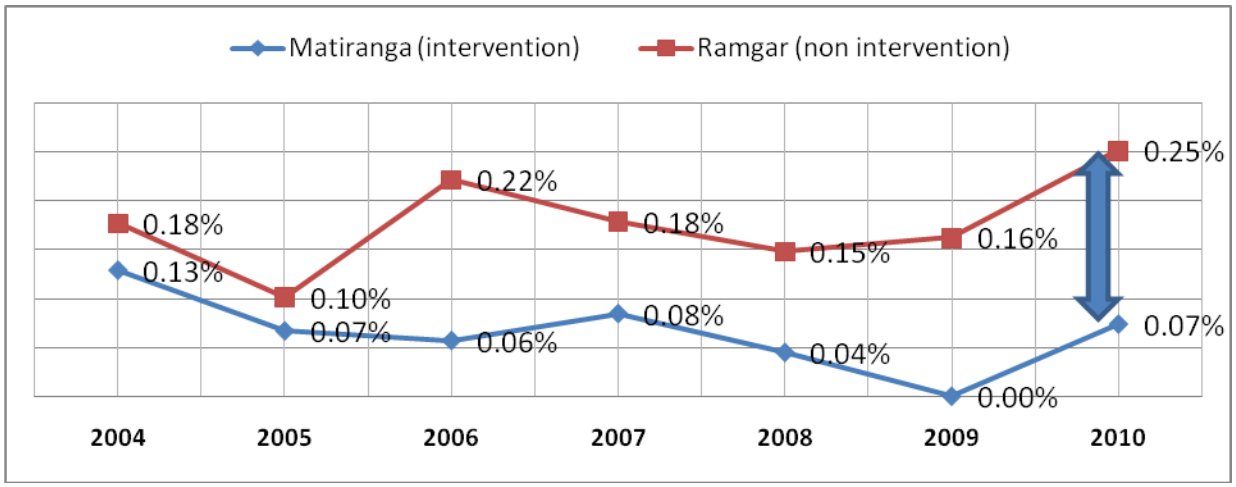


Figure 5: CFR in UNDP intervention and non intervention area

7.3.4 Discussion:

UNDP with their community based health workers started to work in the remotest sub-district of CHT since 2006. In non intervention sub district the CFR continues to rise where as in the intervention area the CFR malaria was under control. This again proves that community based programme has positive effect on disease mortality.

7.3.5 Findings:

In CHT the morbidity of malaria decreased dramatically since 2006. (Figure 6)

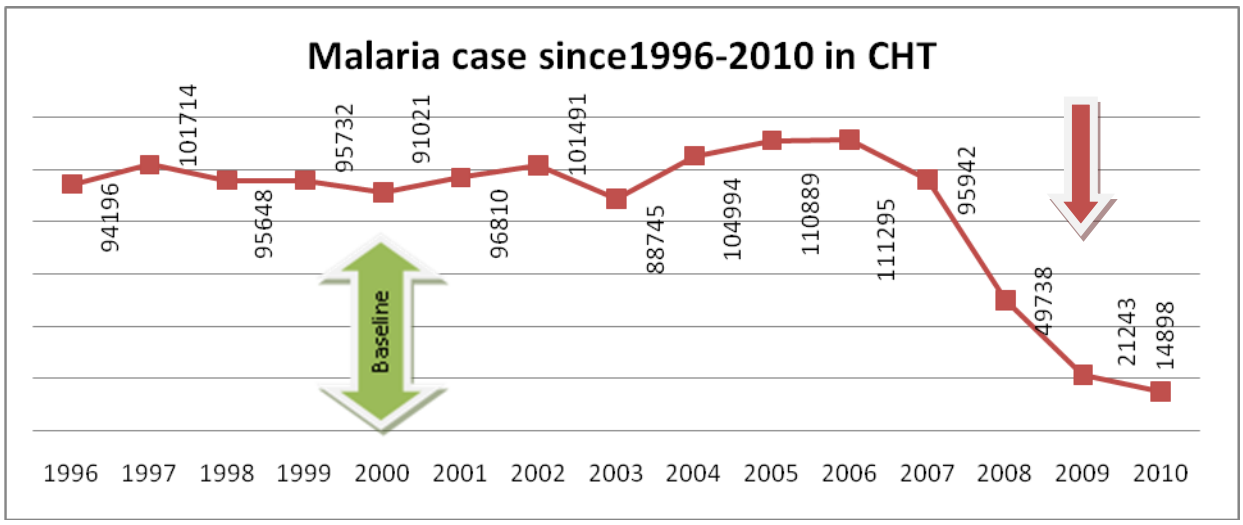


Figure 6: Trend of malaria cases in CHT since 1996

7.3.6 Discussion:

In 2007 BRAC involved CBOs to work in grass root level with availability of RDTs at community level. So it was very easy for community people to get tested by themselves with RDTs in the community. Treatment was available at community level with the community based workers. Early diagnosis and prompt treatment (EDPT) was implemented by the government which is the key movement to prevent malaria. BRAC also distributed insecticide treated mosquito net among the villagers. Malaria case definition was changed and specific guideline was prepared by the government in 2007. All the field staffs were trained to ensure early diagnosis and prompt treatment of malaria. So from the graph it is clear that community based model played a very important role to decrease malaria case fatality rate and also to increase awareness among the community people through health education. UNDP and other CBOs also started to work in malaria prevention and treatment from 2006 which also shows great impact on reduction of malaria case in CHT.

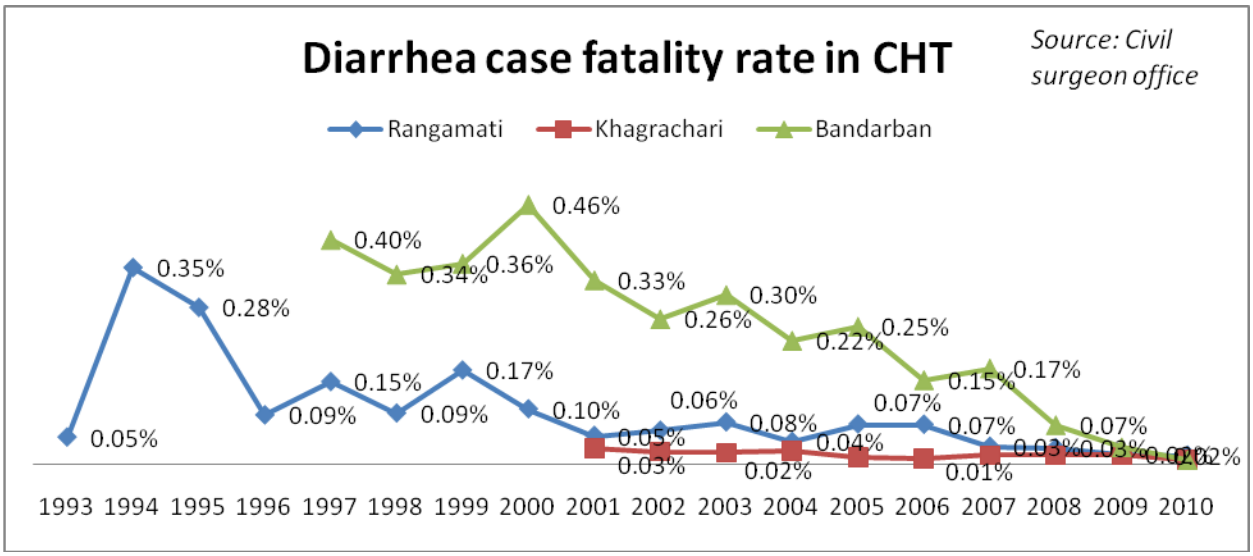


Figure 7: CFR diarrhea in CHT

7.3.7 Findings:

CFR diarrhea is decreasing since 2000.The CFR was again low at Khagrachari as the ground water level is reachable in most of the place. But in Rangamati and Bandarban, the CFR diarrhea was higher. .

7.3.8 Discussion:

Diarrhea is also a major problem in CHT due to lack of drinking water. As the area is mountainous and digging tube well is very hard for rocky ground, people are dependent to rain, fountain or lake water. During winter diarrhea outbreak is very common among the remote villages where no medical facility exist.

The graph shows there is a decreasing trend since 2000 for Bandarban (Figure: 8). Bandarban is the hilliest terrain among all three districts where ground water is mostly inaccessible. The other two districts are less hilly than Bandarban and drinking water source is available most of the places. In Bandarban, the CFR decreased from 2007 when UNDP and GRAUS community based health programme initiated to distribute ORS in the field. ORS is easy to prescribe and the sachets can be preserved according to need. During epidemic, ORS works very effectively to prevent severe dehydration in remote areas.

Community based worker can easily prescribe ORS during the onset of diarrhea which has tremendous effect to stop epidemic of diarrhea and health education regarding how to prepare homemade ORS during diseased condition and knowledge on source of drinking may also play a vital role to prevent diarrhea.

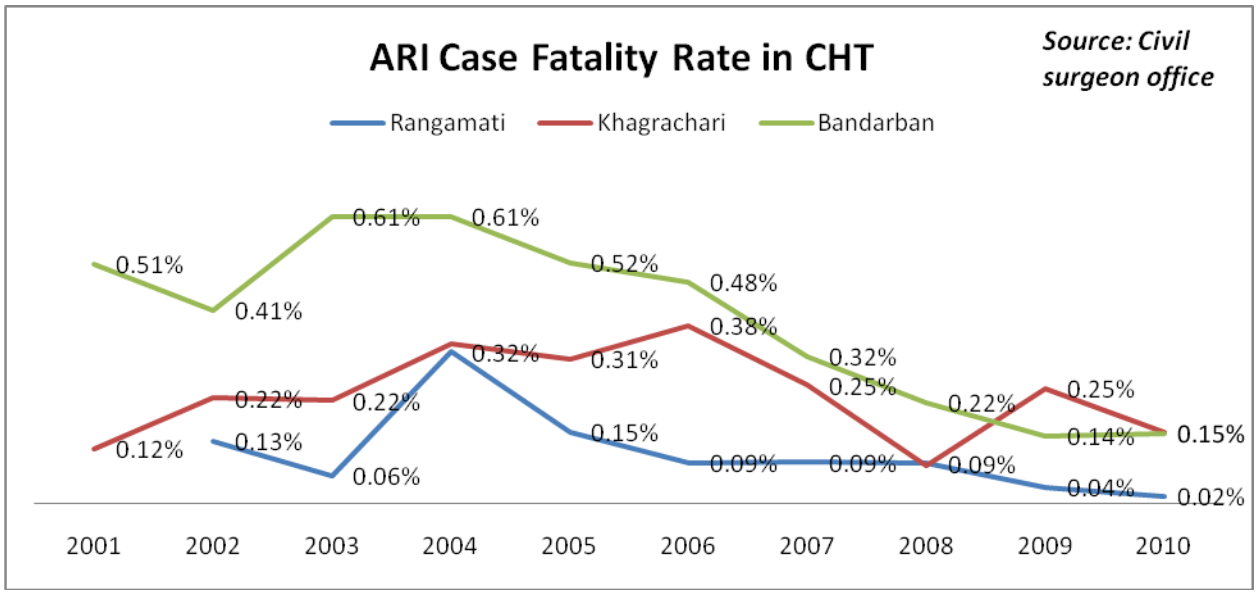


Figure 8: CFR ARI in CHT

7.3.9 Findings:

ARI CFR is still high compared to malaria and diarrhea. At Bandarban, CFR for ARI is decreasing since 2003 and at Rangamati it is also decreasing since 2004. At Khagrachari the pattern is a bit different than other two districts. The CFR for ARI started to decrease since 2006 but it has again increased in 2009 and started to decrease in 2010.

7.3.10 Discussion:

ARI can be managed at community level through community IMCI. There is still room for improvement in CHT. Community IMCI has just started (2010) at 2 upazila out of 25 upazila of Bandarban. UNICEF has just initiated C-IMCI as pilot basis in only 2 sub-districts. They will soon expand the programme in 25 upazila of CHT. From the graph there was a decreasing trend of CFR for ARI in all districts of CHT. There was also a

rise of ARI death in 2008-09 at Khagrachari due to high case detection and death reporting when CHWs were doubled. This means the CHW can dramatically change the situation for specific disease prevention and treatment.

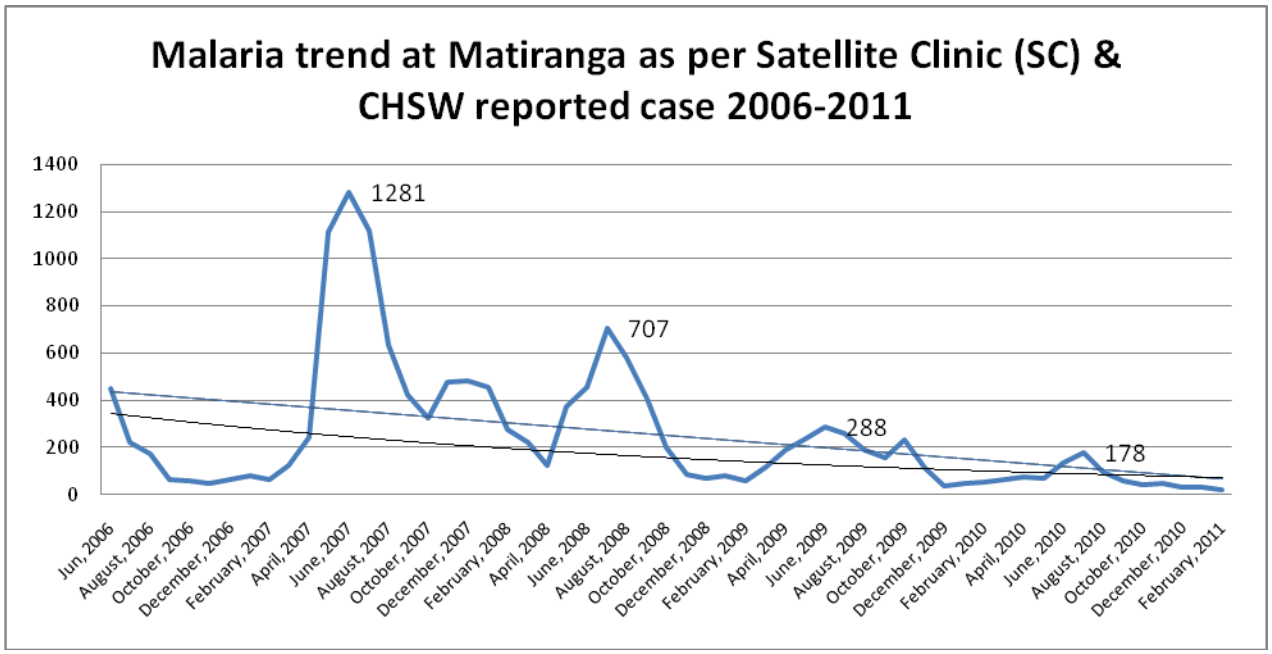


Figure 9: Trend of malaria cases at UNDP intervention upazila

7.3.11 Findings:

Malaria data were collected also from UNDP office at Matiranga (sub district of Khagrachari) to see the disease trend special in their intervention areas (Figure: 10). The disease burden is continuing to decrease since the intervention of community based model to implement primary health care at grass root level.

7.3.12 Discussion:

CHWs are very effecting for CHT geography as health service can be delivered door to door. Tribal people are comfortable to this service as the service provider is from their own community and there is no language barrier for seeking health service. Malaria disease has a seasonal variation and the peak season starts at the beginning of rainy season when the mosquito start breeding. In the trend graph, the malaria peak edge has descended gradually since 2006. Overall the cases were also decreased. From the

FGD, the participants also mentioned that “now a day there is no malaria death and there is also less malaria cases in the community level”.

7.4 In-depths interviews with key informants

The three civil surgeon of the CHT were interviewed with predefined questions and were asked about current health situation. They were also asked for problem in delivering health service and the probable solution to overcome the problems. Different view came up from different civil surgeon on this issue.

7.4.1 Bandarban key personnel (Civil Surgeon): As per the statement of the civil surgeon, there is a severe shortage of staff at Bandarban. Most of the upazila is very hard to reach and difficult for the health staff to work. Most of the recruited staffs are from outside of Bandarban. The staffs usually stay at district level and they work every day starting from district to field. The upazila health facility is partially functioning due to staff shortage. He also mentioned that, among the tribal population the health awareness is low and they seek traditional medicine for treatment. Most of the serious patient arrives at the eleventh hour for treatment at upazila hospital and usually the attending health staff refers the case from upazila to district level. This is due to non availability of special equipment and trained staff at upazila level. There is also lack of supervision at upazila level. He said that the district official need vehicle to improve supervision and monitoring. They also recommended reducing political influence on staff transfer and appropriate administrative action for staff. He mentioned that government has a good infrastructure in very remote place, but there is no staff to run the hospital and most of the health facility is underutilized. Due to lack of maintenance, the condition of the facility is going down day by day. He also mentioned that some of the facility is no more usable by the health staffs. Accommodation facility for the staff who is working for Bandarban is a problem here in Bandarban. The hill allowance is low for staffs which lead to de-motivation the staffs. He appreciated different NGOs and UN agencies for intervening at Bandarban. He said that all the agencies should work under the umbrella of the government.

7.4.2 Key personnel at Rangamati (Civil Surgeon): Civil surgeon of Rangamati was very much positive and cooperative for different approach in health. He said, 51% position is vacant in his district and the doctors are staying at district though posted in rural health facility. He said, due to lack of training facility, young doctors are not interested to work in remote areas, moreover the living facilities at upazila level are at very poor. When ministry of health recruit doctors, it is mandatory for all the doctors to work in the remote areas at least for two years. But after recruitment the doctors get there transfer order very soon from the ministry by using their political holds. The civil surgeon of Rangamati is hopeful as there are different national and international agencies are coming up with different health projects at Rangamati. He mentioned that, we need to utilize the resources and foreign aids properly to improve the overall health situation. The said that, UNDP health programme, BRAC, UNCEF is contributing along with the government towards achieving the MGD in Rangamati.

7.4.3 Key personnel at Khagrachari (Civil Surgeon): During the interview of civil surgeon Khagrachari, he mentioned among all three districts, Khagrachari is much better in health service delivery. He mentioned that the immunization coverage is high in Khagrachari. Due to good road communication, the health situation and service is better than the other district. Though he has lot of problems in providing quality health service due to shortage of staffs like other districts, but the health indicators are much better here. He mentioned that the staffs cannot be monitored by him all the time due to fund constrain and shortage of supervisor at the district level. He also mentioned that dual administration and political influences always hamper the appropriate implementation of PHC in CHT. He welcomed all the health initiatives in Khagrachari and tried to lead all the NGOs and INGOs to coordinate and implement health programme in the remote areas. He well appreciated the UNICEF Para worker and UNDP health project for contribution in health status improvement of Khagrachari.

7.4.4 Chief Executive Officer (CEO), HDC: One of the CEO of HDC was interviewed who mentioned that as the civil surgeon is under HDC but MoH&FW miss out HDC to correspond and it sometimes mislead the civil surgeon. As the CHT is under Ministry of

Chittagong Hill Tracts Affairs (MoCHTA) and there is no regular link between MoH&FW and MoCHTA. It sometimes creates in-coordination between HDC and the office of civil surgeon. He mentioned that the new officers need orientation about the CHT rules and regulation when posted in CHT. When the officers became fully oriented with the system, they are transferred to other district of Bangladesh. So the development activity never run in full pace. There is also some inferiority complex among the HDC based staff and the civil surgeon which again leads to in-coordination among this two implementers.

7.4.5 Discussion on key personnel interview

The key personnel interview reveals that human resource is the main problem to deliver health service in CHT. Weak monitoring and supervision failed to use the existing human resource and to ensure quality health service. Proper coordination among the partners and several vertical programmes leads duplication of services in the same areas. There are still underserved areas in CHT though thousands of CHWs working. There is a gap in coordination of CHT institutions and the partners providing health services in CHT. The local government should play strong administrative role to prevent the negligence to job responsibility of health staffs. There is also lack of job facility for the health staffs like good accommodation, risk allowance and training facilities for the young doctors which decreases the interests to work in CHT. The local government should look in to these issues seriously to change the negative theme about CHT. The HDC should try to make CHT more attractive by providing those facilities through their own initiatives. Otherwise the situation may remain for another decade.

7.5 Stakeholder workshops:

7.5.1 Workshop 1:

A workshop was held on 20th October 2010 at Bandarban to find out the bottle necks and the probable solution for CHT health. Government organization, NGO and UN agencies and political leaders participated in the meeting. The meeting was presided by

Chairman of HDC (local government) and Minister of parliament was present there as a chief guest.

During the discussion many bottle neck for the CHT health programme came up. The major bottle necks which hamper the implementation of primary health care are remoteness, weak administration, low allowances for health staffs, conflict, lack of training facility for health staffs, inappropriate policy for tribal people, and lack of coordination among the partners. There is no leadership role within the government offices. The administration is complex and so many vertical programmes are ongoing in different remote place of CHT. There is no sustainable programme. Most of the programme is for limited time period and working with for specific goal. While discussion sustainability issue came up for many programme and government is not ready to take up the ongoing health programme. They requested the donors to continue their aids for several years and the donor said this was quite impossible for the donors. Government officer agreed to share the cost for some health programme which shows that the government is interested to take ownership slowly. UNICEF proposed to have meeting with high officials from Ministry where policy is formed and it is very difficult to mainstream the community health workers in the government system. UNDP proposed to local government to absorb the community health worker slowly during the government recruitment process and also to send a proposal to ministry for extra fund for CHT health to continue the programme.

There are available donors who are funding CHT and also interested to continue fund as the CHT is geographically and culturally different than other 61 district of Bangladesh. It is also recognized as conflict zone and the donor have interest to work for tribal people. So if the local government takes the leadership to implement the health programme in the CHT, the implementation will be more effective and the coverage will be higher as per the statement of political leaders. It was interesting to share that the Member of Parliament came to know about the tribal health plan for the first time in that meeting. The tribal health plan has already expired in 2010 without implementation.

While discussing the appropriate solution of the health problem in CHT, most of the participants voted for community based model as it fits in different community perfectly.

Community health workers and recruited for their own community and the work for 24 hrs basis in the community. Female workers are very much popular as female patient access is much easier to them. They also voted to minimize the education quality for community based worker according to need. Minor ethnic group should be given priority. The training should be conducted in their own language. Each community should have one community health worker and the remote community should be selected for the community based programme. Village health post and pharmacy should be in place for availability of medicine in the remote places. The community health workers should be trained as pharmacist. Village health post should be created in every village.

Sustainability was a blazing issue in the workshop. Government faced huge pressure from the NGO and UN agencies to take over the ongoing health programme and to allocate more money for health sector from the revenue. The Member of Parliament was requested to raise this issue in the parliament meeting and continue lobbing for the fund with the ministry of health. Most of the participants agreed that the community health workers are self sustaining. Currently they are not asking any fee for treatment as they are paid 3100 taka per month from the project. After the end of the project, they can charge money for the treatment from the community. The community leaders also accepted that point as there are several traditional healers who are getting money from the patients. The local government agreed to share 10% cost every year from their revenue.

7.5.2 Workshops 2:

Key points of the Workshop 2 on CHT Health Strategy, organized jointly by Bandarban HDC and UNDP, Bandarban, December 7, 2010

Four key points recurred during the meeting, mentioned by speakers from the HDCs, by health professionals, and other participants. These were:-

- Community health service workers (CHWs), and specifically their recruitment and skills;
- Coverage and sustainability of health services;

- Health education in rural areas; and
- The referral system.

Several other points were raised, though less consistently, and these are summarized below. The participants list is in Annex: 11

7.5.2.1 Community Health Service Workers

A number of speakers asked that CHWs skills and qualifications be lifted. This would ease their integration in the government health structure, as well as improving their performance of duties in the community. Developing the theme of integration in the national system, one speaker also sought the alignment of pay scales for CHSWs with the Health and Family Planning Assistants, (though they are engaged in different tasks and for differing hours per week). Several comments supported strengthening the supervision of CHWs and provision of refresher training where this is needed, though this is already underway in the project. On the recruitment of CHWs, currently entirely female, some suggested that men be recruited; this was intended to ensure that CHWs could be placed in communities where no qualified woman was available to undertake the role. It was also suggested that CHWs be recruited from the smallest ethnic groups, and if it was necessary to recruit men in the absence of qualified women, this would enable those communities to have some access to basic health care. (It may be useful for UNDP to verify from its project records how many communities have encountered this problem – whether for language or lack of qualified women – to have an idea of the size of this problem.) There were several recommendations that CHWs be allocated on the basis of population, rather than at a flat rate per upazila. This would allow variations in population to be addressed; it would also have implications for the supervisory numbers in a district.

7.5.2.2 Coverage & Sustainability

Several speakers recommended that the community based health programme should be extended to all upazila. These comments – and several other very positive statements – reflected a general consensus that the community based model has made

a vital contribution to the provision of health care in CHT. UNDP responded by outlining the imminent expansion of the project to 15 upazila, and explaining why the remaining upazilas are not covered – a combination of reasons, including the presence of other providers, the proximity to urban service provision in the three main towns, and security constraints in one upazila. Further appreciation of the impact of the project was expressed in the discussion of its sustainability. Whilst one speaker asked that UNDP maintain its funding of the project for the next 10 years, most saw some role for the counterpart side – whether from the Hill
District Councils or national sources – in funding the programme, though most spoke of this in terms of a tapered or progressive shift in the funding burden over several years. Some recommended local revenue as a potential source, whilst others mentioned the Tribal Health Plan.

Irrespective of the funding sources for basic health services, a number of speakers stressed the need to develop the capacities of HDCs, enabling them to manage the health system for which they have responsibility under the peace agreement.

7.5.2.3 Health Education

In considering the longer term future of health provision in CHT, speakers noted the importance of health education not only in disease prevention, but also in fostering demand for health services. Appreciating the work already undertaken in developing materials in tribal languages, some speakers recommended that this be continued, to cover the smaller groups as well. Informal approaches to health education were also suggested, using forms such as drama or visual materials in addition to classes or talks.

7.5.2.4 Referral System

Acknowledging the limitations of the CHWs, there was discussion of the referral system, (though none touched on solutions to the challenges of absenteeism so prevalent at the upazila facility level).
Some suggested that CHWs should have exposure to secondary and tertiary care facilities, to give them a fuller understanding of the scope of services available through

referral. It was also proposed that the cell phone network be used to strengthen the referral system.

7.5.2.5 Other

The day's discussion touched on a number of other issues: - how the CHWs could be used to improve the nutritional status of the population in their communities; how the health-related MDGs might be more sharply focused upon by partners such as GoB and the HDCs; and how the role of traditional healers relates to that of the CHWs. (There was a consensus that traditional healers and herbal medicines have an important role to play in CHT, but the discussion did not go beyond this.)

7.5.3 Discussion and recommendation on stakeholder's workshop:

Overall the study has touched on many issues related to community based health services. The FGDs revealed the unmet need of the community people which can be used to set programme goals. As per the community need, the referral catchment area should be extended beyond sub-district level. The cost reimbursement for the patient could make the referral system more effective. For access to health services pharmacy was one of the top priorities for village people. So village pharmacy should be included in the design of government health system. The services provided by the community health workers need more integration to cover a wide range of diseases and referral cases. The facility based services should be modified according to the culture of CHT. The existing roles and responsibilities of the CHWs are not covering the health needs at the community level. So the range of services offered by the CHWs needs to be widened.

The SWOT analysis revealed the services that were available at district and upazila level through different health programmes. The SWOT table showed that there were no typical programmes which met all the health needs for the community. Every programme has some lacking. At upazila level the government health system is underutilized as it has been staffed with highly technical staff rather than field based staff. The upazila health system needs more field based staff to deliver the PHC

services at rural community level. At district level the capacity of the health facilities needs to be expanded to cope with the referred cases from the sub-districts. The existing shortage of human resource could be managed with the withdrawal of doctors from the sub-district. On the other hand the number of field based staff (CHWs) should be increased at sub-district level to deliver PHC. At district level there are high tech equipments underutilized due to lack of technical staffs. At all upazila 300 mm X-ray machine was installed but due to lack of proper electricity all the machine is already damaged.

The secondary data showed that all the community based programmes had a positive result in reducing disease morbidity and mortality. So the community based approach is the most effective approach in CHT.

Interviews with key personnel made us realize that dual administration sometimes plays a negative role in implementing health interventions. Usually local government play better role to implement any programme than central government. The local government can monitor the programme closely and can take decision as per need. But in CHT it seem the role of local government is not clear among the institutions. There is a need for strong administration and monitoring of programmes in CHT by local government. The remoteness of the CHT is also hampering the implementation of health programme and to solve this problem a community based model is required with appropriate integration of PHC services. In CHT, political recruitment negatively affects the programme by choosing an inappropriate person. So after recruitment they are not effective anymore. Due to lack of adequate facilities doctors are not interested to work in CHT. The government should provide special facilities and incentives which will need intervention at the policy level. The local government supports community based interventions though at present they do not have sufficient revenue to run such programmes.

The two workshops discussed some important issues regarding an effective model of community based services. They recommended to have a transparent recruitment

process for CHWs and to revise their selection criteria. They also recommended ensuring higher quality services through strengthening the supervision and monitoring system. As in most of the cases in CHT the CHWs are female, the participants also advised to recruit male CHWs where there is no eligible female candidate. In the Somalia, where most VHWs were male, an interesting gender problem has emerged in that (male) CHWs have little contact with women[21]. It was interesting that nobody mentioned about the cultural norms and beliefs which have a big influence over programmes. In CHT there are several ongoing health programmes but still a lack of awareness persists in many communities. So culture, values, and needs must be taken into account when designing programmes[14]. They have also recommended ensuring quality services by the CHWs at the community level. To improve the quality service, they preferred refresher training and strong monitoring of the services at field level. They also recommended mainstreaming some of the major programmes in the government HNPSP. The distribution of the CHWs should be distributed according to population and their geographical density. A wide range of health services should be delivered through the CHWs. All the participants of the workshop acknowledged the contribution of CHWs in making effective referrals from the community. The participants also recommended increasing the capacity of the local government to manage the health programme. The literature review also says that governments in conflict areas are usually weak. In the new model, to increase the capacity of the local government there should be an extra team for managing the community health services and for ensuring a strong monitoring system is in place. The HDC should increase the capacity to improve their monitoring and supervision of programme. They also need to enhance their capacity to deign appropriate programme for CHT. They need to build a strong coordination mechanism to serve the underserved population especially the ethnic minorities and the most remote areas of CHT. The HDC can also use the existing surveys and information of CHT to design health programme. They should use their supremacy to make local strategy for better result from the existing setup in health.

8. Integrated community based model for CHT

From the FGD, we came to know about the health need of remote communities. It is interesting that the government would not meet 100% of the health needs in the community if they would have worked 100% percent. This is due to faulty design of the health programme. The health need is different than the services offered by the government health worker at community level. They offer only immunization and treatment of malaria and fever at field level. Unfortunately, as per the statement of the key personnel from the district, it was clear that, the health staffs is not working in the field regularly and the service delivery is not ensured in the community due to many reason. It is difficult to correct as most of the heath staffs at this stage as most of them were recruited under political pressure. Strong management action is not possible in this situation. The facility at upazila level is also under utilized due to staff shortage.

In the proposed model, the existing government health system will remain the same with some modification in their role are responsibilities. The role and the place of posting of the staff will be refashioned. There will be an additional group of expert working at the district level to support the community based group. The main force of this model will be the CHWs. The job description is in annex 12. The PHC service will be delivered by the community based worker beyond upazila level. Community health worker are the frontiers in this model and will extensively increase the access to basic health needs.

8.1 Rationale of the proposed model

The use of community health workers has been identified as one of the best strategy to address the growing shortage of health workers, particularly in low-income countries[21]. Using community members to render certain basic health services to the communities they come from is a concept that has been around for at least 50 years. There have been innumerable experiences throughout the world with programmes ranging from large-scale National programmes to small-scale community-based initiatives. The roles and activities of community health workers are enormously diverse throughout their history within and across countries and across programmes[21]. While in some cases CHWs perform a wide range of tasks that can be preventive, curative and/or

developmental activities like economic development or community empower initiatives, in other cases CHWs are appointed for very specific interventions.

Government of Bangladesh is implementing HNPSP in CHT since the beginning of 1998 and the situation is not improved yet up to the satisfactory level due to many reasons. Moreover many NGO and international agencies also approached with different areas to assist government health system. But still there many rooms for improvement in health section in CHT. Most of the programmes and projects that are implementing are not sustainable and cost-effective as well. The problem existing in the government health system is now a big burden for the government to solve and there is no guarantee that the condition will improve if the government provides all the facility to the staffs such as accommodation, food, electricity and security. On the other hand, the system will not be utilized properly by the potential client due to cultural and ethno-lingual differences in different ethnic groups. In some of the tribal community, if the diseased person is taken out from the community for treatment and if he dies outside the community boundaries, they never return the dead body in that village. So the people are afraid of going to hospital and prefer dying in the community.

The new model will first address the shortage of health staff at district and upazila by redistributing the staffs and deploying field based staff. The community health worker will be chosen for their own community. The salary of the CHW will not be much higher and the people who want to have a job through political influence will lost their interest. Now a day the female has a great interest to become a CHW which is recognized as the foot step to become nurse. We would like to involve the village committee in the recruitment and selection of the candidate. So people who are really living in the village will be in the programme. During selection there will be some criteria which will help to choose the CHW from the priority areas. The CHW will be trained extensively to deliver the most of the PHC possible at village level. Through CHW village people will at least get free access to basic and quality health service for common diseases without travelling a long distance. Government is employing HA which is more expensive than the CHWs and now a day those process of recruitment has become most corrupted in health.

Secondly, doctors do not want to stay at upazila level due to lack of good accommodation and also absence of modern facilities. At upazila level they have no facility for extra income and there is no facility to educate their children. So if we want them to stay there, we need to change many things which I think not possible for the government at this moment. On the other side, if an UH&FPO is staying at upazila, their main function is administrative which can be fully covered by non technical person. The post for the nine medical officers is really unnecessary as most of the hospital is 10 bed and some are 30 bed hospitals. So for a 10-30 bed hospital, 9 MO and 1 UH&FPO is irrational. In this proposed model, the 10/30 bed hospital will be operated by the either medical assistant or nurse who will be highly trained. Medical officer will come for certain time to cover other disease. Emergency cases can be identified by the MA/Nurse and will be referred to higher management level. So this will save the salary of 10 highly qualified people. In CHT it is observed that, in some places radiographer is recruited and placed, but there was no X-ray machine at hospital. In some places there is X-ray machine with a radiographer, but it's not working as there is no electricity.

Thirdly, in Bangladesh MBBS is perceived as basic course for the medical career. Young doctors are always interested to work at big hospitals. They need training certificates for their post graduation. In CHT there is nowhere a doctor can get a training certificate if they work. Most of the time these doctors pretend that placement in CHT is punishment. In the proposed model, there will be a 300-500 bed hospital where training will be provided to doctors and they will serve the upazila on a rotation basis. So doctors will be interested to work for CHT.

8.2 Organogram of the new model

Though CHT has a different administrative system for health, the model will be adjusted according the CHT rule and regulation. As the HDC chairman is mandated to ensure health, the civil surgeon will implement the programme.

In the new organogram, the blue colored boxes are the government already existing post. The orange colored boxes are also existing government post but the place of

posting and terms of reference is modified. Green colored boxes are newly created posts to maximize the access to health services in CHT.

Ministry of health will be responsible for the technical support and execution of national programme in coordination with HDCs. The main controlling authority will be MoCHTA regarding the administration and monitoring of programme.

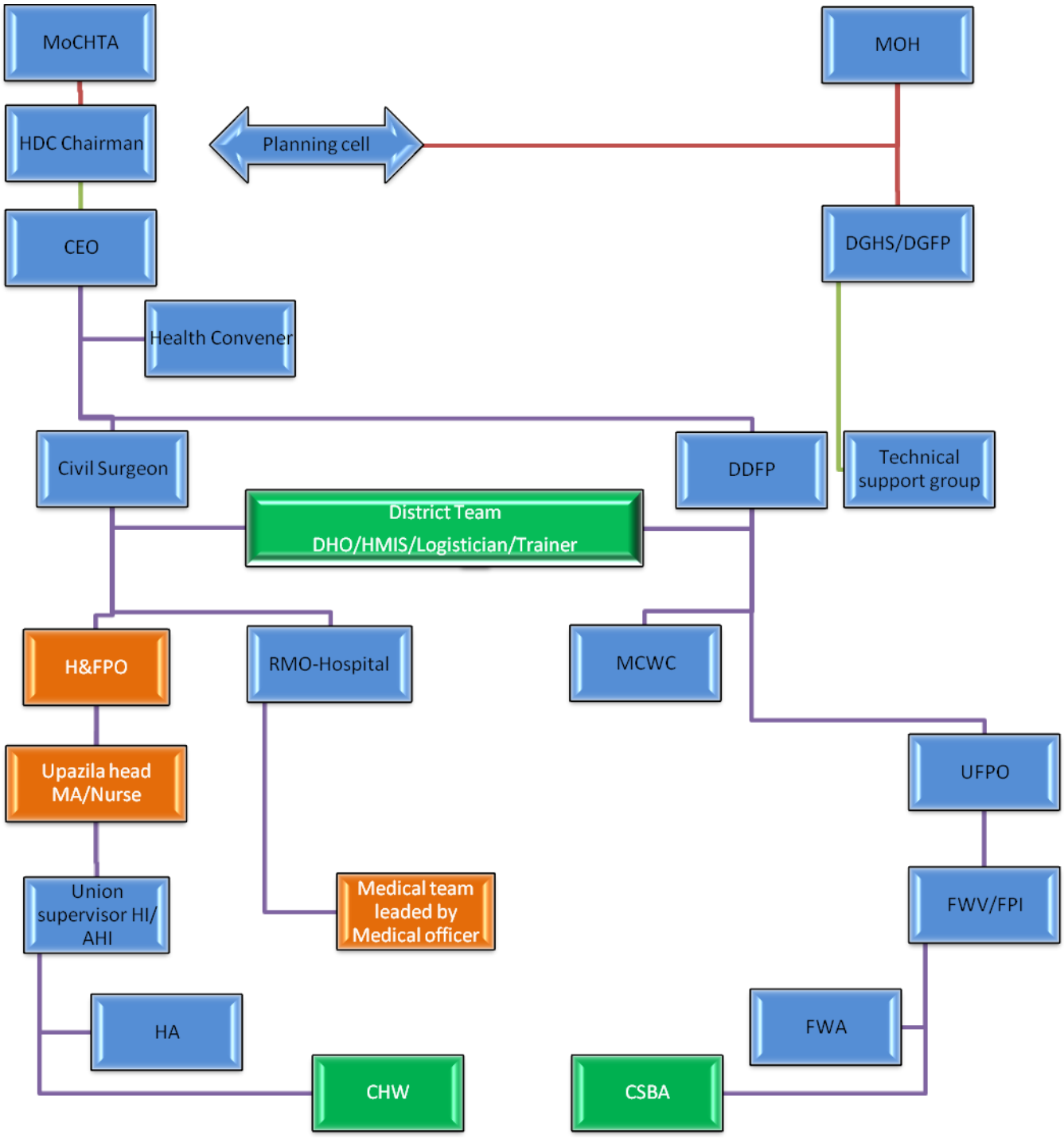


Figure 10**: Organogram of new model (Blue color box refer already government existing post and green color box refer to new post proposed and orange color box refer to existing post with modified role and place of posting)**

8.3 Components of the model

There will be 6 components of the proposed model:

1. Service delivery and referral system
2. Supervision and monitoring
3. Administration and finance
4. Strategic planning & Health management and information system
5. Logistics and equipments section
6. Health education

8.3.1 Service delivery and referral system

This section is mainly responsible for delivery of health care service at 4 different levels.

Level 1(District based services):

Existing services in Level 1:

At present there 100 bedded hospitals available at hospital and specialized services are not available 24X7. There is huge shortage of doctors and nurses. Complicated cases are referred to higher level for better management. There is no training post at hospital. Operation facility is very limited. The hospital is over burdened with patients.

Services in new model in Level 1:

At district level, there will be 300-500 beds hospital with tertiary level care. The patient referred from a very remote place will end up with a good support from the district hospital. Here most of the doctor from upazila will work here as a part time and working here will be recognized as training for post graduation. This training facility will inspire the young doctors to stay at least for a year at district level. A telemedicine section at the hospital will be available for 24 hours basis which will provide medical support to the upazila through telephone. The hospital will be equipped with modern equipment and good referral transport. The doctor will be allowed for institutional practice after certain time which will again keep the interest for the doctor to stay at district and to engulf the opportunity for an extra income. Government must provide a first-rate hardship allowance to the doctor both at district and visiting doctor for upazila rationally. Telemedicine will be a new option for the district hospital to support the sub-district level hospital.

Level 2 (Upazila facility):

Existing services Level 2:

Most of the sub district has 10-31 bedded hospital. These facilities provide limited services at upazila. They treat common disease like malaria, diarrhea, and pneumonia and in some sub districts they have normal delivery facilities. Some of the sub district has EOC facility but not functioning at all due to absence of surgeon and anesthetist. The main function of the sub district is to implement immunization programme at outreach site and ensure reservation of logistic for immunization. Upazila health facility also supposed to provide PHC but in reality very few treatment options is available.

Services in new model Level 2:

At upazila, 30-50 bedded hospitals will provide more intensive care as per requirement. The facility will be run by senior medical assistant and senior nurse. There will visiting doctor from district level to support the upazila team. The visiting doctor will provide health service to the patient in a frequent interval and preplanned surgery will be conducted by visiting consultants. A senior medical assistant or nurse will be in-charge of administrative activity.

The medical assistants and the nurse will have refresher course at least 6 monthly to update their knowledge. There will be a health education section at upazila base and will train the CHW time to time and also the patient visiting the hospital. Every month the supervisor will have meeting at upazila health complex for progress updates. There will be a small training facility for CHWs at upazila health complex. Every 6 month the CHW and their supervisor will receive training from the visiting trainer which will ensure the quality service by the health staffs. The medical assistant will be capable of operating telemedicine services with the district hospital.

Level 3(Union facility):

Existing services Level 3:

Currently not all the union level facility is constructed. Among the available one, very few facilities are functional. The functional union facilities have services like immunization, treatment of malaria, diarrhea, pneumonia and some skin disease. They

are operated by health assistant who is assigned mainly for immunization. The condition of the community clinic (CC) and sub-centers is not good for working.

Services in new model Level 3:

All union level services will be facility based. So every union will have a CC. The existing government facility will be used for services but the roles and responsibilities of the government worker will be modified. CC, union sub-center and FWC will be made functional through Health inspector and Family welfare visitor. Medical assistant and senior nurse will be supervising these facilities time to time. They will the monitor the service quality through a quality checklist in their every visit. The services include basic emergency obstetric, treatment of STDs, Immunization, FP services (clinical methods) and maternal health services. There will be some indoor facility for the delivery cases at union level. There will be a section of telemedicine at union level linked with upazila and district. Anyone can seek consultation of specialized doctors from the facility on 24 hours basis. To ensure the quality service by the CHWs there will be a weekly training session with the CHWs at this facility. The CHWs will discuss their follow up cases in this forum.

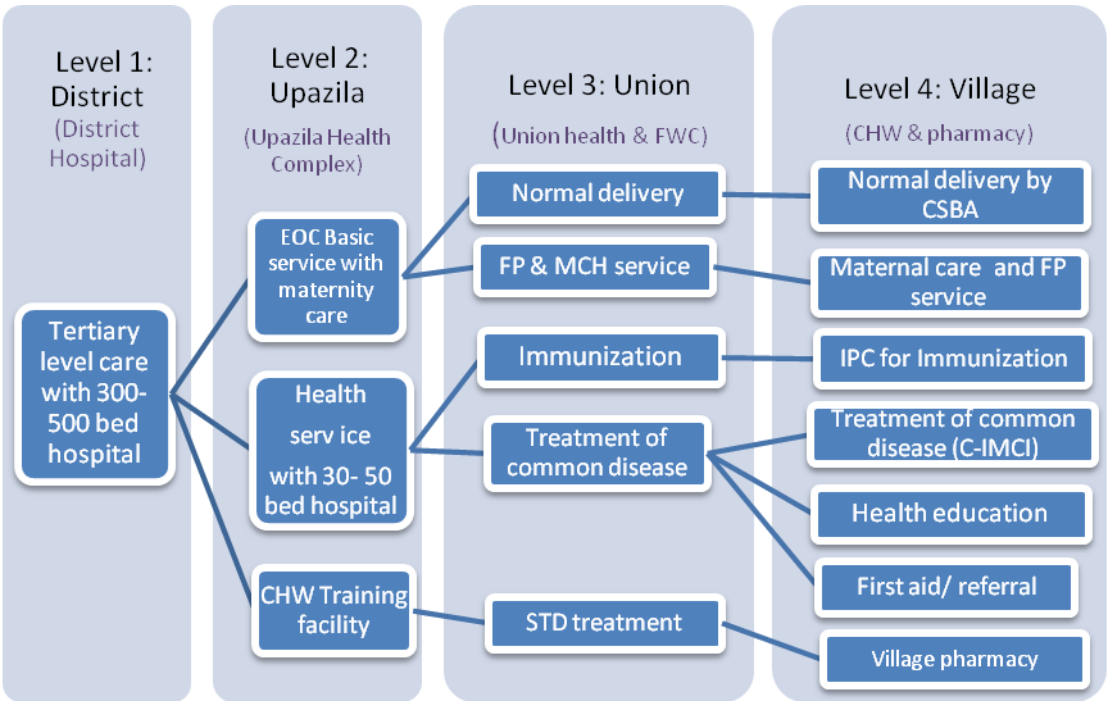


Figure 11 Services available at different level according to new model

Level 4 (CHW services at village):

Existing services Level 4:

Government Health assistants are the main service provider at outreach. As per the discussion with the key personnel at district level, it was clear that most of the health assistants were not recruited from the village where they are working. Now most of their family is living at town for better education facility and they are now working from the town and some of the staff even does not go to the field. In Bangladesh the main job description of the health assistant is immunization though they have many other things in their job description. Government has started to place health assistant at CC in some places but they need more training to treat the common diseases. Family planning wing has their FWA at the field to deliver FP methods and maternal care. They are few in numbers and its difficult to cover all the areas for them.

Services in new model Level 4:

In village level the service will be delivered by the trained community health worker (CHW) and the services include community IMCI, malaria, treatment of common disease for adult, ANC, PNC new born care, safe delivery by CSBAs, awareness building and motivational activity for immunization, sanitation and hygiene. CHW will also participate to improve the contraceptive coverage and to distribute the family planning methods at community level. The difference with other community based programme is that here most of the PHC services integrated in one package. The CHWs will be handling a wide range of disease as revealed by the FGD. More over the pharmacy at community run by a CHW will help the people to get the medicine available within reach by 24 hours. The pharmacy can be built by the contribution from the community or from the profit of village level development committee (eg; Para development committee PDC). This is important to say that the CHWs must contain the license from the civil surgeon to disburse a wide range of medicine in the village pharmacy. The CHWs will sell the medicine from their pharmacy and will reimburse the medicine from the district. Some government recommended supplied drugs will be free of cost. This will help to sustain CHWs activity. Complicated case will be referred directly to district hospital by the CHWs. The cost of referral will be provided at hospital.

Local herbal and traditional medicine will be included in the CHW training curriculum and will be prescribed by the CHWs because of cultural acceptability.

The CHW will provide health education at community level to increase the health awareness. There will be certain topics selected by the authority to conduct the health education session. Health education department will be involved in developing different IEC material for CHWs.

The CHW will be trained on first aid to provide support to minor accidents and injuries. Government health assistant will also work at village level to ensure the health services by the CHWs. They will be the first line supervisor of the CHWs. They will also provide the same services at the community while supervising the CHWs. HA's will also ensure immunization at outreach while supervising CHWs.

8.3.2 Supervision and monitoring:

Supervision and monitoring is very important component of this community based model. In the new model CHS network will be supervised and monitored by HA/FWA at very root level. FWV will provide support to the CSBAs at FWC and will regularly visit to villages. There will be regular meeting at union level with the CHWs and CSBAs.

From upazila level MA and senior nurse will be responsible for supportive supervision of union supervisor such as health inspector and assistant inspector. A public monitoring system will be introduced where the community leaders will monitor the CHWs activity and will provide feedback to their supervisor. This is very helpful method of monitoring where community people feel ownership and take the lead to make the service more effective.

Upazila health complex will be under supervision of visiting doctors (existing UH&FPO) from district. Every junior doctors working at the district hospital will be responsible to work at upazila health complex and union health facility at least for 3 months. This kind of system will help them to overcome the hardship for a long time and will help them to stay at comfortable without any intension for transfer.

HDC will also play a monitoring role over the health department locally along with their administrative role through a district medical team. The team will be consisting of 1 District Health Officer (DHO), 1 Health Management and information System Officer (HMISO), 1 Trainer and 1 Logistician. Their job responsibilities are in the annex-12. **This team will mainly support the CHWs.** HDC will assign a senior responsible district health officer in the council for regular monitoring and assist civil surgeon time to time.

83.3 Administration and finance:

Existing services:

In the existing system HDC is controlling the salary discharge at district level for all the health staffs. At district the civil surgeon process the staff salaries where as in the other district in Bangladesh, Civil Surgeon is a self drawing officer. At upazila the UH&FPO is processing the salaries. The other programme cost is adjusted directly to the MoH. All the revenue is deposited at government account in the current system. Government then allocate budget every year.

In the new model:

HDC will hold the highest administrative and financial power to execute the health programme as per law of CHT. MoH will provide technical support as per their HNPSP implementation keeping the HDC in the loop. HDC will be responsible for the maintenance of health facilities. In the district the system will remain the same.

At upazila the MA/Nurse will play the role of the UH&FPO. They will play that role because in most of the places these are the people who continuously staying at the upazila station. Upazila administration will have the authority to generate local revenue and to use the fund for hospital maintenance. They will have the plan locally for hospital development and will submit annual planning and budget for upazila health complex to HDC. The following chart show who will supervise whom and will have the authority to take necessary action against the staff (e.g.; Salary withheld, stop promotion or reward for good work)

8.3.4 Referral service

As the road communication is very bothersome, a flexible and acceptable referral system will be in place for different geographical condition. For very hard to reach areas, local transport or traditional transport system will be used. Referral cost will be provided to all the referral cases according to prefixed chart. It is interesting that, in CHT the decision making for referral is delayed mostly due to financial constrain. It was also revealed in the FGD that, some community wants only referral cost to be provided. CHWs will play a key role in identifying and promoting refers from the rural village in right time to right place. The upazila where water ways persist, fast boat will be used for patient transportation. A referral network will be developed to facilitate this activity through CHWs and boat/ambulance drivers to act promptly.

8.3.5 Strategic planning & Health management and information system

Strong HMIS will be established at all level. The CHWs will report to union supervisor and the report will be compiled by upazila statistician. Union supervisor will be introduced to computer and GIS mapping system. The data will be updated directly from upazila to central server though internet modem. The upazila statistician will be trained on GIS system and will update the health maps regularly through the union supervisor. The CHW will conduct survey at village level to get the real information of target population.

A strong database system will be developed at district level through the HMIS officer at district. He will be responsible for producing different analysis and feedback for decision making at district level. GIS will be used to assess the coverage by the health programme and to indentify the underserved areas. Health mapping will also be used in many purposes such as in recruitment and construction of health infrastructure. During local recruitment, candidates from the rural village will be given priority. During site selection of health infrastructure, GIS will be used to estimate accurately the coverage of the selected site for health facility.

Telemedicine and video conference will be in place to communicate with the upazila health complex and union level facility.

8.3.6 Logistics and equipments section

Logistic and equipment section of the existing government is very weak. The drug storage and supplies is not in harmony. Most of the time, the patient complain of unavailability of medicine at the hospital. But in reality there are huge range medicines available at hospital. This could be due to two reasons. One of the reason may be doctor do not prescribe the available medicine at hospital and the other reason could be mismanagement of the logistic department. The system will be updated and will use computer based software's for medicine and logistic information. Most of the time, the upazila team failed to collect the information of medicine available. There will be a display board which will continuously update the medicine available at the hospital, In this regard, as special monitoring team is required to observe the situation time to time and to inform the higher authority. This section is the most vulnerable towards corruption. Tracking of medicine is very important and doctors will be updated with information of available medicine at hospital and will be responsible to prescribe the available medicine at hospital. In the district team there will be a logistician who will mainly deal with the medicine and logistics of CHWs.

8.3.7 Health education

Health education department is the weakest department of district health authority. The visibility of this department is almost zero. Due to presence of different ethnic group with different culture and language, it is very difficult to provide health education using a common language. Most of the ethnic group does not understand Bengali properly. In the rural areas it is very difficult to conduct health session using modern technologies. So the CHWs will the main frontier to conduct the health education at the field level as they can speak in their local language. The CHWs will be trained on delivery of health education and they will be supplied health education material like the flip chart and posters to conduct the health education from village to village. At district the health education will be activated at district hospital.

8.4 Ensuring quality health service:

As the new model, a wide range of services will be delivered by the CHW, the quality care is very important here. To ensure the quality, there will be two teams. One team

will be responsible to provide the training and the other team will follow up and monitor the CHW's activities in the field. They will regularly send feedback from the field to the training section. Each CHW will receive a 3 months residential basic training after joining and after the training they will receive the logistics to work in the field. Every 6 month they will have a refresher at sub-district level. They will send report to their supervisor monthly basis and will requisite their medicine and logistics on monthly basis. Their supervisor will compile the data and will send it to the higher level.

During supervisor's field visit, they will fill a CHW quality checklist to check the knowledge of the CHWs and will monitor the quality of services provided. They will also follow up the patients seen by the CHWs in the field. Every month they will give their feedback to the CHWs.

Every year, the HMIS and strategic planning team will conduct a patient's satisfaction survey to assess the satisfaction level at the community. This information will help to plan for the next year. They will also conduct the exit interview at the facility to know the level of quality service and the satisfaction of the beneficiaries of the health facilities.

The quality of the health facilities will be assessed by the visiting doctors and district monitoring team.

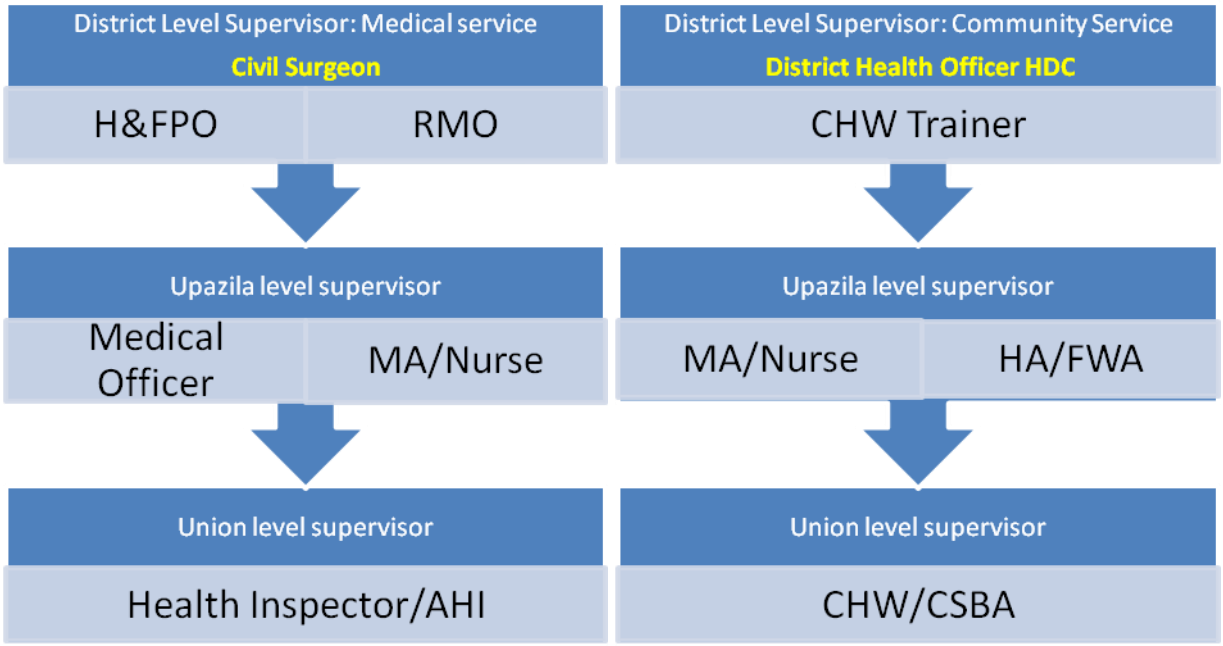


Figure 12 Who supervise whom

8.5 Distribution and selection of CHWs:

Each upazila will get certain number of CHW according to population and geographical condition. There will be 60-80 CHWs on average in every upazila and the number is flexible according to population and geographical condition. The CHW will serve the most remotes areas of CHT. A map of distribution of CHW is show below for example. All CHSWs will be selected from underserved areas on priority basis. Priority areas can determined by using the GIS mapping if needed for appropriate distribution and to avoid duplication of services. In CHT it is very difficult to find the village and there are no actual maps of village. UNDP has conducted a GIP survey of communities and health facilities which can be used for selection of underserved areas.

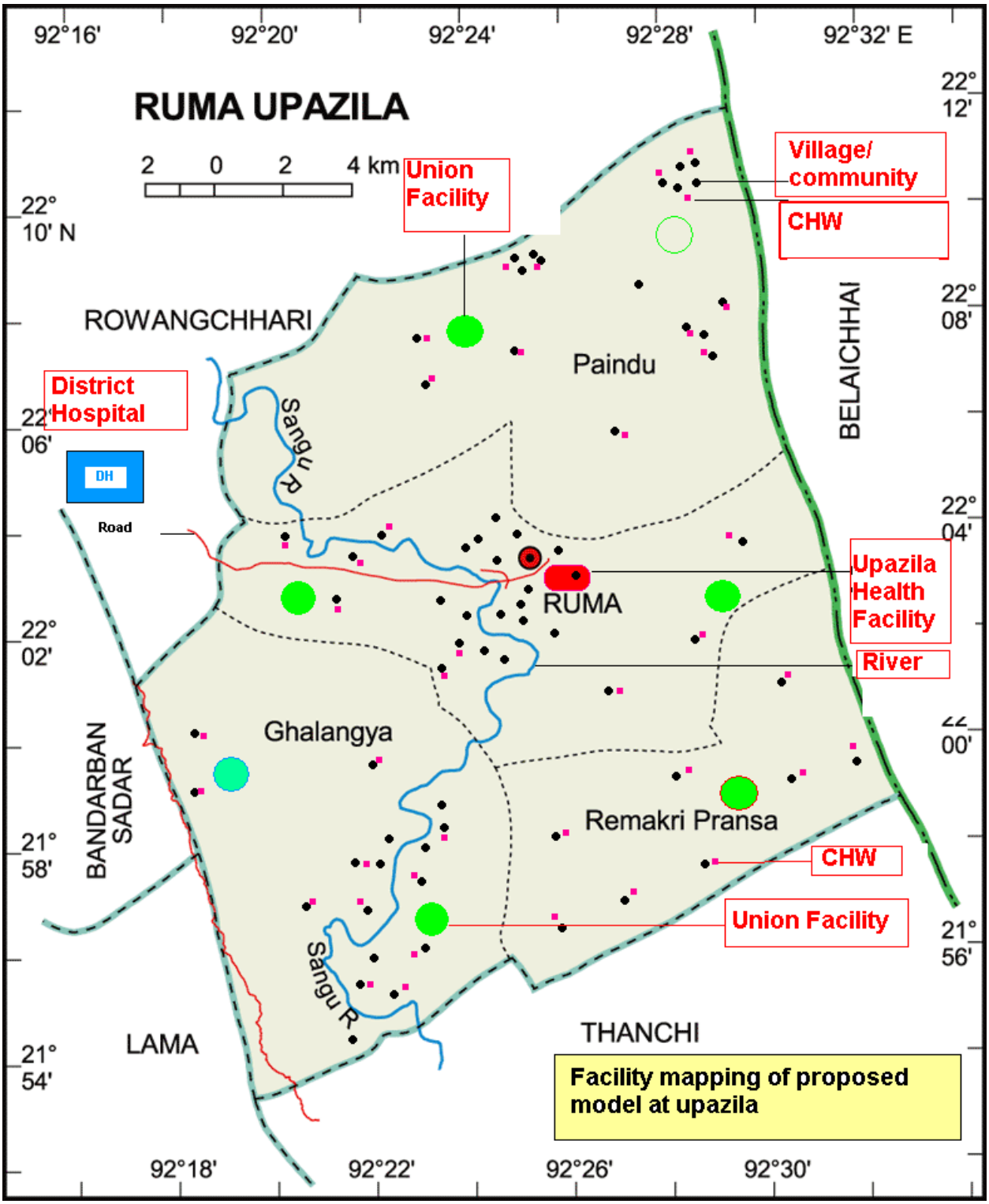


Figure 13 Map of CHW distribution

Most of the community based programme has female health worker [21]. In this programme female CHWs candidate will be preferred for training. The educational background of the CHW should be at least class ten. The criteria will be flexible for remote areas and minor ethnic groups. Married women will be preferred as they are much stable in the community. From the experience of UNDP community based model, the retention is high as their entire health worker female. The percentage of attrition depends in many factors. In Bangladesh's BRAC programme CHWs "discontinued their work due to lack of time, lack of 'profit', and family's disapproval. The effects of the dropouts were decreased achievement of targets, and a loss of money in the amount of $24 (U.S.) per dropout [CHW] for their training and supervision" (Khan et al.1998). One CHW can be assigned for more than one village if they are closely situated. The CHW will be trained for 3 month at district level before going to the field.

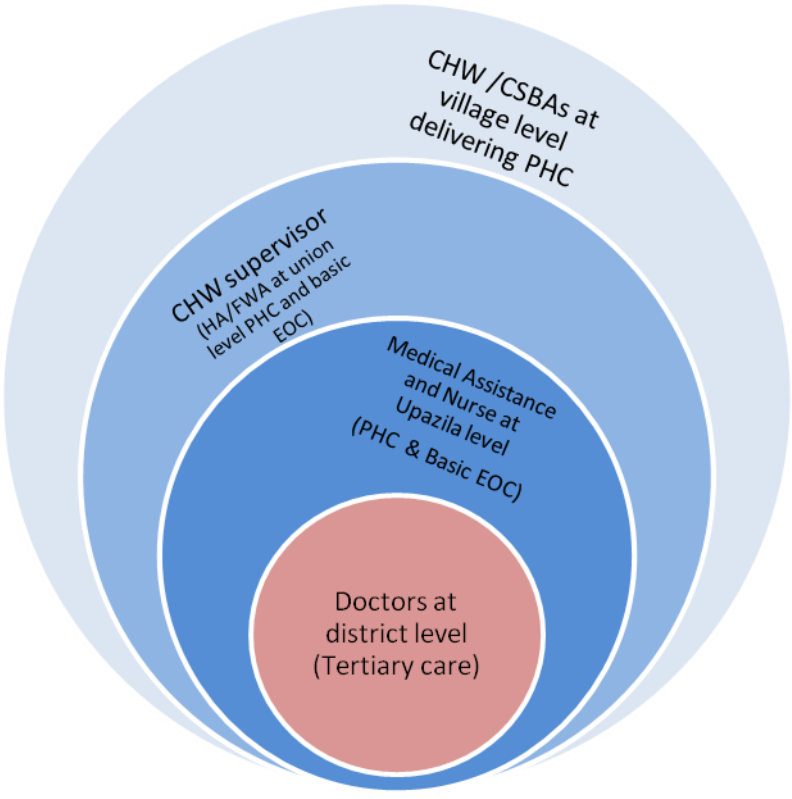


Figure 14: Different layers of proposed model with type service provider

8.6. Effectiveness of proposed model:

There are several example of successful community based programme in CHT. The secondary data analysis showed that community based model of UNDP has significant impact in the community to reduce malaria mortality and morbidity.

There was also evidence of success of community based model in the comparison of the intervention and non intervention data. Overall the entire programmes have a positive impact on the improvement of health in CHT.

The new model is a modified and more integrated of those small scales models and will have the similar effect in those communities. On the other hand, similar community based model exist in some upazila where the government needs to adopt those workers in the system with some modification of their roles and skills.

The model is culturally sensitive and there is no conflict between the traditional healers as the CHW is from the same community and represents the community. On the other side, the CHW speaks her own community language which makes her more acceptable to her community.

During the workshop, the stakeholders were very positive to community based programme as it gives access to the remotest people where there are no services. The local government also shared their interest to share as part of the cost for the programme.

UNDP and MSF piloted similar project in different areas of CHT which had a good impact. As this model is more integrated than those projects and is modified according to need and priority, this model might be successful. But there are still some pre-conditions which needed to be ensured to make this model effective. The HDC should ensure good supervision and monitoring at the field and the HMIS need to be updated. They need to provide quality training to the CHWs and they should have regular refresher training to update their knowledge.

8.7 Cost analysis of the new model:

Services provided by CHWs are expected to be more appropriate to the health needs of populations than those of clinic-based services, to be less expensive and to foster self-reliance and local participation. Furthermore, because CHWs are more accessible and acceptable to clients in their communities, they are expected to improve the overall

coverage of services as well as equity, i.e. increased service use by poorer individuals and households[25]. In short, these programmes are expected to improve the cost-effectiveness of health care systems by reaching large numbers of previously underserved people with high-impact basic services at low cost[26].

A simple cost analysis at upazila staff level showed that the existing cost is lower than the cost of the proposed model. As the new model mainly involve huge CHWs at field level, so the major cost will be involved in the salary of the staffs. The existing model is heavily staff with technical staff and their salary is high though they do not stay at the upazila level. In the new model it is staffs with field level worker whom salary is low but covers most of the village with basic health service. The salary scale of the upazila technical staff was collected and compared with the new proposed model. It shows 7% reduction of the cost at upazila staffs level. (See annex: 5)

In the new model, the existing resource will be utilized properly as the system will have good information available with the manager to act accordingly.

8.8. Sustainability of the model:

This model is cost-effective if we compare the salary of CHW with the existing salary of government at the same level. Moreover highly qualified doctor is not required beyond district level. The number of vacant position will be much lower than the current situation because during recruitment of CHW, candidates from village of residence will be preferred and there will be no transfer of staff beyond union level.

8.8.1 Health services by community people:

As CHT is culturally different than any other part of Bangladesh, the community based services by the local people will be much appreciable and culturally acceptable here. Traditional and indigenous practice system will be strengthened through CHWs along with the modern medicine. While meeting with the CHWs of HDC, they said they can manage themselves if the project phase out because now they know about many disease and can earn money if needed. This statement means that they have high confidence and they already sustained in the community. Some of the CHWs also mentioned that they could get higher salaried job if the project phase out.

8.8.2 Community demand:

Different health programme in CHT has already showed a very good result to achieve MDG in health and the health awareness has been changed as per different studies conducted by NGO and UN. The community voice has raised and there is a strong demand for health services from the community leaders and inhabitants. Different health programme has trained thousands of CHWs in the field and the community people have got direct benefit from the programme. So while talking with the community group, there was a sense of high demand of health service among all the community. There are several community groups or committees has been formed to increase support from the local level and in some places the contribution from the local committee was tremendous and they really interested to provide more support for health programme. One of the satellite clinics was visited during the study period and there was a discussion with the satellite clinic management committee. The committee seemed well motivated and they have donated the land to build a big structure for the clinic. They used local recourses and labor from the community to support the clinic.

8.8.3 Community leadership:

The community people should involve during the planning process of all the programme. They should take active participation to support the health programme implementation. We met with the members of satellite clinic management committee at Tabalchari union of Matiranga and we observed many community contributions to build and to manage mobile clinic in their community. It was a good example of community leadership to manage health programme. They have been trained on gender, financial management and also in leadership skill by UNDP. On the other hand the government CC has also a committee to manage the CC. But the committee is not functioning due to lack of support and training from the government. So community leadership really can effective to keep functional of health facility in the root level.

8.8.4 Linkage:

The linkage between the communities, the health care system and the local government will be established and formalized. This will enable the communities to influence the decision making and health budget allocation process.

8.8.5 Involvement of community leaders:

Local leaders and community people will be invited during planning and decision making process. This will also increase the ownership of community based programme. This will also ensure the cultural friendly facility and decision according to community demand.

8.8.6 CHW self sustainability:

In the new model CHW will also operate a village pharmacy which is a small enterprise business and will encourage CHW to work. Though pharmacy is the most demanding service in community, but it can be a good point of information and decision making point for the community people. The CHWs can take minimum charges from the patient for health check up and they can also sale the medicine with minimum profit. The government approved free medicine will be available in this pharmacy.

8.9. Risk assumption:

CHWs are not a panacea for weak health systems and will require focused tasks, adequate remuneration, training, supervision, and the active involvement of the communities in which they work. As the government system of CHT is not such strong compared to other districts of Bangladesh, the proposed may not be a successful project as expected. The introduction of large-scale CHW programmes requires research to document the impact on child survival and cost effectiveness as well as to elucidate factors associated with success and sustainability

The government of Bangladesh is very positive to improve health condition and to reach the MDG targets by 2015. The political situation is very much instable in Bangladesh. Every five years, the governments changes and ignore the previous government commitment and make new strategies and policies for next five year. This kind of situation may hamper this programme badly. The new government might not accept the proposal as it was accepted by the previous government.

The central government might not approve this fund as they have to transfer this money from one ministry to another ministry. Usually one ministry cannot transfer money to

other ministry. As the programme will be implemented by the HDC and this is a additional fund placement to HDC, the central government might not approve this project design.

In CHT, dual administration always confuses the general people. As the doctor coming from the not CHT district in not familiar to the system and need some time to understand the situation. The civil surgeon is under HDC and he also receives direct orders from the MoH sometimes which increase the fiction between two authorities.

8.10 Plan of execution/ programme implementation:

UNDP is continuing a large programme in 15 upazila of CHT out of 25 upazila through HDC. The project is in a phase out stage. The HDC is planning to continue this project as it was the most successful among other health projects. So HDC is planning to submit a proposal to MoH&FW for fund. As this model has been shared with the HDC and they also agreed to submit this proposal as the new proposed model is a bit similar with their existing health project of HDC funded through UNDP. This proposed model will be submitted by the HDC to the MoH&FW to include in the next HPNSDP. The project will be implemented by HDC through Civil surgeon. The funding through government is possible though it depends on the strong lobbing from HDC through MoCHTA and influential CHT leaders.

9. Limitation of the study

One of the limitations of the study was language barrier while conducting FGD. It was very difficult for the author to interact with the community people all though a translator was involved. More over the literacy level of the people was too low in the community where they even unaware of the modern technology in health. So their expectation was very low to improve their health status. Moreover every village in CHT is under leadership of a karbari or headman. They are very influential and sometime the other community people who participated in the FDG hesitated to share their opinion. The author tried to minimize those issues through proper facilitation and giving more floors to the woman groups. During evaluation of different programme, the author faced difficulties to know the real fact of some of the major programmes. Some programme

was suspected that the result has been modified for the project continuation. The most difficult part of the study was to design a new model to cover all the health need in the community. It is very difficult to design a community based health model in such a conflict zone with dual administration. The author tried keep the existing model with some modification of role of service provider. It would be nice if we could pilot this model in one of the sub districts to see the result before expansion.

10. Implication of the study

This study has revealed the factors that influence of community based health programme in CHT which will help the future investor in health programme designing. The results from the FGD can be used to set goal for community based health programme and also to focus on service delivery for a health facility.

The study has also showed the best practices of the existing programme which has impact in disease reduction and to improve the overall health situation. This is the evidence that community based programme is effective is certain geographical condition.

The proposed model will help the government and the implementer to think in a new way which may eventually come out with great success. The study also revealed the cause of less interest of the health service provider which is very important to for future planning and support. The study also revealed the gaps in the government service.

The study has showed the factors influencing the administration to implementation PHC in CHT. The study also revealed the areas of improvement in delivering health services. The study also revealed that the improvement in health also depend on the development of roads and communication. So roads and highway department of government should be involved in the planning process of health.

11. Conclusion:

CHT is a very vulnerable place for any disease outbreak and due to weak MIS the real situation is not visible. The study has been able to discover the basic health need of people of CHT and the bottle neck of implementing primary health care. FGD has revealed lot of interesting thing for CHT. The services provided by the government partially met the health need of the community. They need more comprehensive and integrated services and also culturally issues are important in this regard. People residing in the community need pharmacy which the governments even never think off. This is one of the reason why the facility is always been underutilization. Only during the emergency the people prefer hospital, but the facility does not have the required services. The field workers of government provide basically immunization and little treatment of common diseases which need to be revised. The community need is more than the service available. Improvement of services and facility is not sufficient to improve the health situation here. It also depends on improvement of road communication system. Mostly the planning meeting held at national level and never considers this area as an area of conflict with difficult geographical condition. Even while planning, the existing rules and condition is not followed properly. During allocation of fund, CHT receive the same amount budgeted for the not CHT districts. As government is trying to develop a good referral system, they need to review the plan again. Community people do not want to be referred due to their financial crisis. So they need more facility along with better service to change their mind to move towards facility. The health department also needs to talk with the roads and highway authority to motivate and work in a coordinated way. This will help the health sector to select and plan for facility construction. The study has evaluated major health programmes of the CHT to design an integrated model for CHT. CHT need a very comprehensive and integrated model to improve the health situation. During the workshop the design was partly shared and was appreciated by the participants. After the completion of the study, the proposed model will be submitted to HDC and they agreed to consider the proposal for implementation in CHT.

Acknowledgement:

Though several persons I met during the course of this research that had vital roles in its completion, I apologize for my poor memory to recall all those names. Nevertheless, there are names that cannot be forgotten. These are the names that will always be attached to this research no matter how it is evaluated.

First I would like to thank all the people I met during the conduction of FGD in very remote places of CHT. Sometimes it took me to walk for 6 hours on foot to reach the village. The Headman and Karbaries were very cordial and gave us their valuable time for FGD. I would like to thanks my research assistant and all the supervisor of HDC who help me to find out the way to unknown village and conducted FGDs.

I would like to thank all the Chairman of HDC to give me the chance to conduct the study in their territory and helped me with lot of information through District Medical Officer, HMIS officers and CHSW supervisors of HDC. I am also grateful to three civil surgeons with whom I worked very closely and got almost all the data for analysis. They were very supportive and gave me good suggestion for the study time to time.

My deep sense of gratefulness to Mr. Pierre Claquin for his technical inputs. His comments really inspirited me to go more deeply in the research.

Special thanks to Dr. Rabiul and Dr. Shaheen for their data support from UNDP. I am very grateful to Mr. Ashraf, Statistician, CS office Bandarban who gave me time for data available in the office.

Finally I would like to thank Swiss Tropical and Public Health Institute and my tutor Ms. Bernadette Peterhans for her continuous direction to make the work commendable and successful. I would also like give thanks to Swiss Development Corporation (SDC) for the scholarship and to give me this fantastic opportunity to complete my MIH. I will try my best to bring all success to my work for developing country.

Ethical consideration:

In CHT all the departments are transferred to HDC and it is the highest authority to implement and monitor of any development work. The author has collected a clearance from the local government to conduct this study. Though this is a descriptive study,

during FGD the informed consent of the group was taken and they signed in the document. The purpose of the study was described before starting the FGD.

All the data of morbidity and mortality was collected from the government office and the programme manager of different programmes. During interviews of the key personnel and programme manager, a verbal consent was ensured after describing the objective of the interview for the study.

Annexes:

1. FDG questionnaire:

Questionnaire for FGD

1. What are the health problems in your community/Para?

আপনাদের পাড়ায় কি কি স্বাস্থ্য সমস্যা আছে?

2. What you do when you get sick?

অসুস্থ হলে আপনারা কি করেন?

3. Do you have any health facility in or near your community?

আপনাদের পাড়ায় কি কি স্বাস্থ্য ব্যবস্থা আছে?

4. If "No", what kind of service you prefer?

যদি "না" হয় তাহলে আর কি ধরনের সুবিধা হলে ভালো হতো?

5. If "Yes" what else you advise to improve the service?

যদি "হ্যা" হয় তাহলে আর কি সুবিধা আপনারা চান?

6. What you do when you have any health emergency (Fracture, obstructed labour etc) in your community?

মারাত্মক বা জরুরী স্বাস্থ্য সমস্যা /অসুস্থ(হাঁড় ভাঙ্গা, জরুরী প্রসূতি) হলে কি করেন?

7. What you suggest to improve the emergency service?

জরুরী স্বাস্থ্য সেবার উন্নতি করতে হলে কি করা উচিত?

2. List of diseases and symptom listed as health need at community

Majority FGD revealed (at least 3 FGD)	Few FGD revealed (<3 FGD)
Diarrhea/Dysentery	Eye disease
Malaria	Loss of appetite
Fever	Weakness
ARI	Diabetes
Gastric pain	Dental problem
Headache & vertigo	Vomiting
Jaundice	Delivery related problems
Female problems	Anemia
Pain	Typhoid
Skin disease	Leg edema
	Asthma
	Unknown disease

3. Strength and weakness of major health intervention

Name and place of programme	***Strength***	***Weakness***
UNDP Health Programme Barkal	Providing primary health care services emphasis on treatment of malaria, diarrhea, ARI and maternal health service through satellite clinics and female CHSWs. Provide free medicine to the patients. Investigation facility of malaria parasite, urine albumin, sugar and R/E. Capability exists for determination of Blood sugar. Good community participation such as they provide infrastructure for the clinic and work as volunteer in the clinic day. There is also clinic management committee in every node.	Satellite clinic provide their services only once a week in 5 different places of the intervention upazila. Now satellite clinics are running in only 15 Upazila out of 25 upazila (coverage 60%) No test available for TB. Previously it was done as there is no facilities for TB treatment and other primary investigations are limited. CHSWs do not take part in DOTs fully. CHSWs are not trained in the risk factors of non communicable diseases and training on emergency case management is not sufficient.

Name and place of programme	*Strength*	*Weakness*
	Introducing a group of Community Health Service Worker (CHSW) who received 2 months training on health and nutrition. There are 50-70 CHSW who cover the whole Upazila except Sadar which is near upazila headquarter. Selection of CHSW from community ensuring 24 hour's service. CHSWs are seemed quite committed to serve in their assigned area of working even walk for 1 hour to cover the catchments area. CHSWs are willing to get more training on maternal and child health care (Safe delivery, newborn care etc.) According to the statement of the local community people there is drastic reduction of mortality and morbidity due to malaria due to UNDP intervention. CHSWs are able to diagnose malaria by Rapid Diagnostic Test (RDT) in the field level. Willingness of the community people to pay for services as they pay 5 Taka/patient to get the satellite clinic services and there is no hesitation to pay but they are ready to pay for good health services. Good collaboration with GoB such as vaccination programme is done once a month in the satellite clinic by Health Assistant (HA) of respective Upazila Health Complex, HA and Family Welfare Assistant of GoB attend the satellite clinic to provide contraceptive methods CHSW provide health education in the	Patients load at some clinic is high; so many patients are not getting quality treatment. All care seekers are sent to doctors who may be in efficient in some cases and he has to take huge load by which quality may be fallen down. Lack of safe water supply for drinking at the clinic. Satellite clinic activity is very expensive to run. Number of CHSWs is not sufficient to cover the whole area. Waiting space for patient is not adequate at clinic. No Family Planning services are provided, limited service provided with collaboration of GOB field worker Insufficient collaboration with other UN organization (UNICEF, UNFPA, WFP, WHO) and other national organization (BRAC). No nutritional intervention by SC and CHSW. Only health education is provided. Difficult to find candidate from remote areas for training for CHSWs. In some areas the recruitment is influenced by local leaders. Area selection for CHSW can be biased by the selection committee. Low salary according to job responsibility. Treatments in options are limited. Monitoring supervision of CHSW is

Name and place of programme	*Strength*	*Weakness*
	village on 21 topics through flip chart. Good referral protocol for emergency patients	difficult in some areas.
BRAC Health Programme Rajasthali	Providing Health services through Shasta Kormi (SK) and Shasta Sebeka (SS) in the community level Provide TB treatment through government facility. Provide DOTs through SK. Identify suspected TB cases at the field and send to referral facility for sputum test. Diagnose and treat Malaria case through RDT in the field. Distribute Long lasting mosquito nets in the field. Provide health education on Water Sanitation and Hygiene. Support GoB laboratory once a week Provide health education through role play and cultural groups.	SK and SS sell their services at fixed rate. Target based health activity where it is difficult to achieve the target. No collaboration with UN agencies or other organizations. Investigation facilities are limited. Training of Laboratory technician, SK and SS seemed to be in adequate (7-15 days training) Lack of nutritional intervention. Huge staff turnover due to poor salary scale and lack of staff motivation.
MSF Health programme Baghaihat, Baghaichari	Provide 1 standing clinic which provides round the clock service and 7 outpost clinics in 1 Union which provide services twice weekly. Direct nutritional intervention services. But also provide primary health care services in general. Providing good nutritional supplement with useful growth monitoring. Human resources (3 Doctors, 7 Nurses. 2 Medical Assistant, and 2 Laboratory Technician etc.) are satisfactory to provide services in standing clinic. Ambulatory Therapeutic Feeding Centre (ATFC) for children of severe malnutrition consisting 6 beds for indoor treatment. There are 34 field workers trained in FWVTI which is considered as very useful.	Only nutritional intervention services Outposts provide only 2 days service in a week. No Family Planning service is provided but FP is strongly related to the nutrition of both mother and child. There is no nutritional education session in the community level to improve the knowledge level and remove the traditional belief about nutrition. Only measles vaccine is given to the children. No separate breast feeding corner No liaison with GoB and other agencies

Name and place of programme	***Strength***	***Weakness***
UNICEF Para centre, Komlac, Sajek, Baghaichari	Para centers are very effective for early childhood development and education. Para workers are well trained in health education. Provide health education with personal hygiene improvement to children. Nutritional supplement (Biscuit) is provided to the children in some Para centers. Para worker arrange meeting at household level to provide information about health, nutrition and education. Update data of health population and nutrition and BCC materials are displayed in Para centers. Strong collaboration with GoB and WFP is maintained as implementation of project through ICDP of CHTDB and Biscuit is provided by WFP. Well-arranged and attractive infrastructure present. Attendance of children in the centers is satisfactory. Ensure immunization of mother and child through registration and motivational work.	Para workers are not trained in primary health care and no refresher training is provided. Centers are used only for preschool nutrition supplement and education programme. No health service is provided from the centers. Biscuits are not provided in all Para centers. Short training for the Para workers.
MCWC Khagrachari	Situated at the centre of the district town easy communication with upazila. Providing maternal (Safe motherhood) and under 5 child care services and Treatment is free of cost Good infrastructures having 10 beds with outdoor, indoor and emergency services Provide Family Planning services both permanent and temporary methods with necessary counseling. Ambulance are available for transport of patients in emergency cases Hospital compound is neat and clean. Attendance of the staff is satisfactory Reporting and recording system is satisfactory. Own generator facility	Ultra sonogram machine is not being used for the last 4 years due to lack of trained person. Medicine supply is not sufficient through the whole year. Lack of medical personnel trained in neonatology to treat the complicated cases. 20 beds are proposed but only 10 beds are functional. Difficulties in maintaining round the clock services by 2 doctors only.

Name and place of programme	*Strength*	*Weakness*
Government HNPSP at Baghaichari upazila	Good health infrastructure except very few upazila Health worker offer immunization and treatment of fever, malaria only. Health assistant up to ward level. Free medicine for patient. Negligible user fee for the hospital patients. Indoor and outdoor service 24X7 EPI coverage is good in every district. Only few selected facility have the option for EmOC services	Lack of maintenance of health facility No clear job responsibility and job satisfaction Chronic absenteeism of staff The programme design is not culturally sensitive. In sufficient staff for hard to reach areas. Poor hardship allowance for the staff Weak administration Weak monitoring and no strong administrative rules. Poor documentation Non function EmOC in most of the upazila
District Hospital Rangamati	Secondary Hospital provide Outdoor, Indoor and Emergency services Normal delivery and EmOC services are available. Facility for cervical and breast cancer screening by VIA test Death due to malaria is gradually decreasing DH has upgraded to 100 beds Screening test available for blood transfusion.	No blood bank facility Shortage of human resources specially doctors and nurse for better services. Bed occupancy rate in Rangamati is not satisfactory Lack of accommodation for doctors and other staffs No ultra sonogram facility. No facility for screening for HIV/AIDS No fulltime supervisor available Modern diagnostic facility and round the clock pathological service is absent. Pediatric consultant is absent in Both DH and MCWC are in the same premises.

4. Opportunity and threats of major health intervention

Name and place of programme	**Opportunity**	**Threats**
UNDP health programme	As UNDP is implementing health programme with the local government, it will be easy for the programme to sustain the CHSW merging with government health programme. Local government is highly interested to expand the	Shortage of fund from UNDP Lack of interest of local government to continue in future if fund withdrawn. Lack of capacity to ensure the quality service by CHSWs and Mobile clinic Very costly programme

Name and place of programme	Opportunity	Threats
	programme and continue for long term. The beneficiaries are satisfied with the services at the community level. As government is recruiting community based worker, the CHSW can be absorbed. Enable HDC to take the leadership in health programme implementation.	Political instability and undue pressure during CHSW recruitment. Communal conflict Security threats to work in remote areas Lack of monitoring capacity of local government. Incapability to manage the huge fund. Corruption in local government.
MSF health programme	Involvement of local people for the service. Utilization of government facility through renovation and construction.	Works only in crisis period. Short term programme High cost and less coordination with government Abduction of staff
BRAC health programme	The intervention of the CHWs could be integrated Low cost health workers and converge could be expanded. Good funding source Large network of CHWs	Lack of quality service Frequent staff turn over Lack of monitoring Target oriented activity which may lead to over reporting
UNICEF Para center	More services by Para worker can be included. Could cover health service with education. Vitamin and folic acid supplementation ,for pregnant woman Nutrition support for pre-school children Ensure immunization in the community	Increased staff turn over Lack of maintenance of Para centers Lack of proper supervision Lack of knowledge of health education. Lack of interest to work with low salary
Government HNPSP at Baghaichari upazila	Can utilize the donors to improve the structures of facility. UN agencies' technical expert can provide support to the government staffs Monitoring can be strengthened utilizing resources form donor agencies.	Natural disaster can badly affect the infrastructures Undue political pressure on staff transferring.
MCWC	The MCWC can be upgraded to 50-	Frequent transfer of staff may lead to

Name and place of programme	Opportunity	Threats
Khagrachari	100 bed hospital as the services directly linked with maternal mortality. Could be used for training of CHWs	under. Unavailability of staff to use hi-tech machineries like ultra-sonogram. Infection control in the word due to poor maintenance.
District Hospital Rangamati	Donor agencies can be used to renovate and improve a good HMIS database for hospital. Donors can be use to increase the capacity of staffs in hospital management. Could use existing equipments and logistics properly.	Lack of maintenance of valuable instruments Political pressure to release staff from HDCs. Mismanagement due to lack of capacity.

5. Cost Analysis of upazila health staffs

Technical staffs at upazila in existing model	Salary per month of the staffs	Technical staff at upazila in the proposed model	Salary of the staff per month
1 UH&FPO	24000	3 Medical Assistant	21000
9 Medical Officer	180000	4 Nurse	32000
1 UFPO	20000	4 ward boy	20000
3 Medical Assistant	21000	4 HI	28000
4 Nurse	32000	2 AHI	14000
4 ward boy	20000	12 HA	72000
4 HI	28000	3 FWV	21000
2 AHI	14000	6 FWA	36000
12 HA	72000	60 CHW	180000
3 FWV	21000	4 CSBA	12000
6 FWA	36000		
	468000		**436000**

7% less than existing cost

6. List of Para's where FGD was conducted:						
Date	**Name of Para**	**Union**	**Upazila**	**Ethnic group**	**Participants**	**Location of Para**
18.07.10	Notun Para	Paindu	Ruma	Tanchayanga	13	5.5 hours from upazila on foot
26.07.10	Tindu Bazar Para	Tindu	Ruma	Bawm	15	3 hours from upazila
27.07.10	Bayddo Para	Barmchhari	Lakshmichhari	Chakma & Marma	21	5 hour from upazila on foot
02.08.10	Ghat Ghar Para	Kayangghat	Mahalchhari	Tripura	19	1 hours from upazila
04.08.10	MItinggach chara para	Shublong	Barkal	Chakma	14	1 hours from upazila
08.08.10	Nurul Islam Para	Gumti	Matiranga	Bengali	18	1 hours from upazila
09.08.10	Kanglak para	Sajek	Baghaichhari	Lusai & Pankhua	24	5 hour from upazila on foot
12.08.10	Sisongk Murong Karbari Para	Chokhyong	Alikadam	Murong	12	1 hours from upazila
16.08.10	Nuya Para	Tarachha	Rowanchhari	Marma	14	5 hour from upazila on foot
16.08.10	Ong Hla Marma Para	Rupshipara	Lama	Khyang & Marma	18	0.5 hours from upazila
22.08.10	Loha Para	Remakri Pransa	Thanchi	Khumi	13	5 hour from upazila on foot
22.08.10	Thuwong Para	Remakri	Thanchi	Tripura	11	5 hour from upazila on foot

7. Comparison of National Health Indicators & CHT Indicators against MDGs

Indicators	CHT	National	Data Source
MDG 1: Eradicate Extreme Poverty and Hunger			
Nutrition: Underweight Stunting Wasting	42% 34% 7%	47.5% 39.0% 11.6%	**HKI/IPHN, 2007**
Household food security: Daily consumption per capita	Data unavailable Data unavailable	2,077 kcal 2,090 kcal (rural but not CHT data)	**CMNS,2005**
Homestead vegetable garden		47.2%	**CMNS, 2005**
MDG 3: Promote Gender Equality and Empower Women			
Women married before their 18th birthday	52.8%	74%	**MICS,2006**
MDG 4 & 5: Reduce Child Mortality & Improve Maternal Health			
Maternal mortality	4.71/1000 Source: UNFPA	3.37/1000 Source: BBS	**BBS, 2006** **UNFPA**
Infant mortality	51/1000	49/1000	**MICS, 2009**
Total Fertility rate (15-49)	2.33 children	2.41 children	**BBS, 2006**
Life expectancy at birth		65.4 years	**BBS, 2006**
MDG 4 & 5: Reduce Child Mortality & Improve Maternal Health			
Contraceptive prevalence rate	53.3%	58.3%	**BBS, 2006**
Antenatal care visit (at least one)	32.7%	47.6%	**BMMS, 2001**
Delivery assistance by medically trained personnel	10%	26%	**MICS, 2009** **MTR(HNPSP)**
Any post natal care received for mother	9.8%	16.1%	**BMMS, 2001**
Valid fully immunization coverage	51%	71%	**CES, 2006**

Indicators	CHT	National	Data Source
by age 12 months			**UNDP 2010**
Valid measles vaccine coverage	64%	87%	**CES, 2006** **UNDP 2010**
Valid TT coverage among women age 15-49	18.9%	18.9%	**CES, 2006**
Vit A supplementation among Postpartum women	39%	29%	**CES, 2006**
Vit A coverage infants 9-11 months	76%	73%	**CES, 2006**
Antihelminthic (de-worming) coverage children 24-59 months	82%	88%	**CES, 2006**
Anaemia prevalence (6-59 months)	62%	49%	**UNICEF**
Anaemia Prevalence (13-19 years)	43%	28%	**UNICEF**
Percentage of infants under 6 months of age exclusively breastfed	49.1%	37.4%	**MICS,2006**
MDG 6: Combat HIV/AIDS, Malaria and other diseases			
Percentage aware of/heard of AIDS	46.6%	65.1%	**MICS, 2006**
Percentage of women has comprehensive knowledge of HIV/AIDS transmission	13.0%	14.3%	**MICS, 2006**
MDG 7: Ensure Environmental Sustainability			
Percentage of household use improved water source	78.6%	97.6%	**MICS,2006**
Sanitary latrine facility	39.38%	55%	**BBS,2006**

Sources:

BBS (Bangladesh Bureau of Statistics)

UNICEF

UNFPA

BMMS (Bangladesh Maternal Health Services and Maternal Mortality Survey)

MICS (Bangladesh Multiple Indicator Cluster Survey)

CES (Bangladesh EPI Coverage Evaluation Survey)

CMNS (Child & Mother Nutrition Survey of Bangladesh)

8. Government Health Facilities in the CHT

District	DH	MCWC	UHC	UH & FWC	RHC	RD	CC/CHC
Rangamati	1	1	10	37	1	12	54
Khagrachari	1	1	8	22	1	11	49
Bandarban	1	1	7	22		1	29
Total	**3**	**3**	**25**	**81**	**2**	**24**	**132**

Source: CS and DDFP offices of respective districts, June 2010

9. Government Health Staff in the CHT

Government Health Staff in the CHT	Sanctioned Posts	Posts with Staff Recruited	% Posts with No Staff Recruited
Doctors	410	117	**71%**
Nurses	337	259	**23%**
HA	533	509	**5%**
FWA	383	333	**13%**

Source: CS & DDFP offices of respective districts, June 2010

10. Summary of Community-based Interventions in the CHT

Community Health Worker	Intervention Area	Intervention Type
HA	▪ Disease and Disease Control ▪ Mother & Child Health ▪ Education & Promotion ▪ Arseconisis identification and referral	Preventive
FWA/FWV	▪ Reproductive Health & FP ▪ HIV/AIDS ▪ Education & Promotion	Preventive
CHSW	▪ Disease and Disease Control ▪ Mother & Child Health ▪ Education & Promotion	Preventive Curative
Para Worker	▪ Disease and Disease Control ▪ Nutrition ▪ Water, Sanitation and Hygiene ▪ Mother & Child Health ▪ Education & Promotion	Preventive

Source: UN Inter Agency in Bangladesh – September 2008

11. List of participants [Partial]: Bandarban Health Workshop, December 7, 2010

Category	Name	Designation/Institution
Chief Guest	Bir Bahadur	MP and Chairman, CHT Development Board
Hill District Council	Kyaw Shwe Hla	Chairman, Bandarban HDC
	Dipak Chakraborty	CEO, Rangamati HDC
	Arunendu Tripura	PRO, Rangamati HDC
	Tarun Kanti Ghosh	CEO, Khagrachari HDC
	Shanumong Marma	Councilor, KHDC
	Md. Abdur Rahman Tarafder	Executive Officer, KHDC
	Mr. Shanumong Marma	Councilor, KHDC
	Mr. Aung Sui Prue Chowdhury	Councilor, RHDC
	Prasanna Kanti Tanchangya	Councilor, BHDC
	Dr. U Maung Prue	DMO, RHDC
CHTRC	Mr. Sadhuram Tripura	Member, CHT Regional Council
Upazila Council	Aung Thowai Ching Marma	Upazila Chairman, Ruma

GOB Health Officials	Dr. Uday Shankar Dewan	DCS, Rangamati
	Dr. Nikhil Chandra Barua	DDFP, Rangamati
	Mr. Biplab Barua	DDFP (In charge), Khagrachari
	Dr. Md. Shafi Uddin	PM IST, DGHS
	Dr. Sarfaraj	Civil Surgeon, Bandarban
	Dr. U Khey Win	DDFP, Bandarban
UNICEF	Dr. U Ba Swee	Coordinator, CHT
NGO	Gabriel Tripura	ED, Toymu
	Zirkung Shahu	ADP Manager, World Vision
	Karen Kofsem	Project Coordinator, MSF Holland
	Hla Ching Nue	ED, BNKS
	AKM Shahiduzzaman	Regional Health Coordinator, BRAC
	Dr. M. Stephen Chowdhury	Medical Director, Christian Hospital, Chandraghona
CHSW	Madhu Lata Tanchangya	CHSW
Satellite Clinic Mgmt. Committee.	Sang Nuam Bawm	General Secretary
UNDP	Patrick Sweeting	Project Director
	Khushiray Tripura	District Manager, Bandarban
	Pierre Claquin	Technical Specialist-Health
	Dr Rabiul Alam	Cluster Leader, Health
Facilitator	Dr. A.S.M. Sayem	District Health Facilitator

12. Job description of new post

Job description of District Health Officer

1. Supervision and monitoring of CHWs and their supervisor
2. Ensure logistics and medicine to CHWs
3. Analyze and timely feedback of the report of CHWs
4. Coordinate NGO and INGOs to implement programmes
5. To provide technical, strategic and administrative support and supervision to the Civil Surgeon CHW Supervisors, CHW Trainers & CHWs, Logistician, HMIS Officer at district, upazila and community level.
6. To maintain close communication and collaboration with the MOHFW official at district & Upazila level.

7. To liaise with the CHT and GoB institutions, NGOs & all other relevant Stakeholders on a regular basis on the planning, implementation, documentation, monitoring and evaluation of all health activities at the district
8. To prepare work-plan, budget for the health programme
9. To prepare monthly, quarterly and annual progress reports
10. To undertake any other assignment given by the HDC Management
11. Reports to the Civil Surgeon or any other official as designated by HDC

Job description of CHW Trainer

1. Help develop programme and materials for the training course of CHWs at district and upazila levels.
2. Help review the teaching aids currently used for the training of CHWs for their pedagogic value and cultural appropriateness.
3. Help organize the availability of a comprehensive set of adequate teaching aids for the training of CHWs
4. Organize, supervise and evaluate the training of successive batches of CHWs in different locations.
5. Feedback lessons learned into revised training materials/approaches.
6. Assess the needs for, and organize, refresher courses for CHWs according to the expansion and changing needs of the programme
7. In close collaboration with CHW Supervisors and other relevant staff, contribute to development of, and help implement, a strategy to provide on the job training and coaching to CHWs.
8. Liaise with the Civil Surgeon's Office and other relevant government and non-government institutions in connection to planning, implementation, documentation, monitoring and evaluation of all training activities at the district and upazila levels.
9. Prepare work-plan, budget for the health cluster's training programme at district level
10. Prepare regular reports on training courses conducted for CHWs.
11. Reports to the District Medical Officer(s)-HDC/CHTDF and works in coordination with CHW Supervisors.

Job description of CHW:

1. Provide health education to community people and in community gathering
2. Provide treatment of uncomplicated malaria (PF)
3. Provide treatment of no pneumonia and pneumonia (ARI)
4. Provide treatment of diarrhea with no dehydration and moderate dehydration.
5. Treatment of fever (viral, flu, cough and cold)
6. Treatment of common disease (cough and cold, allergy, weakness, first aid, dyspepsia, pain, STDs etc)
7. Ensure ANC/PNC and provide ANC/PNC follow up all pregnant mother in her community
8. Ensure family planning method to the eligible couple through FWV
9. Screen malnutrition cases and refer to the health facility in time
10. Ensure immunization (EPI) of children 0-11 months and women 15-49 years in her community
11. Support emergency referral case to the appropriate facility and follow up.
12. Actively participate in the national programme and any health emergency
13. Refer TB and leprosy case to facility (UHC, BRAC)
14. Refer complicated case to satellite clinic of NGO
15. Attend satellite clinic every week
16. Report on monthly basis to the authority
17. Coordinate with the other partners in health and development
18. Meeting with local leaders
19. Provide information on population and disease outbreak

Job description of CSBA

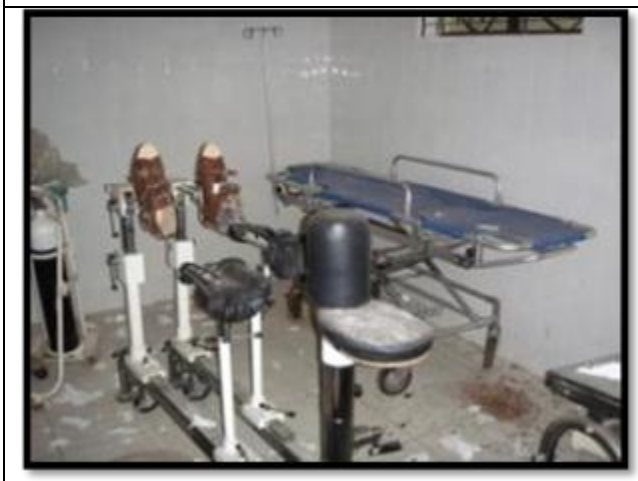
1. Provide health education to community people and in community gathering
2. Provide treatment of uncomplicated malaria (PF)
3. Provide treatment of no pneumonia and pneumonia (ARI)
4. Provide treatment of diarrhea with no dehydration and moderate dehydration.
5. Treatment of fever (viral, flu, cough and cold)

6. Treatment of common disease (cough and cold, allergy, weakness, first aid, dyspepsia, pain, STDs etc)
7. Ensure ANC/PNC and provide ANC/PNC follow up all pregnant mother in her community
8. Ensure family planning method to the eligible couple through FWV
9. Screen malnutrition cases and refer to the health facility in time
10. Ensure immunization (EPI) of children 0-11 months and women 15-49 years in her community
11. Support emergency referral case to the appropriate facility and follow up.
12. Actively participate in the national programme and any health emergency
13. Refer TB and leprosy case to facility (UHC, BRAC)
14. Refer complicated case to satellite clinic of NGO
15. Attend satellite clinic every week
16. Report on monthly basis to the authority
17. Coordinate with the other partners in health and development
18. Meeting with local leaders
19. Provide information on population and disease outbreak
20. Conduct normal delivery at home
21. Ensure emergency referral of complicated delivery
22. Ensure vitamin and iron to pregnant mothers before and after delivery.

13. Pictures related to the study:

FGD with community workers near remote hospital complex, Barkal, Rangamati

Crossing a small canal to reach a remote village at Ruma, Bandarban with CHSS of BHDC



Condition of the costly instrument and logistics for operation at Thanchi, Bandarban

This is an OT room not used after construction and OT light and table has disappeared, Thanchi, Bandarban

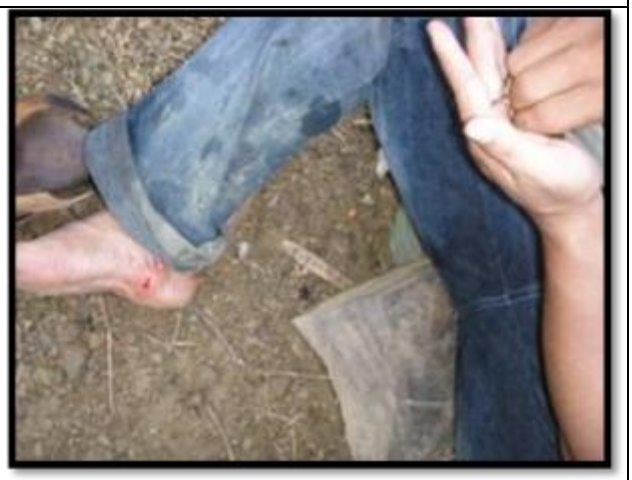
One the way to conduct FGD and immunization camp in a hard to reach area of Sajek, Rangamati

FGD with community leaders at Rowanchari, Bandarban

Evaluating CHSW activity in a remote village of Ruma

FGD in Bawm community with the translator

Travelling to a very remote Tanchangya village at Ruma, Bandarban



Leech bite during field trip and instant herbal treatment.

Local transport so called Chander Gari(Moon car)

Meeting with Clinic management committee at Barkal, Rangamati.

Meeting with Hospital staffs at Upazila health Complex, Barkal, Ranagamati.

A cultural festival of murong community (cow killing festival)

Health education by a community health worker.

Immunization activity by a government health assistant (HA)

NGO clinic service by ALAAM at Laxmichari, Khagrachari

NGO clinic activity by GRAUS at Narikel para, Thanchi, Bandarban

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