Final Report

Evaluation of the Pilot Shasthyo Shurokhsha Karmasuchi (SSK)

Mahbub Elahi Chowdhury
Md. Zahid Hasan
Rashida Akter
Gazi Golam Mehdi
Mohammed Wahid Ahmed
Aklima Chowdhury
Orin Khan
Anadil Alam
Ziaul Islam
Syed A Hamid
Shams El Arifeen

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Abbreviations

APL – Above Poverty Line

BBS – Bangladesh Bureau of Statistics

BDT – Bangladeshi Taka

BPL – Below Poverty Line

CBN – Costs of Basic Needs

CHE – Catastrophic Health Expenditure

CI – Confidence Interval

DGHS – Directorate General of Health Services

DH – District Hospital

DRG – Diagnosis-Related Groups

EPL – Estimated Poverty Line

FGD – Focus Group Discussion

HEU – Health Economics Unit

HH – Household

HIES – Household Income Expenditure Survey

HSD – Health Service Division

IDI – In-Depth Interview

IPC – Inpatient Care

KII – Key Informant Interview

LLP – Local-Level Planning

LMICs – Low- and Middle-Income Countries

MIS – Management Information System

MoHFW - Ministry of Health and Family Welfare

NPL – National Poverty Line

OOP – Out-Of-Pocket

OOPE – Out-Of-Pocket Expenditure

SARA – Service Availability and Readiness Assessment

SSK – Shasthyo Surokhsha Karmasuchi

TIG – Technical Interest Group

UHC – Upazila Health Complex

USAID – United States Agency for International Development

UH&FPO – Upazila Health and Family Planning Officer

WHO – World Health Organisation

Executive Summary

Background

In Bangladesh, households' share of out-of-pocket (OOP) payments for healthcare has increased from 63% in 2012 to 67% in 2015. Around 25% of total households face catastrophic health expenditure (CHE) in 2016 due to OOP payment for healthcare, which pushes around five million people annually into poverty. To address this problem, the Government of Bangladesh has developed the Shasthyo Surokhsha Karmasuchi (SSK) to provide financial risk protection for healthcare costs among the below-poverty-line (BPL) population. Since 2016, the SSK has been piloted in three upazilas (Kalihati, Madhupur, and Ghatail) of Tangail district by the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MoHFW).

Under the SSK, for each enrolled BPL household (HH), the government provides the premium for inpatient healthcare services for a selected 78 disease conditions. In each of the pilot sub-districts, the 50-bed upazila hospitals, which have referral linkage with the Tangail district hospital, function as the first contact facilities for SSK enrolees. The HEU has engaged a scheme operator, private pharmacies, diagnostic centres, and suppliers of support staff to facilitate the smooth functioning of the scheme. At each SSK upazila, an implementation committee headed by the Upazila Chairman is responsible for functioning as a local-level decision-making body that operates the SSK. At the HEU, an SSK Cell is established to function as a management body, planning, implementing and verifying claims made under the SSK scheme. A high-level national steering committee headed by the Secretary of the MoHFW's Health Services Division (HSD) is responsible for inter-ministerial and policy decisions in support of the scheme's successful implementation.

The expected key outputs of the SSK scheme include: i) reduced financial hardship among the poor due to healthcare expenditure; ii) increased access to inpatient healthcare services among the poor; iii) establishment of quality standards for healthcare; iv) improved efficiency and transparency in hospital management.

Study Objectives

The primary objective of our study was to assess the effectiveness of SSK in the reduction of i) out-of-pocket expenditure (OOPE) for healthcare; ii) Catastrophic Health Expenditure (CHE); iii) impoverishment due to healthcare expenditure among the BPL population in the pilot areas. Our study also aimed to i) assess the readiness of the SSK facilities for providing the selected SSK services, ii) assess patient load and referral patterns at the SSK facilities, iii) assess the correctness of, completeness of and compliance with the treatment protocols, iv) assess patient satisfaction with utilisation of SSK services, v) document the challenges related to scheme implementation from both demand- and supply-side perspectives, and vi) review financial records to assess the claim settlement process.

Research Design and Methods

A mixed-methods approach was applied that employed both quantitative and qualitative methods from August 2019 to March 2020 to address the study objectives. The study was structured into six different research components: i) community assessment between the SSK intervention and comparison areas; ii) facility assessment of SSK health complexes and referral hospital; iii) review of treatment protocols; iv) qualitative assessment; v) patient exit interviews; vi) review of records

(patient and financial) at SSK pilot facilities. A summary of the methods for each of the research components is presented below.

A community assessment was conducted to evaluate the effectiveness of SSK in reducing OOPE, CHE, and impoverishment among BPL HHs in the intervention areas as compared to the BPL HHs in the comparison areas. For each of the three SSK intervention upazilas (Kalihati, Ghatail, Madhupur) a comparison upazila (Basail, Sakhipur, Gopalpur) was selected, considering a similar distance from the centre of the upazila to the Tangail district hospital (DH). Initially, 90 villages (30 from each upazila) were planned to be selected from each intervention and comparison area. However, the BPL HH lists in 18 villages under the SSK intervention area were not available; as a result, these 18 villages were not covered by the intervention. Moreover, due to COVID-19, two villages in the intervention area and four in the comparison area could not be covered. Thus, a total of 70 villages from the intervention and 86 villages from the comparison areas were eventually covered by this evaluation.

For community assessment, we had estimated a minimum required number of 1,113 HHs that accessed inpatient care (IPC) to be interviewed in each intervention and comparison area in order to test for a 30% reduction in catastrophic health expenditure (CHE) from the existing 16.5% among the BPL HHs. In intervention upazilas, the selection of HHs with IPC involved several steps: i) identification of the listed BPL HHs by door-to-door visits in 70 villages; ii) verification of the BPL status of the listed BPL HHs, using the same criteria that had been previously used by the SSK programme. In the comparison upazilas, all HHs in the 86 villages were visited to identify the BPL HHs by administering the same BPL HH identification criteria that had been used by the SSK programme in the intervention areas. During these HH visits, we also examined the possession of SSK cards by the BPL HHs.

After identification of the BPL HHs, in each intervention area (7,158 HHs in 70 villages) and comparison area (7,886 HHs in 86 villages), we administered a screening form for selection of BPL HHs in which at least one member had accessed inpatient care at least once in the last twelve months. Through this process, we identified 1,170 HHs in the intervention area and 1,145 HHs in the comparison area with at least one instance of IPC access in the past twelve months. In each of these HHs, we administered a TAB-based interview questionnaire to gather information on detailed illness patterns of each of the HH members and related care-seeking, including details of income sources and healthcare expenditure. These data were analysed for estimation of OOPE, CHE (at both 10% and 25% thresholds), and impoverishment in each intervention and comparison area to assess the effectiveness of SSK in reducing economic hardship among the BPL HHs. In addition to an overall comparison of the financial indicators between the SSK BPL HHs in the intervention areas and newly identified BPL HHs in comparison areas, stratified analysis of the same by BPL status (true-BPL vs non-BPL) and use of SSK card (used SSK cards vs did not use SSK cards) in the intervention area was also performed.

The facility assessment was conducted in the three SSK upazila Health Complex (UHCs) (Kalihati, Ghatail, and Madhupur) at the first contact points for the SSK cardholders in the respective upazilas and the Tangail DH, the referral hospital for SSK patients. A health facility assessment questionnaire adapted from the World Health Organisation (WHO) Service Availability and Readiness Assessment (SARA) was employed. The assessment included interviews with the facility administration and service providers, along with filling out checklists on the availability of health service provision, human resources, equipment, medicines and infection control mechanisms.

The treatment protocol review was based on a technical assessment of 78 types of protocols that had been developed for each of the disease conditions for which services are provided under SSK. Each protocol had different steps under the subheadings, such as clinical signs and symptoms, laboratory diagnosis, treatment, management and advice. The providers were supposed to follow

these protocols when providing services to the SSK patients. For the review of the treatment protocol, samples were selected from the three SSK UHCs and the Tangail DH, stratified by frequency of disease occurrence (most frequent, medium frequency, and less frequent) by year of implementation of SSK in the respective facilities. A total of 745 protocols were reviewed, of which 232 were from Kalihati UHC, 170 from Ghatail UHC, 205 from Madhupur UHC, and 138 from Tangail DH. The technical protocol review consisted of checking compliance with protocols for prescriptions of treatment and medicine, tests of diagnosis, referral, discharge, etc. Analysis was conducted to assess changes in compliance over time and by facility type.

The qualitative investigation was undertaken at both the national and community levels. Sixteen key informant interviews (KIIs) were conducted with policymakers, programme managers, academicians, and representatives of development partners; 30 in-depth interviews (IDIs) were conducted with health managers, care providers (doctors/nurses), scheme operator representatives, managers of contracted diagnostics centres, suppliers of support staff and owners of contracted pharmacies; 18 focus group discussions (FGDs) were conducted with SSK service users and non-users; finally, 30 case studies with SSK cardholders who did not use the services under the SSK were conducted using separate theme-based guidelines. Thematic analysis was undertaken for qualitative data that presented the challenges associated with implementing SSK from the supply side, as well as identifying the barriers to SSK service utilisation from the demand side.

Patient exit interviews were conducted at each of the SSK facilities (Kalihati, Ghatail, and Madhupur UHCs and Tangail DH) to understand experiences with the process and quality of SSK services from the SSK patients' perspectives. A total of 526 SSK patients who had stayed at least two nights at an intervention facility were interviewed at the time of discharge from that facility. A semi-structured questionnaire based on WHO health system responsiveness assessment components was customised to gather patients' perceptions of attention received at the SSK booth with respect shown to the patients, patient autonomy, level of communication by the providers, the confidentiality of consultation, quality of basic amenities, availability of drugs and supplies, availability of diagnostic services, etc. Face-to-face interviews were conducted with the patients/attendants of the patients. We analysed the overall satisfaction score using a five-point Likert scale of beneficiary satisfaction with the SSK scheme.

We used different data collection forms to collect both financial and non-financial documents (i.e. SSK facility expenditure reports, disease-wise monthly actual cost reports, SSK user fees, refund reports, referral records, annual expenditure reports from the SSK facilities) for document review. SSK patient claim files were also collected, along with facility records for each SSK facility over the last six months prior to the interview (January to June 2019). We assessed the total number of SSK patients treated in each SSK facility and the service utilisation trends. The number of patients treated was analysed by disease types and referral. We estimated the average actual cost of disease, outsourced human resources, facility-wise medicine and diagnostics, and the total funds generated and spent by each facility.

Findings from the Community Assessment

Our analysis of the effectiveness of SSK on the reduction of financial hardship among the BPL HHs revealed that, for inpatient care, BPL HHs that used the SSK cards had significantly lower OOPE (BDT 993 vs BDT 2,063), CHE at 10% level (19.1% vs 54.6%) and CHE at 25% level (5.9% vs 14.7%) relative to BPL HHs in the comparison areas following adjustment with the potential covariates. The SSK intervention had no effect on the reduction of impoverishment among the SSK BPL HHs in the intervention area relative to the comparison area.

In the intervention area, almost 80% of the selected villages had been provided with SSK cards. However, in 18 of the selected 90 villages, no BPL HH list was found; thus, one-fifth (18/90) of the sampled villages were not covered by the SSK intervention. In 70 villages, in which 27,420 HHs were visited, 26% of HHs were identified as BPL by the SSK. In the comparison area, among the 29,793 HHs visited in 86 villages, 27% were identified as BPL.

In the intervention area, when we reassessed the actual BPL status of SSK BPL HHs using the same criteria previously applied by the SSK programme, about 58% of the SSK BPL HHs were detected as true-BPL, while the remaining 42% were found to be non-BPL. When we asked the SSK BPL HHs about their ownership of SSK cards, about 17% reported not receiving the cards, while 1% mentioned losing the cards. The incidence of IPC in the SSK BPL HHs over the past twelve months was about 16%, of which only one-third had utilised SSK services. In the comparison area, among identified BPL HHs, the incidence of at least one IPC visit in the last twelve months was 15%.

Findings from the Facility Assessment

We observed that, in terms of basic amenities, SSK facilities did not lack much except for the availability of functional generators, along with communication equipment (landline/cellular) in Madhupur and Ghatail UHCs. In Kalihati UHC, caesarean delivery and nutritional services were not available due to unavailability of providers. Kalihati and Madhupur UHCs were found to be lacking in the practice of standard infection control precautions compared to the other two UHCs. Moreover, significant gaps were identified in the availability of consultants (junior consultants at UHC and senior consultants at the DH), as well as laboratory/diagnostic test services in all SSK health facilities.

Findings from the Treatment Protocol Review

The treatment protocol review revealed that overall compliance with the treatment protocol was 70% and did not improve over time. A decrease in compliance was observed for Kalihati and Madhupur UHCs. Examination by components of disease protocol revealed that compliance for diagnostic tests and advice was below 50%. During the compliance assessment, we found several claim reports didn't have proper documents like lab reports and discharge papers etc. The providers also faced difficulty in following the treatment protocol of the SSK IT system, due to the unavailability of some disease conditions in the SSK 78-disease list and a lack of provision in the existing system for treating patients with comorbidities.

Findings from the Qualitative Assessment

Our qualitative investigation revealed that, due to weak community engagement activities, the SSK failed to motivate the SSK cardholders to utilise services at SSK facilities. Other reported reasons for the lack of SSK service utilisation were long distances to the SSK facility, unimpressive provider attitudes, unavailability of treatment for selected diseases, fear of referral to district hospitals resulting in additional indirect costs, unavailability of SSK booth services at night and on weekends, and service interruption due to lack of provider availability.

Since its inception, the scheme was impacted by the difficulty of retaining doctors in the designated facilities, although this problem was recently addressed by posting fresh doctors. However, about 80% of consultant posts remain vacant in the SSK UHCs as well as in the Tangail District Hospital (referral hospital), which persists as a major challenge.

The study also identified an issue with referring patients from SSK UHCs to the Tangail district hospital. Due to a lack of specialist providers and unavailability of providers at night, emergency patients were directly referred to the Tangail DH; this caused not only delays in seeking care but also dissatisfaction among the patients. The SSK programme could not always provide an ambulance for the referred patients, and patients sometimes had to pay out of pocket for transportation to the referral facility. Moreover, the referral hospital was not always ready to receive the patients due to a lack of providers to treat the SSK referral patients.

Another major issue with the scheme concerned inadequate referral linkage from the primary healthcare settings for inpatient care at the SSK facilities. After visiting the SSK facility, patients who did not require admission became disappointed and developed a mistrust of SSK, as this caused them to incur unnecessary burdens of travel cost and wage loss.

In general, all service providers, irrespective of cadre, felt over-burdened and demotivated to provide services for SSK patients in particular, due in large part to the additional managerial work required, including documentation in a prescribed format for which there was no provision of incentive. Nurses had to maintain different registers; doctors needed to fill out several forms and check claim documents; managers needed to verify claim documents, organise monthly meetings with the local committee and manage patients' complaints about SSK services. All types of providers had a strong expectation for incentives to be provided by SSK to uphold their motivation to carry out the additional associated responsibilities.

Our study also observed gaps in the supply of medicine and diagnostic services to SSK patients. Delay in partial supply of medicine to the SSK patients by the contracted private pharmacy was a commonly observed phenomenon. Patients needing medicine for more than seven days could not receive this without re-admission. For diagnostic services, the labs at the SSK facilities were not fully functional. The contracted private diagnostic centres made no provision for the collection of clinical specimens from patients' bedsides. Inpatients also needed to travel to the diagnostic centres on their own, as transportation support was not provided by the SSK.

We observed that the collection of claim documents and submitting claim statements took much more time than anticipated. The major reasons behind this were the time required to collect all the slips for medicine and diagnostics with the signatures of healthcare providers, as well as the checking of the claim documents by facility managers, which was time-consuming as they were commonly busy with non-SSK related activities. Moreover, for different kinds of referral patients, field operators had to wait for billing documents from referral facilities, while further adjustments of funds had to be made after the claim documents were compiled. We also found that there was uncertainty regarding claim disbursement through local committee meetings. The need to complete all these procedures meant it took three months or more to settle a claim, which was inconvenient for the running of the SSK programme.

The study further observed a lack of effective collaboration by the HEU with the Directorate General of Health Services (DGHS) and the HSD of the MoHFW for the successful implementation of SSK. The scheme lacked an effective monitoring and supervision system for regular monitoring and reporting of the key indicators and actions taken to fill the gaps. Undue delays in claim settlement by the HEU represented another major challenge to the smooth functioning of their services. Shortages in required manpower at the HEU emerged as a major challenge to carrying out the management and supervision required for the proper implementation of the SSK scheme.

Findings from the Patient Exit Interviews

From the exit interviews, we found the overall satisfaction (score 2.54) of SSK beneficiaries was between good (score of 2) to moderate (score of 3) on a scoring scale of 1 (very good) to 5 (very poor). Regarding SSK services, we found the highest satisfaction level with the component 'privacy during diagnostic tests' (score of 2.11), while beneficiaries were least satisfied with 'providers sharing information about treatment' (score of 3.85). About 80% of beneficiaries received all prescribed medicine from the SSK pharmacy, while about 90% received all recommended diagnostic services under the scheme. In terms of non-clinical services, the main factor of dissatisfaction was related to the 'availability of drinking water' (score of 4.55), although respondents were satisfied with the 'overall cleanliness of the healthcare centre' (score of 2.72).

Findings from the Record Review

When reviewing the records, we found that overall utilisation of IPC increased in SSK facilities throughout the review period, but that SSK scheme utilisation decreased slightly (21% to 19%) from January to June 2019. Among the three UHCs, Madhupur UHC had the highest level of SSK utilisation (35%). On average, across the SSK UHCs, 13% of SSK patients were referred via inpatient referral (from within UHCs), while 9% were referred via direct referral (from outside the UHCs). This rate of referral was higher from Madhupur UHC (17% and 13% for inpatient and direct referral respectively) compared to the corresponding figures from the other two SSK UHCs (Ghatail UHC at 11% and 9%, Kalihati UHC at 9% and 3% for inpatient and direct referral respectively). However, about 2% of SSK-referred patients were further referred from the referral Tangail DH to other hospitals. When reviewing the financial documents, we found that the highest amount of funds was generated in Madhupur UHC (BDT 7,245,433), followed by Kalihati UHC (BDT 4,628,423), Ghatail UHC (BDT 4,189,010), and Tangail DH (BDT 1,678,756). The highest revenue was also earned from Madhupur UHC (BDT 372,029), followed by Kalihati UHC (BDT 330,029), Ghatail UHC (BDT 164,445), and Tangail DH (BDT 33,252). The higher number of SSK patient admissions in Madhupur relative to the other SSK UHCs was the reason for this higher rate of fund and revenue generation.

Conclusions and Recommendations

Based on the findings from the evaluation of the SSK pilot, as the intervention was found to reduce both OOPE and CHE among the BPL HHs that used the SSK services, we recommend that in the short term (within one to three years), the SSK should be expanded to all the 12 upazilas of Tangail district, including the municipality areas of the respective upazilas, for adaptation to the district health system model. This should be backed up by a well-planned implementation research study to document the lessons learned and give necessary feedback to the programme for refinements.

We also provide the following recommendations: develop clear guidelines for improving the BPL identification process; develop an interpersonal communication strategy for informing the SSK cardholders about the benefits of SSK and use of the SSK cards; update the SSK 78-disease list based on local needs; update the computerised system to facilitate provision of treatment with comorbidities; develop a system for providing medicine to follow-up patients; address the gaps in readiness (lack of lab services, surgical intervention, infection prevention, etc.) of the SSK facilities; improve sanitation and hygiene, waiting room quality, and clean water supply to enhance patient satisfaction; strengthen the referral system from SSK UHCs to higher-level facilities by improving ambulance support services to the referred SSK patients and related management; improve services at contracted pharmacies and diagnostic centres by ensuring

timely supply of essential medicine; arrange transportation for inpatients to reach the contracted diagnostic centres for lab tests; introduce bedside specimen collection for critical patients. The study also suggests improving the collaboration between HEU and DGHS on the development/improvement of the IT system for management of BPL card holders, management of patients at SSK facilities, and management of financial documents. Collaboration with the HSD and MoHFW should also be enhanced to ensure consultants are hired to fill the vacant posts at both the SSK UHCs and the referral hospital.

The HEU should strengthen the SSK monitoring and supervision system by developing and implementing a monitoring framework. Initiatives should be taken to automate the financial management system. Measures should also be taken to establish referral linkage with the primary health care system so that patients from lower levels of the health system can be effectively referred for IPC at the SSK UHCs.

The study also recommends that, in the medium term (within four to five years), the HEU should take initiative to increase provider motivation by developing innovative models such as non-financial incentives for doctors/nurses and non-practicing allowances for consultants. Local-level hiring of consultants using the SSK funds could also be a possible strategy for reducing the shortage of consultants.

At the same time, initiatives should be adopted for developing an SSK model that caters to the healthcare needs of the BPL population in urban settings, particularly those living in large cities.

Over the next six to ten years (long term), the final SSK model should be scaled up to all 64 districts in Bangladesh in a phased manner. Economically disadvantaged and difficult-to-reach upazilas with relatively poor health service infrastructure should be targeted first. In addition, for effective management of the SSK, we recommend that a National Health Security Office (NHSO) be established for regulatory and management-related activities. Finally, HEU and DGHS should continue working together as strategic partners for policy research and service delivery, respectively, in support of a nationwide scale-up of SSK.

Chapter 1: Introduction

Background

According to the Bangladesh National Health Accounts (BNHA 1997–2015), the share of households' out-of-pocket (OOP) payments as a proportion of total healthcare expenditure increased from 63% in 2012 to 67% in 2015. A recent study using data from 2016 showed that, overall, 25% of households face catastrophic health expenditure (CHE) due to OOP payments for healthcare. The study also estimated that 4.5% of the total population has fallen into poverty due to high OOP healthcare spending, which corresponds to the economic impoverishment of five million people in Bangladesh annually (Ahmed et al., 2021). The incidence of catastrophic health expenditure (CHE) is more concentrated in the poorest households (16.5%) compared to the richest (9.2%) (Khan, Ahmed, and Evans 2017). In order to achieve universal health coverage, the World Health Organisation (WHO) urges its member states to ensure that a health-financing system includes a method for prepayment of financial contributions for healthcare; the goal of this is to share risk among the population, thereby avoiding CHE and individuals becoming impoverished as a result of seeking care (WHO 2005). Health insurance schemes are an example of such prepayment-based risk pooling mechanisms that enable care-seekers to utilise healthcare from designated providers when they become ill, reducing unforeseeable or unaffordable health care costs through a regularly paid premium. A certain proportion of the insured will fall ill during that time and require care at hospitals/from healthcare providers. The insurance removes their financial barriers to access. Even in the event that they have no cash available at the time of their illness, or regardless of whether user fees are high relative to their income, the insured can readily obtain treatment at health facilities.

Table 1.1: Theory of change of SSK scheme

Input	Process	Output	Outcome
- Strengthen infrastructure, ensure drugs / diagnostic facilities - Ensure availability of necessary trained workforce (doctors, nurses, paramedics, etc.) - Placement of SSK diagnosis and treatment protocols - Quality improvement activities (cleanliness, waiting area maintenance, waste disposal, security, etc.) - Introduce IT-based management - Stakeholder engagement - Awareness-raising activities (e.g. leaflets, audio broadcasts, TV ads, courtyard meetings and folk songs) - Funding support	- Identification of below-poverty-line (BPL) population - Awareness of BPL population within SSK - Acquisition of premium - Formation of pool fund - Facility autonomy for fund utilisation - Introduction of defined quality standards for treatment - Establish claim settlement system - Establish linkage with other actors	- Enrolment of the BPL population in SSK scheme - Quality of healthcare services ensured - Reduced barriers to service access - Improved utilisation of healthcare services - Clean and safe environment	- Reduced OOP payments for healthcare among BPL population - Reduced/no catastrophic healthcare expenditure among the BPL - Increased patient satisfaction

Several low- and middle-income countries (LMICs) have adopted different types of insurance-based demand-side financing mechanisms for increasing utilisation and reducing OOP healthcare payments (Adhikari et al. 2018; Gyasi, Phillips, and Buor 2018; Kuwawenaruwa et al. 2016; Nuwasiima et al. 2017; Philibert et al. 2017; Twum et al. 2018). In 2015, the Government of Bangladesh adopted a Healthcare Financing Strategy with a view to bringing all citizens under financial protection for healthcare by 2032. To achieve this goal, a government-sponsored health protection scheme named Shasthyo Shurokhsha Karmasuchi (SSK) was developed for BPL population by the Health Economics Unit (HEU) of the Ministry of Health and Family Welfare (MoHFW). The expected impact of the SSK scheme in improving access of the poor to quality

healthcare services by reducing financial barriers is demonstrated through a theory of change shown in **Table 1.1**.

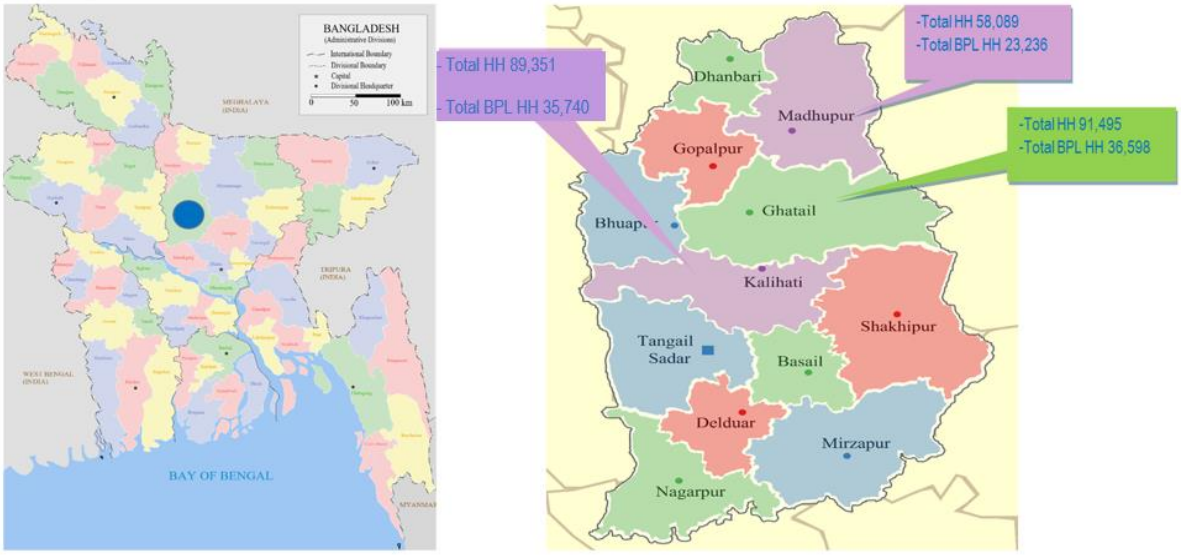
Shasthyo Shurokhsha Karmasuchi: The SSK is being piloted in three upazilas (sub-districts) of Tangail district, namely Kalihati, Madhupur, and Ghatail **(Figure 1.1).** The pilot was initially launched in Kalihati in March 2016 and subsequently expanded to the Madhupur and Ghatail upazilas over the following 18 months.

The following objectives were set by the HEU/MoHFW for the pilot phase of the scheme (SSK Cell 2016):

- Improve poor people's access to hospital inpatient care by reducing financial barriers;
- Increase authority at the hospital level for functional improvement in the health sector in phases as a part of local-level planning (LLP) and development;
- Introduce performance-based financing models.

The key actors of the scheme are the HEU-formed SSK Cell, the contracted scheme operator, upazila health complexes (UHCs), and local-level SSK implementing committees.

Figure 1.1: Upazilas in Tangail district implementing SSK



HH= Household; BPL= Below-poverty-line population

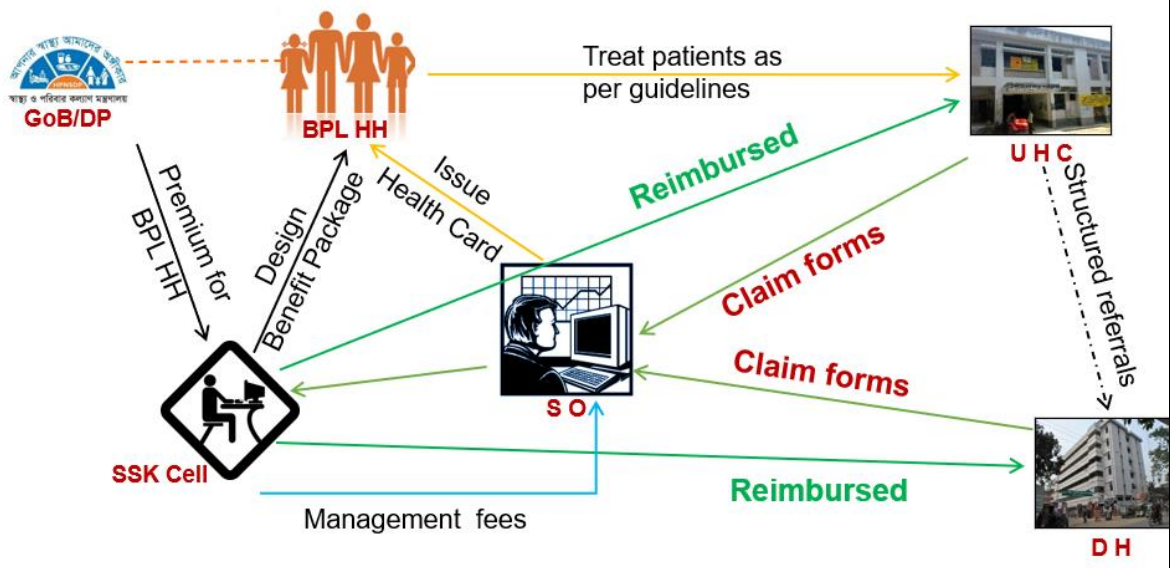
The SSK Cell has been formed by the HEU to act as the key management body for implementing the SSK scheme and act like an insurance-providing organisation. The Cell is implementing this scheme in the UHCs of the intervention upazilas with a referral linkage to the Tangail district hospital. The Cell also contracted a scheme operator (Green-Delta Insurance Company Limited) to enlist the BPL population, provide healthcare cards, facilitate the claim reimbursement process in the UHCs, assist cardholders in receiving healthcare services from UHCs and district hospitals (DHs), and monitor the scheme activities. In each upazila, a six-member SSK implementing committee—of which the Upazila Chairman is the president and the Upazila Health and Family Planning Officer (UH&FPO) is the Member Secretary—acts as the decision-making body for the operation of the scheme. The scheme offers inpatient services to the identified BPL populations for 78 types of diseases or health conditions. Patients under this scheme gain access to several additional benefits compared to other patients in the public healthcare facility. These include free consultation for outpatient care, free inpatient care, free referral care and free access to essential drugs and diagnostics at UHC and DH for inpatient care. The premium is paid by the government

at a rate of Tk. 1000 per household per year, with maximum financial protection of Tk. 50,000 per household per year.

The hospitals (UHCs and DHs) are to be reimbursed by SSK Cell within 30 days of providing free healthcare services to the SSK cardholders based on verifiable patient records (claims). Reimbursement follows a case and diagnosis-based payment system using a simplified diagnosis-related group (DRG). The hospitals prepare the claim documents with the help of a scheme operator. The scheme operator checks and sends these claim documents to the SSK Cell. The SSK Cell verifies the claims and makes the payment against the invoice to the healthcare facility. With the unspent funds, if available, the UHCs have fiscal space up to a certain limit to spend on service delivery and improve service quality.

The SSK Cell maintains a data warehouse with the help of the Management Information System (MIS) of the Directorate General of Health Services (DGHS). The SSK data server is hosted at the DGHS-MIS center free of charge and the DGHS provides general and maintenance services. The hospital is equipped with a computerised hospital management system, initially focusing on enrollee and inpatient management. The system is based on customised software that handles patient registration, diagnosis, treatment, referral, discharge, and automated reporting, all of which are useful for claim management and fraud control. The functional structure of the SSK is illustrated in **Figure 1.2**.

Figure 1.2: Functional structure of SSK



Health insurance or health protection schemes like SSK have been evaluated in several countries to assess their impact on health service utilisation, OOP expenditure, financial risk protection and health status. Several studies have shown that while insurance improves utilisation and reduces personal expenditure, the evidence regarding health outcomes is mixed (Ekman 2004; Giedion and Diaz 2010; Moreno-Serra and Smith 2012; Palmer et al. 2004). A study on the effect of insurance on skilled maternal care in Ghana found that insured pregnant women reported more antenatal care visits and delivery at health facilities compared to the uninsured (Twum et al. 2018). In Tanzania, maternal and child health insurance cards improved equity in access to facility-based delivery care (Kuwawenaruwa et al. 2016). Another study in Thailand provided evidence for possible health benefits when the insurance scheme was well matched to the health burden and target population (Gruber, Hendren, and Townsend 2012). A Colombian study suggested that the rapid

expansion of health insurance in the 1990s led to an improvement in neonatal health outcomes (Gruber et al. 2012).

On the other hand, several studies have identified a heterogeneous or null effect of insurance on health outcomes. For example, one evaluation of Mexico's *Seguro Popular*, which offers extensive insurance coverage for the BPL population, found a reduction in catastrophic health expenditures; however, the programme had a mixed effect on utilisation and health improvements (Gakidou et al. 2006; King et al. 2009). Similarly, evaluations of health insurance schemes in Burkina Faso and Ghana found reductions in catastrophic health expenditures without improvements in health outcomes (Fink et al. 2013; Thornton et al. 2010). Evaluations of China's health system reforms, including the rural New Cooperative Medical Scheme and the Urban Resident Basic Medical Insurance, also showed mixed effects, although some subpopulations experienced increases in healthcare utilisation and financial protection (Lin, Liu, and Chen 2009; Wagstaff et al. 2007). A systematic review of seven studies on the evaluation of publicly financed health insurance schemes found a positive effect among the insured in terms of increased healthcare utilisation (Prinja et al. 2017). Two studies that evaluated state-sponsored health insurance schemes in India reported a decline in OOP expenditure among enrolled households (Fan, Karan, and Mahal 2012; Sood et al. 2014). An evaluation of a community-based health insurance scheme in Bangladesh identified a significant increase in the utilisation of healthcare delivered by the medically trained provider among the insured population (Ahmed et al. 2018). However, limited evidence is available on the impact of government-sponsored health protection schemes considering both demand- and supply-side factors in the LMIC context. The preliminary findings of an icddr,b study on SSK (Ahmed et al. 2018) at Kalihati indicates that a distance barrier exists between households and hospitals, while a knowledge gap about the healthcare services provided is also present among enrollees. Furthermore, a rapid review found low utilisation of SSK services (Ensor and Huque 2018). MoHFW's Health Economics and Financing operational plan (2017–22) is expecting to scale up the SSK scheme in an additional 10 sub-districts in future. Therefore, a comprehensive evaluation of the SSK scheme—in terms of supply-side inputs, process, outputs and outcomes, along with an assessment of demand-side factors (i.e. knowledge about SSK, utilisation, satisfaction, and OOP payment)—is required to inform the policymaking body for future modalities before this scale-up occurs. Evidence generated through this evaluation will be useful in improving the scheme in the scale-up phase, as well as in understanding SSK's impact on the target population.

Study objectives: The overall objective of this study was to investigate the SSK scheme in terms of financial and non-financial factors from both demand- and supply-side perspectives. The study specifically examined various demand- and supply-side factors of SSK, as follows:

Demand-side factors assessed:

1) Cardholders' knowledge about SSK scheme
2) Utilisation of SSK services by the BPL population
3) Patients' satisfaction with SSK services
4) Effect of SSK scheme on OOP payments for healthcare among the BPL population
5) Effect of SSK scheme on CHE and risk of economic impoverishment among the enrolled households

Supply-side factors assessed:

1) Facility readiness (HR, drug, equipment, logistics availability) for providing SSK services
2) SSK scheme referral system

3) SSK record-keeping system
4) SSK financial management system (revenue generation, fund allocation, fund utilisation, financial autonomy, etc.)
5) SSK claim management process
6) Community engagement process by the scheme operator
7) Quality of healthcare, monitoring, and supervision of the SSK services
8) Financial sustainability based on cost and revenue generation
9) Experiences of third-party engagement with SSK (e.g. scheme operators, private pharmacies, diagnostic centers)
10) Fund utilisation barriers

The expected effects of the scheme addressed through this evaluation are presented in **Table 1.2** below.

Table 1.2: Assessment of the scheme's expected effects through the SSK evaluation

Expected effects of the SSK scheme	Objectives of SSK evaluation
- Reduced OOP among poor households	- Effectiveness of SSK scheme in the reduction of - OOP payments for healthcare among the BPL population - CHE among the enrolled households - Economic impoverishment among the enrolled households
- Increased access to inpatient services among poor people	- Effectiveness of SSK in service utilisation by BPL population - Referral system of the SSK scheme - Community engagement process by the scheme operator
- Defined quality standards in place	- Compliance with SSK treatment protocol for service provision
- Improved efficiency and transparency in hospital management	- Facility readiness (HR, workload at facilities, drugs, equipment, logistics availability) for providing SSK services - SSK record-keeping system - SSK financial management system (revenue generation, fund allocation, fund utilization, etc., along with related barriers) - Managers' authority and autonomy in fund allocation and utilisation - Monitoring and supervision of SSK services - SSK claim management process
- Experience with a third-party payer agency to manage the insurance fund	- Experiences of third-party engagement with SSK (scheme operators, pharmacies, diagnostic centres, suppliers of guards/cleaners)

Chapter 2: Methodology

Study design: The present research employed a mixed-methods approach utilising both quantitative and qualitative methods. To address the study objectives, six different research techniques were applied, as follows:

i) Community assessment
ii) Facility assessment
iii) Review of treatment protocols
iv) Qualitative assessment
v) Patient exit interviews
vi) Record review (patient and financial records)

Table 2.1 presents the type of research methods applied to address the different objectives of this evaluation study.

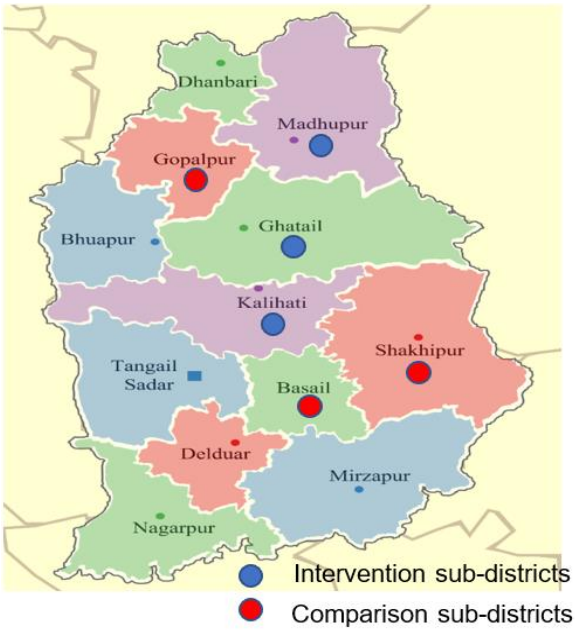
Table 2.1: Research methods employed to address different study objectives	
Demand-side objectives	**Research methods applied**
- Cardholders' knowledge about SSK scheme (Obj. 1)	- Community assessment - Focus group discussions (FGDs) with SSK members
- Patient satisfaction with SSK services (Obj. 2)	- Exit interviews with patients at SSK health facilities - Case studies
- Effectiveness of utilisation of SSK services among the BPL population (Obj. 3)	- Community assessment
- Effect of SSK scheme on OOP payments for healthcare among the BPL population (Obj. 4.i)	- Community assessment
- Effect of SSK scheme on CHE and economic impoverishment among enrolled households (Obj. 4.ii and 4.iii)	- Community assessment
Supply-side objectives	**Research methods applied**
- Facility readiness (HR, drugs, equipment, logistics) for SSK (Obj. 1)	- Service availability and readiness assessment (SARA)
- Referral system of the SSK scheme (Obj. 2)	- Review of claim documents - Key informant interviews (KIIs) with SSK Cell (4) and Facility Managers (4) - In-depth interviews (IDIs) with Providers (4) - Case studies (30) - FGDs with service users (18)
- Record keeping system of SSK - (Obj. 3)	- KIIs with SSK Cell Members (4) and Scheme Operator (1) and Facility Managers (4) - IDIs with local staff of Scheme Operators (4)
- Financial management system of the scheme (revenue generation, fund allocation, utilisation, barriers in utilization, etc.) (Obj. 4)	- Review of financial documents - Review of claim documents - KII with SSK Steering Committee (3), Cell Members (4) and Facility Manager (4) - IDIs of the financial management personnel (4)
- Assessment of financial authority and autonomy (Obj. 5)	- KIIs with SSK Steering Committee (3), Cell Members (4) and Facility Managers (4), and Local Committee Members (6)
Supply-side objectives	**Research methods applied**
- Claim management process of SSK (Obj. 6)	- Review of claim documents (appx. 3500 from SSK facilities) - Process documentation of claim management - KIIs with SSK Cells (4) and Facility Managers (4) - IDIs with local staff of Scheme Operators (4)

- Community engagement process by the scheme operators (Obj. 7)	- Review of plans and performances for community engagement using checklist - KIIs with SSK Cells (4), Local Committee Members (6) - IDIs with local staff of Scheme Operators (4)
- Compliance with SSK treatment protocol (Obj. 8)	- Compare claim documents with treatment protocol of the last two months (Nov, Dec) of past three years for Kalihati Upazila and last three months (Oct–Dec) of the past two years for other two Upazilas (appx. 3500 from SSK facilities)
- Monitoring and supervision of the SSK services (Obj. 9)	- Process documentation - KIIs with SSK Cell Members (4) and Facility Managers (4) - IDIs with local staff of Scheme Operators (4)
- Experience of third-party engagement in SSK (scheme operator, pharmacy, diagnostic centres, suppliers of guards/cleaners (Obj. 10)	- Review of Terms of References (ToRs) of different contractors - Analysis of service statistics in the last six months (drugs and diagnostic services) - KIIs with SSK Cell Members (4) and Facility Managers (4) - IDIs with contractors (12)

Methodology for the Community Assessment

For community assessment, a post-intervention comparative study design was followed. The community assessment was conducted in the SSK intervention areas and comparison areas, considering SSK member households as an intervention and non-member households as a comparison group. The community assessment was conducted in two steps. In step one, a household listing was drawn up to identify SSK/BPL households who sought inpatient care in the last twelve months from the time of the interview. For household listings in the intervention areas using the BPL household list of the SSK, a screening form was used to identify every SSK cardholder household located in villages within selected intervention areas in which at least one member had sought inpatient care in any facility in the last twelve months. In the comparison areas, moreover, all households in the selected villages were visited to identify the BPL households using the same criterion chosen to identify BPL households in the SSK intervention area. Subsequently, for all households identified as BPL, the same screening tool was administered to identify those households in which at least one member had accessed inpatient care in the last twelve months. In step two, in both intervention and comparison areas, for all selected households that had accessed inpatient care in the last year; a pretested semi-structured questionnaire was administered for community assessment. The assessment collected information on the socioeconomic characteristics of the households, their income, expenditure, history of illness, and information related to healthcare-seeking and costs of treatment when seeking care from any healthcare facilities. The expenditure for any disease was captured for three months (for general illness and chronic illness) and twelve months (for inpatient care utilisation). We then assessed the effect of the SSK scheme on healthcare utilisation, changes in the incidence and intensity of CHE, and the impact of impoverishment from OOP healthcare payments.

Figure 2.1: Intervention and comparison areas



Study sites: The study was conducted in three

intervention upazilas (Kalihati, Ghatail, and Madhupur) and three comparison upazilas (Basail, Shokhipur, and Gopalpur), all within the Tangail district. (Selection process is as described under *Sample selection process for community assessment*). Moreover, Tangail District Hospital was also under the jurisdiction of this evaluation (Figure 2.1).

Sample size for community assessment: To test a 30% reduction in CHE among the BPL population (from 16.5% to 11.5%), considering a 95% confidence level and 80% power, an estimated 795 SSK households that sought inpatient care in the last twelve months were needed for each SSK intervention and comparison area. Assuming a 1.4 design effect for stratification and village selection and 10% non-response rate, an estimated 1,236 households that sought inpatient care in the last twelve months were selected from three intervention upazilas. An equal number of BPL households that sought inpatient care in the last twelve months were selected from the three comparison upazilas. Thus, in the three SSK intervention upazilas and three comparison upazilas, a total of 2,472 households were initially selected for the study. However, finally, 1,170 households in the intervention area and 1,145 households in the comparison area were interviewed.

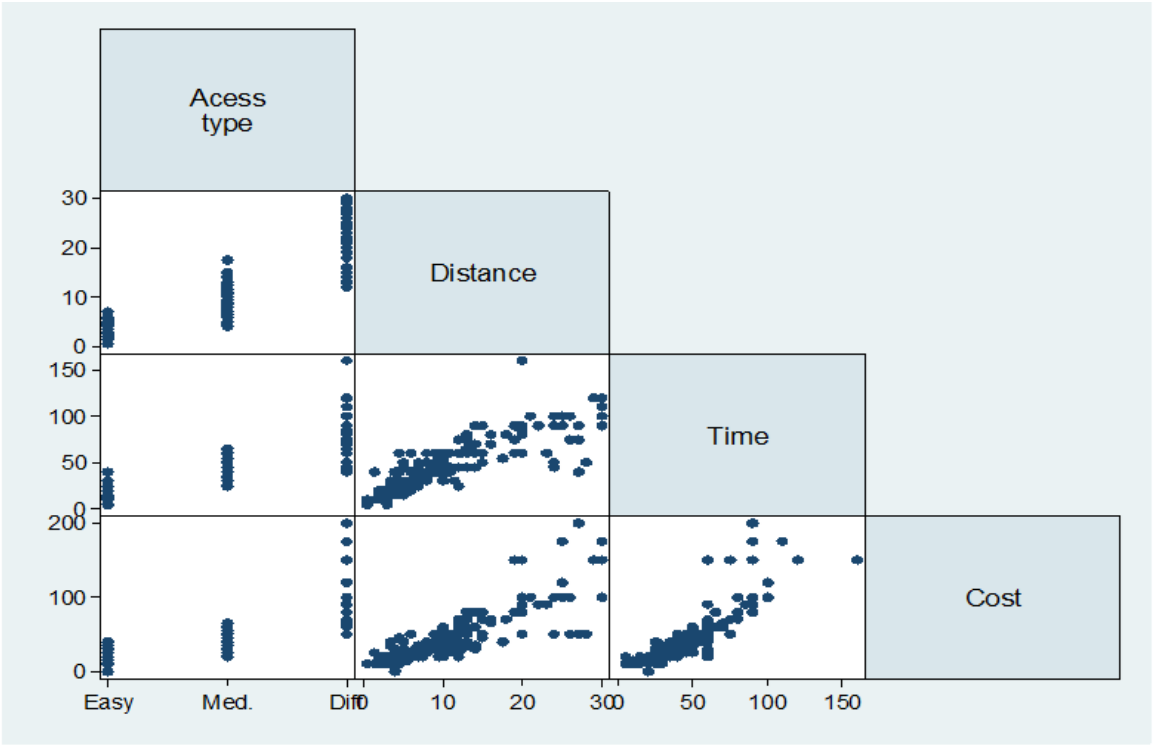
Sample selection process for community assessment: In each of the intervention and comparison upazilas, the sample was selected in two stages. In the first stage, in each upazila, stratification was conducted considering accessibility from villages to the UHC. In each upazila, accessibility was assessed using distance, travel time, and costs of travel from villages to the health complex of the respective upazilas (Table 2.2).

Table 2.2: Accessibility parameters from villages to UHCs in study upazilas

Accessibility parameters	Intervention area				Comparison area			
	Kalihati	Ghatail	Madhupur	Average	Basail	Shokhipur	Gopalpur	Average
Distance (Km)	11.6	13.9	12.3	12.6	7.7	12.5	7.5	9.2
Travel time (Min)	42.2	44.9	52.3	46.5	44.4	64.5	31.2	46.7
Cost (BDT)	48.5	54.4	51.4	51.4	35.9	52.5	36.7	41.7

By applying principal component analysis, accessibility was classified as either easy, medium or difficult. **Figure 2.2** illustrates the association of accessibility type with the parameters in one upazila.

Figure 2.2: Association of accessibility (assessed by PCA) with each parameter in one upazila



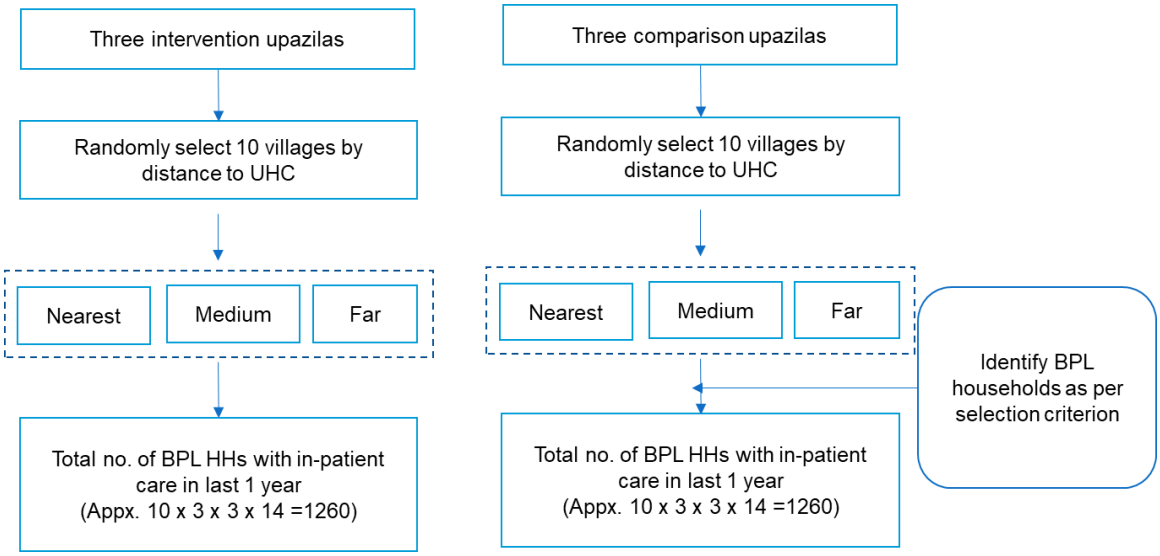
In each upazila, 10 villages were randomly selected from each type of accessibility stratum. Thus, 90 villages were selected from three intervention areas and the three types of accessibility stratum within each area. Applying the same technique, another 90 villages were selected from three comparison upazilas (Table 2.3).

Table 2.3: Selection of number of villages in intervention and comparison areas by access type

Access type	Intervention area			Comparison area		
	Kalihati (Selected)	Ghatail (Selected)	Madhupur (Selected)	Basail (Selected)	Shokhipur (Selected)	Gopalpur (Selected)
Easy	108 (10)	158 (10)	78 (10)	43 (10)	58 (10)	71 (10)
Medium	108 (10)	156 (10)	78 (10)	43 (10)	59 (10)	68 (10)
Difficult	107 (10)	156 (10)	77 (10)	42 (10)	57 (10)	69 (10)
Total	323 (30)	470 (30)	233 (30)	128 (30)	174 (30)	208 (30)

According to the findings of a pilot study, on average, 15% of the BPL households sought inpatient care in the last year (14 BPL households per village). Applying this figure, an estimated 90*14= 1,260 BPL households that had sought inpatient care in the last twelve months were selected from the intervention area. An equal number of BPL households from three comparison upazilas were also selected for this study. **Figure 2.3** presents the details of the sample selection process for the community assessment.

Figure 2.3: Sample selection process for community assessment



Data collection for community assessment: A standard semi-structured community assessment questionnaire was developed for data collection. The questionnaire was developed and finalised for pretesting through several meetings between the study investigators and study consultants, as well as meetings with the HEU. The questionnaire included socioeconomic characteristics of the household (e.g. age, sex, occupation, education, household income and expenditure), along with four sections on healthcare-seeking and healthcare expenditure: i) acute illness, ii) chronic illness, iii) inpatient care, and iv) pregnancy and delivery care. A cloud-based data collection platform called KoboToolbox was used to conduct the assessment via Android-Operated Tablet Computer. A pretesting of the developed questionnaire was conducted in three villages within the intervention area and two villages in the comparison area. Based on the findings from the pretesting, the decision was made to conduct mapping of the villages in the selected upazilas, as the utilisation varied according to the distance of the healthcare facility from the villages. By visiting the union (an administrative unit) of the upazilas, we collected information on distance, travel time, and costs of traveling from the villages to the UHCs for mapping. The mapping was conducted over six days. After the mapping and selection of the villages were complete, the final data collection began on 4th August 2019. The list of SSK villages was extracted from SSK BPL household lists in the intervention area. In the comparison area, the list of villages in the selected upazilas was collected from 2011 census data and also updated while visiting the Union Porishad Office during mapping. During data collection, each of the SSK-listed households in the intervention area was identified to determine if a household member had accessed inpatient care in the last twelve months. The listed BPL households in the intervention areas were also screened for their current BPL status (True-BPL). In the comparison areas, all households in villages were visited to identify BPL households using the preselected BPL selection criterion. In both intervention and comparison areas, identified BPL households were screened for access to inpatient care in the last twelve months using a household screening checklist. Signed consent was obtained before administering the checklist to the respondent. If a household had accessed inpatient care in the previous twelve-month period, then the household was approached for a detailed household interview after obtaining signed consent for collecting detailed information on household socioeconomic characteristics, history of illness, healthcare seeking, and health-related expenditure.

Analysis of Community Assessment

Both descriptive and advanced analyses were performed using quantitative data. An independent sample t-test for proportion was used to test the differences in average utilisation rate, out-of-pocket expenditure (OOPE) for healthcare, CHE at 10% and 25% threshold level, and impoverishment at both the estimated poverty line (EPL) (BDT 9,028/HH/month) and national poverty line (NPL) (BDT 9,305/HH/month) scale (BBS 2016). A multiple logistic regression model was used considering CHE at 10% and 25% thresholds, impoverishment at EPL, and impoverishment at NPL separately as dependent variables. Several socioeconomic and demographic variables were included for adjustment. Interactions of the study area with BPL status and study area with card utilisation status were also used separately in the logistic regression models.

Estimation of OOP healthcare expenditure: OOP healthcare expenditure included both direct medical (e.g. consultation, drugs, diagnostics) and direct non-medical (e.g. bed charges, transportation, food, informal payments) expenditure incurred by the patients.

Estimation of CHE due to OOP healthcare expenditure: The incidence of CHE between the SSK and non-SSK households was estimated and compared to assess the impact of the scheme on CHE. The incidence of CHE was estimated as the fraction of healthcare costs to household consumption expenditure if it exceeded a certain threshold[1]. Specifically, we applied 10% of total consumption expenditure and 25% of total consumption expenditure as the CHE thresholds[2],[3]. Households reporting treatment expenditure that exceeded either of these thresholds were considered as having incurred CHE.

Estimation of impoverishment due to OOP healthcare expenditure: We estimated the difference in impoverishment due to OOP payments for healthcare between SSK and non-SSK households by comparing the proportion of sample households falling below the poverty line in SSK intervention upazilas and non-SSK upazilas. The gaps between these two impoverishment measurements determined the impact of OOP payments on poverty. We applied the Costs of Basic Need (CBN) approach used by the Bangladesh Bureau of Statistics (BBS) to estimate the poverty line. According to the CBN method, the poverty line represents the level of per capita expenditure at which the members of a household can be expected to meet their basic needs (comprising food and non-food consumption items). The market price for eleven food items (rice, wheat, pulses, milk, oil, meat, fish, potatoes, other vegetables, sugar, and fruits) comprising 2,122 kcal per person per day was captured for the food-poverty line. The non-food allowance for the poverty line was then estimated as the median amount spent on non-food items by the group of households that had per capita food expenditure close to the food poverty line. Finally, we obtained the poverty line, which is the sum of the food poverty line and non-food allowances.

Methodology for the Facility Assessment

Selection of facilities: Three SSK UHCs (Kalihati UHC, Ghatail UHC, and Madhupur UHC) and the Tangail District Hospital (referral hospital) were purposively selected for the facility assessment.

[1] Wagstaff, Adam and Eddy van Doorslaer. 2003. "Catastrophe and Impoverishment in Paying for Health Care: With Applications to Vietnam 1993-1998." Health Economics 12(11):921–34

[2] Pradhan, Menno and Nicholas Prescott. 2002. "Social Risk Management Options for Medical Care in Indonesia." Health Economics 11(5):431–46

[3] Ranson, Michael Kent. 2002. "Reduction of Catastrophic Health Care Expenditures by a Community-Based Health Insurance Scheme in Gujarat, India: Current Experiences and Challenges." Bulletin of the World Health Organisation 80(8)613–21

Facility assessment: A health facility assessment questionnaire was developed in the light of WHO's SARA tool. After developing the questionnaire, piloting was conducted to test the questionnaire for errors or inconsistency in collecting information. After modification of the study tools based on the piloting, a final facility assessment questionnaire was developed. The hard copy of the final questionnaire was used to collect information for the facility assessment. The interview was conducted by personnel who had adequate knowledge of facility administration and the services provided. Information was collected through interviews with facility managers, doctors, nurses, and administrative staff. Data was collected on the availability of basic healthcare services, basic amenities, beds, diagnostic services, supplies of medicines, standard precautions for infection control, human resources, and the functionality of basic and laboratory equipment.

Analysis: Descriptive statistics for different facilities were used to identify the gaps in basic healthcare services, basic amenities, beds, diagnostic services, supplies of medicines, standard precautions for infection control, human resources, and the functionality of basic and laboratory equipment.

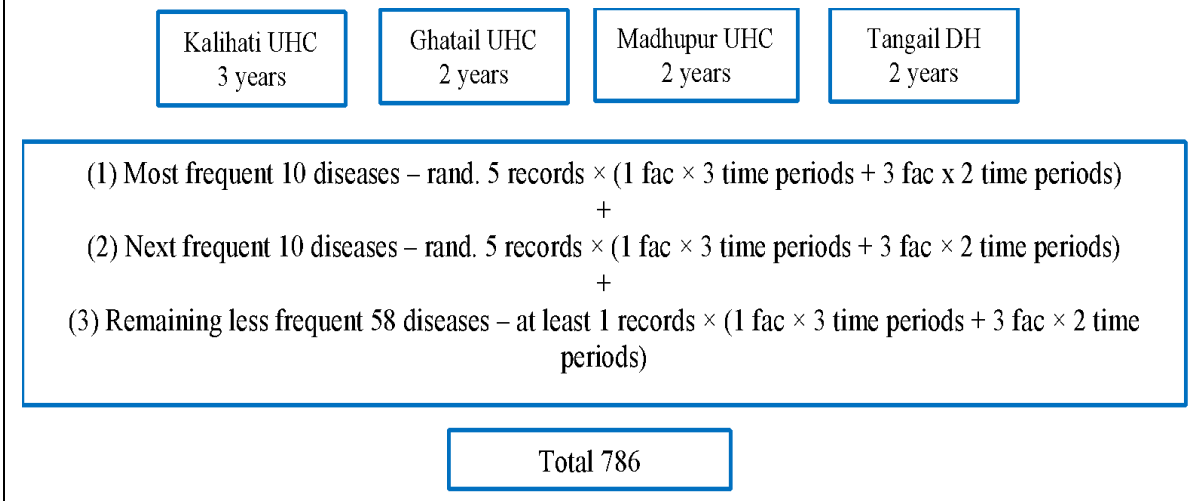
Methodology for the Technical Protocol Review

Sampling

To assess the compliance of treatment documents with the treatment protocols, we consulted with the technical advisory group members and categorised the 78 disease conditions under the SSK scheme into three types depending on their frequency in patients: i. most frequent 10 diseases; ii. next frequent 10 diseases; iii. least frequent 58 diseases.

For sample size calculation, we chose the inpatient treatment documents for 78 SSK-listed diseases from January–March of the past three years (2017–2019) for Kalihati UHC and January–March of the past two years (2018–2019) for Ghatail UHC, Madhupur UHC and Tangail DH. Details of the sample size selection process are presented in **Figure 2.4**.

Figure 2.4: Sample size selection of treatment document of protocol review for compliance



We randomly selected five treatment documents for each of the 78 diseases at each period at each facility from the first two categories (most frequent 10 diseases and next most frequent 10 diseases). For the diseases in the remaining category (least frequent 58 diseases), we chose at

least one document for each disease group based upon their availability from the specific time. Thus, a total of 786 patient treatment documents were sampled from four SSK health care facilities; after assessing the availability of the documents, 745 were reviewed **(Table 2.4)**.

Table 2.4: Sample size and review completion for the treatment protocol

SSK Healthcare Facilities	2017		2018		2019		Total Sampled	Total Reviewed
	Sampled	Reviewed	Sampled	Reviewed	Sampled	Reviewed		
Kalihati UHC	70	63	85	77	96	92	251	232
Ghatail UHC	-	-	80	76	96	94	176	170
Madhupur UHC	-	-	98	95	120	110	218	205
Tangail DH	-	-	62	53	79	85	141	138
Total	**70**	**63**	**325**	**301**	**391**	**381**	**786**	**745**

The treatment documents were collected from the proper authorities as soft copies (scanned copies of original printed documents); where soft copies were unavailable, documents were photocopied. Each of the treatment documents was reviewed by an experienced medical doctor with management support from a research officer.

Analysis

We established 78 treatment protocols for reviewing 78 SSK-enlisted disease conditions. Each protocol had different steps under the following subheadings: clinical signs and symptoms, laboratory diagnosis, treatment, management, and advice. While reviewing the compliance of the treatment protocol for each patient document, we marked “yes” or “no” for each step after assessing whether or not the steps had been followed. We also marked “not applicable” if that step did not apply to that particular patient. The PRP reviewed each of the treatment documents, consisting of prescriptions of treatment and medicine, results of diagnostic tests, referral documents, discharge papers, etc., to assess compliance with the treatment protocol. Along with a research officer, the PRP then calculated the necessary steps and measured the compliance of each treatment document with the treatment protocol and the overall compliances of the specific disease distinguished by the ICD codes. If any issues with the documentation process of these treatment documents were identified, these were also noted and subsequently analysed.

Methodology for the Qualitative Assessment

For qualitative data collection, we conducted interviews at the national level, facility level, and community level. Four types of qualitative data collection methods were used, namely KIIs, IDIs, FGDs and case studies **(Table 2.4)**. The respondents for all types of interviews were selected purposively based on their familiarity, experience and engagement with the scheme activities. Separate guidelines were developed for each type of interview. Before starting any of the interviews, written consent was obtained from each respondent and each interview was audio-recorded after securing respondent permission. However, a few of the interviews were conducted online as the COVID-19 pandemic made face-to-face in-person interviews unsuitable. Accordingly, we obtained consent and interviewed these respondents using electronic media (i.e. WhatsApp, Skype). All qualitative interviews were performed by experienced qualitative researchers with the assistance of a trained field research supervisor.

Key Informant Interviews (KIIs)

In total, 16 KIIs were conducted with supply-side actors, including SSK Cell members, local community leaders, scheme operators, and service providers. Guidelines for KIIs were developed based on key informants' expected roles in the scheme, capacities of the service providers, operational barriers and challenges, along with suggestions for improving the system. The interviews were scheduled at a mutually agreed convenient time and place. Subsequently, national-level KIIs were conducted using an online platform (Google Meet/Skype/WhatsApp/over the phone) due to the COVID-19 situation.

In-Depth Interviews (IDIs)

In total, 30 IDIs were conducted with local-level SSK supply-side actors, i.e. local-level staff of the scheme operator (field coordinator), service providers (nurses, medical officers), health facility financial management personnel, managers and pharmacists of the contracted diagnostic centers and pharmacies respectively, and suppliers of guards and cleaning personnel. This was done to ascertain their involvement with the SSK scheme, their roles and responsibilities, documentation processes, the way they carried out their responsibilities, challenges they faced while performing activities, and measures adopted to cope with challenges. Their suggestions were sought to overcome the challenges and improve the performance of the scheme in the future. The interviews were scheduled at times and places that were convenient and mutually agreed upon.

Focus Group Discussions (FGDs)

In total, 18 FGDs were conducted with the purposively selected household head or family members of the SSK cardholders in the intervention areas. The FGDs were conducted both with members who had utilized SSK services (user group) and those who did not utilize SSK services (non-user group). The second group might have utilized healthcare from other facilities during their illness irrespective of whether they held an SSK card. The FGDs were conducted to facilitate understanding of participants' knowledge and perceptions of SSK services, experience with utilized SSK services, satisfaction, challenges they faced, and their suggestions on improving SSK services among the group who utilized healthcare from SSK facilities. Among the second group (those who did not utilized healthcare from SSK facilities), the FGDs focused on their knowledge and understanding of the SSK services, their reasons for not utilized SSK services during their illness, any challenges, and their suggestions.

Case Studies

A total of 26 case studies were conducted among SSK cardholders or their family members who had received cards but did not obtain service (treatment) using their SSK card. This was done to build a more in-depth understanding of their knowledge and perception of SSK services, socioeconomic status, illness and care-seeking behavior, coping mechanisms, reasons for not utilizing the SSK services, and expectations of the SSK scheme. The respondents were purposively selected during the exit interviews at the health facility and community assessment. Experienced anthropologists conducted the interviews and paid a visit to the households to capture every detail of the selected cases.

Table 2.5: Types of respondents interviewed and the number of participants in each group

Respondent Type	KIIs	IDIs	FGDs	Case Studies
National level: - Policy Makers - Programme Managers - Academics - Development Partners	09	–	–	–

Facility level (3 upazilas): - Health Managers - Care Providers (doctors/nurses) - Scheme Operator Field Staff - Contracted Diagnostics Managers - Contracted Pharmacy Owner - Contracted Support Staff suppliers	07	30	–	–
Community level: - BPL HHs used SSK Services - BPL HHs did not use SSK Services	–	–	18	26
Total	16	30	18	26

Qualitative Data Analysis

After completing each interview, verbatim transcriptions were immediately prepared using the audiotapes. Written notes were also taken during these interviews; these were later expanded, and necessary pieces of information were added to the transcripts.

A systematic framework approach was applied to generate themes, sub-themes, and codes for use in analysing the qualitative data. The Framework Method supports thematic analysis in a systematic manner for an organisation, along with mapping the qualitative interview data, making it appropriate for interdisciplinary and collaborative scheme projects (Gale et al. 2013). The research team familiarised themselves with the entire interview by repeatedly reading the transcript for interpretation. After familiarisation with the data was complete, a set of themes, subthemes and codes were prepared that illustrated the information interpreted from the interview.

The transcripts were coded in a Word file under the selected codes and then summarised according to themes. The data summarisation process was conducted with a focus on the explanation of participants' own opinions and expressions before interpretation by the research team. The findings under each main theme, subtheme or category were presented to facilitate identification of key areas of interest. Triangulation of information was also conducted to assess the validity of findings obtained from different sources.

Methodology for the Patient Exit Interviews

Study design: Patient exit interviews were conducted to understand the beneficiaries' experience with the process and quality of SSK services of the pilot SSK scheme from patients' perspectives. Every second patient who had stayed at least two nights at the intervention facility was interviewed at the time of discharge. This component was conducted between July to November 2019 on working days, which were Saturday to Thursday.

Study setting: The patient exit interviews were conducted in the Kalihati, Ghatail, and Madhupur upazilas of Tangail district, where the SSK scheme is currently being implemented. Interviews were conducted with SSK patients who utilised SSK services from the UHCs of respective upazilas. Moreover, patients from Tangail District Hospital (TDH) were also interviewed, as this hospital is included as a referral healthcare center of the SSK scheme.

Sample size: The sample size was derived by assuming 50% of SSK beneficiaries were satisfied with the service quality. Using this proportion, the required sample size was estimated to be 384. Considering 1.2 design effects and a 10% non-response rate, the required sample size became 512. The number of patients to be interviewed from each facility was proportionally allocated based on service utilisation of the facility in the previous three months of the study period. Finally, a total of 526 patients were interviewed from three UHCs and the referral Tangail district hospital.

Data collection and quality assurance: A semi-structured questionnaire was developed and administered through a face-to-face interview with the patient and/or an attendant of the patient; the latter was selected for interviewing in cases where the patient was not involved with various dimensions of the SSK service delivery process during the inpatient episode due to extreme conditions, or unable to share their opinions (e.g. infants or young children). The questionnaire included details on the demographic characteristics of service recipients, households' socioeconomic characteristics, healthcare utilisation, and questions related to satisfaction with the ongoing SSK services. The satisfaction questionnaire was developed following the WHO health system responsiveness assessment components and in light of other relevant literature. The questionnaire was then customised with consideration of attention at the SSK booth, patient dignity and autonomy, clear communication, the confidentiality of consultation, quality of basic amenities, availability of drugs and supplies, availability of diagnostic services, etc. An electronic device-based data collection system, KoboToolbox, was used for data collection.

Analysis: We estimated the overall satisfaction score using the following five-point Likert scale to assess the beneficiary's satisfaction with the SSK scheme: very good (1), good (2), moderate (3), poor (4) and very poor (5). "Very good" "good" and "moderate" were considered positive responses, while "poor" and "very poor" were deemed negative responses. Descriptive statistics of the participants and a statistical inference test were carried out and presented in terms of frequency (n) and percentages (%) with a 95% confidence interval (CI).

Methodology for the Record Review

For document review, all three SSK UHCs (i.e. Kalihati, Ghatail and Madhupur) and the Tangail district hospital (referral facility) were selected. Both financial and non-financial documents were collected from the selected facilities with the consent of the facility managers. These financial documents included SSK expenditure reports at the facility, disease-wise monthly actual cost reports, SSK user fees and refund reports, and non-financial records (including hospital-wise patient management records, referral records, SSK patient claim files, etc.).

Data collection: Three different data collection forms (1. Utilisation of facilities by month; 2. Amount of expenditure by items; 3. Amount of expenditure on medicine and diagnostics) were developed and used to extract information related to the study objectives. Facility records (computerised SSK database and hard copies) for each month (for the last six months) were collected from the administrative officer and accountant for review and extraction of information. For some items (e.g. ambulance transport, facility renovation) yearly expenditure reports were used, as no monthly reports were kept.

Analysis: Using patient management records, the number of total patients and the number of SSK patients visited were estimated to assess the service utilisation trend. The number of patients treated and referred to the district hospital along with compliance was analysed by disease type. Using financial data, we estimated the average actual costs for each different disease, along with their range, costs for outsourced human resources, the average costs for medicine and diagnostics per facility, and the total funds generated and spent by each facility and by service type.

Recruitment and Training of Data Collectors

Photo: Feedback session during data collection

Photo: Training session of data collectors

By June 30, the recruitment of data collectors was complete. A total of 18 data collectors were recruited. We decided that the data collection would be conducted simultaneously for both qualitative and quantitative components of the study in the intervention area, comparison area, and in-facility level. A group of six data collectors and one supervisor were employed in the intervention area, a similar group was employed in the comparison area (two groups for community assessment), and an additional four data collectors were employed in four health facilities to conduct exit interviews. Comprehensive training was held for nine days following six days of pretesting, and feedback sessions were organised from 1st July–18th July for both community assessment and exit interviews. The hands-on training included familiarisation with the data collection process using the Android-based application KoboToolbox, utilising ethical processes during data collection, the listing of BPL households, administering household listing forms and collecting household demographic characteristics, members' education, income, expenditure, and illness and healthcare-related information. The training was conducted by the principal investigator (PI) Dr. Mahabub Elahi Chowdhury, co-investigators Ziaul Islam, Md. Zahid Hasan, Wahid Ahmed, and Gazi Golam Mehdi. Once necessary training and feedback sessions were complete, the final data collection of both qualitative and quantitative components began.

Photo: Community assessment

Photo: Patient exit interview at a UHC

Photo: Focus group discussion

Photo: Key informant interview

Monitoring and Supervision

A strong monitoring mechanism was put in place to ensure high data quality and the optimal flow of data collection. A three-member monitoring team was formed under the guidance of the principal investigator. The monitoring team operated from the study site and conducted monitoring activities. The monitoring mechanism included daily on-site visits of the investigators to the data collectors, random checking of the household's listing activities and interviews for community assessment, and maintenance of a register book. Regular monitoring meetings were conducted with the field team to track the work plan and changes due to any unexpected events (e.g. enlisted villages found with no SSK cards being distributed, difference in village names, etc.). Moreover, the principal investigator, along with the development partners, such as United States Agency for International Development (USAID), made several monitoring visits to observe the data collection process, discussed issues and challenges faced by the data collectors and provided the necessary guidance. During the qualitative data collection, each of the KIIs, FGDs, IDIs, and case studies was also supervised by trained qualitative researchers and the principal investigator.

Photo: Interview with a respondent and making enquiries of an SSK member during community assessment at a village (Chayani Bakshia) in Ghatail (from right to left: the Deputy Director of PHNE, USAID and the PI of the icddr,b team)

During the monitoring visits, the icddr,b monitoring team also talked to the SSK cardholders of BPL households to gain a better understanding of their pattern of using SSK services due to illness, as well as their level of satisfaction with the provision of service under the SSK programme.

Photo: Focus Group Discussion with SSK cardholders at a village (Gala) in Ghatail.

Photo: Meeting with UH&FPO at Ghatail UHC.

Technical Interest Group (TIG)

A technical interest group (TIG) was formed comprising senior officials from the HEU of MoHFW, World Bank, WHO, NIPSOM, University of Dhaka, Save the Children, and USAID, all of whom provided technical guidance in evaluating the SSK programme. The purpose of these TIG meetings was to share the research protocol, preliminary findings, issues regarding data collection and other technical issues observed by the field team during the evaluation of the pilot SSK project with the TIG members and seek their constructive feedback, which could be used to make necessary adjustments. The TIG group members provided expert opinion and identified suitable corrective actions to be made to fine-tune the research protocol, along with issues found during routine monitoring activities and within preliminary findings following hours of careful deliberation. The implementation-related issues and challenges shared at the TIG meetings were also instrumental to HEU in undertaking necessary corrective measures in order to streamline the implementation of SSK.

Photo: TIG meeting at icddr,b

Chapter 3: Findings from the Community Assessment

The community assessment was conducted to assess the level of service utilisation by the BPL population and determine the effectiveness of SSK in the reduction of the following: i) OOP healthcare expenditure among the BPL population; ii) CHE among the enrolled BPL households; iii) economic impoverishment among the enrolled households. The related findings are presented below.

Coverage of Sampled Villages and Related Challenges

Of the total targeted 180 villages (90 in each of the intervention and comparison upazilas), assessment was completed in 156 villages (70 in intervention and 86 in comparison upazilas) **(Table 3.1).** Among the 20 villages in the intervention areas that were not covered, 18 were not found in the SSK BPL lists, while two could not be covered due to the COVID-19 pandemic **(Table 3.2)**. Similarly, four villages in the comparison area were not covered due to the COVID-19 outbreak.

Table 3.1: Community assessment completion status

Access type	Intervention area		Comparison area		Overall	
	Target Village	Done	Target Village	Done	Target Village	Done
Easy	30	25	30	29	60	54
Medium	30	25	30	28	60	53
Difficult	30	20	30	29	60	49
Overall	90	70	90	86	180	156

Table 3.2: Challenges in identifying sampled villages from the SSK BPL list in the intervention area

Status	Kalihati	Madhupur	Ghatail	Total
Number of villages sampled	30	30	30	90
Number of villages with complete data collection (%)	26 (87%)	27 (90%)	17 (57%)	70 (78%)
Number of villages with no SSK BPL population (%)	4 (13%)	3 (10%)	11 (37%)	18 (20%)
Number of villages where assessment could not be completed due to COVID-19 (%)	–	–	2 (6%)	2 (2%)

Proportion of BPL Households and Current BPL Status

Of the 70 villages assessed in the intervention area, around 8,502 BPL households were found in the SSK list, of which 7,158 households (84.2%) could be traced and visited. Overall, 31% of the households were listed as BPL; this proportion was highest in Madhupur Upazila (32.5%), followed by Kalihati Upazila (30.1%) and Ghatail Upazila (28.9%) **(Table 3.3**).

Table 3.3: Proportion of BPL households according to SSK list in intervention upazilas					
Upazila names	**Pop. Size**	**# of HHs**	**# of BPL HHs in SSK list**	**% of BPL HHs**	**# of BPL HHs visited**
Kalihati (26 villages)	33,188	8,194	2,469	30.1%	2,056 (83.3%)
Ghatail (17 villages)	23,594	6,052	1,747	28.9%	1,504 (86.1%)
Madhupur (27 villages)	51,002	13,174	4,286	32.5%	3,598 (83.9%)
Total (70 villages)	107,784	27,420	8,502	31.0%	7,158 (84.2%)

We verified the current BPL status of all listed households of selected villages, applying the same BPL selection criterion. Overall, 58.4% of the total listed BPL households were identified as BPL. The proportion of identified BPL households was highest in Madhupur Upazila (63.0%), followed by Kalihati Upazila (55.6%) and Ghatail Upazila (50.9%) **(Table 3.4)**.

Table 3.4: Current BPL status of SSK households following verification by upazila			
Upazila	**# of BPL HHs visited**	**% of BPL HHs identified as BPL**	**% of BPL HHs identified as non-BPL**
Kalihati (26 villages)	2,056	55.6%	44.4%
Ghatail (17 villages)	1,504	50.9%	49.1%
Madhupur (27 villages)	3,598	63.0%	37.0%
Total (70 villages)	7,158	58.4%	41.6%

In the comparison area, a total of 29,793 households in 86 villages were visited; of these, 7,886 households were identified as BPL. Overall, 26.5% of visited households were identified as BPL. This proportion was highest in Gopalpur Upazila (27.4%), followed by Shokhipur Upazila (26.2%) and Basail Upazila (25.7%) **(Table 3.5)**.

Table 3.5: Proportion of BPL households in comparison upazilas				
Comparison Upazila	**Pop. Size**	**# of HHs**	**# of BPL HHs**	**% of BPL HHs**
Gopalpur (30 villages)	40,166	10,299	2,825	27.4%
Shokhipur (30 villages)	39,065	10,558	2,765	26.2%
Basail (26 villages)	36,638	8,936	2,296	25.7%
Total (86)	115,869	29,793	7,886	26.5%

Table 3.6 lists the SSK card ownership status among the BPL households. Overall, 82.0% of visited households had SSK cards, 16.1% did not receive SSK cards/slips, 0.6% had only slips and 1.3% had lost their card/slip. More cardholders were found in Madhupur Upazila (around 89.0% of households had SSK cards) than Ghatail Upazila (80.8%) and Kalihati Upazila (70.5%).

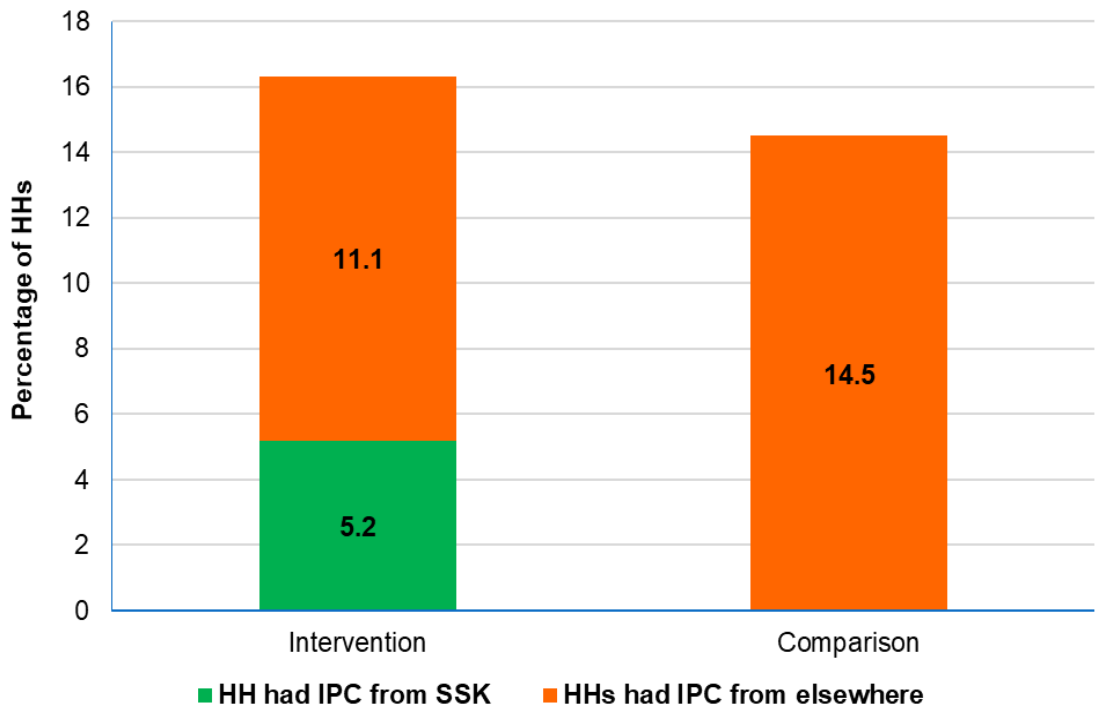
Table 3.6: SSK card ownership status among BPL HHs by upazila				
SSK card ownership status	**Kalihati (26 villages)**	**Madhupur (27 villages)**	**Ghatail (17 villages)**	**Overall (70 villages)**
	n=2056	**n=3598**	**n=1504**	**n=7158**
Had SSK card	70.5%	89.0%	80.8%	82.0%
Did not receive card/slip	26.5%	9.5%	17.8%	16.1%
Had slip only	1.8%	0.1%	0.1%	0.6%
Lost card/slip	1.1%	1.4%	1.3%	1.3%

Healthcare Utilisation in the Intervention and Comparison Areas

In the intervention area, a total of 7,158 BPL households were visited, of which 1,170 (16.3%) had sought inpatient care (IPC) in the last twelve months. In total, 372 (5.2%) of the BPL households accessed IPC under the SSK programme, while 798 (11.1%) had accessed IPC without any SSK coverage **(Figure 3.1**). In terms of the three types of accessibility to the UHC, 16.9% of households sought IPC from easy access area, of which 7.5% sought IPC under the SSK programme. Similarly, among those with a medium level of access, 15.7% had sought IPC, of which 4.5% was covered under SSK; finally, 16.8% of households for whom UHC access was difficult had accessed IPC, of which 3.9% was covered under SSK (**Table 3.7**).

Table 3.7: Inpatient care (IPC) sought from intervention upazilas						
Access type	**# of Villages**	**HHs in SSK list**	**BPL HHs visited**	**BPL HHs had IPC**	**Had IPC under SSK**	**Had IPC not under SSK**
Easy	25	2,322	2,018	341 (16.9%)	151 (7.5%)	190 (9.4%)
Medium	25	3,939	3,329	524 (15.7%)	151 (4.5%)	373 (11.2%)
Difficult	20	2,241	1,811	305 (16.8%)	70 (3.9%)	235 (13.0%)
Total	70	8,502	7,158	1,170 (16.3%)	372 (5.2%)	798 (11.1%)

Figure 3.1: Utilisation of SSK services by SSK card receipt status



While considering the utilisation of SSK services by SSK card receipt status, we found that 31.8% of households who had SSK cards utilised IPC under the SSK scheme, while around 78% did not utilise SSK services **(Figure 3.2)**. Considering the utilisation of IPC at SSK facilities by card receipt status, we found that 44.2% of households utilised IPC from an SSK facility (not all of them were covered under SSK services), while 18.4% of households who did not receive SSK cards utilised IPC from an SSK facility **(Table 3.8).**

Figure 3.2: Utilisation of SSK services by SSK card receipt status

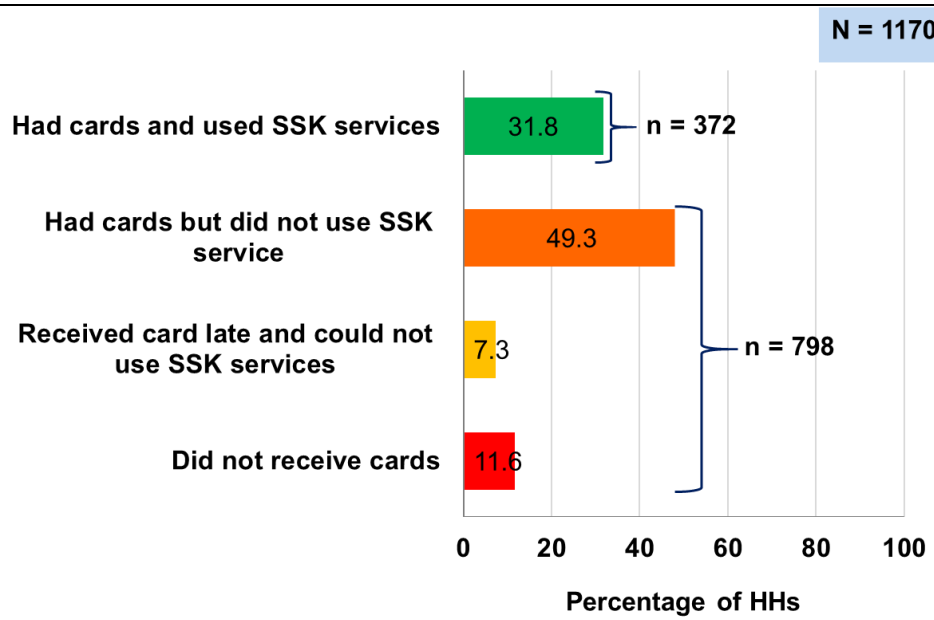


Table 3.8: Utilisation of IPC from SSK facility by SSK card receipt status

SSK card receipt status	Utilised IPC from SSK facility	Utilised IPC from non-SSK facility	Total
Received SSK card	457* (44.2%)	577 (55.8%)	1,034 (100%)
Did not receive SSK card	25 (18.4%)	111 (81.6%)	136 (100%)
Total	482	688	1,170

*Includes 372 HHs that utilised SSK services and 85 HHs that could not utilise SSK services (due to only receiving the card after accessing IPC)

We asked the respondents about their reasons for not using IPC under the SSK programme from the SSK facilities. The majority of the respondents (44.9%) reported that they did not know how to use the card; this was followed by 'did not receive SSK card' (17.4%), 'did not get care for the specific illness' (11.8%), 'learned from others that SSK does not provide services' (10.4%), and 'received card around the time of assessment' (4.2%) **(Table 3.9)**.

Table 3.9: Reported reasons for not using SSK services

Reasons	% of HHs (n=798)
Did not know how to use the card	44.9
Visited SSK facility but did not get care for a specific illness	11.8
Learned from others that SSK does not provide relevant services	10.4
Got card around the time of the assessment	4.2
Did not know where to seek care	3.5
Forgot to take the card to the facility	3.5

No one got sick after getting card/received card late	0.9
Difficult to reach SSK facility due to poor communication system	0.5
Long distance to the SSK facility	0.5
Generally visit district-level facilities	0.4
Other healthcare facilities closer	0.3
Other (did not find card during illness, facility was closed during vacation)	1.7
Did not receive SSK card	17.4
Total	**100.0**

In the comparison areas, overall, 14.5% of the households had sought IPC. In terms of accessibility to the UHC, 16.6% of 26.2% identified BPL households had easy access to IPC, 14.3% of 26.0% identified BPL households had a medium level of access and 12.6% of 27.2% identified BPL households were categorised as difficult access **(Table 3.10).**

Table 3.10: Inpatient care (IPC) sought from comparison upazilas

Access type	# of villages	HH visited	BPL HH identified	BPL HH had IPC
Easy	29	10,966	26.2%	16.6%
Medium	28	8,775	26.0%	14.3%
Difficult	29	10,052	27.2%	12.6%
Total	86	29,793	26.5%	14.5%

Table 3.11 shows the sources of IPC by SSK card utilisation in the intervention and comparison areas. We found that around half (49.6%) of the SSK patients utilised IPC from the Madhupur UHC, followed by 20.4% from Ghatail UHC, 16.4% from Kalihati UHC, and 13.6% from Tangail District Hospital.

The majority of the individuals who did not utilise SSK services despite having SSK cards utilised IPC from private hospitals/clinics (30.4%), followed by Tangail District Hospital (19.4%). The majority of the individuals (35.8%) who did not receive SSK cards utilised healthcare from the Tangail District Hospital, followed by private hospitals/clinics. In the comparison area, the highest proportion of individuals sought IPC from private hospitals/clinics (32.3%), followed by other UHCs (29.7%), and the Tangail District Hospital (24.0%).

Table 3.11: Sources of IPCs accessed by individuals by SSK card utilisation by study area

Facility types	Intervention area (n=1,256)			Comparison area n=1119
	Utilised SSK services n=427	Had card but did not use SSK service n=692	Did not receive SSK card n=137	
	%	%	%	%
Govt. Specialised Hospitals	-	3.5	2.2	2.8
Govt. Medical College Hospitals	-	9.4	5.8	4.6
Tangail District Hospital	13.6	19.4	35.8	24.0
Other Govt. District/Gen Hospitals	-	5.1	5.1	1.3
Kalihati UHC	16.4	3.0	8.0	0.6
Ghatail UHC	20.4	5.6	7.3	0.5

Madhupur UHC	49.6	12.7	3.6	0.4
Other UHCs	-	2.6	1.5	29.7
Private Hospitals/Clinics	-	30.4	24.0	32.3
NGO Hospitals/Clinics	-	6.5	4.4	3.6
Other Hospitals/Clinic	-	1.9	2.2	0.2
Total	100.0	100.0	100.0	100.0

Summary of Findings

- Overall, about one-fifth (18/90) of the sampled villages were not covered by the SSK intervention.
- About 42% of SSK cardholders were in fact non-BPL.
- Not using an appropriate process and the influence of the local power structure contaminated the SSK BPL HH list.
- Around 17% of the SSK BPL HHs did not receive SSK cards.
- Key reasons for not having BPL cards were delays in card preparation/distribution and power structure issues.
- About 16% of the SSK BPL HHs sought IPC in the last year, of which only one-third actually utilised SSK services.
- About half (49%) of the SSK BPL HHs did not utilise SSK IPC (sought care elsewhere) despite having SSK cards.

Estimates of Households' Out-Of-Pocket Healthcare Expenditure

OOP Expenditure by Types of Illness

Table 3.12 presents the OOP expenditure of the 20 most frequent IPC categories by the usage of SSK services and by study areas. In the intervention area, the majority of inpatients were suffering from pain/discomfort (26.5%), followed by respiratory illness (21.5%) and diarrhoea/dysentery (18.2%). By contrast, in the comparison area, patients with diarrhoea/dysentery represented the highest proportion (10.2%), followed by pain/discomfort (9.0%) and respiratory illness (5.9%). In general, the average OOP expenditure per patient per episode where the SSK card was utilised was about BDT 2,482, while the figure for those who did not utilise SSK services was BDT 17,662. Moreover, in the comparison area, the average OOP expenditure per patient per episode was BDT 14,240.

Table 3.12: OOP expenditure of 20 most frequent IPC categories by use of SSK services by study areas

Inpatient care for illness type	Intervention area				Comparison area	
	Utilised SSK Services n=432		Did not utilise SSK services n=824		n=1119	
	%	*Mean BDT*	*%*	*Mean BDT*	*%*	*Mean BDT*
Pain/discomfort	18.5	1,460	8.0	9,568	9.0	9,289
Respiratory illness	14.8	1,678	6.7	13,026	5.9	6,270
Typhoid	11.1	2,352	1.7	6,488	2.0	8,198
Diarrhoea	8.8	934	9.3	3,241	10.2	3,217
Fever	6.0	1,238	2.5	10,709	1.4	6,038
Obstetric emergency	5.1	4,213	3.8	24,162	4.1	16,550
Kidney diseases	3.5	3,502	2.3	45,623	3.1	20,990
Gastric/ulcer	2.5	7,104	5.0	7,836	2.7	10,111
Pneumonia	2.3	837	3.6	9,382	3.8	5,067
Pregnancy-related illness	2.1	1,639	1.2	10,461	1.3	7,251
Chronic heart disease	2.1	2,291	2.5	29,023	4.0	18,478
Weakness	1.9	819	1.5	12,612	1.4	8,768
Tumour	1.9	11,188	1.7	28,062	2.0	24,605
Ear/ENT problems	1.6	5,911	4.9	20,202	5.3	15,589
Urinary infection	1.6	1,386	1.8	19,663	0.6	16,366
High blood pressure	1.4	1,162	1.0	2,468	1.2	5,622
Hernia	1.4	3,042	1.8	23,757	2.5	24,584
Tuberculosis	1.2	2,840	0.8	6,086	0.5	60,638
Appendicitis	1.2	4,846	4.4	14,623	3.7	16,177
Cough	0.9	810	0.5	7,571	0.6	3,484
All illness (95% CI)	100.0	2,482 (1,860–3,104)	100.0	17,622 (15,397–19,846)	100.0	14,240 (12,834–15,647)

Table 3.13 presents the OOP expenditure for pregnancy and delivery-related care by study area. Among the households in the intervention area who utilised SSK cards, the annual average OOP expenditure for antenatal care (ANC) and post-natal care (PNC) was BDT 1,691 and BDT 1,444 respectively. However, OOP expenditure for ANC among households who did not utilise SSK cards was BDT 2,195 and BDT 1,998 in the comparison area. The OOP expenditure for a normal delivery at the institution was BDT 2,200 and BDT 4,753 for C-section delivery among the households who used cards. OOP expenditure was higher for households that did not utilise SSK services (BDT 5,973 for normal delivery and BDT 17,494 for C-section) and households in the comparison area (BDT 7,302 for normal delivery and BDT 16,209 for C-section).

Table 3.13: OOP expenditure for pregnancy and delivery-related care per households per year by study area

Care types	Intervention area (n=243)				Comparison area n=232	
	Utilised SSK service		Did not utilise SSK service			
	n	Mean BDT	n	Mean BDT	n	Mean BDT
ANC	17	1,691	226	2,195	303	1,998
PNC	17	1,444	226	496	303	611
Normal delivery at home	–	–	31	902	22	1,186
Normal delivery at institution	6	2,200	28	5,973	52	7,302
C-section	11	4,753	167	17,494	229	16,209

Table 3.14 presents the OOP expenditure of the 10 most frequently self-reported chronic illnesses for out-patient care by study areas. Considerable variation can be observed in the incidence of self-reported chronic illness among household members across study areas. In the intervention area, the highest percentage of the patients reported gastric/ulcer complaints (19.0%), followed by high blood pressure (18.9%), and chronic pain/discomfort (17.4%). By contrast, in the comparison area, the highest proportion of reported cases were chronic pain/discomfort (16.6%), followed by high blood pressure (16.1%) and respiratory diseases (14.4%). The average OOP expenditure for all reported chronic illnesses for which outpatient care was sought was BDT 7,629 in the intervention area and BDT 9,806 in the comparison area.

Table 3.14: OOP expenditure per year of the 10 most frequently self-reported chronic illnesses for outpatient care by study area

Chronic illnesses	Intervention area n=546		Comparison area n=397	
	%	Mean BDT	%	Mean BDT
Gastric/ulcer	19.0	4,034	7.8	9,182
High blood pressure	18.9	5,428	16.1	4,405
Pain/discomfort	17.4	6,802	16.6	10,179
Diabetes	9.7	8,445	12.6	9,208
Respiratory diseases	9.0	9,353	14.4	10,091
ENT problems	3.1	10,000	3.8	7,059
Hypotension	2.9	4,933	0.8	7,800
Skin disease	2.7	4,444	1.8	7,286
Chronic heart disease	2.4	13,954	6.8	14,904
Urinary/rectal illness	2.2	11,702	0.8	6,480
All chronic illness (95% CI)	100.0	7,629 (6,917–8,340)	100.0	9,806 (8,750–10,861)

Table 3.15 presents the yearly OOP expenditure for the 10 most frequently self-reported acute illnesses for outpatient care by study area. In both study areas, cough, fever, and pain/discomfort were found to be the most frequently self-reported acute illnesses for outpatient care. Overall, the average OOP expenditure was BDT 3,103 in the intervention area and BDT 2,875 in the comparison area.

Table 3.15: OOP per year for 10 most frequently self-reported acute illnesses for out-patient care by study area

Acute illnesses	Intervention area n=1,207		Comparison area n=1,111	
	%	Mean BDT	%	Mean BDT
Cough	33.0	1,833	26.2	1,915
Fever	26.1	1,913	23.5	1,725
Pain/discomfort	11.5	4,245	20.4	3,765
Weakness	3.8	2,217	3.5	3,191
Skin disease	3.6	3,449	3.4	3,336
ENT problems	3.4	5,434	2.1	6,768
Diarrhoea/dysentery	3.0	2,407	4.3	2,499
Breathing difficulties	1.6	4,686	0.5	5,680
Eye problems	1.4	4,748	1.2	8,926
Typhoid	1.2	10,234	1.8	11,930
All acute illness (95% CI)	100.0	3,103 (2,832–3,374)	100.0	3,250 (2,969–3,530)

Total OOP Healthcare Expenditure

Table 3.16 lists the household OOP healthcare expenditure by study area. The monthly average OOP household expenditure was similar between the intervention area (BDT 1,948) and the comparison area (BDT 2,063). The main drivers of OOP expenditure were medicine, diagnostic services and operations. Although the SSK provides medicine and diagnostic services free of charge, the yearly costs for medicine for a household in the intervention area were lower by less than BDT 1,000 compared to the comparison area. Furthermore, the OOP expenditure on diagnostic services was higher compared to the comparison area. There are two possible explanations for this. First, the overall estimates of OOP in the intervention area included households that did not utilise SSK services. Second, the intervention group includes non-BPL households, who may utilise healthcare from private facilities and thereby increase the average expenditure on medicine and diagnostics.

Table 3.16: Total yearly OOP expenditure on household healthcare by study area			
Components		**Intervention area (n=1,170)**	**Comparison area (n=1,145)**
		Mean (BDT)	**Mean (BDT)**
Medical costs	Consultation fee	843	772
	Registration fee	44	27
	Medicine cost	9, 874	10,563
	Diagnostic cost	3,772	3,474
	Hospital bed rent	399	474
	Operation cost	3,491	4,529
	Package cost (IPC & delivery)	1,602	1,738
	Total medical costs	*20,024*	*21,577*
Non-medical costs	Transport cost	441	504
	Food cost	1,895	1,671
	Attendant cost	708	622
	Other costs (e.g. tips)	307	384
	Total non-medical costs	*3,350*	*3,180*
Total OOP payments/year (95% CI)		23,374 (21,481–25,268)	24,757 (23,125–26,338)
Total OOP payments/month (95% CI)		1,948 (1,790–2,106)	2,063 (1,927–2,199)

Table 3.17 presents the OOP healthcare expenditure of households by BPL status by study area. The average monthly OOP healthcare expenditure among true BPL households (BDT 1,610) was significantly lower compared to the non-BPL households (BDT 2,342) and comparison area (BDT 2,063).

Table 3.17: OOP expenditure of households by BPL status and by study area			
Cost components / indicators	**Intervention**		**Comparison**
	True BPL	**Non-BPL**	**BPL HH**
	n= 630	**n=540**	**n=1,145**
Consultation	744	959	772
Registration fee	38	50	27
Medicine cost	8,741	11,196	10,563
Diagnostic cost	2,849	4,849	3,474
Hospital bed rent	137	704	474
Package	2,905	4,174	4,529
Operation cost	974	2,334	1,738
Total medical costs	*16,389*	*24,265*	*21,577*
Food cost	375	518	504
Transport cost	1,681	2,143	1,671

Attendant cost	577	860	622
Other costs (e.g. tips)	298	317	384
Total non-medical costs	*2,932*	*3,838*	*3,180*
Total OOP health exp. / year	19,321 (16,979–21,663)	28,103 (25,086–31,119)	24,757 (23,125–26,338)
Total OOP health exp. / month	1,610 (1,415–1,805)	2,342 (2,091–2,593)	2,063 (1,927–2,199)

Summary of Findings

- Overall, the OOPE for healthcare was similar in both intervention and comparison areas.
- OOPE for healthcare was significantly lower among the true BPL households compared to the non-BPL households and those in the comparison area (Table 3.17).
- OOPE for healthcare was less than half among households that used cards compared to the households that did not use/receive cards and the households in the comparison area.

Effect of SSK Scheme on the Incidence of CHE

Household Food and Non-Food Expenditure and CHE by Study Areas

Table 3.18 lists households' food and non-food expenditure, health expenditure, and CHE by study area. Overall, total monthly expenditure was higher in the intervention area (BDT 25,119) compared to the comparison area (BDT 17,614).

Table 3.18: Household food and non-food expenditure, health expenditure, and CHE by study area

Indicators	Intervention area n=1,170	Comparison area n=1,145
Average monthly food expenditure	12,382	8,974
Average monthly non-food expenditure	10,789	6,578
Average monthly health expenditure	1,948	1,998
Total monthly expenditure (BDT)	25,119	17,614
10% of total monthly expenditure (BDT)	2,512	1,762
25% of total monthly expenditure (BDT)	6,280	4,404
Average OOP of healthcare as a share of total expenditure (%)	7.8	11.7
% of households facing CHE at 10% threshold level (95% CI)	36.4 (33.7–39.2)	54.6 (51.7–57.5)
% of households facing CHE at 25% threshold level % (95% CI)	8.6 (7.2–10.4)	14.7 (12.7–16.8)

The association of CHE and impoverishment with study areas was adjusted for other covariates (i.e. household BPL status, card utilisation status, education and occupation of the household head, whether care for chronic illness was sought, utilisation of private facilities, accessibility to UHC, and cluster).

The findings of the crude and adjusted logistic regression model as regards predicting the effect of covariates on CHE at the 10% threshold are shown in **Table 3.19**. After adjustment, the incidence of CHE at 10% in the intervention area remained significant compared to the comparison area. Households using SSK cards were less likely to face CHE compared to households that did not receive/use cards. Furthermore, larger household size was a protective factor against CHE. Moreover, households who utilised care for chronic illness were more than twice as likely to face CHE, while households utilising private facilities were about four times more likely to face CHE, compared to households that did not utilise care for chronic illness/from a private facility.

Table 3.19: Association of CHE at 10% threshold with other covariates				
Characteristics	**n**	**% CHE**	**Crude OR (95% CI)**	**Adjusted OR (95%CI)**
Study Area				
Comparison	1,170	36.4	1.00	1.00
Intervention	1,145	54.6	0.48 (0.40, 0.56)	0.77 (0.60, 0.97)
Household BPL status				
Non-BPL	540	37.0	1.00	1.00
BPL	1,175	47.9	1.57 (1.28, 1.91)	1.28 (0.93, 1.77)
SSK card use status				
Did not use/receive card	1,943	50.4	1.00	1.00
Used card	372	19.1	0.23 (0.18, 0.30)	0.39 (0.27, 0.57)
Education of household head				
No institutional education	1,370	45.7	1.00	1.00
Up to primary	530	43.0	0.9 (0.73, 1.10)	0.89 (0.70, 1.15)
Secondary	361	47.4	1.07 (0.85, 1.35)	1.21 (0.93, 1.56)
Higher secondary	54	48.1	1.1 (0.64, 1.90)	1.25 (0.70, 2.23)
Occupation of household head				
Agriculture	261	41.0	1.00	1.00
Housewife	177	52.5	1.48 (1.01, 2.17)	1.26 (0.80, 1.98)
Rickshaw/auto driver	228	40.4	0.94 (0.66, 1.35)	0.81 (0.55, 1.19)
Small business	234	43.2	1.06 (0.74, 1.51)	1.05 (0.73, 1.51)
Day labourer/worker	1,097	45.3	1.16 (0.88, 1.52)	1.05 (0.76, 1.44)
Unemployed	251	54.2	1.65 (1.16, 2.34)	1.61 (1.06, 2.45)
Other	67	37.3	0.83 (0.48, 1.44)	1.03 (0.53, 2.02)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	54.9	1.00	1.00
4–5 persons	1,165	43.8	0.64 (0.53, 0.77)	0.57 (0.46, 0.71)
6 persons or more	441	34.5	0.43 (0.34, 0.55)	0.32 (0.24, 0.42)
At least one member sought care for chronic illness in last 90 days				
No	1,663	40.6	1.00	1.00
Yes	652	57.7	1.99 (1.66, 2.40)	2.64 (2.08, 3.34)
At least one member utilised private facilities in last 12 months				
No	1,392	32.8	1.00	1.00
Yes	923	64.5	3.72 (3.13, 4.44)	3.97 (3.28, 4.81)
Accessibility to UHC				
Easy	816	44.2	1.00	1.00
Medium	826	42.3	0.92 (0.76, 1.12)	1.03 (0.83, 1.28)
Difficult	673	50.7	1.29 (1.05, 1.59)	1.2 (0.93, 1.55)

Table 3.20 presents the crude and adjusted association of CHE at the 25% threshold level with other covariates. The incidence of CHE at the 25% threshold level was significantly lower before adjustment (OR: 0.55; p<0.001) in the intervention area compared to the comparison area. Following adjustment, the incidence of CHE at the 25% threshold level becomes insignificant. However, larger household size, utilisation of care for chronic illness, and utilisation of private facilities remained significant after adjustment.

Table 3.20: Association of CHE at 25% threshold level with other covariates

Characteristics	n	Percentage of CHE	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area				
Comparison	1, 145	14.7	1.00	1.00
Intervention	1, 170	8.6	0.55 (0.42, 0.71)	0.73 (0.51,1.05)
Household BPL status				
Non-BPL	540	9.1	1.00	1.00
BPL	1, 775	12.4	1.42 (1.02, 1.96)	1.05 (0.62,1.76)
SSK card use status				
Did not use/receive card	1, 943	12.7	1.00	1.00
Used card	372	5.9	0.43 (0.27, 0.68)	0.63 (0.36,1.08)
Education of household head				
No institutional education	1, 370	12.0	1.00	1.00
Up to primary	530	11.1	0.91 (0.67, 1.25)	1 (0.69,1.43)
Secondary	361	11.6	0.96 (0.67, 1.38)	1.15 (0.79,1.67)
Higher secondary	54	5.6	0.43 (0.13, 1.39)	0.43 (0.12,1.57)
Occupation of household head		0.0		
Agriculture	261		1.00	1.00
Housewife	177	23.2	2.85 (1.66, 4.88)	1.86 (1.02,3.41)
Rickshaw/auto driver	228	5.7	0.57 (0.28, 1.14)	0.46 (0.24,0.89)
Small business	234	8.5	0.88 (0.48, 1.63)	0.84 (0.46,1.53)
Day labourer/worker	1, 097	10.2	1.07 (0.68, 1.69)	0.92 (0.54,1.57)
Unemployed	251	21.5	2.59 (1.55, 4.31)	2.03 (1.22,3.40)
Other	67	6.0	0.6 (0.20, 1.79)	0.71 (0.21,2.44)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	20.9	1.00	1.00
4–5 persons	1, 165	8.5	0.35 (0.27, 0.46)	0.38 (0.28, 0.50)
6 persons or more	441	5.0	0.20 (0.12, 0.32)	0.18 (0.11, 0.30)
At least one member sought care for chronic illness in the last 90 days				
No	1, 663	9.9	1.00	1.00
Yes	652	16.0	1.72 (1.32, 2.24)	1.94 (1.45, 2.61)
At least one member utilised private				

facilities in the last 12 months				
No	1,392	8.8	1.00	1.00
Yes	923	15.9	1.97 (1.53,2.55)	2.29 (1.73, 3.03)
Accessibility to UHC				
Easy	816	11.3	1.00	1.00
Medium	826	12.1	1.08 (0.80, 1.47)	1.31 (0.95, 1.80)
Difficult	673	11.4	1.02 (0.74, 1.40)	0.96 (0.66, 1.38)

Household Expenditure, OOP, and CHE by BPL Status by Study Area

Table 3.21 presents household expenditure, OOP, and CHE among identified true-BPL households in the intervention area, non-BPL households in the intervention area, and households in the comparison area. We found that monthly household expenditure was the highest among the non-BPL households (BDT 30,043), followed by true-BPL households (BDT 20,899), and BPL households in the comparison area (BDT 17,614).

Table 3.21: Household expenditure, OOP, and CHE by BPL status by study area

Indicators per household	Intervention		Comparison
	BPL HHs	Non-BPL HHs	BPL HHs
	n=630	n=540	n=1,145
Average monthly food expenditure (BDT)	10,873	14,143	8,974
Average monthly non-food expenditure (BDT)	8,415	13,558	6,578
Average monthly health expenditure (BDT)	1,610	2,342	2,063
Total monthly expenditure (BDT)	20,899	30,043	17,614
10% of total monthly expenditure (BDT)	2,090	3,004	1,762
25% of total monthly expenditure (BDT)	5,225	7,511	4,404
Average OOP as a share of total expenditure (%)	7.7	7.8	11.7
CHE at 10% of threshold level (% (95% CI))	35.9 (32.2–39.7)	37.0 (33.1–41.2)	54.6 (51.7–57.5)
CHE using 25% threshold level (% (95% CI))	8.3 (6.3–10.7)	9.1 (6.9–11.8)	14.7 (12.7–16.8)

At the 10% threshold level, about 36% of true-BPL households and 37% of non-BPL households faced CHE; these figures were significantly lower compared to households facing CHE in the comparison area (about 55%). Furthermore, at the 25% threshold level, the incidence of CHE among true-BPL households was 8%, while this figure among non-BPL households was 9%; this was significantly lower compared to households in the comparison area.

Table 3.22 lists the incidence of CHE by BPL status before and after adjustment with covariates. After adjustment, the incidence of CHE remained significant among the true-BPL (23% lower) and non-BPL households (40% lower) in the intervention area compared to the comparison area.

Table 3.22: Association of CHE by BPL status at 10% threshold level with other covariates

Characteristics	n	Percentage of CHE	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area by BPL status				
True-BPL in Comparison	1,145	54.6	1.00	1.00
True-BPL in Intervention	630	35.9	0.47 (0.38, 0.57)	0.77 (0.60, 0.97)
Non-BPL in Intervention	540	37.0	0.49 (0.40, 0.60)	0.60 (0.43, 0.83)
SSK card use status				
Did not use/receive card	1,943	50.4	1.00	1.00
Used card	372	19.1	0.23 (0.18, 0.30)	0.39 (0.27, 0.57)
Education of household head				
No institutional education	1,370	45.7	1.00	1.00
Up to primary	530	43.0	0.9 (0.73, 1.10)	0.89 (0.70, 1.15)
Secondary	361	47.4	1.07 (0.85, 1.35)	1.21 (0.93, 1.56)
Higher secondary	54	48.1	1.1 (0.64, 1.90)	1.25 (0.70, 2.23)
Occupation of household head				
Agriculture	261	41.8	1.00	1.00
Housewife	177	51.4	1.48 (1.01, 2.17)	1.26 (0.80, 1.98)
Rickshaw/auto driver	228	40.4	0.94 (0.66, 1.35)	0.81 (0.55, 1.19)
Small business	234	43.2	1.06 (0.74, 1.51)	1.05 (0.73, 1.51)
Day labourer/worker	1,097	45.3	1.16 (0.88, 1.52)	1.05 (0.76, 1.44)
Unemployed	251	54.2	1.65 (1.16, 2.34)	1.61 (1.06, 2.45)
Others	67	37.3	0.83 (0.48, 1.44)	1.03 (0.53, 2.02)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	54.9	1.00	1.00
4–5 persons	1,165	43.8	0.64 (0.53, 0.77)	0.57 (0.46, 0.71)
6 persons or more	441	34.5	0.43 (0.34, 0.55)	0.32 (0.24, 0.42)
At least one member sought care for chronic illness in the last 90 days				
No	1,663	40.6	1.00	1.00
Yes	652	57.7	1.99 (1.66, 2.40)	2.64 (2.08, 3.34)
At least one member utilised private facilities in the last 12 months				
No	1,392	32.8	1.00	1.00
Yes	923	64.5	3.72 (3.13, 4.44)	3.97 (3.28, 4.81)

Accessibility to UHC				
Easy	816	44.2	1.00	1.00
Medium	826	42.3	0.92 (0.76, 1.12)	1.03 (0.83, 1.28)
Difficult	673	50.7	1.29 (1.05, 1.59)	1.2 (0.93, 1.55)

In the crude analysis, we observed that both true-BPL and non-BPL households from the intervention area faced a significantly lower incidence of CHE at the 25% threshold level; specifically, this was 48% lower among true-BPL and 42% lower among non-BPL households. However, after adjustment with other covariates, this association became insignificant (**Table 3.23**).

Table 3.23: Association of CHE by BPL status at 25% threshold level with other covariates

Characteristics	N	Percentage of CHE	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area and BPL status				
True-BPL in Comparison	1,145	14.7	1.00	1.00
True-BPL in Intervention	630	8.3	0.52 (0.38, 0.73)	0.73 (0.51, 1.05)
Non-BPL in Intervention	540	9.1	0.58 (0.41, 0.81)	0.7 (0.44, 1.10)
SSK card use status				
Did not use/receive card	1,943	12.7	1.00	1.00
Used card	372	5.9	0.43 (0.27, 0.68)	0.63 (0.36, 1.08)
Education of household head				
No institutional education	1,370	12.0	1.00	1.00
Up to primary	530	11.1	0.91 (0.67, 1.25)	1 (0.69, 1.43)
Secondary	361	11.6	0.96 (0.67, 1.38)	1.15 (0.79, 1.67)
Higher secondary	54	5.6	0.43 (0.13, 1.39)	0.43 (0.12, 1.57)
Occupation of household head				
Agriculture	261	9.6	1.00	1.00
Housewife	177	23.2	2.85 (1.66, 4.88)	1.86 (1.02, 3.41)
Rickshaw/auto driver	228	5.7	0.57 (0.28, 1.14)	0.46 (0.24, 0.89)
Small business	234	8.5	0.88 (0.48, 1.63)	0.84 (0.46, 1.53)
Day labourer/worker	1,097	10.2	1.07 (0.68, 1.69)	0.92 (0.54, 1.57)
Unemployed	251	21.5	2.59 (1.55, 4.31)	2.03 (1.22, 3.40)
Other	67	6.0	0.6 (0.20, 1.79)	0.71 (0.21, 2.44)
Household size (equivalence scale)				
Less or equal to 3 persons	709	20.9	1.00	1.00
4–5 persons	1,165	8.5	0.35 (0.27, 0.46)	0.38 (0.28, 0.50)
6 persons or more	441	5.0	0.20 (0.12, 0.32)	0.18 (0.11, 0.30)
At least one member sought care for chronic illness in the last 90 days				

No	1,663	9.9	1.00	1.00
Yes	652	16.0	1.72 (1.32, 2.24)	1.94 (1.45, 2.61)
At least one member utilised private facilities in the last 12 months				
No	1,392	8.8	1.00	1.00
Yes	923	15.9	1.97 (1.53, 2.55)	2.29 (1.73, 3.03)
Accessibility to UHC				
Easy	816	11.3	1.00	1.00
Medium	826	12.1	1.08 (0.80, 1.47)	1.31 (0.95, 1.80)
Difficult	673	11.4	1.02 (0.74, 1.40)	0.96 (0.66, 1.38)

OOP Expenditure and Incidence of CHE by SSK Card Use

Table 3.24 lists OOP expenditure and CHE by SSK card use by study area. On average, the OOP expenditure of a household that used an SSK card was BDT 11,804, while this figure was BDT 28,704 for a household that did not use/receive a card in the intervention area. By contrast, in the comparison area, the average OOP expenditure for healthcare was BDT 24,757. In all of these groups, medical costs were higher compared to non-medical costs.

Table 3.24: OOP expenditure and CHE by SSK card utilisation by study area

Components	**Intervention area**		**Comparison area**
	At least one member used card	**Did not use/receive card**	
	n=372	**n=798**	**n=1,145**
Consultation	493	998	772
Registration fee	16	56	27
Medicine cost	5,646	11,836	10,563
Diagnostic cost	1,753	4,677	3,474
Hospital bed rent	13	579	474
Package	1,181	4,569	4,529
Operation cost	574	2,081	1,738
Total medical costs	***9,676***	***24,797***	***21,577***
Food cost	290	508	504
Transport cost	1,204	2,214	1,671
Attendant cost	493	806	622
Other costs (e.g. tips)	142	379	384
Total non-medical costs	***2,128***	***3,907***	***3,180***
Total OOP payments	**11,804**	**28,704**	**24,757**
CHE using 10% of total expenditure as threshold level (% (95% CI))	19.1 (15.4–23.4)	44.4 (41.1–48.0)	54.6 (51.7–57.5)
CHE using 25% of total expenditure as threshold level (% (95% CI))	5.9 (3.9–8.8)	9.9 (8.0–2.2)	14.7 (12.7–16.8)

At the 10% threshold level, among SSK card user households, 19% faced CHE; among the households that did not receive/use cards, about 44% faced CHE (**Table 3.25)**. Moreover, at the 25% threshold level, the incidence of CHE was about 6% among card users and 10% among households that did not receive/use cards. Furthermore, in the comparison area, households faced CHE at a rate of about 55% using 10% of total expenditure as a threshold level with 95% CI. On the other hand, using 25% of total expenditure as a threshold level with 95% CI, the percentage of CHE was reduced to 6% among households who used the SSK card; this was followed by CHE of about 10% and 9% among those who did not use and did not receive the SSK card respectively in the intervention area. In the comparison area, about 15% of households faced CHE. At both threshold levels, the incidence of CHE was significantly lower among those households that used cards and those that did not receive/use cards compared to households in the comparison area**.**

The findings on crude and adjusted estimates of CHE incidence at the 10% threshold by SSK card usage status is shown in **Table 3.25**. In the crude analysis, it was observed that households that did not use cards and those that used cards faced significantly lower CHE at the 10% threshold: specifically, these households had 33% and 80% lower odds of experiencing CHE respectively compared to households in the comparison area. Following adjustment, the incidence of CHE at a 10% threshold level remained significantly lower among households that used SSK cards (23% lower) and households that did not receive/use cards (70% lower) in the intervention area compared to the comparison area.

Table 3.25: Association of CHE by SSK card use at 10% threshold level with other covariates

Characteristics	n	Percentage of CHE	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area by use of cards				
Comparison and did not use/receive card	1,145	54.6	1.00	1.00
Intervention and did not use/receive card	798	44.5	0.67 (0.56, 0.80)	0.77 (0.60, 0.97)
Intervention and used card	372	19.1	0.20 (0.15, 0.26)	0.30 (0.21, 0.44)
Household BPL status				
Non-BPL	540	37.0	1.00	1.00
BPL	1,775	47.9	1.57 (1.28, 1.91)	1.28 (0.93, 1.77)
Education of household head				
No institutional education	1,370	45.7	1.00	1.00
Up to primary	530	43.0	0.9 (0.73, 1.10)	0.89 (0.70, 1.15)
Secondary	361	47.4	1.07 (0.85, 1.35)	1.21 (0.93, 1.56)
Higher secondary	54	48.1	1.1 (0.64, 1.90)	1.25 (0.70, 2.23)
Occupation of household head				
Agriculture	261	41.8	1.00	1.00
Housewife	177	51.4	1.48 (1.01, 2.17)	1.26 (0.80, 1.98)
Rickshaw/auto driver	228	40.4	0.94 (0.66, 1.35)	0.81 (0.55, 1.19)
Small business	234	43.2	1.06 (0.74, 1.51)	1.05 (0.73, 1.51)
Day labourer/worker	1,097	45.3	1.16 (0.88, 1.52)	1.05 (0.76, 1.44)
Unemployed	251	54.2	1.65 (1.16, 2.34)	1.61 (1.06, 2.45)

Other	67	37.3	0.83 (0.48, 1.44)	1.03 (0.53, 2.02)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	54.9	1.00	1.00
4–5 persons	1,165	43.8	0.64 (0.53, 0.77)	0.57 (0.46, 0.71)
6 persons or more	441	34.5	0.43 (0.34, 0.55)	0.32 (0.24, 0.42)
At least one member sought care for chronic illness in last 90 days				
No	1,663	40.6	1.00	1.00
Yes	652	57.7	1.99 (1.66, 2.40)	2.64 (2.08, 3.34)
At least one member utilised private facilities in last 12 months				
No	1,392	32.8	1.00	1.00
Yes	923	64.5	3.72 (3.13, 4.44)	3.97 (3.28, 4.81)
Accessibility to UHC				
Easy	816	44.2	1.00	1.00
Medium	826	42.3	0.92 (0.76, 1.12)	1.03 (0.83, 1.28)
Difficult	673	50.7	1.29 (1.05, 1.59)	1.2 (0.93, 1.55)

We found that the use of cards was significantly associated with a lower incidence of CHE at the 25% threshold level in the intervention area compared to the comparison area in both crude and adjusted models **(Table 3.26)**. Although CHE at the 25% threshold was significantly lower among households that did not use/receive SSK cards in the crude analysis, this became insignificant following adjustment.

Table 3.26: Association of CHE by SSK card use at 25% threshold level with other covariates				
Characteristics	**n**	**% CHE**	**Crude OR (95% CI)**	**Adjusted OR (95% CI)**
Study area and use of cards				
Comparison and did not use/receive card	1,145	14.7	1.00	1.00
Comparison and used card	0		1 (1.00, 1.00)	1 (1.00, 1.00)
Intervention and did not use/receive card	798	9.9	0.64 (0.48, 0.85)	0.73 (0.51, 1.05)
Intervention and used card	372	5.9	0.37 (0.23, 0.58)	0.46 (0.27, 0.78)
Household BPL status				
Non-BPL	540	9.1	1.00	1.00
BPL	1,775	12.4	1.42 (1.02, 1.96)	1.05 (0.62, 1.76)
Education of household head				
No institutional education	1,370	12.0	1.00	1.00
Up to primary	530	11.1	0.91 (0.67, 1.25)	1 (0.69, 1.43)
Secondary	361	11.6	0.96 (0.67, 1.38)	1.15 (0.79, 1.67)
Higher secondary	54	5.6	0.43 (0.13, 1.39)	0.43 (0.12, 1.57)
Occupation of household head				
Agriculture	261	9.6	1.00	1.00
Housewife	177	23.2	2.85 (1.66, 4.88)	1.86 (1.02, 3.41)
Rickshaw/auto driver	228	5.7	0.57 (0.28, 1.14)	0.46 (0.24, 0.89)
Small business	234	8.5	0.88 (0.48, 1.63)	0.84 (0.46, 1.53)
Day labourer/worker	1,097	10.2	1.07 (0.68, 1.69)	0.92 (0.54, 1.57)
Unemployed	251	21.5	2.59 (1.55, 4.31)	2.03 (1.22, 3.40)
Other	67	6.0	0.6 (0.20, 1.79)	0.71 (0.21, 2.44)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	20.9	1.00	1.00
4–5 persons	1,165	8.5	0.35 (0.27, 0.46)	0.38 (0.28, 0.50)
6 persons or more	441	5.0	0.20 (0.12, 0.32)	0.18 (0.11, 0.30)
At least one member sought care for chronic illness in last 90 days				
No	1,663	9.9	1.00	1.00
Yes	652	16.0	1.72 (1.32, 2.24)	1.94 (1.45, 2.61)
At least one member utilised private facilities in last 12 months				
No	1,392	8.8	1.00	1.00
Yes	923	15.9	1.97 (1.53, 2.55)	2.29 (1.73, 3.03)
Accessibility to UHC				
Easy	816	11.3	1.00	1.00

Medium	826	12.1	1.08 (0.80, 1.47)	1.31 (0.95, 1.80)
Difficult	673	11.4	1.02 (0.74, 1.40)	0.96 (0.66, 1.38)

Summary of Findings

- We found that, at both the 10% and 25% threshold levels, CHE in the intervention area was significantly lower relative to the comparison area.
- Considering the BPL status of the households, the incidence of CHE was significantly lower among true-BPL households and non-BPL households relative to the comparison area.
- By card use status, at the 10% threshold, the incidence of CHE among the households that used cards was significantly lower (i.e. about two times lower) compared to households that did not use/receive cards and about three times lower compared to HHs in the comparison area.
- At the 25% threshold level, the incidence of CHE was about two times lower among the HHs that used cards compared to households that did not use/receive cards and HHs in the comparison area.
- Overall, CHE at the 10% level among true-BPL households, non-BPL households, households that used cards and those that did not receive/use cards remained significant even following adjustment.
- CHE at the 25% threshold level remained significant for households that used cards.

Effect of SSK on Household Impoverishment

Impoverishment of Households by Study Area

Table 3.27 presents the proportion of households falling below the poverty line before OOP expenditure, after OOP expenditure, and the difference between these two levels considering the EPL and NPL scales. Overall, at the estimated poverty line scale, before OOP healthcare expenditure, 12.5% of households in the intervention area and 19.7% of those in the comparison area were considered poor. However, after considering OOP expenditure for healthcare, this proportion increased to 19.2% in the intervention area and 30.5% in the comparison area at the EPL scale. At the NPL scale, the proportion of poor households in the intervention area was 13.3%, which increased to 19.7% after OOP healthcare expenditure was considered. Similarly, in the comparison area, the proportion of poor households increased from 21.1% to 31.6% after consideration of OOP healthcare expenditure. Overall, additional impoverishment due to OOP expenditure was significantly lower in the intervention area relative to the comparison area at both EPL and NPL scales.

Table 3.27: Household expenditure, OOP, impoverishment, and change in proportion of poor by study area

Household indicators	Intervention n=1,170	Comparison n=1,145
Total household expenditure (BDT)/month	25,119	17,614
Average OOP expenditure for health (BDT)/month	1,948	2,063
% of households falling below EPL* before OOP healthcare expenditure (95% CI) – A	12.5 (10.7–14.5)	19.7 (17.4–22.1)
% of households falling below EPL due to OOP healthcare expenditure (95% CI) – B	19.2 (17.0–21.5)	30.5 (27.9–33.2)
Change in proportion of poor due to OOP (B – A)	6.7 (5.4–8.2)	10.8 (9.2–12.8)
% of households falling below NPL** before OOP healthcare expenditure (95% CI)	13.3 (11.5–15.4)	21.1 (18.8–23.5)
% of households falling below NPL due to OOP healthcare expenditure (95% CI)	19.7 (17.5–22.0)	31.6 (29.0–34.4)
Change in proportion of poor due to OOP healthcare expenditure (D – C)	6.3 (5.1–7.9)	10.6 (8.9–12.5)

* 9,105 BDT/HH/month or 2,101 per capita/month

** 9,305 BDT/HH/month or 2,152 per capita/month (for Dhaka rural region); Household Income Expenditure Survey (HIES) 2016

Table 3.28 presents the crude and adjusted association of impoverishment with the study area at the EPL scale. It was observed that impoverishment at the EPL scale was significantly lower in the intervention area. However, following adjustment with other covariates, this association became insignificant. Impoverishment was significantly higher among the BPL households compared to the non-BPL households, as well as among households with difficult access to UHCs compared to households with easy access to UHCs.

Table 3.28: Association of impoverishment at EPL scale with other covariates

Characteristics	N	Percentage of Impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area				
Comparison	1,145	30.5	1.00	1.00
Intervention	1,170	19.1	0.54 (0.45, 0.65)	0.85 (0.64, 1.13)
Household BPL status				
Non-BPL	540	11.9	1.00	1.00
BPL	1,775	28.7	2.99 (2.26, 3.96)	1.96 (1.31, 2.95)
SSK card use status				
Did not use/receive card	1,943	25.2	1.00	1.00
Used card	372	22.6	0.87 (0.67, 1.13)	1.02 (0.74, 1.41)
Education of household head				
No institutional education	1,370	28.6	1.00	1.00
Up to primary	530	20.0	0.62 (0.49, 0.80)	0.68 (0.52, 0.89)
Secondary	361	18.0	0.55 (0.41, 0.73)	0.68 (0.50, 0.93)
Higher secondary	54	18.5	0.57 (0.28, 1.14)	0.71 (0.27, 1.86)
Occupation of household head				
Agriculture	261	13.8	1.00	1.00
Housewife	177	44.6	5.04 (3.18, 7.98)	2.56 (1.56, 4.19)
Rickshaw/auto driver	228	9.2	0.63 (0.36, 1.12)	0.40 (0.21, 0.79)
Small business	234	10.3	0.71 (0.41, 1.24)	0.74 (0.42, 1.30)
Day labourer/worker	1,097	26.4	2.25 (1.54, 3.27)	1.49 (0.97, 2.29)
Unemployed	251	45.0	5.12 (3.33, 7.87)	3.52 (2.18, 5.70)
Other	67	14.9	1.10 (0.51, 2.34)	1.17 (0.49, 2.80)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	50.2	1.00	1.00
4–5 persons	1,165	16.7	0.20 (0.16, 0.25)	0.23 (0.18, 0.29)
6 persons or more	441	5.0	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				
No	1,663	25.7	1.00	1.00
Yes	652	22.4	0.84 (0.67, 1.04)	0.83 (0.64, 1.08)
At least one member utilised private				

facilities in last 12 months				
No	1,392	26.0	1.00	1.00
Yes	923	22.9	0.84 (0.69, 1.02)	0.99 (0.81, 1.23)
Accessibility to UHC				
Easy	816	24.1	1.00	1.00
Medium	826	21.9	0.88 (0.70, 1.11)	1.16 (0.85, 1.58)
Difficult	673	29.0	1.28 (1.02, 1.62)	1.41 (1.04, 1.91)

Table 3.29 shows the crude and adjusted association of impoverishment at the NPL scale with other covariates. Overall, per the crude association, the impoverishment at the NPL scale was significantly lower in the intervention area relative to the comparison area. However, following adjustment with other covariates, the association of impoverishment with the intervention area became insignificant. Impoverishment at NPL was significantly higher among true-BPL households compared to non-BPL households.

Table 3.29: Association of impoverishment at NPL scale with other covariates

Characteristics	n	Percentage of impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area				
Comparison	1,145	31.6	1.00	1.00
Intervention	1,170	19.7	0.53 (0.44, 0.64)	0.83 (0.62, 1.12)
Household BPL status				
Non-BPL	540	12.0	1.00	1.00
BPL	1,775	29.7	3.09 (2.34, 4.08)	1.96 (1.31, 2.95)
SSK card use status				
Did not use/receive card	1,943	26.0	1.00	1.00
Used card	372	23.1	0.85 (0.66, 1.11)	1.01 (0.71, 1.42)
Education of household head				
No institutional education	1,370	29.6	1.00	1.00
Up to primary	530	20.4	0.61 (0.48, 0.77)	0.66 (0.50, 0.87)
Secondary	361	18.8	0.55 (0.41, 0.74)	0.68 (0.50, 0.94)
Higher secondary	54	18.5	0.54 (0.27, 1.08)	0.66 (0.25, 1.72)
Occupation of household head				
Agriculture	261	14.2	1.00	1.00
Housewife	177	44.6	4.88 (3.09, 7.71)	2.47 (1.50, 4.07)
Rickshaw/auto driver	228	9.2	0.61 (0.35, 1.08)	0.39 (0.20, 0.75)
Small business	234	10.3	0.69 (0.40, 1.20)	0.71 (0.41, 1.25)
Day labourer/worker	1,097	27.9	2.34 (1.61, 3.40)	1.55 (1.01, 2.37)
Unemployed	251	45.4	5.04 (3.29, 7.72)	3.42 (2.11, 5.54)
Other	67	16.4	1.19 (0.57, 2.48)	1.31 (0.55, 3.10)
Household size (equivalence scale)				

Less than or equal to 3 persons	709	50.8	1.00	1.00
4–5 persons	1,165	17.9	0.21 (0.17, 0.26)	0.24 (0.19, 0.30)
6 persons or more	441	5.2	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				
No	1,663	26.3	1.00	1.00
Yes	652	23.6	0.86 (0.70, 1.07)	0.88 (0.69, 1.13)
At least one member utilised private facilities in last 12 months				
No	1,392	27.0	1.00	1.00
Yes	923	23.4	0.83 (0.68, 1.00)	0.96 (0.78, 1.20)
Accessibility to UHC				
Easy	816	25.4	1.00	1.00
Medium	826	22.5	0.86 (0.68, 1.07)	1.11 (0.81, 1.53)
Difficult	673	29.6	1.24 (0.98, 1.55)	1.34 (0.98, 1.83)

Household Impoverishment by BPL Status and Study Area

Table 3.30 lists household impoverishment by BPL status and study area. We found that, at the EPL scale, the proportion of households impoverished due to OOP healthcare expenditure increased from 17.8% to 25.4% among true-BPL households, from 6.3% to 11.9% among non-BPL households, and from 19.7% to 30.5% among households in the comparison area. Similarly, at the NPL scale, the proportion of impoverished households increased 18.3% to 26.2% among true-BPL households, by 7.6% to 12.0% among non-BPL households, and by 21.1% to 31.6% among households in the comparison area. Additional impoverishment due to OOP healthcare expenditure at the EPL scale was significantly lower among true-BPL and non-BPL households in the intervention area relative to the comparison area. At the NPL scale, however, the proportion of impoverishment was lower among true-BPL households, although this was not significant at the 10% level. Among non-BPL households, additional impoverishment was significantly lower compared to households in the comparison area.

Table 3.30: Household expenditure, OOP, impoverishment, and change in proportion of poor by BPL status by study area

Household indicators	Intervention		Comparison
	True-BPL	Non-BPL	BPL
	n=630	n=540	n=1,145
Total household expenditure (BDT)/month	20,899	30,041	17,614
Average OOP expenditure for health (BDT)/month	1,610	2,341	2,063
% of households falling below EPL before OOP healthcare expenditure (95% CI) – A	17.8 (15.0–21.0)	6.3 (4.5–8.7)	19.7 (17.4–22.1)
% of households falling below EPL due to OOP healthcare expenditure (95% CI) – B	25.4 (22.1–28.9)	11.9 (9.4–14.9)	30.5 (27.9–33.2)
Change in proportion of poor due to OOP (B – A)	7.6 (5.8–10.0)	5.6 (3.9–7.8)	10.8 (9.2–12.8)
% of households falling below NPL before OOP healthcare expenditure (95% CI) – C	18.3 (15.4–21.5)	7.6 (5.6–10.2)	21.1 (18.8–23.5)

% of households falling below NPL due to OOP healthcare expenditure (95% CI) – D	26.2 (22.9–29.8)	12.0 (9.5–15.1)	31.6 (29.0–34.4)
Change in proportion of poor due to OOP healthcare expenditure (D – C)	7.9 (6.1–10.3)	4.4 (3.0–6.5)	10.6 (8.9–12.5)

While examining the association of impoverishment at the EPL scale with household BPL status, we found that the crude model showed impoverishment to be significantly lower among the true-BPL and non-BPL households in the intervention area. Moreover, after adjustment with other covariates, impoverishment remained significant for the non-BPL households (67% lower) in the intervention area compared to households in the comparison area **(Table 3.31**).

Table 3.31: Association of impoverishment by BPL status at EPL scale with other covariates

Characteristics	n	Percentage of Impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area and BPL status				
True-BPL in Comparison	1,145	30	1.00	1.00
True-BPL in Intervention	630	25	0.78 (0.62, 0.97)	0.85 (0.64, 1.13)
Non-BPL in Intervention	540	12	0.31 (0.23, 0.41)	0.43 (0.28, 0.67)
SSK card use status				
Did not use/receive card	1,943	25	1.00	1.00
Used card	372	23	0.87 (0.67, 1.13)	1.02 (0.74, 1.41)
Education of household head				
No institutional education	1,370	29	1.00	1.00
Up to primary	530	20	0.62 (0.49, 0.80)	0.68 (0.52, 0.89)
Secondary	361	18	0.55 (0.41, 0.73)	0.68 (0.50, 0.93)
Higher secondary	54	19	0.57 (0.28, 1.14)	0.71 (0.27, 1.86)
Occupation of household head				
Agriculture	261	14	1.00	1.00
Housewife	177	45	5.04 (3.18, 7.98)	2.56 (1.56, 4.19)
Rickshaw/auto driver	228	9	0.63 (0.36, 1.12)	0.40 (0.21, 0.79)
Small business	234	10	0.71 (0.41, 1.24)	0.74 (0.42, 1.30)
Day labourer/worker	1,097	26	2.25 (1.54, 3.27)	1.49 (0.97, 2.29)
Unemployed	251	45	5.12 (3.33, 7.87)	3.52 (2.18, 5.70)
Other	67	15	1.1 (0.51, 2.34)	1.17 (0.49, 2.80)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	50	1.00	1.00
4–5 persons	1,165	17	0.20 (0.16, 0.25)	0.23 (0.18, 0.29)
6 persons or more	441	5	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				
No	1,663	26	1.00	1.00

Yes	652	22	0.84 (0.67, 1.04)	0.83 (0.64, 1.08)
At least one member utilised private facilities in last 12 months				
No	1,392	26	1.00	1.00
Yes	923	23	0.84 (0.69, 1.02)	0.99 (0.81, 1.23)
Accessibility to UHC				
Easy	816	24	1.00	1.00
Medium	826	22	0.88 (0.70, 1.11)	1.16 (0.85, 1.58)
Difficult	673	29	1.28 (1.02, 1.62)	1.41 (1.04, 1.91)

While examining impoverishment at the NPL scale with household BPL status, we found that, according to the crude association, impoverishment at the NPL scale was significantly lower among true-BPL and non-BPL households from the intervention area compared to those households in the comparison area. However, following adjustment, this association remained significant for non-BPL households only **(Table 3.32)**.

Table 3.32: Association of impoverishment by BPL status at NPL scale with other covariates

Characteristics	N	Percentage of impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area and BPL status				
True-BPL in comparison	1,145	31.6	1.00	1.00
True-BPL in intervention	630	26.2	0.77 (0.62, 0.95)	0.83 (0.62, 1.12)
Non-BPL in intervention	540	12.0	0.30 (0.22, 0.39)	0.42 (0.28, 0.65)
SSK card use status				
Did not use/receive card	1,943	26.0	1.00	1.00
Used card	372	23.1	0.85 (0.66, 1.11)	1.01 (0.71, 1.42)
Education of household head				
No institutional education	1,370	29.6	1.00	1.00
Up to primary	530	20.4	0.61 (0.48, 0.77)	0.66 (0.50, 0.87)
Secondary	361	18.8	0.55 (0.41, 0.74)	0.68 (0.50, 0.94)
Higher secondary	54	18.5	0.54 (0.27, 1.08)	0.66 (0.25, 1.72)
Occupation of household head				
Agriculture	261	14.2	1.00	1.00
Housewife	177	44.6	4.88 (3.09, 7.71)	2.47 (1.50, 4.07)
Rickshaw/auto driver	228	9.2	0.61 (0.35, 1.08)	0.39 (0.20, 0.75)
Small business	234	10.3	0.69 (0.40, 1.20)	0.71 (0.41, 1.25)
Day labourer/worker	1,097	27.9	2.34 (1.61, 3.40)	1.55 (1.01, 2.37)
Unemployed	251	45.4	5.04 (3.29, 7.72)	3.42 (2.11, 5.54)
Other	67	16.4	1.19 (0.57, 2.48)	1.31 (0.55, 3.10)
Household size (equivalence scale)				

Less than or equal to 3 persons	709	50.8	1.00	1.00
4–5 persons	1,165	17.9	0.21 (0.17, 0.26)	0.24 (0.19, 0.30)
6 persons or more	441	5.2	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				
No	1,663	26.3	1.00	1.00
Yes	652	23.6	0.86 (0.70, 1.07)	0.88 (0.69, 1.13)
At least one member utilised private facilities in last 12 months				
No	1,392	27.0	1.00	1.00
Yes	923	23.4	0.83 (0.68, 1.00)	0.96 (0.78, 1.20)
Accessibility to UHC				
Easy	816	25.4	1.00	1.00
Medium	826	22.5	0.86 (0.68, 1.07)	1.11 (0.81, 1.53)
Difficult	673	29.6	1.24 (0.98, 1.55)	1.34 (0.98, 1.83)

Household Impoverishment by SSK Card Use and Study Area

Table 3.33 presents the impoverishment level by SSK card utilisation status by study area. After considering OOP healthcare expenditure at the EPL scale, the proportion of impoverished households among SSK card users (22.6%) and households who did not use/receive cards (17.5%) was lower compared to the households in the comparison area (30.5%). Similarly, at the NPL scale, impoverishment was lower among households that used SSK cards (23.1%) and those that did not receive/use cards (18.0%) relative to households in the comparison area (31.6%).

Table 3.33: Household expenditure, OOP, and impoverishment by SSK utilisation

Household indicators	Intervention		Comparison
	Utilised SSK card	Did not use/receive card	
	n=372	n=798	n=1,145
Total household expenditure (BDT)/month	21,811	26,655	17,614
Average OOP expenditure for health (BDT)/month	993	2,391	2,063
% of households falling below EPL before OOP healthcare expenditure (95% CI) – A	16.9 (13.4–21.1)	10.4 (8.5–12.7)	19.7 (17.4–22.1)
% of households falling below EPL due to OOP healthcare expenditure (95% CI) – B	22.6 (18.6–27.1)	17.5 (15.1–20.3)	30.5 (27.9–33.2)
Change in proportion of poor due to OOP (B – A)	5.6 (3.7–8.5)	7.1 (5.5–9.2)	10.8 (9.2–12.8)
% of households falling below NPL before OOP healthcare expenditure (95% CI) – C	17.7 (14.2–22.0)	11.3 (9.1–13.7)	21.1 (18.8–23.5)
% of households falling below NPL due to OOP healthcare expenditure (95% CI) – D	23.1 (19.1–27.7)	18.0 (15.5–20.1)	31.6 (29.0–34.4)
Change in proportion of poor due to OOP (D – C)	5.4 (3.5–8.2)	6.8 (5.2–8.2)	10.6 (8.9–12.5)

Additional impoverishment at the EPL scale due to OOP healthcare expenditure was significantly lower among households that used cards (5.6%) and households that did not use/receive cards (7.1%) relative to households in the comparison area (10.8%). Similarly, at the NPL scale, additional impoverishment was significantly lower among households that used cards (5.4%) and those that did not use/receive cards (6.8%) compared to households in the comparison area (10.6%).

When examining impoverishment by SSK card use status, we found that, in the crude association, although impoverishment was significantly lower among households that used cards and households that did not use/receive cards, this association becomes insignificant following adjustment with other covariates **(Table 3.34).**

Table 3.34. Association of impoverishment by SSK card use status at EPL scale with other covariates

Characteristics	n	Percentage of impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area/Use of cards				
Comparison and did not use/receive card	1,145	30.5	1.00	1.00
Intervention and did not use/receive card	798	17.5	0.49 (0.39, 0.61)	0.85 (0.64, 1.13)
Intervention and used card	372	22.6	0.67 (0.51, 0.87)	0.87 (0.61, 1.24)
Household BPL status				
Non-BPL	540	11.9	1.00	1.00
BPL	1,775	28.7	2.99 (2.26, 3.96)	1.96 (1.31, 2.95)
Education of household head				
No institutional education	1,370	28.6	1.00	1.00
Up to primary	530	20.0	0.62 (0.49, 0.80)	0.68 (0.52, 0.89)
Secondary	361	18.0	0.55 (0.41, 0.73)	0.68 (0.50, 0.93)
Higher secondary	54	18.5	0.57 (0.28, 1.14)	0.71 (0.27, 1.86)
Occupation of household head				
Agriculture	261	13.8	1.00	1.00
Housewife	177	44.6	5.04 (3.18, 7.98)	2.56 (1.56, 4.19)
Rickshaw/auto driver	228	9.2	0.63 (0.36, 1.12)	0.40 (0.21, 0.79)
Small business	234	10.3	0.71 (0.41, 1.24)	0.74 (0.42, 1.30)
Day labourer/worker	1,097	26.4	2.25 (1.54, 3.27)	1.49 (0.97, 2.29)
Unemployed	251	45.0	5.12 (3.33, 7.87)	3.52 (2.18, 5.70)
Other	67	14.9	1.1 (0.51, 2.34)	1.17 (0.49, 2.80)
Household size (equivalence scale)				
Less than or equal to 3 persons	709	50.2	1.00	1.00
4–5 persons	1,165	16.7	0.20 (0.16, 0.25)	0.23 (0.18, 0.29)
6 persons or more	441	5.0	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				

No	1,663	25.7	1.00	1.00
Yes	652	22.4	0.84 (0.67, 1.04)	0.83 (0.64, 1.08)
At least one member utilised private facilities in last 12 months				
No	1,392	26.0	1.00	1.00
Yes	923	22.9	0.84 (0.69, 1.02)	0.99 (0.81, 1.23)
Accessibility to UHC				
Easy	816	24.1	1.00	1.00
Medium	826	21.9	0.88 (0.70, 1.11)	1.16 (0.85, 1.58)
Difficult	673	29.0	1.28 (1.02, 1.62)	1.41 (1.04, 1.91)

Table 3.35 presents the association of impoverishment at the NPL scale by household card utilisation status. Before adjusting for covariates, impoverishment at the NPL scale was significantly lower among households that used cards and those that did not receive/use cards. However, following adjustment with other covariates, the association of impoverishment at the NPL scale with card utilisation became insignificant.

Table 3.35: Association of impoverishment by card utilisation status at NPL scale with other covariates

Characteristics	n	Percentage of impoverishment	Crude OR (95% CI)	Adjusted OR (95% CI)
Study area and use of cards				
Comparison and did not use/receive card	1,145	31.6	1.00	1.00
Intervention and did not use/receive card	798	18.0	0.48 (0.38, 0.59)	0.83 (0.62, 1.12)
Intervention and used card	372	23.1	0.65 (0.50, 0.85)	0.84 (0.58, 1.22)
Household BPL status				
Non-BPL	540	12.0	1.00	1.00
BPL	1,775	29.7	3.09 (2.34, 4.08)	1.96 (1.31, 2.95)
Education of household head				
No institutional education	1,370	29.6	1.00	1.00
Up to primary	530	20.4	0.61 (0.48, 0.77)	0.66 (0.50, 0.87)
Secondary	361	18.8	0.55 (0.41, 0.74)	0.68 (0.50, 0.94)
Higher secondary	54	18.5	0.54 (0.27, 1.08)	0.66 (0.25, 1.72)
Occupation of household head				
Agriculture	261	14.2	1.00	1.00
Housewife	177	44.6	4.88 (3.09, 7.71)	2.47 (1.50, 4.07)
Rickshaw/auto driver	228	9.2	0.61 (0.35, 1.08)	0.39 (0.20, 0.75)
Small business	234	10.3	0.69 (0.40, 1.20)	0.71 (0.41, 1.25)
Day labourer/worker	1,097	27.9	2.34 (1.61, 3.40)	1.55 (1.01, 2.37)
Unemployed	251	45.4	5.04 (3.29, 7.72)	3.42 (2.11, 5.54)
Other	67	16.4	1.19 (0.57, 2.48)	1.31 (0.55, 3.10)
Household size (equivalence				

scale)				
Less than or equal to 3 persons	709	50.8	1.00	1.00
4–5 persons	1,165	17.9	0.21 (0.17, 0.26)	0.24 (0.19, 0.30)
6 persons or more	441	5.2	0.05 (0.03, 0.08)	0.06 (0.04, 0.09)
At least one member sought care for chronic illness in last 90 days				
No	1,663	26.3	1.00	1.00
Yes	652	23.6	0.86 (0.70, 1.07)	0.88 (0.69, 1.13)
At least one member utilised private facilities in last 12 months				
No	1,392	27.0	1.00	1.00
Yes	923	23.4	0.83 (0.68, 1.00)	0.96 (0.78, 1.20)
Accessibility to UHC				
Easy	816	25.4	1.00	1.00
Medium	826	22.5	0.86 (0.68, 1.07)	1.11 (0.81, 1.53)
Difficult	673	29.6	1.24 (0.98, 1.55)	1.34 (0.98, 1.83)

Summary of Findings

- Overall, at both EPL and NPL scales, impoverishment due to OOPE for healthcare was significantly lower in the intervention area relative to the comparison area.
- At the EPL scale, impoverishment due to OOPE for healthcare was significantly lower among true BPL households, households that used cards, and those that did not use/receive cards when compared with households in the comparison area.
- At the NPL scale, impoverishment was not significant at the 10% level among true BPL households, although it was significant for non-BPL households, households that used cards, and those that did not use/receive cards relative to households in the comparison area.
- Following adjustment, impoverishment at both levels remained significant for the non-BPL households and became non-significant for all other groups.

Chapter 4: Findings from the Facility Assessment

Service readiness is a prerequisite for the delivery of quality healthcare. Currently, there is no study that has examined the readiness of SSK health facilities. Therefore, as a part of the comprehensive evaluation of the SSK scheme, a facility readiness assessment was conducted in SSK health facilities to address one of the supply-side objectives (obj.#1) of the evaluation. These findings will be useful for informing the policymaking body to take initiative in updating services and providing the required equipment. The assessment aimed to determine the readiness of facilities (services, HR, drugs, equipment, logistics availability, etc.) for providing SSK services.

Table 4.1 summarises the availability of specific services in the SSK healthcare facilities. Almost all of the required services were available in the assessed facilities. However, in Kalihati UHC, caesarean delivery and nutritional services were not available. On the other hand, only blood grouping services were not available in Madhupur and Ghatail UHC.

Table 4.1: Availability of specific services

Specific healthcare services	Kalihati UHC	Madhupur UHC	Ghatail UHC	District Hospital
Curative care for sick children	√	√	√	√
Child growth monitoring	√	√	√	√
Child vaccination (EPI)	√	√	√	√
Any family planning	√	√	√	√
Antenatal care	√	√	√	√
Normal delivery	√	√	√	√
Caesarean delivery	X	√	√	√
TB diagnosis or treatment	√	√	√	√
Non-communicable disease treatment	√	√	√	√
Laboratory diagnostics	√	√	√	√
Blood grouping	√	X	X	√
Blood transfusion	√	√	√	√
Postnatal care	√	√	√	√
Postpartum family planning	√	√	√	√
Adolescent health	√	√	√	√
Nutrition	X	√	√	√

Table 4.2 presents the allocated and additional numbers of beds in the SSK health facilities. Additional numbers of beds exceeded the allocated number of beds in Ghatail (60) and the district hospital (300). These additional beds are arranged by hospitals.

Table 4.2: Distribution of facilities according to number of beds for inpatient service provision				
Inpatient beds	**Kalihati UHC**	**Madhupur UHC**	**Ghatail UHC**	**District Hospital**
Allocated number of beds	50	50	50	250
Additional number of beds	20	50	60	300

Table 4.3 lists the basic amenities services available (such as electricity, generators, water, sanitation, communication, transport services, etc.) in the SSK health facilities. Functional generators were not available in Madhupur and Ghatail UHCs, while communication equipment (landline/cellular phones) was also not available in all UHCs. Emergency transport/ambulances, which is one of the essential services, were not found in Ghatail UHC.

Table 4.3: Basic amenities for client services				
Basic amenities	**Kalihati UHC**	**Madhupur UHC**	**Ghatail UHC**	**District Hospital**
Power supply	√	√	√	√
Functional generator	√	X	X	√
Water source	√	√	√	√
Examination room	√	√	√	√
Sanitation facilities	√	√	√	√
Communication equipment (landline/cellular)	X	X	X	√
Computer with internet access	√	√	√	√
Emergency transport/Ambulance	√	√	X	√

Table 4.4 presents the status of standard precautions for infection control in the assessed healthcare facilities. In almost all of the healthcare facilities, we found a lack of standard precautions being taken regarding safe final disposal and appropriate storage of sharp wastes and infectious wastes. Among the healthcare facilities, Kalihati UHC in particular had poor practices in regards to standard precautions taken for infection control compared to other facilities.

Table 4.4: Standard precautions for infection control				
Infection prevention	**Kalihati UHC**	**Madhupur UHC**	**Ghatail UHC**	**District Hospital**
Sterilisation equipment	√	√	√	√
Equipment for high-level disinfection	√	√	√	√
Safe final disposal of sharps waste	X	X	√	X
Safe final disposal of infectious waste	X	X	√	X
Appropriate storage of sharps waste	X	X	√	X
Appropriate storage of infectious waste	X	X	√	X
Disinfectant	√	√	√	√

Syringes and needles in sharps box	√	X	√	X
Running water	√	√	√	√
Soap and running water	√	√	√	√
Alcohol-based hand disinfectant	X	√	√	√
Soap and running water, or else alcohol-based hand disinfectant	√	√	√	√
Latex gloves/other gloves	√	√	√	√
Medical masks	√	√	√	√
Gowns	√	√	√	√
Eye protection	X	√	√	√
Guidelines for standard precautions	X	√	√	√

Staffing/Human Resources Availability

Table 4.5 outlines the human resources available in SSK healthcare facilities. Significant gaps were found among physicians (consultants and medical officers), administrative staff, and other support staff (fourth-class groups). However, the recent recruitment of doctors through the 39th Bangladesh Civil Service exam has reduced the gap in medical officers to some extent, although the gap in consultant positions and other types of staff remains **(Table 4.5)**.

Table 4.5: Availability of human resources for healthcare services

Staff type	Kalihati UHC		Madhupur UHC		Ghatail UHC		District Hospital	
	Sanctioned	Filled	Sanctioned	Filled	Sanctioned	Filled	Sanctioned	Filled
Senior consultant	N/A	–	N/A	–	N/A	–	12	6
Junior consultant	10	4	10	3	10	3	10	3
Medical officer (previous + new)	10	14 (2+12)	11	17 (8+9)	10	13 (7+6)	35	26
Nurses	22	21	27	25	27	26	239	229
Medical Assistant/ SACMO	2	2	4	4	2	2	N/A	N/A
Medical Technologist	8	8	8	8	8	8	11	11
Administrative staff	10	6	10	5	10	4	12	11
Technical support staff	7	7	7	7	7	6	9	6
Other support staff	20	16	24	6	14	3	50	29

Basic Supplies, Equipment and Diagnostic Services

Table 4.6 outlines the functional basic supplies and equipment available in the SSK health facilities. Almost all basic supplies and equipment in the healthcare facilities were functional. However, no digital blood pressure (BP) apparatus was found in any of the facilities. Among the healthcare facilities, a more significant lack of basic supplies and equipment was observed in Kalihati UHC.

Table 4.6: Basic supplies and equipment				
Basic supplies and equipment	**Kalihati UHC**	**Madhupur UHC**	**Ghatail UHC**	**District Hospital**
Adult weighing scale	√	√	√	√
Child weighing scale (250-gram gradation)	√	√	√	√
Infant weighing scale (100-gram gradation)	√	√	√	√
Stadiometer (or height rod) for measuring height	√	√	√	√
Measuring tape (for circumference)	√	√	√	√
Thermometer	√	√	√	√
Stethoscope	√	√	√	√
Digital BP apparatus	X	X	X	X
Manual BP apparatus	√	√	√	√
Light source (flashlight acceptable.)	√	√	√	√
Self-inflating bag and mask (adult)	X	√	√	√
Self-inflating bag and mask (paediatric)	X	√	√	√
Micro-nebuliser	√	√	√	√
Spacers for inhalers	√	√	√	√
Peak flow meters	√	X	√	√
Pulse oximeter	√	√	√	√
Oxygen concentrators	√	√	√	√
Filled oxygen cylinder	√	√	√	√
Oxygen distribution system	√	√	√	√
Intravenous infusion kits – adult	X	√	X	√
Intravenous infusion kits – paediatric	X	√	X	√

Table 4.7 outlines the laboratory capacity of SSK health facilities. Hepatitis B, syphilis, and malaria test services were not found in all health facilities. Blood and urine tests for glucose and haemoglobin test were not found in Madhupur UHC.

Table 4.7: Laboratory capacity				
Laboratory test services	**Kalihati UHC**	**Madhupur UHC**	**Ghatail UHC**	**District Hospital**
Haemoglobin test	√	X	√	√
Urine test for protein	√	√	√	√
Urine test for glucose	√	X	√	√
Blood test for glucose	X	X	√	√

Urine test for pregnancy	√	√	√	√
Tuberculosis	√	√	√	√
Hepatitis B	X	X	X	X
Syphilis	X	X	X	X
Malaria	X	X	X	X

Table 4.8 summarises the diagnostic imaging capacity of the SSK health facilities. Among all facilities, only X-ray machines were found to be functional. Ultrasound machines were found to be functional in district hospitals only, while digital X-ray machines and CT scan services were not found in any health facilities.

Table 4.8: Diagnostic imaging capacity

Diagnostic imaging	Kalihati UHC	Madhupur UHC	Ghatail UHC	District Hospital
Digital X-ray machine	X	X	X	X
X-ray machine	√	√	√	√
Ultrasound machine	X	X	X	√
CT scan	X	X	X	X

Table 4.9 shows the availability of essential medicines in the SSK health facilities. About half of the essential medicines were not available in the UHCs, while five essential medicines were found to be unavailable in the district hospital.

Table 4.9: Availability of essential medicines

Essential medicine	Kalihati UHC	Madhupur UHC	Ghatail UHC	District Hospital
Amitriptyline tablets/capsules	X	X	X	X
Amoxicillin tablets/capsules	X	√	√	√
Atenolol tablets/capsules	√	√	√	X
Captopril tablets/capsules	X	X	X	X
Ceftriaxone injectable	√	√	√	√
Ciprofloxacin tablets/capsules	X	√	X	√
Cotrimoxazole oral suspension	X	X	X	√
Diazepam tablets/capsules	X	X	X	√
Diclofenac tablets/capsules	√	√	√	√
Glibenclamide tablets/ capsules	X	X	X	X
Omeprazole/cimetidine tablets/capsules	√	√	√	√
Paracetamol oral suspension	√	√	√	√
Salbutamol inhaler	X	X	X	√
Simvastatin/atorvastatin tablets/capsules	X	X	X	v

Summary of Findings

- Almost all of the specific services required were available in the SSK health facilities.
- In terms of the number of beds, three facilities accommodated twice the number of patients than the number indicated by their allocated bed capacity.
- Overall, all of the healthcare facilities ensured basic amenities for their patients and visitors.
- Maintenance of standard precautions for infection control was poor in all SSK health facilities.
- Lack of required human resources, especially doctors, is a major concern in government healthcare facilities. Although recent recruitment of doctors had filled this gap, a lack of other staff remains a concern.
- All basic supplies and equipment were found to be available in the SSK health facilities at the time of this assessment.
- There was a gap in the availability of laboratory tests and diagnostic services (e.g. digital X-ray, USG, CT scan) in all health facilities.

Chapter 5: Review of Treatment Protocols

The HEU has developed standard treatment protocols for the provision and management of the treatment of each SSK enlisted 78 disease groups. These treatment protocols should be followed during the provision of inpatient health care to SSK patients, along with proper documentation of patient management, laboratory testing, medical prescriptions, discharge papers and referral papers. One of the major objectives (from the supply side) of this SSK evaluation study was to assess compliance with SSK treatment protocols for service provision by reviewing the treatment documents for each of the SSK healthcare facilities at Kalihati, Ghatail and Madhupur UHCs, along with Tangail DH.

Level of Compliance with Treatment Protocol

For the most frequent 10 diseases, the highest compliance with treatment protocol was estimated at 89% for 'Asthma (status asthmaticus)' (ICD Code J46). The lowest was 38% for 'Other disorders of the skin and subcutaneous tissue' (ICD Code L98) **(Table 5.1)**.

'Spontaneous delivery (single)' (ICD Code O80) was found to have the highest compliance, at 92%, in the 10 next most frequent disease categories, while 'IDDM (Insulin-dependent diabetes mellitus)' (ICD Code E10) had the lowest compliance at 57%.

For the remaining least frequent 58 diseases category, we found patient documents for 46 diseases; among these, 15 diseases had only one patient document to be reviewed.

Table 5.1: Disease (ICD-code)-wise average percentage of compliance with the treatment protocol of the reviewed patient treatment document

# Sl.	ICD code	Disease/Condition	# of treatment documents	Compliance % (Min–Max)
	Most frequent 10 diseases by total frequency			
1	I20	Acute chest pain (angina pectoris)	41	55% (0%–100%)
2	R50	FUO (high fever)	40	88% (33%–100%)
3	J46	Asthma (status asthmaticus)	39	89% (40%–100%)
4	A09	Diarrhoea & gastroenteritis	38	84% (40%–100%)
5	J44	COPD (acute exacerbation)	38	86% (23%–100%)
6	K81	Cholecystitis	37	82% (33%–100%)
7	N39	Other disorders of the urinary system	34	54% (22%–100%)
8	I10	Essential hypertension	25	52% (25%–85%)
9	L98	Other disorders of skin and subcutaneous tissue	23	38% (0%–100%)
10	A01	Typhoid and paratyphoid fever	21	64% (40%–100%)
	Next most frequent 10 diseases by total frequency			
1	K35	Appendicitis	35	74% (46%–100%)
2	O80	Spontaneous delivery (single)	35	92% (30%–100%)
3	E10	Insulin-dependent diabetes mellitus (IDDM)	32	57% (0%–100%)
4	J14	Paediatric pneumonia	31	68% (45%–100%)
5	O82	Caesarean delivery (single)	26	83% (0%–100%)
6	J03	Acute tonsillitis	24	61% (0%–100%)

7	N81	Female genital prolapse	22	79% (18%–100%)
8	N73	Other pelvic inflammatory diseases (PID)	18	65% (0%–100%)
9	T02	Fracture involving multiple body regions	18	66% (0%–100%)
10	J13	Adult pneumonia	13	67% (0%–100%)
	Remaining less frequent diseases			
1	K80	Cholelithiasis	8	83% (67%–100%)
2	R33	Retention of urine	8	79% (11%–100%)
3	K40	Inguinal hernia	7	100% (100%–100%)
4	L08	Other local infections of skin and subcutaneous tissue	7	54% (25%–100%)
5	N93	Other abnormal uterine & vaginal bleeding	7	56% (20%–78%)
6	O08	Complication of abortion & ectopic pregnancy	7	65% (30%–100%)
7	R18	Ascites	7	55% (0%–86%)
8	K 56	Intestinal obstruction	6	62% (42%–88%)
9	K92	Other diseases of GIT (haematemesis & malana)	6	21% (0%–38%)
10	L60–63	Cerebrovascular diseases (CVD)	5	47% (0%–89%)
11	T01	Open wounds involving multiple body regions	5	60% (0%–100%)
12	D56	Thalassaemia	5	63% (40%–100%)
13	E43	Management of acute malnutrition	5	27% (0%–64%)
14	T29	Burn & corrosion of multiple body regions	4	77% (62%–86%)
15	N92	Excessive, frequent & irregular menstruation	4	64% (50%–89%)
16	K60	Fissure and fistula of anal and rectal region	4	88% (50%–100%)
17	K85	Acute pancreatitis	4	57% (45%–63%)
18	O83	Other assisted delivery (single)	4	25% (0%–100%)
19	R56	Convulsion (febrile)	3	52% (22%–100%)
20	N40	Hyperplasia of prostate	3	21% (0%–33%)
21	D17	Benign lipomatous neoplasm	3	11% (0%–33%)
22	D58	Other haemolytic disorder	3	62% (14%–100%)
23	N04	Nephrotic syndrome	3	55% (43%–68%)
24	N61	Inflammatory disorder of breast (abscess)	3	58% (50%–67%)
25	O72	Postpartum haemorrhage	3	100% (100%–100%)
26	T42	Poisoning by sedative & antiepileptic drugs	3	100% (100%–100%)
27	N02	Haematuria (recurrent and persistent)	2	93% (86%–100%)
28	H66	Suppurative and unspecified otitis media (CSOM)	2	100% (100%–100%)
29	J90	Pleural effusion (not classified)	2	50% (50%–50%)
30	R04	Haemorrhage from respiratory passage (epistaxis)	2	86% (86%–86%)
31	A41	Septicaemia, other (neonatal)	2	60% (60%–60%)
32	A90	Dengue	1	27%**

33	B15	Hepatitis	1	78%**
34	H25	Cataract (senile)	1	33%**
35	J34	Other disorders of nose and nasal sinus (DNS) surgery	1	17%**
36	J91	Pleural effusion (classified)	1	100%**
37	K61	Abscess of anal and rectal region	1	29%**
38	L72	Follicular cyst of skin and subcutaneous tissue	1	75%**
39	N43	Hydrocele and spermatocele	1	100%**
40	N84	Polyp of female genital tract	1	100%**
41	O01	Hydatidiform mole	1	33%**
42	O42	Premature rupture of membrane	1	62%**
43	O84	Caesarean delivery (multiple)	1	100%**
44	O85	Puerperal sepsis	1	68%**
45	T60	Pesticide poisoning	1	100%**
46	Z33	Medical termination of pregnancy	1	100%**

* % is the average percentage of treatment protocol compliance

** For diseases with frequency=1, only the percentage of compliance is given

After reviewing the treatment documents, we can observe that most of the patients were less than 30 years of age, while overall compliance was also found to be highest (at 72%) for this age group, along with elderly people (60+ years) (**Table 5.2**). Most of these patients were female and had better overall compliance (at 71%) compared to the male patients, who had compliance of 68%. This trend was observed to be almost similar for both age groups and genders across the three disease categories. Moreover, we found that the overall compliance was highest at Kalihati UHC (76%), followed by Ghatail UHC (74%), Tangail DH (70%), and Madhupur UHC (59%). Compliance for the most frequent diseases (most frequent 10 and next most frequent 10 diseases) was always higher than the remaining less frequent diseases in all of the four SSK healthcare facilities.

Table 5.2: Patient characteristics

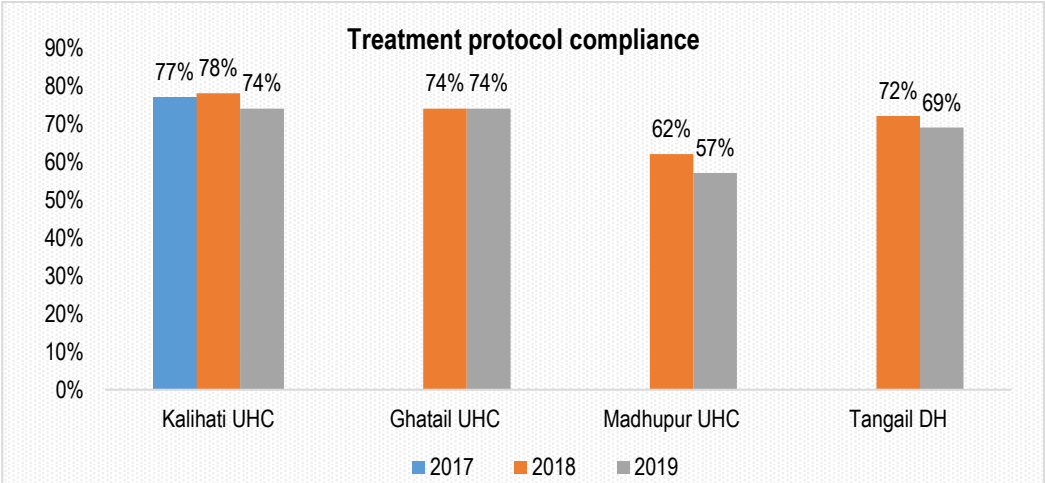
Components	N=745			Most frequent 10 diseases			Next most frequent 10 diseases			Remaining less frequent diseases	
	n	%*		N	%		N	%		n	%
Age Group											
Up to 30 years	247	72%		61	74%		109	79%		77	61%
31–40	97	67%		43	72%		32	64%		22	60%
41–50	167	69%		84	70%		41	69%		42	65%
51–60	113	68%		67	70%		23	73%		23	57%
60+ years	121	72%		81	74%		13	62%		27	71%
Gender											
Female	447	71%		174	71%		166	76%		107	64%
Male	298	68%		162	73%		52	67%		84	60%

SSK facility											
Kalihati UHC	232	76%		108	78%		71	80%		53	67%
Ghatail UHC	170	74%		93	77%		45	72%		32	71%
Madhupur UHC	205	59%		91	59%		60	64%		54	55%
Tangail DH	138	70%		44	75%		42	78%		52	61%

* % is the average percentage of treatment protocol compliance

Over time, the average percentage of overall compliance decreased throughout the facilities, except for Ghatail UHC, which remained the same at 74%. The lowest average percentage of compliance was estimated in Madhupur UHC for the year 2019 with 57% compared to other facilities that year **(Figure 5.1)**.

Figure 5.1. Change in treatment protocol compliance at SSK facilities over the years



Compliance Issues

We categorised the different steps of each treatment protocol into five generalised terms, as follows: signs/symptoms, diagnostic tests, treatments, other management (inpatient follow-up, assessment, and referral), and advice.

We found that compliance was low in diagnostic lab tests and advice, at 46% and 38% respectively, as several different steps under these two subheadings were consistently not administered. Compliance was better in documenting signs/symptoms, treatments, and other forms of management, at 86%, 78%, and 75%, respectively **(Table 5.3)**.

Table 5.3: Influence of different treatment protocol steps in compliance

Category of treatment protocol steps	Total steps to be followed	Steps followed	% of Compliance
Check for signs/symptoms	1,279	1,048	86%
Diagnostic tests	1,728	800	46%
Treatment	2,798	2,176	78%
Other management	1,261	947	75%
Advice	450	171	38%
Total	**7,516**	**5,142**	**70%**

Documentation-Related Issues

During the review of individual patient treatment documents, it was evident that there was a lack of adherence to protocol in the documentation process; in several cases, lab reports and discharge papers were not found with the patient documents **(Table 5.4)**.

Table 5.4: Documentation issues

Documentation issues for non-compliance (multiple cases)	n	% (n/745)
No advice on diet/physical exercise was documented	27	4%
Diagnostic test slip/report was unavailable	23	3%
Discharge papers not available	16	2%
Only discharge papers available	13	2%
No documentation of signs/symptoms	13	2%
Treatment plan unavailable	8	1%
Only referral notes were available	3	1%

Summary of Findings

- Over time, the overall compliance with treatment protocol decreased throughout the facilities.
- When we examined the components of disease protocol, the compliance with diagnostic tests and advice was below 50%.
- Compliance for the more frequent diseases was better than for the less frequent diseases in all four SSK healthcare facilities.
- A lack of documentation (e.g. lab reports, discharge papers) was found in several cases during the review of the treatment protocol for each individual.

Chapter 6: Findings from the Qualitative Assessment

We conducted qualitative interviews to gain a deeper understanding of the underlying factors and potential of the SSK from both the demand and supply sides. From the demand side, we captured data on SSK cardholders' knowledge about the scheme, patients' experiences with the SSK service process, and the effectiveness of service utilisation by the BPL population. We also explored supply-side issues, such as facility readiness (HR, workload at facilities, drugs, equipment, logistics availability, etc.) for SSK service provision, the SSK scheme referral system, the SSK record-keeping system, the financial management system of the scheme (revenue generation, fund allocation, fund utilisation, etc., and related barriers), the authority and autonomy of the managers in fund allocation and utilisation, the SSK claim management process, the community engagement process implemented by the scheme operator, compliance with SSK treatment service provision protocol, monitoring and supervision of SSK services, and experience of third-party engagement in SSK (scheme operators, pharmacies, diagnostic centres, suppliers of guards/cleaners). The qualitative findings supplemented the understanding of factors related to gaps and barriers of the programme and also complemented the quantitative findings. The theme-wise qualitative findings are presented below.

Flaws in the BPL Household Identification Process

A set of criteria were used to identify the BPL population for providing SSK cards. Using these criteria, the Scheme Operator (Green Delta Life Insurance Company Limited) selected BPL households based on their fulfilling any two of the three criteria set by the HEU. The three criteria were as follows:

1. The household head is a day labourer (regular basis);

2. The household had no other land except their homestead, and

3. The household had no permanent income sources or any fixed income sources

Initially, the BPL households (HHs) were selected from the community with the help of local-level elected leaders. All the household members' detailed information was then collected by the scheme operator for database development purposes. Subsequently, the data entry process was carried out in the local office of the scheme operator. A slip was provided to the households that allowed them to obtain the SSK card. Next, the slip holder's photo was taken for the SSK card. Then, with the help of a foreign company named 'Heritage Knowledge', SSK cards were prepared for the beneficiaries. These cards were distributed in the community by the scheme operator.

However, house-to-house visits were not made to identify BPL HHs by verifying the criteria. Community dwellers were instead asked to assemble at a specific point to be enrolled as BPL and deemed eligible for obtaining an SSK card. Regarding the BPL household identification process, one respondent said:

> '*আমার বাড়িতে যায় নাই। আমাদের গ্রামের যে মেম্বার, তার বাড়িতে আসছে, আমরা সবাই ঐখানে গেছি। মেম্বারের লোকজন আমাদেরকে বলছে যে 'স্বাস্থ্য সেবা কার্ড হবে, তোমরা যদি ইচ্ছুক থাক তাহলে আসো'। আমরা গেছি। তবে সবার বাড়ি বাড়ি হয়তো যাওয়া হয় নাই, আর সবাই কিন্তু কার্ডও পায় নাই*'।

> '*Nobody came to my house. They came to the member's [elected local government's representative] house, and we went there. The member's assistant informed us and said, "a healthcare card will be given, if you are interested you can come". Then we went to his*

home. But they might not have informed all households in this village, and not all (BPL) households got cards.'

According to the scheme operator's field staff, house-to-house visits could not be conducted due to time constraints; this is because they were given a daily target to fulfil that would not have been possible to meet if they had gone door to door.

Moreover, local power structures and political factors influenced the BPL list. A BPL household list was prepared by the local government authority, which was not up to date. When the scheme operator's staff began to work with that list, it was difficult to identify the BPL households. In some cases, they found that households in some areas were missing from the list. Accordingly, scheme operators had to identify the household list, despite the fact that this was not their responsibility according to the contract. Therefore, they had to work for an additional eight months to identify and list BPL HHs, employing 200 field assistants who were paid by the scheme operator. As the BPL household list was not up to date, the staff employed by the scheme operator were required to depend on local-level elected members and chairmen. Due to this dependency, local leaders took the chance to exercise their power by favouring some households that were not truly BPL. Regarding this undue favour shown during BPL HH selection, one respondent stated:

'বিপিএল সিলেকশন যারা করেছে, কিছু ক্ষেত্রে, যেমন যাদের কার্ড পাওয়ার দরকার নেই, আর্থিকভাবে স্বচ্ছল, এরকম লোকের হাতে কিছু কার্ড গেছে। বিশেষ করে পৌর এলাকায়, কাউন্সিলর ও পৌরসভার মেয়র তাদের পরিচিত লোকদের নাম লিস্ট করার জন্য সুপারিশ করেছেন।'

'Some cards were given to non-BPL households. In this case, the councillor and local mayor worked to add them to the SSK list'.

The BPL household list was maintained in a worksheet without maintaining a relational database structure. After listing the BPL households in the worksheet, the scheme operator's staff set up a site in each area so that the selected household members could come and provide household member-related information. Invitations were sent out via pieces of paper distributed to the households, including the date and time of the campaign. However, fewer people than expected showed up at these specific locations. Subsequently, a Tab-based registration application was developed. The scheme operator's staff conducted house-to-house visits, registered the names of the household head and household members, and took fingerprints (biometric measure).

Initiatives were also taken to refine the errors in the BPL list. However, this rectification process was hampered due to a lack of cooperation from the local power structure.

Limitations in SSK Card Preparation and Distribution

A number of SSK cardholders reported that they were unable to use the SSK card due to a mismatch between name and picture. After personal information was collected using Tab, this information was uploaded to the database and a card number for each selected household was generated. Using this card number, the cardholder's photo was taken. For this task, the scheme operator's staff was supposed to make house-to-house visits to the enlisted households. However, they instead asked the household members to gather in a particular location, took the photos for providing SSK cards. For this reason, some errors occurred during card preparation, such as mismatching between cardholders' personal information and photos. Regarding errors in printed cards, one SSK cardholder stated:

'আপা, আমার জা-এর কার্ডে নাম আছে আমার জায়ের, কিন্তু ছবি আরেকজনের। এখন কার্ড নিয়ে গেলে কি হবে, ছবি তো মিলেনা। কয়েকদিন আগে যে ভাইয়েরা আসছিল, তাদের কে বিষয়টা জানাইছি।'

'*Apa [sister], in my sister-in-law's card she found her information, but the photo was not her. As the photo was not matching, how could she use the card? We informed the [scheme operator's staff] of this issue*'.

Correction of the SSK cards was also time-consuming and difficult due to dependency on an overseas IT company. A foreign company assisted with the process of card preparation for BPL households. When the contract with the company ended, it was difficult to rectify the cards and prepare new cards. Even the MIS engineers of the government could not get access to their database to rectify the cards. Regarding this dependency on an overseas company, one manager said:

'*আমি যেটা জানতে পেরেছি যে, এই সফটওয়্যার কোম্পানি হচ্ছে ইন্ডিয়ান একটা কোম্পানি (হেরিটেজ), যাদের সাথে কন্ট্রাক্ট শেষ হয়ে যাওয়াতে নতুন যারা কার্ড লিস্টে অন্তর্ভুক্ত হয়েছেন তাদেরকে আমরা কার্ড দিতে পারছি না। যিনি কাজ করতেন তিনিও কোন অসুবিধা হলে আর ঠিকমত রেসপন্স করেননা। কারণ তিনি ঐ কোম্পানি ছেড়ে অন্য কোম্পানিতে জব করছেন। আর হেরিটেজ কোম্পানি এমনভাবে সফটওয়্যারটা তৈরি করেছে যে, আমাদের সরকারি যে এমআইএসের সফটওয়্যার ইঞ্জিনিয়ার আছে তারাও এই সফটওয়্যারে কাজ করতে পারছে না*'।

'*I have come to understand that we were unable to prepare new cards for the BPL HHs because of this process being contracted out with an Indian software company (Heritage). The person who we contacted regularly now works in another company; he does not respond to us anymore. The Heritage Company has built its software in such a way that our MIS engineers failed to gain access to their software*'.

According to the initial plan developed by the scheme operator, the SSK cards were supposed to be delivered within seven days of personal information being collected. While the majority of the households received the cards within two weeks, some had to wait up to six months. In some specific situations, the cards were distributed during or just after our ongoing research activity (during community-level data collection). In other areas, people with different political views did not receive a card when cards were distributed through local elected leaders.

Weaknesses in Community Awareness Activities

Several community awareness activities regarding the SSK scheme were conducted, such as audio broadcasts, leaflets, advertisement in TV scroll, banners and postering. These mass communication activities were conducted only at one time during the process of BPL household listing and distribution of SSK cards. For instance, leaflets were distributed in each SSK-enlisted household when collecting detailed information on household members, while posters were put up in easy-to-notice places where people usually gather for different purposes, such as community clinics, union sub-centres, local bazaars and educational institutions. Audio broadcasts were done at the union level and TV advertisements were run for one month. However, these activities were not successful in adequately informing SSK cardholders about the SSK programme activities; people in the community could not recall those pieces of information ever having been delivered.

SSK did not have the required interpersonal communication strategy. For that reason, many of the SSK cardholders did not understand the benefits of the SSK card. Regarding this lack of interpersonal communication, one beneficiary stated:

'*কার্ড তো দিয়া গেছে। কিন্তু কোথায় গেলে বা কিভাবে চিকিৎসা পাওয়া যাবে সে বিষয়ে কিছু বলে নাই । আমিও আর কিছু জিজ্ঞেস করি নাই। তারা শুধু বলছিল হাসপাতালে গেলে কার্ড দেখালেই আমি চিকিৎসা পাবো*'।

'They [the scheme operator] provided the card, but did not clearly explain from where and how to get the treatment. I also did not ask anything. They only said that by showing the card at the health facility, I would get the treatment'.

Some of the cardholders complained that they were not adequately informed by the scheme operator about the benefits of and ways to use the SSK card. Regarding the inadequate information provided by the scheme operator's staff, one beneficiary said:

> '*কার্ডে যে এ রকম ভাবে উপকার হবে প্রথমে আমাদেরকে তা বুঝিয়ে বলে নাই -আইসিডিডিআর,বি- র গবেষক যেভাবে বোঝালেন। খালি ছবি তুলে নিয়ে গেছে, আর কার্ড দিয়ে গেছে, এই টুকুই। কিন্তু সব কিছুতো ভেঙ্গে বলে নাই। সে জন্য কার্ড নিয়ে হাসপাতালে যাই নাই*'।

> '*No one made us understand the benefit of the card as you did [icddr,b researcher]. They took photos and provided us with printed cards, but did not tell us anything clearly about it. For that reason, I did not use the card to access services at the hospital*'.

Reasons for Not Using SSK Services: Supply-Side Factors

SSK Cardholders' Lack of Awareness Regarding the Benefits/Proper Use of the SSK Card

We found that most SSK cardholders did not fully understand the uses and benefits of the SSK card, particularly where to visit with the SSK card, how many family members could get the benefit, and what sort of treatment would be provided free of charge. Regarding the orientation to the card, one respondent said:

> '*তখন কার্ড দিয়ে চিকিৎসার কথা জানতাম না। তখন বলছিলো এইভাবে যে, এই কার্ডে আপনাদের নামে ৪০ হাজার করে টাকা আসবে। এই টাকাটা ওরা যেকোনো চিকিৎসা খাতে কেটে নিবে। কিন্তু কিভাবে, কোন জায়গায়, কোন হাসপাতাল থেকে এই চিকিৎসা হবে সেসব জানতাম না। কয়দিনের জন্য ৪০ হাজার টাকা, সেটাও বলে নাই*'।

> *'I did not know much about the card. They [scheme operators' staff] said that 40 thousand taka would be allocated for each card under your name. We did not know anything about how they would deduct this money, for which treatments, where we would get the treatment, and for how many days this amount would be allocated'.*

Lack of Confidence in Care at UHCs/Preference to Seek Care from DH

Some SSK patients went directly to the DH, as they had a lack of confidence regarding services obtained from UHCs. Most of these people had previously (before getting the SSK card) experienced treatment being unavailable at the UHC and had been sent to the DH.

> '*আমাদের বাড়ি থেকে অনেক দূরে হয়ে যায় উপজেলা হাসপাতাল। ঐখানে গেলে দুই তিনটা ওষুধ দিয়ে ফেরত পাঠায়। যে টাকা ভাড়া দিয়ে আমরা উপজেলা হাসপাতাল যাই, সেই টাকায় টাঙ্গাইল জেলা হাসপাতাল চলে যাওয়া যায় এবং ভালো মানের চিকিৎসা পাওয়া যায়।*'

> *'The upazila hospital is far from our home. When going there, we get only a few medicines. So, if we go to the DH, we get better treatment spending the same amount on transport costs.'*

Moreover, some SSK patients shared their experience of referral to the DH while seeking care with the SSK card. For this reason, a few of them preferred not to waste time and money going to the UHC and thus went to the DH. Therefore, these people could not use the SSK card, as they were not referred by the SSK UHCs.

Unwelcoming Attitude of Hospital Staff/Healthcare Providers at SSK Facilities

Some of the respondents stated that they had visited UHC with their SSK card but could not get care. They also felt ignored due to the unwelcoming attitude of the staff and service providers; either they did not listen to them well and give them adequate answers to their questions or they exhibited negligent behaviour. Regarding providers' unwelcoming attitude, one respondent stated:

'*আমি রাত দশটার সময় অনেক পেট ব্যাথা নিয়ে উপজেলা হাসপাতালে গেছি। কার্ড দেখে ডাক্তার বলেন, এই কার্ডে ভর্তি করা যাবেনা। কিন্তু কেন করা যাবেনা, সে বিষয়ে কিছু বলেননি, তার উপর আবার একজন সহকারি হেয়ালি করে বলেছেন, "সরকার তো কাজ পায় নাই, বাড়ি বাড়ি ঘুরে একটা কার্ড করে দিয়েছে, এখন সবাই এই কার্ড নিয়ে হাসপাতালে আসে"।*

'*I went to the upazila hospital at around ten o'clock that night with severe stomach pain. The doctor saw the card and said it was not possible for me to be admitted, but he did not explain why I would not be admitted. Instead, an assistant of the doctor in the emergency room said [in a negative tone], "the government has unnecessarily given out cards in the community, now people come to the hospital with the card*"'.

Some of the respondents were dissatisfied with the behaviour of the healthcare providers at the UHC while seeking care with the SSK card. One FGD participant shared a bitter experience during her visit to the UHC. When she visited UHC with bodily swelling, the doctor checked her condition and suggested performing a test at an external diagnostic centre at her own expense, but she argued that she had an SSK card and was supposed to receive free services. At that time the doctor did not respond, but his assistant said:

'*কার্ড থাকলে কি হবে? বাড়ি গিয়ে কার্ড ধুয়ে ধুয়ে পানি খান*'' (*In a negative sense),*

'Do you have an SSK card? Now go home, wash it and drink that water.'

The respondent said that after this experience, she never visited the UHC with the SSK card again.

Some of the cardholders said they did not understand why treatment for their diseases was not covered by the SSK card. They were not informed of the reasons for this at the UHC. Many of them became frustrated and did not seek care using the SSK card a second time. Regarding this issue, one respondent stated that she was suffering from stomach pain. She expected to receive treatment and requested the doctors at the UHC to provide free services with the card. However, the doctors stated that treatment was unavailable for her disease. After being refused, the respondent tore up the card. She said:

'*আমার পেটের মধ্যে গুটি হয়েছিলো, আমি উপজেলা হাসপাতালে গিয়েছিলাম। সেখান থেকে ডাক্তার বলে যে, এটার কোনো চিকিৎসা নাই। চিকিৎসা না পেয়ে রাগ করে বললাম, এই কার্ড দিয়ে তাহলে কি করবো, তারপর কার্ড ছিঁড়ে ফেলে দেই*'।

'*I went to the [UHC] hospital when I was suffering from pain because of stones in the stomach [gallbladder/kidney]. They [doctors] informed me they had no treatment for that. I was angry about not getting treatment with my SSK card. I tore up the card, which had no use*'.

Inconvenience Regarding the Non-Fulfilment of Inpatient Treatment Criteria

As respondents did not receive an adequate explanation regarding the use of the SSK card, they sought care for disease conditions that did not fall under the 78 SSK-listed disease categories. Some of the health managers stated that the treatment protocol did not always fulfil the requirements and it was difficult to make patients understand. One respondent said:

'আমার স্ত্রীর ক্যান্সার হয়েছিল, অনেক চিকিৎসা করিয়েছি কিন্তু বাঁচে নাই। কার্ড নিয়েও গিয়েছিলাম কিন্তু কার্ডে চিকিৎসা দেয় নাই। পরে আমার প্রস্রাবের সমস্যা (ইনফেকশন) হয়েছিল, আমি আর যাই নাই। চিন্তা করলাম, আমার স্ত্রীর এত বড় রোগ হলো কিন্তু চিকিৎসা পেলাম না, আর আমার এই প্রস্রাবের সমস্যায় কি চিকিৎসা হবে।'

'My wife died of cancer; I went to the hospital with the card, but they did not provide treatment to her. Afterwards, I was suffering from a [urinary tract] infection; I did not go to the hospital with the card. I thought that my wife did not get treatment for a major illness, so they might not provide me with treatment for the minor illness'.

Some of the respondents visited UHC for waist/back pain but were informed by the UHC that treatment for waist pain was not available. Some of the respondents visited for cataract treatment but did not receive this treatment because specialist consultants for this treatment were not available at the UHC. In fact, many people did not receive eye treatment from the DH when they were referred, as the eye surgeon was only working in the DH for a few hours on specific days. Regarding eye treatment, one respondent said:

> *'একবার অসুস্থ হয়েছিলাম, মাথা ব্যথা, চোখের সমস্যা। কার্ড নিয়ে হাসপাতালের জরুরী বিভাগে জমা দিলাম। সেখান থেকে কার্ড দেখে বলল, এখানে কোন ডাক্তার নাই, চিকিৎসা নাই। আপনি লোকাল ডাক্তার দেখান। এই কথা বলে কার্ড ফেরতদিয়ে দিলো, পরে ফিরে চলে আসি'।*
>
> *'I suffered from a severe illness with headache and eye problems. I went to the hospital with the card; I submitted it to the emergency department. They saw the card and informed me that they had no doctor, no treatment. They suggested that I visit the local private doctor. Then I returned from the hospital'.*

Unavailability of 24/7 SSK Booth Services (Nights and Weekends)

In our study, respondents shared that the SSK booth services were not available at the UHCs at night and on weekends. For this reason, patients sometimes had to pursue general admission when they visited at night or had to wait all night to access SSK services, which was not possible for emergency patients. Likewise, SSK booths were closed on the weekends. Regarding the unavailability of 24/7 booth services, one UH&FPO said:

> *'শুক্রবারেও আমার হাসপাতাল খোলা। রোগী ভর্তি হচ্ছে, ২৪ ঘন্টাই ভর্তি হচ্ছে কিন্তু এসএসকে রোগীদের ক্ষেত্রে ছুটির দিনে ভর্তি করা একটু সমস্যা হচ্ছে। কারণ এসএসকে বুথে শুক্রবারে ও ছুটির দিনগুলোতে বুথ এসিস্টেন্টরা থাকেনা। তারা ফোন করলে আসে বা পরের দিন ভর্তি করায়। একটু জটিলতা হচ্ছে মেইনলি তাদের লোকবলের কারণে।'*
>
> *'Even on Friday, my hospital is open, patients are admitted 24 hours per day. But it is difficult to admit the SSK patients on Fridays and other holidays as the SSK booth remains closed on those days. The booth assistants attend either on-call or admit the SSK patients on the following day. This is due to lack of staff to attend the SSK booth."*

Interruption of Healthcare Services

Healthcare services were interrupted for a number of different reasons, as follows:

<u>Lack of healthcare providers (consultants) for inpatient care:</u> Due to a lack of consultants in different disciplines, it was difficult to provide services to the SSK patients, some service providers noted that they had to refer patients to the district hospital directly, as they had no surgery consultants available.

<u>Non-functional equipment:</u> In our study, we found that some SSK cardholders did not receive care from UHCs because the equipment was non-functional. Regarding this issue, some respondents stated that they had spent money – 150–200 BDT, or around 2 to 3 USD – to reach UHCs, but were not provided services and eventually had to access services privately. Concerning the non-functional equipment at the SSK facility, one respondent explained:

> *'বাচ্চার শ্বাসকষ্টের সমস্যা ছিল। প্রাইভেটে গ্যাস (নেবুলাইজেশন) দিলে ৪/ ৫ শ টাকা খরচ হয়, গরীব মানুষ আমি, টাকা পাই কোথায়? কার্ড নিয়ে হাসপাতালে গেলাম, ঐখানে যদি আমাকে গ্যাসটাও দিয়ে দিতো, তাহলেও উপকার হতো। কিন্তু গ্যাসটাও দিলো না। আমাকে বললো বাইরে থেকে নিয়ে গ্যাস দাও। আমাদের হাসপাতালের গ্যাস মেশিন নষ্ট।'*
>
> '*My children have breathing difficulties. For that reason, I take my child to a private hospital every time for nebulisation. It costs around four to five hundred taka; where will I*

get that money, being a poor person? I went to the hospital with my SSK card and I expected that they would provide nebulisation to my child, but they didn't. They said, "*Get the nebulisation for your child from another hospital, our machine is not working*"'.

Reasons for Not Using SSK Services: Demand-Side Factors

Lack of Trust in Free Services from Public Facilities (Viewing SSK as Having a Political Agenda)

Some SSK cardholders mentioned that they had a lack of trust in free government services, which was one of their reasons for not seeking SSK services. As some people went to the UHC with the SSK card but did not receive care, they subsequently had to seek outpatient care and buy medicine/undergo diagnostics at their own expense. They perceived that they were poor and powerless; therefore, they would not receive free services without having a connection with political personnel. Regarding the lack of trust in free services, one respondent said:

'*আমার মেয়ের খুব পেটে ব্যথা ছিল, কিন্তু সরকারী হাসপাতালে গেলে একজন বড় মানুষ (প্রভাবশালী) হওয়া লাগে, বুঝেছেন? বড় মানুষ ছাড়া কোন কাজ হয়না আরকি।*'

'*My daughter had a severe stomach-ache, but without being powerful [occupying a politically powerful position/having power over resources], it is not possible to get care in a government hospital. Do you understand?*'

Fear of Wage Loss, Lack of Helping Hands in the Household as a Barrier to Seeking Inpatient Care

Fear of wage loss was one of the mentioned reasons that discouraged some SSK cardholders from seeking inpatient care. Many of the BPL households who received SSK cards are day labourers. Some of these cardholders did not seek inpatient care because of their fear that if they were referred to the Tangail District Hospital, they would lose their daily wage. Thus, they would be unable to buy food for their family and pay the instalments on loans they received from NGOs. Regarding potential wage loss if admitted to facilities, one beneficiary said:

'দৈনিক আয় করে আমাদের খাওয়ার টাকা জোগাড় করতে হয়, আবার লোনের টাকা পরিশোধ করতে হয় প্রতি সপ্তাহে। যদি ভর্তি হয়ে টাঙ্গাইল থাকি, আমাদের কাজের ক্ষতি হবেনা? দুইজনেরই (স্বামী-স্ত্রী) কাজের ক্ষতি হবে।'

'We need to earn our bread and butter daily, and we need to pay an instalment of debt [from a loan taken from an NGO] every week. If we are admitted to Tangail District Hospital, we will not be able to work, will we? We both [husband and wife] will lose our wage'.

Some of the respondents mentioned that they had no support at their home to take care of their small children and the poultry and livestock they raised at home. This was a barrier to accessing inpatient care.

Fear of Referral to District Hospitals (Added Expenditure)

Some SSK cardholders were discouraged from receiving inpatient care considering their health conditions that might require admission. They observed that some people were taking inpatient care only for medicine while their health condition was good.

Some of the respondents perceived that if their health conditions were not especially severe, inpatient admission would not only be unnecessary but also result in additional costs (paying for food). It should be mentioned here that SSK had no dietary budget included for the patients. A patient who did not get a bed (SSK or non-SSK) was not provided food in the SSK facilities. Thus, food costs could be a burden for them. Regarding food costs at the hospital, one respondent said:

'আমি শুনছি যে, কার্ড নিয়ে গেলে, খাবার কিনে খেতে হবে। একটা রুটি কিনতে গেলেও মনে করেন পায়ত্রিশ চল্লিশ টাকা যায়। রুটি খেয়ে তো ভাতের খিদে মরেনা। যদি গাড়ি ভাড়া করে যেতে হয়, ভাত কিনতে হয়, তাহলে টাকা খরচ হয়। এই জন্য ভর্তি থাকাটা সমস্যা হয়।'

'I heard that if we get admission with an SSK card, we have to buy food on our own. If we purchase bread, it costs 35-40 takas, but bread can't satisfy the appetite like rice do. Transport and buying rice is costly, which is a problem for us'.

Not Taking the SSK Card Seriously/Forgetting to Bring the SSK Card While Seeking Care

Some people in the community did not take the SSK card seriously, as the benefits of the card had not been well explained to them. They also mentioned that they were feeling tense and in a hurry when someone in their family suddenly fell ill, as they had forgotten to bring the SSK card to the service point and thus did not receive the benefit. Among these respondents, a few cardholders brought the SSK card to the facility a few hours or a day later, but others could not do so as their home was far away from the hospital.

Long Distance to SSK Facility/Lack of Travel Cost Reimbursement

Some respondents also felt discouraged from going to the SSK healthcare facility while paying their own transportation costs, particularly when the facility was far away from their homes. According to these respondents, if they went to the UHC, they would need to spend 40–50 taka, which was considered to be a waste of money in the case that they did not receive care using the SSK card. People in the community considered buying medicine themselves rather than going to the UHC. In connection to this, one respondent said:

"ছোট রোগ নিয়ে তো উপজেলাতে যাওয়াই হয়না, কারণ মধুপুর এখান থেকে অনেকে দূরে। একজন লোক যদি যায় তাইলে সারাদিন লাগবে এবং রাস্তা ভাড়া দিতে আর দুপুরের খাওয়া খেতে দুইশ থেকে আড়াইশ টাকা খরচ হয়"।

'We usually do not go to UHC for minor problems because Madhupur is far away from our home. A person needs to take a whole day and to pay 200–250 taka for transport costs and food'.

Negative Feedback from Neighbours/Relatives on SSK Services

One of the reported reasons for not accessing care using SSK was negative feedback from neighbours and relatives about healthcare from the UHC using the SSK card. Some people sought care at the UHCs and were dissatisfied with the SSK services for various reasons: for example, not receiving specific services and therefore opting for external services, needing to go to different rooms (i.e. to the doctor and to the SSK booth for registration), and being referred to the Tangail DH directly. These reasons demotivated other people from accessing SSK services using the card. Regarding negative feedback about SSK, one cardholder said:

'আমি কার্ড নিয়ে হাসপাতালে যাই নাই কারণ আমাদের এলাকার অনেকে কার্ড নিয়ে গিয়েছিল কিন্তু চিকিৎসা পায় নাই। আমার মামা শ্বশুর অনেক গরীব, সেও কার্ড নিয়ে গিয়েছিল কিন্তু চিকিৎসা পায় নাই। আমি আমার অসুখের কথা আমার মামা শ্বশুরকে বললাম, সে শুনে বললো 'তোমার যে রোগ এইটা ওরা দেখবেই না, ভর্তিও নিবেনা। এইটা শুনে আমি আর যাই নাই।'

'I did not go to the hospital with the SSK card because many people in my community did not receive care. My uncle-in-law is very poor, and he also did not get care using the card. When I shared my problem with him, he said, "they will not provide treatment for your disease". Hearing that, I did not go to the hospital'.

Non-BPL Households Feeling Ashamed of Using Free Services

As SSK services are designed for the poor (BPL) population, some non-BPL households felt ashamed of accessing free services using the SSK card. According to information acquired

by the scheme operator's staff, some people who were not BPL received the card as a favour from local elected leaders; members of these households usually did not visit the UHCs. Regarding this issue, one scheme operator staff member said:

'কিছু মানুষ লজ্জায় চিকিৎসা নিতে আসেনা। কিভাবে ফ্রি চিকিৎসা নিবে, তারা তো বিপিএলে পরেইনা। চেয়ারম্যানের কথায় তারা কার্ড পেয়েছিল ।

'S*ome people feel shy about seeking free treatment using the SSK card as they are not BPL. They only received the card because the local elected chairman recommended it for them'*.

Issues with SSK Patient Referral Process

A systematic referral linkage to the Tangail district hospital (DH) is present in the current SSK scheme. Patients can only be referred from SSK UHCs to the DH with any of the 78 listed SSK diseases/illnesses, and can only be referred for inpatient services after first visiting the UHC. However, referral decisions are based solely on the opinions of medical professionals (MO, RMO, junior consultants) at the UHCs. In our study, we found that a good number of patients were referred to the District Hospital (DH) from the three SSK UHCs every month. According to key informants at the DH, about 120 patients each month are referred to Tangail DH from the three SSK UHCs; of these, around 60% were from one UHC, namely Madhupur (we discuss later in this document why the referral rate from Madhupur is so high). The informants also mentioned that more female patients were referred from Madhupur UHC than male.

In our study, we identified two key types of referral made from the SSK UHCs:

Inpatient Referral

Some inpatients who had already been admitted to the UHCs needed to be referred to the DH for further management due to the unavailability of specialised patient management at the UHCs. As per the UHC healthcare providers, when the condition of some patients did not improve after two to three days of admission, they were referred to the DH for specialised care. The providers also mentioned that each inpatient was referred to DH to maintain a referral chain, as per the SSK protocol. In the SSK referral process, when an inpatient was suggested for referral, he/she was sent to the SSK booth along with all of their files, including treatment documents/records. According to the information provided by the scheme operator staff, two referral slips are prepared for each patient when he/she is referred to the DH: one copy with the patient's record file is kept at the SSK booth for preparing the claim document, and the other copy of the referral slip is provided to the patient, which includes all the details about the treatment he/she received from UHC.

Emergency/Direct Referral

According to our findings, some patients were directly referred from the SSK booth to the DH. Under this process, a patient first goes to the SSK booth at the UHC. They receive a token from the booth and visit the doctor. If the doctor finds after an assessment that it will not be possible to treat the patient at the UHC, the doctor sends the patient back to the booth with a referral slip, after which the patient is referred to the DH. These patients do not receive any kind of care or medicine from the UHC during direct referral.

Reasons for Emergency/Direct Referral

In our study, we explored the reasons for direct referral from UHCs. One major reason for the high level of emergency/direct referral was the unavailability of healthcare service providers or the lack of required healthcare services at the UHCs. Respondents noted that there was a lack of medical

officers and consultants in different disciplines (detailed discussed in the section on "Shortages of Doctors/Consultants and Related Challenges in SSK Facilities). For this reason, many patients who sought care with their SSK card were unable to be admitted to the UHCs. For example, most of the patients who needed surgery or minor operations were referred to the DH due to either an absence or vacancy of a surgery consultant or anaesthesiologist. Regarding the unavailability of healthcare service providers at UHCs, one respondent said:

> '*ডেলিভারি রোগী যারা আসেন (সম্ভাব্য সি-সেকশন ডেলিভারির রোগী) তাদের যদি অপারেশনের দরকার হয়, তাদেরকে অবশ্যই রেফার করতে হবে কারণ আমাদের এনেস্থিসিওলজিস্ট নেই। নরমাল ডেলিভারি হলে আমরাই উপজেলা হাসপাতালে ম্যানেজ করতে পারি।*'
>
> *'We have no anaesthesiologist, so we have to refer delivery patients who need a C-section. We can manage only normal delivery here [in the UHC]'.*

Some people in the community mentioned that most of them had been referred for conditions such as heart diseases, stroke, hypertension, C-section, uterine infection, convulsions, urinary tract infection, gallstones, and hernia.

Other technical reasons for direct referral included the unavailability of a blood bank and non-functional equipment at the SSK facilities. In this regard, a gynaecologist holding the post of junior consultant at a UHC stated the following:

> '*টেকনিক্যাল অনেক যন্ত্রপাতির ত্রুটি থাকা এবং সময় মত রক্তের ব্যবস্থা না করতে পারার মত সমস্যার কারণে অনেক সময় রোগী সদর হাসপাতালে রেফার করা হয়। গাইনোকোলজিকাল অপারেশনগুলার জন্য আসলে যে টেকনিক্যাল সাপোর্টগুলো দরকার, সেগুলো উপজেলা লেভেলে রেগুলার থাকে না*'
>
> '*Because of faulty machinery and the lack of a blood management system for emergency patients, we need to refer patients to the DH. The UHCs have no adequate readiness for gynaecological operation support'.*

High Level of Referral from Madhupur UHC and Underlying Reasons

According to the information, there were several reasons for the high level of referral from Madhupur, including the following:

Lack of Consultants

One of the most commonly mentioned reasons for the high referral level was the lack of consultants at Madhupur UHC; in particular, a lack of surgery consultants over several years represented a major barrier to treating pregnant patients who needed C-sections, along with other surgery patients (for example, appendicitis). Moreover, due to a lack of orthopaedic consultants, some injured patients (e.g. those injured in road accidents) were referred to the DH. Regarding the high level of referral from Madhupur, one health manager said:

> *'এসএসকে প্রজেক্ট আরম্ভ হওয়ার সময় (প্রায় চার বছর) থেকেই আমি মধুপুর ছিলাম। পুরো সময়টায় নির্দিষ্ট ডিসিপ্লিনে কনসালটেন্ট এর অভাব ছিল। যে কারণে আমাদের অনেক রোগী বিশেষ করে সি-সেকশন, আর- টি- আই (রোড এক্সিডেন্ট), কিংবা অন্যান্য সার্জারির রোগীগুলোও রেফার করতে হয়েছে'।*
>
> *'I have been [for 4 years] at Madhupur since SSK started. There was a lack of consultants for all of that time. For that reason, many patients of C-sections, RTI [road accidents], and other patients who needed surgery were referred to the district hospital'.*

Pressure from Local Influential People

The data shows that some of the people who received SSK cards did not meet BPL criteria, but were given a card because local influential people recommended them. These people came to the UHC and often created pressure on the doctors to provide treatment under SSK, even when their disease or condition was not covered under the SSK scheme. In this situation, UHC doctors were

compelled to use disease codes that fell under the SSK scheme to treat these patients. More often than not, these patients were referred to the DH to avoid further hassle with them:

> *'কিছু মানুষকে ডি-সোল্ডারিং করার জন্যও রেফার করা হয়েছে। যেমন, অনেক স্থানীয় মানুষ চেয়ারম্যানের সহায়তায় কার্ড পেয়েছে কিন্তু তারা বিপিএল এর মধ্যে পরেনা। এরা কার্ড নিয়ে হাসপাতালে আসে, ডাক্তারদের ধমকি-ধামকি দেয়, তখন কার্ডের আওতায় রোগ না থাকলেও অন্য একটা কোডে ফেলে এদেরকে রেফার করে দেওয়া হয়'।*

> *'Sometimes patients were referred to meet unwarranted demands for service by local influential people. Many non-BPL people received [SSK] cards with the help of local elected leaders. When these people visited the facility with their healthcare card, sometimes if their disease or condition did not match with any of the diseases on the SSK list, they still put undue pressure on the doctors to receive services. To deal with this situation, we had to refer those patients by assigning a different disease code from the SSK disease list'.*

Treatment Protocol Did Not Fulfil Local People's Requirements

Respondents also mentioned that, in the context of inhabitants of Madhupur, where pineapple growing is one of the major income sources for local people, many patients came to the UHC with inhalation of poison (acute inhalation injury/AII) after working at the pineapple garden. These patients could not be treated under SSK because this condition is not covered in the treatment protocol.

Transportation Issues During the Referral of SSK Patients

The referred patients were supposed to receive free ambulance services (either government or private ambulance) from the SSK.

Some of the patients reported that they were provided with a government ambulance during referral. However, irregularities were noticed regarding the ambulance services. For example, each UHC had only one ambulance; for that reason, sometimes more than one patient was transferred in one vehicle. Moreover, some respondents stated that government ambulance drivers forced them to tip; according to these respondents, '*Forced tips were a regular practice by the drivers.*' If any patient was unable to provide tips, the government ambulance refused to carry them. Regarding forced tips for drivers, one of the SSK-referred patients said:

> *'হাসপাতালের এ্যাম্বুলেন্স দিয়ে পাঠালেও আমাদের খরচ করতে হয়। উপজেলা হাসপাতালের যে লোক (এসএসকে বুথের অপারেটর) কাগজটা দিয়েছিল, সে পরামর্শ দিয়েছিল যেন কাউকে এক টাকাও না দেই। কিন্তু টাকা ছাড়া এ্যাম্বুলেন্সেই উঠায়না, এরপর দুইশ টাকা দিলাম, তখন আমাদের টাঙ্গাইল হাসপাতালে নামিয়ে দিয়ে আসলো। এ বিষয়টি আমি আর উপজেলা হাসপাতালের কাউকে জানাইনি'।*

> *'We need to spend money even when we are provided with the hospital's ambulance. The person [booth staff member] who provided us with the slip suggested that we not give money to the driver. But we were not allowed to get in the ambulance without money. I gave him 200 taka, and then he took us to Tangail DH. I did not inform anyone at the UHC about this matter.'*

Moreover, government ambulances were not always available for SSK patients. When one general (other than SSK) patient and an SSK patient both needed referral on an emergency basis and were sent to the DH at the same time, the providers suggested that the SSK patient go in a private ambulance. Under the current SSK referral system, private ambulances were supposed to be arranged at project cost, but this was not always done. Therefore, patients sometimes had to arrange an ambulance at their own expense, and there was no mechanism of reimbursement for this cost. Regarding patients' OOPE for visiting a referral facility, one respondent said:

‘ওনারা (নার্স) বলেছেন যে, আজকেই এ্যাম্বুলেন্স নিয়া টাঙ্গাইল যান। কিন্তু তখন আমার টাকার সমস্যা ছিলো, দুইশ টাকা চাইলো, আমার কাছে ঐ সময় দুইশ টাকা ছিলনা। আমরা বাড়িতে চলে আসছি, এরপর গাছ বিক্রি করে, ভাড়ার টাকা জোগাড় করে কয়েকদিন পরে সিএনজি নিয়ে হাসপাতালে গেছি’।

‘They [nurses] suggested that we go to the DH by today. I had no money at that time when they asked for 200 takas. I went back to my home; sold a tree and managed money for CNG fair and went to the DH’.

Irregularities were also noticed in claiming reimbursements. For example, multiple bills were generated for a single trip to DH when the ambulance carried more than one patient, and fabricated bills for patients who did not use an ambulance were also found.

Lack of Readiness of the Referral Hospital (Tangail DH)

The referral hospital was not sufficiently ready to provide healthcare services to the SSK patients. According to the information of health facility managers, the District Hospital (DH) had no Intensive Care Unit (ICU) services for its patients; if any patients required ICU support, they had to be referred to Mymensingh or Dhaka Medical College Hospital. Regarding the unavailability of ICU support in the SSK referral hospital, one health manager said:

‘রেফারেল হাসপাতালে (টাঙ্গাইল) তো অনেক সিরিয়াস রোগী পাঠানো যায়না, ওখানে আইসিইউ সাপোর্ট নাই। একটা রোগীর আইসিইউ লাগলে তাকে হয় ময়মনসিংহ অথবা ঢাকা পাঠাতে হয়। আমার মনে হয়, রেফারেলের জন্য শুধু টাঙ্গাইল ডিসট্রিক্ট হাসপাতাল ছাড়াও অন্য অপশন থাকা দরকার। অন্ততপক্ষে ময়মনসিংহ এবং টাঙ্গাইল দুইটা হাসপাতাল-ই রাখতে পারে ’।

‘Patients in serious condition cannot be sent to the referral hospital (Tangail) because there is no ICU support. If a patient needs ICU support, he/she needs to be referred to the Mymensingh or Dhaka Medical College Hospital. I think referral options should be more than only Tangail District Hospital. At least, it could include Mymensingh and Tangail’.

Furthermore, some service providers mentioned that the referral hospital is already overloaded with both outpatients and inpatients. Because of the SSK, the patient flow exhibited an increase. However, DH was also experiencing a shortage of specialised doctors in different disciplines; for that reason, referred patients could not always receive the required healthcare services. We found examples of patients who returned from DH without receiving healthcare services with their SSK card.

Moreover, the patients’ lack of confidence in DH was noted by the healthcare providers and scheme operator staff. They stated that patients sometimes go to a private hospital rather than the DH when referred. In connection to this, one health manager stated:

‘আমরা অনেক রোগী পাঠাই কিন্তু তারা টাঙ্গাইল হাসপাতালে যায় না। এখান থেকে রেফারেল নিয়ে পরে ময়মনসিংহ বা প্রাইভেটে চলে যায়। তারা টাঙ্গাইলের উপরে ভরসা করতে পারে না। অনেকে গেলেও চিকিৎসা না নিয়ে ফেরত আসার ব্যাপারও ঘটেছে। এই বিষয়গুলো দেখা দরকার’।

‘We refer patients to the Tangail DH, but many of them do not go there. They take a referral and go to Mymensingh Medical or private hospitals. Also, some patients returned from DH after not getting care. These issues should be looked into’.

Some SSK cardholders stated that they preferred to go to Mymensingh Medical College Hospital rather than Tangail DH when referred, even if they knew that they would not get the benefit of the SSK card at Mymensingh. People thought that they would get much better care in Mymensingh than Tangail DH. Regarding the lack of confidence in DH, one of the SSK cardholders said:

‘ময়মনসিংহ যাই। এখান থেকে ময়মনসিংহ আর টাঙ্গাইল সমান সমান দূর। তবে ময়মনসিংহ-ই বেশী যাই। রাস্তা সমান সমান-ই কিন্ত হাসপাতাল ময়মনসিংহ-এর টা বড়’।

'We go to Mymensingh. The distance to Mymensingh and Tangail is quite similar from here. But we prefer to go to Mymensingh. The distance is equal, but Mymensingh's hospital is bigger than Tangail DH'.

Medicine Supply-Related Issues for SSK Patients

The contracted pharmacies were recruited through tenders made by the hospital authority. The pharmacists were recruited in a competitive process and were required to have experience running a pharmacy for a few years in that area. The recruitment was initially made for one year, and it was mentioned in the contract paper that the duration of the contract would be extended based on performance. However, according to the health managers, favouritism played a role in the recruitment process. Some pharmacists were close to the local elected leaders and thus received the contract. Therefore, it was sometimes difficult to monitor these pharmacists or withdraw their contracts when they did not follow the rules as per the contract.

All contracted pharmacies agreed to sell medicine to SSK at a 1% discount. Moreover, the contract mentioned that all pharmacies would provide the top ten companies' medicine for SSK patients. The healthcare providers were aware of the top ten companies. For that reason, when patients were provided medicine in the ward, the nurses assessed whether or not the correct medicine was provided. In this regard, one senior nursing supervisor said:

'*ফার্মেসী থেকে ঔষধ এনে দিয়ে যায়। পরে আমরা তো আবার চেক করি। দেখে নিশ্চিত করে রাখি যে, কোন ঔষধটা লিখছিলো, কোনটা দিয়েছে। যদি আমরা মিল না পাই, ঐগুলা দেখে চেইঞ্জ করে আনি।*'

'They [pharmacists/assistants] bring medicine from the pharmacy, then we check again to confirm the groups written on the prescription. If we find any inconsistency, we change it'.

However, the listed drug company rule was not always followed by the contracted pharmacists. In relation to the supply of drugs from the listed companies, one nurse said:

প্রথমদিকে ফার্মেসিগুলো বেশি ঝামেলা করত। বিভিন্ন সময়ে তারা ভিন্ন ভিন্ন কোম্পানির ঔষধ দিয়ে দিত। এখন আর তারা সেটা পারে না কারণ নার্সরা ইউএইচএন্ডএফপিও এবং আরএমও কে জানায়, একদিন আরএমও ফার্মেসী ওয়ালাকে ডেকে এনে বলেছে, 'আপনি এই কোম্পানীর ঔষধ দিয়েছেন কেন? এইটা তো টপ টেন কোম্পানীর মধ্যে পড়েনা। এটা ফেরত নিয়ে আপনি টপ টেনের মধ্যে থেকে ঔষধ দেন'।

'*Initially, the contracted pharmacists used to create problems. They provided medicine of their own choice instead of [medicine from] the top ten companies. Now they cannot do this, because nurses complained to the UH&FPO and RMO regarding this issue. One day the RMO called up the pharmacist and said, "why did you give these medications? These are not the top ten companies' medicines. Change them and bring medicines from the top ten companies' brands*'.

According to healthcare providers, providing medicine from the top ten companies was initially problematic. Recently, this problem has been minimised through monitoring and supervision by the healthcare facility managers and meetings held with the contractors.

According to the study findings, delay in the supply of medicine for the newly admitted patients and at discharge was common, even though the pharmacy was on the premises of the UHCs. Partial supply of medicine was also common for different reasons. For example, medicine was not available at the pharmacy, the pharmacist had gone out for lunch or prayers, the refrigerator for some medicine was unavailable, and the pharmacy was usually closed at night. Due to the delay in the supply of medicine, some patients expressed dissatisfaction with the UHC. Regarding the delay in medicine supply, one beneficiary said:

‘সাথে সাথে ভর্তি করেছে কিন্তু ঔষধ দেরী করে দিয়েছে, আমি বললাম যে আমার মেয়ের অবস্থা খুবই খারাপ, তাড়াতাড়ি ঔষধ খাওয়ালে ভালো হবে কিন্তু ঔষধ দেয়না। দুপুরে ভর্তি করে রাত ১০টায় ঔষধ পেয়েছি, কেন ঔষধ আসতে দেরী হল তাতো জানিনা, আমরা শুধু অপেক্ষা করছিলাম’।

‘*They admitted [her] immediately but provided medicine late. I requested them to give medicine to my daughter because her condition was not good at all, but they did not give me medicine. My daughter was admitted at noon, but got the medicine at around 10 p.m. We didn’t know why they were so late to provide medicine, we had been waiting for the medicine’*.

Regarding the delay in medicine supply, UHC nurses sometimes had to struggle to provide medicine to SSK patients, especially when patients were in severe condition at admission. For that reason, they sometimes gave general patients’ medicine to the SSK patients and return those medicines when they received medicine from the SSK pharmacy. In connection to this, one nurse supervisor said:

‘কন্ট্রাক্টেড ফার্মেসী থেকে ঔষধের ব্যবস্থা না করা গেলেও আমরা ষোল আনা ঔষধের ব্যবস্থা করি’।

‘*We manage medicine for SSK patients when we cannot manage it from the contracted pharmacy’*.

As per SSK protocol, medicine required for more than seven days cannot be provided at discharge. These SSK patients could therefore not receive medicine without re-admission. Regarding the readmission requirement for follow-up medicine, one nurse said:

‘ফলোআপের জন্য যখন ওই ছাড়পত্র নিয়া আসবে, তখন আর আমরা ঐটা দিয়ে ঔষধ দেইনা, আবার তাকে নিউ এডমিশন নিতেই হবে ’ ।

‘We do not provide medicine during follow-up visits [even if they show a discharge certificate]; patients have to undergo new admission for medicine’.

Some SSK cardholders stated that that they could not undergo re-admission only for medicine as they had a lot of problems at home. Patients sometimes made requests of the doctors during discharge that they be provided with medicine for more than seven days, as they would have to take the medicine for a long time. However, they did not receive this additional medicine. Regarding this issue, one respondent said:

‘ডাক্তারকে বললাম, আমি বারবার আসতে পারবো না; ঘরে গরু-বাছুর আছে, সংসার করে খেতে হয়। আমাকে এক মাসের ঔষধ দিতে হবে। পরে একটা ঔষধ দিয়েছিলো সাতদিনের, একটা পাঁচ দিনের, অবশ্য টাকা নেয় নাই’

‘I told the doctor that I cannot come here often because I have work, I have livestock to take care of, please give me medicine for one month. But they provided me seven days of medicine, and they did not take money for that’.

According to our findings, some influential people managed to secure unnecessary admission for follow-up medicine. For that reason, ‘ghost admission’ had also been noticed simply for medicine supply; for example, some people were shown as inpatients on the UHC register, but in fact, no patient had been admitted.

Diagnostic Services and Related Issues for SSK Patients

SSK patients’ diagnostic services can be provided by both the SSK facility and private contracted diagnostic centres. However, at the SSK facilities, many common tests were not performed regularly due to problems with equipment, reagents and manpower. Regarding the unavailability of common tests in SSK UHCs, one senior nurse said:

'কন্ট্রাক্ট করা ডায়াগনোস্টিকে আলট্রাসনোগ্রাম, ডিজিটাল এক্সরে আর মাঝে মধ্যে আমাদের হাসপাতালে যখন রি-এজেন্ট থাকেনা, তখন ব্লাড টেস্ট বা গ্রুপিং, বা প্রসেসিং এসবের জন্য পাঠানো হয়'।

'Generally, patients are sent to contracted diagnostics centres for ultrasounds and digital X-rays. Sometimes, when we run out of reagents, we send a patient for blood group test and processing as well'.

SSK has signed an agreement with private diagnostic centres based on several criteria (such as proximity, discounted services, etc.).

Contracted diagnostics centres are ready to provide 24/7 services. However, patients typically gather during hospital service hours, until 2PM every day. Diagnostics centre managers reported that they had patient flow for tests from morning to noon; for the rest of the time, i.e. at night and on the weekends, only a few patients were sent to the diagnostics centre for testing.

Patients need to reach the designated private diagnostic centres either by walking or by paying their own transportation costs. Moreover, patients who lack a suitable attendant face major challenges in reaching and returning from diagnostic centres. Regarding the non-availability of arrangements for transferring patients to private diagnostic centres, one nurse said:

'ডায়াগনোসিস সেন্টারে যেতে রোগীর জন্য কোন ট্রলি বা গাড়ির ব্যবস্থা নেই । ডায়াগনোসিস সেন্টার উপজেলা হাসপাতাল থেকে একটু দূরে, খুব অসুস্থ রোগীর জন্য সেখানে যাওয়া কষ্টকর। এইখানে (উপজেলা হাসপাতালের ব্যবস্থায়) রিক্সা বা ভ্যান থাকলে ভালো হতো'।

'There is no transportation for the patient to go to the diagnostics centre. If an inpatient needs to go to the diagnostic centre, it is difficult for them. It would be good if the UHC could arrange a rickshaw or van for them'.

Moreover, there is no provision for the collection of samples from patients' bedsides. Sometimes patients with severe conditions find it difficult to get to the diagnostics centre. For this reason, some UHC providers also felt the need to facilitate the collection of samples from the bedside and bring the UHCs' pathology services up to date. Regarding this, one senior nurse said:

'*সমস্যা, কারণ রোগীদের দূরে পাঠাতে হচ্ছে। অনেকে ঠিকমতো হাটতে চলতে পারেনা। যদি হাসপাতালের ভেতরে হত, তাহলে আমরা সহজে টেস্ট করিয়ে নিয়ে আসতে পারতাম'* ।

'*It is a problem that I need to send an inpatient away [out of the hospital]. Some of them cannot even walk properly due to their sickness. It would be better if we could arrange their tests inside the hospital'.*

Despite the above challenges, most of the providers at UHCs reported that diagnostic centres conducted all required tests and provided reports on time.

Shortages of Doctors/Consultants and Related Challenges in SSK Facilities

At the initial stage of the SSK, there were very low numbers of medical officers providing services at SSK facilities. Therefore, UHCs faced difficulties in supplying quality care to patients. Patient flow increased over time due to the introduction of the SSK. Moreover, doctors were required to provide services for both general and SSK inpatients. When any medical officer went on leave or was absent for any other reason, it became more difficult to run the UHCs with the minimum number of service providers. Regarding the lack of service providers at UHCs, one UH&FPO said:

‘মেডিকেল অফিসার যারা আছেন তারা সার্ভিস দিচ্ছেন। জেনারেল পেশেন্ট-এর পাশপাশি তাদেরকে এসএসকের পেশেন্টও দেখতে হচ্ছে। এসএসকের বাড়তি কাজগুলো এই জনবল দিয়ে আসলে সম্ভব নয়। বিষয়টা আমরা বারবার উর্ধ্বতন কর্তৃপক্ষকে জানিয়েছি। কিন্তু কোন সমাধান হয়নি’।

‘The medical officers need to take care of the SSK patients in addition to the general [non-SSK] patients. With the existing workforce, it is not possible to handle the additional workload of SSK patients. We have communicated this to the higher authority many times but there has been no result’.

In SSK facilities, recently, vacant medical officer posts have been filled through the recruitment of new medical doctors by the government. However, the unavailability of consultants (80% of posts are vacant) has remained a challenge for inpatient care. Both surgical and non-surgical services need to be provided to inpatients. Due to the lack of consultants, however, the provision of surgery-related services is difficult, and most surgery-related patients are referred to the district hospital due to consultant unavailability. Regarding the unavailability of consultants, one health manager said:

‘কনস্যালট্যান্ট পোস্ট গুলোর মধ্যে ম্যাক্সিমামই ফাঁকা থাকে। যদি গাইনী থাকে তো এ্যানেস্থেসিওলজিস্ট থাকেনা। যে কারণে গাইনী এবং সার্জারি সেবাগুলো দেয়া যাচ্ছেনা। এটা একটা বিশাল চ্যালেঞ্জ ’।

‘A majority of consultant’s posts are vacant in the UHCs. If we have a gynaecologist, then an anaesthesiologist’s post is vacant. For this reason, we cannot provide gynaecological and surgery services. This is a significant challenge’.

One UH&FPO mentioned that, for certain common surgeries such as hysterectomies and appendectomies, local people usually go to private hospitals and spend their own money. If consultants were available at the UHC, then the UHC could provide this service; thus, poor people would benefit.

Health facility managers also mentioned that, due to the lack of doctors (medical officers and consultants) in the UHC, it is difficult to provide 24/7 emergency services. To solve this problem, it is necessary to recruit adequate medical officers and consultants.

From the findings, we observed a lack of effective coordination between the HEU and the DGHS and Hospital Service Department at the MoHFW, which emerged as a major barrier in ensuring the availability of medical officers and consultants in the SSK facilities. The HEU accordingly tried to solve the HR problem; however, the HEU is not authorised to recruit medical officers or consultants. Thus, the lack of service providers remained a major barrier for SSK service provision and utilisation. Regarding this lack of effective coordination, one key informant stated:

‘এসএসকে প্রোগ্রামের কনসেপ্ট-এর একটা বড় চ্যালেঞ্জ ছিল হিউম্যান রিসোর্স এর বিষয়টি। আমরা সেরকমই জানতাম যে, ডিজিএইচএস থেকে ফ্যাসিলিটিতে ভ্যাকেন্ট পোস্টগুলো ফিলআপ করা হবে। ফ্যাসিলিটি রেডিনেস-এ আমাদের বড় দুইটা চ্যালেঞ্জ এরিয়া আছে। একটা হলো ইকুইপমেন্ট ম্যানেজমেন্ট -যেটাতে আমরা অতোটা চ্যালেঞ্জ -এর সম্মুখীন হই নাই। কিন্ত আরেকটা হলো হিউম্যান রিসোর্স শর্টেজ - যেটা আমরা বেশী ফেইস করেছি ’।

‘One of the major challenges of the SSK programme was ensuring the availability of the required manpower in the health facilities. We expected that the vacant posts at the SSK facilities would be filled through the initiative of the DGHS. To ensure facility readiness, there were two major tasks. One task was ensuring functional equipment, for which we did not face a major challenge. The other task was to overcome the problem of a human resources shortage, with which we are still struggling’.

Additional Workload for Doctors, Nurses and Managers Handling SSK Patients

SSK was introduced along with the available general services; thus, management of the SSK patients imposed a substantial additional workload on doctors, nurses, and health managers. Doctors were giving treatment to the SSK patients in addition to the general patients. They were required to provide counselling during admission to the SSK patients even when their disease condition was not covered under the protocol. Moreover, they were performing some additional tasks by providing approvals for medicines and diagnostics for SSK patients and checking claim documents.

Moreover, for general patients, nurses do not need to maintain separate registers; however, each SSK patient's information needs to be documented in four to five different registers (for example, registration, treatment, medicine, diagnostic, and referral information must be documented separately, which is very time-consuming). Nurses in SSK facilities perceived that they could manage 10–12 general patients in the time they spent on an SSK patient. Regarding this additional workload, one nursing supervisor stated:

> *'আমার জেনারেল রোগী আসলে এতগুলো খাতা হ্যান্ডেল করতে হয়না। কারণ ডাক্তারের প্রেসক্রিপশন অনুযায়ী তারা চিকিৎসা পায়, অন্য কোন খাতায় লেখালেখির আর দরকার হয়না। এইজন্য আমাদের জেনারেল রোগী আর এসএসকে রোগীর অনেক পার্থক্য। একটা এসএসকে রোগী আসলে তার জন্য অনেক সময় লাগে, কারণ অনেকগুলি রেজিস্টার খাতায় তাদের চিকিৎসা ব্যবস্থা লিখতে হয়'।*
>
> *'For the general [non-SSK] patients, we do not need to handle so many registers, whereas, for an SSK patient, we need to spend a substantial amount of time, as their treatment management process requires detailed documentation'.*

Another hassle faced by these nursing staff concerns getting approval from doctors on different documents for SSK patients. While doctors remain busy, nurses need to go back and forth to the doctor several times to get their signature, which interrupts their regular activities. For this reason, nurses sometimes collect signatures for several SSK patients at once to avoid the hassle of going to see the doctor several times. Thus, some patients, particularly those who are admitted or discharged earlier, are required to wait for a long time. Sometimes doctors continue to be busy and only provide signatures after finishing all of their work, which delays the process of starting treatment for the SSK patients. Sometimes securing approval from specific doctors rather than seeing duty doctors on a designated ward also presented difficulty for the nurses. Regarding the hassle of requiring sign-off from doctors, one nurse said:

> *'আমি একদিন নাইট ডিউটি করছি। সে কোথাও সই করবেনা (এক ইউনিটের ডাক্তার আরেক ইউনিটে)। ইমার্জেন্সিতে দুইবার পাঠিয়েছি, সেখানেও তারা সই করবে না। সেই রাতে রোগীকে আমি ঔষধ-ই দিতে পারিনি'।*
>
> *'I was on duty that night. I needed a doctor's signature for a patient, but he [the doctor of another unit] would not initial the SSK patient's medicine slip. Then I went to another doctor in the emergency room, but they also refused. Thus, I could not provide medicine to the patient that night'.*

In this regard, one of the nurses stated that to avoid the delay in providing medicine caused by waiting for a doctor's signature, they (nurses) could use the seal of the Residential Medical Officer (RMO) during his absence. The RMO permitted the nurses to use his seal and sign on his behalf in cases where patients with severe conditions are admitted to the UHC.

Data shows that this need to manage extra registers and take doctors' signatures imposed additional workload on the nurses, which sometimes demotivated them. Moreover, it had a negative impact on the quality of care, causing a delay in patient management as well as patient dissatisfaction. Regarding the quality of care, one nursing supervisor said:

'এই যে নার্সদের এতগুলো খাতা (এসএসকে রেজিস্টার) লিখতে হয়, এর জন্য রোগীর ঔষধ আনতে দেরী হয়। ঔষধ আনার পরে সেগুলো চেক করে রেজিস্টার খাতা মেইনটেইন করতে হয়। যে কারণে রোগীরা সেবা পায় দেরীতে'।

'SSK patients get medicine late because nurses need to handle different registers for them and check that the medicine is as per prescription. This is also the reason for delays in starting treatment of the SSK patients.'

The health manager also took on additional responsibilities of monitoring and supervision of SSK works, as well as handling complaints made by SSK patients.

Demand for Incentives

Most of the health managers and nurses considered SSK to produce additional work. They had strong expectations for incentives (financial or non-financial). Regarding this issue, one senior UHC nurse stated:

'আমরা জেনারেল রোগীর জন্য যে রকম কাজ করছি, এসএসকে রোগীর জন্য আমাদের বেশি ইফোর্ট দিতে হয়, সময় দিতে হয়। সেই ব্যাপারে এসএসকে থেকে উৎসাহ জনিত কিছুই করা হয়না। প্রতি বছর যদি আমাদের কাজের রিওয়ার্ড বা অ্যাওয়ার্ড দেওয়া হত, তাহলে আমার মনে হয় এখানে সেবার মান আরও ভাল হত'।

'We need to make more effort for SSK patients than general patients. But we do not get any motivation or reward from SSK. If we received a reward for our work, it could even be yearly, I think service quality would be improved'.

According to this key informant, each SSK facility received an incentive for infrastructural development and small types of equipment. They could do this using surplus money that they could save from the claim against each disease code.

However, there is a policy barrier in place that prevents the provision of personal-level incentives: specifically, as SSK generates funds with public financing, there is a bar on using personal-level incentives.

No Referral Linkage of SSK with the Primary Healthcare System – A Design Flaw

Inpatient treatment for a set of 78 disease conditions was available in the current SSK scheme. However, most respondents mentioned that many common health problems for which SSK cardholders visit UHCs OPD could be dealt with through the primary healthcare system. They suggested that a structured referral system is necessary for SSK. The first referral point could be from union-level community clinics or union sub-centres. These respondents also said that if the referral system was established at a union level, it could reduce pressure on higher-level facilities. Regarding the need to link SSK with primary healthcare, one key informant said:

'রেফারেল সিস্টেমটা যদি আমি পুরোপুরি কার্যকর করতে না পারি তাহলে যত সেবা-ই আমি চালু করি না কেন, এটা ইফেক্টিভ হবেনা। কমিউনিটি ক্লিনিকও রেফারেল সিস্টেমে অন্তর্ভুক্ত হতে পারে। কিন্তু তার আগে তাদেরকে সক্ষমতা অর্জন করতে হবে (সেখানে রেজিস্টার ডাক্তার রাখতে হবে)। সেটা করতে সময় লাগবে। তারা এটা না অর্জন করা পর্যন্ত আমাদের উপজেলা সাব-সেন্টার থেকে রেফার হতে পারে, কারণ সেখানে ডাক্তার থাকে। সাব-সেন্টার থেকে উপজেলা স্বাস্থ্য কমপেক্স, উপজেলা স্বাস্থ্য কমপেক্স থেকে ডিসট্রিক্ট।'

'Without having a structured referral system, no service would be effective. Community clinics could be a referral point, but they have to be upgraded (appointing doctors), which needs time. Until community clinics are upgraded, upazila sub-centres could be the referral point at which doctors are available: upazila sub-centre to UHC, and UHC to DH'.

Some respondents, mostly those from the poor beneficiary groups, expressed that it was often difficult to judge whether their disease condition required hospital admission. When some of them visited UHC with the SSK card for ordinary problems, such as feeling feverish or acidity, they were offered admission, even though they did not require admission. Some people perceived that people in good health were admitted at the UHC, while some patients were admitted only to receive medicine or for ordinary health conditional. In connection with this, one respondent said:

> ‘*মনে করেন যাদের কার্ড আছে, তাদের সামান্য জ্বর হলেও ভর্তি থাকতে হয়। আমি মাঝেমাঝে কালিহাতি যাই, তখন দেখি, সুস্থ মানুষ হাসপাতালে ভর্তি হয়ে আছে*’।

> ‘*Suppose someone has low body temperature- they also need to be admitted for treatment with the card. I sometimes go to the Kalihati UHC; I observed that some people were admitted even though they were not sick*’.

Moreover, a substantial proportion of SSK cardholders who did not require hospital admission were disappointed and developed a negative impression of SSK. Most of them came from far away, paid their own transport expenses and were willing to be admitted for their disease, but instead received outpatient services.

On the other hand, providers also sometimes felt obligated to make unnecessary admissions, as they were sympathetic to relatively poor SSK cardholders. This occurred primarily when they found a poor patient had come to receive treatment and he/she was not able to buy medicine or avail themselves of private treatment. Under these circumstances, the doctor would use another nearby disease code from the listed treatment protocol to provide them with treatment.

Furthermore, repeated unnecessary admission for treatment of patients with chronic disease was also common. In some cases, unnecessary bed occupancy by SSK patients deprived non-SSK patients of required healthcare. Regarding unnecessary admission, one key informant said:

> *"সিওপিডির পেশেন্টগুলো এবং যাদের ডায়াবেটিসের সাথে অন্য সমস্যা আছে, এদের তো ৭ দিনের চিকিৎসায় ভাল করা সম্ভব না। এদের দীর্ঘমেয়েদী চিকিৎসা দরকার, কারণ সারাজীবনই তাদেরকে ঔষধ খেতে হবে। এ ধরণের রোগীরাই বারবার ভর্তি হচ্ছে, বেড অকুপাই করছে। এখন তো প্রতিদিনই প্রায় ৩৫-৪০ জনের মতো এসএসকের পেশেন্ট ভর্তি থাকে। তারা বেড অকুপাই করে রাখছে।"*

> *‘Suppose a COPD patient who has comorbidities with diabetes needs long-term treatment. It is not possible to cure them in seven days. They have to have medicine for their whole life. These types of patients are frequently getting admission and occupying beds. Now, every day, 35–40 such SSK patients remain admitted. They are occupying beds’.*

Limitation of Services Regarding 78 SSK-Listed Disease Categories

Providers faced difficulty in following the treatment protocol for several reasons. As each SSK patient was admitted under a specific disease condition, the providers faced difficulty when treating patients with comorbidities. On several occasions, they mentioned diabetes with other comorbidities such as heart disease or other acute disease conditions (acute abdomen conditions, UTI, trauma, etc.). It has been strongly suggested that the disease list be revisited to take the provision of treatment for co-morbidities in the system into account.

In relation to treating patients with comorbidities, one RMO said:

> ‘*আরেকটা সমস্যা হলো যে একটা পেশেন্ট একাধিক ডিজিজ নিয়ে আসে। যেমন ডায়াবেটিস উইথ ফুট-আলসার। এখন আইসিডি কোডে শুধু ডায়াবেটিসের জন্যে ইনসুলিন-এর বাজেট ধরা আছে, আমাকে কিন্তু ঐ বাজেটেই ডায়াবেটিসের সাথে আলসারের চিকিৎসা করাতে হচ্ছে*’।

‘*Another problem is when the patient comes with multiple diseases. For example, a diabetic with a foot ulcer, but only insulin for a diabetic patient is in the budget, but I have to treat him for a foot ulcer at the same budget’*.

Due to the unavailability of some disease conditions in the 78-disease list, providers are compelled to use a different (false) code to treat an SSK patient. Providers mentioned arthritis, peptic ulcer disease, and acute abdomen conditions in this regard. For this reason, health managers suggested re-defining the disease code considering the local context. Regarding the unavailability of a specific disease condition in the list, one key informant stated:

‘*লোকালি যে রোগগুলোর ট্রিটমেন্টের জন্য মানুষ বেশি আসে সেগুলো দেওয়া যায়না। যে কারণে এসএসকে কার্ডধারী রোগীদের সব ধরণের চিকিৎসা করতে হলে ভিন্ন কোডের মধ্যে ফেলে চিকিৎসা দিতে হয়। উদাহরণ স্বরূপ: একজন রোগী অ্যাকিউট অ্যাবডমিনাল পেইন নিয়ে আসলো, সেক্ষেত্রে তাকে কোনো কোডে ফেলা যায়না। এ ধরণের রোগীকে চিকিৎসা দেয়ার জন্য ভিন্ন কোডে ফেলে চিকিৎসা দিতে হয়*’।

‘The treatment protocol does not account for all diseases for which local people visit more frequently. For that reason, we provide treatment using different codes. For example, if any patient comes with acute abdominal pain, we cannot treat it according to the SSK-listed ICD code. So, we provide treatments with a different ICD code’.

Another health manager said:

‘*এখানে আমরা বারবার বলেছিলাম যে, আইসিডি কোডের সংখ্যা বাড়িয়ে আমাদের বাংলাদেশের প্রেক্ষাপটে কিছু ডিজিজ রাখার জন্যে, যেগুলো আমরা কমনলি পেয়ে থাকি*’।

‘We suggested increasing the number of ICD codes for diseases considering the local Bangladeshi context’.

Interdepartmental Coordination

To properly implement the SSK program, effective coordination and trust between the HEU and DGHS are essential. As DGHS is authorised to employ doctors, HEU cannot run the project without their cooperation. Regarding effective coordination with DGHS, one key informant stated:

‘এইচইইউ-এর একটা লিমিটেশন আছে যে, তারা অথোরিটির বাইরে ডাক্তার নিয়োগ দিতে পারেনা। এই সমস্যা মোকাবেলার জন্য ডিজিএইচএস-এর সাথে যথেষ্ট কো-অপারেশন এবং কো-অর্ডিনেশন প্রয়োজন। ডিজিএইচএস-এর মাধ্যমে আমরা যদি ডাক্তারদের এ্যালোকেশনটা পাই, তাইলে আর এই সমস্যাটা (ডাক্তারের স্বল্পতা) থাকবেনা’।

‘The limitation of HEU is that they cannot employ doctors. To solve this problem, cooperation and coordination are needed with DGHS. If we receive an adequate number of doctors through DGHS, we could overcome this problem’.

In addition, when it comes to filling vacant posts and increasing the retention of medical officers, there was an expectation that the SSK project would collaborate with DGHS but that didn’t happen effectively. As one key informant said:

‘এটাতো কো-অর্ডিনেশনের একটা ব্যাপার ছিলো, যে তারা (ডিজিএইচএস) এটাকে সাপোর্ট দিবে, কারণ সমস্ত হেলথ ফ্যাসিলিটিগুলি ডিজিএইচএস-এর আওতাধীন। সুতরাং এই হেলথ ফ্যাসিলিটিজ রেডিনেস কেবল ডিজিএইচএস-ই ক্রিয়েট করতে পারবে’।

‘All health facilities are under the DGHS. So, it was a matter of coordinating with DGHS for their support. Only DGHS can fulfil the facility readiness’.

Gaps in coordination between HEU and the Hospital Service Department in MoHFW were also observed when it came to filling vacant posts of consultants in SSK facilities. Respondents

mentioned that a shortage of consultants in different disciplines was also one of the major barriers to service delivery at the UHC level.

Moreover, in areas such as IT system development and data storage, there has been good coordination between HEU and DGHS. However, the HEU had concerns regarding excessive dependency on the DGHS regarding SSK data storage in the DGHS server. Regarding HEU's concerns about dependency on DGHS for SSK data storage, one key informant stated:

> *'এসএসকের একটা বড় অংশ কিন্ত আইটি সাপোর্ট যা ডিজিএইচএস থেকে আসে, যেখানে আমি সমস্ত তথ্য রেকর্ড করছি, কার্ডটা পাঞ্চ করলে সমস্ত তথ্য আসবে, কিন্তু হেলথ ইকোনমিকস ইউনিট এখনও এটার পুরা ওনারশীপটা নেয়নি। আজকে যদি ডেটাবেসটা ক্রাশ করে অথবা এই টিমটা বলে যে আমরা আর কাজ করবো না। তাহলে হেলথ ইকোনমিকস ইউনিটের এটাকে রান করানোর সেই ক্যাপাসিটি আছে? এটা হেলথ ইকোনমিকস ইউনিটের দুর্বলতা'।*
>
> *'SSK is dependent on DGHS for IT support, where all the data are stored and all the data will appear when a card is punched. However, HEU has no ownership of this database. If the database is crushed, or the IT team [of DGHS] refused to work, does HEU have the capacity to run this program? I think this is a weakness of HEU'.*

Engagement of the Third-Party Scheme Operator

Claim Management Process under the SSK Scheme

As a government-initiated health protection scheme for the BPL population, the government provides premium on behalf of BPL households for 78 disease categories, for which a total of BDT 50,000 is fixed for each of the SSK cardholder families. Since the SSK cards were given out to the BPL population, the government fixed a premium of BDT 1,000 per SSK cardholder family. The government kept this in a fund and claims are settled from that fund. The claim is made based on the number of patient discharges in a month. As a third party (selected as the scheme operator), the Green Delta Life Insurance Company Limited now has the responsibility for monthly "Claim Management".

Steps of Claim Management

The field coordinators of the scheme operator at the upazila and district hospitals are required to prepare the claims. Claims are prepared based on how many patients are discharged in one month. To make and submit a claim, a field coordinator must follow a series of steps for verification at UHC level. For example, he first collects the document and gives it to the RMO/UHNFPO to sign for verification; if they find any problems or mistakes, the field coordinator is informed, fixes these mistakes and submits it again to the Green Delta local office. From this point, the files (hard copies) are sent to the HEU in Dhaka. Once the claims are settled, the hard copies are returned to the scheme operators in the hospital. These documents are then stored by month, year and ward in the hospital's file system and the designated ward.

Steps of the Billing Process

a) Document Collection

To create the bill, the field coordinators must first collect the bill-related documents from their respective hospitals. They also collect the hospital's medicine bill, along with the diagnostic bill if a patient is referred to the referral hospital by public/private ambulance.

Medicine bill: The pharmacy keeps an itemised list of the medicine provided from the day of admission to the time of discharge and this list is submitted to the SSK booth. The medicine bill is drawn up based on this list. In relation to this, one field coordinator said:

‘রোগী ভর্তির প্রথমদিন থেকে শুরু করে ডিসচার্জ পর্যন্ত যত ঔষধ দেয়া হয়, প্রত্যেক রোগীর ঔষধের তালিকা ফার্মাসিস্টরা সংগ্রহ করে রাখে (ওয়ার্ড থেকে)। উক্ত তালিকার আলোকেই রোগীর নামে ঔষধের বিল তৈরি হয়’।

‘From the first day of admission to discharge, the patient is given an itemised copy of the medicine that has been given by the pharmacy [from the ward]. The bill for the medicine is made in the name of the patient based on the itemised list’.

Diagnostics bill: Bills for diagnostics are not submitted to the SSK booth; instead, they are submitted directly to the UH&FPO of the upazila hospital. However, once the claim document is compiled, the scheme operators collect it and put it in a file. In this regard, one field coordinator said:

‘ডায়াগনস্টিক সেবাদানকারীরা বিল তৈরি করে ভাউচার সহ প্রত্যেক মাসে হাসপাতালে ইউএইচএন্ডএফপিও স্যারের কাছে জমা দেয়। এটা আমার কাছে জমা দেয় না। এটা স্যার দেখে। স্যার হিসাবরক্ষক বা কেরানী দিয়ে ওটা চেক করায়’।

‘They make the diagnostic bill with a voucher and submit it to the UH&FPO of the hospital every month.’

Ambulance bill: The ambulance bill is also prepared at the hospital. A copy of the bill is compiled together with the claim copy. However, they also create a monitoring report on how many patients were transported via ambulance.

Compiling two hospitals’ documents for referred patients: When a patient is referred to the district hospital after being admitted to the upazila hospital for a few days, the patient is categorised as ‘blocking discharge’ according to the checklist and a copy of this is added at the end of the document. The reason for keeping this option is that even if the patient receives medical services from two hospitals, his bill is created through a claim file under the UHC. In this case, it can be seen that the medicine or diagnostic bills were sent to the upazila hospital through the booth at the district hospital. The claim was submitted by compiling two bills from the upazila hospital. When the money is sent to the UHC, the bill of the district hospital is disbursed according to the copy. In this regard, the field coordinator of the Kalihati UHC stated:

‘রোগীরা যখন রেফার হয়ে যায়, আমরা আমাদের নিয়ম অনুযায়ী ব্লকিং ডিসচার্জ করে কমপ্লিট করে রাখি। যখন বিল দেয় তখন এই কালিহাতি হাসপাতালের মেডিসিন বিল এবং রেফার হওয়ার পরে ঐখানে (জেলা হাসপাতালে) তার একটা ফাইল হয়, ঐখান থেকেও একটা বিল দেয়। কালিহাতির বিল আর টাঙ্গাইলের বিল একটা ফাইল-এ কমপ্লিট করে আমরা সেটা ক্লেইম করি’।

‘When the patients are referred, we keep them as blocking discharge as per the rules. They have a file there [at the district hospital] and prepare a bill from there as well. We complete a file with bills of both Kalihati and Tangail hospital and we claim it’.

Bill adjustments if patient’s card limit is exceeded: There is a set amount of money for each ICD code on the SSK disease list; for example, there is a set amount for ‘fever of other and unknown origin’ (ICD R50). For some patients, the full amount of money is spent on the treatment, while for others, the treatment might be less costly or exceed the set amount. In this case, if there is an additional cost for a patient, the money (residual fund) needs to be adjusted to avoid the amount being allocated to another patient. On this matter, one field coordinator said:

‘ক্লেইমের পরে বাকি টাকা ঐ উদ্বৃত্ত ফান্ড থেকে এডজাস্ট করা হয়। যদি উদ্বৃত্ত ফান্ড না থাকতো তাহলে পরবর্তী সময়ের জন্য অপেক্ষা করা লাগতো’।

‘After the claim, the rest of the money is adjusted from the residual fund. If there is no surplus, then we have to wait for the next time’.

b) Document Collection/Overcoming the Challenges Associated with the Scheme Operator's Local Staff

Field coordinators face various difficulties when filling out claim documents. First, when the reports arrive from the medical ward, they have to search to determine whether doctors' or nurses' signatures or seals are missing from those documents; if so, they need to go and get them again. If the relevant doctor or nurse is not on duty, they are required to wait. On many occasions, the people on duty lose documents. In this case, the field coordinators find out from the hospital register books what investigations were conducted and what medicines were given. They then request a new bill to be made and brought from the pharmacy as well as the diagnostic centre. In relation to this, the field coordinator of the UHC said:

> '*ওয়ার্ড থেকে আমরা ফাইলগুলা অনেক সময় কমপ্লিট পাইনা। দেখা যায় যে হয়ত কোন ডাক্তারের সীল নাই বা কোন নার্সের সীল নাই, সেক্ষেত্রে আমাদের পুনরায় ডাক্তারের সীল নিতে হয়, নার্সের সীল নিতে হয় বা কোন রিপোর্ট মিসিং হলে প্রয়োজনে আমরা প্রথমে যেয়ে খুঁজি, যদি না পাই তাহলে নতুন করে রোগী কবে পরীক্ষা করেছে, কি পরীক্ষা করেছে ঐ রেজিস্টার ধরে আবার নতুন রিপোর্ট নিয়া আসতে হয়*'।
>
> '*We often do not get the complete files from the ward. There may be no seal on the document of any doctor or any nurse; we then have to secure the doctor's seal again, or we have to take the seal of the nurse. If any report is missing, then we need to find out the details. In the case that we cannot find it, we have to look at the register and make a report according to that'*.

When it comes to re-signing a bill, nurses often do not want to cooperate, as they are busy with various activities. Under these circumstances, it is necessary to repeatedly go to the ward and wait. On this subject, one scheme operator staff member said:

> '*সবসময় সবার মন মানসিকতা এক রকম হয়না, অনেকেই বলে পরে আসেন, এখন ব্যস্ত, রোগী বেশী এই সেই*'।
>
> '*Every case differs, it's not the same. Many ask to come later as there are more patients then'*.

To change this situation, some local staff (scheme operators) believe that if the hospital managers talk to their staff about these problems, regardless of the SSK meeting, then something will change. In relation to this, one field coordinator said:

> *'প্রতিমাসে হাসপাতাল প্রশাসন/ ইউএইচএন্ডএফপিও স্যার যদি আলাদাভাবে ডাক্তার, নার্স, কনসালট্যান্ট, মেডিক্যাল অফিসার-এদেরকে নিয়ে বসেন এবং বলেন যে আমাদের যদি কোন প্রবলেম হয় তারা যেন তাড়াতাড়ি সেসব সমাধান করে দেন। তাহলে আমাদের কাজগুলো করতে অসুবিধা হবেনা'।*
>
> *'If the hospital administration, UH&FPO, sits with the doctors, nurses, consultants, and medical officers every month and states the problems and how to fix them as soon as possible, then it would not be difficult for us to do our work'.*

Most of the local staff (scheme operators) state that since they are employees of a private company and working under a particular project, government hospital providers tend to overlook them. In this regard, one field coordinator said:

> '*হাসপাতালের নার্সরা এবং ডাক্তাররা আমাদের সাথে একটু নেগ্লিজেন্ট আচরণ করেন। এ কারণে আমি মনে করি যখন আমাদের পরিচয় করিয়ে দেওয়া হয়, তখনই যদি হাসপাতালের সেবাদানকারীদের বলা হতো যে তারা যেন আমাদের সাথে বন্ধুত্বপূর্ণ সম্পর্ক বজায় রাখে, তাহলে কাজের পরিবেশ আরও সুন্দর হতো*'।
>
> '*The nurses and doctors at the hospital treat us a little negligently. That is why I think if the hospital carers were told to work with us by maintaining friendly relations, then the work environment would be more harmonious*.

Moreover, some local staff (scheme operators) believe that it would be easier to move the work forward if a relationship was built up for the convenience of the work. For example, one field coordinator reported:

> '*একবার ওয়ার্ড থেকে একটি কাগজ মিসিং হয়েছে। তিনি (স্কীম অপারেটর) তার এসিস্টেন্টকে পাঠিয়েছিলেন নতুন আরেকটাতে সাইন করার জন্য। কিন্তু নার্স দেয়নি, এরপর তিনি নিজে গেছেন*'।

> '*Once a paper was missing from the ward. The local staff of scheme operator sent his assistant to sign another paper. But the nurse did not give any signature, and then he himself went to the nurse'.*

c) Checking of Documents by Local Scheme Operator Staff

Collecting and checking all documents is an important responsibility of the local staff (scheme operator). According to informants, the documents contain a checklist of what documents will be in a specific claim file and how to fill out those documents. For example, on an admission form, it should be checked whether the admission form bears the doctor's signature and whether the field coordinator has signed on behalf of the scheme operator; other necessary components include the card number, IPD registration number, address, mobile number, patient's history, and whether or not the doctor has signed.

Moreover, a government admission form should also be appended that includes treatment provided, a medicine requisition form, a nurse's signature, a doctor's signature, an investigation requisition form and a blocking discharge list.

d) Claim File Preservation at SSK Booth

According to the local SSK (scheme operator) staff, the files must be packed and stored before being sent to Dhaka. The files are given to the booth after a patient is discharged from the ward. Serial maintenance is done on the file cabinet in the booth; thirty or forty files are tied together with rubber bands and left in the file cabinet. In this way, the serial is maintained and entry on the computer is facilitated. In Excel data, a serial number comes from the calculation of that serial number. In relation to this, one field coordinator said:

> '*আমাদের এসএসকে বুথে ফাইল কেবিনেট আছে। ঢাকায় পাঠানোর আগ পর্যন্ত আমরা সত্যিকার অর্থেই ফাইলগুলোকে এক একটা মুল্যবান সম্পদ মনে করে রেখে দেই*'।

> *'Until we send them to Dhaka, we keep [the files] in the file cabinet at the SSK booth. We consider the files as a valuable asset'.*

e) Filing the Documents (Patient Details, Bill Entry, Uploading Scanned Copies of the Claim)

Each document bill is organised by card number and entered into the computer by the local (scheme operator) staff. A software-based report shows how many patients have been admitted under the card in the computer system. It further shows the amount of medicine provided, whether the medicine provided are correct, how many patients have been discharged according to the code and how many have been admitted. According to one field co-ordinator:

> *'রোগের আইসিডি কোড অনুযায়ী রোগী কি কারণে ভর্তি হয়েছে, রোগী ব্লকিং ডিসচার্জের আওতায় কিনা, কোডের এগেন্সটে কত টাকা বরাদ্দ সব কিছু সেইখানে, সব ডকুমেন্ট এসে পরে'।*

> *'The ICD code, whether blocking discharge is in effect or how much money has been allocated to everything can be seen after all the documents come in'.*

In addition, the hard copies of the submitted documents are scanned and uploaded to the software. As one field coordinator stated:

> *'আমরা ডকুমেন্টগুলো স্ক্যান করি। স্ক্যান করার পরে এই ডকুমেন্টগুলো আবার পিডিএফ মোডে সফটওয়্যারে আপলোড করি'।*

'We scan the document. After scanning, we upload these documents to the software in PDF format.'

In each episode, an IPD number is given to the patient. By this IPD number, the patient can find out what treatment he has taken in an episode and how many times he has been treated. The card number of the patient remains the same, but every time a is admitted, he is given a new and different IPD number. As one field coordinator explained:

'যতবার রোগী ভর্তি হয়, তাঁর জন্য প্রতিবার আমরা প্রত্যেকের আলাদা আলাদা আইপিডি নাম্বার ইউজ করি। সে কি চিকিৎসা পেল, কি কি ডকুমেন্ট হলো, সেই ডকুমেন্টট ঐ রোগীর আইডিতে, ঐ আইপিডিতে আপলোড করা হয়। আবার যখন ভর্তি হয় তখন নতুন আইপিডি হয়। রোগীর কার্ড নাম্বার সেইম থাকে, যেটা থেকে ট্রাক করা যায় রোগী কতবার ভর্তি হলো'।

'We use different IPD numbers for each patient admission. Every time a patient receives treatment, documents are uploaded to that patient's ID and to that IPD. Again, every admission is assigned a new IPD. The patient's card number is the same, from which it is possible to track how many times the patient has been admitted'.

There are two types of documents, hardcopy and softcopy. These are both later used in the computer-based review. On this subject, one field coordinator said:

'*আমরা যে রকম হার্ডকপিতে এডমিশন দেখাচ্ছি, সেরকম সফটওয়্যারেও আমাদের এ্যাডমিশন দেখাতে হয়। তো সেখান থেকে আবার যে নির্দিষ্ট আইসিডির আন্ডারে রোগী ট্রিটমেন্ট পেলো সেই নির্দিষ্ট আইসিডি ব্লক করতে হয় এবং দেখাতে হয় যে রোগী এই আইসিডির আন্ডারে ট্রিটমেন্ট পাচ্ছে*' ।

'*We show admission of patients in both hardcopy of document and in the software. From there, we need to block the specific ICD under which the patient gets the treatment.*'

A UH&FPO also informed us that automation was supposed to be introduced under the SSK project, although this has not yet started. Notably, reliance on Indian companies and weak networks at the upazila level represent major problems in this context.

f) File Submission for Verifying and Preparing the Claim Statement

The field coordinator checks all paperwork and submits it for verification. While those in charge of SSK financial management at the hospital are supposed to make this statement, they often cannot do so due to lack of time; thus, this task is frequently performed by field coordinators. In this regard, one field coordinator said:

'*স্টেটমেন্ট যেটা মূলত হাসপাতালের করার কথা কিন্তু ম্যানপাওয়ার না থাকার কারণে আমাদেরকে-ই করতে হচ্ছে। এটা আমরা রেডি করে ইউএইচএন্ডএফপিও সাহেবের সাইন নেই। প্রথম আরএমও বিলগুলা ভেরিফিকেশন করে; তারপরে আরো একজন কনসাল্টেন্ট ভেরিফিকেশনের পরে একটা স্টেটমেন্ট তৈরি হয়। সেই স্টেটমেন্টে আমাদের প্রোগ্রাম ম্যানেজারের সাইন থাকে, আমরা যাচাই বাছাই করে দেই*' ।

'*The statement is supposed to be done by the hospital, but we need to extend our support due to lack of manpower.* After the UH&FPO and RMO have verified and signed it, then a statement is made. *Then our programme manager checks and sign'*.

Once the statement is made, the UH&FPO views it again and signs it. This statement is then submitted to the Green Delta Head Office. From there, they check over and send the claims to HEU. In regard to this, one field coordinator stated:

'*স্টেটমেন্ট আবার ইউএইচএন্ডএফপিও স্যার যাচাই বাছাই করে সাইন করে দেন। সেইটা আমরা আমাদের হেড অফিসে সাবমিট করি, সেখান থেকে আবার চেককরে এইচইইউ তে সাবমিট করা হয়। ঐখানে একটা রিভিউ কমিটি আছে, তারা এই ফাইলগুলো রিভিউ করে এবং যাচাই বাছাই শেষে ডিজি স্যার অনুমোদন দেন*' ।

'*The statement is checked again and signed by UH&FPO. Then we submit it to our head office, from where it is checked again and submitted to HEU. At HEU after verification of the bills by a review committee forwarded to the DG for final approval*.

g) Claim Submission and Disbursement

According to the field coordinators, earlier in the pilot, two copies of the SSK claim file were made: one copy was sent to KFW (a German state-owned development bank based in Frankfurt), while the other was given to the HEU. Later, one claim file for each episode of patient was made after the scheme was taken over by the government fund. The local (scheme operator) staff uploads the data using specific software; that scanned copy is then subject to a review system. Hard copies are also sent to HEU. Following review by the review committee, the cheque is issued with the DG's permission.

In this regard, one local staff member said that the DG sends a cheque after giving permission. If the cheque is issued from HEU and directly sent to the hospital that would be useful.

A finance assistant at a UHC stated that they usually brought the cheques from Dhaka. The practice was adopted because, if a cheque was sent to the post office, it would take a long time to reach the UHC. Thus, they brought the cheque, showed it to the UH&FPO, and then deposited it in the bank. The assistant further stated:

'*ডাক যোগে (চেক) পাঠাইলে দেরী হয় দেখেই আমরা হাতে হাতে আনার চেষ্টা করি। আমি এক সময় যাই বা অন্য কাউকে পাঠাই। অথরাইজেশন নিয়ে গেলে ওনারা চেক দিয়ে দেয়।*'

'*We try to bring it by hand as soon as we see that it is late. Sometimes I myself go for it or send my assistant. They provide the check against an authorization'*.

He went on to say:

'*তার (উপজেলা চেয়ারম্যান) অনুমতি সাপেক্ষে মিটিং কল করা হয়। এরপর ছয় সদস্যের কমিটি যদি বিলগুলো অনুমোদন করেন তাহলে তাদের পাওনা দিয়ে দেওয়া হয়*'।

'With the permission of the upazila chairman [president of local committee], a meeting is called. If six members in the committee agree then the claim is disbursed'.

If any bill submission is found to be negligent, that bill is cancelled. One field coordinator said that there are often extra costs that are not approved. Such bills create questions. When this occurs, these bills are not approved. He added:

'*উপজেলা স্বাস্থ্য কমপ্লেক্সের একজন ইউএইচএন্ডএফপিও ছিলেন তিনি উপজেলা চেয়ারম্যানের সাথে একটা সখ্যতা তৈরি করে কিছু খরচ দেখিয়েছেন যেটা অবাঞ্ছিত। যেমন: উনি বাগানের পরিষ্কার পরিচ্ছন্নতা বিল দেখিয়েছেন ১ লাখ টাকার উপরে যেটা সবার দৃষ্টিগোচর হয়েছিল। তখন এই বিলটা আটকে দেয়া হয়*'।

'*There was a UH&FPO of an Upazila Health Complex who had a friendly relationship with the chairman. He showed a bill of garden maintenance that exceeded BDT 100,000 which was not acceptable to everyone as it was not plausible. As a result, this bill was cancelled'*.

He also added that when such improper bills are identified, the whole payment gets held. Such incidence lingers the payment process. They, therefore, have to be paid from the hospital's funds. In this case, there is scope to take legal action.

After the case is settled, files are sent back to the hospital. One field coordinator said the files are returned to the hospital after the claim is settled. These are selected monthly and based on the ward in question (Male Ward, Female Ward, and Child Ward) and returned to their respective wards. A local staff member (of the scheme operator) stated that the nurses at first did not want to keep the files in the ward in the period after the claim was initially settled because they did not

know the system; this is why they had to be sent again. However, they now understand that there is no problem. According to him:

> *'একটা বিষয় হচ্ছে যে, নিস্পত্তি হয়ে যাওয়া ফাইলগুলো নিয়ে গেলে তারা অনেক সময় রিসিভ করতে চাইতো না। বলতো যে এইগুলা কেন নিবো, এই সেই। তাদেরকে ব্যাপারটা ক্লিয়ার করে বুঝিয়েছি। এখন ফাইল নিয়ে আসলে স্বত:স্ফুর্ত ভাবেই নিয়ে নেয়'।*
>
> '*One of the things is that when the claim file is settled, initially they [nurses] used to show reluctance in receiving the settled files. But after making clear it to them, now they co-operate'.*

Claim Preparation to Claim Disbursement

There is no set time for bill preparation. One pharmacy contractor reported that the bill can be submitted to the local staff (scheme operator) at any time within a month. However, claims cannot be made until all types of bills have been submitted to the local staff or SSK booth. As a result, it is often the case that a bill for medicine or remaining diagnostics may be delayed; if this occurs, checking and submission of the bill is stalled. Local staff cannot send bills to RMO and UH&FPO for checking without completing this stage. One field coordinator stated:

> '*এক মাসের বিল আমরা সাবমিট করতে পারি নাই কারণ হচ্ছে যে মেডিসিন ঠিকাদার ঐ মেডিসিন বিল দিতে লেট করেছে'।*
>
> *'We could not submit the bill for one month because the medicine contractor was late in paying the medicine bill'.*

A UH&FPO also said:

> '*প্রাইভেট ফার্মেসি যদি আমাদের কাছে বিলটা তাড়াতাড়ি সাবমিট করে, আমরা তাড়াতাড়ি যদি দিতে পারি, বিশেষ করে আমাদের যেহেতু জনবলের সমস্যা। বিলটা যাচাই বাছাই করেই দিতে হয়। যাচাই বাছাই করে যদি আমি না দেই, আমার অগোচরে কোন একটা ভুল হয়ে গেলে এই প্রজেক্টের জন্য একটা বড় দুর্নাম হবে'।*
>
> '*If the private pharmacy promptly submits the bill to us, we will pay promptly if we can since we have a shortage of manpower. The bills need to be checked and sorted. If we don't check, there might be an error causing scandal in the context of this project'.*

When all the paperwork has been received by the field coordinators, they check it and submit it to the RMO and UHQPO of their respective hospitals, who then check and sign it. If any inconsistencies or problems are found when checking the bill, they send it back to the field coordinators. One local (scheme operator) staff member stated that it takes at least seven to fifteen days to check RMO and UH&FPO claims. Once these are checked, they are re-checked by hospital consultants. Consultants also take up some time here; bill checking time depends on their business and attendance. However, it does not take the same amount of time every month, since the time taken depends on various factors at the hospital. For example, if the RMO or UH&FPO of the UHC is absent, it is necessary to wait to get their signature. On this subject, one local scheme operator staff member stated:

> '*আমরা প্রতিমাসে ক্লেইম সাইন করতে যাই, আগে যে ইউএইচএন্ডএফপিও স্যার ছিল তাদের অনেক সময় পাওয়া যেত না। দেখা গেছে যে আমি আজকে ফাইল পাঠাবো কিন্ত আজকে ক্লেইমটা সাইন করাতে পারলামনা*'।
>
> '*The claims must be signed every month, but previously the UH&FPO was regularly unavailable. It was often the case that I would send a file but the claim would not be signed on that day'.*

Since the number of doctors in UHCs is low, it takes a comparatively long time to check claims dealing with patients. While this process still takes some time, it was previously far more time-consuming. In this regard, one local staff member (scheme operator) stated that:

‘*মাঝখানে আরএমও স্যারও নিয়মিত ছিলনা। তিনি প্রশিক্ষণের জন্য অন্য কোথাও গিয়েছিলেন। তো এখন আরএমও স্যার এসেছেন, আমার ফাইল সাইন নিয়ে কোন সমস্যা নাই কিন্ত কনস্যালট্যান্ট এর সাইন নিতে একটু দেরি হয়*’।

‘*Meanwhile, the RMO was not regularly available. He had been elsewhere for training. Now he is available. There is no problem with my files, although there can be some delays in obtaining the signature of the consultant’*.

Next, these claims are sent to the Green Delta Head Office, where they are checked before submission to the HEU. There is a committee in place to check the claim documents and to approve the claim reimbursement. The informants reported that it requires time to settles the claim. In this regard, one UH&FPO also said:

‘*আমাদের এখান থেকে তারা (গ্রীন ডেলটা লাইফ ইন্সুরেন্সের লোকাল স্টাফরা) বিল দিতে দেরি করে। আইটেম ওয়াইজ যেহেতু সবকিছু চেক হয়, সব কিছু অনুযায়ী তারা বিল সাবমিট করতে দেরি করে। তারপরে আমরা বিল ফাইনাল করে এখান থেকে ঢাকা পাঠাই। ঢাকা পাঠানোর পরে সেখানে বিভিন্ন প্রসিডিউর শেষ করে আসতে আসতে অনেক দেরি হয়*’।

‘They [the local staff of Green Delta Life Insurance] are late in sending the bills. Since everything is checked item-wise, they are late in submitting the bill after everything is complete. Then, after finalisation, it is sent to Dhaka. Sometimes after it is sent to Dhaka, it is too late to come back after maintaining various procedures there’.

On the other hand, when the claims are reimbursed and approved by the HEU, they cannot be given to everyone immediately, because this requires approval from the local committee. Since the upazila chairman is the chairman of the committee, the bills cannot be approved without him. When a meeting is called after receiving the bills, the chairman is often unavailable for four to five days; in many cases, he is not available within 15 days. On this subject, a local scheme operator staff member reported:

‘*নির্দিষ্ট করে আসলে সময় বলা যাবে না। অনেক সময় দেখা যায় যে আমরা ৪-৫ দিনের মধ্যেই সিডিউল (লোকাল কমিটির মিটিং) পেয়ে যাইতেছি আবার অনেক সময় দেখা যায় যে ১৫ দিন বা ১ মাসেও তারে (উপজেলা চেয়ারম্যান) আমরা পাইতেছিনা*’।

‘*The time cannot be specified. Often, it is the case that we receive the schedule [for meetings of the local committee] within four to five days; many times, it also occurs that a meeting is not scheduled for 15 days to one month’*.

As the pharmacy has a lot of bills to deal with, they can be given some money with the verbal consent of the upazila chairman if they repeatedly ask for bills; however, they are not given full payment before the meeting. In this regard, one field coordinator said:

‘*ফার্মেসীতে অনেক সময় অনেক টাকা বাকি থাকে। যেমন ১৮-২০ লাখ টাকার মত বকেয়া হয়ে যায়। তখন তারাতো মেডিসিন সরবরাহ করতে পারে না। তখন চেয়ারম্যান সাহেব যদি মৌখিক সম্মতি দেন এবং বলেন, 'আমি তো মিটিং এর সময় দিতে পারতেছি না, তাইলে উনাকে কিছু টাকা দিয়ে দেন'*।

‘Medicine suppliers often have a lot of money left over. For example, there may be arrears of BDT 1.8–2 million. Then they are not able to supply medicine. Then the chairman may give his verbal consent and say “I can’t make time for the meeting, but give him some money”’.

In total, about fifteen days to one month is required to prepare a bill, while two to three months are required to settle a claim.

Issues with Delays in Claim Reimbursement

According to the government hospital staff, many problems arise due to late claim settlements. For example, many bills need to be maintained at a given time and money for one financial year

needs to be calculated in another fiscal year. On this matter, one of the UHCs' financial personnel stated that:

> '*এক অর্থ বছরের টাকা আর এক অর্থ বছরে পাওয়া যায়, তখন একটা সমস্যা হয়ে যায়। যেমন ছয় মাসের বিল এক সাথে আসার ফলে কাজ বাড়তেই থাকে, বাড়তেই থাকে। সবগুলো যোগ বিয়োগ করতে একটু সমস্যা হয়। সময় মতো বিল আসলে সবই করা সম্ভব*'।
>
> '*Money from one fiscal year is available in another fiscal year, and then it becomes a problem. For example, work continues to grow as a result of the six-month bill coming together. There is a little bit of a problem associated with adding and separating all of them. Everything is possible if it comes in time'*.

Engagement of Third Parties: Support Staff

Support staff (such as nursemaid, guards and cleaners) were employed in the three UHCs under the SSK scheme through outsourcing. The contractors were employed via tender. According to the information from local managers, the service quality of the staff was lower than expected. The respondents further perceived that the contractor did not pay the staff an adequate salary. For that reason, the support staff provided poor-quality services. Regarding this poor-quality service, one UH&FPO said:

> "*জায়গার মানুষ জায়গায় থেকে কাজ করতে হবে। কিন্তু আমাদের এখানে যেটা হচ্ছে, দারোয়ান দারোয়ানের জায়গায় থাকেনা। একটা উদাহরণ যেমন, এখানে অসংখ্য গাড়ি, রিক্সা থাকে, আমি যখন সকালে আসি আমার গাড়িটা রাখার জায়গা পাইনা। এতো রিকশা-ভ্যান, সে কিছুই মেইনটেইন করে না। দারোয়ান চায়ের দোকানে বসে বসে চা খায়।*"
>
> *'People are supposed to be at their duty station, but I typically do not find a guard on the gate. Lots of cars and rickshaws gather at the gate; when I come in the morning, I do not find a place to park my car, and the guard does not maintain that for me. I find him at the tea stall drinking tea'*.

According to the information provided by the health managers, one contractor was given the opportunity to work for three facilities because the contractor had a good relationship with some local influential people and the chairman. The contractor managed the contract without any agreement being drawn up. For this reason, the local managers faced some problems with their support staff but could not change the contractor. One health manager said:

> '*ঐ ঠিকাদারের ব্যাপারে এসএসকের কেন্দ্রীয় অফিসে (স্বাস্থ্য অর্থনীতি ইউনিটকে) জানানো হয়। সেখান থেকে উনারা ঠিকাদারকে পরিবর্তন করার জন্য আমাদেরকে (লোকাল কমিটিকে) একটা চিঠিও দিয়েছিল । এই ঠিকাদার কিন্তু চালাকি করে হাইকোর্টে গিয়ে আমাদের নামে মামলা দিয়ে বসে আছে*'।
>
> *'We informed HEU about the contractor, and they ordered us to change, but the contractor cunningly took legal action through the court'.*

Gaps in the Monitoring and Supervision of SSK

The SSK programme has a lack of effective monitoring and supervision at both the community and facility levels. At the community level, there was a gap in monitoring and supervision by the HEU. The HEU was also dependent on the local-level health facility managers and scheme operators.

However, the HEU adopted several initiatives to improve monitoring and supervision at the local level, examples of which are outlined below.

Restructuring of the Local Committee

The local-level elected leaders and government administrative officials are involved in the local committee with other health managers. Recently the position of the Upazila Nirbahi Officer (UNO) has been upgraded through restructuring at the local committee level. A few respondents noted that, due to the restructuring process, all members of the local committee were deemed to have ownership of the SSK and hospital authority, and users felt safe due to their presence. Regarding this matter, one key informant stated:

> *'হসপিটাল একটা আইসোলেটেড জায়গা, অনেক সময় এলাকার বখাটে ছেলেরা বসে। যখন তিন-চারটা বড়বড় জীপ আসে তখন কিন্ত অনেক দুষ্ট লোক সতর্ক হয়ে যায়। উনারা ওখানে যখন যাচ্ছেন স্থানীয় লোকজন বুঝতে পারছে যে হসপিটালে কিছু হচ্ছে। হসপিটালও কিন্ত একটা চাপের মধ্যে থাকছে। যেকোনো সময় চেয়ারম্যান সাহেব যাচ্ছেন, ইউএনও সাহেব যাচ্ছেন, সেখানে তাদের সাথে বসছেন, কথা বলছেন, গল্প করছেন, চা খাচ্ছেন। এই যে একটা চেইন এইটা কিন্ত আমরা আনতে পেরেছি এবং আনার চেষ্টা করেছি'।*
>
> *'The hospital is in an isolated place, and sometimes bad people [criminals] gather here. Now, when they see three to four Jeeps come to the hospital every month, they become aware that are not allowed there. People in the community also think that something good is happening in the hospital, and the hospital also remains under monitoring. Because at any time, UNO, the chairman is going there, sitting, having tea. So, we successfully brought them together in this issue'.*

Appointment of Additional Field Supervisors

Three additional field supervisors were recruited for monitoring and supervision at the community level. They were receiving training from the HEU and would soon join the establishment.

It was suggested that further strengthening of the SSK cell's monitoring and supervision capacity be implemented in specific areas (clinical, IT and admin) by hiring additional manpower. On this subject, one key informant remarked:

> '*এইচইইউ থেকে নিয়মিত সুপারভিশনের জন্য একটা টিম থাকলে (মনিটরিং) আরও বেশী ইফেকটিভ হতো। তিনটা বড় বড় এরিয়া (ক্লিনিকাল, আইটি, এবং এডমিনিস্ট্রেশন) গ্রাজুয়ালী আলাদা আলাদা পার্ট করা দরকার, তাতে এরিয়াগুলা স্পেসিফিক হলে, মনিটরিংটা আরও সুন্দর হবে। বর্তমানে দেখা যাচ্ছে একজন মেডিকেল অফিসার সেবাও দিচ্ছে আবার ফাইল দেখছে, তাকেই আবার ফার্মেসী এবং আউট সোর্সিং এর স্টাফদের কাজ মনিটর করতে হচ্ছে*' ।
>
> '*It would be more effective if a team from HEU would regularly monitor the programme. Three basic areas, namely the clinical part, IT, and administration, should be separated for independent monitoring and supervision; if this was the case, area-specific monitoring would improve. At present, for example, one sole medical officer is keeping files, monitoring pharmacy and outsourcing staff*' .

The absence of a functional SSK 'Central Monitoring Team' involving internal and external experts was also felt. Respondents mentioned that a monitoring framework should be developed that covers all building blocks of the health system and regularly reports to the steering committee. Proper documentation should also be conducted on the gaps identified and action taken to systematically record and report the progress. Regarding this monitoring documentation gap, a KI said:

> '*এসএসকের কাজগুলো নির্ধারিত কোন ইনডিকেটর ধরে মনিটরিং করা হয়নি। কোন রিপোর্ট জেনারেট করে মনিটরিং এর বিষয়গুলো লিখিত আকারে স্টিয়ারিং কমিটিতে দেওয়া বা এই রকম কোন ডকুমেন্ট করা হয়নি*' ।
>
> *'Monitoring activities of SSK were not done following specific indicators. No written document was produced for the steering committee*'.

Future Prospects of SSK: Universal Health Coverage

When respondents were asked about the future prospects of the SSK program, most key informants stated that SSK would be necessary for enhancing universal health coverage by 2030. Some of them added that the government should underscore the importance of SSK as a tool to ensure the success of SSK. In this regard, one key informant said:

> '*এসডিজি-তে ২০৩০ সালের মধ্যে ইউনিভার্সাল হেল্‌থ কাভারেজ-এর যে কথা বলা হয়েছে, সেটা গভর্নমেন্ট এর একচুয়াল অবলিগেশন যে বাংলাদেশে ২০৩০ সালের মধ্যে ইউনিভার্সাল হেল্‌থ কভারেজ এনসিউর করা। সেটা করতে গেলেও তার একটা অংশ হিসেবে এই স্বাস্থ্য সুরক্ষা কর্মসূচি সেখানে কনট্রিবিউট করবে।*'

> '*Universal health coverage is mentioned in SDG. Specifically, the government is obligated to ensure it by 2030. SSK could contribute to ensuring universal health coverage*'.

While most of the respondents noted that SSK is required for both the rural and urban population, they also added that three key areas should be addressed by the government to ensure universal health coverage by 2030: i) inclusion of the entire population under the government health coverage programme; ii) ensuring quality services; iii) ensuring financial risk protection by the government for the people.

Respondents perceived that it would be possible to include the population under the SSK healthcare scheme in a step-by-step fashion by adopting the health insurance modality.

Suggested Steps to Extend Health Coverage

Health Scheme for Formal Sector/Government Employees

According to the SSK cell members, the government planned to include the formal sector in the health protection scheme. Under these circumstances, the service receiver would pay for their benefits package. The initial plan was to include government employees. However, as it would not be possible to incorporate millions of government employees at one time, the plan was to incorporate them into the healthcare scheme in a step-by-step manner according to their position. The logic behind this strategy was for government employees to receive a healthcare allowance and pay for their healthcare from that allowance. In connection to this, one key informant said:

> '*মাননীয় প্রধানমন্ত্রীর নির্দেশনা অনুযায়ী ফরমাল সেক্টরে আমরা স্বাস্থ্যবীমা চালু করার প্রাথমিক উদ্যোগ নিয়েছি। যারা সরকারি কর্মকর্তা কর্মচারী তাদের জন্য স্বাস্থ্যবীমা করা হবে। সরকারি কর্মকর্তা কর্মচারীরা প্রতিমাসে একটা মেডিকেল এলাউএন্স পেয়ে থাকে। সুতরাং তাদের পক্ষে কিন্তু সেই এলাউন্স থেকে প্রিমিয়ামের টাকাটা দেয়া খুব সহজ*'।

> '*As per the instruction of the honourable Prime Minister of Bangladesh, we have taken the initiative to start health insurance for formal sector. At first, health insurance will be started for government employees. They get a monthly allowance for healthcare, and would be able to pay for their care from that source*'.

Health Scheme for Occupational Groups and Other Formal/Semi-Formal Sectors

As per the plan, occupational groups such as garment factory workers and other formal/semi-formal groups (for instance, tea garden workers) will be included under the health coverage. Regarding the step-by-step inclusion of different groups, one key informant stated:

> '*পরবর্তী ধাপে আমরা চিন্তা করেছি গার্মেন্টস ওয়ার্কারস, তারপরে টি-গার্ডেন ওয়ার্কারস। এখন গার্মেন্টস ওয়ার্কারস, টি-গার্ডেন ওয়ার্কারস, তারা কিন্তু সেমি -ফরমাল। তাদেরকেও এই স্বাস্থ্যবীমার আওতায় আনতে হবে*'।

'*At the next stage [after inclusion of government employees], we are thinking about including garment factory workers and tea garden workers, even though they are semi-formal groups. We have to include them in the health insurance coverage*'.

Inclusion of Informal Sector

Most respondents expressed the opinion that the informal sector could be a deterrent factor for introducing a national health scheme. Specifically, they noted that the country's informal sector is significantly larger than its formal sector, representing about 80% of the population. In relation to the large size of the informal sector, one key informant said:

'*আমাদের দেশের দূর্ভাগ্য হলো যে, আমাদের ফরমাল সেক্টরটা খুব ছোট, ইনফরমাল সেক্টরটা অনেক বড়। শুধুমাত্র ফরমাল সেক্টরে যদি আমরা স্বাস্থ্যবীমা চালু করি তাহলে কিন্তু মেজর পোর্শনটাই বাদ থেকে যায়। আমাদের ইনফরমাল সেক্টরটা অবশ্যই আনতে হবে*'।

'*Unfortunately, our country has a bigger informal sector than a formal sector. If we only think to include the formal sector [in a healthcare programme], a major proportion will be excluded. We must include the informal sector*'.

Several of the respondents emphasised the informal sector. Specifically, they mentioned that while the government may only pay for the BPL population in the informal sector, the rest of the population also needs to be included. On this topic, a key informant stated:

'*ইনফরমাল সেক্টরের মধ্যে যারা বিলো পোভার্টি লাইন তাদেরটা সরকার দিচ্ছে। কিন্তু তার বাইরেও তো একটা ব্যাপক জনগোষ্ঠী আছে। তারা বিলো পোভার্টি লাইনেও পড়ছে না, তারা ফরমালেও পড়ছে না। তারা ইনফরমাল। সুতরাং তাদেরকেও স্বাস্থ্য বীমার জন্য টাকা দিতে হবে*'।

'*The government may pay for a scheme targeting the BPL category, but there is a vast proportion of the population that falls into the informal category; they are neither formal nor BPL. The government must also take responsibility for their healthcare*'.

However, some respondents felt discouraged about the healthcare scheme because the informal sector is bigger than the formal sector. They perceived that the programme would be unsuccessful because no government could provide full payment for a scheme aimed at such a large proportion of the population. In relation to this, one key informant stated:

'*বাংলাদেশের যে সিস্টেম, সেখানে ইনফরমাল সেক্টরে থেকে প্রিমিয়াম কালেক্ট করার ক্যাপাসিটি নাই, মাইক্রো হেলথ ইনস্যুরেন্স এখন পর্যন্ত কোন দেশে সফল হয় নাই, এটা খুবই আনসাস্টেইনেবল। সুতরাং এই এপ্রোচটার পিছে চিন্তা করেও লাভ নাই*'।

'*Our system has no capacity to collect premiums from the informal sector. As a result, the programme might fail. As of now, no country has been successful with micro-health insurance. It is a very unsustainable idea, and thinking more about this project will be pointless.'*

Furthermore, people are not especially interested in health insurance in Bangladesh; even in the formal sector, interest among people in the community is very low. For this reason, some of the respondents suggested motivating people to access health insurance. On this subject, a key informant said:

'*আমাদের দেশে একটি বড় সমস্যা আমাদের দেশের জনগনের সাধারণ বীমার প্রতি কিছুটা আগ্রহ থাকলেও স্বাস্থ্যবীমার প্রতি তাদের আগ্রহ তৈরি হয়নি। শিক্ষিত জনগনের মধ্যেই হয়নি, সুতরাং অশিক্ষিত মানুষের মধ্যে তো সেটা আরও সুদূর পরাহত।*'

'*In our country, people are interested in general life insurance schemes, but they are not interested in health insurance. The motivation has not been created among the educated, so it is not expected among uneducated people'*.

In this regard, certain respondents mentioned that some institutions have already taken the initiative to promote health insurance on a small scale (such as some departments of Dhaka University, some national and international NGOs, BIRDEM, Gonoshasthaya Kendra). However, their modality does not properly follow the healthcare scheme.

SSK for Urban Areas

Most respondents stated that it would not be possible to achieve universal health coverage without including urban areas alongside rural areas under a programme like SSK. For this reason, urban dwellers who live in slums need to be included under the SSK programme. However, these respondents also stated that it would take time to design an SSK model for urban areas. In this regard, a key informant noted:

> *"আরবান-এ যে স্লাম বা ফ্লোটিং পপুলেশান আছে তাদের নিড বা ডিপ্রাইভেশান অনেক ক্ষেত্রে হয়ত রুরাল মানুষের চেয়েও অনেক বেশী, তাদের থাকার জায়গা নেই, তারা অনেকে রাস্তায় থাকে। আমি আইডিয়ালি এটা সাপোর্ট করছি যে হ্যাঁ এদেরও এসএসকের প্রয়োজন আছে। কিন্ত এখনই এসএসকের মডেলটাকে ডিজাইন করে, এটাকে এ্যাডপ্ট করে আরবানে আনাটা কঠিন হবে। এ্টার জন্য সময় দরকার।"*

> '*The slum population or floating population in the urban areas are more vulnerable than the rural population; they do not even have a house to sleep in, they live on the streets. Ideally they should be included under SSK. However, this might be difficult, and it will take time to adapt the SSK model to urban areas*.'

Some of the respondents suggested establishing general practitioner (GP) clinics for the urban poor in the big cities. On this subject, one key informant stated:

> *"বড় সিটি করপোরেশনগুলাতে হেলথ ক্লিনিক করে আমরা একটা জিপি সিস্টেম চালু করার চেষ্টা করছি। ডিএফআইডি সহায়তাও করছে। ফলে শহরের বিভিন্ন জায়গায় অনেক সংখ্যক জিপি ক্লিনিক ক্লিনিক হবে। সেখানে এসএসকের মত কিছু বৈশিষ্ট্য দিয়ে আমরা গরীব মানুষদেরকে কার্ড দিবো। তারা ঐ ক্লিনিকে আসবে, কেয়ার পাবে। প্রয়োজনে তারা সেখান থেকে রেফার হবে।"*

> '*Alternatively, we are thinking about a GP system for the urban poor. Department for International Development of the United Kingdom is supporting for that. GP clinics will be established in different corners of urban areas. Poor people will get cards like SSK cards enabling them to visit GP clinics and a referral linkage will be established for necessary referral'.*

Suggestions for Including the Urban Population Under the SSK

Most respondents agreed that policy should be implemented that includes urban people under the SSK. They further stated that interdepartmental coordination is required to include both urban and rural areas under the SSK programme. Speaking on this subject, a key informant stated:

> '*আমাদের দেশে কোন কর্মসূচি চালু করতে গেলে দুটো বিষয় সবচেয়ে গুরুত্বপূর্ণ। একটি হলো সরকারের রাজনৈতিক স্বদিচ্ছা, যেটা আমাদের হায়েস্ট লেভেল থেকে প্রকাশ করা হয়েছে (এসএসকে শুরু হয়েছিলো মাননীয় প্রধানমন্ত্রীর ব্যক্তিগত উদ্যোগে)। দ্বিতীয়টা হচ্ছে প্রশাসনিক সমর্থন। এটাকে প্রশাসনিক সমর্থন দিতে হবে, মিনিস্ট্রি থেকে দিতে হবে, ডিজি হেলথ থেকে দিতে হবে, মিনিস্ট্রি অফ ফাইনান্স থেকে দিতে হবে। এক্ষেত্রে একটা ওয়েল কো-অর্ডিনেশন দরকার।*'

> '*To implement any programme, we need two important assurances: the first is political commitment and the second is administrative support. I think the first one is not a problem, as SSK began with the support of the Prime Minister. But SSK also needs administrative support – the support of ministry, DGHS, and ministry of finance are*

needed. We need to establish good coordination between different government departments'.

Suggestions for Future Scaling-Up of the SSK Programme

The SSK pilot programme first began with the Kalihati UHC and subsequently came to include Ghatail. Respondents expressed the need for a long-term action plan for the future scaling-up of SSK, with specific policy direction for structural change.

Some respondents mentioned that, SSK should be implemented by the DGHS. This is necessary for effective SSK service delivery from the designated UHCs through enhanced coordination with the lower as well as the higher level of the health service delivery system. Regarding future implementation of SSK, one KI said:

'যেহেতু এসএসকে একটা নতুন ধরণের কর্মসূচি তাই হেলথ ইকোনোমিকস এটা পাইলট টেস্ট করবে। পাইলট টেস্ট করে এই প্রোগ্রামটা দাঁড় করিয়ে ডিজি হেলথকে দিয়ে দিবে যাতে তারা এইটা আরও বড় আকারে ক্রমান্বয়ে দেশব্যাপী বাস্তবায়ন করতে পারে'।

'SSK is a different type of programme, so the HEU will only conduct pilot testing. After the programme is established, it to be handed over to the DGHS to implement the programme across the country'.

Furthermore, it is also necessary to coordinate with other safety-net programmes that are currently being implemented. Sharing experience with other safety net programmes will help the design of the SSK in future steps. On this subject, one key informant opined that:

'এখন এই ডিজাইন ইসুটা এবং সরকারের কি প্লান আছে সেগুলো গুরুত্বপুর্ণ। এটা কি সেফটিনেট প্লান হিসাবে থাকবে নাকি অন্য কোন ভাবে। যদি সেফটিনেট হিসাবে থাকে, তাহলে অন্যন্য সেফটিনেট প্রোগ্রামের সাথে কো-অর্ডিনেট করতে হবে এবং দেখতে হবে তারা কিভাবে কাজটি করছে। কোথায় গ্যাপ আছে এবং কিভাবে ঐ গুলোর সাথে কো-অর্ডিনেট করা যায়'।

'The government's plan for SSK and its design is an important factor. Will it be a safety net programme or another type of programme? If it is planned as a safety net programme, then it should be linked with other safety-net programmes. Where are the gaps and how to coordinate with other programme'.

In addition, the respondents mentioned that design issues are also important considerations for existing safety-net programmes, as some risks might arise when these safety-net programmes are implemented by the government. For example, if service utilisation increases, the government should have a backup plan for financial management as well as increasing service delivery capacity.

On the other hand, some respondents mentioned that if SSK is to be implemented as an insurance programme that covers the BPL and above poverty line (APL) population, it needs to be operated by several different health insurance modalities. Two types of suggestions were made regarding this issue.

First: establishing a National Health Security (NHS) Office, through which all SSK-related activities will be administered. The NHS will need to be an autonomous body with decision-making authority. The NHS will maintain the required levels of coordination with other necessary government bodies/departments. To establish an NHS in Bangladesh, the government could potentially follow the model established by other developing countries that are currently implementing health service schemes through an NHS-type system. Concerning the planning of SSK as an insurance modality, one key informant explained:

‘এসএসকে যখন ফুল রেঞ্জে এক্সিকিউট হবে, তখন অবশ্যই একটি বিশেষায়িত প্রতিষ্ঠান দরকার হবে। এটার জন্য আমরা একটি ন্যাশনাল হেলথ সিকিউরিটি অফিস প্রস্তাব করেছি। কারণ এসএসকে একটা বিশেষ ধরণের কাজ, এটা স্বাভাবিক কাজ না, এটা বিশাল কর্মযজ্ঞ’।

‘A special organisation will be needed when the SSK will be running in full swing. We have suggested establishing a national health security office. This is because SSK is not a usual programme; it is a special and huge task’.

Second: Engaging health insurance companies instead of scheme operators. At present, Green Delta Life Insurance Company LTD is supporting SSK as a contracted organisation. Although it is an insurance company, it is not acting in an insurance company’s role; instead, it is engaged in more management-related works as a scheme operator. Respondents mentioned that an insurance company would have to work solely for SSK to implement the insurance model. In this regard, a key informant stated:

‘যদি আমরা মনে করি যে পাইলট প্রোগ্রামের এই শিক্ষাটা নিয়ে আস্তে আস্তে ভবিষ্যতে আমরা একটা ইন্স্যুরেন্স মডালিটিতে যাব, এপিএল এবং বিপিএল সবাইকে নিব অথবা শুধু বিপিএলদের জন্য থাকবে, তাহলে কাজটি করতে হবে ইন্স্যুরেন্স কোম্পানির মাধ্যমে, কোনো স্কিম অপারেটরের মাধ্যমে নয়। গভর্নমেন্ট শুধু প্রিমিয়ামটা দিয়ে দিবে। লাভ হলে লাভ হলো, ক্ষতি হলে ক্ষতি হলো। গর্ভমেন্ট শুধু মনিটর এবং সুপারভাইজ করবে ।

‘If we think that by learning lessons from the pilot programme, we should develop an insurance model that gradually includes BPL, APL or only BPL population, then the task should be done through an insurance company instead of a scheme operator. The government will only pay the premium. It might be beneficial or run at a loss. The government will only conduct monitoring and supervision’.

Summary of Findings

BPL Household Identification Process

- The local scheme operator, Green Delta Life Insurance Company LTD, collected detailed information for the database from the selected households, took photos, and distributed healthcare cards.
- The scheme operator created the healthcare cards with the assistance of the Indian Heritage company.
- They also conducted community awareness and engagement processes.

Flaws in the BPL Identification Process

- No specific process was followed for identification of SSK BPL HHs.
- Initially, community dwellers were asked to assemble at a specific point to sign up for SSK healthcare cards.
- House-to-house visits were not made to identify BPL HHs by verifying the set criteria.
- In addition, political and local power structures influenced the inaccuracy of the SSK BPL list.
- Though problems were identified, and initiatives were taken by the local committee to discard some SSK cards, the process was difficult for the interests of local influential political personnel; the Indian company had been contracted by this time, and without their help, it was impossible to create new cards.

Limitations of BPL Card Preparation

- While the SSK card was supposed to be delivered within 7 days of identification, some cardholders had to wait for six months or more to get the card.
- In some areas, people with different political views did not receive cards when they were distributed through local elected leaders.
- Some households reported not being able to use the SSK cards due to mismatch between names and pictures.
- Rectification of the cards was also time-consuming due to dependency on a foreign company.

Weaknesses in the Community Awareness Process

- Activities designed to improve community awareness of SSK cards (audio broadcasts, leaflets, TV advertisements, postering) were mostly one-time activities.
- The interpersonal communication strategy required to promote SSK was not present.
- SSK cardholders complained that the scheme operator did not adequately inform them about the benefits and uses of the cards.

Reasons for Not Using SSK Cards: Supply-Side Factors

- SSK cardholders were not properly informed about the uses/benefits of the card.
- Unwelcoming attitude of the staff/providers in SSK facilities.
- SSK booth services were not available 24/7 (unavailable nights and weekends).
- Service interruption due to a lack of providers (consultants) for inpatient care and non-functional equipment.

Reasons for Not Using SSK Cards: Demand-Side Factors

- Lack of trust in free services/negative feedback on public facilities.
- Fear of referral to district hospitals (wage loss, food cost).
- Lack of helping hands within household acting as a barrier for inpatient care.
- Did not understand the benefit of SSK cards.
- Long distance to SSK facility/no travel cost reimbursement.
- Non-BPL HHs felt ashamed of using free services.

SSK Patient Referral

- Each month, about 120 patients are referred to Tangail DH from the three SSK UHCs. Of these, 60% are from one UHC (Madhupur).
- One major reason for this high emergency/direct referral is the unavailability of providers or services at the UHCs.
- Influential non-BPL individuals who received SSK cards pressure the service providers to have them admitted, even if their disease condition does not fall within the list of 78 covered diseases. These cases are referred to the DH.

Irregularities in Ambulance Services

- Referred patients are supposed to receive free ambulance services (either government or private) from the SSK.
- Government ambulances are not always available for SSK, and government ambulance drivers often force tips from poor SSK patients.
- Patients sometimes have to arrange an ambulance at their own expense.
- Irregularities (multiple bills for a single trip, bills for patients not using ambulance) noticed in claiming reimbursements.

Lack of Readiness of Referral Hospital

- The referral hospital (Tangail DH) is not ready to treat SSK patients due to a shortage of specialised doctors and no ICU services.
- For ICU support, patients need to be referred to Mymensingh or Dhaka Medical College Hospitals from SSK UHCs.
- Patients also have a lack of confidence in Tangail DH and sometimes go to private hospitals when referred.

Medicine Supply-Related Issues for SSK Patients

- The contracted pharmacies do not always supply drugs from the listed top 10 companies.
- Delay and partial supply of medicine is common for newly admitted patients and at discharge.
- As per SSK protocol, >7 days of medicine cannot be provided at discharge. Patients needing medicine for more than seven days cannot obtain this without re-admission.

Diagnostics Services and Related Issues for SSK Patients

- SSK patients' diagnostic services can be provided from both the SSK facility and private contracted diagnostic centres.
- However, at SSK facilities, many common tests regularly could not be performed due to problems related to equipment, reagents and manpower.
- SSK has signed an agreement with private diagnostic centres based on several criteria (proximity, discounted services, etc.).
- From contracted diagnostic centres, there is no provision for sample collection from patients' bedsides.
- Inpatients need to travel to the diagnostic centres on their own.

Shortages of Doctors, Consultants and Related Challenges in SSK Facilities

- Effective coordination of the HEU with the DGHS and HSD at the MoHFW represents a challenge when it comes to ensuring the availability of medical officers and consultants in the SSK facilities.
- Very recently, the vacant medical officers' posts have been filled through government recruitment of medical doctors.
- However, unavailability of consultants (80% of posts are vacant) remains a challenge for inpatient care.

Additional Workload of Nurses, Doctors and Managers Handling SSK Patients

- Providers and managers reported the additional workload they have to bear when serving SSK patients.
- Nurses have to maintain different registers and seek approval from doctors for different documents.
- Doctors need to fill out a number of forms and check claims documents, as well as counselling SSK patients who do not qualify for SSK services.
- Managers need to monitor and supervise the contractors, verify claim documents, organise monthly meetings with the local committee and manage patients' complaints about SSK services.

Demand for Incentives

- Most managers and providers at the healthcare facilities consider their SSK-related activities as an additional job.
- They have a strong expectation for incentives from SSK.
- Incentives at the institutional level (support for infrastructure, equipment, etc.) were implemented across all facilities.
- However, incentives could not be implemented at a personal level due to policy barriers.

No Referral Linkage of SSK with the Primary Healthcare System: A Design Flaw

- Many common illnesses for which SSK cardholders visit UHCs could have been provided for by the primary healthcare system.
- It is often difficult for poor people to judge whether their disease/condition requires hospital admission.
- Many SSK cardholders who do not require hospital admission became disappointed and developed a negative impression of the SSK programme.
- Providers sometimes make unnecessary admissions because they are sympathetic to poor cardholders.
- Unnecessary bed occupancy by SSK patients (sometimes reaching 70%) deprives non-SSK patients of required healthcare.

Limitation of Services Regarding the 78 SSK-Listed Disease Categories

- As each SSK patient must be admitted under a specific disease condition, the providers face difficulties when treating patients with comorbidities.
- It has been strongly suggested that the disease list be updated in the system along with the provision for fund allocation for treatment of comorbidities.

Interdepartmental Coordination

- For proper implementation of the SSK program, effective coordination and trust between the HEU and DGHS is essential.
- In areas such as IT system development and data storage, there has been good coordination between HEU and DGHS.
- However, the HEU had concerns about excessive dependency on the DGHS regarding SSK data storage in the DGHS server.
- Gaps in coordination between HEU and HRD in MoHFW were also observed when it came to filling vacant consultant posts in SSK facilities.

Gaps in Monitoring and Supervision of SSK

- SSK lacked effective monitoring and supervision at both the community and facility levels.
- However, certain initiatives (such as restructuring of the local committees and the appointment of additional field supervisors) were noteworthy.
- Further strengthening the monitoring and supervision capacity of the SSK Cell in specific areas (clinical, IT and admin) was suggested; hiring additional manpower could achieve this.
- The absence of a functional SSK Central Monitoring Team involving internal and external experts was also felt.
- A monitoring framework should be developed that covers all building blocks of the health system and regularly reports to the steering committee.
- Proper documentation should be drawn up on identified gaps and action taken to systematically record and report the progress.

Suggestions for Future Scale-Up

- Respondents expressed the need for a long-term action plan for future scaling-up of SSK with specific policy direction for structural change.
- If the goal is to continue SSK as a safety net programme in its current form, it can be implemented by the DGHS.
- Also need to coordinate with other safety-net programmes.
- If the goal is to implement SSK as an insurance programme that incorporates BPL and APL, it needs to be operated by health insurance modalities.
- Two suggestions for achieving the above have been proposed: establishing a National Health Security Office and engaging health insurance companies rather than scheme operators.

Engagement of Third Parties: Scheme Operator

- Apart from health card distribution and booth services, the scheme operator's staff keeps a record of each SSK patient that receives services in the hospital.
- They also collect claim papers and submit claims.
- A major challenge is the delay of claim settlement. Significant time is required to collect all medicine and diagnostic-related slips along with the signatures of healthcare providers.
- The claims are checked by facility managers, which takes time as they remain busy with their regular activities.
- Claim disbursement through local committee meetings is also very uncertain regarding timeliness, as it depends on member availability. If all steps are adhered to, it takes around three months to settle a claim, which is not convenient in the context of running a programme that engages a third party.

Engagement of Third Parties: Support Staff

- Local-level contracted managers were selected to manage support staff (security guards, nursemaid, and cleaners).
- However, in several cases, it was found that local-level leaders influenced the third-party engagement process.

Chapter 7: Findings from the Patient Exit Interviews

Exit interviews with SSK patients who utilised SSK services at SSK facilities were conducted to gain an understanding of their experience with the process and quality of SSK services from a demand-side/patient perspective (Objective 4).

Socio-Demographic Characteristics of the Participating Beneficiaries

A total of 526 beneficiaries were interviewed as part of the study at the time of their exit from the three SSK facilities. Most respondents were female (58.37%), had no institutional education (63%), and were housewives (36%). About two-thirds of the respondents (72.62%) were married and 42% had four to five family members. More than half of the beneficiaries (about 60%) stayed for two to three days in the healthcare facility, while only 9% had to stay in the hospital for more than seven days. About 63% of beneficiaries reported symptoms of non-communicable disease, followed by 31% who reported communicable disease symptoms. Nearly half of beneficiaries (49%) were able to reach the healthcare centres within 30 minutes **(Table 7.1)**.

Table 7.1: Background characteristics of scheme beneficiaries

Variables	n=526	Percentage (%)	(95% CI)
Sex			
Male	219	41.63	(37.5–45.9)
Female	307	58.37	(54.1–62.5)
Education level			
No institutional education	332	63.12	(58.9–67.1)
Up to primary	116	22.05	(18.7–25.8)
Secondary	71	13.5	(10.8–16.7)
Higher secondary and above	7	1.33	(0.6–2.8)
Occupation			
Worker	62	11.79	(9.3–14.8)
Small business	23	4.37	(2.9–6.5)
Farmer	36	6.84	(5–9.4)
Housewife	187	35.55	(31.6–39.8)
Service	16	3.04	(1.9–4.9)
Dependent	202	38.4	(34.3–42.6)
Marital status			
Married	382	72.62	(68.6–76.3)
Unmarried	81	15.4	(12.6–18.8)
Separated/divorced	11	2.09	(1.2–3.7)
Widow/widower	52	9.89	(7.6–12.8)
Family size			(–)
Less than 4 members	119	22.62	(19.2–26.4)
4–5 members	222	42.21	(38–46.5)
More than 5 members	185	35.17	(31.2–39.4)

Length of hospitalisation			
2–3 hospital days	315	59.89	(55.6–64)
4–5 hospital days	128	24.33	(20.8–28.2)
6–7 hospital days	37	7.03	(5.1–9.6)
> 7 Hospital days	46	8.75	(6.6–11.5)
Self-reported illness			
Communicable disease	165	31.37	(27.5–35.5)
Non-communicable disease	330	62.74	(58.5–66.8)
Female reproductive	21	3.99	(2.6–6.1)
Accident/injury	10	1.9	(1–3.5)
Travel time to arrive at facility			
Within 30 minutes	260	49.43	(45.2–53.7)
30–60 minutes	165	31.37	(27.5–35.5)
1 hour or more	101	19.2	(16–22.8)

Distribution of Health Service Provision-Related Satisfaction with Healthcare Scheme

Table 7.2 presents the health service provision-related satisfaction of patients with the SSK scheme. The respondents had the highest level of satisfaction with privacy during diagnostic tests (average score is 2.11), followed by the behaviour of doctors' (2.14), the behaviour of staff at the SSK booth (2.15), privacy maintained during consultation (2.20), doctors' empathy toward patients (2.21), and the behaviour of other clinical and non-clinical service providers toward patients (2.27).

Table 7.2: Health service provision-related satisfaction with SSK scheme

Domain	Satisfaction level	n	%	95% CI	Score	
					mean	SD
Satisfaction with registration time	very good	64	12.17	(9.6–15.3)	2.72	1.22
	good	221	42.02	(37.9–46.3)		
	moderate	113	21.48	(18.2–25.2)		
	poor	56	10.65	(8.3–13.6)		
	very poor	72	13.69	(11–16.9)		
Satisfaction with the behaviour of staff at SSK booth	very good	37	7.03	(5.1–9.6)	2.15	0.63
	good	402	76.43	(72.6–79.9)		
	moderate	64	12.17	(9.6–15.3)		
	poor	18	3.42	(2.2–5.4)		
	very poor	5	0.95	(0.4–2.3)		
Satisfaction with waiting time before receiving services	very good	86	16.35	(13.4–19.8)	2.82	1.34
	good	180	34.22	(30.3–38.4)		
	moderate	95	18.06	(15.0–21.6)		
	poor	73	13.88	(11.2–17.1)		

	very poor	92	17.49	(14.5–21)		
Satisfaction with healthcare providers' behaviour (doctors, nurses, and other staff)	very good	29	5.51	(3.85–7.83)	2.27	0.71
	good	366	69.58	(65.5–73.38)		
	moderate	97	18.44	(15.34–22)		
	poor	26	4.94	(3.38–7.17)		
	very poor	8	1.52	(0.76–3.02)		
Satisfaction with privacy during diagnostic tests	very good	52	13.33	(10.3–17.1)	2.11	0.80
	good	266	68.21	(63.4–72.7)		
	moderate	58	14.87	(11.7–18.8)		
	poor	12	3.08	(1.8–5.4)		
	very poor	2	0.51	(0.1–2)		
Satisfaction with waiting time during diagnostic tests at hospital	very good	55	17.8	(13.9–22.5)	2.35	1.07
	good	157	50.81	(45.2–56.4)		
	moderate	46	14.89	(11.3–19.3)		
	poor	34	11	(8–15)		
	very poor	17	5.5	(3.4–8.7)		
Satisfaction with waiting time during diagnostic tests at the contracted diagnostic centre	very good	28	11.67	(8.2–16.4)	2.75	1.25
	good	104	43.33	(37.2–49.7)		
	moderate	44	18.33	(13.9–23.8)		
	poor	27	11.25	(7.8–15.9)		
	very poor	37	15.42	(11.4–20.6)		
Satisfaction with the SSK doctors' behaviour	very good	61	11.6	(9.1–14.6)	2.14	0.77
	good	378	71.86	(67.9–75.6)		
	moderate	51	9.7	(7.4–12.5)		
	poor	23	4.37	(2.9–6.5)		
	very poor	13	2.47	(1.4–4.2)		
Satisfaction on the SSK nurses' behaviour	very good	34	6.46	(4.6–8.9)	2.42	0.84
	good	314	59.7	(55.4–63.8)		
	moderate	115	21.86	(18.5–25.6)		
	poor	51	9.7	(7.4–12.5)		
	very poor	12	2.28	(1.3–4)		
Satisfaction with other SSK staff behaviour	very good	16	3.04	(1.9–4.9)	2.61	0.89
	good	278	52.85	(48.6–57.1)		
	moderate	148	28.14	(24.4–32.1)		
	poor	62	11.79	(9.3–14.8)		
	very poor	22	4.18	(2.8–6.3)		
Satisfaction with information shared by providers about treatment	very good	36	6.84	(5–9.4)	3.85	1.40
	good	100	19.01	(15.9–22.6)		
	moderate	35	6.65	(4.8–9.1)		

	poor	78	14.83	(12–18.1)		
	very poor	277	52.66	(48.4–56.9)		
Satisfaction with doctors' concentration	very good	47	8.94	(6.8–11.7)	2.72	1.06
	good	213	40.49	(36.4–44.8)		
	moderate	146	27.76	(24.1–31.8)		
	poor	82	15.59	(12.7–19)		
	very poor	38	7.22	(5.3–9.8)		
Satisfaction with doctors' advice	very good	22	4.18	(2.8–6.3)	3.01	1.17
	good	204	38.78	(34.7–43)		
	moderate	136	25.86	(22.3–29.8)		
	poor	74	14.07	(11.3–17.3)		
	very poor	90	17.11	(14.1–20.6)		
Satisfaction with doctors' time to inform about illness	very good	31	8.99	(6.4–12.5)	2.84	1.08
	good	125	36.23	(31.3–41.5)		
	moderate	71	20.58	(16.6–25.2)		
	poor	104	30.14	(25.5–35.2)		
	very poor	14	4.06	(2.4–6.8)		
Satisfaction with overall conversation of service providers about healthcare	very good	37	7.03	(5.1–9.6)	2.65	0.96
	good	230	43.73	(39.5–48)		
	moderate	166	31.56	(27.7–35.7)		
	poor	67	12.74	(10.1–15.9)		
	very poor	26	4.94	(3.4–7.2)		
Satisfaction with privacy maintained during consultation/treatment	very good	54	10.27	(7.9–13.2)	2.20	0.72
	good	346	65.78	(61.6–69.7)		
	moderate	99	18.82	(15.7–22.4)		
	poor	20	3.8	(2.5–5.8)		
	very poor	7	1.33	(0.6–2.8)		
Satisfaction with expertise	very good	82	15.59	(12.7–19)	2.21	0.89
	good	321	61.03	(56.8–65.1)		
	moderate	72	13.69	(11–16.9)		
	poor	34	6.46	(4.6–8.9)		
	very poor	17	3.23	(2–5.1)		
Satisfaction with overall service delivery	very good	45	8.56	(6.4–11.3)	2.54	0.92
	good	244	46.39	(42.1–50.7)		
	moderate	170	32.32	(28.4–36.5)		
	poor	44	8.37	(6.3–11.1)		
	very poor	23	4.37	(2.9–6.5)		

Table 7.3 presents the proportion of beneficiaries who received medicines and diagnostic services from the SSK facility. About 80% of beneficiaries stated that they received all the prescribed medicine from the SSK pharmacy, while about 90% stated that they received all recommended diagnostic services under the scheme. Almost 100% and 95% of beneficiaries respectively reported that they did not pay to receive medicine and diagnostic services. However, about 7% of beneficiaries mentioned that they faced discrimination while receiving healthcare services under the SSK scheme.

Table 7.3: Status of prescribed medicine and diagnostic services

Services	n	%	95% CI
Medicine supply from SSK pharmacy			
All	422	80.23	(76.6–83.4)
Partial	104	19.77	(16.6–23.4)
Diagnostic services under SSK scheme			
All	352	90.26	(86.9–92.8)
Partial	38	9.74	(7.2–13.1)
Paid to receive medicine from SSK pharmacy			
Yes	3	0.57	(0.2–1.8)
No	523	99.43	(98.2–99.8)
Paid to receive diagnostic services under SSK scheme			
Yes	20	5.13	(3.3–7.8)
No	370	94.87	(92.2–96.7)
Encountered discrimination when receiving healthcare under SSK scheme			
Yes	37	7.03	(5.1–9.6)
No	489	92.97	(90.4–94.9)

Patient satisfaction regarding the availability and quality of basic amenities, such as the cleanliness of the healthcare centre, toilets and water supply, are presented in **Table 7.4**. The aspects with which beneficiaries reported the most dissatisfaction were related to the availability of drinking water (score 4.55), cleanliness of toilets (score 3.21), and condition of the waiting room (score 3.05).

Table 7.4: Patient satisfaction with access to other basic non-clinical services

Domain	Satisfaction level	n	%	95% CI	Score	
					mean	SD
Satisfaction with the condition of the waiting room	very good	5	0.95	(0.4–2.3)	3.05	1.13
	good	211	40.11	(36–44.4)		
	moderate	149	28.33	(24.6–32.3)		
	poor	91	17.3	(14.3–20.8)		
	very poor	55	10.46	(8.1–13.4)		
	don't know	15	2.85	(1.7–4.7)		
Satisfaction with cleanliness of healthcare facility	very clean	14	2.66	(1.6–4.5)	2.61	0.78
	clean	253	48.1	(43.8–52.4)		

	moderate	191	36.31	(32.3–40.5)		
	dirty	61	11.6	(9.1–14.6)		
	very dirty	7	1.33	(0.6–2.8)		
Satisfaction with cleanliness of hospital toilets	very clean	10	1.9	(1–3.5)	3.21	1.06
	clean	153	29.09	(25.4–33.1)		
	moderate	150	28.52	(24.8–32.5)		
	Dirty	142	27	(23.4–31)		
	very dirty	71	13.5	(10.8–16.7)		
Satisfaction with the available water supply	very good	2	0.38	(0.1–1.5)	4.55	0.75
	good	19	3.61	(2.3–5.6)		
	moderate	15	2.85	(1.7–4.7)		
	poor	143	27.19	(23.5–31.2)		
	very poor	347	65.97	(61.8–69.9)		
Satisfaction with the overall cleanliness of the healthcare centre	very clean	5	0.95	(0.4–2.3)	2.72	0.70
	clean	203	38.59	(34.5–42.8)		
	moderate	257	48.86	(44.6–53.1)		
	dirty	56	10.65	(8.3–13.6)		
	very dirty	5	0.95	(0.4–2.3)		

Summary of Findings

- The overall satisfaction with the service delivery (average score 2.54) was between good (score 2) and moderate (score 3).
- The domains in which beneficiaries reported the highest levels of satisfaction were related to privacy during diagnostic tests (score 2.11), the behaviour of doctors (score 2.14), the behaviour of staff at the SSK booth (score 2.15), and maintenance of privacy during consultation and treatment (score 2.20).
- About 80% and 90% of beneficiaries respectively reported that they were provided all prescribed medicine and diagnostic services from the SSK pharmacy and healthcare facilities/contracted diagnostic centre.
- Only 7% of beneficiaries reported that they were required to pay fees for diagnostic services.
- It is worth mentioning that higher levels of dissatisfaction were found among the beneficiaries with regard to basic amenities, such as the availability of water (score 4.55), cleanliness of toilets (score 3.21), and condition of the waiting room (score 3.05).

Chapter 8: Findings from the Record Review

Both non-financial and financial records of the SSK facilities from January to June 2019 were reviewed to facilitate an understanding of SSK facility utilisation, referral systems and compliance (Objective 2), along with the financial management system (Objective 4) of the SSK scheme. Under the referral system, the patients treated at, referred to and compliance at the referral facility were assessed and categorised by facility type and disease type. When looking at the financial management system, we estimated the total revenue allocated and funds spent by types of disease and services.

Table 8.1 presents the distribution of the inpatient care utilised by SSK members in the SSK UHCs from January to June 2019. During this period, we identified an increase in overall inpatient care utilisation in the SSK UHCs; however, inpatient care utilisation under the SSK scheme decreased slightly, from 21% in January to 19% in June.

Table 8.1: Utilisation of SSK inpatient care services by SSK facility (January–June 2019)

Types	Months in 2019						
	Jan	Feb	Mar	Apr	May	June	Total
Kalihati							
N	793	687	930	983	957	1,053	5,403
# of SSK patients (%)	120 (15%)	135 (20%)	174 (19%)	176 (18%)	151 (16%)	157 (15%)	913 (17%)
Ghatail							
N	886	873	896	967	1,034	1102	5,758
# of SSK patients (%)	140 (16%)	130 (15%)	157 (18%)	135 (14%)	140 (14%)	163 (15%)	865 (15%)
Madhupur							
N	752	774	587	797	603	822	4,335
# of SSK patients (%)	252 (34%)	322 (42%)	261 (44%)	273 (34%)	182 (30%)	232 (28%)	1,522 (35%)
Total							
N	2,431	2,334	2,413	2,747	2,594	2,977	15,496
# of SSK patients (%)	512 (21%)	587 (25%)	592 (25%)	584 (21%)	473 (18%)	552 (19%)	3,300 (21%)

Table 8.2 lists the number of patients referred from SSK UHCs to the referral facility, Tangail District Hospital (TDH), from January to June 2019. In the SSK UHCs, two types of referral systems were identified: an inpatient referral system and a direct referral system. Overall, 13% of the SSK patients were referred via inpatient referral and 9% via direct referral. Both indirect and direct referral figures were higher in Madhupur UHC compared to the other two SSK UHCs.

Table 8.2: Distribution of the number of referral patients by SSK UHC (January–June 2019)							
Types	**Months of 2019**						**Total**
	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	
Kalihati							
N	120	135	174	176	152	157	914
# of inpatient referrals (%)	9 (8%)	10 (7%)	24 (14%)	17 (10%)	9 (6%)	10 (6%)	79 (9%)
# of direct referrals (%)	10 (8%)	2 (1%)	6 (3%)	2 (1%)	2 (1%)	4 (3%)	26 (3%)
Ghatail							
N	141	130	158	135	140	163	867
# of inpatient referrals (%)	24 (17%)	15 (12%)	23 (15%)	12 (9%)	13 (9%)	11 (7%)	98 (11%)
# of direct referrals (%)	16 (11%)	17 (13%)	8 (5%)	7 (5%)	13 (9%)	13 (8%)	74 (9%)
Madhupur							
n	252	322	261	273	182	232	1522
# of inpatient referrals (%)	51 (20%)	75 (23%)	41 (16%)	36 (13%)	23 (13%)	29 (13%)	255 (17%)
# of direct referrals (%)	35 (14%)	40 (12%)	48 (18%)	27 (10%)	27 (15%)	25 (11%)	202 (13%)
Total							
n	513	586	593	585	474	552	3303
# of inpatient referrals (%)	84 (16%)	100 (17%)	88 (15%)	65 (11%)	45 (9%)	50 (9%)	432 (13%)
# of direct referrals (%)	61 (12%)	59 (10%)	62 (10%)	36 (6%)	42 (9%)	42 (8%)	302 (9%)

In our review, we found that all patients referred under the direct referral system attended the referral facility (TDH). However, around 28% of the patients who were referred as inpatients did not attend the TDH **(Table 8.3).** Thus, overall, 16% of total referred inpatients did not attend TDH.

Table 8.3: Gap between referral and compliance at Tangail District Hospital by SSK facility					
SSK facility		**Kalihati**	**Ghatail**	**Madhupur**	**Total**
Inpatient referral	N	79	98	255	432
	Attended TDH (%)	58 (13%)	67 (16%)	186 (43%)	311 (72%)
	Did not attend TDH (%)	21 (5%)	31 (7%)	69 (16%)	121 (28%)
Direct referral	N	26	74	202	302
	Attended TDH (%)	26 (9%)	74 (25%)	202 (67%)	302 (100%)
	Did not attend TDH (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	N	105	172	457	734
	Attended TDH (%)	84 (11%)	141 (19%)	388 (53%)	613 (84%)
	Did not attend TDH (%)	21 (3%)	31 (4%)	69 (9%)	121 (16%)

About 2% of referred patients were subsequently referred to other hospitals following their SSK referral to TDH during the period from January to June 2019 **(Table 8.4).** However, it was not possible to identify the records of referral to other hospitals during this evaluation.

Table 8.4: Referral to other hospitals from Tangail District Hospital by SSK facility	
SSK facility	**Referral to other hospitals from TDH (%)**
Kalihati	1 (0.1%)
Ghatail	7 (1.0%)
Madhupur	9 (1.2%)
Total	17 (2.3%)

Table 8.5 lists the SSK-listed disease-specific inpatient referrals to TDH by SSK UHC. Among the listed 78 disease conditions, inpatients were referred for 48 diseases during this period; cholecystitis (ICD Code K 81) was at the top with the highest percentage (14%) of referred inpatients. Inpatient referral was highest in Madhupur UHC.

Table 8.5: Disease-specific inpatient referral at Tangail District Hospital by SSK UHC from January to June 2019										
Sl. no	**ICD-10**	**Disease name**	**Kalihati UHC**		**Ghatail UHC**		**Madhupur UHC**		**Total**	
			#	**%**	**#**	**%**	**#**	**%**	**#**	**%**
1	E 10	IDDM	7	9%	1	1%	1	0%	9	2%
2	J 03	ACUTE TONSILLITIS	4	5%	1	1%	3	1%	8	2%
3	K 80	CHOLELITHIASIS	1	1%	3	3%	4	2%	8	2%
4	K 81	CHOLECYSTITIS	2	3%	9	9%	48	19%	59	14%
5	K 92	OTHER DISEASES OF GIT (HAEMATEMESIS & MALENA)			1	1%	3	1%	4	1%
6	N 02	HAEMATURIA (RECURRENT AND PERSISTENT)					1	0%	1	0%
7	R 33	RETENTION OF URINE	2	3%	1	1%		0%	3	1%

8	N 61	INFLAMMATORY DISORDER OF BREAST (ABSCESS)					2	1%	2	0%
9	N 81	FEMALE GENITAL PROLAPSE	2	3%	2	2%	2	1%	6	1%
10	N 84	POLYP OF FEMALE GENITL TRACT	1	1%					1	0%
11	J 14	PAEDIATRIC PNEUMONIA	3	4%	4	4%	3	1%	10	2%
12	J 13	ADULT PNEUMONIA			1	1%	2	1%	3	1%
13	R 50	FUO (HIGH FEVER)	7	9%	6	6%	16	6%	29	7%
14	R 56	CONVULSION (FEBRILE)			1	1%	1	0%	2	0%
15	K 56	PARALYTIC ILEUS & INTESTINAL OBSTRUCTION	3	4%					3	1%
16	A 41	SEPTICAEMIA, OTHERS (NEONATAL)	1	1%					1	0%
17	A 09	DIARRHOEA & GASTROENTERITIS	7	9%	3	3%	10	4%	20	5%
18	I 20	ACUTE CHEST PAIN (ANGINA PECTORIS)	5	6%	5	5%	10	4%	20	5%
19	J 44	COPD (ACUTE EXACERBATION)	5	6%	19	19%	27	11%	51	12%
20	J 46	ASTHMA (STATUS ASTHMATICUS)	4	5%	9	9%	11	4%	24	6%
21	J 90	PLURAL EFFUSION (NOT CLASSIFIED)					1	0%	1	0%
22	J 91	PLURAL EFFUSION (CLASSIFIED)			1	1%		0%	1	0%
23	R 18	ASCITES					2	1%	2	0%
24	K35	APPENDISECTOMY	3	4%	5	5%	18	7%	26	6%
25	K 40	INGUINAL HERNIA			1	1%		0%	1	0%
26	N92	EXCESSIVE, FREQUENT & IRREGULAR MENSTRUATION			2	2%		0%	2	0%
27	N 93	OTHER ABNORMAL UTERINE & VAGINAL BLEEDING	1	1%	1	1%	2	1%	4	1%
28	O 08	COMPLICATION OF ABORTION & ECTOPIC PREGNANCY	1	1%			4	2%	5	1%
29	O 80	SPONTANEOUS DELIVERY (SINGLE)	3	4%	5	5%	8	3%	16	4%
30	O 81	DELIVERY BY FORCEPS/VACUUM EXTRACTOR					1	0%	1	0%
31	O 82	CAESAREAN DELIVERY (SINGLE)	4	5%	1	1%	1	0%	6	1%
32	T 02	FRACTURE INVOLVING MULTIPLE BODY REGIONS			1	1%	5	2%	6	1%
33	D 58	OTHER HAEMOLYTIC DISORDER	1	1%					1	0%
34	N-39	OTHER DISORDERS OF URINARY SYSTEM (UTI)	3	4%	5	5%	27	11%	35	8%
35	L-60-63	CEREBROVASCULAR DISEASES (CVD)					1	0%	1	0%
37	A-01	TYPHOID AND PARATYPHOID FEVER			2	2%	8	3%	10	2%
38	I 10	ESSENTIAL HYPERTENSION	7	9%	6	6%	2	1%	15	3%

39	L-98	OTHER DISORDERS OF SKIN AND SUBCUTANEOUS TISSUE, NOT ELSEWHERE CLASSIFIED					11	4%	11	3%
40	K-60	FISSURE AND FISTULA OF ANAL AND RECTAL REGION	1	1%			1	0%	2	0%
41	N-73	OTHER PELVIC INFLAMMATORY DISEASES (PID)					8	3%	8	2%
42	H-66	SUPPURATIVE AND UNSPECIFIED OTITIS MEDIA (CSOM)					1	0%	1	0%
43	H-25	CATARACT (SENILE- H-25)					1	0%	1	0%
44	L-08	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE					2	1%	2	0%
45	D-17	BENIGN LYPOMATOUS NEOPLASM					2	1%	2	0%
46	L-72	FOLICULAR CYST OF SKIN AND SUBCUTANEOUS TISSUE	1	1%					1	0%
47	E-43	MANAGEMENT OF ACUTE MALNUTRITION					5	2%	5	1%
48	B-15	HEPATITIS			2	2%			2	0%
TOTAL			**79**	**100%**	**98**	**100%**	**255**	**100%**	**432**	**100%**

Table 8.6 presents the disease-specific direct referrals to TDH by SSK UHCs from January to June 2019. Among the 78 diseases, patients were directly referred for 46 diseases, with 'Fracture involving multiple body regions' (ICD Code T 02) being the reason for the highest percentage (13%) of inpatient referral. Direct referral was also the highest in Madhupur UHC.

Table 8.6: Disease-specific direct referral at Tangail District Hospital by SSK facility

Sl. no	ICD-10	Disease name	Kalihati UHC		Ghatail UHC		Madhupur UHC		Total	
			#	%	#	%	#	%	#	%
1	E 10	IDDM		0%	2	3%	2	1%	4	1%
2	K 61	ABSCESS OF ANAL AND RECTAL REGION					1	0%	1	0%
3	K 80	CHOLELITHIASIS	4	15%	8	11%	8	4%	20	7%
4	K 81	CHOLECYSTITIS	2	8%	2	3%	15	7%	19	6%
5	K 92	OTHER DISEASES OF GIT (HAEMATEMESIS & MALENA)					2	1%	2	1%
6	N 40	HYPERPLASIA OF PROSTATE			1	1%			1	0%
7	N 61	INFLAMMATORY DISORDER OF BREAST (ABSCESS)	1	4%	2	3%	2	1%	5	2%
8	N 81	FEMALE GENITAL PROLAPSE			2	3%	19	9%	21	7%
9	N 43	HYDROCELE AND SPERMATOCELE			1	1%	2	1%	3	1%
10	J 14	PAEDIATRIC PNEUMONIA			2	3%	3	1%	5	2%
11	J 13	ADULT PNEUMONIA					1	0%	1	0%
12	R 50	FUO (HIGH FEVER)			4	5%	3	1%	7	2%
13	K 56	PARALYTIC ILEUS & INTESTINAL	1	4%	1	1%	1	0%	3	1%

		OBSTRUCTION								
14	A 41	SEPTICAEMIA, OTHERS (NEONATAL)					1	0%	1	0%
15	I 20	ACUTE CHEST PAIN (ANGINA PECTORIS)			7	9%	20	10%	27	9%
16	J 44	COPD (ACUTE EXACERBATION)	1	4%	2	3%	8	4%	11	4%
17	J 46	ASTHMA (STATUS ASTHMATICUS)	1	4%	5	7%	3	1%	9	3%
18	R 18	ASCITES			1	1%	5	2%	6	2%
19	K 35	APPENDISECTOMY	1	4%	2	3%	2	1%	5	2%
20	K 40	INGUINAL HERNIA	1	4%	4	5%	9	4%	14	5%
21	N 92	EXCESSIVE, FREQUENT & IRREGULAR MENSTRUATION					1	0%	1	0%
22	N 93	OTHER ABNORMAL UTERINE & VAGINAL BLEEDING			2	3%	1	0%	3	1%
23	O 01	HYDATIDIFORM MOLE					1	0%	1	0%
24	O 08	COMPLICATION OF ABORTION & ECTOPIC PREGNANCY	1	4%			2	1%	3	1%
25	O 70	PERINEAL LACERATION			1	1%			1	0%
26	O 80	SPONTANEOUS DELIVERY (SINGLE)	1	4%	3	4%	2	1%	6	2%
27	O 82	CAESAREAN DELIVERY (SINGLE)	3	12%	3	4%	2	1%	8	3%
28	O 84	CAESAREAN DELIVERY (MULTIPLE)			1	1%	2	1%	3	1%
29	O 85	PUERPERAL SEPSIS				0%	2	1%	2	1%
30	O 72	POSTPARTUM HAEMORRHAGE				0%	1	0%	1	0%
31	T 02	FRACTURE INVOLVING MULTIPLE BODY REGIONS	4	15%	11	15%	24	12%	39	13%
32	T 29	BURN & CORROSION OF MULTIPLE BODY REGIONS			1	1%			1	0%
33	T 42	POISONING BY SEDATIVE & ANTI-EPILEPTIC DRUGS	1	4%					1	0%
34	D 58	OTHER HAEMOLYTIC DISORDER					2	1%	2	1%
35	N-39	OTHER DISORDERS OF URINARY SYSTEM (UTI)					17	8%	17	6%
36	L-60-63	CEREBROVASCULAR DISEASES (CVD)	3	12%	2	3%	4	2%	9	3%
37	I 10	ESSENTIAL HYPERTENSION			1	1%	2	1%	3	1%
38	L-98	OTHER DISORDERS OF SKIN AND SUBCUTANEOUS TISSUE, NOT ELSEWHERE CLASSIFIED			2	3%	9	4%	11	4%
39	K-60	FISSURE AND FISTULA OF ANAL AND RECTAL REGION					13	6%	13	4%
40	O-22	HAEMORRHOIDS IN PREGNANCY	1	4%					1	0%
41	N-73	OTHER PELVIC INFLAMMATORY DISEASES (PID)					3	1%	3	1%

42	H-25	CATARACT (SENILE- H-25)			1	1%			1	0%
43	L-08	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE					1	0%	1	0%
44	D-17	BENIGN LYPOMATOUS NEOPLASM					3	1%	3	1%
45	L-72	FOLICULAR CYST OF SKIN AND SUBCUTANEOUS TISSUE					2	1%	2	1%
46	E-43	MANAGEMENT OF ACUTE MALNUTRITION					1	0%	1	0%
Total			**26**	**100%**	**74**	**100%**	**202**	**100%**	**302**	**100%**

Top 20 Diseases in Terms of Utilisation at SSK Facilities

Table 8.7 presents the top 20 diseases in terms of utilisation in Kalihati from January to June 2019. Utilisation of COPD (acute exacerbation) was the highest (17.4%) at Kalihati UHC among the 78 identified diseases, followed by Asthma (Status Asthmaticus) (16.2%), Diarrhoea Gastroenteritis (10.2%), and FUO (fever of unknown origin) (10.0%). During this period, the highest cost was consumed by the treatment of other disorders of the urinary system (BDT 1,096,722), followed by COPD (acute exacerbation) (BDT 429,396), and acute chest pain (angina pectoris) (BDT 348,894). Overall, we found that there was a difference between the allocated amount and the average expenditure for each disease. This difference was more than seven times higher for FUO and IDDM.

Table 8.7: Top 20 diseases in terms of utilisation at Kalihati UHC

Sl. no	ICD-10	Detailed disease name	n (%)	Allocated amount (BDT)	Avg. exp. (BDT)	Min. (BDT)	Max. (BDT)	Total (BDT)
1	J44	COPD (ACUTE EXACERBATION)	132 (17.4%)	3,253	2,955	545	7,111	429,396
2	J46	ASTHMA (STATUS ASTHMATICUS)	123 (16.2%)	2,828	2,403	783	6,574	282,800
3	A09	DIARRHOEA & GASTROENTERITIS	77 (10.2%)	2,359	1,493	319	5,874	127,800
4	R50	FUO (HIGH FEVER)	76 (10.0%)	16,617	2,318	416	9,220	160,412
5	N39	OTHER DISORDERS OF URINARY SYSTEM (UTI)	73 (9.6%)	1,843	2,567	450	11,246	1,096,722
6	I10	ESSENTIAL HYPERTENSION	42 (5.5%)	1,758	2,205	420	11,044	202,573
7	A01	TYPHOID AND PARATYPHOID FEVER	39 (5.2%)	2,415	1,852	663	3,878	89,355
8	E10	IDDM	37 (4.9%)	16,614	2,126	302	8,733	61,530
9	I20	ACUTE CHEST PAIN (ANGINA PECTORIS)	33 (4.4%)	2,982	1,339	257	3,049	348,894
10	J14	PEDIATRIC PNEUMONIA	17 (2.2%)	1,717	2,073	714	4,617	32,623
11	J03	ACUTE TONSILITIS	8 (1.1%)	2,203	782	392	1,703	50,694
12	N93	OTHER ABNORMAL UTERINE & VAGINAL BLEEDING	7 (0.9%)	4,967	3,094	1,436	6,045	62,300

13	N73	OTHER PELVIC INFLAMMATORY DISEASES (PID)	6 (0.8%)	2,581	2,097	977	3,668	94,136
14	O80	SPONTANEOUS DELIVERY (SINGLE)	6 (0.8%)	4,450	1,536	669	2,313	48,512
15	O82	CESAREAN DELIVERY (SINGLE)	6 (0.8%)	6,724	2,937	224	7,635	8,995
16	J13	ADULT PNEUMONIA	5 (0.7%)	2,226	2,275	1,242	3,846	9,024
17	D58	OTHER HAEMOLYTIC DISORDER	4 (0.5%)	6,179	2,934	576	7,476	12,905
18	K35	APPENDISECTOMY	4 (0.5%)	5,158	2,990	2,279	3,294	24,835
19	K81	CHOLECYSTITIS	4 (0.5%)	4,711	5,459	3,997	6,438	18,024
20	L08	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE	4 (0.5%)	1,980	2,400	919	3,807	14,901

Table 8.8 presents the list of the top 20 diseases in terms of inpatient utilisation in Ghatail UHC. As in Kalihati UHC, COPD (acute exacerbation) and Asthma (Status Asthmaticus) represented the highest proportion of cases treated at Ghatail UHC (about 18.8% and 14.2%, respectively), followed by 'Other disorders of urinary system' (UTI) (10.1%). However, among the top 20 illnesses, the largest amount of money was consumed by treating 'Diarrhoea & gastroenteritis' (BDT 1,262,892), followed by 'Essential hypertension' (BDT 614,718), and 'COPD (acute exacerbation)' (BDT 429,396). Moreover, we again observed positive and negative differences between the allocated amount and average expenditure on the disease.

Table 8.8: Top 20 diseases in terms of utilisation at Ghatail UHC

Sl. no	ICD code	Detailed disease name	n (%)	Allocated amount (BDT)	Avg. exp. (BDT)	Min. (BDT)	Max. (BDT)	Total
1	J44	COPD (ACUTE EXACERBATION)	132 (18.8%)	3,253	4,186	100	9,779	429,396
2	J46	ASTHMA (STATUS ASTHMATICUS)	100 (14.2%)	2,828	4,472	1,041	14,950	347,844
3	N39	OTHER DISORDERS OF URINARY SYSTEM (UTI)	71 (10.1%)	1,800	3,499	1,174	8,000	181,643
4	A09	DIARRHOEA & GASTROENTERITIS	68 (9.7%)	2,359	1,859	87	4,290	1,262,892
5	R50	FUO (HIGH FEVER)	66 (9.4%)	16,617	3,367	574	12,367	134,567
6	K81	CHOLECYSTITIS	43 (6.1%)	4,711	4,021	1,175	7,909	73,836
7	A01	TYPHOID AND PARATYPHOID FEVER	37 (5.3%)	2,415	2,937	648	6,132	94,185
8	I10	ESSENTIAL HYPERTENSION	35 (5.0%)	1,758	1,784	357	7,696	614,718
9	E10	IDDM	21 (3.0%)	16,614	3,110	686	8,400	98,406
10	J14	PAEDIATRIC PNEUMONIA	19 (2.7%)	1,717	1,650	560	3,299	29,189
11	I20	ACUTE CHEST PAIN (ANGINA PECTORIS)	17 (2.4%)	2,982	2,984	485	9,021	17,622
12	O80	SPONTANEOUS	14 (2.0%)	4,450	2,094	974	4,405	34,769

		DELIVERY (SINGLE)						
13	O82	CAESAREAN DELIVERY (SINGLE)	14 (2.0%)	6,724	8,841	7,223	10,150	15,486
14	k35	APPENDISECTOMY	9 (1.3%)	5,390	6,246	2,941	20,628	26,700
15	J03	ACUTE TONSILITIS	7 (1.0%)	1,285	1,266	431	2,494	40,344
16	R56	CONVULSION (FEBRILE)	6 (0.9%)	1,504	1,466	673	2,518	11,130
17	N73	OTHER PELVIC INFLAMMATORY DISEASES (PID)	5 (0.7%)	2,581	3,778	2,988	5,117	24,716
18	N93	OTHER ABNORMAL UTERINE & VAGINAL BLEEDING	5 (0.7%)	4,967	2,837	1,795	4,700	20,632
19	N81	FEMALE GENITAL PROLAPSE	3 (0.4%)	6,008	1,930	784	2,984	18,844
20	N92	EXCESSIVE, FREQUENT & IRREGULAR MENSTRUATION	3 (0.4%)	4,967	7,029	2,805	14,122	7,920

Table 8.9 presents the utilisation of the top 20 diseases at Madhupur UHC. The highest percentage of utilisation was found for 'Other disorders of the urinary system (UTI)' (14.1%,), 'FUO (Fever of Unknown Origin)' (12.1%) and 'Cholecystitis' (10.1%). The average expenditure for these diseases was BDT 3,345, BDT 2,988 and BDT 3,615 respectively, compared to the allocated amounts of BDT 1,800, BDT 16,617, and BDT 4,711. We also observed differences in the allocated amount and average expenditure for all other diseases. The highest amount of money was spent on treating 'FUO (Fever of Unknown Origin)' (BDT 2,592,252), followed by 'Cholecystitis' (BDT 626,563), and 'Other disorders of urinary system' (BDT 327,600).

Table 8.9: Top 20 diseases in terms of utilisation at Madhupur UHC

Sl. no	ICD code	Detailed disease name	n (%)	Allocated amount (BDT)	Avg. exp. (BDT)	Min. (BDT)	Max. (BDT)	Total
1	N39	OTHER DISORDERS OF URINARY SYSTEM (UTI)	182 (14.1%)	1,800	3,345	545	11,482	327,600
2	R50	FUO (HIGH FEVER)	156 (12.1%)	16,617	2,988	816	11,187	2,592,252
3	K81	CHOLECYSTITIS	133 (10.3%)	4,711	3,615	1,067	10,147	626,563
4	A01	TYPHOID AND PARATYPHOID FEVER	124 (9.6%)	2,415	2,817	290	18,359	299,460
5	A09	DIARRHOEA & GASTROENTERITIS	102 (7.9%)	2,359	1,655	582	3,879	240,618
6	J44	COPD (ACUTE EXACERBATION)	88 (6.8%)	3,253	3,963	457	10,346	286,264
7	J46	ASTHMA (STATUS ASTHMATICUS)	82 (6.4%)	2,828	3,198	659	8,238	231,896
8	L98	OTHER DISORDERS OF SKIN AND	72 (5.6%)	2,170	2,706	322	8,707	156,240

		SUBCUTANEOUS TISSUE, NEC						
9	N73	OTHER PELVIC INFLAMMATORY DISEASES (PID)	55 (4.3%)	2,581	3,088	212	6,516	141,955
10	k35	APPENDISECTOMY	34 (2.6%)	5,158	3,726	1,392	7,851	175,372
11	E43	MANAGEMENT OF ACUTE MALNUTRITION	26 (2.0%)	2,250	2,468	583	8,680	58,500
12	J14	PAEDIATRIC PNEUMONIA	26 (2.0%)	1,717	1,181	114	2,375	44,642
13	T02	FRACTURE INVOLVING MULTIPLE BODY REGIONS	23 (1.8%)	7,230	2,441	884	5,514	166,290
14	I20	ACUTE CHEST PAIN (ANGINA PECTORIS)	22 (1.7%)	2,982	2,263	459	5,433	65,604
15	O80	SPONTANEOUS DELIVERY (SINGLE)	20 (1.6%)	4,450	2,479	375	7,696	89,000
16	K35	APPENDISECTOMY	16 (1.2%)	5,289	3,821	2,082	6,664	84,618
17	O08	COMPLICATION OF ABORTION & ECTOPIC PREGNANCY	15 (1.2%)	4,346	2,824	1,566	4,515	65,190
18	J13	ADULT PNEUMONIA	13 (1.0%)	2,226	2,531	832	5,650	28,938
19	L08	OTHER LOCAL INFECTIONS OF SKIN AND SUBCUTANEOUS TISSUE	11 (0.9%)	1,980	3,007	491	5,707	21,780
20	O82	SPONTANEOUS DELIVERY (SINGLE)	10 (0.8%)	6,724	4,277	180	6,733	67,240

Table 8.10 presents the top 20 diseases in terms of utilisation at the referral facility. 'Fracture Involving Multiple Body Regions' (14.2%) accounted for the highest percentage of cases treated at TDH (14%) in terms of fund utilisation, followed by 'Acute Chest Pain (Angina Pectoris)' (9.6%), and 'Cholelithiasis' (6.5%). The amount allocated for 'Fracture Involving Multiple Body Regions' was about BDT 7,000, whereas the average expenditure for this disease was BDT 3,151. Overall, treating patients for 'Fracture Involving Multiple Body Regions' consumed the highest amount of money (BDT 259,014) among the top 20 diseases, followed by 'Cholelithiasis' (BDT 180,272).

Table 8.10: Top 20 diseases in terms of utilisation at Tangail District Hospital

Sl. no	ICD-10	Detailed disease name	n (%)	Allocated amount (BDT)	Avg. exp. (BDT)	Min. (BDT)	Max. (BDT)	Total
1	T02	FRACTURE INVOLVING MULTIPLE BODY REGIONS	37 (14.2%)	7,000	3,151	264	15,722	259,014
2	I20	ACUTE CHEST PAIN (ANGINA PECTORIS)	25 (9.6%)	2,982	3,174	305	8,127	74,550
3	K80	CHOLELITHIASIS	17 (6.5%)	10,631	4,612	2,166	8,587	180,727
4	K81	CHOLECYSTITIS	16 (6.2%)	4,711	2,693	557	6,951	75,376
5	N81	FEMALE GENITAL PROLAPSE	15 (5.8%)	6,008	3,927	282	11,457	90,120

6	K60	FISSURE AND FISTULA OF ANAL AND RECTAL REGION	13 (5.0%)	2,120	3,107	866	7,506	27,560
7	K40	INGUINAL HERNIA	12 (4.6%)	6,839	2,116	107	4,532	82,068
8	N39	OTHER DISORDERS OF URINARY SYSTEM (UTI)	12 (4.6%)	1,800	3,938	-	7,977	21,600
9	L98	OTHER DISORDERS OF SKIN AND SUBCUTANEOUS TISSUE, NOT ELSEWHERE CLASSIFIED	10 (3.8%)	2,170	2,830	951	5,418	21,700
10	J44	COPD (ACUTE EXACERBATION)	9 (3.5%)	3,253	5,453	2,224	14,260	29,277
11	L60-63	CEREBROVASCULAR DISEASES (CVD)	9 (3.5%)	10,200	3,882	1,428	8,503	91,800
12	J46	ASTHMA (STATUS ASTHMATICUS)	8 (3.1%)	2,828	2,963	485	7,316	22,624
13	O82	CAESAREAN DELIVERY (SINGLE)	7 (2.7%)	6,724	3,389	1,576	5,520	47,068
14	O80	SPONTANEOUS DELIVERY (SINGLE)	6 (2.3%)	4,450	2,391	563	4,802	26,700
15	R18	ASCITES	5 (1.9%)	4,290	3,942	2,522	5,490	21,450
16	J14	PAEDIATRIC PNEUMONIA	4 (1.5%)	1,717	3,098	1,032	6,505	6,868
17	R50	FUO (HIGH FEVER)	4 (1.5%)	16,617	5,090	2,850	8,506	66,468
18	I10	ESSENTIAL HYPERTENSION	3 (1.2%)	1,758	3,332	552	4,983	5,274
19	N61	INFLAMMATORY DISORDER OF BREAST (ABSCESS)	3 (1.2%)	2,059	1,684	687	2,783	6,177
20	O84	CAESAREAN DELIVERY (MULTIPLE)	3 (1.2%)	6,724	4,358	1,033	8,807	20,172

Table 8.11 presents the total funds generated from the claims and resources utilised (medicine and investigation) by SSK facilities. The highest amount of funds was generated in Madhupur UHC (BDT 12,473,582), followed by Kalihati UHC (BDT 4,628,423), Ghatail UHC (BDT 4,189,010) and TDH (BDT 1,678,756). On the other hand, in terms of funds utilisation, the highest proportion of generated funds was utilised by Ghatail UHC (70%), followed by Madhupur UHC (64%), TDH (63%), and Kalihati UHC (50%). In all facilities, medicine expenditure was higher compared to diagnostic investigations. Overall, 61% of the generated funds were utilised in all facilities; of this, 54% were utilised in medicine and 7% for diagnostics investigations.

Table 8.11: Total funds generated from the claims and utilised resources (medicine and investigation) by SSK facilities by month (January–June 2019)

Types	Months of 2019						
	January	February	March	April	May	June	Total
Kalihati UHC							
Funds generated	496,480	647,568	781,245	955,460	918,500	829,170	4,628,423
Used for medicine (%)	261,282 (53%)	432,241 (67%)	420,139 (53%)	395,817 (41%)	311767 (34%)	338,019 (41%)	2,159,264 (47%)
Used for investigation (%)	12,364 (2%)	80,036 (12%)	43,026 (6%)	6,220 (1%)	15,300 (2%)	10,750 (1%)	167,696 (4%)
Total used (%)	273,646 (55%)	512,277 (79%)	463,165 (59%)	402,037 (42%)	327,067 (36%)	348,769 (42%)	2,326,960 (50%)
Ghatail UHC							
Funds generated	657,185	598,913	729,299	593,151	730,217	880,245	4,189,010
Used for medicine (%)	493,892 (75%)	432,241 (72%)	463,926 (64%)	423,730 (71%)	368,878 (51%)	402,828 (46%)	2,585,494 (62%)
Used for investigation (%)	66,812 (10%)	80,036 (13%)	61,964 (8%)	44,240 (7%)	32,860 (5%)	50,780 (6%)	336,692 (8%)
Total used (%)	560,704 (85%)	512,277 (86%)	525,890 (72%)	467,970 (79%)	401,738 (55%)	453,608 (52%)	2,922,186 (70%)
Madhupur UHC							
Funds generated	1,077,344	1,489,018	1,296,550	1,450,720	923,159	1,008,642	7,245,433
Used for medicine (%)	623,440 (58%)	792,991 (53%)	666,010 (51%)	677,198 (47%)	538,568 (58%)	644,570 (64%)	3,942,777 (54%)
Used for investigation (%)	108,700 (10%)	158,817 (11%)	115,338 (9%)	122,162 (8%)	74,425 (8%)	81,823 (8%)	661,265 (9%)
Total used (%)	732,140 (68%)	951,808 (64%)	781,348 (60%)	799,360 (55%)	612,993 (66%)	726,393 (72%)	4,604,042 (64%)
Tangail DH							
Funds generated	396,310	303,575	330,157	158,242	237,452	253,020	1,678,756
Used for medicine (%)	167,295 (42%)	175,854 (58%)	203,743 (62%)	110,320 (70%)	144,999 (61%)	131,706 (52%)	933,916 (56%)
Used for investigation (%)	14,544 (4%)	27,216 (9%)	26,600 (8%)	11,640 (7%)	22,000 (9%)	18,440 (7%)	120,440 (7%)

Total used (%)	181,839 (46%)	203,070 (67%)	230,343 (70%)	121,960 (77%)	166,999 (70%)	150,146 (59%)	1,054,356 (63%)
Overall							
Funds generated	2,627,319	3,039,074	3,137,251	3,157,573	2,809,328	2,971,077	17,741,622
Used for medicine (%)	1,545,908 (59%)	1,833,326 (60%)	1,753,818 (56%)	1,607,065 (51%)	1,364,212 (49%)	1,517,122 (52%)	9,621,451 (54%)
Used for investigation (%)	202,420 (8%)	346,105 (12%)	246,928 (8%)	184,262 (6%)	144,585 (5%)	161,793 (5%)	1,286,093 (7%)
Total used (%)	1,748,329 (67%)	2,179,432 (72%)	2,000,746 (64%)	1,791,327 (57%)	1,431,743 (54%)	1,617,971 (57%)	10,769,546 (61%)

Table 8.12 shows the proportions of funds remaining unutilised by SSK facilities during January–June 2019. A total of BDT 22,969,771 was generated during the period, where BDT 1,638,511 was unutilised (7%). The highest amount of funds went unutilised at Madhupur UHC (4.4%), followed by Kalihati UHC (1.7%).

Table 8.12: Total funds utilised and unutilised during January–June 2019

Facilities	Total funds generated	Total funds utilised	Unutilised funds (% total funds generated)
Kalihati UHC	4,628,423	4,240,441	387,982 (1.7%)
Madhupur UHC	7,245,433	6,213,927	1,031,506 (4.4%)
Ghatail UHC	4,189,010	4,041,806	147,204 (0.6%)
Tangail DH	1,678,756	1,606,937	71,819 (0.3%)
Total	***22,969,771***	***16,103,111***	***1,638,511 (7.0%)***

Total Expenditure of SSK Facilities

Table 8.13 lists the total expenditure of SSK facilities from January to June 2019. Kalihati UHC had an estimated total expenditure of BDT 4,040,212; of this, about 50% was used for medicine, followed by 15% and 4% for the salary of outsourced staff and diagnostic services, respectively. In Ghatail UHC, total expenditure was estimated at BDT 4,041,806, about 64% of which was for medicine, followed by 23% and 8% for the salary of outsourced staff and diagnostic services respectively. Madhupur UHC reported a total estimated expenditure of BDT 6,213,927, 63% of which was for medicine, followed by 18%, 10%, and 5% for the salary of outsourced staff, diagnostic services, and ambulance services, respectively. Finally, the referral TDH had a total estimated expenditure of BDT 1,606,937; 58% of this was for medicine, followed by 12% for development costs.

Table 8.13: Total expenditure of SSK facilities (January–June 2019)

Description	Kalihati UHC		Ghatail UHC		Madhupur UHC		Tangail DH	
	Expenditure (BDT)	% share	Expenditure (BDT)	% share	Expenditure (BDT)	% share	Expenditure (BDT)	% share
Medicine	2,159,264	50.9%	2,585,494	64.0%	3,942,777	63.5%	933,916	58.1%
Diagnostics	167,696	4.0%	336,692	8.3%	661,265	10.6%	120,440	7.5%
Others								
Ambulance	23,772	0.6%	7,700	0.2%	355,700	5.7%	–	0.0%

Salary of outsourced HR	625,578	14.8%	941,220	23.3%	1,129,500	18.2%	–	0.0%
Internet bills	13,750	0.3%	12,000	0.3%	–	0.0%	–	0.0%
Re-agents for pathology and other items	48,640	1.1%	45,000	1.1%	69,000	1.1%	–	0.0%
Repairs and maintenance	95,300	2.2%	41,700	1.0%	–	0.0%	–	0.0%
Oil bills	70,012	1.7%	–	0.0%	–	0.0%	–	0.0%
ECG machine	260,000	6.1%	–	0.0%	–	0.0%	–	0.0%
Water pump	200,000	4.7%	–	0.0%	–	0.0%	–	0.0%
Printing of report form	74,000	1.7%	–	0.0%	–	0.0%	–	0.0%
Pipe fitting and washing bill	100,000	2.4%	–	0.0%	–	0.0%	–	0.0%
X-ray and ECG paper	27,200	0.6%	–	0.0%	–	0.0%	–	0.0%
Cleaning	175,000	4.1%	–	0.0%	–	0.0%	–	0.0%
Furniture and stationery items	–	0.0%	72,000	1.8%	35,430	0.6%	–	0.0%
Entertainment (Director General, Civil Sergeon and others)	–	0.0%	–	0.0%	20,255	0.3%	–	0.0%
Patient's own costs	–	0.0%	–	0.0%	–	0.0%	22,828	1.4%
Development costs	–	0.0%	–	0.0%	–	0.0%	39,930	2.5%
Hospital development costs	–	0.0%	–	0.0%	–	0.0%	198,445	12.3%
Renovation (SSK pharmacy)	–	0.0%	–	0.0%	–	0.0%	117,333	7.3%
Development of eye ward	–	0.0%	–	0.0%	–	0.0%	81,363	5.1%
Development of blood bank	–	0.0%	–	0.0%	–	0.0%	85,000	5.3%
Refund (SSK)	200,229	4.7%	–	0.0%	–	0.0%	7,683	0.5%
Total expenditure	***4,240,441***	***100.0%***	***4,041,806***	***100.0%***	***6,213,927***	***100.0%***	***1,606,937***	***100.0%***

Total Government Revenue Earned from SSK Facilities

Table 8.14 presents the total revenue earned by the government from the SSK facilities from January to June 2019. Among the facilities, the highest revenue was earned from Madhupur UHC (BDT 372,029), followed by Kalihati UHC (BDT 330,029), Ghatail UHC (BDT 164,445), and TDH (BDT

33,252). In all facilities except for Madhupur UHC, the majority of the revenue was generated from investigations. However, in Madhupur, the highest proportion (68%) came from ambulance services.

Table 8.14: Government revenue earned from SSK facilities (January–June 2019)

Types of revenue	Kalihati UHC		Ghatail UHC		Madhupur UHC		Tangail DH	
	Revenue	%	Revenue	%	Revenue	%	Revenue	%
Investigation bill (facility)	109,002	33%	137,145	83%	119,010	32%	25,569	77%
Ambulance	20,800	6%	27,300	17%	253,000	68%	0	0%
Refund	200,227	61%	0	0%	0	0%	7,683	23%
Total	***330,029***	100%	***164,445***	100%	***372,010***	100%	***33,252***	100%

Summary of Findings

- Overall, utilisation of inpatient services increased in SSK facilities, but utilisation under the SSK scheme decreased slightly from 21% to 19% of total inpatients. Among the three UHCs, Madhupur UHC was found to have the highest level of inpatient utilisation (35%) under SSK.
- Among the SSK facilities, 13% of the SSK patients were referred via inpatient referral, while 9% were referred directly. Both indirect and direct referrals were higher in Madhupur UHC compared to the other two SSK UHCs.
- About 2% of patients referred from SSK UHCs to TDH were referred to other hospitals from the referral TDH.
- Of the 78 diseases, inpatient referral was recorded for 48, while direct referral was conducted for 46 diseases. Cholecystitis (ICD Code K 81) represented the highest (14%) number of referred cases among inpatient referrals, while fractures involving multiple body regions (ICD Code T 02) represented the highest number of direct referral cases at 13%.
- In all facilities, COPD (acute exacerbation of Chronic Obstructive Pulmonary Disorder), Asthma (Status Asthmaticus), Diarrhoea & Gastroenteritis, FUO (fever of unknown origin), Other Disorders of Urinary System (UTI), Cholecystitis, Fracture Involving Multiple Body Regions, Acute Chest Pain (Angina Pectoris), and Cholelithiasis were the major causes of inpatient care utilisation.
- The largest amount of funds was generated in Madhupur (BDT 7,245,433), followed by Kalihati (BDT 4,628,423), Ghatail (BDT 4,189,010), and TDH (BDT 1,678,756).
- Overall, 61% of the generated funds were utilised across all facilities; of these, 54% were used for medicine and 7% for diagnostic services.
- In all facilities, the highest proportion of expenditure was incurred for medicine and salary for outsourced staff.
- Among the facilities, the highest amount of revenue was earned from Madhupur UHC (BDT 372,029), followed by Kalihati UHC (BDT 330,029), Ghatail UHC (BDT 164,445), and TDH (BDT 33,252).

Chapter 9: Conclusions and Recommendations

Based on the study findings, recommendations for the short, medium and long term are presented below.

Short-Term Recommendations (to be Addressed within One to Three Years)

Expansion of SSK in the district health system:

- As the pilot SSK scheme was found to be effective in reducing financial hardship among the poor population who used the SSK cards, the intervention should be scaled up to all 12 upazilas of Tangail district, including the municipal areas of the respective upazilas, for adaptation of SSK to the district health system model.
- The scale-up plan should be supported by well-designed implementation research to guide the implementers in proper planning, as well as identifying and mitigating the demand- and supply-side challenges identified by this evaluation.

Improving BPL identification process and awareness-building:

- As the study discovered flaws in BPL identification, we suggest that before the future expansion of the SSK programme, a very clear strategy should be developed for identifying the BPL HHs by checking the BPL selection criteria through door-to-door visits. SSK cards should be handed out to all identified BPL HHs within one month of their identification.
- As the existing mass communication strategy failed to inform and motivate the SSK cardholders regarding the use of the SSK services, an interpersonal communication strategy should be adopted for informing the SSK cardholders about the benefits of the programme and the use of the cards. For this interpersonal communication, local NGOs should be engaged.

Strengthening existing outpatient department services for SSK patients in UHCs:

- According to the current strategy, as the UHC is the SSK patients' first contact point for inpatient care, patients who do not qualify for admission become disappointed and develop a negative impression of SSK. To address this problem, the existing OPD service at each SSK facility should incorporate a mechanism to counsel and treat these SSK patients with special care.

Updating the 78-disease list and computer system:

- According to the findings of this pilot study, the list of 78 disease conditions for which SSK services are currently provided should be reviewed and updated. This should be done via expert group consultation to determine which of these diseases should be excluded and which new diseases should be included.
- At present, there is no provision for managing patients with comorbidities in the computerised system. Therefore, this system should also be updated to include such provisions.
- In the current system, as there is no provision for providing medicine to follow-up patients without having them admitted, a mechanism should be developed that enables medicine to be provided to these patients (if needed) to avoid unnecessary admission.

Facility readiness/services for improving quality of care:

- During the facility assessment, we found major gaps in the maintenance of standard infection control precautions, as well as a lack of diagnostic facilities in both the UHCs and Tangail DH. Immediate measures should be taken to address these gaps.
- We also found that patients were mostly dissatisfied with the unavailability of water, cleanliness of the toilets, and amenities in the waiting room. Necessary steps should be taken to improve patient satisfaction by addressing these issues.
- Our study observed a lack of compliance in filling out the treatment protocol in the SSK facilities over time. Thus, we suggest an organised orientation programme for the doctors to improve compliance with these protocols.
- From the demand side, negligence, lack of attention, and unprofessional behaviour on part of the providers discouraged the SSK cardholders from seeking services under the programme. To improve patient confidence in public health facilities, a feedback mechanism should be developed by administering a simple feedback checklist to discharged patients, analysing the data and taking the necessary action. In addition, periodic orientation should be organised for the providers and staff on appropriate behaviour, SSK management and accountability issues.

Strengthening referral from UHC to higher-level facilities:

- Our study observed irregularities in the provision of ambulance services to SSK patients. Not all SSK-referred patients could necessarily avail themselves of the free ambulance services they were supposed to receive from the SSK. Appropriate corrective measures should be implemented so that all SSK patients can avail themselves of a free ambulance service when referred to higher-level facilities. To achieve this, we recommend that an audit be undertaken to understand the extent of irregularities, and necessary corrective measures to improve the ambulance services should then be adopted.
- The study also observed that Tangail DH was not prepared to function effectively as a referral facility. As consultants in the required disciplines were not always available, SSK patients sometimes also needed to be referred to the nearby medical college hospitals, which are not covered under the SSK. In addition, to strengthen the Tangail DH's capacity to function effectively as a referral facility, we also recommend including Mymensingh Medical College Hospital as an additional referral facility for SSK.

Improving services of contracted pharmacies and diagnostic centres:

- Our study also observed some irregularities in the functioning of the contracted pharmacies and diagnostic centres. To address these problems, we recommend that the contracted entities should receive orientation and instruction on the SSK protocol for their respective roles. In addition, a strong monitoring and supervision system should be put in place to oblige them to comply with the relevant protocols.
- While the SSK offers inpatient care, under the current system, there is no collection of specimens from patients' bedsides. Provision for the collection of specimens from the bedsides of critical patients should therefore be made.
- Moreover, patients are required to travel to the contracted private diagnostic centres on their own without any aid or transportation support from the SSK. We strongly recommend that transportation for SSK patients to contracted diagnostic centres should be arranged.
- Automation of the SSK pharmacy, diagnosis centres, SSK facilities, referral hospital financial management, and the claim management process should be introduced to improve the transparency and efficiency of the scheme.

Improving collaboration with DGHS:

- Unnecessary referral from the SSK UHCs to the Tangail DH is a demotivating factor for poor SSK patients due to the fear and burden of opportunity costs. One of the major reasons why this unnecessary referral occurs is the lack of readiness of the SSK UHCs due to an inadequate number of trained providers (mainly consultants). The unavailability of consultants due to vacant posts in Tangail DH also emerged as a serious problem. All vacant consultant posts in the SSK UHCs and the Tangail DH need to be filled immediately by effectively engaging the relevant departments of the Health Service Division at the MoHFW.
- HEU should further strengthen its collaboration with DGHS in support of the functionality of the SSK facilities to ensure the availability of medical doctors, IT system development/improvement, etc.
- There is a need to explore the possibility of using in-country capacities for BPL card development and the maintenance of the medical and financial records using the existing DGHS IT platform.

Strengthening monitoring and supervision system:

- Our study observed weaknesses in the SSK monitoring and supervision system. To strengthen the monitoring capacity of the SSK Cell, additional manpower should be recruited in the departments of clinical management, IT support, and administration.
- A monitoring framework should also be developed with the help of a monitoring team. The monitoring framework should contain indicators of HR availability, service availability, equipment functionality, the availability of drugs and diagnostic services, financial sustainability, etc.
- A monitoring team should be formed involving the members of the relevant government departments (DGHS, HRD, Finance Division), representatives of the SSK Cell, academics and researchers. This monitoring team should participate in periodic (three-monthly) monitoring visits, guide the analysis of monitoring data, review progress, present monitoring data to the steering committee on a three-monthly basis, and follow up the implementation of the decisions to fill the identified gaps.
- Performance indicators on the functionality of the diagnostic centres for common tests at the SSK facilities (both public and contracted out) should be included in the monitoring framework.
- The contracted pharmacies should also be monitored using appropriate indicators (supplying listed company drugs, delays in/incomplete supply of drugs, etc.)

Medium-Term Recommendations (to be Addressed within Four to Five Years)

Enhancing motivation of the providers and reducing workload:

- Excessive workload due to administrative management required for SSK patients was a common complaint made by both doctors and nurses. In an effort to enhance the motivation of the medical doctors, we propose the introduction of innovative non-financial incentives such as short training courses, opportunities to attend conferences within and outside the country, awards for the best provider by type, annual banquets, etc.
- In addition, to motivate the consultants to provide 24/7 services, we propose to examine the possibility of introducing a non-practicing allowance for the consultants.

- Moreover, the possibility of local-level hiring (part-time or full-time) of private/retired specialist doctors as consultants by the Civil Surgeon using the SSK fund should be explored.

Automation of financial management system:

- To facilitate effective management of funds, an IT-based financial management system at each SSK UHC linked with the Central level should be developed and implemented to ensure efficiency and transparency in fund management.

Linking SSK with primary healthcare system:

- Our study observed that the SSK programme is completely delinked from the country's existing primary healthcare system. We strongly recommend that a system should be developed for referring SSK patients through the primary healthcare system to the SSK UHCs.
- Bottom-up referral linkage from Community Clinics (CCs), Family Welfare Centres (FWCs), and Union Sub-Centres (USCs) to the SSK UHCs should be established. For this purpose, necessary collaborative arrangements should be initiated with the Community-Based Health Care (CBHC) Programme and respective departments of DGFP and DGHS.

Piloting SSK in the urban settings:

- Measures should be taken to develop an SSK model that caters to the healthcare needs of the BPL population in urban settings, particularly for large cities.

Long-Term Recommendations (to be Addressed within Six to Ten Years)

- In the next six to ten years, the SSK should be implemented in a phased manner throughout all 64 districts of Bangladesh. Economically disadvantaged and difficult-to-reach upazilas with relatively poor health service infrastructure should be targeted first.
- At the national level, to facilitate effective SSK management, a National Health Security Office (NHSO) should be established for regulatory and management-related activities.

Finally, to ensure successful implementation of the above recommendations, HEU and DGHS should continue working together as strategic partners for policy research and service delivery respectively to achieve a nationwide scale-up of SSK in order to move Bangladesh forward towards achieving universal healthcare.

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Appendix 1: Treatment Protocol

Appendix 1: Compliance with treatment protocol at SSK facilities for different disease categories over the years				
SSK healthcare facility	**Disease category**	**Compliance %**		
		2017	**2018**	**2019**
Kalihati UHC	Most frequent 10 diseases	85%	78%	73%
	Next most frequent 10 diseases	78%	81%	80%
	Remaining less frequent diseases	59%	72%	69%
Ghatail UHC	Most frequent 10 diseases	–	77%	76%
	Next most frequent 10 diseases	–	70%	74%
	Remaining less frequent diseases	–	70%	71%
Madhupur UHC	Most frequent 10 diseases	–	61%	56%
	Next most frequent 10 diseases	–	67%	62%
	Remaining less frequent diseases	–	57%	53%
Tangail DH	Most frequent 10 diseases	–	84%	71%
	Next most frequent 10 diseases	–	86%	73%
	Remaining less frequent diseases	–	55%	65%

Appendix 2: Treatment Protocol Compliance by Disease

Appendix 2: Disease (ICD code)-wise steps and their compliances with treatment protocol					
#sl	**Treatment protocol steps for different diseases**	**n***	**Steps followed**	**Steps not followed**	**Compliance**
1	**ICD code I 20; (N**= 41) Acute Chest Pain (Angina Pectoris) Ave. % of compliance: 55%**				
	Check for signs/symptoms, i.e. crushing chest pain, breathlessness, sweating, nausea, palpitations	40	34	6	85%
	Diagnostic tests: ECG	40	30	10	75%
	Cardiac enzymes (Troponin-I,CK-MB) (if available)	10	1	9	10%
	Check vitals: Blood pressure, pulse, respiratory rate	40	34	6	85%
	High flow oxygen	40	18	22	45%
	S/L GTN	38	19	19	50%
	Tab Aspirin 300mg+Tab Clopidorel 600mg stat	39	18	21	46%
	Absolute bed rest	39	27	12	69%
	I/V Analgesic (Inj Morphine 1 amp(1ml=15mg)+14ml NS or 5%DA,2-5mg I/V slowly stat and may be repeated in 5–30 minutes if necessary or Inj Pathedin 1 amp (1ml=100mg), 75–100mg I/V slowly stat and may be repeated at 2–4 hour intervals)	39	24	15	62%
	I/V Antiemetic	34	6	28	18%
	Beta-blocker (if no contraindication)	34	15	19	44%
	Inj Streptokinase 1 vial=1.5 million unit in 100ml NS I/V over 60 minutes under specialist supervision	30	0	30	0%
	Referral to CCU	8	6	2	75%
2	**ICD code R 50; (N=40) FUO Fever of Unknown Origin Ave. % of compliance: 88%**				
	Check for history: Ask if resides/travelled in malaria-endemic zone in last 30 days	39	29	10	74%
	History of dengue in the locality	39	29	10	74%
	Assess for danger signs, i.e. impaired consciousness, convulsions, severe dehydration, shock, cyanosis, neck rigidity/Kernig sign, severe respiratory distress, hyperpyrexia (>106°F)	39	32	7	82%
	Assess for signs/symptoms (i.e. cough, headache, body ache, running nose, burning and frequent micturition, loin and lower abdominal pain, sore throat, earache, salivation)	24	23	1	96%
	Assessment of days of fever and treatment. Day 1– 3: Paracetamol and observe, If resides/history of travel to malaria-endemic zone then test and treat malaria	23	22	1	96%
	Day 4–5: Investigate (CBC, Urine R%/M/E, test for malaria if needed, Blood for C/S, Chest X-ray) – Antipyretics, observation and treat accordingly	24	22	2	92%
	Day 6–7: Antibiotics according to investigation (if not done before)	23	22	1	96%

	and reassessment				
	Treat accordingly, e.g. Enteric fever, malaria, viral fever.	12	12	0	100%
	Treat accordingly (cough, headache, body ache, running nose – Diagnosis: Influenza-like infection)	9	8	1	89%
	Burning and frequent micturition, loin and lower abdominal pain. Diagnosis: UTI	9	6	3	67%
	Sore throat, earache, salivation. Diagnosis: Acute tonsillitis	7	2	5	29%
	Cough with pleuritic chest pain, hurried respiration: Diagnosis: CAP (Community-Acquired Pneumonia)	9	6	3	67%
	Lower abdominal pain, bloody diarrhoea, tenesmus: Diagnosis: Acute Bacillary Dysentery	6	3	3	50%
	Malaise, body ache, maculopapular skin rash: Diagnosis: Measles, Dengue	6	0	6	0%
3	**ICD code J46; (N=39) ASTHMA (STATUS ASTHMATICUS) Ave. % of compliance: 89%**				
	Check for signs/symptoms, i.e. severe breathlessness, poor/deteriorating general condition, peripheral oedema, co-morbidity	38	38	0	100%
	Immediate resuscitation: Propped-up position	39	33	6	85%
	Oxygen inhalation	39	33	6	85%
	Nebulisation with bronchodilator	39	35	4	90%
	Hospitalisation	29	29	0	100%
	Treatment: Nebulise with Salbutamol(1ml)+Ipratopium (1ml)+Normal Saline(2ml) every 20 minutes for 1 hour	39	35	4	90%
	Inj. Hydrocortisone 200mg IV 6-hourly	39	26	13	67%
	High-flow oxygen 4L/Min	38	31	7	82%
	Incomplete response/Good response	39	38	1	97%
	Continue intensive management, consider specialist consultation or referral to ICU	3	3	0	100%
	Step care management of asthma	33	33	0	100%
4	**ICD code A 09; (N=38) Diarrhoea & gastroenteritis Ave. % of compliance: 84%**				
	History and physical examination	38	37	1	97%
	Assess infectious/likely infectious/gastroenteritis (Please fill out 'Box B')	38	37	1	97%
	Assess severity (Mild: Unrestricted, Moderate: Activities altered, Severe: Incapacitated)	38	37	1	97%
	Fluid and electrolyte replacement: (up to 3–4 sachets of ORS/Day or 4–6 litres of fluid/day)	18	18	0	100%
	Observe ('Yes' if any of the following) Resolve; Persists (Please fill out 'Box D'); Stool C/S	21	18	3	86%
	Stool R/E	2	0	2	0%
	Pathogen not found: Empirical treatment (Ciprofloxacin 500mg 12 hourly for 3–5 days± Metronidazole 250 mg 6–hourly for 7	10	10	0	100%

	days) + Further evaluation				
	Fluid and electrolyte replacement (up to 3–4 sachets of ORS/day or 4–6 litres of fluid/day)	17	16	1	94%
	Assess for the following conditions: Fever>38.50C, bloody stool, elderly or immunocompromised hosts. ('Yes' if any of the following)	27	22	5	81%
	Anti-diarrhoeal agents	9	9	0	100%
	Observe (Persists (Please fill out Box H); Blood for C/S	74	22	52	30%
	Assess reports of diagnostic tests ('Yes' if any of the following) Pathogen found: Select specific treatment	3	2	1	67%
	Fluid and electrolyte replacement: (up to 3–4 sachets of ORS/day or 4–6 Litres of fluid/day)	3	3	0	100%
	Wood Light Examination: The porphyrins produced by the bacteria fluoresce with coral pink colour	13	0	13	0%
	Gram staining reveals erythrasma lesions, gram-positive filamentous rods	12	0	12	0%
	Check for history: Salt intake: 6g/day; Pathogen not found	3	2	1	67%
5	**ICD code J44; (N=38) COPD (Acute Exacerbation)** **Ave. % of compliance: 86%**				
	Check for signs/symptoms, i.e. severe breathlessness, poor/deteriorating general condition	38	37	1	97%
	Immediate resuscitation, propped-up position	37	31	6	84%
	Oxygen inhalation	38	30	8	79%
	Nebulisation with salbutamol	38	35	3	92%
	Treatment: Nebulise with salbutamol (1ml)+ Ipratropium (1ml)+ Normal Saline (2ml) every 20 minutes for 1 hour	38	35	3	92%
	High dose inhaled corticosteroid with salmeterol combination (LABA+ICS)	38	28	10	74%
	Inj. Hydrocortisone 200mg IV 6-hourly or oral 30mg Prednisolone for 10 days	38	25	13	66%
	Low flow oxygen 2L/Min	38	31	7	82%
	Antibiotic	38	33	5	87%
	Long-acting bronchodilators: SR Theophylline	38	34	4	89%
	Assess response hourly over 6 hours (Incomplete response, Good response)	38	38	0	100%
	Look for co-morbidities like consolidation, effusion, and pneumothorax	5	5	0	100%
	Continue management, Specialist consultation, Referral to ICU	5	5	0	100%
	Classify COPD (Based on spirometry or clinical judgment if spirometry not available) and give step care management of COPD (Stage 0–IV)	31	30	1	97%
	Advise smoking cessation	26	17	9	65%

6	**ICD code K 81; (N=37) Cholecystitis Ave. % of compliance: 82%**				
	Check for signs/symptoms: Fever, tenderness in the right upper quadrant, positive Murphy's sign	34	32	2	94%
	Diagnostic tests CBC	37	28	9	76%
	Liver function test	36	10	26	28%
	Trans-abdominal ultrasonography	37	35	2	95%
	NPO	35	28	7	80%
	I/V Fluid (Hartman's solution, 5% DNS or 5% DA)	36	31	5	86%
	Antibiotic (Inj. Ceftriaxone 1gm I/V)	37	35	2	95%
	Analgesics (inf. Nalbuphine 2ml 4–6 dose)	37	36	1	97%
	After inflammatory signs resolve, oral fluids are reinstated followed by regular diet	26	21	5	81%
7	**ICD code N 39; (N=34) Other Abnormal Uterine & Vaginal Bleeding Ave. % of compliance: 54%**				
	Check for signs/symptoms, i.e. frequent dysuria (burning/pain during micturition), loin pain, fever, lower abdominal tenderness	32	27	5	84%
	Diagnostic tests: Urine R/E	33	20	13	61%
	Treatment	34	34	2	100%
	Antipyretic	26	19	7	73%
	Analgesic	30	29	1	97%
	Advice: Drink plenty of water or fluid	31	5	26	16%
	Frequent voiding	31	1	30	3%
	Maintain personal hygiene	29	0	29	0%
	Voiding before and after coitus	14	0	14	0%
	Referral	6	5	1	83%
8	**ICD code I 10; (N=25) Essential hypertension Ave. % of compliance: 52%**				
	Repeated Blood Pressure (BP) measurement	22	0	22	0%
	Assess BP BP≥130/80mmHg, but <140/90mmHg: Pre hypertension; BP≥140/90mmHg: Hypertension; Stool microbiology; Cardiac enzymes (Troponin-I,CK-MB) (if available); Duration of hypertension; Risk factors	68	22	46	32%
	Previous antihypertensive therapy, including adverse effects experienced; echocardiogram; bruits and pedal oedema; abnormalities in rate and rhythm of heart, location of apex	28	18	10	64%
	Assess for risk factors (Yes if any of the following): Age>55 years, family history of heart disease; diabetes	17	1	16	6%
	Drink plenty of water or fluids	31	26	5	84%
	Angina or History of MI (Myocardial Infarction)	1	0	1	0%
	Stroke	2	0	2	0%
	CKD (Chronic Kidney Disease)	2	0	2	0%

	FBS/RBS	24	3	21	13%
	12 LED ECG	22	4	18	18%
	Fasting lipid profile	24	20	4	83%
	Lifestyle modification, Dietary changes and drug management Weight reduction: physical activity: 30–45 minutes of brisk walking or at least 3–4 times a week	12	10	2	83%
	I/V Antiemetic	34	28	6	82%
	Topical erythromycin or clindamycin, or fusidic acid cream or miconazole cream	11	9	2	82%
	Stool R/E	4	3	1	75%
	Evaluate for the stage of hypertension	23	0	23	0%
	Assess for complications: LVH (Left Ventricular Failure); Stop smoking and consumption of tobacco in any form (jarda, sada or gul); Avoid added salt, processed foods, salt-containing foods like pickles, chips, etc.	65	47	18	72%
	Stool R/E	3	2	1	67%
	Assess if controlled in 6 months (Yes if any of the following)	5	1	4	20%
	Drug management along with lifestyle modification and dietary changes (Yes if any of the following): Hypertension (HTN)with Ischemic Heart Disease (IHD) – Beta blocker, Verapamil, Deltiazem. HTN with Left Ventricular Failure (LVF) – Frusemide, other diuretics, ACE-1/ARB, Carvidolol/Bisoprolol(after stabilisation). HTN with diabetes mellitus (DM) – ACE-1/ARB. HTN with Cardio-Vascular Disease (CVD) – ACE-1/ARB, CCB. HTN with Bronchial Asthma – ACE-1/ARB, CCB, diuretics. HTN with Nephropathy – ACE-1/ARB. HTN with Chronic Kidney Disease (CKD) – Frusemide, Alpha blocker, Beta blocker, CCB, - ACE-1/ARB	4	0	4	0%
	Salt intake: 6g/day	11	7	4	64%
	Suspected diabetes	8	5	3	63%
	Urine R/M/E	24	15	9	63%
	Immunosuppression	5	3	2	60%
	Beta-blocker (if no contraindication)	34	19	15	56%
	High flow oxygen	40	22	18	55%
	Preferred drug: Hypertension (HTN) with Ischemic Heart Disease (IHD) – Beta blocker, Verapamil, Deltiazem. HTN with Left Ventricular Failure (LVF) – Frusemide, other diuretics, ACE-1/ARB, Carvidolol/Bisoprolol (after stabilisation). HTN with diabetes mellitus (DM) – ACE-1/ARB. HTN with Cardio-Vascular Disease (CVD) – ACE-1/ARB, CCB.HTN with Bronchial Asthma – ACE-1/ARB, CCB, diuretics	12	1	11	8%
	Assess if controlled adequately ('Yes' if any of the following): Yes	12	1	11	8%
	Refer to district hospital after initial therapy	5	2	3	40%

#sl	Treatment protocol steps for different diseases	n*	Steps followed	Steps not followed	Compliance
9	**ICD code L 98; (N=23) Other disorders of skin and subcutaneous tissue** **Ave. % of compliance: 38%**				
	Less tea and coffee	10	0	10	0%
	Itching	4	4	0	100%
	Well demarcated, brown-red macular patches	1	1	0	100%
	Wrinkled appearance with fine scales on the skin	2	1	1	50%
	Frequent voiding	31	1	30	3%
	Serum uric acid	24	1	23	4%
	Serum electrolytes	24	1	23	4%
	Maintain good personal hygiene	14	1	13	7%
	Dark discoloured area of skin limited to body folds that are naturally moist	12	1	11	8%
	Single-dose clarithromycin or amoxicillin-clavulanic acid for systemic illness	16	13	3	81%
	Stool R/E	10	1	9	10%
10	**ICD code A 01; (N=21) A-01 Typhoid and Paratyphoid Fever** **Ave. % of compliance: 64%**				
	Check for signs/symptoms	21	20	1	95%
	Diagnostic tests CBC (leukopenia)	21	15	6	71%
	Blood for C/S	20	0	20	0%
	Widal test	21	10	11	48%
	Fully sensitive, multidrug resistance, quinolone resistance	21	21	0	100%
11	**ICD Code O 80; (N=a5) Spontaneous delivery (single)** **Ave. % of compliance: 92%**				
	Check for signs/symptoms ('Yes' if any of the following): Lower abdominal pain associated with intermittent uterine contractions; Progressive effacement and dilatation of cervix; Show/watery discharge	35	34	1	97%
	Hospitalisation	30	30	0	100%
	Assess for danger signs ('Yes' if any of the following): Per vaginal bleeding, malpresentation, severe headache, blurring of vision, convulsion/coma; Present (Please fill out Box A)	35	35	0	100%
	Provide general management	3	3	0	100%
	Refer to higher centre with appropriate referral note and communication	3	3	0	100%
	Assess for latent phase/false pain or active phase ('Yes' if any of the following): Active phase: Strong uterine contraction >2 in 10 minutes, cervical dilatation 4cm, Progressive descent of head. (Please fill out Box C); Latent phase/false pain: Uterine contraction weak or absent, cervix closed/<4cm (Please fill out Box G)	31	25	6	81%
	Record Partograph and assess ('Yes' if any of the following): Partograph remains on or to the left of alert line (Please fill out	26	20	6	77%

	Box D); Partograph passes to the right (Please fill out Box E)				
	Continue monitoring and manage 2nd stage of labour	13	12	1	92%
	After delivery, immediate care of the newborn	13	12	1	92%
	Immediately after delivery of baby, exclude twin	11	10	1	91%
	Inj. Oxytocin 10 unit I/M to mother	13	11	2	85%
	Delivery of placenta by controlled cord traction	13	13	0	100%
	Re-assess	10	9	1	90%
	Call senior/Refer or C/S (please fill out Box F if C/S)	10	10	0	100%
	Requirements for C/S I/V fluid–3 litres	2	2	0	100%
	Catgut 1-0 round body	2	2	0	100%
	Inj.Vergon-1	2	2	0	100%
	Inj. Gentamycin-15	2	2	0	100%
	Cap Ampicillin/Amoxycillin-18	2	2	0	100%
	Cap. Omeprazole -10	2	2	0	100%
	Urobag-1	2	2	0	100%
	Clofenac suppository-3	2	2	0	100%
	Drugs for S/A	2	2	0	100%
	Suture material-vicryl-1-0 round body-2	2	2	0	100%
	Inj. Pethidine-1	2	2	0	100%
	Inj. Ampicillin/Amoxycillin-3	2	1	1	50%
	Inj.Metronidazole-3	2	2	0	100%
	Tab. Metronidazole-15	2	2	0	100%
	Foley's catheter 14FR bardia-1	2	2	0	100%
	Any analgesic tab-10	2	2	0	100%
	Treatment analgesic for pain relief and antibiotic (if UTI)	4	4	0	100%
	Ask and check current and previous records	4	4	0	100%
	Assess the condition ('Yes' if any of the following): False pain relieved: Discharge with advice for ANC; Latent phase progress to active phase (Please fill out Box H)	4	4	0	100%
	Consult with senior/Refer or do ARM (Artificial Rupture of Membrane) or do monitoring (please fill out Box K if ARM (Artificial Rupture of Membrane) or monitoring)	1	1	0	100%
	Record partograph and assess: Partograph passes to the right (Please fill out Box M)	1	1	0	100%
	Call senior/Refer or C/S (please fill out Box N if C/S)	1	1	0	100%
	Requirements for C/S: I/V fluid-3 litres	1	1	0	100%
	Catgut 1-0 round body	1	1	0	100%
	Inj. Vergon-1	1	1	0	100%
	Inj. Gentamycin-15	1	1	0	100%
	Cap. Ampicillin/Amoxycillin-18	1	1	0	100%

	Cap. Omeprazole -10	1	1	0	100%
	Urobag-1	1	1	0	100%
	Clofenac suppository-3	1	1	0	100%
	Drugs for S/A	1	1	0	100%
	Suture material-vicryl-1-0 round body-2	1	1	0	100%
	Inj. Pethidine-1	1	1	0	100%
	Inj. Ampicillin/Amoxycillin-3	1	1	0	100%
	Inj. Metronidazole-3	1	1	0	100%
	Tab. Metronidazole-15	1	1	0	100%
	Foley's catheter 14FR bardia-1	1	1	0	100%
	Any analgesic tab-10	1	1	0	100%
12	**ICD code K 35; (N=35) Appendicitis** **Ave. % of compliance: 74%**				
	Check for signs/symptoms, i.e. pain started around the umbilicus then shifting to the right iliac fossa and fixed, nausea	32	32	0	100%
	Specialist consultation	24	19	5	79%
	Diagnostic tests CBC	35	24	11	69%
	Urine R/M/E	35	23	12	66%
	Ultra-sonogram	35	28	7	80%
	X-ray KUB	32	10	22	31%
	Treatment NPO	33	30	3	91%
	I/V Fluid (Hartman's solution, 5% DNS or 5% DA)	32	31	1	97%
	I/V Antibiotic (Ceftriaxone or Ciprofloxacine with Metronidazole)	34	34	0	100%
	Analgesics (injectable)	35	35	0	100%
	Anti-ulcerants (injectable)	35	34	1	97%
	Assess for any complications (Complications, No Complications)	35	34	1	97%
	Specialist consultation/Referral	11	10	1	91%
	Appendectomy	14	0	14	0%
	Management after appendectomy				
	NPO	22	8	14	36%
	I/V Fluid (Hartman's solution, 5% DNS or 5% DA)	22	8	14	36%
	I/V Antibiotic (Ceftriaxone or Ciprofloxacine with Metronidazole)	22	8	14	36%
	Analgesics (injectable)	22	8	14	36%
	Anti-ulcerants (injectable)	22	8	14	36%

#sl	Treatment protocol steps for different diseases	n*	Steps followed	Steps not followed	Compliance
13	**ICD code E 10; (N=32) IDDM (Insulin-dependent DM) Ave. % of compliance: 57%**				
	Diagnostic test to confirm diabetes	31	26	5	84%
	Assess if the patient has type 1 or type 2 diabetes (Type 1/2 diabetes)	30	29	1	97%
	Treatment: Insulin	1	0	1	0%
	Initial management with insulin	30	17	13	57%
	Treatment of co-morbid condition (Yes if any of the following): Hypertension, Dyslipidaemia, Smoking cessation	22	21	1	95%
	Advise regular physical activity such as walking, gardening, swimming or cycling. Either 150 minutes per week of moderate-intensity exercise or 75 minutes per week of vigorous-intensity exercise or a combination. Muscle-strengthening exercise is recommended on 2 or more days of the week	28	1	27	4%
	Achieve good glycaemic control. Targets in general: Fasting glucose level of 5–7 mmol/L (90–126 mg/dL), Pre-meal values of 4–7 mmol/L (72–126mg/dL), 2 hours post-meal values of 4–8 mmol/L(72–144mg/dL)	27	6	21	22%
	Avoid atherogenic diet or foods that aggravate complications.	27	12	15	44%
	Ensure adequate nutrition intake	27	14	13	52%
14	**ICD code J 14; (N=31) Paediatric Pneumonia Ave. % of compliance: 68%**				
	Check for signs/symptoms ('Yes' if any of the following)	4	4	0	100%
	Fever (Moderate to high grade)	7	7	0	100%
	Cough, respiratory distress, dyspnoeic appearance	31	31	0	100%
	Severe malnutrition, congenital lesion: congenital heart disease, Others: indoor air pollution, overcrowding, young age infant	24	22	2	92%
	Diagnostic Tests: X-ray (Chest)	30	5	25	17%
	CBC	30	4	26	13%
	ESR	30	4	26	13%
	Blood C/S: May isolate the organism in less than 10% of cases	24	0	24	0%
	Classification of severity of pneumonia and recommended treatment (2 months–5 years) WHO 2013: Severe pneumonia (Any general danger sign, Severe chest indrawing, Stridor in calm child) (Please fill out Box A)	17	14	3	82%
	Pneumonia (Please fill out Box B)	12	12	0	100%
	Treatment (Box A): Hospitalisation	19	19	0	100%
	Inj. Ampicillin (50mg/kg) IM/IV 6 hourly and Inj. Gentamycin 7.5mg/kg IM/IV once a day for at least 5 days	3	3	0	100%
	If no responsive by 48 hours & Staphylococcus is suspected, switch to Gentamycin 7.5mg/kg IM/IV and Cloxacillin 50mg/kg/dose IM/IV 6-hourly, 7 days, and continue for 3 weeks	2	2	0	100%
	Use Ceftriaxone (80 mg/kg) IM/IV daily in case of failure of first-line drugs: 7 days	14	14	0	100%

	Treat the child to prevent low blood sugar	19	15	4	79%
	Give oxygen if patient distressed	16	15	1	94%
	Manage airway: Remove any thick secretion from nose or throat	19	14	5	74%
	Paracetamol for fever	17	17	0	100%
	Soothe the throat and relieve cough with safe remedy, e.g. warm water, tulsi leaf juice, lemon tea.	2	2	0	100%
	Encourage breastfeeding	12	6	6	50%
	Start NG tube feeding if child cannot drink	1	1	0	100%
	Avoid overhydration	18	8	10	44%
	Treatment (Box B) Oral Amoxicillin (40mg/kg) 12 hourly for 5 days	11	11	0	100%
	Oral Salbutamol /Inhaled bronchodilator – 5 days if wheeze present	8	8	0	100%
	Give oxygen if patient distressed	6	6	0	100%
	Manage airway: Remove any thick secretion from nose or throat	11	11	0	100%
	Paracetamol for fever	11	9	2	82%
	Soothe the throat and relieve cough with safe remedy, e.g. warm water, tulsi leaf juice, lemon tea	4	4	0	100%
	Encourage breastfeeding	3	2	1	67%
	Avoid overhydration	11	2	9	18%
15	**ICD code O82; (N=26) Caesarean Delivery (Single)** **Ave. % of compliance: 83%**				
	Rapid Initial Assessment (Partograph if available), Stage of labour	17	14	3	82%
	Maternal condition	23	19	4	83%
	Foetal condition	22	18	4	82%
	Diagnostic Tests: Blood grouping	23	13	10	57%
	Rh typing	23	13	10	57%
	Indications for Caesarean Delivery (Single): Prolonged labour, obstructed labour, foetal distress, malpresentation, maternal distress	21	16	5	76%
	General management: Initial resuscitation	22	20	2	91%
	I/V access to correct dehydration	22	20	2	91%
	Urinary catheter	21	19	2	90%
	I/V antibiotic	22	20	2	91%
	Analgesic	20	19	1	95%
	Consult with gynae consultant or refer	23	22	1	96%
	Requirements for Caesarean Section: I/V fluid-3 litres	22	20	2	91%
	Catgut 1-0 round body	22	20	2	91%
	Inj.Vergon-1	17	13	4	76%
	Inj. Gentamycin-15	19	15	4	79%
	Cap. Ampicillin/Amoxycillin-18	18	16	2	89%
	Cap. Omeprazole -10	21	20	1	95%

	Urobag-1	21	19	2	90%
	Clofenac suppository-3	19	16	3	84%
	Drugs for S/A	19	17	2	89%
	Suture material-vicryl-1-0 round body-2	21	19	2	90%
	Inj. Pethidine-1	17	15	2	88%
	Inj. Ampicillin/Amoxycillin-3	22	20	2	91%
	Inj.Metronidazole-3	21	17	4	81%
	Tab. Metronidazole-15	17	16	1	94%
	Foley's catheter 14FR bardia-1	22	20	2	91%
	5cc disposable syringe-10	22	20	2	91%
	Any analgesic tab-10	21	20	1	95%
16	**ICD code J03; (N=24) Acute tonsillitis Ave. % of compliance: 61 %**				
	Repeated attack of sore throat 4 to 5 times in a year for 2 or more years consecutively, huge enlargement of tonsil with interference to swallowing and respiration	16	15	1	94%
	Check for any contraindications for Tonsillectomy Active Infection/Acute exacerbations (e.g. Acute tonsillitis)	12	12	0	100%
	Diagnostic Tests: Complete Blood Count (CBC) including Hb%, ESR, TC, DC, Platelet count	16	7	9	44%
	Bleeding time (BT), Clotting time (CT)	10	0	10	0%
	Random Blood Sugar (RBS)	15	6	9	40%
	Serum creatinine	11	2	9	18%
	Chest X-ray P/A view	14	6	8	43%
	ECG in elderly patient	6	2	4	33%
	Blood grouping	9	1	8	11%
	Treatment: Tonsillectomy usually done by dissection method assisted by bipolar or unipolar cautery under general anaesthesia	12	10	2	83%
	Post-operative care: Patient is kept in lateral position in bed to avoid any aspiration	2	2	0	100%
	Monitor vital signs like pulse, respiration, blood pressure frequently	3	3	0	100%
	Look for frequent swallow reflex	1	1	0	100%
	Cold feeds after 4 hours of operation	2	2	0	100%
	Antibiotic	3	3	0	100%
	Analgesic	3	3	0	100%
	Advice: Gargle with diluted hydrogen peroxide	16	12	4	75%
	Maintain good hydration	15	12	3	80%
	Check for complications (haemorrhage, aspiration of blood or saliva, injury to teeth, lips, gum, palate, dehydration, pulmonary oedema) (Please fill out Box A)	6	6	0	100%
	Box A Referral or Specialist Consultation	1	1	0	100%

#sl	Treatment protocol steps for different diseases	n*	Steps followed	Steps not followed	Compliance
17	**ICD code N 81; (N=22) Female genital prolapse Ave. % of compliance: 79%**				
	Check for signs/symptoms: Menopause/multipara, Something coming down P/V	22	22	0	100%
	Diagnostic Tests: Complete blood count (CBC)	18	16	2	89%
	Urine R/M/E	17	14	3	82%
	X-ray Chest P/A view	15	12	3	80%
	ECG	15	12	3	80%
	Blood sugar-post prandial	16	14	2	88%
	S. Creatinine	16	10	6	63%
	USG-in selected cases	13	13	0	100%
	HBs Ag	15	9	6	60%
	Blood grouping and Rh typing	15	9	6	60%
	Treatment: Vaginal hysterectomy with pelvic floor repair under spinal anaesthesia	10	5	5	50%
	Materials required for surgery and post-operative care I/V fluid-5 litres	7	5	2	71%
	Inj. Ultracaine heavy	6	4	2	67%
	Inj.Vergon-1	7	2	5	29%
	Inj. Gentamycin-15	7	5	2	71%
	Cap Ampicillin/Amoxycillin-18	7	5	2	71%
	Cap. Omeprazole -10	7	5	2	71%
	Urobag-1	7	4	3	57%
	Clofenac suppository-3	7	3	4	43%
	Inj. Spinocaine needle	7	4	3	57%
	Suture material-vicryl-1-0 round body-3	7	4	3	57%
	Inj. Pethidine-1	7	4	3	57%
	Inj. Ampicillin/Amoxycillin-3	7	4	3	57%
	Inj. Metronidazole-3	7	5	2	71%
	Tab. Metronidazole-15	7	5	2	71%
	Foley's catheter 14FR bardia-1	7	5	2	71%
	5cc disposable syringe-10	7	4	3	57%
	Any analgesic tab-10	7	4	3	57%
	Post-operative management: Nothing per oral for 6–8 hours	7	5	2	71%
	I/V fluid	7	5	2	71%
	I/V antibiotic	7	5	2	71%
	Analgesic-Inj./suppository/oral	7	5	2	71%
	Anti-Ulcerant-Inj./oral	7	5	2	71%
	Continuous catheterisation for 3–5 days	7	5	2	71%

	Oral antibiotic after 24 hours	7	5	2	71%
	Patient can be discharged on 5th POD	7	5	2	71%
18	**ICD code N 73; (N=18) Other pelvic inflammatory diseases (PID)** **Ave. % of compliance: 65%**				
	Check for signs/symptoms: Cervical motion tenderness, Uterine tenderness, Adnexal tenderness, Temperature>38° C, Abnormal cervical discharge	18	15	3	83%
	Diagnostic tests (Endometrial biopsy, transvaginal sonography or other imaging techniques showing fluid-filled tubes with or without free pelvic fluid or tubo-ovarian complex, Laparoscopic abnormalities consistent with PID)	14	8	6	57%
	Check for indications for inpatient management	18	15	3	83%
	Treatment: Ceftriaxone 500mg IM as single dose plus doxycycline 100mg orally twice a day for 14 days (Alternately, Azithromucin 1g weekly for 2 weeks) plus Metronidazole 400mg orally 12-hourly for 14 days (Metronidazole can be discontinued after 5 days in mild to moderate PID where the woman fails to tolerate it)	18	17	1	94%
	Patient education: Regarding the nature of infection, partners should be tested and treated for sexually transmitted infections; Clinical review is required at 72 hours or before if symptoms are failing to settle and at 2 weeks	16	9	7	56%
	Contact tracing: Sexual partners should be offered screening for Sexually Transmitted Infections (STI) and contact tracing is required if an STI is identified.	15	0	15	0%
	Review at 2 weeks to assess for response to treatment and the development of any complications that may occur in spite of adequate treatment and include: infertility, chronic persistent pain, increased incidence of ectopic pregnancy, increased risk of further episode of PID, tubo-ovarian abscess	16	9	7	56%
19	**ICD code T 02; (N=18) Fracture Involving Multiple Body Regions** **Ave. % of compliance: 66%**				
	Resuscitation following ATLS guidelines for all major trauma	9	8	1	89%
	Temporary splint (sandbags, inflatable splints)	6	3	3	50%
	Repositioning of deformed limb immediately if overline skin is at risk	11	9	2	82%
	Assess clinically and radiologically	16	13	3	81%
	Assess skin cover and plan skin closure	7	5	2	71%
	Reduction closed: Manipulation under anaesthesia	4	1	3	25%
	Open reduction: Internal fixation, external fixation	6	2	4	33%
	Continuous traction	7	5	2	71%
20	**ICD code J 13; (N=13) Adult pneumonia** **Ave. % of compliance: 67%**				
	Check for history and signs/symptoms: Cough with or without sputum, shortness of breath	13	12	1	92%
	Diagnostic tests: Lower Respiratory Tract (LRT) sample for culture (quantitative or semi-quantitative)	13	0	13	0%

	Lower Respiratory Tract (LRT) sample for microscopy	13	1	12	8%
	Chest X-ray	13	9	4	69%
	CBC	13	10	3	77%
	Treatment (Begin empiric antimicrobial therapy, unless there is both a low clinical suspicion of pneumonia and negative microscopy of LRT sample); Ceftriaxone 2 g IV daily, 7 days (if early onset <5days since admission, no MDR risk factors)	13	13	0	100%
	Give oxygen if patient distressed	7	6	1	86%
	Manage airway: Remove any thick secretion from nose or throat	12	6	6	50%
	Paracetamol for fever	13	13	0	100%
	Soothe the throat and relieve cough with safe remedy, e.g. warm water, tulsi leaf juice, lemon tea	12	6	6	50%
	Avoid overhydration	13	3	10	23%
	Check culture and assess clinical responses (temperature, WBC, chest X-ray, oxygenation, purulent sputum, haemodynamic changes & organ function) on Day 2 & 3	13	11	2	85%
	Observe clinical improvement at 48–72 hours: Yes, No	12	12	0	100%
	Assess culture report: Culture +ve: De-escalate antibiotics (if possible), treat selected patients for 7–8 days and reassess	11	0	11	0%
	Culture -ve: Adjust antibiotic therapy. Search for other pathogens, Complications, other diagnosis or other sites of infection	1	0	1	0%
21	**ICD code R 33; (N=8) Retention of urine** **Ave. % of compliance: 79%**				
	Initial Assessment: Acute retention of urine	8	8	0	100%
	Check for signs/symptoms: Inability to pass urine	8	8	0	100%
	Treatment: Urgent catheterisation, either per urethral or suprapubically	8	4	4	50%
22	**ICD code K 80; (Lap.); (N=8) Cholelithiasis (Lap.)** **Ave. % of compliance: 83%**				
	Check for signs/symptoms (Yes if any of the following): Right upper quadrant pain that may radiate to back	3	2	1	67%
	Diagnostic test: Ultrasonography	8	8	0	100%
	Complete Blood Count (CBC)	7	6	1	86%
	S. Creatinine	7	5	2	71%
	Liver function tests	7	5	2	71%
	Prothrombin time	5	1	4	20%
	Chest X-ray	6	5	1	83%
	ECG	7	6	1	86%
	Ensure informed consent	2	2	0	100%
	Treatment: Antibiotic prophylaxis	3	3	0	100%
	Laparoscopic cholecystectomy	6	5	1	83%
	Post-operative management: Fully mobilised and eating by next day	4	4	0	100%

	Discharge after 24 hours if all well	1	0	1	0%
23	**ICD code K 40; (N=7) Inguinal hernia Ave. % of compliance: 100%**				
	Treatment Herniotomy + Herniorrhaphy (+- Hernioplasty) for adult uncomplicated cases, indirect-type hernia.	3	3	0	100%
	Observation and follow-up/ Herniorrhaphy for adult uncomplicated cases (direct type with small sac, without co-morbid conditions)	3	3	0	100%
	Referral to District Hospital: Paediatric cases; Adult complicated cases; Adult uncomplicated cases (direct type) with large sac; Adult uncomplicated cases (direct type) with small sac, with co-morbid conditions	1	1	0	100%
24	**ICD code L 08; (N=7) Other local infections of skin and subcutaneous tissue Ave. % of compliance: 54%**				
	Check for signs/symptoms: Usually starts with a small, red bump on skin, which may resemble a spider bite; within days this bump can develop into a large and painful open sore	6	3	3	50%
	Check for risk factors: Female sex	3	3	0	100%
	Age between 40–50 years	2	2	0	100%
	Patients with Inflammatory Bowel Disease, haematological malignancies, rheumatoid arthritis	2	1	1	50%
	Treatment: Specialised wound care in a burn treatment centre	5	0	5	0%
	Corticosteroids	5	1	4	20%
	Immunosuppressants	4	1	3	25%
	Analgesic	6	6	0	100%
	Wound cover with moist dressing with elasticised wrap	2	1	1	50%
25	**ICD code N 93; (N=7) Other abnormal uterine & vaginal bleeding Ave. % of compliance: 56%**				
	Assess the age group of the patient (Puberty/Adolescent, Young/Reproductive Age, Perimenopausal/Postmenopausal)	7	7	0	100%
	General and pelvic examination (to exclude cervical pathology: cervical polyp, cancer of cervix)	4	3	1	75%
	Diagnostic tests: CBC	5	3	2	60%
	Thyroid function test	5	0	5	0%
	Coagulation profile	5	0	5	0%
	USG of pelvic organ	5	3	2	60%
	If all diagnostic tests report normal, then treat according to desire of the patient (Conception desired)	4	4	0	100%
	Treatment: NSAID	1	0	1	0%
	Anti-fibrinolytic agent	1	0	1	0%
	Progesterone	1	1	0	100%
	GnRH (Gonadotropin Releasing Hormone)	1	0	1	0%
	Response: Follow-up	1	1	0	100%

	Treatment ('Yes' if any of the following): COC (Combined Oral Contraceptive) Progesterone	3	2	1	67%
	Evaluate treatment response: Effective: Continue 6–9 months & follow-up	2	2	0	100%
	General and pelvic examination (to exclude cervical pathology and uterine pathology)	1	1	0	100%
	Diagnostic tests: CBC	2	2	0	100%
	Thyroid function test	2	0	2	0%
	Coagulation profile	2	0	2	0%
	TVS (Transvaginal Ultrasonogram)	2	2	0	100%
	Blood sugar	2	1	1	50%
	Evaluate diagnostic tests report: No pathology	2	2	0	100%
	Treatment Progesterone/GnRH for 3-67 cycle	1	0	1	0%
	Refer for surgery	2	2	0	100%
26	**ICD code O 08; (N=7) Complication of abortion & ectopic pregnancy** **Ave. % of compliance: 65%**				
	Check for signs/symptoms: Amenorrhoea	2	2	0	100%
	Vaginal bleeding or foul-smelling discharge	5	5	0	100%
	Diagnostic tests: Hb	7	5	2	71%
	TC	7	3	4	43%
	DC	7	3	4	43%
	ESR	7	3	4	43%
	Blood grouping and cross-matching	7	5	2	71%
	Blood urea	6	0	6	0%
	S. Electrolytes	6	0	6	0%
	HVS (High Vaginal Swab)/pus/urine/blood C/S	3	0	3	0%
	USG of abdomen	7	6	1	86%
	X-Ray abdomen: Erect posture	6	0	6	0%
	Treatment I/V fluid: Normal Saline/Ringer's Lactate	7	7	0	100%
	Maintenance of nutrition	6	6	0	100%
	Antibiotics: 1 Immediate parenteral broad spectrum combination antibiotic	7	7	0	100%
	Analgesic: Inj. Pethidine	6	4	2	67%
	Catheterisation and strictly maintain input-output chart	4	0	4	0%
	Inj. Tetanus Toxoid: 0.5mg I/m	5	0	5	0%
	Monitor temperature	7	5	2	71%
	Pulse	7	5	2	71%
	BP	7	5	2	71%
	Assess whether or not specialist/facility preparedness available/adequate for further management of the patient:	7	7	0	100%

	Available, Unavailable				
	Identify the complication: Infection confined to uterus	3	3	0	100%
	Treatment: Treat shock	1	1	0	100%
	Antibiotic	3	3	0	100%
	Prompt evacuation	2	2	0	100%
	MVA (Manual Vacuum Aspiration)/D&C (Dilation and Curettage)	2	2	0	100%
	Monitor temperature: Fever does not persist for more than 72 hours	1	1	0	100%
	Proper counselling	3	1	2	33%
	Referral to higher facility	1	1	0	100%
27	**ICD code R 18; (N=7) Ascites** **Ave. % of compliance: 55%**				
	Diagnostic tests: USG of abdomen	6	5	1	83%
	Liver function tests	6	1	5	17%
	Complete Blood Count (CBC)	6	6	0	100%
	Chest X-ray	6	5	1	83%
	S. Electrolytes and S. Creatinine	6	5	1	83%
	Ascitic fluid aspiration for naked eye examination, gram staining and C/S, biochemistry, exfoliative cytology. In tuberculous peritonitis: Examination of the fluid for AFB, ADA, PCR and mycobacterial C/S, fluid amylase in acute pancreatitis	5	0	5	0%
	Treatment: Bed rest	6	6	0	100%
	Sodium and water restriction: Sodium 88 mmol/L (no added salt), in severe cases 40mmol/L.Water0.5–1L/day (if sodium is 125mmol/L), Avoid salt-containing and salt-retaining diets and drugs (NSAIDs, steroids and antacid)	5	1	4	20%
	Monitor weight, abdominal girth and urine output daily. Weight loss should be 0.5–1kg/day (fluid loss should not >1L/day)	5	0	5	0%
	Assess response to the above treatment in 4 days: Responded, no response	6	6	0	100%
	Diuretic: Spironolactone 100 to 400mg/day is given. If no response then frusemide 40–160 is added. If still no response with highest dosage, then considered as refractory ascites	4	4	0	100%
	Evaluate for following conditions: Paracentesis for peritoneal carcinomatosis. Ovarian tumour – Surgery + chemotherapy. Pancreatic ascites – Endoscopic stenting, surgery, or respond to somatostatin, octrotide therapy. Chlamydia peritonitis – Tetracycline, doxycycline. Lupus – Steroid. Nephrotic syndrome – Steroid. Malignant ascites – Chemotherapy	1	0	1	0%
28	**ICD code K 56; (Paralytic ileus) (N=2)** **Ave. % of compliance: 62%**				
	Check for signs/symptoms: Abdominal distension	2	2	0	100%
	Diagnostic tests: Plain X-ray of abdomen (erect posture): shows gas-filled loops of intestine with multiple air fluid levels	2	1	1	50%
	Treatment: nothing by mouth and nasogastric aspiration	2	2	0	100%
	Treatment of the primary cause	1	1	0	100%

	I/V fluid – Inf. Hartsol, Inf. Normal Saline	2	2	0	100%
	Catheterisation and urine output management	2	0	2	0%
	Antibiotic – Inj.Ceftriaxone1gm- 10–20amp, Inj. Metronidazole 750mg – 10amp	2	2	0	100%
	Analgesic – Inj. Hyosomide I/V 10–20 amp	2	2	0	100%
28	**ICD code K 56; (Intestinal obs.) (N=4)** **Ave. % of compliance: 62%**				
	Check for signs/symptoms: Pain: Colicky in nature and referred to the central abdomen in small bowel, proximal colon obstruction and lower abdomen in distal colon obstruction. Change from colicky pain to constant abdominal pain indicative of strangulation, ischemic bowel	4	4	0	100%
	Diagnostic tests: CBC	4	3	1	75%
	S. Urea	4	0	4	0%
	S. Electrolytes	4	0	4	0%
	S. Amylase	4	0	4	0%
	Blood cross-matching	4	0	4	0%
	Plain X-ray of abdomen A/P view	4	3	1	75%
	Treatment: Nothing by mouth	4	4	0	100%
	NG decompression	3	2	1	67%
	Analgesic – Inj. Hyosomide 10–20 in normal saline	3	3	0	100%
	I/V fluid resuscitation. Inf. Hartsol 1L,10–20 in normal saline	4	4	0	100%
	Oxygen	2	0	2	0%
29	**ICD code K 92; (N=6) Other diseases of GIT (haematemesis & melena)** **Ave. % of compliance: 21%**				
	Diagnostic tests: CBC	6	4	2	67%
	PBF	6	0	6	0%
	SGPT	6	0	6	0%
	PT/APTT (or Bleeding/Clotting Time)	6	0	6	0%
	Blood grouping	6	0	6	0%
	Cross-matching	6	0	6	0%
	Treatment: Immediate ABC resuscitation: Assessment of vitals (Tachycardia, Hypotension, Oliguria), Gain 2 large bore I/V	5	4	1	80%
	Diagnostic and Therapeutic Endoscopy ('Yes' if any of the following): Ulcer with active bleeding or visible vessel: IV PPI therapy +/- endoscopic therapy followed by ICU stay for 1 day and ward stay for 2 days	4	3	1	75%
30	**ICD code; (N=5) L60-63 Cerebro-vascular diseases (CVD)** **Ave. % of compliance: 47%**				
	Check for signs/symptoms: Acute hemiplegia	5	4	1	80%
	Headache	1	1	0	100%
	Immediate resuscitation: Lateral position	2	1	1	50%

	Nasogastric (NG) tube/catheter (if needed)	2	1	1	50%
	Diagnostic test: CT scan of brain to confirm CVD and its type	6	2	4	33%
	Assessment of the type of CVD (if CT Scan not available then clinical suspicion) Ischemic: Acute neurological deficit that may be transient < 24 hours or evolving, Haemorrhagic: Acute neurological deficit that may be transient < 24 hours or evolving and commonly associated with headache, vomiting; Sub-arachnoid haemorrhage: Thunderclap headache, neck rigidity), Ischemic stroke (Please fill out Box A)	4	2	2	50%
	Haemorrhagic stroke (Please fill out Box D)	1	1	0	100%
	If present within 4.5 hours of symptom onset and facilities available: Transfer for thrombolysis	1	1	0	100%
	Do and assess ECG sinus rhythm (Please fill out Box B)	2	1	1	50%
	Treatment: Antiplatelet drugs: Aspirin 300mg then 75 mg	2	1	1	50%
	Anti-Lipid drugs	1	0	1	0%
	If B.P ≥130/70 mmHg 1–2 weeks after onset: THZ (Thiazide diuretics)/ACEI (Angiotensin converting enzyme inhibitor), etc.	1	1	0	100%
	Routine investigations: Random blood sugar (RBS)	2	0	2	0%
	S. Creatinine	2	0	2	0%
	S. Electrolytes	2	0	2	0%
	Lipid profile	2	0	2	0%
	Specialist consultation/Referral to higher centre if deteriorates	1	0	1	0%
	Routine investigations: Random blood sugar(RBS)	1	1	0	100%
	S. Creatinine	1	1	0	100%
	S. Creatinine	1	1	0	100%
	Lipid profile	1	0	1	0%
	Assess hourly over 6 hours	1	1	0	100%
	Specialist consultation/Referral to higher centre if deteriorates	1	1	0	100%
31	**ICD code T 01; (N=5) Open wounds involving multiple body regions** **Ave. % of compliance: 60%**				
	Examine the patient according to ATLS principles	5	3	2	60%
	Check H/O Tetanus coverage and give Tetanus vaccine (if not given)	4	3	1	75%
	Treatment: Bleeding wound-elevation and pressure pad application	5	3	2	60%
32	**ICD code D56; (N=5) Thalassaemia** **Ave. % of compliance: 63%**				
	Check for signs/symptoms: 2 years to puberty: Retarded growth, hepatomegaly, frontal prominence, splenomegaly, pallor, jaundice, fatigue, tiredness, poor performance	4	4	0	100%
	Post-pubertal: Recurrently worsening weakness, thalassaemia, mild jaundice, lumpy feeling in left upper abdomen, splenomegaly	1	1	0	100%

	Diagnostic tests: CBC (Hb<9gm/dl)	5	2	3	40%
	Peripheral Blood Film (PBF)	4	1	3	25%
	Haemoglobin electrophoresis	1	0	1	0%
	Assess the reports to confirm symptomatic thalassaemia (Yes if any of the following): Yes	2	2	0	100%
	No	3	2	1	67%
	Assess the Hb level: Haemoglobin <7gm/dl (Please fill out Box B)	2	1	1	50%
	Packed red cell transfusion to keep pretransfusion Hb level 9gm/dl	2	2	0	100%
33	**ICD code E 43; (N=5) Management of acute malnutrition Ave. % of compliance: 27%**				
	Check for signs/symptoms ('Yes' if any of the following): Marasmus: Easily seen rib, Loose upper arm and thigh skin, Missing flesh from buttock, Mid upper-arm circumference (MUAC)<115mm or weight-for-height (WHZ) score)<-3; Kwashiorkor: Loss of appetite, apathy, little energy, irritable, easily crying, moon face, dermatosis, hair change, bilateral pitting oedema	3	2	1	67%
	Diagnostic tests: CBC	3	2	1	67%
	Urine R/M/E	3	2	1	67%
	Blood sugar	3	2	1	67%
	S. Electrolytes	3	0	3	0%
	S. Total Protein	3	0	3	0%
	Stool R/M/E	3	0	3	0%
	CXR	3	0	3	0%
	Treatment: Stabilisation Phase:1st week: Cautious feeding with starter formula(F-75): 75 kcal/100ml, low protein (0.9gm/100ml) 2-hourly (12 feeds/24 hours)	2	2	0	100%
	Low Na, No Iron, No Diuretics	2	2	0	100%
	Electrolyte Imbalance: No Na, K 3–4 mmol/kg/day. Mg 0.4–0.6 mmol /kg/day, CMV(Combined Mineral Vitamin mixed)	1	0	1	0%
	Vitamin A–day 1	1	1	0	100%
	Anthelminthic	1	0	1	0%
	Monitoring: Pulse, respiration, temperature, danger signs	3	2	1	67%
34	**ICD code T 29; (N=4) Burn & corrosion of multiple body regions Ave. % of compliance: 77%**				
	Assess the criteria of burn patients to be treated at UHC Children: <10% body surface area burn and	5	5	0	100%
	Burn management at Primary Level (UHC): Determine whether or not the patient has received immediate care	5	5	0	100%
	Primary survey according to ATLS guidelines	5	5	0	100%
	Determination of percentage of burnt area using the rule of nine	5	3	2	60%
	Fluid	5	3	2	60%
	Analgesia	5	3	2	60%

	Haematological and biochemical tests	5	1	4	20%
	Secondary survey according to ATLS Guidelines	4	4	0	100%
	Monitoring	5	5	0	100%
	Antibiotics	5	5	0	100%
	Tetanus prophylaxis	5	0	5	0%
	Wound management	5	5	0	100%
	Counselling	5	5	0	100%
	Referral (If not fulfilling the criteria of burn patients to be treated at UHC)	1	1	0	100%
35	**ICD code N 92; (N=4) Excessive, frequent & irregular menstruation** **Ave. % of compliance: 64%**				
	Assess the age group of the patient ('Yes' if any of the following): Puberty/Adolescent (Please fill out Box A)	4	4	0	100%
	General and Pelvic Examination (to exclude cervical pathology-cervical polyp, cancer of cervix)	4	3	1	75%
	Diagnostic tests: CBC	4	4	0	100%
	Thyroid function test	4	1	3	25%
	Coagulation profile	4	0	4	0%
	USG of pelvic organ	4	4	0	100%
	If all diagnostic tests report normal then treat according to desire of the patient ('Yes' if any of the following). Conception desired (Please fill out Box C)	4	3	1	75%
	Treatment: NSAID	2	2	0	100%
	Anti-fibrinolytic agent	2	1	1	50%
	Progesterone	2	0	2	0%
	GnRH (Gonadotropin Releasing Hormone)	1	0	1	0%
	Response: Follow-up	1	0	1	0%
	Treatment: COC (Combined Oral Contraceptive)	2	2	0	100%
	Evaluate Treatment Response Effective–Continue 6–9 months & follow-up	2	1	1	50%
36	**ICD code K 60; (N=4) Fissure and fistula of anal and rectal regions** **Ave. % of compliance: 88%**				
	Initial assessment: Anal fissure (Please fill out Box A)	3	3	0	100%
	Anal fistula (Please fill out Box B)	1	1	0	100%
	Check for signs/symptoms: Pain on defecation	1	0	1	0%
	Fresh per rectal bleeding that wipes tissue after defecation	3	3	0	100%
	Treatment: LIS (lateral Internal Sphincterotomy) under Spinal anaesthesia/LA gel soaked soft anal pack	3	3	0	100%
37	**ICD code K 85; (N=4) Acute pancreatitis** **Ave. % of compliance: 57%**				
	Resuscitate ABC (Airway, Breathing, Circulation)	4	4	0	100%

	Initial investigations: USG, HBS (Hepato-biliary system)	4	4	0	100%
	Serum Amylase and/or Serum Lipase	4	0	4	0%
	CBC	4	3	1	75%
	RBS	4	2	2	50%
	Blood urea	4	0	4	0%
	Serum creatinine	4	0	4	0%
	Serum electrolytes with bicarbonate	4	0	4	0%
	ALT (Alanine Aminotransferase)	4	0	4	0%
	LDH (Lactate dehydrogenase)	4	0	4	0%
	S. Albumin	3	0	3	0%
	S. TG (Triglyceride) (if USG excludes stone and history of alcohol)	2	0	2	0%
	Check for following diagnostic criteria: Abdominal pain consistent with the disease	4	3	1	75%
	Assess severity: Mild/Acute Pancreatitis	4	4	0	100%
	Treatment: Aggressive rehydration within first 12–24 hours. Fluid requirement should be reassessed at frequent intervals within 6 hours of admission and for the next 24–48 hours. Should be provided to all patients, unless cardiovascular and/or renal comorbidities exist	4	4	0	100%
	Adequate analgesia	4	4	0	100%
	Nutrition (In mild acute pancreatitis, oral feedings can be started immediately if there is no nausea and vomiting and abdominal pain has resolved).	4	4	0	100%
	Antibiotics (Should be given for an extra pancreatic infection, such as cholangitis, catheter-acquired infections, bacteraemia, urinary tract infections, pneumonia, etc. Routine use of prophylactic antibiotic in patient with severe acute pancreatitis is not recommended. In patients with infected necrosis, antibiotics known to penetrate pancreatic necrosis, such as carbapenems, quinolones, and metronidazoles may be useful e.g. Inj. Imipenem/Cilastin: 500–1000 mg I/V.6 hourly, 7–10 days, or Inj. Ceftriaxone: 1–2 gm I/V 12-hourly, or Inj. Ciprofloxacin: 400 mg I/V 12-hourly, 7–10 days	4	4	0	100%
	Improved with initial management	4	4	0	100%
	Discharge	4	4	0	100%
38	**ICD code O 83; (N=4) Other assisted delivery (single)** **Ave. % of compliance: 25%**				
	Check for indications: Premature vaginal delivery	2	0	2	0%
	Presentation must be suitable; Cervix must be fully dilated	2	0	2	0%
	Clean hands, perineal wash and draping	2	0	2	0%
	Pudendal block/perineal infiltration	2	0	2	0%
	Check forceps align there on the table and lubricate well	2	0	2	0%
	Insert two fingers of the right hand in the vagina and slide in left blade	2	0	2	0%
	Repeat on the other side, depress handle and lock forceps	2	0	2	0%

	Apply traction downwards and backwards	2	0	2	0%
	Check foetal heart rate and application of forceps	2	0	2	0%
	Assess if procedure has lasted for up to 20 minutes without delivery of the baby/significant descent does not occur in 3 pulls/Cup detaches twice ('Yes' if any of the following)	2	0	2	0%
	Apply largest possible cup at the flexion point – 2–3 cm in front of the posterior fontanelle along the midline	1	1	0	100%
	Prepare for episiotomy, check application of the cup and ensure that no soft tissue is trapped	1	1	0	100%
	Create vacuum 0.2kg/sq.cm and recheck	1	1	0	100%
	Create vacuum 0.8kg/sq.cm and recheck	1	1	0	100%
	Wait for uterine contraction and ask mother to push when contraction	1	1	0	100%
	Start traction in line and perpendicular to cup, downwards, downwards and backwards and then upwards	1	1	0	100%
	In between contractions check Foetal Heart Rate (FHR) and application of the cup	1	1	0	100%
	When head delivered release vacuum and complete delivery as usual	1	1	0	100%
	Do active management of 3rd stage of labour	1	1	0	100%
	Post procedure: Inform mother of what has happened, Newborn resuscitation (if needed) and write up all procedures	1	1	0	100%
	IV Fluid 1 L	1	1	0	100%
	Atraumatic Vicryl 1-0/2-0:1(if episiotomy needed)	1	1	0	100%
	2% Lignocaine-1	1	1	0	100%
	Cap. Amoxycillin (500mg)-21	1	1	0	100%
	Tab. Metronidazole (400mg)-21	1	1	0	100%
	Tab. NSAID–3/5 days	1	1	0	100%
	Cap.Omeprazole-14	1	1	0	100%
	5cc syringe-2	1	1	0	100%
39	**ICD code R 56; (N=3) Convulsion (febrile)** **Ave. % of compliance: 52%**				
	Assess if seizure lasting>5minutes Yes: Status Epilepticus, No	4	4	0	100%
	Assess if presentation meets low-risk febrile seizure criteria: 1) 6 months to 3 years of age and 2) Fever present and 3) Seizure generalised (non-focal) and 4) Seizure duration<15 minutes and 5) Child has normal neurologic examination and 6) Child has no history of previous neurologic or CNS abnormality and 7) Only one seizure in a 24-hour period. Yes, No	4	3	1	75%
	Obtain bedside glucose and electrolytes including magnesium	3	0	3	0%
	Look for source of fever	3	0	3	0%
	Do not routinely obtain head CT	1	1	0	100%
	Assess for meningeal signs present or if the patient received antibiotics in past 72 hours or age <6 months	3	0	3	0%

	Perform a lumbar puncture	1	0	1	0%
	Treatment Ceftriaxone 100mg/kg I/V. If Bacterial meningitis is suspected by lumbar puncture and/or history and examination, give Dexamethasone 0.15 mg/kg IV (before or concurrent with IV Antibiotic)	1	1	0	100%
	Assess if the child's age is <18 months	2	1	1	50%
	Discharge patient with advice for follow up with paediatrician	1	0	1	0%
	Educate parents concerning febrile seizure	1	0	1	0%
	Discharge patient with advice for follow up with paediatrician	1	0	1	0%
	Educate parents concerning febrile seizure	1	0	1	0%
	Treat infection if appropriate	1	1	0	100%
40	**ICD code N 40; (N=3) Hyperplasia of prostate Ave. % of compliance: 21%**				
	Check for signs/symptoms Voiding: Hesitancy, poor flow, dribbling, sensation of poor bladder emptying, episodes of near retention	3	2	1	67%
	Diagnostic tests: Urinary flow rate and residual volume measurement	3	0	3	0%
	PSA	3	0	3	0%
	Urine culture	3	0	3	0%
	Urine analysis by dipstick for blood, glucose and protein	2	1	1	50%
	Serum creatinine	3	1	2	33%
	Transurethral resection of the prostate (TURP)	2	0	2	0%
41	**ICD code D 17; (N=3) Benign lipomatous neoplasm Ave. % of compliance: 11%**				
	Initial assessment: Small lipoma (Please fill out Box A)	3	1	2	33%
	Check for signs/symptoms: Small, mobile, soft swelling in undersurface of the skin and subcutaneous tissue	1	0	1	0%
	Remains same size for long period	1	0	1	0%
	Management steps	1	1	0	100%
	Treatment of Large Lipoma: Excision and Biopsy	1	0	1	0%
42	**ICD code D 58; (N=3) Other haemolytic disorder Ave. % of compliance: 62%**				
	Check for signs/symptoms: 2 years to puberty: Retarded growth, hepatomegaly, frontal prominence, splenomegaly, pallor, jaundice, fatigue, tiredness, poor performance	1	1	0	100%
	Post-pubertal: Recurrently worsening weakness, thalassaemia, mild jaundice, lumpy feeling in left upper abdomen, splenomegaly	2	1	1	50%
	Diagnostic tests: CBC (Hb<9gm/dl)	2	1	1	50%
	Peripheral Blood Film (PBF)	2	0	2	0%
	Haemoglobin electrophoresis	1	0	1	0%
	Assess the reports to confirm symptomatic thalassaemia ('Yes' if any of the following): Yes (Please fill out Box A)	2	1	1	50%

	Assess the Hb level ('Yes' if any of the following): Haemoglobin <7gm/dl (Please fill out Box B)	2	1	1	50%
	Packed red cell transfusion to keep pretransfusion Hb level 9gm/dl	2	2	0	100%
	Follow up to observe at 1–2 months interval for 6 to 9 months whether any of the following: 1) Retarded growth and development, or 2) Bony change radiologically, or 3) Progressive hepatomegaly (Yes if any of the following)	2	0	2	0%
43	**ICD code N 04; (N=3) Nephrotic syndrome Ave. % of compliance: 55%**				
	Initial assessment: Patient's age is <18 years, Patient's age is >18 years	3	3	0	100%
	Check for signs/symptoms: Generalised swelling, anaemia, jaundice, pulse, BP, JVP, CVS, respiratory system, abdomen.	1	1	0	100%
	Diagnostic tests: Bedside urine examination	1	1	0	100%
	Urine R/M/E	1	1	0	100%
	CXR	1	0	1	0%
	USG of whole abdomen	1	1	0	100%
	Serum creatinine	1	1	0	100%
	Serum urea	1	0	1	0%
	Serum electrolytes	1	0	1	0%
	HBsAG	1	0	1	0%
	Anti HCV	1	0	1	0%
	Complete Blood Count (CBC)	1	1	0	100%
	Peripheral Blood Film (PBF)	1	0	1	0%
	24-hour Urinary Total Protein (UTP)	1	1	0	100%
	ANA	1	0	1	0%
	C3 (complement system component)	1	0	1	0%
	C4 (complement system component)	1	0	1	0%
	Treatment (age<18 years) Steroid 60 mg/m2 BSA 6 weeks, 40 mg/m2 BSA, EAD 4–6 weeks, tapered over 3–5 months	1	1	0	100%
	Fluid and salt restriction	1	1	0	100%
	Diuretics	1	1	0	100%
	Calcium and Vitamin D	1	0	1	0%
	Lipid lowering agent	1	0	1	0%
	Antibiotic (if infection present)	1	1	0	100%
	Follow-up Urine R/M/E	1	0	1	0%
	CBC	1	0	1	0%
	S. creatinine	1	0	1	0%
	S. electrolytes	1	0	1	0%
	Random Blood Sugar (RBS)	1	0	1	0%
	Check for signs/symptoms ('Yes' if any of the following):	2	2	0	100%

	Generalised swelling				
	Diagnostic tests: Bedside urine examination	2	1	1	50%
	Urine R/M/E	2	2	0	100%
	CXR	2	2	0	100%
	USG of whole abdomen	2	2	0	100%
	Serum creatinine	2	2	0	100%
	Serum urea	2	1	1	50%
	Serum electrolytes	2	1	1	50%
	HBsAG	2	0	2	0%
	Anti HCV	2	0	2	0%
	Complete Blood Count (CBC)	2	2	0	100%
	Peripheral Blood Film (PBF)	2	0	2	0%
	24-hour Urinary total protein (UTP)	2	1	1	50%
	ANA	2	0	2	0%
	C3 (complement system component)	2	0	2	0%
	C4 (complement system component)	2	0	2	0%
	Treatment (age>18 years): Fluid and salt restriction	2	1	1	50%
	Diuretics	2	2	0	100%
	Calcium and Vitamin D	2	2	0	100%
	Lipid lowering agent	2	1	1	50%
	Antibiotic (if infection present)	2	2	0	100%
	Kidney biopsy	2	0	2	0%
	Follow-up Urine R/M/E	2	2	0	100%
	CBC	2	2	0	100%
	S. creatinine	2	2	0	100%
	S. electrolytes	2	0	2	0%
	Random Blood Sugar (RBS)	2	2	0	100%
44	**ICD code N 61; (N=3) Inflammatory disorder of breast (abscess)** **Ave. % of compliance: 58%**				
	Check for signs/symptoms: Localised pain in the breast	3	0	3	0%
	Diagnostic tests: USG of breasts and axilla	2	1	1	50%
	CBC	3	2	1	67%
	RBS	2	2	0	100%
	Treatment incision and drainage under EMLA (Eutactic Mixture of Local Anaesthetics) followed by dressing with soft roll gauze and secondary suture	2	2	0	100%
	Clinical improvement	2	2	0	100%
	Discharge with advice	2	0	2	0%
	Follow up	2	1	1	50%

45	**ICD code O 72; (N=3) Postpartum haemorrhage (N)** **Ave. % of compliance: 100%**				
	Check for signs/symptoms: Excessive vaginal bleeding >500ml or prolonged moderate bleeding or any bleeding that deteriorates maternal condition after childbirth	3	3	0	100%
	Hospitalisation and general management: Assess Airway, Breathing, Circulation and start resuscitation	3	3	0	100%
	Give 10IU Oxytocin I/M	1	1	0	100%
	I/V Access with 2 wide bore cannula & infuse N/S or Hartman's Solution with 20 IU Oxytocin in 1L (If patient is in shock: infuse 1L in 30 min and then regulate the rate of infusion according to response; Pulse settles down <100/min and systolic B.P>100mmhg)	3	3	0	100%
	Urinary catheterisation	1	1	0	100%
	Assess P/BP/ monitor blood loss/urine output until stable)	3	3	0	100%
	Inj. Ergometrine 0.2mg I/M and tab. Misoprostol 800–1000 µgm PR	2	2	0	100%
	Arrange blood for transfusion	2	2	0	100%
	Reassure the mother and keep the family informed	3	3	0	100%
	Investigations: Blood grouping	3	3	0	100%
	Rh typing	3	3	0	100%
	Determine the cause of PPH and manage accordingly (Palpate uterus, examine placenta, examine birth canal with good light and adequate exposure) ('Yes' if any of the following): Placenta not delivered (Please fill out Box A)	1	1	0	100%
	Placenta delivered	2	2	0	100%
	Assess the condition of placenta: Placenta retained; Placenta not delivered within 30 minutes of delivery (Please fill out Box B)	1	1	0	100%
	Treatment: Controlled cord traction. If fails: manual removal of placenta under GA/deep sedation	1	1	0	100%
	Observe if bleeding persists	1	1	0	100%
	Treatment: Ergometrine 0.2 mg I/V	1	1	0	100%
	Misoprostol 800-1000µgm:stat and continued 6/8 hourly	1	1	0	100%
	Blood transfusion	1	1	0	100%
	Antibiotic	1	1	0	100%
	Evaluate the cause of bleeding: Uterus Atonic (Uterus fails to contract after delivery)/Trauma	2	2	0	100%
	Examine the genital tract and treat accordingly: Tear of cervix, vagina, perineum: Repair	2	2	0	100%
46	**ICD code T 42; (N=3) Poisoning by sedative & antiepileptic drugs** **Ave. % of compliance: 100%**				
	Check for history and signs/symptoms: History of time, dose and intent of the overdose. Determination of any other co-ingestants, present or not	2	2	0	100%
	Dizziness, confusion, drowsiness, blurred vision, unresponsiveness, anxiety, agitation. Nystagmus, hallucination, slurred speech, ataxia, coma, hypotonia, weakness, altered	1	1	0	100%

	mental status, impairment of cognition, amnesia, paradoxical agitation, respiratory depression, hypotension				
	Treatment supportive care (Antidote is rarely needed in case of severe CNS depression) (Non-responding with severe respiratory depression or ineffective respiration)	3	3	0	100%
47	**ICD code N 02; (N=2) Haematuria (recurrent and persistent)** **Ave. % of compliance: 93%**				
	Diagnostic test: Check for blood in urine	2	2	0	100%
	Urine microscopy and culture	2	2	0	100%
	Assess the report of urine microscopy and culture: Positive (Please fill out Box A)	2	2	0	100%
	Treat underlying infection	1	1	0	100%
	Investigations: CT Intravenous pyelogram/Ultrasound	1	1	0	100%
	Urine cytology	1	1	0	100%
	Referral to urologist	1	0	1	0%
48	**ICD code H 66; (N=2) Suppurative and unspecified otitis media (CSOM)** **Ave. % of compliance: 100%**				
	Assess the type of CSOM: Tubo-Tympanic type (Please fill out Box A)	1	1	0	100%
	Attico-antral type (Please fill out Box B)	1	1	0	100%
	Treatment: Topical antibiotics (Antibiotic eardrops) (Quinolones, aminoglycosides, polymyxins), Systemic antibiotics may be given in cases of systemic sepsis or inadequate response to topical antibiotics.	1	1	0	100%
	Systemic antibiotics to control infection prior to surgery and prevent spread of infection	1	1	0	100%
	Cortical Mastoidectomy or Modified Radical Mastoidectomy or Radical Mastoidectomy	1	1	0	100%
49	**ICD code J 90; (N=2) Plural effusion (not classified)** **Ave. % of compliance: 50%**				
	Ave. % of compliance: 50%				
	Check for history and signs/symptoms: H/O short duration, high fever, productive cough, pleuritic chest pain: Parapneumonic	2	0	2	0%
	Diagnosis confirmation: Chest X-ray P/A more Lateral Decubitus view and/or USG of lower chest(if needed) or bed side aspiration	2	2	0	100%
50	**ICD code R 04; (N=2) Haemorrhage from respiratory passage (epistaxis)** **Ave. % of compliance: 86%**				
	Check for signs/symptoms: Active bleeding from nose	2	2	0	100%
	Resuscitation as needed	2	2	0	100%
	Check for history of present illness/General Clinical Examination	2	2	0	100%
	Rhinoscopy	2	1	1	50%
	Identify the site of bleeding (anterior, posterior or site not clear)	2	2	0	100%
	Stop bleeding by any of the following: local measures, cauterisation, nasal packing (anterior and posterior) and assess	2	1	1	50%

	('Yes' if any of the following): Successful/unsuccessful				
	Evaluation and treatment of the cause to prevent recurrence	2	2	0	100%
51	**ICD code A 41; (N=2) Septicaemia, others (neonatal)** **Ave. % of compliance: 60%**				
	Check for signs/symptoms: Low body temperature or fever	1	1	0	100%
	Diagnostic tests: Micro ESR>15mm in 1st hour	1	**1**	0	100%
	Hb: May be decreased	1	**1**	0	100%
	Blood for C/S	1	**1**	0	100%
	Urine for R/M/E	1	1	0	100%
	Urine for C/S (to look for infection)	1	0	1	0%
	X-Ray chest (to look for evidence of pneumonia)	1	1	0	100%
	Random Blood Sugar (RBS)	1	0	1	0%
	S. Electrolytes	1	0	1	0%
	S. Creatinine	1	0	1	0%
	Coagulation profile	1	0	1	0%
	Arterial Blood Gas analysis	1	0	1	0%
	Treatment: Thermal care	1	1	0	100%
	Maintenance of oxygen saturation, Adequate nutrition, Glycemic status, Tissue perfusion & Blood pressure	1	1	0	100%
	1st line – Ampicilin+Gentamycin	1	1	0	100%
52	**ICD code A 90; (N=1) Dengue** **Ave. % of compliance: 27%**				
	Check for signs/symptoms ('Yes' if any of the following): Dengue: Headache, Retro-orbital pain, Myalgia, Arthralgia/bone pain, Rash, Haemorrhagic manifestations, Leukopenia (WBC 5000cells/mm3), Thrombocytopenia(<150000cells/mm3), Rising haematocrit (5–10%)	1	1	0	100%
	Diagnostic tests: CBC with platelet count	1	0	1	0%
	Haematocrit	1	0	1	0%
	SGOT/SGPT	1	0	1	0%
	NS1 Antigen (Can be positive on day 1 of fever, unlikely to be positive after 5 days of fever) or Anti-dengue antibody: Raised IgG titre with ELISA or Positive IgM antibody. Commonly positive after 5 days	1	0	1	0%
	Evaluate the CBC report of a patient with acute febrile illness with clinical criteria of case definition of DF and DHF. No Leukopenia and No Thrombocytopenia (Please fill out Box A)	1	0	1	0%
	Assess for warning signs	1	0	1	0%
	Hospitalisation	1	1	0	100%
	Treatment: Paracetamol – 15mg/kg dose and should be administered in frequencies of not less than 6 hours. The maximum dose for adults is 4gm/day. In children (1 tsf 5ml–120mg): <1 year: 1–1.5 tsf, 1–4 years: 1.5–2 tsf, >4 years 2–2.5 tsf. (Do not give any Aspirin and NSAID for treatment of any fever)	1	0	1	0%

	Nutrition: Food should be given according to appetite, but fresh fruit juice should be given frequently	1	1	0	100%
	Dengue monitoring	1	0	1	0%
53	**ICD code B15; (N=1) Acute hepatitis A Ave. % of compliance: 78%**				
	Check for signs/symptoms: Upper abdominal pain	1	1	0	100%
	Diagnostic tests: S.bilirubin	1	1	0	100%
	AST	1	0	1	0%
	ALT	1	1	0	100%
	Assess the possibilities of acute viral hepatitis Possibility of acute viral hepatitis (Please fill out Box A)	1	1	0	100%
	Investigations: Prothrombin time	1	0	1	0%
	Assess for any of the following conditions: Intractable vomiting, prolonged fever, bleeding manifestation, prolonged prothrombin time, deep jaundice, pregnancy, encephalopathy (restlessness, progressive deterioration of consciousness level) ('Yes' if any of the followings) Not present (Please fill out Box B)	1	1	0	100%
	Hospitalisation and Treatment: Anti-emetic (If needed)	1	1	0	100%
	Antibiotics (if infection)	1	1	0	100%
54	**ICD code H 25; (N=1) Cataract (senile) Ave. % of compliance: 33%**				
	Check for signs/symptoms: Blurring/dimness of vision	1	0	1	0%
	Confirm the development of cataracts: Evaluation of anterior and posterior segment with testing of visual acuity. Immature Cataract: Immature Cataract clearly visible fundus (Please fill out Box B)	1	1	0	100%
	Refer the patient to the Tertiary Hospital: Diabetic Retinopathy/Complicated Cataract/Traumatic Cataract/Paediatric Cataract/Suspected Glaucoma	1	1	0	100%
55	**ICD code J 34; (N=1) Other disorders of nose and nasal sinus (DNS) surgery Ave. % of compliance: 17%**				
	Check for signs/symptoms: Nasal obstruction	1	1	0	100%
	Diagnostic tests: CBC	1	0	1	0%
	RBS	1	0	1	0%
	BT	1	0	1	0%
	CT	1	0	1	0%
	S. Creatinine	1	0	1	0%
	Chest X-ray P/A view	1	0	1	0%
	ECG	1	0	1	0%
	X-ray PNS occipito mental view	1	0	1	0%
	Treatment: SMR (Submucosal Resection) or Septoplasty with SMD/Cautery of inferior turbinate under G/A	1	0	1	0%
	Post-operative follow-up: Patient kept in left lateral position	1	0	1	0%

	Monitoring of P/T/R and bleeding	1	0	1	0%
	Nothing per oral for about 4 hours	1	0	1	0%
	Analgesic	1	1	0	100%
	Antibiotic	1	1	0	100%
	Removal of ANS pack after 24 hours	1	0	1	0%
	Removal of nasal splint after 7 days	1	0	1	0%
	Advice: Nasal cleaning with saline water	1	0	1	0%
56	**ICD code J 91; (N=1) Plural effusion (classified)** **Ave. % of compliance: 100%**				
	Check for history and signs/symptoms: H/O short duration, high fever, productive cough, pleuritic chest pain: Parapneumonic	1	**1**	0	100%
	Diagnosis confirmation: Chest X-ray P/A more Lateral Decubitus view and/or USG of lower chest(if needed) or bedside aspiration	1	**1**	0	100%
	Identification of the obvious aetiology of effusion by clinical evaluation: No	1	**1**	0	100%
57	**ICD code K61; (N=1) Abscess of anal and rectal region** **Ave. % of compliance: 29%**				
	Check for signs/symptoms: Short history of severe well-localised pain	1	1	0	100%
	Treatment Surgery: Cruciate incision over the most fluctuant point under spinal anaesthesia	1	0	1	0%
	Regular sit and bath with povisep solution	1	0	1	0%
	Tab paracetamol	1	1	0	100%
	Diagnostic tests: Pus for microbiological culture	1	0	1	0%
	Advice: Follow-up visit	1	0	1	0%
	Colonoscopic assessment	1	0	1	0%
58	**ICD code L 72; (N=1) Follicular cyst of skin and subcutaneous tissue** **Ave. % of compliance: 75%**				
	Initial assessment: Other symptomatic cyst (Please fill out Box B)	1	**1**	0	100%
	Check for signs/symptoms: Not painful	1	**1**	0	100%
	Treatment: Excision and biopsy	1	1	0	100%
	Histopathological examination	1	0	1	0%
59	**ICD code N 43; (N=1) Hydrocele and spermatocele** **Ave. % of compliance: 100%**				
	Check for history: Whether scrotal or inguino-scrotal swelling	1	**1**	0	100%
	Check for signs/symptoms: Usually scrotal swelling	1	**1**	0	100%
	Assessment of the nature of the swelling: whether suspicious or not Non-suspicious swelling (Please fill out Box A)	1	**1**	0	100%
	Treatment: Large size and symptomatic (pain) swelling: Incision or excision and eversion of sac under spinal anaesthesia	1	**1**	0	100%
60	**ICD code N 84; (N=1) Polyp of female genital tract**				

	Ave. % of compliance: 100%				
	Check for history and signs/symptoms: Periods that are heavier than usual	1	**1**	0	100%
	Bleeding after sex	1	0	1	0%
	Bleeding after menopause	1	0	1	0%
	Bleeding between periods	1	0	1	0%
	Vaginal discharge, which may stink due to infection	1	0	1	0%
	Diagnostic tests: Pap smear test	1	0	1	0%
	Biopsy	1	0	1	0%
	Treatment: Removal of the polyp under local or general anaesthesia (if large-size polyp)	1	0	1	0%
	Analgesic (if needed)	1	0	1	0%
61	**ICD code O 01; (N=1) Hydatidiform mole** **Ave. % of compliance: 33%**				
	Check for signs/symptoms: Pain in lower abdomen	1	1	0	100%
	Diagnostic tests: Complete blood count (CBC)	1	0	1	0%
	X-ray chest P/A view	1	0	1	0%
	USG-snow storm appearance, no evidence of foetus	1	0	1	0%
	Blood grouping and Rh typing	1	0	1	0%
	Serum beta HCG	1	0	1	0%
	Urine pregnancy test	1	0	1	0%
	Treatment: Rapid evaluation of vital signs	1	1	0	100%
	I/V access and I/V fluid: normal saline/Ringers solution; blood transfusion (if needed)	1	1	0	100%
	Analgesic: Inj. Pethidine, if necessary	1	1	0	100%
	Start MVA/suction evacuation	1	0	1	0%
	Materials required for surgery and post-operative care, I/V fluid-3 litres	1	0	1	0%
62	**ICD code O 42; (N=1) Premature rupture of membranes** **Ave. % of compliance: 62%**				
	Check for signs/symptoms Pregnancy with per vaginal watery discharge	1	1	0	100%
	Hospitalisation and complete bed rest	1	1	0	100%
	Initial management: Use sterile vulvulpad, broad-spectrum antibiotic	1	1	0	100%
	Diagnostic tests: CBC (Complete Blood Count)	1	1	0	100%
	Random Blood Sugar (RBS)	1	1	0	100%
	CRP (C-Reactive Protein)	1	0	1	0%
	High Vaginal Swab	1	0	1	0%
	Urine R/E	1	0	1	0%
	Urine C/S	1	0	1	0%
	USG of pregnancy profile with biophysical profile	1	1	0	100%

	Assessment in terms of Amnionitis, Placental abruption, Foetal distress, Labour process. Exclude Cord prolapsed. Present/ Absent	1	1	0	100%
	Assess the duration of pregnancy: Pregnancy <34 weeks, ≥37, ≥34 weeks and <37 weeks	1	1	0	100%
	Wait for spontaneous onset of labour for 24 hours; if fails then induction of labour or caesarean section for obstetric cause	1	0	1	0%
63	**ICD code O 84; (N=1) Caesarean delivery (multiple)** **Ave. % of compliance: 100%**				
	Ave. % of compliance: 100%				
	Rapid Initial Assessment (Partograph if available) Stage of labour	2	2	0	100%
	Maternal condition	1	1	0	100%
	Foetal condition	2	2	0	100%
	Diagnostic tests: Blood grouping	2	2	0	100%
	Indications for Caesarean Delivery (Single)	4	4	0	100%
	General management: Initial resuscitation	2	2	0	100%
	I/V Access to correct dehydration	2	2	0	100%
	Urinary catheter	2	2	0	100%
	I/V antibiotic	1	1	0	100%
	Analgesic	2	2	0	100%
	Consult with gynae consultant or refer	2	2	0	100%
	Requirements for Caesarean Section: I/V fluid-3 litres	2	2	0	100%
	Catgut 1-0 round body	1	1	0	100%
	Inj.Vergon-1	2	2	0	100%
	Inj. Gentamycin-15	2	2	0	100%
	Cap Ampicillin/Amoxycillin-18	2	2	0	100%
	Cap. Omeprazole -10	2	2	0	100%
	Urobag-1	2	2	0	100%
	Clofenac suppository-3	2	2	0	100%
	Drugs for S/A	2	2	0	100%
	Suture material-vicryl-1-0 round body-2	1	1	0	100%
	Inj.Pethidine-1	2	2	0	100%
	Inj. Ampicillin/Amoxycillin-3	1	1	0	100%
	Tab. Metronidazole-15	2	2	0	100%
	Foley's catheter 14FR bardia-1	2	2	0	100%
	5cc disposable syringe-10	2	2	0	100%
64	**ICD code O 85; (N=1) Puerperal sepsis** **Ave. % of compliance: 68%**				
	Check for signs/symptoms: Lower abdominal pain/distension	1	1	0	100%
	Diagnostic tests: Complete Blood Count (CBC)	1	1	0	100%
	Blood grouping	1	1	0	100%

	Rh typing	1	1	0	100%
	Blood Sugar (2 hours post-prandial)	1	0	1	0%
	S. Creatinine	1	0	1	0%
	S. Electrolytes	1	0	1	0%
	Urine R/E	1	0	1	0%
	USG of whole abdomen	1	1	0	100%
	General management: Reassurance and counselling	1	0	1	0%
	I/V Fluid (Normal Saline/Hartman's Solution)	1	1	0	100%
	Maintenance of nutrition	1	1	0	100%
	Anti-spasmodic	1	1	0	100%
	Anti-pyretic and cold sponging	1	0	1	0%
	Injectable antibiotic	1	1	0	100%
	Monitoring of the patient's Pulse, BP, Temperature, Respiration and Input/output chart.	1	1	0	100%
	Assess the cause of Puerperal Sepsis ('Yes' if any of the following): Puerperal Sepsis (Endometritis) (Please fill out Box A)	1	1	0	100%
	Treatment: Inj. Antibiotic for 72 hours	1	1	0	100%
	Fever subsides: Continue observation	1	1	0	100%
65	**ICD code T 60; (N=1) Pesticide poisoning** **Ave. % of compliance: 100%**				
	Check for signs/symptoms Smell of OPC (Organo-Phosphorus Compound)	1	1	0	100%
	General Management: Airway, Breathing, Circulation management (if needed)	1	1	0	100%
	Confirm Poisoning by test dose of Inj. Atropine (Signs of Atroponisation are: Clear chest on auscultation, no wheeze. Heart rate:>80 beats/min. Pupils no longer pinpoint, Dry axilla, Systolic B.P:>80 mmHg) Confirm poisoning (Please fill out Box A)	1	1	0	100%
	Treatment: Inj. Atropine	1	1	0	100%
	Assess patient's condition after 24–48 hours and manage accordingly No toxicity features of Atropine (Toxicity features of Atropine are: restlessness, tachycardia, fixed dilated pupils, hyperpyrexia, dry mouth, blurred vision, delirium, coma) + Symptomatic improvement – Discharge and Follow-up	1	1	0	100%
66	**ICD code Z 33; (N=1) Medical termination of pregnancy** **Ave. % of compliance: 100%**				
	Check for Indication: Major structural or chromosomal anomaly of the foetus	1	**1**	0	100%
	Diagnostic tests: CBC	1	1	0	100%
	Blood grouping and Rh typing	1	1	0	100%
	Ultrasonography of pregnancy profile	1	1	0	100%
	Confirmation of the gestational age clinically and ultrasonographically: Pregnancy ≤12 weeks/Pregnancy >12weeks	1	1	0	100%

	Treatment: Medical Method: Tab Mifepristone (200mg) 1tab orally + Tab Misoprostol (200µg) vaginally 4tab./Surgical Method: Vacuum aspiration (Manual vacuum aspiration plus syringe aspiration)	1	**1**	0	100%
	Assess the success/failure of treatment; Success	1	1	0	100%

n*: number of steps applicable

N**: number of treatment documents reviewed