Support to the Health, Nutrition and Population Sector Programme in Bangladesh

BMZ-No.: 2003 66 237 / 2005 70 424

Component A:
Health Financing Component

Baseline survey:

to assess the existing capacity of human and other resources for health service delivery at all levels of the health care system in one upazila from each of 3 selected pilot districts

June 2012

Presented to:

Ministry of Health and Family Welfare
Health Economics Unit
Dhaka-1215
Bangladesh

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Baseline survey: to assess the existing capacity of human and other resources for health service delivery at all levels of the health care system in one upazila from each of 3 selected pilot districts

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June 24, 2012

ACKNOWLEDGEMENT

The research team expresses sincere gratitude to the Health Economics Unit (HEU), Ministry of Health and Family Welfare (MOHFW) for initiating the present and for giving us the opportunity to contribute to the process of implementing the SHASTHYO SHUROKHSHA KARMASUCHI (SSK). We express our sincere thanks to Mr. Md. Ashadul Islam, Joint Chief of HEU and Mr. Abdul Hamid Moral, Senior Assistant Chief of HEU, for facilitating the study and making valuable comments and suggestions at different stages of the work.

We would like to take the opportunity to thank Dr Lars Chr. Kyburg, Mr Azmal Kabir and Pulak Priya Mutsuddy, Health Financing Technical Assistance, GFA Consulting Group for their support.

We are highly grateful to Prof Shamsuddin Ahmad for providing academic inputs and the necessary managerial support at all stages of the assignment. We are also thankful to Dr. Syed Abdul Hamid for the contributions he made at certain stages of the work.

We acknowledge the support of Civil Surgeons, Upazila Health and Family Planning Officers, and other personnel in the three pilot upazilas for providing us required cooperation.

We express our thanks to the quality control officer and field investigators for their hard work. Our thanks are specially due to Md. Mojibur Rahman for processing of data. However, we alone are responsible for any error and omission still remaining in the report.

EXECUTIVE SUMMARY

Background and general objectives

The Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MOHFW) has developed a social health protection scheme termed as Shasthyo Shurokhsha Karmasuchi (SSK) with the assistance from KfW (German Development Bank) and GFA Consulting Group. The SSK scheme will focus initially at Upazila level, it will be scaled up in all districts upon the lessons learned to aim for Universal Coverage within the Vision 2021. The main objectives of SSK project are to improve access of the poor to hospital inpatient care, to decentralize hospital activities to introduce modern Information and Communication Technologies for increased efficiency and transparency in the health sector.

This study was conducted to assess the overall existing competence of health facilities at primary levels to meet the needs of the SBP (SSK Benefit Package). The specific objectives were to assess the existing capacity of the public health care facilities in terms of availability of personnel and their qualifications, availability of physical infrastructure, availability of medicines and logistics; to identify the requirement of additional health service providers, level of staff competence, level of human skills/ training, and the data/ information need to meet the needs of the SBP. It also explored some management issues including the referral mechanism, financial management systems, and monitoring and supervision mechanism.

Methodology

The study adopted quantitative techniques including observation checklist and compilation of service statistics. Further, qualitative techniques including Key Informant Interview (KII) and document review were employed during the study. The study was conducted in 3 pilot upazilas: Rangunia (in Chittagong), Debhata (in Satkhira) and Tungipara (in Gopalganj). These three upazilas have a total of 25 Unions. All the public facilities- 3 Upazila Health Complex (UHC), 25 Union Health and Family Welfare Centres (UHFWC)/ Rural Dispensary (RD) and 64 Community Clinics (CC) providing services in these areas were recruited for the study. Private clinics and NGOs for the study with at least three beds were also included in the design of the survey. However, only four private clinics in three areas met this criterion, and no NGO was found with inpatient department in any of the areas.

Findings

Capacity at different levels: If we consider the sanctioned post, existing equipment and infrastructure, then it appears that adequate capacity exists in all the UHCs, not only to provide services to the existing number of patients but also to provide services in a situation where number of patient increases by 20% to 30%. UHFWCs have not been established in some unions of Rangunia. In each upazila some CCs are yet to be established and some among the established CCs are yet to start functioning.

Human resource: Underutilisation of human resources is a common phenomenon in the UHCs in three upazilas. It was evident that 24% of the total sanctioned posts remained vacant in the three UHCs. However, among them, the proportion of vacant

posts in total posts was highest in Tungipara (45%). It was observed that only 40% of the employed providers provide services and works for maximum of five hours a day in all three UHCs. The average number of patients seen per day by a doctor in the outpatient department in UHC was 45, which implies that on an average a doctor allocates only four to five minutes per patient. Inappropriate skill-mix was also common among the three UHCs. Though there were sanctioned posts for anaesthetist, dental surgeon, store keeper, and statistician, many of these posts were vacant in a UHC during the survey period. The ratio of nurse to doctor was 1.25 in Debhata, 1.1 in Tungipara and 0.76 in Rangunia UHC. There was no female doctor in Tungipara UHC. The ratio of physician per 10,000 population was 0.66, 1 and 0.65 in Debhata, Tungipara and Rangunia respectively.

Equipments: The proportion of equipments in the inpatient department remaining out-of-order is 93% at Rangunia UHC, 56% in Debhata UHC and 62% in Tungipara. A number of equipments remain unused due to non existence of persons to operate those. The managers in UHC also faced the problem of inadequate fund available for repair and maintenance of equipments.

Drugs and logistics: While supplying drugs and logistics to the UHC, the '*actual local need*' is not considered. Drugs are sent from the central level based on the number of beds. While there remains excess supply of some drugs, a number of drugs are supplied in inadequate amount. Drug registers are maintained in such a way that disaggregated numbers of drugs used in the inpatient department and the outpatient department cannot be obtained. At the end of 2011, 15% of the drugs received were unused at UHCs. Among the three UHCs, drug usage as a proportion of total drugs received was higher in Rangunia and lowest in Debhata.

Referral mechanism: Referral mechanism is almost non-existent in the facilities. The UHC does not appropriately maintain patient record by name, address, age, gender, disease condition, diagnosis or treatment protocol. The manual paper-based record keeping system is time consuming and increases the possibility of error in data compilation.

Conclusion and recommendations

The existing capacity if assessed in terms of human resources, equipments and infrastructure is adequate for proving care not only to the current number of patients but also in a situation when the number of patients increases by 20% or 30%. However, for proper and efficient utilisation of these inputs, the supply of drugs and logistics should increase, some equipment should be repaired and some replaced, and input mix should be made more appropriate. On the basis of the above findings, it is recommended that:

- Measures need to be taken to ensure that all the employed staff works in the facility for full time, there needs to be adequate number of personnel available for emergency care for 24 hours. An incentive mechanism needs to be devised for providers. Part of the fees collected at upazila level can be retained at local level and paid to the providers.

- Supply of drugs and logistics should be based on local need. The amount of drugs and logistics received and utilised and the additional requirement for every three months need to be assessed regularly.

- Training of health care providers and support staff is required on issues related to SSK, financial management, Management Information System (MIS), store management, and local level planning.

- A comprehensive health information system should be introduced in order to maintain records, to efficiently maintain information flow among the tiers, and for adequate monitoring and evaluation.

- Monitoring and supervision at all levels should be strengthened. The same indicators should be used in all the three pilot upazilas to monitor the activities of the insurance scheme. Besides regular monitoring, mid-term project evaluation should be undertaken to assess the impact of the insurance scheme.

- The UHFWCs and CCs should be established in all the unions and wards. Besides, the UHFWCs and CCs that have already been established should properly function. This is needed for providing basic outpatient care, for creating demand for health care from the formal sources, and for enforcing referral mechanism. A strong referral mechanism needs to be maintained among different tiers.

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List of abbreviations

ADP	Annual Development Programme
ANC	Antenatal Care
ARI	Acute Respiratory Infection
BAVS	Bangladesh Association of Voluntary Sterilization
BDS	Bachelor of Dental Surgery
CC	Community Clinic
CD	Communicable Disease
CHCP	Community Health Care Provider
CS	Civil Surgeon
DCI	Data Collection Instrument
DCH	Diploma in Child Health
DDV	Diploma in Dermatology and Venereal Diseases
D&C	Dilatation and curate
DIAB	Dialysis Association of Bangladesh
DGHS	Directorate General of Health Services
DGFP	Directorate General of family Planning
DGO	Diploma in Gynaecology and Obstetrics
ECG	Electro Cardiograph
EmOC	Emergency Obstetric Care
ENT	Eye, Nose and Throat
EPI	Expanded Programme of Immunization
FI	Field Investigators
FP	Family Planning
FCPS	Fellow of College of Physicians and Surgeons
FWA	Family Welfare Assistant
FWC	Family Welfare Centre
FWV	Family Welfare Visitor
HA	Health Assistant
HEU	Health Economics Unit
HI	Health Inspector
IHE	Institute of Health Economics
IMCH	Integrated Maternal and Child Health
IPD	Inpatient Department
IUD	Intra-uterine Device
LLP	Local Level planning
MA	Medical Assistant
MBBS	Bachelor of Medicine and Surgery
MIS	Management Information System
MO	Medical Officer
MOHFW	Ministry of Health and Family Welfare
MR	Menstrual Regulations
MSR	Medical and Surgical requisite
NCD	Non-Communicable Disease
NSV	Non Scalpel Vasectomy
OPD	Outpatient Department
OT	Operation Theatre
PNC	Post Natal Care

RD	Rural Dispensary
RMO	Residential Medical Officer
RTI	Reproductive Track Infection
SACMO	Sub Assistant Community Medical Officer
SBP	Shasthyo Shurokhsha Karmasuchi Benefit Package
SSK	Shasthyo Shurokhsha Karmasuchi
STI	Sexually Transmitted Disease
TB	Tuberculosis
UH&FPO	Upazila Health and Family Planning Officer
UHFWC	Union Health and Family Welfare Centre
UHC	Upazila Health Complex
VD	Venereal disease

1. INTRODUCTION

1.1. Background

In the last three decades, Bangladesh has achieved commendable progress in development issues. Bangladesh has made significant progress in health indicators in recent years – infant, child and maternal mortality rates have declined, immunisation coverage has increased, a number of epidemic diseases have been eradicated, and overall morbidity has declined. Life expectancy at birth for both males and females has gone up since the 1980s. Fertility rates have also declined considerably.

Despite the achievements, the health sector face some challenges to meet the objectives, such as, universal access to basic healthcare and services of acceptable quality; improvement in nutritional status, particularly of mothers and children; prevention and control of major communicable and non-communicable diseases; supply and distribution of essential drugs, vaccines, increase in overall life expectancy of the population, survival and healthy development of children, the health and well being of women, and the adoption and maintenance of healthy lifestyles.

The widening financing gap of the sector has for long become a matter of serious concern to the policy makers. Bangladesh lacks adequate fiscal resource because of relatively small tax base. Hence, additional mechanisms and sources of financing such as health insurance schemes need to be adopted. Health insurance has many benefits. A gamut of literature exists to suggest that there are three main benefits of insurance (Abel-Smith, 1992; Normand, 1999). First, to expand the revenue base either for improving quality of existing services or to extend coverage to a greater proportion of the population. Second, to provide protection against high out-of-pocket expenditures incurred for health care. Finally, to develop capacity of the clients to receive health services in a cost-effective way. In this context, the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MOHFW) of Bangladesh plans to implement a social health protection scheme termed as Shasthyo Shurokhsha Karmasuchi (SSK) with the assistance from KfW (German Development Bank) and GFA Consulting Group. The SSK scheme will be piloted in three upazilas soon, and then it will be scaled up in all districts using the lessons learned from the pilot areas so as to achieve Universal Coverage of health care as aimed in the Vision 2021. The main objectives of SSK project are to improve access of the poor to hospital inpatient care by reducing financial barriers, to decentralize hospital activities for functional improvement in the health sector in phases as a part of Local Level Planning (LLP), and to introduce modern Information and Communication Technologies for increased efficiency and transparency in the health sector.

A list of reimbursable benefits will be defined, which will be known as SSK benefit Package (SBP). This will evolve over time and shall be regularly updated. The benefit package could include in-patient care which is manageable at Upazila and District level, free physician's consultation, free drugs and diagnostic facilities, structured referral to the secondary and tertiary level hospitals, transportation cost for referral cases and a mobile 'camp clinic' with a mixed specialized team will be conducted in each union at least once a month for screening and treating at, and referring for inpatient care to, the appropriate facilities.

In order to design the SSK scheme and implement it, information is required on issues related to costs of services, the existing and the required capacity of health care facilities to provide services, and demand for services. For smooth functioning of the scheme, stakeholders need to be fully informed about how organizations respond to the adjustments required for financing and delivering the benefit package through an insurance scheme. It is therefore crucial to have detail information on availability of human resources, their competencies, availability of physical infrastructure, medicines and logistics and the existing referral system of health facilities at different levels to meet the needs of the benefit package offered by the insurance scheme. In this context, the Institute of Health Economics (IHE), University of Dhaka has been awarded to carry out a study to assess the existing capacity of human and other resources for health service delivery at all levels of the health care system in one upazila from each of 3 selected pilot districts. This report presents the findings of the study.

1.2. Objectives of the study

The General objective of this study is to assess overall existing competence of health facilities at all levels to meet the needs of the SBP (SSK Benefit Package).

The specific objectives are:

- To assess the existing human resources and physical infrastructure for health service delivery at the primary levels of the health care system in the public sector
- To assess referral facilities at secondary level
- To assess the availability of medicines and logistics management system
- To review the existing health information system flows at all levels
- To review the existing staff and financial management systems
- To explore the need for additional health service providers who could strengthen service delivery at all levels of the health care system
- To assess the availability of private sector facilities to provide SSK services

1.3. Organization of the report

The report has been organised in six chapters. Chapter one presents the background information, and the specific objectives of the study. Chapter two discusses the methodology adopted for the study while chapter three presents findings from Debhata upazila. Chapter four and five outlines the findings from Tungipara and Rangunia upazila respectively. Chapter six presents a comparative analysis of the capacity of all the upazilas followed by chapter seven which draws conclusion and recommendations.

2. METHODOLOGY

The study adopted quantitative techniques to collect data including observation checklist and compilation of service statistics. Further, qualitative techniques including Key Informant Interview (KII) and document review were employed during the study. This section discusses the important aspects of the methods, which had been used for conducting the study.

2.1. Study design

The study was conducted in 3 pilot upazilas: Rangunia (in Chittagong), Debhata (in Satkhira) and Tungipara (in Gopalganj). These three upazilas have a total of 25 Unions. All the public facilities- Upazila Health Complex (UHC), Union Health and Family Welfare Centre (UHUHFWC)/ Rural Dispensary (RD) and Community Clinics (CC) providing services in these areas were recruited for the study.

Table 2.1: Number of unions and public facilities in pilot upazilas

Upazila	Number of Union	Number of UHC	Number of UHFWC/RD	Number of CC (Functioning)	Total Number of facilities
Debhata	5	1	4	12	17
Rangunia	15	1	17	38	56
Tungipara	5	1	4	14	19
Total	**25**	**3**	**25**	**64**	**92**

One of the objectives of the study was to assess the capacity of private sector: private clinics and non-governmental organisation (NGO). As the proposed insurance scheme puts greater emphasis on inpatient care, the inclusion criteria to recruit private clinics and NGOs for the study was facilities with inpatient department having at least three beds. However, only three private clinics in three areas met this criterion, and no NGO was found with inpatient department in any of the areas. Hence, the NGO clinic was excluded from this survey.

2.2. Data collection methods

The specific data collection methods of the study included:

 Collection of service statistics: The study collected service statistics, such as, number of patient by case mix, bed occupancy rate, bed turn-over rate, number of patients referred to secondary level, the number of allotted and vacant posts, input mix, space, availability of medicine, equipments, logistics, furniture, and vehicle. Information was collated from patient registers, procurement slip, expenditure records, stock record, referral slips and the available data base. A service statistics collection form was used for collecting the information. Relevant personnel and administrative

staff in the health care facility at different levels, including Upazila Health and Family Planning Officer (UH&FPO), Residential Medical Officer (RMO), Medical Officer (MO), store keeper, pharmacist, Health Assistant (HA), Family Welfare Assistant (FWA) and Community Health Care Provider (CHCP) were approached to help in filling the form.

 Observation: The Field Investigators (FI) and the core research team observed a number of issues including, number of patients seen by provider per day, number of provider actually proving services and their working hours, doctor-nurse ratio, type of service provision, the available number of equipments, logistics, vehicles and their current condition, and the referral mechanism followed. An observation checklist was prepared to collect information from all the facilities.

 Key Informant Interview: The managers and selected health care providers including UHFPO, MO and RMO in each facility were interviewed to assess the existing capacity of the facility (including numbers, qualifications- academic/ on the training, and place of work of providers), the number of patients can be treated with the existing capacity, the referral mechanism followed, human and financial management system, the monitoring and supervision system, how the insurance will affect the patient flow, what additional providers and other logistics will be required to meet the additional health care need, what additional data is required for smooth functioning of the scheme and what training is needed. A pre-tested semi-structured questionnaire was used to carry out the interviews.

Table 2.2: List of data collection methods and data collection instruments

Data collection methods	Source of information	Data collection instrument
Collection of service statistics	Patient registrar, procurement slip/record, stock record expenditure record, referral slip and existing data base	Service statistics collection form
Observation		Observation checklist
Key Informant Interview	UHFPO, MO, RMO, HA, FWA, SACMO, CHCP	Semi-structured questionnaire

The groups of variables, sources of information and data collection methods and sample covered of the study are outlined in Table 3.

Table 2.3: Groups of variables and sample covered

Groups of Variables/Indicators	Source of information	Data collection methods	Sample covered
Inventory of: i) existing human resources ii) physical infrastructure, iii) medicines, logistics	• Service statistics	• Compilation of service statistics • Observation	• 3 UHC • 25 UHFWC/RD • 64 CCs • Available NGO facilities • Available private clinics
Management issues: i) referral mechanism	• Key informant	• KII	• 3 in UHC (3*3) • 3 in UHFWC

ii) human resource management system iii) financial management system iv) medicine and logistics management system v) health information system			(3*25) • 1 in CC (1*64)
Need for: i) additional health service providers ii) additional data iii) additional investment on infrastructure, logistics iv) additional training	• Key informant	• KII	• 3 in UHC (3*3) • 3 in UHFWC (3*25) • 1 in CC (1*64)

2.3. Implementation of the study

Draft questionnaire was prepared and shared with Health Economics Unit (HEU) and GFA representatives. Questionnaire was revised based on the comments and suggestions received. Pre test of questionnaire was done to explore the availability of service statistics, the record keeping procedure in public facilities, the sequencing of questions, the technique/method/ options for documenting responses, and providing appropriate skips in the questionnaire. The questionnaire was revised again based on the experience and findings of the pre-test. Data was collected over the period of April and continued till first week of May, 2012.

Institute of Health Economics (IHE) maintained the uppermost quality at all stages of the study including research design, data collection and analysis. Employing interviewers with adequate experience was one of the norms of the operational policy of IHE. Adequate records were kept in a computerized database about each individual to track him or her for maintaining field management standards. PI, public health expert, health economist, and supervisors visited the sites and reviewed interviewer forms. All filled in questionnaires had been scrutinized. Completed interviews had been randomly cross-checked by the researchers.

It may be noted here that IHE was awarded two studies, one for situation analysis (the present one) and the other for estimation of costs of health services, to be conducted simultaneously. The studies were conducted by two separate teams. As was expected, teams worked in close coordination and through continuous interaction and followed the same conceptual framework, while each maintaining adequate amount of academic and operational independence. Two studies used two sets of data collection instruments and had different groups of respondents for several issues. But for the sake of convenience and to complete work within the strict time frame, both teams of field investigators were trained together to administer all data collection instruments, and in the study areas each team collected data using both sets of Data Collection Instruments (DCI) in the lower level facilities (UHFWCs, CCs, Private Clinics) deliberately

allocated to it. Furthermore, each study used the information of both data sets as and when considered necessary and appropriate.

The study team faced a number of challenges while collecting data. During the field work, training of CHCP was going on. Many CCs remained open only on selected days, while some were yet to be functional. All these made it difficult to collect information from CCs in stipulated time. As stated earlier, the type of NGOs and private clinics required for the study was not available in the study areas. Moreover, some private clinics were reluctant to provide data

2.4. Data analysis

The study collected service statistics. The information was analysed using spread sheet in Microsoft Excel. The quantitative data was analyzed by using both descriptive and analytical statistics. Proportion, frequencies, rates and ratios had been calculated. Qualitative data was analysed using a thematic approach. The broad thematic areas and the core dimensions of analysis for the study are summarized below:

- Capacity of facilities at present: numbers and qualifications of staff, their place of work in the public and private sectors, physical infrastructure, availability of medicines and logistics, data availability and its quality

- Management issues: referral mechanism, health information system, staff and financial management systems, monitoring and supervision mechanism

- Need assessment: requirement of additional health service providers, level of staff competence, level of human skills/ training, the data/ information need to meet the needs of the SSK

- Gap identification and strategies to close the gap: the gap between existing competence of public health facilities and required level of competence.

The study calculated the density (per 10000 population) of doctors, nurses and health assistants. However, no standard or norms on issues related to human resource management or availability of equipments, furniture and drugs are followed in Bangladesh. The study therefore cannot compare the current capacity of the pilot upazilas to the national standards.

3. FINDINGS IN DEBHATA UPAZILA

Debhata is one of the seven upazilas in Satkhira district. This upazila has a total area of 174.33 sq km with a total population of 122,097 of which 51% is male and 49% female. One Upazila Health Complex (UHC), four Union Health and Family Welfare Centres (UHFWCs) and 14 Community Clinic (CCs) provide health care in Debhata.

This section presents the findings of the survey carried out in Debhata upazila. The section has been divided into four subsections: capacity of the Upazila Health Complex (UHC), capacity of the Union Health and Family Welfare Centres (UHFWCs), capacity of Community Clinics (CC) and capacity of Private Clinic in the upazila.

3.1. Capacity of Debhata UHC

The capacity of both inpatient and outpatient departments of Debhata UHC has been assessed in terms of availability of personnel and their qualifications, availability of physical infrastructure (land, equipment and furniture), availability of medicines and logistics, data availability and whether there remains appropriate input mix in the facility. Some management issues including the referral mechanism, financial management systems, and monitoring and supervision mechanism are also analysed. The study also explores requirement of additional health service providers, level of staff competence, level of human skills/ training, and the data/information need to meet the needs of the SSK.

As stated in the methodology section, the study calculates the density (per 10,000 population) doctors, nurses and health assistants. However, as no such norms are followed in Bangladesh, the study cannot assess the gap between existing capacity and the desired level of capacity in the pilot upazilas.

Human resources

A crucial component for building an effective and responsive health system is the health workforce which includes physicians, nurses, public health workers, policy makers, administrators, educators, clerical staff, scientists, pharmacists and health managers amongst others (WHO, 2007). The performance and the benefits the insurance scheme can deliver depend largely upon the knowledge, skills and motivation of those individuals responsible for delivering health services.

The managers in the Debhata UHC suggested that for efficient service provision in the facility, the number of persons employed in the facility, the number of persons who really work in the facility and their actual working hours are important. It was found that the UHC in Debhata had a total of 101 sanctioned posts, of which 92 persons were employed and 9 posts were vacant. Eight doctors and 10 nurses were employed in the UHC (Table 3.1.1). In every UHC, each doctor is assigned to work for both inpatient and outpatient departments round the clock in rotation. Among the physicians, one Junior Consultant (Surgery) was mainly responsible for inpatient department, while three physicians worked in both inpatient and outpatient departments.

Table 3.1.1: Existing and required human resources at UHC of Debhata Upazila

Designation	Number of sanctioned post	Number of employed persons	Number of Vacant posts
Clinical staff responsible for both inpatient and outpatient department			
UHFPO	1	1	0
RMO	1	1	0
Jr Consultant (Gynaecology)	1	1	0
Nurse (senior and assistant)	11	10	1
Pharmacist	2	1	1
Medical technologists	5	5	0
Aya/ward boy	5	5	0
Clinical staff responsible for inpatient department			
Jr Consultant (Surgery)	1	1	0
Jr Consultant (Anaesthetist)	1	0	1
Clinical staff responsible for outpatient department			
Jr. Consultant (Medicine)	1	1	0
Dental Surgeon	1	0	1
Medical Officer	2	2	0
Medical Assistant	2	1	1
Health Assistant	20	19	1
Administrative staff			
Statistician	1	1	0
Store keeper	1	1	0
Head assistant cum Accountant	1	1	0
Cashier	1	1	0
Health Inspector/ Assistant HI	5	5	0
Other	21	19	2
Family Planning staff providing outpatient care			
UFPO	1	1	0
MO-FP	1	1	0
AFPO	1	0	1
FWV	2	2	0
Other FP	12	12	0
Total	**101**	**92**	**9**

Another crucial issue is the appropriate skill-mix of personnel working in the facility. It was evident that there was inappropriate skill-mix in the UHC in Debhata. Though there were sanctioned posts for anaesthetist and dental surgeon, these posts were vacant during the survey period. These two posts cannot be substituted and are very crucial for delivering essential services in the upazila. There was no sanctioned post for pathologists in the UHC, and there was no designated officer available at emergency department.

In Debhata, the ratio of nurse to doctor was 1.25, while the number of doctors and nurse per 10,000 population is only 1.47 (Table 3.1.2). The ratio of health workforce (doctors, nurse, medical assistant, health assistant, health inspector, assistant health inspector, UHFPO and FWV) per 10,000 population is 3.77.

Table 3.1.2: Human resource management indicators in Debhata UHC

Indicators	Ratio
Ratio of nurse to Doctor	1.25
Ratio of physician per 10,000 population	0.66
Ratio of nurse per 10,000 population	0.82
Ratio of physician and nurse per 10,000 population	1.47
Ratio of health assistant per 10,000 population	1.56
Ratio of health workforce (physician, nurse and health workers) per 10,000 population	3.77
Percentage of female physician among total physicians	13%
Ratio of inpatient bed per 1,000 population	0.25

The study explored the actual working hours (work load) of the employed persons and the allocation of their time between patient-contact and managerial activities. The Field Investigators (FIs) of the study reported that despite being employed in the UHC, some of the health care providers do not regularly work in the facility in reality. The FIs observed that only 40% of the employed providers generally provide services in the facility and a health care provider works for maximum of five hours a day in Debhata UHC (the same was found in other upazilas as well). The costing study used three different methods to explore the allocation of time of the employed health care providers for service provision- diary method, time motion and observation. Though the results of these three methods greatly varied, it was apparent that on an average, a health care provider treats patients for three hours only in the outpatient department (OPD). Those who are responsible for both inpatient and outpatient department provide care in the inpatient department for one hour per day. S/he also accomplishes other managerial activities such as record keeping, reporting, and monitoring and supervision for one hour. They also had to attend different training sessions and non-medical meetings at regional and central levels. As a result, pressure on the providers who are present on a day becomes high; sometimes one provider has to attend as many as 40-50 patients during the three hours they work for patients in the OPD. This implies that on an average, a doctor spends four minutes per patient. This has been considered as inadequate by a number of respondents.

The managers said that around 70% of the capacity of the UHC is currently being utilised in the facility. If all the employed persons work in the UHC and work for full time, the number of patients they serve will be double. This also emerged from the interview of the managers and health care providers in the UHC. Managers of the UHC were asked about the additional number of patients they expect after the implementation of the SSK. They predicted that after the introduction of SSK, the patient would increase by 20%. The managers and health care providers were also asked whether they need any additional posts at present to provide services efficiently and after the introduction of SSK to meet the increased demand for services. They suggested that they do not need to create any additional posts of health care providers; rather if the employed persons work in the UHC, they can provide services efficiently at present and even after the SSK.

Expertise and experience of the health care providers

Another crucial factor for quality of service provision is the expertise and experience of the health care providers. It needs to be acknowledged that since the health care providers have to apply their knowledge and acumen in different stages of treatment

protocol for the patients, having experience is quite important for them. However, it was apparent that a considerable proportion of health care providers in Debhata UHC were young with less experience and inadequate specialised expertise. They had only MBBS degree, and no specialized expertise.

Table 3.1.3: Educational qualification of the physicians in Debhata UHC

Designation	Educational qualification (highest degree)	Year of joining present service	Issues of basic training received*
UH &FPO	MBBS	25-Dec-83	-
RMO	MBBS	01-Jul-10	General Surgery, Basic Service Management
Jr Consultant (Medicine)	MBBS	01-Jul-10	Diabetes
Jr Consultant (Surgery)	MBBS	01-Dec-84	ARI, EPI, DIAB
Jr Consultant (Gynaecology)	MBBS	20-Dec-89	DGO
Medical Officer	MBBS	06-Nov-85	BAVS, EPI
Medical Officer	MBBS	01-Jul-10	-
Medical Officer	MBBS, MPH	28-Apr-91	-

It appeared that all the health care providers and important staff at UHC received basic training on several issues including reproductive health, child health, communicable and non-communicable disease. Examining the exact duration of the training programmes, the level of competence of the trainers, curriculum of the training sessions, and methods of conducting training courses were beyond the scope of the study. However, during discussion, the health care providers informed that they need training on midwifery, managerial (recording, reporting, data management) and financial (book keeping, accounting and auditing) issues, and local level planning (LLP) so as to improve performance of the facility. They also suggested that they would require orientation/training on SSK, especially on issues related to what is insurance, what services would be provided under the benefit package and to whom, what would be the payment mechanism, how to provide health cards to the recipients, and how to maintain patient records. They added that refresher training should be organised on regular interval.

During field trips of the core research team, respondents stated that a number of factors including frequent transfer of officers and staff, the process of sabbatical and existing vacant posts of medical personnel adversely affect performance of the facility. A few respondents reported that non-coordinated training programme for the staff and officer from the national level impede regular activities of the facility.

Managers and health care providers in the UHC also raised the issue of lack of co-ordination between DGHS and DGFP. Respondents suggested that if SSK starts functioning, health personnel from DGHS and DGFP might need to operate together to some extent. A unified command would therefore be crucial for sustaining SSK.

Equipments, furniture and fixture

It was found that the inpatient department of Debhata UHC had important equipments; however, a number of equipments were not functioning at the time of survey (out of order). Minor repair of some of these would make them functional. A considerable

amount of the equipments, although some are functioning at this moment, has exceeded their expected life years and therefore require replacement. For example, the oxygen cylinders were procured in 1986. Given the average life expectancy of five years, all the oxygen cylinders need to be replaced now (Table 3.1.4). It was evident that minor repairing of equipments was constrained due to inadequate budgetary allocation for repair and maintenance, and complex fund approval procedure. It was also evident that there remained inappropriate input mix in the UHC. Though there were equipments for dental care, such as, dental chair, dental light, air compressor, suction machine and ultra sonic scalar, there was no dental surgeon in the UHC.

In Debhata UHC, a total of 161 important equipments were functioning in inpatient and outpatient departments. This implies that there exist 13 important equipments per 10,000 population.

Table 3.1.4: Important equipments at UHC of Debhata Upazila

Name of the equipment	Total number	In order	Out of Order	Number of equipment need replacement	Additional number of equipment required for SSK
Inpatient department					
Diathermy machine	2	2	0	2	1
O.T. Light, Ceiling 9 bulb	1	1	0	0	1
Obstetric Delivery Table	2	2	0	2	1
Ophthalmoscope	2	2	0	0	1
Oxygen cylinder	16	16	0	16	0
Oxygen cylinder trolley	2	2	0	2	1
Oxygen flow meter	5	4	1	4	1
Patient Trolley	7	5	2	5	1
Pulse ox meter	2	2	0	0	1
Sucker machine 250 w/400 watt	4	3	1	2	4
B.P. machine Aneroid	8	8	0	8	1
Instrument tray 10"-12"	6	6	0	3	1
Mouth gag rubber	9	9	0	9	2
Spirit lamp	1	1	0	1	1
Sponge holding forceps	15	5	10	0	4
Boiling water sterilizer	38	38	0	0	5
Stethoscope	5	5	0	0	1
D&C set	3	3	0	3	2
Patient stretcher	2	2	0	02	0
IPS	1	1	0	0	0
Total	**131**	**117**	**14**	**59**	**29**
Outpatient department					
ECG Machine	2	2	0	0	1
X-ray machine	1	0	1	1	1
Refrigerator 10cft	1	1	0	1	
B.P. machine Aneroid	10	10	0	10	4
Stethoscope	10	10	0	0	3
Weight machine	3	3	0	0	2
Examination table	16	14	2	0	2
Patient stretcher	4	4	0	4	0
Total	**47**	**44**	**3**	**16**	**13**

Health care providers were asked whether they need additional number of equipments after the introduction of SSK to cope with the increased number of clients. They suggested that they would require a number of additional equipments for SSK, such as, X-ray machine, X-ray view box, D & C set (Table 3.1.4). They also stated that the scheme would create some expectation among the clients who would pay premium for the benefit package. It would therefore be crucial to maintain quality of care to meet clients' expectations. In this connection, managers expressed their concern to the frequent power failure at the upazila level. They suggested that availability of generator with continues supply of fuel would be essential for the smooth functioning of the UHC after the launching of SSK.

Debhata UHC has 31 inpatient beds. The ratio of inpatient bed per 1,000 population in Debhata is 0.25, which is relatively low as compared to a number of countries in Asia. The ratio was 3.1 in Sri Lanka in 2002, 2.2 in Thailand in 1999 and 0.9 in India in 2003 (GOI, 2006).

Debhata UHC has important furniture in adequate quantity in the inpatient department. However, it was found that a number of furniture in the UHC was procured long ago, though they are still being used. We can take the example of patient table. Four patient examination tables were procured in 1984 which need to be replaced. Respondents suggested that they do not need additional number of furniture/fixture at present; however, the broken furniture/fixture needs to be replaced. However, the managers suggested that for SSK, the UHC needs to be upgraded to 50-bedded complex.

Table 3.1.5: Important furniture and fixture at UHC of Debhata Upazila

Name of the furniture	Total number	Number of furniture need replacement
Inpatient department		
Inpatient bed	31	0
Chair	49	2
Table	16	0
Cabinet (Almirah) steel	10	4
Patient examination Table	14	4
Bed Guide Locker	20	0
File cabinet	6	0
Temperature Chart Holder	25	0
Food Trolley	4	4
Medicine Trolley	1	0
Saline Stand	45	10
Sub Total	**221**	**24**
Out patient department		
Chair	63	0
Table	35	14
Display Board	2	1
Patient examination Table	4	0
Dispensing Table	2	0
Medicine Trolley	3	0
Office Cabinet	4	0
Medicine Cabinet	3	0
Cabinet (Almirah) -Steel	10	6
File Cabinet	22	12

Wooden Bench	20	4
Emergency Duty Roster	1	0
Sub Total	**169**	**37**

Land and space

The total amount of land of the UHC is 3.31 acre. There are seven buildings in Debhata UHC. Respondents stated that adequate land and space exists in the UHC in Debhata. There were 10 rooms available for doctors each with an average space of 300 square feet. Inpatient department has a total space of 6.080 square feet, which included ward, operation theatre, post operative care unit, and labour room. Managers in the UHC informed that they would not need any additional space for running the insurance scheme (Table 3.1.6).

Table 3.1.6: Amount of land and space of UHC of Debhata upazila

Land and space	**Total number**	**Total space**
Land	-	3.31 Acre
Buildings	7	17500 square feet
Inpatient department	**Total number**	**Total space (in square feet)**
Ward	3	4500
OT	3	900
Post operative care unit	1	500
Labour	1	180
Sub-total		**6080**
Outpatient department	**Total number**	**Total space (in square feet)**
Doctors room	10	3000
Office room	4	1200
Store room	1	1600
X-ray room	1	375
Pathology	2	375
EPI	1	1200
Emergency	1	180
Corridors and halls	-	3490
Sub-total		**11420**

Drugs, supplies and logistics

Appropriate supply of drugs, supplies and logistics is seen as critical factor for providing quality health care by the managers and health care providers in Debhata UHC. They stated that while supplying drugs, supplies and logistics to the UHC, the '*actual local need*' should be considered, and therefore the number of patients and case mix in the facility, the seasonal variation of disease and number of patients, and trend of patients in outdoor and indoor departments can be considered to assess 'actual need'. However, providers at UHC informed that they receive medicine from the central level as a 'push method', which is not associated with the 'actual need' for drugs and supplies. They added that medicine is not supplied for outpatient and/or emergency departments; rather medicine is sent by the central level based on the number of beds. Though 350/400 patients come to the outdoor department per day, no direction is given on how to run outpatient department.

It is to note that drug registers are maintained in such a way that disaggregated numbers of drugs used in inpatient department and outpatient department cannot be presented. Respondents suggested that among the total drugs received, 60% drugs are generally

used in outpatient department, 10% in emergency unit and 30% in inpatient department.

Table 3.1.7: Drugs received in 2011 by UHC of Debhata upazila

Name	Quantity received in 2011 (in number)	The amount of inventory at the end of year 2011 (in number)
Tab Metronidazole 400 mg	20000	0
Tab Hyoscine N Butyl Bromide	26000	
Tab Ranitidin 150 mg	15000	15000
Tab Antacid	70000	26000
Tab Cotrim 400 mg	10000	4000
Cap Tetracycline 200 mg	18000	
Cap Indomethacin	5000	
Cap Cephradin 500 mg	2000	
Cap Flucloxin 500 mg	2000	2000
Cap Amoxycillin 250 mg	20000	
Cap Doxycyclin	1500	
Cap Amoxycillin 500 mg	9000	
Syp Metronidazole	100	
Syp Histacin	500	
Syp Penicillin	230	
Syp Amoxycillin	250	
Syp Flucloxacin	175	
Dorby Lotion	50	
Inj Dexamethason	300	
Surgical gloves (Sterile)	1600	
IV Canula	1000	
Micropore 3”	55	
Micropore 2”	45	
Disposable syringe	4000	
ORS	36000	17800
Bleaching Powder (in kg)	15	
Inj Ceftriaxone 1 gm	2500	2500
Syp Cotrim	350	
Syp Paracetamol	400	
Syp Erythromycin	100	
Tab Zinc Sulphate	5000	
Fetorolac	60000	22300
Tab Levofluxacin	600	600
Tab Paracetamol 500 mg	40000	17500
Tablet Histacin	75000	11000
Tab Albendazole	10000	6500
Tab Omeprazol	2000	
Tab Ferrous Sulphate	38000	8000
Chloramphenicol Eye Drop	550	

Managers added that medicine is purchased as ‘block’ which is also not based on future projection. Though stock of drugs should be kept for three months, it never happens in

reality. It was evident that there was shortage of supply of a number of drugs in Debhata UHC, while there was excess supply of some drugs. Respondents gave the example of 'Cotrim'- the amount they generally receive is in excess of what is required, which represents serious drawback of centralised planning and purchasing power.

The managers and health care providers reported that they had enough supplies of logistics, such as, gauze, cotton and plaster. However, sometimes they face the problem of irregular supply of logistics, which hampers the service provision.

Trend of patients in UHC

The number of patients who visited the UHC over the period of 2010-2011 is presented in Table 3.1.8. It appears that patients were generally admitted in the in-patient department of the UHC for delivery care, emergency obstetric care (EmOC), abortion, diarrhoea, asthma and diabetes. In 2011, the admission rate per 100,000 population was 2391.54, while the ratio was 1307 in 2010.

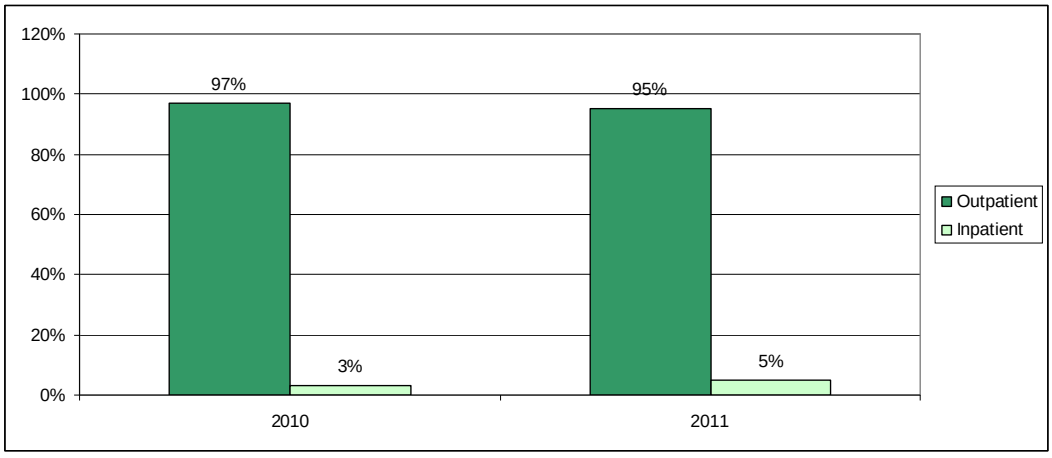
The major disease/ conditions for which people visited the outpatient department of UHC included Ante natal Care (ANC), Post Natal Care (PNC), Acute Respiratory Infection (ARI), diarrhoea, asthma, scabies, eye infection, helminthiasis, family planning and anaemia. Among the total patients who visited UHC in 2011, 5% were admitted in inpatient department (Fig 1).

Table 3.1.8: Number of patients who visited the UHC by disease and year

Name of disease/ condition/service	2010			2011		
a) Maternal health	Out-patient	In-patient	Total	Out-patient	In-patient	Total
ANC	2375	0	2375	7272	0	7272
- Delivery care	0	278	278	0	630	630
- EmOC (Obstructed labor)	0	81	81	0	713	713
- Abortion	0	30	30	0	60	60
PNC	0	278	278	630	0	630
Sub total	2375	667	3042	7902	1403	9305
b) Pelvic infections, STI/RTI /UTI						
STI/RTI	0	11	11	0	106	106
ARI	2336	116	2452	2052	0	2052
Bronchial asthma	0	0	0	1040	75	1115
Diarrhoea	6184	0	6184	7519	235	7754
Dysentery	6269	76	6345	6856	107	6963
Peptic Ulcer	2445	72	2517	0	0	0
Abdominal pain	0	114	114	2195	179	2374
Sub total	17234	389	17623	19662	702	20364
c) Skin, ENT and dental infection						
Eye infection	2144	0	2144	1816	0	1816
Ear infection	789	0	789	894	0	894
Dental infection	1990	0	1990	1555	0	1555
Scabies	7339	60	7399	4820	25	4845
Sub total	12262	60	12322	9085	25	9110
d) Helminthiasis	9060	0	9060	9528	0	9528
e) Family Planning						
Family planning for male	310	0	310	420	0	420

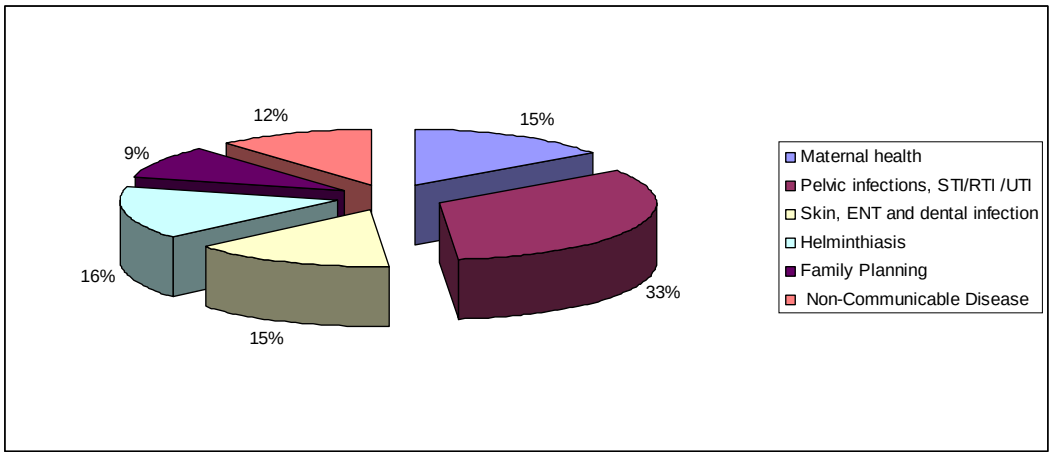
Family planning for female	4112	0	4112	5236	0	5236
Sub total	4422	0	4422	5656	0	5656
f) Non-Communicable Disease						
Diabetes	613	26	639	664	144	808
Hypertension, CHD	764	0	764	697	116	813
Arthritis	0	73	73	160	0	160
Assault/Injury	709	204	913	0	183	183
Road traffic accident (RTA)	0	112	112	0	135	135
Anaemia	3121	0	3121	3086	109	3195
Viral fever, Pyrexia of unknown origin)	1369	59	1428	1562	69	1631
Rheumatic fever	0	0	0	58	0	58
Poisoning	0	0	0	0	8	8
Tuberculosis	132	0	132	101	0	101
Other	0	6	6	0	26	26
Sub total	6708	480	7188	6328	790	7118
Total	**52061**	**1596**	**53657**	**58161**	**2920**	**61081**

Figure 1: Proportion of inpatient and outpatient in Debhata UHC, 2010-2011



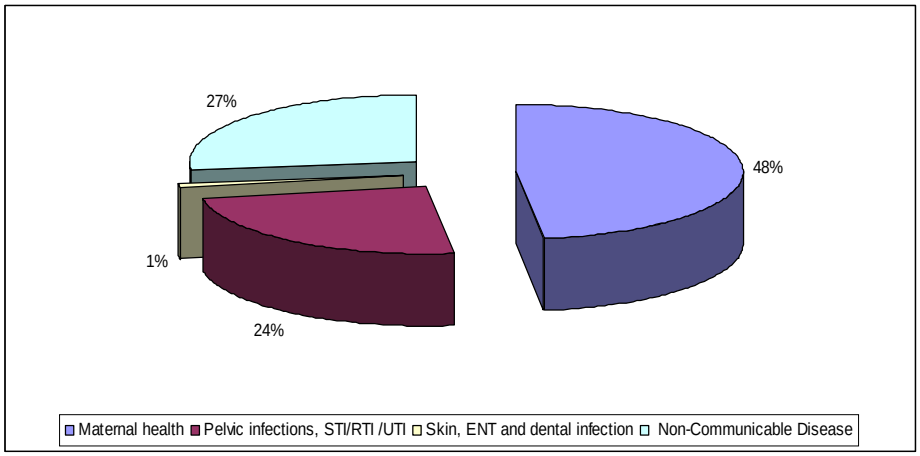
Among the total patients who visited UHC in 2011, 15% received care for maternal health and 33% patients received care for pelvic infection (Fig 2). Though the number of total persons seeking care from UHC increased by 13.85% from 2010 to 2011, the number of women seeking maternal care (ANC, delivery, EmOC, abortion and PNC) increased by 205.88% over the same period.

Figure 2: Percentage distribution of total patients (inpatients and outpatients) by type of disease/condition in 2011 in Debhata UHC



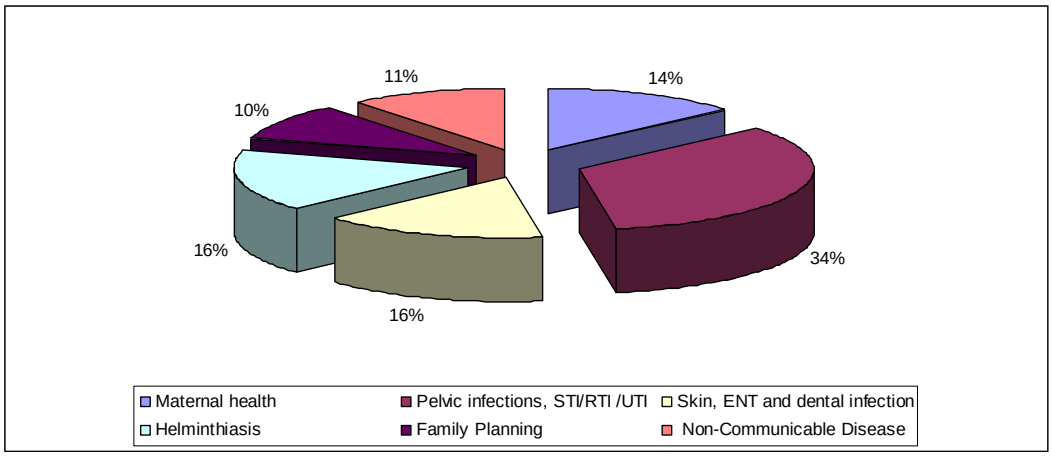
It was evident that among the patients who were admitted in the UHC, 48% received care for maternal health, while 27% of the inpatients received care for non-communicable disease (Fig 3).

Figure 3: Percentage distribution of the inpatients by type of disease/condition in 2011 in Debhata UHC



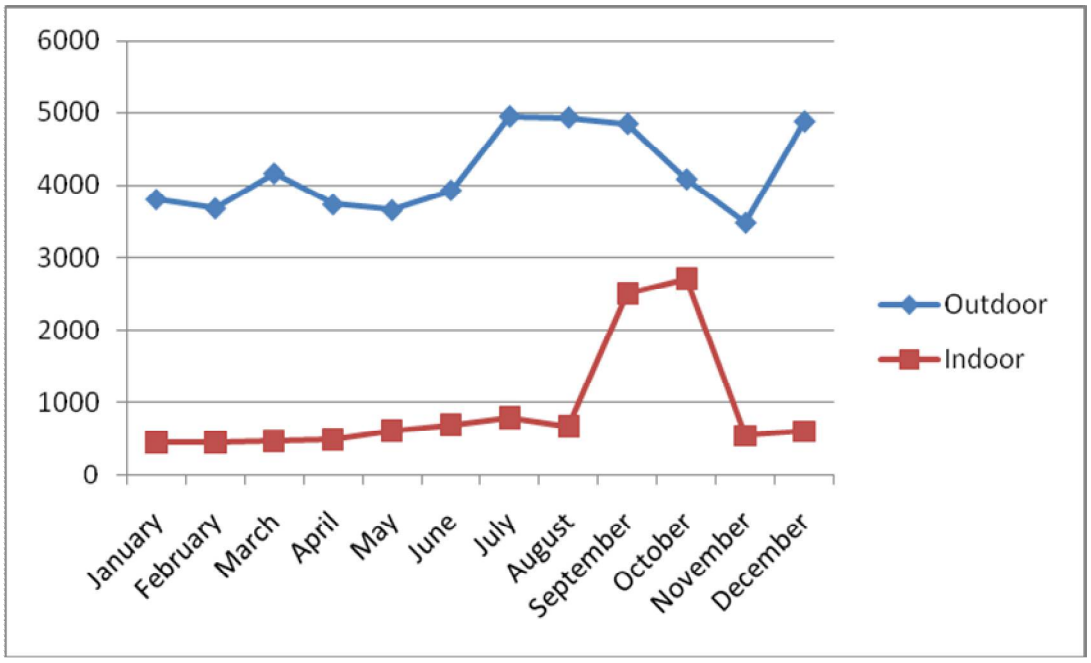
Patients who received care from outpatient department, 14% received care for maternal health and 34% received care for pelvic infections (Fig 4).

Figure 4: Percentage distribution of the outpatients by type of disease/condition in 2011 in Debhata UHC



The patient record suggests that the number of both inpatient and outpatient increases in summer (July-September), and declines considerably in winter (November). The seasonal variation in the number of patients in Debhata UHC is presented in Figure 5.

Figure 5: Number of outdoor and indoor patients by month for 2011 in Debhata UHC



Management issues

Referrals

There remains weak referral mechanism at UHC, which is almost non-existent. Respondents informed that they often send burn patients to specialised hospital, however no follow-up is done, and neither any feed-back is received from the hospital. There is no mechanism to know whether the patient has really visited the District Hospital and what was the treatment outcome. The only exception is the case of TB referral mechanism: there remains relatively strong referral mechanism for TB patients.

Budget management

The upazilla get their revenue budget directly from the national level and development budget through civil surgeon of the district. However, there remains time gap between sending budget request and disbursement of money. Though budget is sent in March, upazila receives money for first quarter under Annual Development Programme (ADP) in October-November. Revenue budget is also released in September. Respondents argued that late disbursement of money adversely affects activities. There remains inadequate budget for repair and maintenance. Upazilla can approve only 3,000 Taka for maintenance. Contingency fund of 1,000 Taka is available per month. Resources generated at upazilla level from user fees and bed admission fees (5 Taka) have to be returned to central level at the end of year.

Supervision and monitoring

RMO supervises emergency services and in-door services at the UHC, while field supervision is conducted by health inspector (HI) and Sanitary inspector (SI). Overall supervision of UHC is done by UH&FPO through reporting to CS office, DG health and MIS. It was apparent that lack of manpower and transport led to weak monitoring and supervision system.

Respondents were asked whether they follow any mechanism to assess performance and quality of care at the facility overtime. They stated that though they collect routine data on several issues, there is no specific indicator to monitor overall performance and quality of care at the UHC.

Information System

UHFWCs and CCs send monthly information to UHC on number of patient treated per month. Upazila Health Complex compiles the information and sends this to District Hospital.

It appeared that information system, record keeping and data base at public facilities had some limitations. The record keeping mechanism in the UHCs in three pilot upazilas varied considerably. For example, while Rangunia maintains consolidated records for referred cases, no such record was readily available in Debhata and Tungipara. Number of patients referred from UHC to district hospital was stored in three different departments in Debhata UHC: indoor, outdoor and emergency. There was no consolidated record for referred cases at UHC. Respondents stated that they referred approximately 300 patients to District Hospital from Debhata UHC.

Though outpatient department maintains disease-wise patient record, it was difficult to collect inpatient number by disease. There is inappropriate record keeping for drugs.

The amount of drugs received at UHC is recorded by the store keeper, while the pharmacist maintains registers of drugs distributed per day. This record keeping system makes it difficult to look at the pattern of drugs distribution in a holistic way. Managers argued that if data is not available, it is difficult to set target, indicator and to assess progress of work.

The UHC does not appropriately maintain patient record by name, address, age, gender, disease condition, diagnosis or treatment protocol. Managers in the facility stated that introduction of SSK will require substantial improvement in maintaining patient record especially for referral and follow-up. The existing system of compiling and maintaining records is weak.

The major limitation of the current recurrent record keeping mechanism is the manual record keeping and data compilation system, which is time consuming. This paper-based manual record keeping system increases the possibility of errors in calculating lots of numerical values and transferring records from one paper to another. As records are kept on paper, finding previous records for more than three years become difficult. Respondents in UHC stated that though they use computer-based record keeping system for compiling patient record, regular power failure in the UHC hampers the process.

Another limitation of the current information system is its inability to produce updated personnel status. Staff turn over is high in public facilities, and there are many aspects of staff movements including recruitment, leave, transfer, joining, promotion, suspension, termination, retirement, and death. However, all these are done through paper-based manual system and in different levels (MOHFW, DGHS, Divisional Directors' offices; Civil Surgeons' offices, Upazila Health Offices and each institutional level). If data related to all these information are not fed into personnel information system from the source in real time, a complete real time status of national health personnel is not possible to produce.

Maintenance

One of the greatest challenges of the government health system of Bangladesh is the poor maintenance of equipments and logistics at the health facility level. It is therefore important to collect status reports of equipment periodically, such as, the numbers of major equipment by type in each institution, their functional status, if non-functional whether repairable or not. Though it remains a difficult task to get periodic data on the equipment, locally hosted computer-based inventory management system is crucial in public facilities for implementing the insurance scheme.

3.2. Capacity of the UHFWC

The survey collected data from four UHFWCs in Debhata on the existing human resources, availability of equipments, supplies, logistics and drugs, availability of land and space, and number of patients.

Human resources

A total of 22 personnel are employed in four UHFWCs in Debhata. However, among the four UHFWCs, there is no Medical Officer in three UHFWCs. There also remains

vacant post of SACMO in one UHFWC and pharmacist in one UHFWC. All the UHFWCs in Debhata need additional posts at present to cope up with existing patient flow. A total of nine posts are required at present in the UHFWCs while the health care providers predict that a total of 20 posts will be required for SSK in these four UHFWCs.

Table 3.2.1: Existing and required human resources in UHFWCs of Debhata Upazila by designation

Designation	Number of UHFWCs with employed persons	Total Number of persons employed	Number of UHFWCs with vacant posts	Number of UHFWCs with additional posts required at present	Number of additional posts required at present	Number of UHFWCs with additional posts required for SSK	Number of additional posts required For SSK
Medical Officer	1	1	3	3	3	3	3
SACMO	3	3	1	1	1	3	3
FWV	4	4	1	4	4	4	4
Pharmacist	3	3	1	1	1	4	4
Other	4	11	1	4	0	4	7
Total	-	22	-	-	9	-	20

Equipment

It was evident that some equipment in the UHFWCs had in enough quantity, while a number of important equipments were not available in adequate number for providing services efficiently. On an average, a UHFWC had 6 to 7 stethoscope, one delivery kit while there was no D&C set or instrument cabinet in any of the four UHFWCs (Table 3.2.2).

Table 3.2.2: Important equipments at UHFWC of Debhata Upazila

Name of equipment	Average Number of equipments (in working condition) in a UHFWC	Number of equipments requiring replacement	Average Number of additional equipment required for SSK
BP Handle	2.5	0	4
Bandage cutting scissors	11	0	1
Cursor vaginal speculam	9	17	2.5
D & C set	0	0	1.5
Delivery kit	1	0	2.5
Examination table	1	2	1.75
Instrument cabinet	0	0	0.5
IUD kit	2.75	9	2.25
M.R set with canula	1.5	5	4.5
Stethoscope	6.5	26	5.75
Suction unit portable (manual)	0.25	0	0.75

Managers in the UHFWCs were asked about the additional number of patients they expect after the introduction of the SSK, and they suggested that introduction of SSK would increase patient by 20% at the UHFWC. Managers stated that they would

therefore require additional number of important equipment for smooth functioning of the scheme.

Furniture

It was also found that there were a total of 7 IUD tables, 5 dispensary tables, 4 patient beds and 11 steel almirah in the four UHFWCs. However, some UHFWCs did not have OT table, normal waste basket and file cabinet (Table 3.2.3).

Table 3.2.3: Important furniture and fixture at UHFWC of Debhata Upazila

	Average Number of furniture and fixture (in order) in a UHFWC	Number of furniture and fixture requiring replacement	Average Number of additional furniture and fixture required for SSK
IUD/Insertion table	1.75	7	2.5
Dispensary table	1.25	1	1.25
OT table	0.25	1	0.5
Chair	16	7	21
Patient bed	1	-	1
Steel almirah	2.75	-	2.75
Steel rack	0.25	-	0.5
Normal waste basket	0.5	-	1
File cabinet	0.25	-	0.75
Bench	4.25	10	7

Land and space

It was apparent that UHFWCs had an average of 0.40 acre of land with a building of 2393 square feet (Table 3.2.4). Three UHFWCs had room for MO and FWV, and had OT, store room and waiting room. In one UHFWC, SACMO was employed but there was no room for SACMO. The managers in two UHFWCs reported that their buildings were constructed in 1985/1986 and therefore need repairing of the buildings. During rainy season, water leaks from the roof and makes it difficult to work in the premise.

Table 3.2.4: Existing and required infrastructural inputs in UHFWCs of Debhata Upazila

Infrastructure	Number of UHFWCs with the inputs	Average amount (in square feet)	Number of UHFWCs requiring additional inputs at resent	Number of UHFWCs requiring additional inputs for SSK	Average costs of additional inputs required for SSK
Land (in acre)	4	0.40 acre		1	-
Building	4	2393		1	700,000
Room for MO	3	465	1	1	120,000
Room for SACMO	2	120			
Room for FWV	3	205	1	1	120,000
OT	3	203	1	1	30,000
Room for FPI	1	120	0		
Room for Pharmacist	2	150	1	1	20,000
Store room	3	141	1	1	20,000
Waiting room	3	417		1	20,000
Training				1	120,000
Ticket issue				1	100,000
Counselling				1	150,000
Other				1	290,000

Among the four UHFWCs, manager in one UHFWC stated that though the number of patient seeking care from the UHFWC is not that high at this moment, they would require additional space at present and also for SSK to provide services more efficiently. Manager in another UHFWC stated that they would require additional space for SSK if patient increases by 20% after SSK. Manager in two other UHFWCs could not suggest whether they would need any additional space for SSK, and suggested that it would depend on the activities and functioning of the SSK.

Providers at UHFWCs informed that they receive a number of drugs in excess amount which they do not need, while there remains shortage of supply of some essential drugs. Respondents also informed that there remained limited supply of implant and copper -T for last few years.

Table 3.2.5: Average amount of important drugs received in 2011, inventory, and required amount in UHFWCs of Debhata upazila

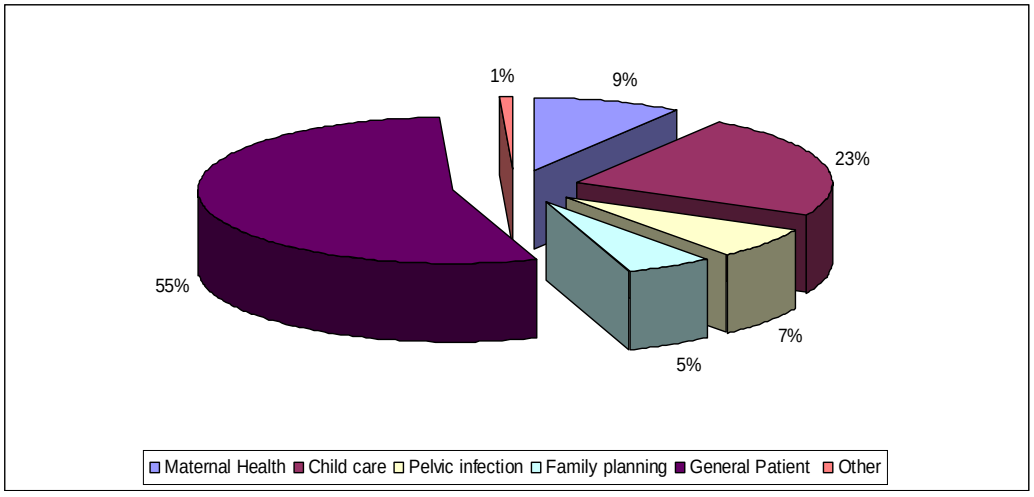
Name of drugs	Average quantity received in 2011	Average inventory at the end of 2011	Average additional amount required at present	Average additional amount required for SSK
Tablet metronidagol	7625	108	2375	5875
Tablet Antacid	14,375	1508	5250	1500
Tablet paracetamol	19,750	1571	3000	2750
Tablet Cotrim	8750	241	1325	1750
Tablet Iebuprofen	1175	77	350	3400
Capsule Tetracyclin	5050	750	2750	5500
Capsule Cefradin	0	0	3900	3500
Tablet hiosin	900	121	300	2500
Capsule Amoxicillin 250	7,500	115	3250	2125
Tablet Renitidin	2975	32	1750	1250
Syrup Amoxilin	265	2	165	400
Syrup Cotrim	185	4	140	425
Syrup Paracetamol	261	9	209	300

It was evident that maternal health, child health and family planning were the major services provided at UHFWCs. The patient record suggests that the number of patients seeking care from UHFWC increased by 82% from 2009 to 2010, however, it reduced by 7% in 2011 from 2010. Among the total patients in 2011, 9% received maternal care, and 23% received care for child health (Fig 6).

Table 3.2.6: Average number of patients in the UHFWCs of Debhata upazila in the last three years by disease/condition

Disease/condition	2009	2010	2011
Maternal Health			
- ANC 1	203	278	300
- ANC 2	228	282	294
- ANC 3	257	283	344
- Delivery care	7	12	12
- Abortion	4	1	1
- PNC	142	235	266
Pelvic infection			
STI/RTI	355	430	223
ARI	431	323	294
Diarrohoea	446	584	366
Skin disease and eye infection			
Eye infection	47	0	0
Scabies	238	318	0
Family planning			
Family planning for male	91	101	94
Family planning for female	954	674	599
Child Care	**1220**	**3038**	**2924**
Other			
Helminthiasis,	221	330	0
Anemia	5	17	38
General Patient	2691	6806	6990
Dysmenorrhea	10	12	22
Malnutrition	11	29	28
ECP	2	21	21
Infertile couple	1	0	0
Total	**7561**	**13772**	**12814**

Figure 6: Percentage distribution of the patients by type of disease/condition in 2011 in Debhata UHFWCs



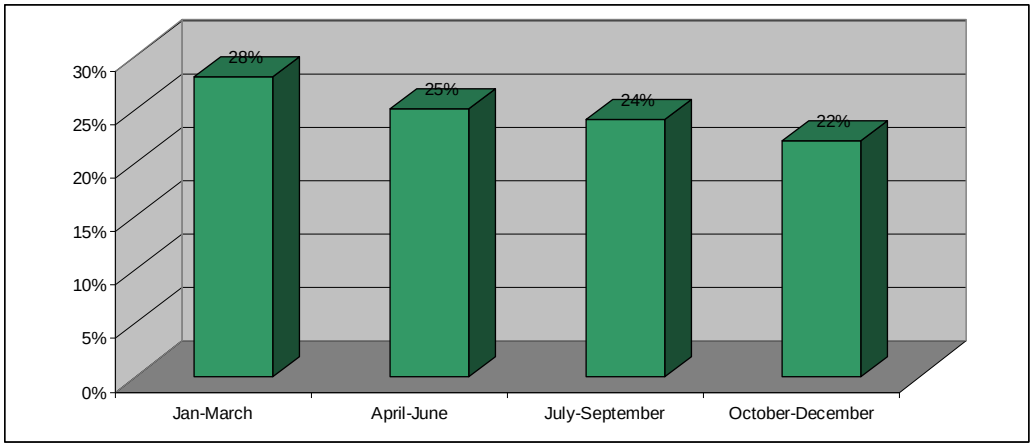
It is evident from Table 3.2.7 that the number of patients in a UHFWC varied considerably per month. For example, in Debhata Sadar, the lowest number of patient was in November (733) and the highest number was in February (1166).

Table 3.2.7: Number of patients in 2011 by month and UHFWC

Month	Debhata Sadar	Parulia	Kulia	Nawapara	Total
January	770	263	2177	1503	4713
February	1166	322	2060	1704	5252
March	809	299	1880	1491	3750
April	961	277	1787	1428	4453
May	860	281	1782	1308	4231
June	749	313	1808	1416	4286
July	847	312	1809	1325	4293
August	788	298	1699	1209	3994
September	763	289	1779	1369	4200
October	903	245	1654	1321	4123
November	733	230	1463	1052	3478
December	787	330	1690	981	3788
Total	**9407**	**3459**	**21588**	**16107**	**50561**

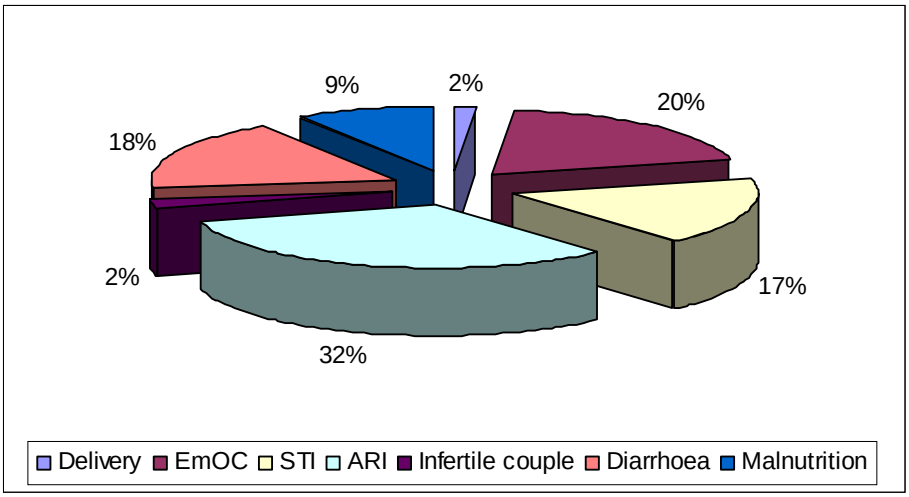
There remained seasonal variation in the number of patients seeking care from UHFWC. It was found that 29% of the total patients received care during January – March, 2011 in four UHFWCs, while 22% of the total patients received care during October-December (Fig 7). This seasonal variation in number of patients seeking care from modern facilities is common in Bangladesh: the number of patients reduces in winter and increases in summer.

Figure 7: Proportion of patients in UHFWCs by quarter (2011)



UHFWCs refer patients to UHC. A total of 132 patients from the four UHFWCs were referred to UHC in 2011. Among them, 12% (n=26) required EmOC and 32% (n=42) were referred to UHC with ARI.

Figure 8: Percentage distribution of patients referred to UHC by disease/condition



3.3. Capacity of Community Clinics

There is a total of 14 CCs in Debhata, of which, 12 CCs were functioning during the data collection period. This section presents the findings of 12 CCs.

It was found that one CC has three sanctioned posts: Community Health Care Provider (CHCP), FWA and HA. All the 12 CCs in Debhata had CHCP, one FWA and one HA. There was no vacant post in these 12 CCs. All the respondents in these 12 CCs stated that they require one guard and one aya in each CC at present and also for SSK. The CHCPs reported that they feel insecure to store the drugs in CC as there is no guard in the CC. They also reported that as there is no cleaner in the CC, CHCP has to clean the CC including the toilet.

Table 3.3.1: Existing and required human resources in CCs of Debhata upazila

Designation	Average number of sanctioned post	Number of CCs with employed person
CHCP	1	12
FWA	1	12
HA	1	12

During the survey period, training for CHCPs were going on. The CHCPs reported that they started their job without any training. They now look forward to complete their training and providing services efficiently at CC.

It was found that a CC generally had a number of important equipments including hanging weight machine, thermometer clinical, measuring tape and diabetes strip. However, none of the CCs had BP machine aneroid, stethoscope, weight machine and steel measuring. All the 12 CCs suggested that they would require additional number of equipments for SSK (Table 3.3.2).

Table 3.3.2: Important equipments at CCs of Debhata Upazila

Name of equipment	Average Number of equipments (in working condition) in a CC	Number of CCs with additional requirement of equipment for SSK	Average Number of equipments required for SSK
Bandage cutting scissors	1	12	4
BP machine Aneroid	0	12	4.5
Hanging weight machine	1	12	3.45
Stethoscope	0	12	3
Thermometer clinical	2	12	1.5
Timer	1	12	1.4
Weight machine	0	12	2.6
Measuring tape	2	12	2.5
Steel measuring	0	11	2.9
Surgical gauge (box)	4	12	4.3
Diabetes strip	5	12	100
Cotton	0.25 pound		1 pound

All the CCs had almirah, table, chair, examination table and delivery table. The respondents suggested that they would require all these furniture in additional quantity for SSK. The average no of additional furniture and fixture required for SSK in the 12 CCs are presented in Table 3.3.3.

Table 3.3.3: Important furniture and fixture at CC of Debhata Upazila

Furniture and fixture	Average Number of furniture and fixture (in order) in a CC	Average Number of additional furniture and fixture required for SSK
Almirah	1	1.5
Table	2	2
Chair	6	7
Examination table	1	1.3
Delivery table	1	1.3

Among the 12 CCs, 11 had own land of 5 decimals. All these 11 CCs had a building with two rooms and one veranda. Respondents in these 11 CCs suggested that they would not require any additional space for SSK. Rather they need water and electricity supply for smooth functioning of CC, which is currently not available in some of the CCs.

Table 3.3.4: Existing and required infrastructural inputs in CCs of Debhata Upazila

Item	Number of CCs with the inputs	Average amount
Land	11	5 decimal
Building	11	422 sq feet
Room 1	11	101 sq feet
Room 2	11	101 sq feet

It was evident that there was enough supply of drugs in the CCs. They receive 2 kits of drugs per quarter, each containing 29 medicines. They received drugs in regular intervals. However, a number of CHCP suggested that as they were not allowed to prescribe antibiotics, such as, Cotrim, there was no reason to provide these antibiotics

in CCs. They added that a number of such medicines remain unused in CC. Some CHCPs informed that cold, caught, weakness, diarrhoea, anaemia, stomach pain, gastric and skin disease were the common illness for which people seek treatment from CC. CHCP refers patients to UHC for major diseases including very high fever, pneumonia and TB. They therefore suggested providing more basic medicines to treat common illness at CCs.

Table 3.3.5: Average quantity of major drugs received in 2011 by CCs of Debhata upazila

Name of drugs	Average quantity received in 2011 (number)
Amoxicillin Capsule	3,000
Doxicline	1,200
Albendagol	600
Antacid	12,000
Chlorpheniramine	6,000
Cotrimoxazole	3,000
Ferrous Fumarate and folic acid tab	12,000
Hyoscine butoylbromide	600
Metronidazole	12,000
Paracetamol Tab	12,000
Zinc disperesivle	3,000
Amoxicillin dry syrup	72
Amoxicillin pediatric drop	60
Benzyl benzoate	144
Paracetamol suspension	288
Salbutamol syrup	144
Chloramphenicol eye ointment (1%) gm	60
Gentian violate 2% solution	60

A number of CHCP reported that people often demand some medicines from the CHCP irrespective of the disease they are suffering from, such as, vitamin, calcium and iron tablet. They added that some people come to CC only to collect these vitamins, and insists CHCP to give them some of these medicines. The CHCPs stated that it is a challenge for them to meet the expectation of the community. They suggested that awareness should be created among people on issues related to what services are available at CCs, UHFWCs and UHC, and the adverse effects of using unnecessary drugs.

CHCP maintains register to keep patient record. They enter the name, age, gender, symptoms/illness of the patient and the drugs distributed. CHCPs in Debhata also recorded the number of persons they referred to UHFWC/UHC per month. The total number of patients in the 12 CCs in 2011 and the number of persons referred from CC are presented in Table 3.3.6. However, as there was no consolidated data available on the number of patients by disease per month, it was not possible for the FIs to collate disease-wise monthly patient record from CCs in Debhata within the short span of the survey period.

Table 3.3.6: Total number of patients and the number of referrals in the 12 CCs of Debhata upazila

Name of CC	Number of patients in Jan-Dec, 2011	Number of patients in March, 2012	Number of persons referred to UHFWC/UHC in March, 2012
Nongla, Noapara	3,729	674	03
Ashkarpur, Noapara	4,718	1,494	99
Pachpota, Shokhipur	3,684	470	10
Najirer Gher, Parulia	3,935	85	4
Idgah Model Clinic, Shokhipur	4,533	379	20
Atshoto Bigha, Noapara	4,343	668	14
Ticket, Kulia	4,031	422	04
Gelepara, Parulia	3,646	457	0
Bhatshala, Debhata	2,743	58	6
Town Sripur, Debhata	2,928	578	4
Komorpur, Parulia	1,658	304	25
Chaltetla, Parulia	3,126	642	0

It appears from the above Table that the number of persons visited CC and the persons referred from CC varied considerably among the 12 CCs. The average number of persons visited CC per month in 2011 was 393 in Ashkarpur, Noapara and was 138 in Komorpur, Parulia.

3.4. Capacity of the private sector

In the private facility, there was six full time permanent staff: one doctor, two nurses, one accountant and two cleaners. The building was operating in a rented house. It had one room for doctor (225 sq feet), one office room (225 sq feet), five wards (5*225 sq feet), one operation theatre (225 sq feet), waiting room (300 sq feet), veranda (675 sq feet) and three toilets (3*100 sq feet). The clinic did not maintain any patient register. Hence, it was not possible to collect disease-wise patient record from this clinic. The representative of the clinic informed that they generally provide services to persons for normal and C-Section delivery, appendicitis, and gallbladder operation. The representative recalled that the total number of normal delivery was approximately 120, C-Section delivery was 144, appendicitis was 240 and gallbladder operation was 60 in 2011. The private clinic did not procure any medicine as it did not provide medicine to the patients. Patients had to buy medicine from nearby pharmacy.

Respondent in the private clinic stated that the existing number of personnel and the available space would not be enough to provide services to an increased number of patients under SSK. The clinic would require additional staff including two medical assistants, one nurse, one accountant, one office assistant and four other support staff. Moreover, they would need one additional floor of the building having five more wards, ten beds, five toilets, one OT and waiting. It would cost the clinic of 50,00,000 (Fifty Lac) Taka- as was suggested by the respondent in the clinic.

Though a number of important equipments were functioning at present in the private clinic, most of them had been procured long ago, and therefore need to be replaced (Table 3.4.1).

Table 3.4.1: Important equipments at private clinic of Debhata Upazila

Name of equipment	Number of equipments (in working condition) in the clinic	Number of equipments requiring replacement	Number of additional equipment required for SSK
BP Handle	3	3	4
BP machine aneroid	2	2	4
Bandage cutting scissors	3	3	4
Cursor vaginal speculam	3	3	5
D & C set	0	0	
Delivery kit	1	1	2
Examination table	1	1	1
Instrument cabinet	0	0	0
IUD kit	0	0	0
M.R set with canula	0	0	0
Stethoscope	2	2	3
Weight machine	1	0	2
Suction unit portable (manual)	0	0	
Generator	1	0	1

The private clinic had some important furniture and fixtures, as outlined in Table 3.4.2. The respondent in the private clinic informed that they would require additional furniture if they need to provide services to increased number of patients for SSK.

Table 3.4.2: Important furniture and fixture at private clinic of Debhata Upazila

Name of the furniture	Total number	Number of equipments requiring replacement	Additional number of furniture required for SSK
Table (wooden)	2		4
Patient Table (wooden)	2		4
Patient bed	10		20
Trolley	1		2
Chair (wooden)	5		10
Showcase	2		4
Box	1		3
Tool	10		18
Operation table	1		1
Table for machinery	1		1

The FIs collected the fee charged for different services in the private clinic. It was found that the consultation fee charged for a patient is 50 Taka. Fee for urine test is 20 Taka and blood test is 30 Taka. Charge for normal delivery is 500 Taka and C-section delivery is 5,000 Taka.

4. FINDINGS IN TUNGIPARA UPAZILA

Tungipara is situated in Gopalganj district with an area of 125.25 sq km. The total population of the area is 100,136. Along with the Upazila Health Complex (UHC), five Union Health and Family Welfare Centres (UHFWCs) and 16 Community Clinics (CCs) provide health services in the area. This section analyses the capacity of public (UHC, UHFWCs and CCs) and private (one NGO and one private clinic) health care facilities in Tungipara upazila.

4.1. Capacity of the Tungipara UHC

The study assesses the capacity of the UHC in terms of availability of personnel and their qualification, availability of physical infrastructure (land, equipment and furniture), availability of medicines and logistics, data availability and whether there remains appropriate input skill-mix in the facility. Some management issues including financial management systems, and referral, monitoring and supervision mechanism are also analysed. The study also explores requirement of additional resources to meet the needs of the SSK.

Human resources

The UHC in Tungipara had a total of 137 sanctioned posts, of which 76 persons were employed and 61 posts (44.5% of total) were vacant at the time of survey (Table 4.1.1). Ten doctors and 11 nurses were employed in the UHC. There was no female doctor working in the UHC. It was evident that there was inappropriate mix of skill in the UHC in Tungipara. There was no sanctioned post for pathologist and emergency attendant in the UHC during the survey period. Though there were sanctioned posts for storekeeper and statistician, these posts were vacant in the UHC, which impeded the process of drug distribution and record keeping in the UHC.

Table 4.1.1: Existing and required human resources at UHC of Tungipara Upazila

Designation	Number of sanctioned post	Number of employed persons	Number of Vacant posts
Clinical staff responsible for both inpatient and outpatient department			
UHFPO	1	1	0
RMO	1	1	0
Jr Consultant (gynaecology)	1	0	1
Nurse (senior and assistant)	16	11	5
Pharmacist	4	1	3
Medical technologists	6	5	1
Aya/ward boy	5	1	4
Clinical staff responsible for inpatient department			
Jr Consultant (Surgery)	0	0	0
Jr Consultant (Anaesthetist)	1	0	1
Clinical staff responsible for outpatient department			
Jr. Consultant (Medicine)	5	1	4
Dental Surgeon	1	1	0
Medical Officer	8	6	2

Medical Assistant	7	6	1
Health Assistant	20	13	7
Administrative staff			
Statistician	1	0	1
Store keeper	1	0	1
Head assistant cum Accountant	1	1	0
Cashier	1	1	0
Health Inspector/ Assistant HI	5	5	0
Other	36	15	21
Family Planning staff providing outpatient care			
UFPO	1	1	0
MO-FP	1	0	1
AFPO	1	0	1
FWV	3	1	2
Other FP	10	5	5
Total	**137**	**76**	**61**

In Tungipara, the number of doctors and nurses per 10,000 population is only 2.1. If the total number of doctors, nurses and health workers (MA, HA, HI, AHI, UFPO, FWV) are considered, the ratio of health workforce per 10,000 population becomes 4.7 (Table 4.1.2).

Table 4.1.2: Human resource management indicators in Tungipara

Indicators	Ratio
Nurse to physician ratio (number of physicians employed)	1.1
Ratio of physician per 10,000 population	1.0
Ratio of nurse per 10,000 population	1.1
Ratio of physician and nurse per 10,000 population	2.1
Ratio of health assistant per 10,000 population	1.3
Ratio of health workforce (physician, nurse and health workers) per 10,000 population	4.7
Percentage of female physician among total physicians	0%

However, managers in the UHC informed that among the ten employed doctors, only five to six doctors provide services in the UHC. Field Investigators (FIs) also reported that despite being employed in the UHC, some of the health care providers do not regularly work in the facility: they found five doctors working during their data collection period in the UHC, and two doctors were attending training at district level. If the actual number of physicians working in the facility is considered, the ratio of physician per ten thousand population becomes even smaller (0.5).

It was evident that a provider works for maximum of five hours per day in the Tungipara UHC, of which they spend three hours in outdoor department, one hour in inpatient department and one hour for other managerial activities. This is consistent with the findings of Debhata UHC. The managers stated that on an average 300 patients seek care from outpatient department. This suggests that on an average, each of the five doctors treat 60 patients in three hours per day, spending three minutes per patient, which was considered as inadequate by a number of respondents.

Managers predicted that after the introduction of SSK, the patient in UHC would increase by 15% to 20%. The managers and health care providers were asked whether they need any additional posts at present to provide services efficiently and after the

introduction of SSK to meet the increased demand for services. They suggested that they do not need to create any additional posts of health care providers; rather if the existing 15 sanctioned posts of Junior Consultants, specialists and Medical Officers are being filled, they can provide services efficiently at present and even after the SSK.

Expertise and experience of the health care providers

Majority of health care providers in Tungipara UHC have more than five years of experience. However, a number of junior consultants joined the service very recently, and did not receive any training in addition to their basic MBBS degree. During discussion, the managers suggested that refresher training should be arranged for health care providers on issues related to midwifery, maternal and child health, and non-communicable diseases, while basic training needs to be arranged on managerial (recording, reporting, data management) and financial (book keeping, accounting and auditing) issues to improve service delivery of the facility.

Table 4.1.3: Educational qualification and basic training of physicians in Tungipara UHC

Designation	Educational qualification (highest degree)	Year of joining present service	Issues of basic training received*
UH &FPO	MBBS	1986	Obstetric/gynaecology, breast feeding
RMO	MBBS	2001	
Jr Consultant (Paediatrics)	MBBS	2010	
Dental Surgeon	MBBS	N/A	
Medical Officer	MBBS	2005	IMCI Training
Medical Officer	MBBS	1985	
Medical Officer	MBBS	2010	IMCI, Sick new born Care
Medical Officer	MBBS	2005	IMCI, Violence
Medical Officer*	MBBS	N/A	N/A
Medical Officer*	MBBS	N/A	N/A

*The person was attending training at district level during the data collection period

Equipments, furniture and fixture

It was found that the inpatient department of Tungipara UHC had a total of 143 important medical equipments, though it lacked a number of crucial equipments. There was no ECG machine in the UHC. Among the 143 equipments, 70 equipments were not functioning during the survey period. The ultrasound machine was out of order. However, the managers suggested that minor repair of some of the non-functioning equipments may make them functional. Though 73 equipments were functioning, 18 of them have already exceeded their expected life years and need immediate replacement (Table 4.1.4). In the outpatient department, large proportion of the equipments was out of order, while some need replacement. For example, though the X-ray machine was in-order, considering the average life expectancy of 10 years, it needs replacement as it was procured 15 years ago in 1997. Respondents stated that the budgetary allocation for repair and maintenance of equipments in the UHC is not enough, which reduces the expected life years of expensive and life saving equipments.

Table 4.1.4: Important equipments at UHC of Tungipara Upazila

Name of the equipment	Total number	In order	Out of Order	Number of equipment need replacement
Inpatient department				
Anaesthesia Machine	2	2	0	1
Dehumidifier	1	1	0	0
Diathermy machine	2	2	0	1
Haemocytometer	1	0	1	1
Haemoglobin meter	2	2	0	2
Nitrous oxide cylinder	1	1	0	1
O.T. Light, Ceiling 9 bulb	2	2	0	2
Obstetric Delivery Table	6	4	2	2
Ophthalmoscope	1	0	1	1
Oxygen cylinder	10	10	0	2
Oxygen cylinder trolley	2	2	0	0
Oxygen flow meter	6	4	2	0
Patient Trolley	6	4	2	0
Pulse ox meter	2	1	1	0
Sucker machine 250 w/400 watt	3	2	1	2
B.P. machine Aneroid	12	3	9	0
Instrument tray 10"-12"	3	1	2	0
Mouth gag rubber	12	4	8	0
Spirit lamp	1	1	0	0
Sponge holding forceps	26	12	14	0
Sterilizer small	2	0	2	0
Boiling water sterilizer	3	2	1	0
Cusco's vaginal speculum	15	5	10	0
Stethoscope	14	2	12	2
D&C set	4	2	2	1
Suction unit portable (manual)	2	2	0	0
IPS	2	2	0	0
Total	**143**	**73**	**70**	**18**
Outpatient department				
X-ray machine	1	1	0	1
Haemocytometer	1	1	0	1
Haemoglobin meter	5	3	2	3
Nitrous oxide cylinder	1	1	0	0
Obstetric Delivery Table	3	1	0	1
Oxygen cylinder	5	4	1	1
Oxygen cylinder trolley	1	1	0	0
Oxygen flow meter	3	2	1	0
Patient trolley	2	1	1	0
Refrigerator 10cft	1	1	0	1
Sucker machine 250 w/400 watt	2	1	1	0
B.P. machine Aneroid	60	10	50	1
Hanging weight machine	5	0	5	0
Instrument tray 10"-12"	7	3	4	0
Mouth gag rubber	18	11	7	0
Stethoscope	58	11	47	1
Thermometer clinical	60	40	20	0
Timer	1	1	0	0
Weight machine	39	5	34	0
Examination table	14	10	4	0
Patient stretcher	6	5	1	3
Total	**293**	**113**	**178**	**13**

In Tungipara UHC, a total of 113 important equipments were functioning in inpatient and outpatient departments. This implies that there exist 12 important equipments per 10,000 population. Tungipara UHC has 50 inpatient beds. The ratio of inpatient bed per 1,000 population in Tungipara is 0.5, which is relatively low as compared to a number of countries in Asia.

The inpatient department in Tungipara UHC had all the important furniture, and majority of these were procured over the period of 2011-2012. Hence, all the furniture is functioning well and do not need any repair or replacement at present. However, in the outdoor department, a considerable proportion of furniture was procured in 1997 and therefore need replacement (Table 4.1.5).

Table 4.1.5: Important furniture and fixture at UHC of Tungipara Upazila

Name of the furniture	Total number	Number of furniture need replacement
Inpatient department		
Bed	50	0
Bedside Cabinet	75	0
Plastic Chair	10	0
Cabinet (Almirah) steel	12	0
Patient examination Table	17	0
Chair	30	0
Bed Guide Locker	20	0
File cabinet	2	0
Temperature Chart Holder	25	0
Food Trolley	2	0
Over bed table	2	0
Medicine Trolley	2	0
Saline Stand	2	0
Boil Stand	2	0
Small Table	2	0
Total	**253**	**0**
Out patient department		
Plastic Chair	20	0
Executive Chair	6	0
Visitor Chair	10	0
Fixed Chair	10	0
Chair	43	8
Table	1	0
Small Table	2	0
Centre Table	4	0
Display Board	1	1
Patient examination Table	20	6
Dispensing Table	2	0
Medicine Trolly	1	0
Medicine Cub board	1	0
Office Cabinet	1	0
Medicine Cabinet	2	0
Cabinet (Almirah) -Steel	22	10
File Cabinet	22	12
White Board	1	0

Wooden Bench	14	6
Emergency Duty Roster	1	0
White Board	1	0
Sofa set	12	0
Total	**197**	**43**

Respondents suggested that they do not need additional number of furniture/fixture at present, except bed. They suggested that Tungipara UHC would require 100 additional beds for smooth functioning of SSK. However, they also informed that there is no spare space available in the UHC to place additional beds.

Land and space

The managers of the UHC stated that there remains inadequate space in the inpatient department in Tungipara UHC. In the outpatient department, a total of 16 rooms are available, including rooms for doctors and other staff, with an average size of 221 square feet. The respondents suggested that the UHC would require 10% additional space, especially in inpatient department, to provide services after SSK.

Table 4.1.6: Amount of land and space of UHC of Tungipara upazila

Land and space	Total amount	Space
Land		6 acre
Inpatient department	Total number	Total space (in square feet)
Ward		500
Out patient department	Total number	Total space (in square feet)
Doctors' room	5	1150
Office room	3	540
Store room	1	120
X-ray room	1	400
Pathology	1	200
EPI	1	200
Leprosy & Tuberculosis	1	200
Other	3	730

Drugs, supplies and logistics

Providers at UHC informed that the process of procurement and distribution of drugs is centralised. They added that central level requires more than a year to procure drugs. Due to this time lag in the procurement process, additional drugs cannot be supplied during emergency. It was also evident that a number of drugs were supplied inadequately, while there was excess supply of some other drugs. Some important drugs including tablet Riboflavin and tablet Ibuprofen were not supplied in 2011, while capsule Cephradine 500 mg, IV Canula and tablet Ciprofloxacin remained unused. However, the stock of some life saving drugs, such as Dexamethason became nil at the end of the year 2011 (Table 4.1.7).

Table 4.1.7: Drugs received in 2011 by UHC of Tungipara upazila

Name	Quantity received in 2011	The amount of inventory at the end of year 2011
Tab Metronidazole 400 mg	40000	12000
Tab Ranitidine 150 mg	2000	0
Tab Antacid	45000	8200
Tab Cotrim 400 mg	70000	28900
Cap Cephradine 500 mg	5000	5000
Cap Flucloxin 500 mg	2000	0
Cap Amoxicillin 250 mg	12000	0
Cap Amoxicillin 500 mg	50000	15000
Syp Histacin	100	0
Syp Amoxicillin	700	540
Whitfield Ointment	10	0
Surgical gloves (Sterile)	5513	2000
IV Canula	503	503
Micropore 3”	300	50
Micropore 2”	200	50
Disposable syringe	5000	0
ORS	40000	5000
Inj Ceftriaxone 1 gm	800	0
Solbutamol solution	300	100
Syp Cotrim	2500	2500
Syp Paracetamol	2800	0
Syp Erithromycincor	1000	200
tab zinc sulphate	35000	13000
Tab Ferrus Fumaret	30000	5000
Tab Vitamin B Com	55000	11500
Tab albendazole	50000	0
Tab Paracetamol	124000	11000
Tab Salbutamol	40000	10000
Tab Ciprofloxacin	30000	21000
Tab Tetracyclin	20000	12500
Tab Histacin	90000	0

Supplies and logistics

It was reported that a number of supplies and logistics were not provided to the UHC for a long time, and some of the items are required at present to ensure quality of care. Stocks were finished for some of the items at the end of year 2011 and needs to be supplied. For example, they require 400 Foley’s catheter of different size at present. It was also reported that supplies and logistics needs to be increased by 10% for SSK.

Table 4.1.8: Amount of supplies and logistics received in 2011 in Tungipara UHC

Item of supplies and logistics	Quantity received in 2011	The amount of inventory at the end of year 2011
Gauze	200	400
Cotton	200	200
Plaster of Paris	624	350
Foley’s catheter different size	400	0
Implantation set	128	77
IUD kit	2	2
Tubectomy kit	5	0
Delivery kit	25	0

Trend of patients in UHC

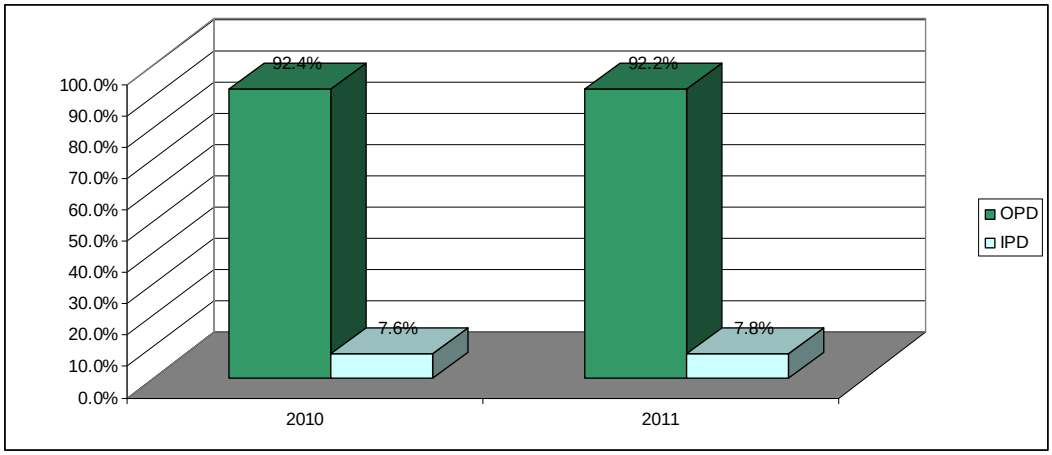
The number of patients who visited the UHC over the period of 2010-2011 is presented in Table 4.1.9. It appears that people were generally admitted in the UHC for delivery care, emergency obstetric care, ARI, diarrhoea, poisoning and injury.

Table 4.1.9: Number of patients by disease and year in Tungipara UHC

	2010			2011		
Disease/condition	Out-patient	In-patient	Total	Out-patient	In-patient	Total
a) Maternal health						
ANC	31325	0	31325	49950	0	49950
Delivery care	0	636	636	0	1043	1043
EmOC	0	470	470	0	753	753
PNC	1924	0	1924	1490	0	1490
Other	0	991	991	0	1363	1363
Sub Total	33249	2097	35346	51440	3159	54599
b) Pelvic infection, STI/RTI						
ARI	0	270	270	0	325	325
Bronchial asthma	0	84	84	0	0	0
Diarrhoea	0	373	373	0	594	594
Dysentery	0	2	2	0	2	2
Tuberculosis	503	0	503	0	73	73
PUO	0	276	276	0	0	0
Abdominal pain	0	175	175	0	193	193
Sub Total	503	1180	1683	0	1187	1187
c) Skin, ENT and dental infection						
Eye infection				0	273	273
d) Family planning						
FP	6531	0	6531	4286	0	4286
FP	26363	0	26363	30828	0	30828
IUD	0	0	0	0	295	295
Sub Total	32894	0	32894	35114	295	35409
f) Non-Communicable Disease:						
Diabetes	0	1	1	0	2	2
Hypertension	0	50	50	0	47	47
Assault/Injury	0	719	719	0	809	809
Anaemia	0	26	26	0	64	64
Poisoning	0	113	113	0	149	149
Sub Total	0	909	909	0	1071	1071
g) Other	0	1304	1304	0	1324	1324
Total	66646	5490	72136	86554	7309	93863

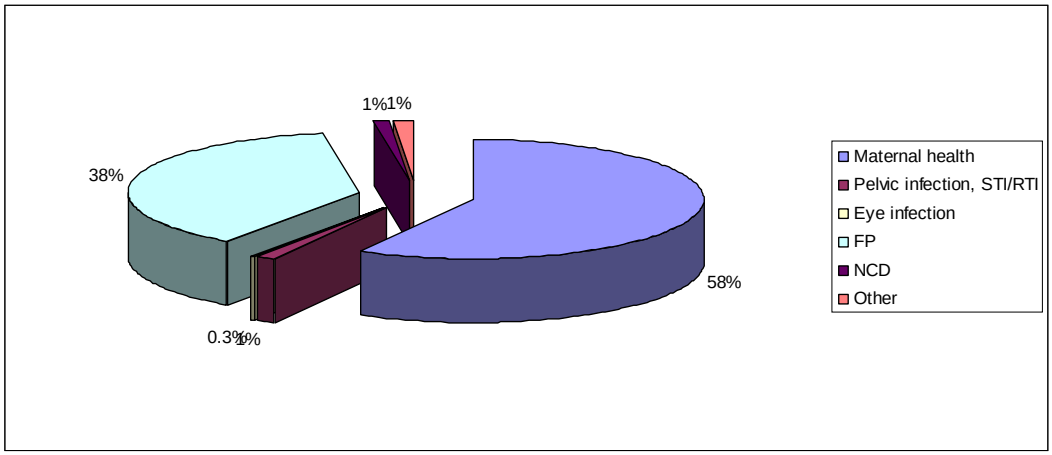
It appears that the number of total persons seeking care from UHC increased by 30.12% from 2010 to 2011, while the number of inpatients increased by 33% over the same period. However, the proportion of inpatient in total patient remained almost same over this period: 7.6% and 7.8% in 2010 and 2011 respectively (Fig 9).

Figure 9: Proportion of inpatient and outpatient to total patient



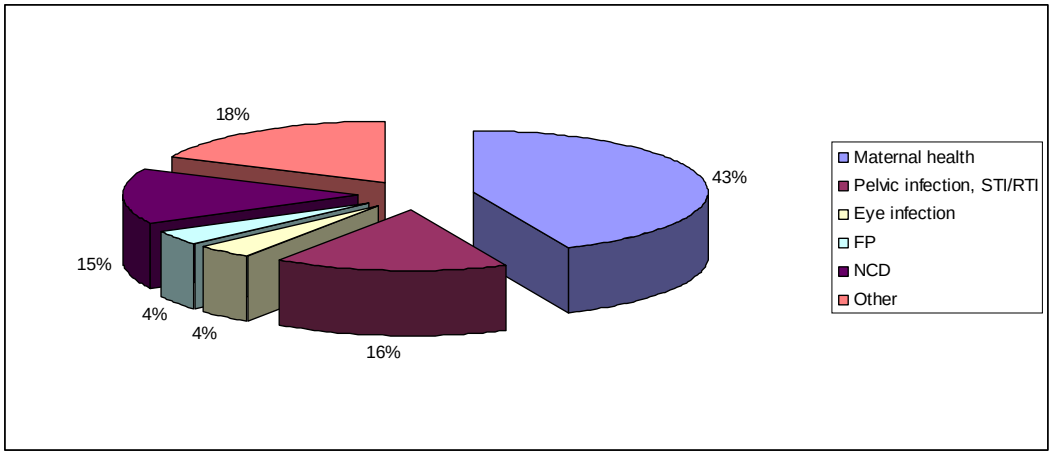
Among the total patients (both inpatient and outpatient) who visited the facility in 2011, majority (58%) sought maternal care and 38% received family planning services (Fig 10).

Figure 10: Percentage distribution of total patient (both inpatient and outpatient) by type of disease/condition in 2011



It was evident that 43% of the total inpatients were admitted in the UHC for maternal care, while 16% received care for pelvic infection/STI (Fig 11).

Figure 11: Percentage distribution of inpatient by type of disease/condition in 2011



It was found that people visited the outpatient department of Tungipara UHC for receiving ANC, PNC and family planning services. 58% of the outdoor patients visited the UHC for ANC care while only 2% of the patients received PNC from the outpatient department (Fig 12).

Figure 12: Percentage distribution of outpatient by type of disease/condition in 2011

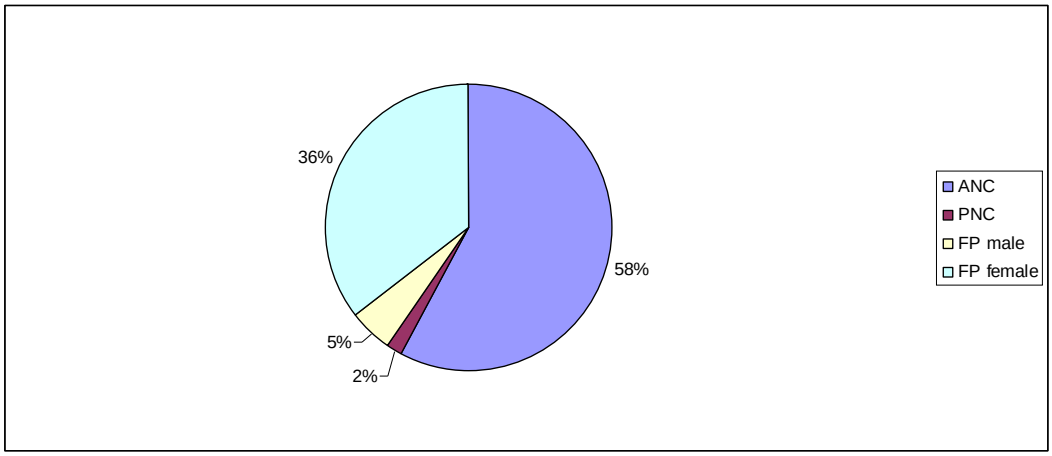
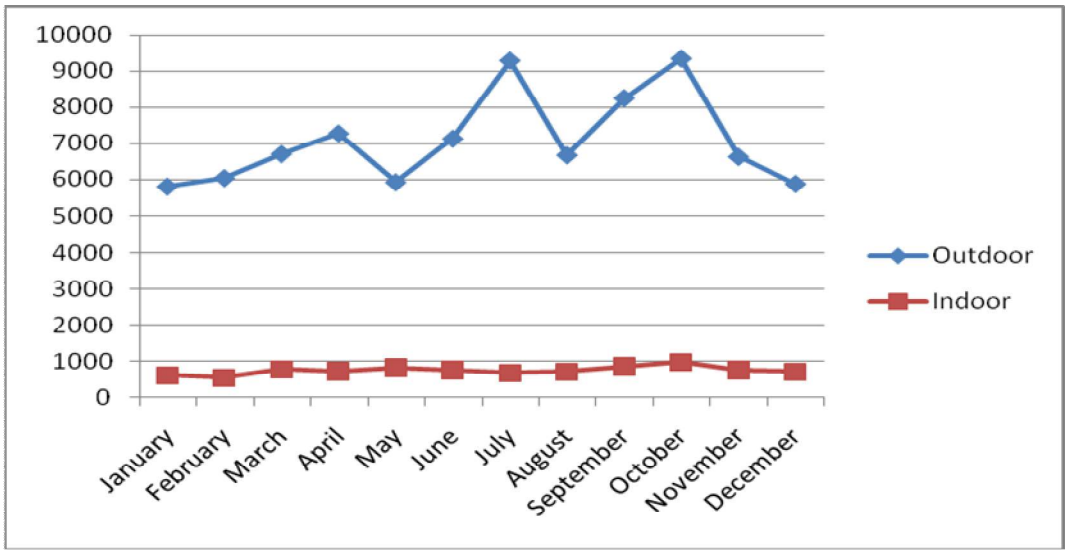


Figure 13 suggests that the number of inpatients per month did not vary in Tungipara UHC in 2011. However, the outpatient was relatively higher over the period of July-October, and declined markedly in November and December.

Figure 13: Number of outdoor and indoor patients by month in Tungipara UHC in 2011



Management issues

During field trips of the core research team, respondents stated that doctors are not fully accountable to the UH&FPO. Physicians often take leave for long period or even get transferred without informing the UH&FPO, which adversely affects service provision of the facility.

Managers informed that UHC receives drugs from different sources. They receive some drugs from Civil Surgeon and some directly from the central level. Different records are maintained for drugs received from these two sources. Drugs are supplied to ward and outpatient department through indent.

Respondents stated that referral is maintained by referral slip, which is issued by the doctor. However, they considered the referral mechanism 'weak' as there is no formal procedure to follow up the patient, to ensure whether the patient is ultimately seeking care, and to identify them in case of discontinuation of treatment. The UHC do not maintain record for referred patients. They suggested that on an average 35 patients are referred to district hospital per month, of which 75% are referred from emergency unit and 25% from inpatient department.

Managers and health care providers in the UHC also raised the issue of coordination of SSK project with other programmes of the government. They stated that due to the implementation of 'Demand Side Financing' (DSF) in Tungipara, utilisation of maternal health care is high. Respondents suggested that a mechanism needs to be developed to co-ordinate the activities of DSF and SSK projects to avoid duplication of efforts.

4.2. Capacity of the UHFWC

A total of 10 personnel are employed in four UHFWCs in Tungipara. However, there is no Medical Officer in any of the four UHFWCs. Total 11 posts are vacant in the four UHFWCs. Only one FWV serves three facilities. Two SACMOs were appointed in

February, 2012. None of the UHFWCs has cleaner/sweeper, which is essential to maintain the cleanliness of the facilities. All UHFWCs in Tungipara suggested that they need to fill in the vacant posts at present to cope with existing patient flow.

Table 4.2.1: Existing and required human resources in UHFWCs of Tungipara Upazila by designation

Designation	Number of UHFWCs with employed persons	Total Number of persons employed	Number of vacant posts
Medical Officer	0	0	3
SACMO	1	3	3
FWV	1	1	3
Pharmacist	0	0	1
Other	3	6	1
Total		**10**	

- One UHFWC has no information on MO, no persons employed in one UHFWC

It was evident that some equipment in the UHFWCs were enough in quantity, while a number of important equipments were not available in adequate number. One UHFWC has no equipment and a bed is broken. On an average, a UHFWC had one delivery kit while there was no stethoscope, D&C set or instrument cabinet in any of the four UHFWCs (Table 4.2.2). All UHFWCs require additional number of equipments for SSK.

Table 4.2.2: Important equipments at UHFWC of Tungipara Upazila

Name of equipment	Average Number of equipments (in working condition) in a UHFWC	Number of equipments requiring replacement	Average Number of additional equipment required for SSK
BP Handle	0.5	0	3
BP machine	0.5	0	3
Bandage cutting scissors	0	0	2.5
Cuscors vaginal speculam	0.5	0	0.75
D & C set	0	0	1.25
Delivery kit	0.25	1	1.25
Examination table	0.5	0	1.25
Instrument cabinet	0	0	1
IUD kit	0.5	2	1.25
M.R set with canula	0.5	0	2.25
NSV set	0	0	0.5
Resuscitator	0	0	0.5
Stethoscope	0	0	2.75
Suction unit portable (manual)	0	0	0.5

Managers in the UHFWCs were asked about the additional number of patients they expect after the introduction of the SSK, and they suggested that introduction of SSK would increase patient by 20% at the UHFWC. Managers stated that they would therefore require additional number of important equipment for smooth functioning of the scheme.

The UHFWCs in Tungipara lacks some important furniture and fixture. There was no waiting bench and file cabinet.

Table 4.2.3. Important furniture and fixture at UHFWC of Tungipara Upazila

Furniture	Average Number of furniture and fixture (in order) in a UHFWC	Number of furniture and fixture requiring replacement	Average Number of additional furniture and fixture required for SSK
Intern/IUD table	0	0	0
Dispensary table	0	0	0
Chair	12	0	17
Patient bed	0.25	0	0
Almirah	3	0	2.75

One of the UHFWC was used as a police camp till last year. The condition of the facility is therefore not so well. It was apparent that UHFWCs had an average of 0.56 acre of land with a building of 1927 square feet (Table 4.2.4). All UHFWCs needs additional land, space for drug store and waiting room after SSK.

Table 4.2.4: Existing and required infrastructural inputs in UHFWCs of Tungipara Upazila

	Number of UHFWCs with the inputs	Average amount	Number of UHFWCs requiring additional inputs at resent	Average costs of additional inputs required at present	Number of UHFWCs requiring additional inputs for SSK	Total costs of additional inputs required for SSK
Land (acre)	4	0.56	0	0	1 (o.33 acre)	30,00,000
Building	4	1927 sq feet	1 (600 sq ft)	6,00,000	0	0
Room for FWV	4	145 sq feet	0	0	0	0
OT	4	165 sq feet	1 (300 sq feet)	3,00,000	0	0
Room for SACMO	4	145 sq feet	0	0	0	0
Drug Store room	2	150 sq feet	0	0	1 (120 sq feet)	1,20,000
Waiting room	4	360 sq feet	1 (150 sq feet)	1,50,000	1 (200 sq feet)	2,00,000
Toilet	3	80 sq feet	0	0	0	0
Counselling	1	150 sq feet	1 (110 sq f)	1,10,000	1 (150 sq f)	1,50,000

UHFWCs informed that some of the drugs are in excess supply, while there remains shortage of supply of some essential drugs.

Table 4.2.5: Average amount of important drugs received in 2011, inventory, and required amount in UHFWCs of Tungipara upazila

Name of drugs	Average quantity received in 2011	Average amount of inventory at the end of 2011	Additional amount required at present	Additional amount required for SSK
Tablet metronidagol	5000	1655	17,000	19500
Tablet Ranitidine-150	2400	148,5	4000	3750
Tablet Antacid	7500	257	19250	33,750
Tablet paracetamol	10,000	452	18000	21,500
Tablet Iebuprofen	700	142	1450	500
Capsule Tetracyclin			2750	3375
Capsule Cefradin	-	1500	250	2125
Capsule Amoxicillin	5000	690	17000	19500
Syrup Metronidajol			187	225
Syrup Amoxilin	280	19	415	462
Syrup Flu-Cloxacillin	15	0	0	0
Syrup Mebendajol	4	0	0	0
Syrup Cotrim	0	0	25	50
Syrup paracetamol	180	13	600	6875
Tablet B Complex	10,000	1001	4250	5250

It was evident that the child health, maternal health and family planning for female, ARI were the major services provided at UHFWCs. On an average UHFWC provide service to 50 patients daily.

Table 4.2.6: Average number of patients in the UHFWCs of Tungipara upazila in the last three years by disease/condition

Disease/condition	Number in 2009	Number in 2010	Number in 2011
ANC 1	162	184.25	125.75
ANC 2	105.5	69.5	64.25
ANC 3	65.5	55	32.5
Delivery	48	65	71
Abor/MR	14	13	21
PNC	128	116	79
STI/RTI	744.5	526.5	283.25
ARI	312.5	611.25	512.5
Diarrhoea	25.5	81.3	49.5
FP-male	63	34.75	67
FP-female	626.5	450.5	458.5
Malnutrition	33	43	39.75
General patient	4111.5	6901	4603
Childcare	630.5	1157.5	1113.75
Total	6292.5	9739.05	7199.75

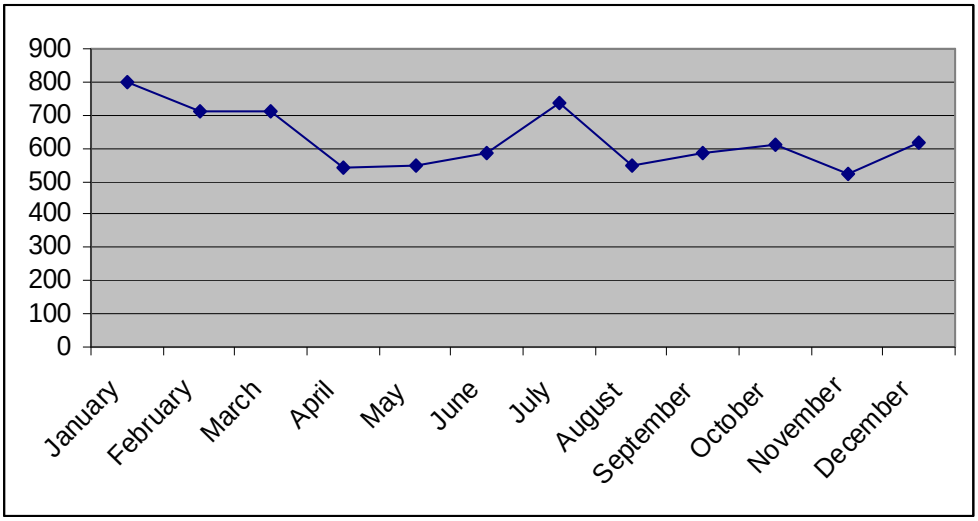
In 2011, average number of patients per month in a UHFWC was 627. Patients in a UHFWC varied considerably per month. The lowest number of patient was in November (2085) and the highest number was in January (3206).

Table 4.2.7: Number of patients in 2011 by month and UHFWCs

Month	Kusholi	Borni	Gopalpur	Dumuria	Total
January	1637	761	124	684	3206
February	1612	244	129	865	2850
March	1666	302	269	619	2856
April	1197	148	160	655	2160
May	1659	255	44	235	2193
June	1568	220	125	425	2338
July	1974	260	134	590	2958
August	1228	270	253	443	2194
September	1496	267	149	438	2350
October	1299	450	188	513	2450
November	1268	318	167	332	2085
December	1453	543	119	364	2479
Total	**18057**	**4038**	**1861**	**6163**	**30119**

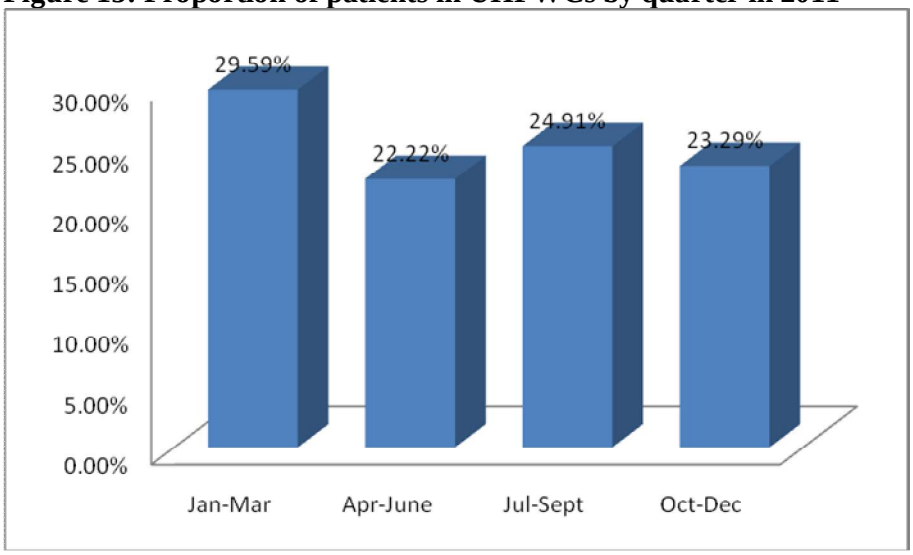
It was found that Kusholi UHFWC had highest number of patients (18057) in 2011, whereas Gopalpur has the lowest number of patients (1861). In rural Bangladesh, the number of patients not only depends on onset of disease, but also on the availability of drugs.

Figure 14: Average number of patients per month in Tungipara UHFWCs in 2011



Seasonal variation is an important factor determining the number of patients seeking care from UHFWC. It was found that almost 30% of the total patients received care during January –March, 2011 in four UHFWCs (Fig 15).

Figure 15: Proportion of patients in UHFWCs by quarter in 2011



4.3. Capacity of CC

There is a total of 16 CCs in Tungipara, of which, 14 CCs were functioning during the data collection period. This section presents the findings of these14 CCs.

It was found that one CC has three sanctioned posts: Community Health Care Provider (CHCP), FWA and HA. Out of 14 CCs, 12 CCs in Tungipara had CHCP, while two CCs had no CHCP. All the respondents in these 14 CCs stated that they require one guard and one aya in each CC at present and also for SSK.

Table 4.3.1: Existing and required human resources in CCs of Tungiparat upazila

Designation	Average number of sanctioned post	Number of CCs with employed person	Number of CCs with vacant posts
CHCP	1	12	2
FWA	1	12	2
HA	1	9	5

Among the 14 CCs, two CCs did not report on furniture and fixture. Some of the CCs lack furniture, for example – four CCs did not have any almirah, eight CCs did not have examination table and delivery table. The respondents suggested that they would require all these furniture for SSK. The average number of additional furniture and fixture required for SSK in the CCs are presented in Table 4.3.2.

Table 4.3.2: Important furniture and fixture at CC of Tungipara Upazila

	Average Number (in order) in a UHFWC	Average Number of additional furniture and fixture required for SSK	CC having number furniture
Almirah	0.71	0.28	4
Table	1.57	0.64	2
Chair	4.28	1.71	2
Examination table and delivery table	0.57	0.14	8

*Data was not reported for 2 CCs

Among the 14 CCs, 10 had own land of 5 decimals. Three of the CCs do not have any land of their own and they are using the office of the union council. Respondents in 4 of these CCs suggested that they would not require any additional space for SSK. Rather they need water and electricity supply for smooth functioning of CC, which is currently not available in some of the CCs.

Table 4.3.3: Existing and required infrastructural inputs in CCs of Tungipara Upazila

Item	Number of CCs with the inputs	Average amount	Number of CCs requiring additional inputs at present	Average costs of additional inputs required at present	Number of CCs requiring additional inputs for SSK	Average costs of additional inputs required for SSK
Land	10	5decimal	4	2.5 lac	4	2.5 lac
Building	10	480	4		4	
Room 1	10	80	4		4	
Room 2	10	75	4		4	

CCs received drugs in regular intervals. However, a number of CHCP suggested that as they were not allowed to prescribe antibiotics, such as, Cotrim, there was no reason to provide these antibiotics in CCs. They added that a number of such medicines remain unused in CC.

Table 4.3.4: Amount of major drugs received in 2011

Name of drugs	Average quantity received in 2011(12CC)
Amoxicillin Capsule	2791
Doxicycline	2533
Albendagol	566.66
Antacid	13500
Chlorpheniramine	8958.33
Cotrimoxazole	1825
Ferrous Fumarate and folic acid tab	13500
Hyoscine butoylbromide	1350
Metronidazole	2625
Paracetamol Tab	13333
Zinc disperesivle	3916.66
Amoxicillin dry syrup	62
Amoxicillin pediatric drop	56.66
Benzyl benzoate	135.66
Paracetamol suspension	272
Chloramphenicol eye ointment (1%) gm	67.5
Gentian violate 2% solution	56.66

CHCP maintains register to keep patient record. The total number of patients in the 14 CCs in 2011 is presented in Table 4.3.5. CHCPs in Tungipara also maintained record of number of persons they referred to UHFWC/UHC per month. However, as no consolidated data on the number of patients by disease per month was available, it was not possible for the FIs to collate disease-wise monthly patient record from CCs in Tungipara.

Table 4.3.5: Average number of patients in the CCs of Tungipara upazila during 2011

Name of CC	Jan-Dec, 2011	March, 2012
Banarjor korpa	2487	424
Joaria	2213	333
Choto dumuria	3779	355
Sriram kandi ghosh er ghat	3366	654
Gahordanga	5149	918
Dokhin kusholia	3029	400
Purbo patgati mobari	770	220
Geemadanga munshichar	3837	658
Bagiarkul	4085	352
Shalukha	2830	330
Moliker math geema	5336	602

4.4. Capacity of the private sector

In the private facility, there was no full time doctor, doctors come on call. The owner himself is the provider of the facility. There are 8 patient beds in the clinic. Average patient per month is 15. No diagnostic test is available. No patient record was kept in last two years. They use a rented space to provide service. The respondent said that equipments need to be increased by 50% if SSK is implemented.

5. FINDINGS IN RANGUNIA UPAZILA

Rangunia is one of the upazilas in Chittagong district with an area of 351.95 sq km. The total population of the area is more than 263,217. Along with the UHC, 10 UHFWCs, 7 Rural Dispensaries (RD) and 38 CCs provide health services in the area. This section analyses the capacity of UHC, UHFWCs and CCs and the capacity of one private clinic providing health care in Rangunia.

5.1. Capacity of the UHC

Capacity of the UHC in terms of availability of personnel and their qualification, availability of physical infrastructure (land, equipment and furniture), availability of medicines and logistics, data availability and whether there remains appropriate input skill-mix in the facility were studied.

Human resources

The UHC in Rangunia had a total of 284 sanctioned posts, of which 230 persons were employed and 54 posts were vacant (Table 5.1.1). The posts of RMO, Junior Consultant- Surgery, store keeper, head assistant cum accountant, and UFPO were vacant in the UHC during the survey period. However, though there were six sanctioned posts for Medical Officer in the UHC, four additional MOs from UHFWCs were working temporarily in the UHC through local order.

Table 5.1.1: Existing and required human resources at UHC of Rangunia Upazila

Designation	Number of sanctioned post	Number of employed persons	Number of Vacant posts
Clinical staff responsible for both inpatient and outpatient department			
UHFPO	1	1	0
RMO	1	0	1
Jr Consultant (Gynaecology)	1	1	0
Nurse (senior and assistant)	17	13	4
Pharmacist	2	2	0
Pathologist	1	1	0
Medical technologists	6	6	0
Aya/ward boy	5	5	0
Clinical staff responsible for inpatient department			
Jr Consultant (Surgery)	1	0	1
Jr Consultant (Anaesthetist)	1	0	1
Clinical staff responsible for outpatient department			
Jr. Consultant	6	6	0
Dental Surgeon	1	1	0
Medical Officer, IMO, EMO	8	8	0
Medical Assistant	2	2	0
Health Assistant	59	41	18
Administrative staff			
Statistician	1	1	0
Store keeper	1	0	1
Head assistant cum Accountant	1	0	1

Cashier	1	1	0
Health Inspector/ Assistant HI	16	15	1
Other	37	32	5
Family Planning staff providing outpatient care			
UFPO	1	0	1
MO-FP	2	0	2
AFPO	1	1	0
FWA	64	54	10
FWV	21	16	5
Other FP	26	23	3
Total	**284**	**230**	**54**

In Rangunia, the number of doctors and nurses per 10,000 population is only 1.14. Ratio of physician per 10,000 population is 0.65 (Table .5.1.2).

Table 5.1.2: Indicators of human resource management

Indicators	Ratio
Nurse to physician ratio (number of physicians employed)	0.76
Ratio of physician per 10,000 population	0.65
Ratio of nurse per 10,000 population	0.49
Ratio of physician and nurse per 10,000 population	1.14
Ratio of health assistant per 10,000 population	0.04
Ratio of health workforce (physician, nurse and health workers) per 10,000 population	1.8
Percentage of female physician among total physicians	29%
Ratio of inpatient beds per 1000 population	0.19

During survey it was observed that only 45% of the employed providers generally provide services in the facility. The general physicians, who work in both inpatient and outpatient departments, visit the inpatient department for an hour per day. During the remaining hours, they treat patients in the outdoor department and also accomplish some managerial tasks. This indicates that only 45% of the capacity of the UHC is currently being utilised in the facility. If all the employed persons work in the UHC and work for full time, they can provide services to twice the number of current patients. Managers suggested that they do not need to create any additional posts of health care providers; rather if the employed persons work in the UHC, they can provide services efficiently at present and even after the SSK.

Expertise and experience of the health care providers

Most of the health care providers in Rangunia UHC have adequate experience, however, a number of them, especially the junior consultants, require training on reproductive health, child health and non-communicable disease. Respondents suggested that training should be provided based on the training need of local level health professions, and relevant participants should be selected for the training sessions. They reported that central level often does not consider the expertise of the personnel to attend a training session, rather select a person based on his availability. Respondents added that due to high staff turnover, refresher training needs to be arranged regularly.

Table 5.1.3: Educational qualification of the physicians

Designation	Educational qualification (highest degree)	Year of joining present service	Issues of basic training received*
UH &FPO	MBBS	4-Mar-84	Child health, Communicable disease control
Jr. Consultant (Medicine)	MBBS	1-Jul-10	Child health
Jr. Consultant (Gynaecology)	FCPS	14-Sep-97	Reproductive health
Jr. Consultant (Anesthesia)	MBBS	1-Jul-10	-
Jr. Consultant (Orthopedics)	MBBS	1-Jul-10	-
Jr. Consultant (Paediatrics)	DCH, MCPS	25-Apr-94	Child health
Jr. Consultant (Cardiology)	FCPS	11-Dec-91	-
Jr. Consultant (Ophthalmology)	FCPS	31-May-01	-
Jr. Consultant (ENT)	FCPS	4-Mar-84	-
Jr. Consultant (Skin & VD)	MBBS, DDV	20-Dec-89	-
Medical Officer	MBBS	2-Jul-05	-
Medical Officer	MBBS	19-Jun-82	-
Medical Officer	MBBS	1-Jul-10	-
Medical Officer	MBBS	1-Jul-10	-
Medical Officer	MBBS	1-Jul-10	-
Medical Officer	MBBS	15-May-11	-
Medical Officer	MBBS, FCPS (P-1)	1-Dec-10	Reproductive health
Medical Officer	MBBS	1-Dec-10	-
Medical Officer	MBBS	15-May-11	-
Medical Officer	MBBS	1-Dec-10	-
Dental Surgeon	BDS	1-Dec-10	-
Assistant Surgeon	BDS	1-Dec-10	-
Emergency Medical Officer	MBBS	4-Jul-10	-
Nursing Supervisor	Diploma	16-Jan-81	Reproductive health, Communicable disease control

Equipments, furniture and fixture

It was found that the UHC had a total of 183 important medical equipments for inpatient department and 21 equipments for outpatient department. However, in inpatient department, 90% of the equipments were out of order.

Table 5.1.4: Important equipments at UHC of Rangunia Upazila

Name of the equipment	Total number	In order	Out of Order	Need replacement
Inpatient department				
Anaesthesia Machine	1	1	0	0
Dehumidifier	1	0	1	1
Diathermy machine	1	0	1	0
E.C.G. machine	1	0	1	0
Haemocytometer	2	1	1	0
Haemoglobin meter	4	1	3	0

Nitrous oxide cylinder	2	1	1	0
O.T. Light, Ceiling 9 bulb	2	0	2	0
Obstetric Delivery Table	1	1	0	0
Oxygen cylinder	27	0	27	0
Oxygen flow meter	1	1	0	0
Sucker machine 250 w/400 watt	3	1	2	1
B.P. machine Aneroid	10	2	8	0
Instrument tray 10"-12"	4	1	3	1
Spirit lamp	1	1	0	0
Sponge holding and sinus forceps	18	2	16	0
Cusco's vaginal speculum	16	1	15	0
Stethoscope	2	1	1	1
D&C set	1	1	0	1
Artery forcep	85	2	83	0
Cuscors vaginal speculum	16	1	15	0
Total	**183**	**18**	**165**	**5**
Outpatient department				
X-ray machine	1	0	1	0
Refrigerator 10cft	1	1	0	0
B.P. machine Aneroid	12	8	4	0
Instrument tray 10"-12"	4	1	3	0
Stethoscope	2	1	1	1
Thermometer clinical	1	1	0	0
Total	**21**	**12**	**9**	**1**

The Rangunia UHC has 50 beds, and a total of 174 furniture of which 131 are for inpatient department and 43 for outpatient department. The ratio of inpatient bed per 1,000 population is 0.19 in Rangunia.

Table 5.1.5: Important furniture and fixture at UHC of Rangunia Upazila

Name of the furniture	Total number
Inpatient department	
Bed	50
Cabinet (Almirah) steel and wood	30
Chair armed	21
Food Trolley	3
Wood and steel rack	6
What not	1
Table	14
File cabinet	6
Total	131
Out patient department	
Plastic Chair	19
Table	14
Medicine Cub board/cabinet	2
File Cabinet	6
Peon tool	2
Total	43

Land and space

The UHC has 5 acre of land and the building is 15000 sq. ft. There are 18 rooms in the facility with an average size of 300 Sq ft. The UHC requires 10% more rooms to provide services after SBP. Number of toilet facility has to be increased to support the patient flow after SSK. The facility has an ambulance and a motorcycle. The connecting road to the facility is under construction and currently in a bad condition.

Table 5.1.6: Amount of land and space of UHC of Rangunia upazila

Land and space	Total amount	Space
Land		5 acre
Building		15000 sqft
Inpatient department	Total number	Total space (in square feet)
Ward	3	
Out patient department	Total number	Total space (in square feet)
Doctors' room	8	1098
OPD registration room		100
Waiting room		100
Consultation room		100
Female ward		600
Laboratory		200
Emergency	1	150
Other		

Drugs, supplies and logistics

Providers at UHC informed that medicine is procured by and distributed from the central level based on the number of bed in the facility. They reported that the drugs are supplied as per availability, not as per need, which creates a problem for the managers. Calculations of drug consumption rate (DCR) are not being practiced. Therefore, there remains shortage of some drugs and some drugs are supplied in excess quantity. Sometimes the excess drugs get expired and cannot be used, which causes inefficient utilisation of scarce government resources. Respondents also suggested that excess supply of drugs often opens the avenue for over-prescribing drugs, such as vitamin, iron tables and pain killers, thereby enhancing misuse of drugs in the UHC. At the end of 2011, stock of several drugs, such as, amoxicillin, Syp Metronidazole, Salbutamol Solution dexamethason became nil.

Table 5.1.7: Drugs received in 2011 by UHC of Rangunia upazila

Name	Quantity received in 2011	The amount of inventory at the end of year 2011
Tab Metronidazole 400 mg	40847	983
Tab Vitamin B1	157500	2516
Tab Hyoscine N Butyl Bromide	1885	798
Tab Ranitidin 150 mg	51650	970
Tab Antacyd	101394	3165
Tab Cotrim 400 mg	80800	665
Cap Tetracycline 200 mg	35019	1391
Cap Cephradin 500 mg	800	32
Cap Flucloxin 500 mg	13100	673
Cap Amoxycillin 250 mg	25036	633
Cap Doxycyclin	16669	2
Syp Metronidazole	200	0

Syp Histacin	80928	0
Syp Penicillin	62119	1181
Syp Amoxycillin	1380	134
Syp Flucloxacin	654	0
Dorby Lotion	390	0
Whitfield Ointment	70	0
Inj Dexamethacin	1210	0
Surgical gloves (Sterile)	760	0
IV Canula	1100	0
Micropore 3”	80	0
Micropore 2”	34	0
Disposable syringe	7500	100
ORS	73430	110
Inj Cephtriaxone 1 gm	1100	0
Salbutamol Solution	375	0
Syp Cotrim	1650	0
Syp Paracetamol	3450	119
Syp Erythromycin	830	85
Tab Zinc Sulphate	2000	1741
Liba Misule-15	13000	1138
Peracetamol	163797	3855
Lucoplaster	50	

The managers reported that supplies and logistics, including blood slide glass, cotton, and needle were adequate in supply. They suggested that 10% more supplies and logistics would be required for implementing SSK.

Trend of patients in UHC

The number of patients who visited the UHC over the period of 2010-2011 is presented in Table 5.1.8. It appears that the number of total persons seeking care from UHC increased by 65.71% from 2010 to 2011. Among the total patients who visited UHC in 2011, highest number of patients suffered from asthma. In 2011 highest number of patients sought both outpatient and inpatient care for diarrhoea.

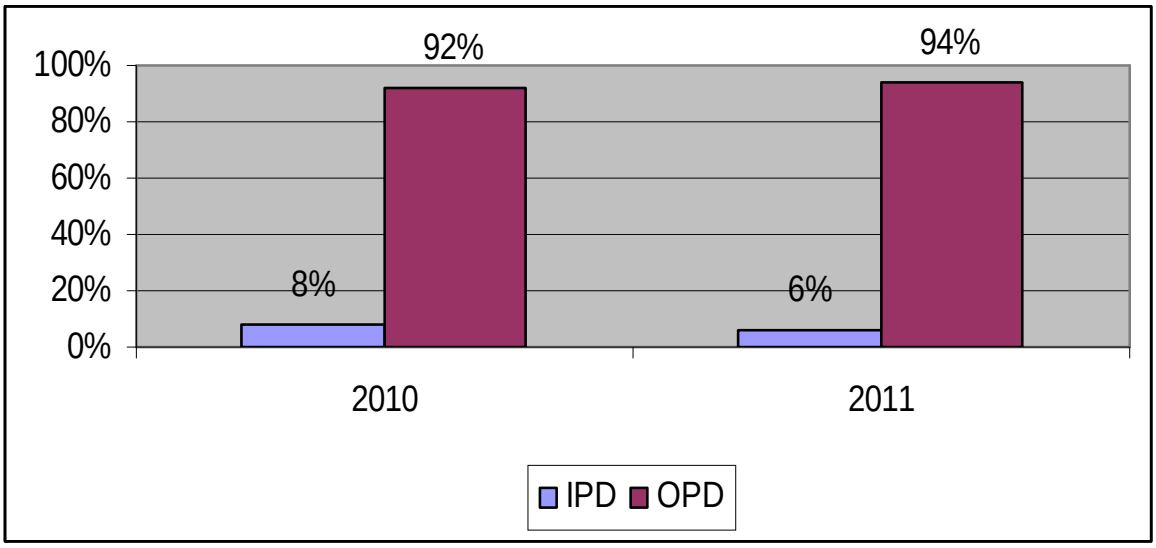
Table 5.1.8: Number of patients by disease, 2010-2011

	2010			2011		
Disease/condition	Out-patient	In-patient	Total	Out-patient	In-patient	Total
a) Maternal health						
ANC				187		187
Delivery care		140	140	0	246	246
EmOC		0	0	0	0	0
PNC					30	30
Sub Total		140	140	187	276	463
b) Pelvic infection, STI/RTI						
ARI						
Bronchial asthma	1189	0	1189	1479	0	1479
Diarrhoea	4692	1864	6556	5587	1724	7311
Dysentery	1117	48	1165	2722	75	2797
Sub Total	6998	1912	8910	9788	1799	11587

c) Skin, ENT and dental infection						
Fungal infections	2747	0	2747	4267	0	4267
d) Family planning						
FP female	0	0	0	249	0	249
FP female	0	0	0	1434	0	1434
e) Non-Communicable Disease						
Diabetes	686	6	692	1919	19	1938
Assault/Injury	1744	184	1928	0	137	137
Anaemia	2542	2	2544	2480	1	2481
Arthritis	3171	0	3171	2850	2	2852
CHD, Hypertension	828	70	898	2869	91	2960
f) Other	11718	262	11980	16068	250	16318
Subtotal	20689	524	21213	26186	500	26686
Total	**30434**	**2576**	**33010**	**42111**	**2575**	**44686**

The proportion of inpatient in total patient in Rangunia UHC reduced from 8% in 2010 to 6% in 2011.

Figure 16: Proportion of inpatient and outpatient in total patient, 2010-2011



It was found that 70% of the inpatients in Rangunia UHC were admitted for treating pelvic infection and STI.

Figure 17: Percentage distribution of inpatient by type of disease, 2011

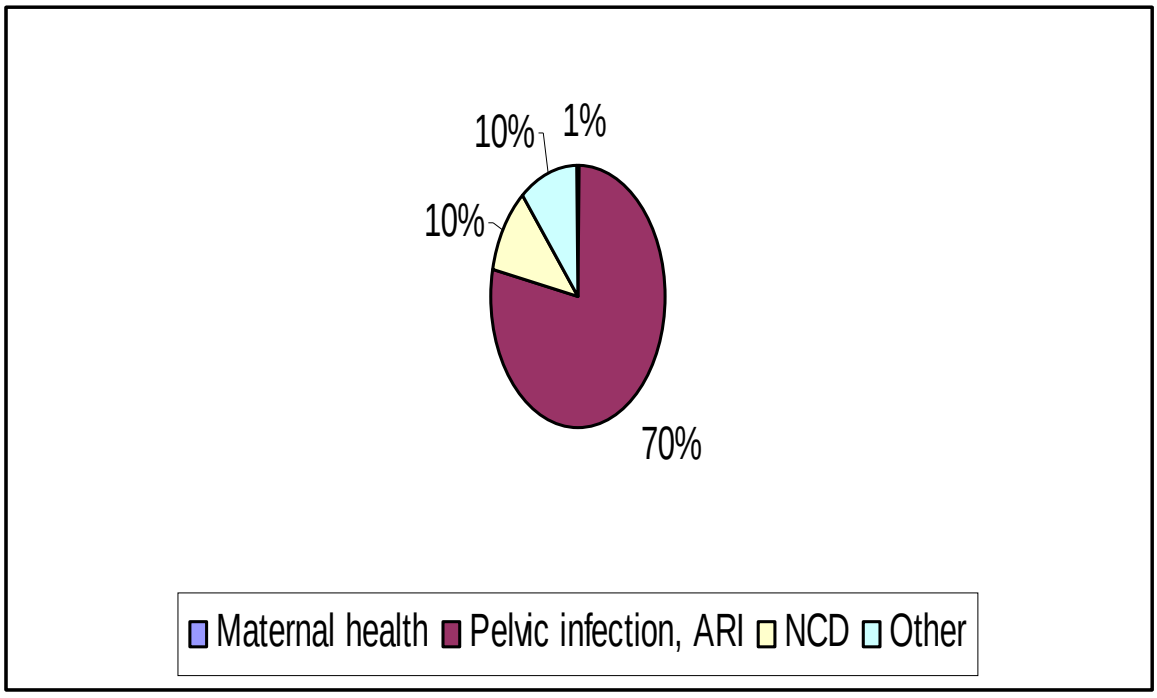
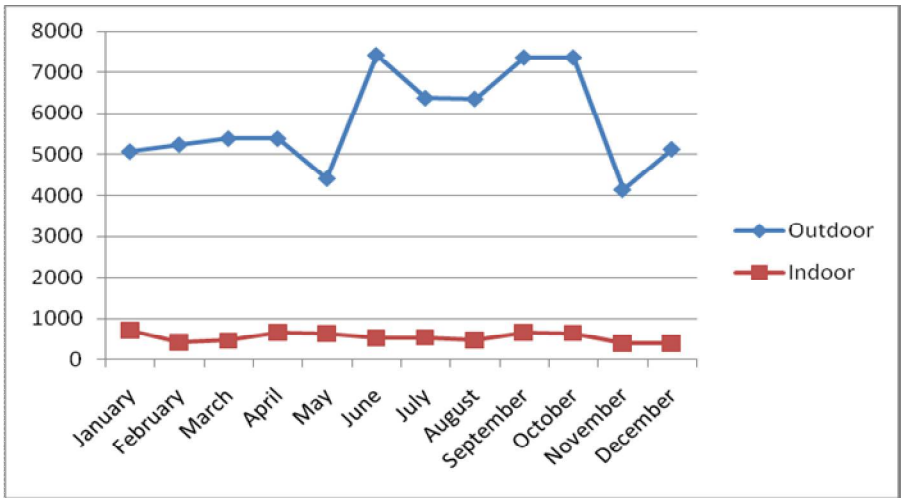


Figure 18 suggests that there was little variation in number of inpatients per month in Rangunia UHC in 2011, however, the number of outpatient varied considerably per month. The number of patients was relatively high in June-October, while was low in November-January.

Figure 18: Number of outdoor and indoor patients by month in 2011 in Rangunia UHC



Management issues

It was reported that referral depends on severity of the disease. RMO supervises emergency services and in-door services at the UHC, while field supervision is conducted by health inspector (HI) and Sanitary inspector (SI). It was apparent that lack of manpower and transport led to weak monitoring system. The budget management is the same as the other districts.

Though outpatient department maintains disease-wise patient record, it was difficult to collect inpatient number by disease. Rangunia UHC maintained record for referred patient. They referred 1200 patients to District Hospital in 2011.

5.2. Capacity of the UHFWC/RD

There were 10 UHFWCs and 7 RDs in Rangunia. However, seven unions had both UHFWCs and RDs, three unions had UHFWC and five unions had no UHFWC or RD. This section presents the findings of these 17 UHFWCs/RDs.

Among the 17 UHFWCs/RDs, there is no Medical Officer in seven UHFWCs/RDs. Eight UHFWCs/RDs reported vacant post of SACMO and 15 of the UHFWCs/RDs had no pharmacist. All the UHFWCs/RDs in Rangunia need to fill the vacant posts at present for smooth functioning of the facility.

Table 5.2.1: Existing and required human resources in UHFWCs/RDs of Rangunia Upazila by designation

Designation	Number of UHFWCs with employed persons	Number of UHFWCs with vacant posts
Medical Officer	8	9
SACMO	9	8
FWV	10	5
Pharmacist	2	15
Other	16	1

It was evident that equipments in the UHFWCs/RDs were not enough in quantity. Not all the UHFWCs had stethoscopes. On an average, a UHFWC had 1 BP machine, 1 IUD kit while there was no D&C set in most of the UHFWCs/RDs.

Table 5.2.2: Important equipments at UHFWC/RD of Rangunia Upazila

Name of equipment	Average number of equipments (in working condition) in a UHFWC	Number of equipments requiring replacement	Average number of additional equipment required for SSK	Number of UHFWC having equipment in working condition
BP Handle	.88		2.3	5
BP machine	1.41	24	4.53	7
Bandage cutting scissors	0.1		1.76	3
D & C set	0.05		0.41	1
Delivery kit	0.41	5	1.05	6
Examination table	0.47	10	1.47	7
IUD kit	1.65	11	1.71	9
M.R set with canula	0.59		2.71	5

NSV set	0.41	7		3
Stethoscope	0.76	13	2.76	11
Suction unit portable (manual)	0.12	2	0.65	2
Weight machine	0.70	11	1.59	8

Managers in the UHFWC/RDs were asked about the additional number of patients they expect after the introduction of the SSK, and they suggested that introduction of SSK would increase patient by 15% to 20% at the UHFWC/RD. Managers stated that they would therefore require additional number of important equipment for smooth functioning of the scheme (Table 5.2.2).

The UHFWC/RDs lack adequate number of furniture and fixture. It was also found that there were a total of 4 IUD tables, 3 dispensary tables and 53 almirahs in 17 UHFWC/RDs. However, some UHFWC/RDs did not have OT table, normal waste basket or file cabinet (Table 5.2.3). All of the UHFWC/RDs require furniture to support SSK.

Table 5.2.3: Important furniture and fixture at UHFWC/RD of Rangunia Upazila

	Total number of furniture and fixture (in order) in 17UHFWCs	total number of additional furniture and fixture required for SSK
Dispensary table	3	6
IUD Table	4	5
Patient examination table	6	17
Chair	131	228
Almirah	53	78

It was apparent that UHFWCs had an average of 27 decimal of land with a building of 1430 square feet (Table 5.2.4). Six UHFWCs had room for MO and OT, and waiting room.

Table 5.2.4: Existing and required infrastructural inputs in UHFWC/RDs of Rangunia Upazila

	Number of UHFWCs with the inputs	Average amount	Number of UHFWCs requiring additional inputs at resent	Number of UHFWCs requiring additional inputs for SSK
Land	17	27 decimal		1
Building	17	1430sqft	1	516
Room for MO	6	158sqft	2	3
Room for SACMO	9	105	2	3
Room for FWV	9	106.66		1
OT room	6	114		2
Room for FPI	6	105		
Room for Pharmacist	8	110	2	2
Waiting room	6	272.66	3	4
Labour	1	100		

Providers at UHFWC/RDSs informed that they receive a number of drugs in excess amount which they do not need, while there remains shortage of supply of some essential drugs.

Table 5.2.5: Average amount of important drugs received in 2011, inventory, and required amount in UHFWC/RDs of Rangunia upazila

Name of drugs	Average quantity received in 2011	Average amount of inventory at the end of 2011	Average amount of additional drugs required at present	Average amount of additional drugs required for SSK
Tablet metronidagol	8329	1261	5059	14794
Tablet Antacid	11614	13471	1188	19370
Tablet Cotrim	4593	299	5294	7165
Tablet Iebuprofen	746	172	653	1056
Capsule Tetracyclin	1765	320	3412	5529
Capsule Cefradin			765	1353
Capsule Flu-Cloxacillin	765	140	1529	2529
Capsule Amoxicillin	4843	626	7294	12370
Syrup Metronidajol	565	13	794	1065
Syrup Amoxilin	131	20	500	975
Syrup Flu-Cloxacillin			73	183
Syrup Mebendajol			33	88
Syrup Cotrim	89	17	132	219
Syrup paracetamol	2290	297	4600	6985
Tablet Peniciline				
Tablet Vitamin B 1	7437	629	11765	23633

It was evident that the child health, maternal health and family planning were the major services provided at UHFWC/RD.

Table 5.2.6: Average number of patients in the UHFWCs of Rangunia upazila in the last three years by disease/condition

Disease/condition	2009	2010	2011
- ANC 1	122	140	136
- ANC 2	72	93	105
- ANC 3	27	42	55
- Delivery care	13	20	17
- Abortion	14	12	13
- PNC	73	85	99
- Prevention and management of STI/RTI	166	131	175
- Prevention of HIV/AIDS	27	84	96
ARI	258	224	342
Diarrhoea	179	182	269
Family planning for male	390	301	729
Family planning for female	5724	6073	6393
Malnutrition	46	39	193

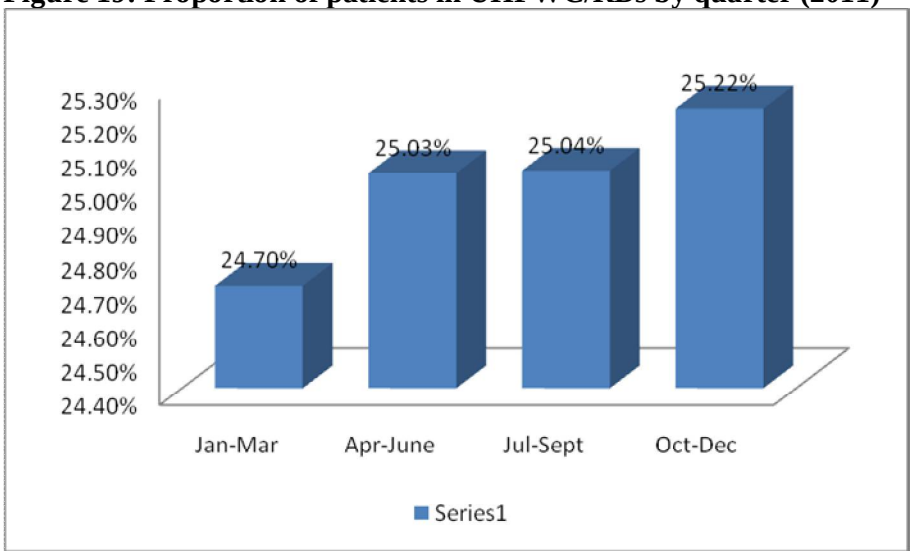
It is evident from Table 5.2.7 that the number of patients in a UHFWC varied considerably per month.

Table 5.2.7: Number of patients in 2011 by month and UHFWC/RDs

Month	UHFWC1	UHFWC2	UHFWC3	UHFWC4	UHFWC5	UHFWC6	UHFWC7	UHFWC8	UHFWC9	UHFWC10	UHFWC11	UHFWC12	UHFWC13	UHFWC14	UHFWC15	UHFWC16	UHFWC17
January	550	3288	509	887	480	4776	500	327	542	3114	899	845	491	559	2366	3485	279
February	576	3159	329	669	329	4758	700	347	528	3039	785	702	296	501	2352	3365	277
March	586	4590	410	721	350	4737	400	409	611	3155	758	807	500	562	2411	3381	275
April	661	3286	484	930	446	4866	1110	385	593	3221	0	666	505	671	2436	3456	324
May	574	3359	370	757	324	4825	550	283	570	3202	1530	701	545	566	2434	3428	276
June	498	3358	490	808	403	4792	500	296	626	3224	1013	601	543	542	2441	3495	268
July	843	3287	467	888	434	5450	470	316	506	3282	1399	611	564	524	2406	3505	298
August	478	3220	529	726	283	4816	490	0	505	3247	0	569	429	572	2433	3514	210
September	856	3363	515	862	481	4982	389	319	464	3648	862	874	525	635	2465	3470	272
October	584	2979	465	803	440	5020	510	414	516	3637	1244	925	559	651	2531	3545	309
November	589	3358	495	779	415	5038	210	434	606	3435	902	530	412	569	2655	3559	239
December	576	3312	445	824	415	5005	427	436	606	3458	0	813	385	459	2476	3543	247

In Rangunia number of patients seeking care from UHFWC/RDS is lowest (24.70%) in the first quarter of the year (Fig 19).

Figure 19: Proportion of patients in UHFWC/RDs by quarter (2011)



5.3. Capacity of CC

There are a total of 45 CCs in Rangunia of which, 38 CCs were functioning during the data collection period. This section presents the findings of these 38 CCs.

It was found that one CC has three sanctioned posts: Community Health Care Provider (CHCP), FWA and HA. Out of 38 CCs there are 40 CHCP posts. Two of the CCs had each 2 CHCPs. All the respondents in these CCs stated that they require guard, aya, MA, MLSS, sweeper, cleaner, night guard in each CC at present and also for SSK.

Table 5.3.1: Existing and required human resources in CCs of Rangunia upazila

Designation	Average number of sanctioned post	Number of CCs with employed person	Number of CCs with vacant posts
CHCP	1.11	40	2
FWA	1.43	42	11
HA	1.34	42	9

It was evident from the data that some of the CCs had adequate number of equipment but some of them do not have any of important items. For example, there were 12 stethoscopes in 11 CCs, while other CCs do not have the equipment.

Table 5.3.2: Important equipments at CCs of Rangunia Upazila

Name of equipment	Average number of equipments (in order) in a CC	Number of CC having the equipment	Number of CCs requiring replacement of equipments	Number of CC requiring replacement	Number of CCs with additional requirement of equipment for SSK
Stethoscope	12	11	10	10	13
Thermoter clinical	29	13	16	11	23
Tissue forceps	19	10	0		12
Tongue depressor	25	7	0		7
Weight machine	12	10	9	8	16
Kidney tray	16	13	0		20
Gauze cutting scissor	10	10	0		11
Artery forceps curved -5"	28	20			16
Artery forceps straight -5"	47	20	2	1	20
Bandage cutting scissors	25	21			21
Curved cutting needle	38	8	2	1	26
Hanging weight machine	12	10	5	4	10
Needle holder	31	17	1	1	23

Two of the CCs did not report on furniture and fixture. Some of the CCs lack furniture, for example – 35 CCs did not have any delivery table. The respondents suggested that they would require all these furniture in additional quantity for SSK. The average

number of additional furniture and fixture required for SSK in the CCs are presented in Table 5.3.3.

Table 5.3.3: Important furniture and fixture at CCs of Rangunia Upazila

Furniture	Total Number of furniture and fixture (in order) in the 38 CCs	Number of CCs having furniture/fixture	Total number of additional furniture and fixture required for SSK	Number of CCs requiring furniture/fixture for SSK
Almirah	38	37	56	34
Table	75	37	65	33
Chair	355	38	274	35
Examination table	3	1	3	1
Delivery table	7	7	2	2
Patient Bed/Table	49	28	29	14
Black Board	11	11	3	3
Others	108	19	60	10

CCs have on average 5 decimal land and almost all of them reported additional requirement of space for SSK.

It was evident that there was enough supply of drugs in the CCs. They receive 2 kits of drugs per quarter, each containing 29 medicines. They received drugs in regular intervals. However, a number of such medicines remains unused in CCs.

Table 5.3.4: Major drugs received in 2011

Name of drugs	Average quantity received in 2011	Number of CC having drugs	Inventory at the end of 2011	Number of CC having inventory of drugs
Tablet metronidagol	114726	37	35591	30
Tablet Antacid	475552	37	160954	33
Cotrimoxazole Tablet 120	85850	37	36783	30
Cotrimoxazole Tablet 960	18840	37	6225	28
Albendazole Tablet 400mg	18574	37	9208	31
Amoxicillin Capsule 250mg	94320	37	22934	27
Amoxicillin Dry Syrup(125 mg/5ml) 100ml	2147	37	495	25
Amoxicillin Paediatric drop(125 mg/1.25ml)10ml	1800	37	616	26
Benzyl Benzoate Application(25% W/V) 100ml	4169	37	2322	33
Calcium Lactate Tablet 300mg	164950	37	41025	27
Chloramphenicol Eye Oinment 1%, 5gm	1743	37	807	30
Chlorhexidine & Cetrimide Solution 1itr(Hos. Con.)	160	36	78	27
Chlorpheniramine Syrup (2mg/5ml) 100ml	7020	36	2336	29
Chlorpheniramine Tablet 4 mg	459442	37	291625	33
Compound Benzoic Acid Oinment 1kg	157	33	22	14
Doxycycline Capsule 100mg	83430	37	38561	32
Erythromycin Dry Syrup(125 mg/5ml) 100ml	2094	37	769	28

Erythromycin Stearate Tablet 250 mg	48215	36	24674	28
Ferrous Fumarate & Folic Acid Tablet 200.20 mg	476630	37	206091	32
Genatian Violet Topical Solution 2%, 10ml	1699	37	575	31
Hyoscine Butylbromide Tablet 10 mg	73695	36	46851	32
Neomycin & Bacitracin Oinment 10g	1769	37	585	28
Paracetamol Suspension(120mg/5ml)60ml	7543	37	2908	34
Paracetamol Tablet 500 mg	493160	37	190217	34
Penicillin V Tablet 250 mg	102054	37	36639	31
Sabutamol Syrup(2mg/5ml)100ml	2391	37	472	25
Vitamin B-Complex tablet	273200	37	81499	29
Zinc Dispersible Tablet 20 mg	149690	36	91051	35

5. 4. Capacity of the private sector

Two of the private facilities were surveyed in the Rangunia Upazila. In the private facility, there were on average six experienced doctors in the facility. Average number of persons employed in each facility was 36. The facilities had adequate equipments and furniture and fixture in order. On an average, they provide services to 13 patients daily.

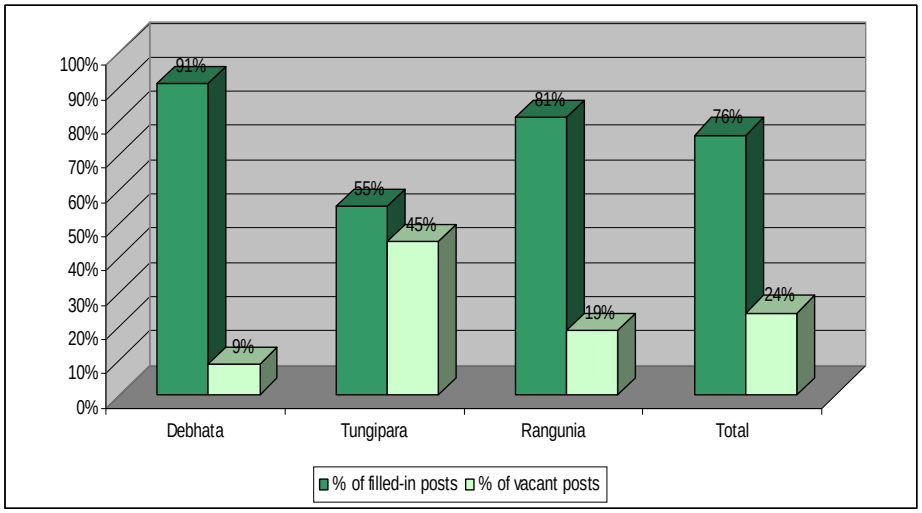
6. FINDINGS FROM THREE PILOT UPAZILAS: A COMPARATIVE ANALYSIS

The researchers and FIs visited the district hospitals in the three pilot upazilas. They discussed with the Civil Surgeon (CS) and Residential Medical Officer (RMO) about the existing capacity of the district hospitals and whether they will need any additional inputs for SSK. They all informed that there remains excess capacity in the district hospitals, especially in the inpatient department. They reported that the bed occupancy rate in the district hospital is around 70 to 75%, and other inputs are also underutilised. They therefore suggested that they can provide services to 20 to 25% additional patients without increasing the available fixed inputs. Only the variable inputs, such as, drugs and logistics will need to supply more depending on the coverage of SSK.

This study assessed the capacity of the public facilities in three pilot upazilas-Debhata, Tungipara and Rangunia. Capacity was defined in terms of availability of personnel with experience, training and appropriate skill-mix, availability of enough space, important equipment and furniture, regular supply of essential drugs based on local needs with no shortage and/or surplus, appropriate input mix and data availability.

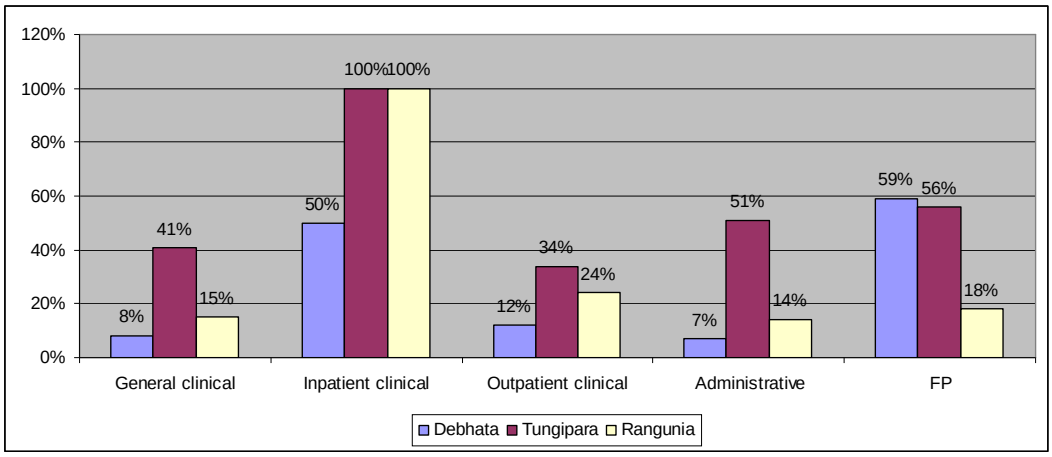
Underutilisation of human resources is a common phenomenon in all the three UHCs in three upazilas. It was evident that 24% of the total sanctioned posts remained vacant in the three UHCs (Fig 20). However, among them, the proportion of vacant posts in total posts was highest in Tungipara (45%). Inappropriate skill-mix was also common among the three UHCs. None of the UHCs had anaesthetists.

Figure 20: Proportion of filled-in and vacant posts in total posts in UHC by area



It was evident that among the three pilot upazilas, the proportion of vacant posts to sanctioned posts was higher in Tungipara for all types of personnel. The vacant posts were higher for clinical staff working at the inpatient department in all the UHC.

Figure 21: Proportion of vacant posts to sanctioned posts by staff category and by area in UHC



It was also evident that a large proportion of the personnel, who were employed in the public facilities, do not regularly work in the facility. Moreover, they work for only five hours per day in the facility, of which three hours is spent for treating patients. The situations was more or less similar in all the three areas, and around 40-50% of staff capacity remain unutilised in public facilities at upazila and lower administrative levels. It was evident that though human resources were available for provision of health services in the facilities, non availability of some complementary inputs such as equipments, drugs, or logistics, or even some components of human resources (viz, nurse, technician, and anaesthetist) constrained the capacity of the public health facilities.

There remains inappropriate skill mix in UHCs as was indicated by the less number of nurses than doctors in UHC, and also inadequate female doctors available in UHC. The ratio of nurse to doctor was lowest in Rangunia UHC- 0.76. There was no female doctor in Tungipara (Table 6.1.1). The current nurse-doctor ratio in all the three UHC is considerably less than the international standard of around three nurses per doctor.

Table 6.1.1: Indicators of inappropriate skill mix

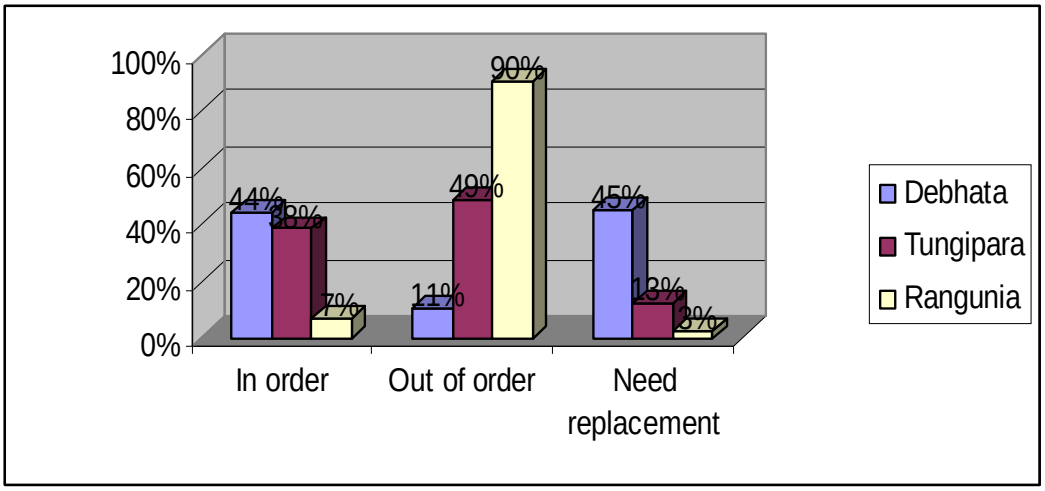
Name of Upazila	Total Patient in 2011	Total number of patient treated per day	Number of doctors employed at UHC	Number of patient treated per day by a doctor	Number of nurse employed	Nurse-Doctor ratio	Population per doctor	Percentage of female doctor
Debhata	61081	218	8	27.2	10	1.25	15262	13%
Tungipara	93863	333	10	33.3	11	1.1	10013	0%
Rangunia	40231	143	17	8.45	13	0.76	15483	29%

The average number of patients treated by a doctor per day in UHC was highest in Tungipara (33). There was one doctor available for 15,483 population in Rangunia (Table 6.1.1).

It was found that In Debhata, among the most important equipment in the inpatient department, 44% equipment was properly functioning, while in Rangunia, only 7%

equipment was properly functioning and do not need any repair or replacement at present (Fig 22).

Figure 22: Percentage distribution of important equipment in IPD in UHC by condition and by area

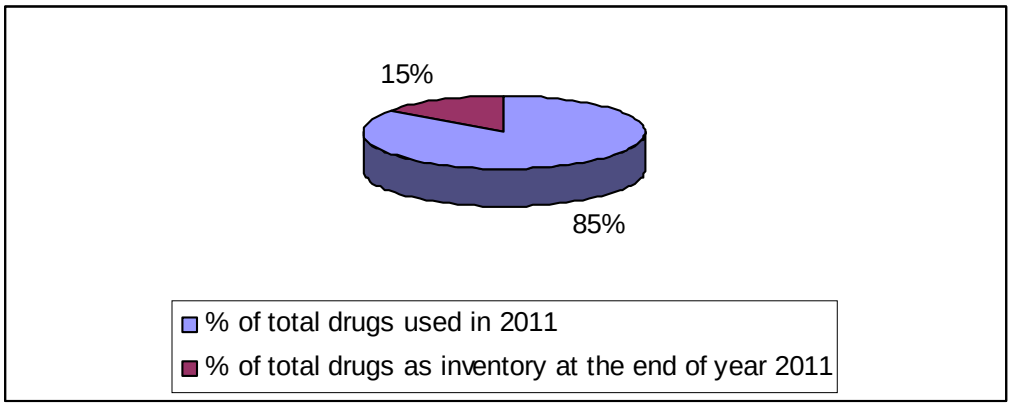


There was a number of equipment in the facilities, which remain un-used due to unavailability of personnel to operate those (e.g. dental equipment in Debhata, ultra-sonogram in Tungipara). The managers in UHC also faced the problem of inadequate fund available for repair and maintenance of equipment. Non use of equipment combined with inadequate fund resulted in damage of equipment and thereby wastage of scarce resources.

It was found that local needs are not considered for supplying drugs at UHC. This is partially reflected in the figures below (Fig 23 and 24). At the end of 2011, 15% of the drugs received were unused, which included tablet Ranitidine, inj Ceftriaxone 1 gram, tablet Levofluxacin and Fetorolac. However, providers reported that a number of life saving antibiotics including tetracycline, indomethacine, cephradine, amoxicillin and doxycycline were supplied in inadequate amount. Assessment of pattern to be done by the provider, drug should comply with that need. Even then, the problem of imbalance between supply and need can sometimes arise due to sudden increase or decrease of occurrence of some diseases-abrupt change in the disease profile. There should be proper arrangement of correcting the suddenly arising imbalance at the central level.

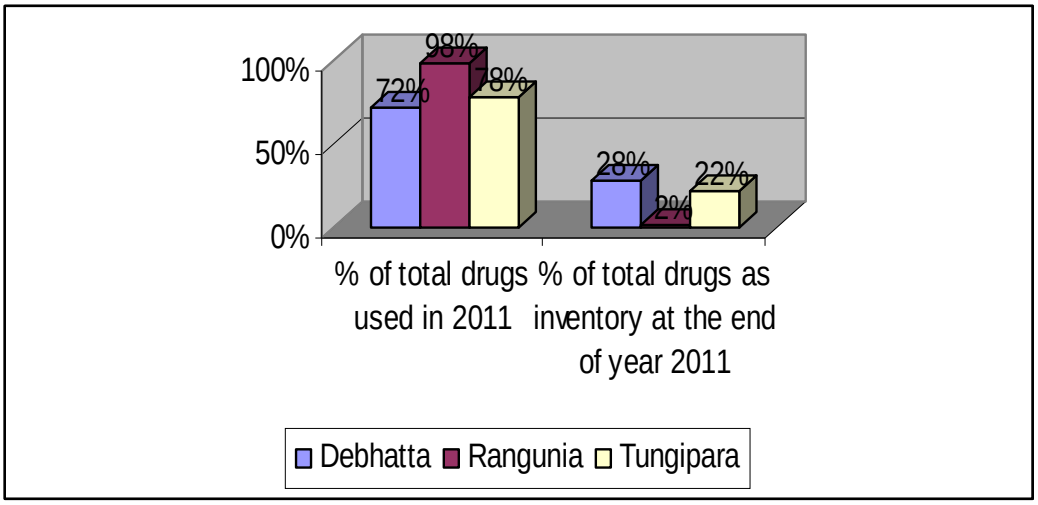
It appears that the amount of unused capacity, if judged in terms of the fixed inputs, exists at all of the UHC under study, and it is a bit high in Debhata and low in Tungipara.

Figure 23: Percentage distribution of drugs by use at UHCs in 2011



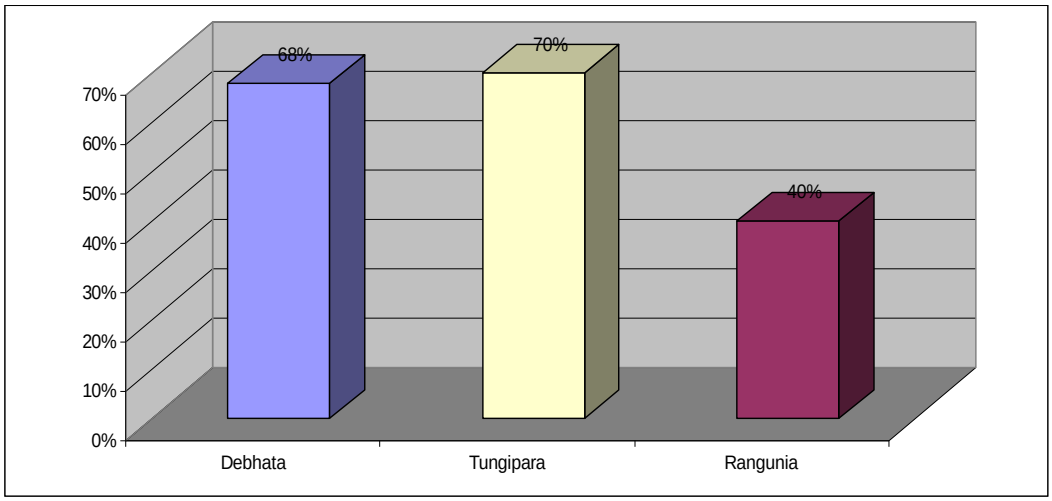
Among the three UHCs, drug usage as a proportion of total drugs received was relatively higher in Rangunia and lowest in Debhata (Fig 24).

Figure 24: Percentage distribution of drugs by use and by area in UHC



Bed occupanct rate was calculated for the three UHCs, the rate was highest in Tungipara (70%) and lowest in Rangunia (40%) (Fig 25). This needs further investigation. The varying health care seeking behaviour among different areas, or supply side barriers might cause difference in bed occupancy rate among areas.

Figure 25: Bed occupancy rate in three UHCs



Per capita cost and cost incurred per patient by public sector was calculated for three surveyed upazilas. Per patient cost was found lowest (258 Tk.) in Tungipara and cost per capita was lowest in Rangunia (90 Tk.).

Table 6.1.2: Cost per patient and population*

Name of Upazila	Total Cost	Total Population	Total Patient in 2011	Cost per patient n TK	Per capita cost in Tk
Debhata	18069943	122,097	61081	295.84	148.00
Tungipara	24243794	100136	93863	258.29	242.11
Rangunia	23678614	263217	40231	588.57	89.96

* The figures of total cost were taken from the costing study.

It can be said that in terms of availability of fixed inputs (land, personnel and equipment) and variable inputs (drugs and logistics), Debhata had more capacity as compared to other two upazilas. It appeared that among the three UHCs, performance of the Debhata UHC was high, the other two UHCs - Rangunia and Tungipara - were medium performing. The performance was assessed on the basis of manpower employed, usage of equipment, drug, logistics and proportion of population utilizing the services provided at the facility.

In terms of availability of fixed inputs (land, personnel and equipment), variable inputs (drugs and logistics) and number of patient treated, among the 4 UHFWCs functioning in Debhata, one UHFWC is high performing, two are medium performing and one is performing low (Table 6.1.3). All 12 CCs in Debhata are medium performing. Among the 4 UHFWCs functioning in Tungipara, one UHFWC is high performing, one is medium performing and two are performing low. One CC in Tungipara is high performing and the rest are medium performing.

Table 6.1.3: Performance of UHC, UHFWC/RD and CCs in three upazilas

Name of Upazila	UHC			UHFWC/RD			CC		
	High	Medium	Low	High	Medium	Low	High	Medium	Low
Debhata	1			1	2	1		12	
Tungipara		1		1	1	2	1	13	
Rangunia		1		5	7	5	7	24	7

Among the 17 UHFWC/RDs functioning in Rangunia, five is high performing, 7 is medium performing and 5 are performing low. Out of 38 CCs in Rangunia 7 are high performing, 7 are low and the rest are medium performing (Table 6.1.3).

7. CONCLUSION AND RECOMMENDATIONS

The aim of the study was to assess overall existing competence of health facilities at three upazilas from three pilot districts, taking one upazila from each of the three pilot districts, to meet the needs of the SSK. The specific objectives were to assess the existing capacity of public facilities, additional capacity required at present to meet the current health care need, and increased capacity required in future to meet the additional health care need that might arise as a result of introducing the proposed benefit package.

The findings of the study suggest that an artificial constraint has emerged in the service provision in the public facilities due to the lack of regular and sufficient availability of drugs and logistics, as well as, of lack of appropriate combination of human resource and equipments. The main inputs exist in public facilities; however, they cannot work to their full potential due to inadequate amount of auxiliary inputs, such as, drugs, and logistics. Moreover, the main inputs- human resources and equipments- are not working for full time, and are being utilised for maximum of five hours a day. There also remains inadequate land and space in a number of facilities. For example, the infrastructure in a number of UHFWCs in Tungipara is extremely limited.

Due to absenteeism of personnel, there remains high work load for employed personnel in the UHCs. The average number of patients seen per day was 27 in Debhata and 33 in Tungipara. Managers in the UHCs reported that as the actual number of doctors working in the facility is much lower than that of employed persons, the average number of patients seen by a doctor per day becomes 45. This implies that on an average a doctor allocates only four to five minutes per patient. The managers and the providers predicted that implementing the insurance will increase the patient load by 20% in public facilities. As there remains under utilisation of human resources, land, space and equipments in the public facilities at present, the increased number of patients resulting from implementing the insurance scheme can still be treated without increasing the fixed inputs, if all the persons employed in the facility work. For smooth functioning of the scheme, the study comes up with the following recommendations:

- Issues related to human resource management must be addressed adequately before implementing the insurance scheme. Measures need to be taken to ensure that all the employed staff works in the facility for full time. Special arrangements must be adopted to retain the required number of medical personnel in the facilities in the pilot areas for smooth functioning of the scheme. There needs to be adequate number of personnel available for emergency care for 24 hours. An arrangement should be made for giving some financial incentive out of the collected premium so as to induce them to increase enrolment in the scheme and provide services of improved quality. Appropriate combination of human resource and equipments should also be maintained.

- Training of administrative and support staff is crucial. The relevant providers and staff should be adequately and regularly imparted basic training on the emerging clinical issues. They should also be trained on procurement, record

keeping and financial management. A simple guideline needs to be issued for them to help them maintain proper accounts and meet Government's audit requirements. Training needs to be provided at all the tiers up to district level on Management Information System (MIS) for maintaining patient record and networking. Store keeper also needs training on store management. Training on local level planning is also needed to relevant personnel. Refresher training also needs to be arranged periodically.

- Supply of drugs and logistics should be based on local level needs. The amount of drugs and logistics received and utilised and additional requirement for next three months need to be assessed periodically. Use of BIN card can be useful to maintain the drug register. Regular and sufficient availability of drugs and logistics should be ensured.

- Involvement of community representatives in the management and evaluation process should be ensured. This can be initiated through proper implementation of local level planning process.

- Implementation of the SSK scheme will require a strong health information system in order to keep the record of the number of health cards issued and to which families, their demographic and socio-economic status, medical record of client, amount of money spent for client per visit, referral made and record of follow up. The data base needs to help in processing and accounting claims and monitoring the overall activities performed under the scheme.

- Monitoring and supervision of the service provision at all tiers needs to be strengthened. Similar indicators can be developed and used for all the three pilot upazilas to monitor the activities of the insurance scheme. Besides regular monitoring, mid-term and end-line evaluation of the pilot project should be undertaken to assess the impact and derive the lessons.

- Some amount of operational autonomy is needed for the facilities at the UHC so that they can take some decisions locally to meet requirement of the changing circumstances can improve management using the local level planning done by themselves, and also improve their performance through entering into competition with the non public facility at the local level.

- The UHFWCs and CCs should be established in all the unions and wards. Besides, the UHFWCs and CCs that have already been established should properly function. This is needed for providing basic outpatient care, for creating demand for health care from the formal sources, and for enforcing referral mechanism. A strong referral mechanism needs to be maintained among different tiers.

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ANNEXURE

Table A1: Educational qualifications of physicians in Debhata UHC

Designation	Educational qualification (highest degree)	Year of joining present service
UH &FPO	MBBS	25-Dec-83
RMO	MBBS	01-Jul-10
Jr. Consultant (Medicine)	MBBS	01-Jul-10
Jr. Consultant (Surgery)	MBBS	01-Dec-84
Jr Consultant (Gynae)	MBBS	20-Dec-89
Medical Officer	MBBS	06-Nov-85
Medical Officer	MBBS	01-Jul-10

Table A2: Number of persons by Length (years) of experience of personnel at UHC of Debhata Upazila

	Less than 1	1-5	<5
UHFPO			1
RMO		1	
Jn Consultant		1	2
MO		1	1
Specialist			
Pharmacist			1
Pathologist			
Anesthetist			
MA			
Nurse			1
M Technologist			4
Statistician			1
UFPO		1	
MO-FP			1
S-FWV			1
FWV			

Table A.3. Issues of basic training received by the personnel of UHC of Debhata Upazila

Issues of basic training	Consultant		RMO		Specialist		Nurse/assistant		HA	
	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive
Foundation				1		1		1		1
General surgery		10	1			1		1		1
Basic service management		10	1			1		1		1
Diabetics disease	1	9		1		1		1		1

ARI	1	9		1		1		1		1
EPI	1	9		1		1		1		1
BIAB	1	9		1		1		1		1
DGO-1 year	1	9		1		1		1		1
BAVS		10		1		1		1		1
Diploma in pharmacy		10		1		1		1		1
TB and Leprosy		10		1		1		1		1
Vactic Mg		10		1		1		1		1
Computer		10		1		1		1		1
H Sanitation		10		1		1		1		1
Store management		10		1		1		1		1
Midwifery		10		1		1		1		1

Table A. 4: Drugs prescribed by providers by disease/ condition

Disease/Condition	Drug 1	Drug 2	Drug 3	Drug 4
Diarrohea	ORS	Metronidazole	Cefrofluxacin	Zinc
Dysentry	Metronidazole	Cefrofluxacin		
Acute	Vitamin B Complex	Paracetamol	Antacid	
L. Treatment Failure	Cephtriaxon	Omeprazol	Pathedin	
Chronic	Cephtriaxon	Azithromycin	Omeprazole	
Halminthesis	Albendazone			
Abdominal pain	Omeprazole	Butapen	Domperidon	
Tuberculosis	Refampin			
Cold-cough	Histacin	Paracetamol	Amoxacilin	
Pneumonia	Azithromycin	Sulbutamol	Dexamethoson	
Chronic Pneumonia	Cephtriaxon	Tusca		
Chronic ARI				
Diptherria				
Hooping Cough				
Skin Disease	Histacin	BBL Lotion	Hydrocortison oinment	
Jaundice	DNS Saline	Multivitamin	Domperidon	
Tetanus				
New-born Diseases	Zentamycin			
Night blindness	Vitamin A			
Goiter	Carminazole			
Mal-nutrition	Multivitamin			
Anaemia	Iron	Vitamin B Complex	Folic Acid	
Asthma	Sulbutamol	Hidrocortison	Inhealer	
Measles	Paracetamol	Vitamin		
Small pox	Paracetamol			
Ear disease	Chloramphenical	Ceproflxacin		
Eye disease	Cefxim	Ketorolac	Omeprazole	
Teeth disease	Moxycyline Diclofenac	Antacid	Metronidazole	
AFP				
Poisoning	1B Fluet	Aetrophincephradin		
Assault	Ketorolac	Cephradin	Omeprazole	Sedil
Female disease	Cefexim	Vitamin	Pentroprazole	
Leprosy				
Filleria				
Kala-azar				
RTI/STD	Azithromycin	Doxicyclin	Pentroprazole	
Hypertension	Amlodiphin	Antinolol		
Diabetes	Metformin Insulin			
PUO				

Table A.5. Information from the UHFPO about some activities and managerial issues of the UHC of Debhata

Item of information	
Number of patients visiting UHC everyday	450 patients
Main diseases and conditions of the patients	Diarrhea, RTI/SSTI, PUD, Skin disease, LMP
Number of patients referred from UHC	38 patients
Drug management system	DRS(local purchase) and CMSD to store to indoor, outdoor and emergency
Financial management system	DG health
Monitoring system	Supervision system, delivered by RMO(emergency services, in-door services), field supervision by health inspector(HI) and Sanitary inspector(SI). Overall supervision by UH&FPO through reporting to CS office, DG health and MIS
Referral mechanism followed	
Record keeping	Record keeping system through In-door and emergency.
Problems faced at present	Slow internet connection, No broad band internet system.
Additional inputs required at present	Inputs to increase internet speed
Awareness about SSK	
Possible effects of SSK	Health service receiver and provider get benefit through their inner communication by SSK. That is why both will be benefitted. Easy to get facility.
Additional inputs required for SSK	Ensure provider's benefit and promotion.
% of increase of patients after SSK	2013-15%, 2014-20% and 2015-30%.
Additional support system required	Purposeful training for planner, benefit package for provider, part of pathological fees should be given to provider.
Modification of management system for SSK	Local level planning needed.

Table A.6: Training requirement for human resources in UHFWCs of Debhata Upazila by issues of training

Issues of basic training	MO		SACMO		FWV		Pharmacist	
	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive
ARI	0	1	2	1				
IMCI	0	1	2	1				
RTI	0	1	1	2			1	
Communicable Disease	0	1	1	2				
NCD	1	0	0	3				
Midwifery	0	1	0	3				
CHCP	1	0	0	3				
DME	0	1	1	2				

Table A.7 : Number of persons by Length (years) of experience of personnel at UHC of Tungipara Upazila

	Less than 1	1-5	<5
UHFPO			1
RMO			1
Jn Consultant/specialist		1	
MO		2	3
Nurse			2
M Technologist			4
Statistician			1
UFPO			1
MO-FP			
S-FWV			1
FWV			

Table A.8. Information from the UHFPO about some activities and managerial issues of the UHC of Tungipara

Item of information	
Number of patients visiting UHC everyday	350 patients
Main diseases and conditions of the patients	Fever, knee pain, injury, poisoning, delivery care
Number of patients referred from UHC	32(24 emergency and 8 indoor)
Drug management system	CMSD , AID and maintain ledger. Supplied to ward and outdoor patient department through indent.
Financial management system	Budgeting through MSR form, To receive procurement by demand letter. Keeping records of expenditure by stock ledger and send expenditure sheet to CS. Bill is sent to AG office if approved then money is received through bank.
Monitoring system	
Referral mechanism followed	Reffered by referral slip. The slip is used by the doctor.
Record keeping	Central data base system, web site
Problems faced at present	Staff not available according to sanction.
Additional inputs required at present	Fill all sanctioned post immediately
Awareness about SSK	
Possible effects of SSK	Health service delivery will be improved and general people will be benefitted.
Additional inputs required for SSK	Yes
% of increase of patients after SSK	10 to 20% increased gradually
Additional support system required	Trained manpower and budget
Modification of management system for SSK	Local level planning and proper monitoring b y higher health professional.

Table A.9 : Length (years) of experience of personnel at UHC of Rangunia Upazila

	Less than 1	1-5	<5
UHFPO			1
RMO			
Jn Consultant	1	3	5
MO		8	1
Specialist		1	
Pharmacist			1
Pathologist			
Anesthetist			
MA			
Nurse		5	8
M Technologist		1	3
Statistician			1
UFPO			
MO-FP			
S-FWV			1
FWV			

Table A.10. Issues of basic training received by the personnel of UHC of Rangunia Upazila

Issues of basic training	Consultant		RMO		Specialist		Nurse/assistant		HA	
	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive
Foundation		10		1		1				
General surgery		10		1		1				
Basic service management		10		1		1				
Diabetics disease		10		1		1				
ARI		10		1		1				
EPI		10		1		1				
BIAB		10		1		1				
DGO-1 year		10		1		1				
BAVS		10		1		1				
Diploma in pharmacy		10		1		1				
TB and Leprosy		10		1		1				
Vactic Mg		10		1		1				
Computer		10		1		1				
H Sanitation		10		1		1				
Store management		10		1		1				
Midwifery		10		1		1				
Child	2	8		1		1				

health(IMCI)										
Reproductive health	1	9		1		1				
CD		10		1		1				
NCD		10		1						

Table A.11. Information from the UHFPO about some activities and managerial issues of the UHC of Rangunia

Item of information	
Number of patients visiting UHC everyday	350
Main diseases and conditions of the patients	Road accident and injuries, COPD,Pneumonia, poisoning, scabies, diarrhea, melmintheiasin, fever, common cold.
Number of patients referred from UHC	
Drug management system	CMSD to store, RMO supervision
Financial management system	DG health, allotted on installment, if ss shortage dd note placed
Monitoring system	Visit indoor, outdoor, manpower, field visit, meeting
Referral mechanism followed	EMO decides, depends on severity and existing facility
Record keeping	Manpower mgt, overall mgt. report, patient record, send to CS office, also send through e-mail.
Problems faced at present	Doctor shortage, other manpower crisis, shortage of bed OT., doctor's residential facility.
Additional inputs required at present	Doctor, manpower, modern machinery, drug and other infrastructure
Awareness about SSK	
Possible effects of SSK	Positive effects on Health system, better health facility
Additional inputs required for SSK	
% of increase of patients after SSK	2013-20%, 2014-30% and 2015-30%.
Additional support system required	Bed, doctor, support staff, equipment and additional fund
Modification of management system for SSK	Increase budget

Table A. 12: Training requirement for human resources in FWCs of Debhatta Upazila by issues of training

Issues of basic training	MO		SACMO		FWV		Pharmacist	
	Received	Did not receive	Received	Did not receive	Received	Did not receive	Received	Did not receive
ARI	0	1	2	1				
IMCI	0	1	2	1				
RTI	0	1	1	2			1	
Communicable Disease	0	1	1	2				
NCD	1	0	0	3				
Midwifery	0	1	0	3				
CHCP	1	0	0	3				
DME	0	1	1	2				

Table A. 13 Supplies and logistics in Debhata (in 2011)

Item of supplies and logistics	Quantity received in 2011	The amount of inventory at the end of year 2011
Gauze	50	196
Cotton	100	26
Plaster of Paris	144	36
Foley's catheter different size	5	20
Implantation set	512	256
IUD kit	75	
Tubectomy kit	10	

Table A.14 Supplies and logistics in Tungipara (in 2011)

Item of supplies and logistics	Quantity received in 2011	The amount of inventory at the end of year 2011
Gauze	200	400
Cotton	200	200
Plaster of Paris	624	350
Foley's catheter different size	400	
Implantation set	128	77
IUD kit	2	2
Tubectomy kit	5	
Delivery kit	25	

Table A.15: Number of persons employed in a private clinic in Debhata

Designation	**Name of the person**	**No of persons**	**Educational qualification (highest degree)**	**Year of joining present service**	**Issues of basic training received***	**Basic Monthly salary (for one person)**	**Total monthly salary and allowances**
Medical Officer 1	Md. Rafikul Islam		MBBS	1994	PH	15000	15000
Nurse (all)		2					5000
Accountant							3000
Sweeper/Cleaner		2					2500

Table A.16: Medical equipments in a private clinic in Debhata

Name of the equipment	**Year of procurement**	**Total number**	**In order**	**Out of Order**	**Price at procurement (BDT)**	**Total expected life years**	**Equipment required after SBP**

Air way (different sizes)	2005	10	10			5	20
Ambu bag	2011	2	2		4000	5	2
Artery forceps (different size)	2002	30	30		14500	5	20
Aural Syringe							
B.P. handle	2003	3	3		200	5	4
B.P. machine Aneroid	2006	2	2		1650	5	4
Bandage cutting scissors	2006	3	3		300	5	4
Boiling water sterilizer	2006	1	1		2500	5	1
Buckect, plastic (large, medium, small)	2006	3	3	2	200	5	5
Cloth, duster	2005	5	5		50	5	10
Cuscors vaginal speculam	2006	3	3		150	5	5
Delivery Kit	2001	1	1		1000	5	2
Dissecting forcep (plain/toothed)	2005	3	3		150	5	3
Dressing bowl							
Dressing forceps	2005	3	3		150	5	3
Dressing tray (shallow) SS	2006	4	4		150	5	4
Drum sterilizer (shallow) SS	2003	1	1		2500	5	3
Examination table	2004	1	1		3000	5	1
Gauge cutting scissors	2003	3	3		150	5	5
Haemostat forceps	2004	10	10		200	5	5
Instrument tray	2005	1	1		150	5	3
Kidney tray	2006	2	2		150	5	3
Mouth gag	2009	1	1		100	5	3
Sims Vaginal Speculum	2008	1	1		150	5	3
Stethoscope	2006	2	2		100	5	3
Tongue depressor	2007	2	2		100	5	3
Tourniquet	2006	1	1		100	5	3
Weight machine	2007	1	1		300	5	2
Fan	2003	10	10		2000	5	10
Light	2004	12	12		100	5	10
Generator	2009	1	1		24500	5	1

Table A.17: Furniture and fixture in a private clinic in Debhata

Name of the furniture (Vintage)	**Year of procurement/purchase**	**Total number**	**Price at procurement (per unit)**	**Total value (BDT)**	**Total expected life years**	**Furniture required for SBP**
Table Wood	2010	2	5000	10000	10	4
Patient Table Wood	2010	2	4500	9000	10	4
Patient Bed	2009	10	4000	40000	5	20
Trolly	2009	1	3500	3500	4	2
Chair Wood	2009	5	1450	7250	8	10
Steem	2008	10	450	450	6	20
Showcase	2010	2	400	8000	10	4
Box	2008	1	6000	6000	10	3
Tool	2010	10	300	3000	6	18

Operation Table	2011	1	70000	70000	10	1
Table for Machinery	2009	1	4000	4000	8	1

Table A.18: Land and space in a private clinic in Debhata

Item	Room Name	Room Number	Existing quantity/amount	Year of purchase/construction
Land				
Building				1996
Room 1	Doctors	1	225	
Room 2	Office	1	225	
Room 3	Ward	5	1125	
Room 4	OT	1	225	
Room 5	Waiting		300	
Other (Specify)	Baranda		675	
3-Toilet			300	

Table A.19: Equipments in a private clinic in Tungipara

Name of the equipment	Year of procurement	Total number
Refregarator		1
Electric Sacker Machine		1
Oxygen cylinder Machine		1
Flowmeter		1
OT Light 4 Bulb		1
OT Light 1Bulb		2
OT Table		1
Auto clab machine		1
baby weight machine		1
Weight machine		1
Patient Trolly		1
Generator		1
Electric Needle Crush x Syringe pump machine		1
Sterilizer		1
Trolly		1
Operational tools		As needed
AC1.5 ton		1
Furniture and Machinery		As needed

Table A.20: Furniture in a private clinic in Tungipara

Name of the furniture (Vintage)		Total number
Table		4
Chair Plastic		12
Chair Other		5
Almirah		1
Examination Table		1

Patient Trolly		1
Fan		6
AC		1
Locker		8
Patient Bed		8
Saline Stand		9

Table A.21: Number of persons employed in a private clinic in Rangunia

Designation	Name of the person	No of persons	Educational qualification (highest degree)	Year of joining present service	Issues of basic training received*	Basic Monthly salary (for one person)	Total monthly salary and allowances
Medical Officer 1			MBBS, FCPS, FMD, DMU	1984			8000
Medical Officer 2			MBBS	1990			8000
Medical Officer 3			MBBS	1985			8000
Medical Officer 4			MBBS	1988			8000
Medical Officer 5			MBBS	1987			8000
Medical Officer 6			MBBS	1992			8000
Medical Officer 7			MBBS, MPH	1992			8000
Medical Officer 8			MBBS, DGO, MCPS, FCPS	1988			
Medical Officer 9			MBBS	1987			
Manager			BA	2007			5500
Cashier			HSC	2004			5800
Guard			Class 8	2004			3000
Guard			Class 8	2011			2300
Guard			Class 8	2011			2100
WardBoy		3	SSC	2007			3000
Aya		3	Class 5	2004			3000
Cleaner		7	Class 5	2004			2600
MLSS			Class 8	2006			2000
OT Assistant			SSC	2004			7000
Sr. Nurse			SSC	2005			6000
Sr. Nurse			SSC	2005			6000
Sr. Nurse			SSC	2005			6000
AID Nurse			SSC	2004			4000
AID Nurse			SSC	2005			3800
AID Nurse			SSC	2005			3700
AID Nurse			SSC	2005			3300
AID Nurse			SSC	2006			3300
AID Nurse		5	SSC	2007			3000
AID Nurse		7	SSC	2008			2500
AID Nurse			SSC	2008			2000
AID Nurse		5	SSC	2009			1800

Table A.22: Number of persons employed in a private clinic in Rangunia

Designation Category	Number of posts sanctioned	Number of persons employed	Number of vacant posts	No. of posts to be required after SBP
Medical Officer	10	7	3	3
Medical Assistant				
Nurse	28	28		7
Accountant	1	1		1
Pharmacist				1
Office Assistant	1	1		1
MLSS	1	1		1
Sweeper/Cleaner	9	7	2	2
Aya	3	3		2
Guard	3	3		2
Wardboy	4	3	1	8
Manager	1	1	1	1
OT Assistant	3	1	2	4
	64	56		

Table A.24: Medical Equipments in a private clinic in Rangunia

Name of the equipment	Year of procurement	Total number	In order	Out of Order	Price at procurement (BDT)	Total expected life years	Equipment required after SBP
Air way (different sizes)	2011	12	12		120	6M	10
Ambu bag	2011	2	2		500	4	2
Artery forceps (different size)	2011	36	36		120	0.5	30
Aural Syringe	2004	2	2		200	Life	2
B.P. handle	2004	2	2		95	5	2
B.P. machine Aneroid	2011	5	5		1300	0.5	3
Bandage cutting scissors	2009	4	4		150	3	2
Boiling water sterilizer	2004	2	2		2700	12	3
Buckect, plastic (large, medium, small)	2011	5	5		70	1	5
Cloth, duster	2011	3	3		120	3M	3
Cuscors vaginal speculam	2009	2	2		350	2	2
D&C set	2004	2	2		2200	15	2
Delivery Kit	2010	2	1	1	3000	2	2
Dissecting forcep (plain/toothed)	2011	4	4		90	0.5	4
Dressing bowl	2010	2	2		120	1	2
Dressing tray	2008	1	1		2500	3	2

(shallow) SS							
Drum sterilizer (shallow) SS	2006	5	5		550	5	3
Examination table	2004	1	1		35000	15	1
Forcep sponge holding plan	2010	12	12		120	1	6
Forcep tissue 2x3 teeth 191 mm	2010	36	36		120	1	6
Gauge cutting scissors	2011	2	2		350	1	2
Instrument tray	2008	3	3		300	4	2
Kidney tray	2010	4	4		150	3	3
Mouth gag	2010	1	1		150	1	2
Nasal Speculum		1	1		300	1	1
Patient stretcher	2010	2	2		4000	2	1
Sims Vaginal Speculum	2008	2	2		250	3	2
Stethoscope	2010	5	5		500	1	3
Stomach wash tube	2006	1	1		300	1	2
Suction unit portable (manual)	2008	2	2		8000	2	2
Tongue depressor	2011	5	5		50	3M	5
Tourniquet	2012	7	7		20	1M	10
Tubectomy kit							
Weight machine	2011	5	2	3	1200	1	3
Fan	2006	55	55		2000	5	
Light		200	200		250		

Table A.25: Furniture and fixture in a private clinic in Rangunia

Name of the furniture (Vintage)	Year of procurement/purchase	Total number	Price at procurement (per unit)	Total value (BDT)	Total expected life years	Furniture required for SBP
Almirah (Steel)	2004	5	10000	50000	15	5
Wooden Almirah	2004	3	6000	18000	10	3
Wooden Table (Big)	2004	1	10000	10000	15	2
Wooden Table (Small)	2004	6	2000	12000	12	6
Wooden Chair	2004	8	1000	8000	12	12
Chair Steel	2006	12	3000	36000	8	12
Plastic Chair	2010	12	400	4800	5	12
Iron Cot	2004	39	5000	195000	25	11
Wooden Rack	2004	5	1000	5000	15	5
Wooden Tool	2004	40	500	20000	15	20
Medicine Box	2004	40	1000	40000	15	11