Third Party Evaluation of the **Sehat Card Plus Khyber Pakhtunkhwa**

Department of Community Health Sciences,
Aga Khan University, Karachi

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Acronyms

ADP	Annual Development Program
AICD	Automatic Implantable Cardiovascular Defibrillators
ALOS	Average Length of Stay
BISP	Benazir Income Support Program
CHE	Catastrophic Health Expenditure
CHW	Community Health Worker
CI	Confidence Interval
CNIC	Computerized National Identity Card
CVD	Cardiovascular disease
DTP3	Diphtheria Tetanus toxoid and Pertussis
ER	Emergency Room
FPR	Financial Risk Protection
GDP	Gross Domestic Product
GGE	General Government Expenditure
GIZ	German Agency for International Cooperation
HFOs	Health Facilitation Officers
HHFA	Harmonized Health Facility Assessment
HMIS	Health Management Information System
ICD	International Classification of Diseases
ICU	Intensive Care Unit
IMR	Infant Mortality Rate
IPC	Infection Prevention and Control
KP	Khyber Pakhtunkhwa
LMICs	Low- and Middle-Income Countries
LSCS	Lower Uterine Segment Caesarean Section
MIS	Management Information System
MMR	Maternal Mortality Ratio
NADRA	National Database and Registration Authority
NHA	National Health Accounts
NMR	Neonatal Mortality Rate
OOP	Out-Of-Pocket
OR	Operating Rooms
ORIF	Open Reduction and Internal Fixation
PDHS	Pakistan Demographic and Health Survey
PMT	Proxy Mean Testing
PSLM	Pakistan Social and Living Standards Measurement Survey
PSM	Propensity Score Matching
SARA	Service Availability and Readiness Assessment
SARS	Severe Acute Respiratory Syndrome
SCPKP	Sehat Card Plus Khyber Pakhtunkhwa
SSP	Sehat Sahulat Program
SDG	Sustainable Development Goals
SEP	Socio-Economic Position
SHPI	Social Health Protection Initiative
SLIC	State Life Insurance Corporation
U5MR	Under 5 Mortality Rate
UCs	Union Councils
UHC	Universal Health Coverage

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On behalf of
Dr Sameen Siddiqi, Principal Investigator, and
The Evaluation Team from the Aga Khan University

Executive Summary

1. Introduction and Background

Khyber Pakhtunkhwa (KP) is the north-western province of Pakistan with a population of 35.53 million. The province is administratively spread over 38 districts and 986 union councils. In 2013, the KP government put health as a priority and embarked on a health sector financing reform. The program was started by the KP government in four pilot districts as a joint venture with K*f*W ensuring access to people living below poverty as per BISP criteria.

Based on initial experience of the project and reinforced by the Prime Ministers National Health Insurance, in 2015 the KP government launched its publicly financed flagship health insurance programme, the *Sehat Sahulat Programme (SSP)* in line with the global commitment to achieve Sustainable Development Goals (SDGs) by the year 2030, that is, SDG 3 or Goal of Health and Wellbeing and its overarching Target 3.8 to achieve Universal Health Coverage (UHC).

The objectives of SSP in KP were to improve the health of the population by increasing access to quality inpatients health services and to enhance financial risk protection by providing care at empanelled public and private hospitals through a *Sehat Card*, making it cashless at the point of care for beneficiary families earning below US $1.25 per day (PMT score below 16.17). In April 2020, the KP government announced extending coverage to all households in the province, irrespective of poverty status, and renamed it *Sehat Card Plus* (SCP) *KP*. *SCPKP* provides an annual cover of up to PKR 1 million per family. Currently, more than 7.2 million families of KP are entitled to free-of-cost inpatient health services at point of care.

2. SCP KP Evaluation: Aim/Objectives and Methodological Approach

The government of KP requested the Aga Khan University to undertake an independent evaluation pf the *Sehat Card Plus KP*, which has been funded by GIZ. The evaluation *aims* to assess the *Programme's* potential impact in raising awareness, improving access and financial protection, and its influence on enhancing health equity by extending coverage to vulnerable groups.

Key objectives of the evaluation include *identifying*: (i) challenges and opportunities for improved programmatic governance with reference to third party implementation of *Sehat Card Plus KP*; (ii) gaps and opportunities for improved service delivery including access and quality of care, monitoring and surveillance, and utilization of insurance-related MIS; (iii) appropriateness of beneficiary enrolment, benefits package, premium setting, empanelment of health facilities, and claims reimbursement; (iv) level of user satisfaction and equitable utilization by insured population; and, *proposing* (v) recommendations for action to further improve and sustain the *Sehat Card Plus KP* in the province.

These objectives have been achieved by designing a three-tiered evaluation framework: (i) ***micro-level assessment,*** which includes two surveys of more than 4,000 households – the knowledge, awareness and perception survey (KPS), and the financial risk protection survey (FRP); (ii) ***meso-level assessment***, which includes assessing the readiness of up to 40 empanelled secondary and tertiary care public and private hospitals in KP, conducting exit

interview of almost 1,000 patients and of over 100 key informants; (iii) ***macro-level assessment,*** includes in-depth review of the governance, legislative, institutional and financing aspects of the *Sehat Card Plus KP*; and (iv) ***Secondary analysis*** of almost 100,000 admissions retrieved from the electronic database of SLIC, and review of over 1,850 hospital records for surgical care outcomes.

3. Major Findings of the Evaluation

3.1 Population Perception and Financial Risk Protection at the Household Level

- There is a high level of awareness about the *Sehat Card Plus KP,* reaching 90%. Knowledge regarding its different functional components was relatively low (48%). 'Word of mouth' was the predominant source of information about the Programme (52%).
- There is a highly favorable perception among the population towards the *Sehat Card Plus KP,* who have demanded including outpatient services (84%) in existing programme. Patients' perceived quality of inpatient care was higher among SCP users (72%) as compared to SCP nonusers (55%).
- Accessing healthcare through *Sehat Card Plus KP* from remote districts and reaching distant hospitals was considered a challenge expressed by 25% of respondents.
- Compared to SCP nonusers, SCP users were more likely to seek inpatient care from private hospitals and covered more distance to get to empanelled health facilities, especially for patients with chronic diseases and injuries.
- Socioeconomic status of SCP users and SCP nonusers was not significantly different. Also, the rich and poor are equally likely to utilize *Sehat Card Plus KP* services.
- *There was a significant reduction in medical care component of mean out-of-pocket expenditure for inpatient services for SCP users (PKR 1,006 ±9248) as compared with SCP nonusers (PKR 30,042 ±69014).* The nonmedical component (transport etc.) was similar in both groups.
- *The level of catastrophic health expenditure among households was significantly lower for SCP users (14%) compared to SCP nonusers (35%).* The perception of economic wellbeing was higher among SCP users.

3.2 Health Facility Readiness Assessment

- Cumulative readiness of tertiary care hospitals to provide core clinical services in the areas assessed was found adequate. There was wide variation in the readiness of secondary facilities.
- Cumulative readiness to provide General Surgery, and Obs/Gyn services was measured at over 90% for secondary and tertiary level hospitals. Secondary hospitals had low levels of readiness to handle Accidents & Emergencies (< 75%) and provide Intensive/Critical Care (<65%).
- Readiness for support services such as blood bank was found to be deficient, estimated at 56% for secondary and 81% for tertiary facilities.
- Secondary hospitals reported deficiencies in readiness of health management information systems (64%) and handling of billing & reimbursements (76%). Most hospitals (81% secondary, 75% tertiary) reported receiving timely settlement of claims from SLIC.
- Standardized system for ICD-10 coding of medical conditions was being practiced by less than 35% secondary and 50% tertiary hospitals.
- Nearly one-third of *Sehat Card Plus KP* users and nonusers expressed dissatisfaction with health provider communication. Deficiencies were reported in not being given adequate information about the cost of treatment and other associated costs.

- Two-thirds of Sehat Card Plus KP users, at the time of discharge, did not report incurring out-of-pocket expenditure during admission. For the other one-third, the estimated mean expenditure was PKR 5,464 on medicines and PKR 3,519 on diagnostic tests.
- Among Sehat Card Plus KP nonusers, 44% were not eligible due to citizenship and domicile issues, 19% could not benefit due to nonavailability of required documents (CNIC, B-form).

3.3 Analysis of Hospital Admissions

These are based on the analysis of *100,000 hospital admissions in SLIC Health Insurance Database* from the 10 study districts during the year 2022. The sample after excluding duplicate records was 94,387.

- 63% of admissions were in private hospitals and 37% in public hospitals. Similarly, 65% were in secondary hospitals and 35% in tertiary hospitals.
- Over 63% beneficiaries were admitted through Sehat Card Plus within their home district, 30.6% in other districts of KP, and 6.2% were admitted to facilities in other provinces. Hospitals in Peshawar accounted for 29.3% of admissions (68% in tertiary and 32% in secondary hospitals).
- Based on ICD-10, the top 6 disease groups accounted for 71% of all admissions. These included pregnancy, childbirth, and puerperium (15.3%), digestive system diseases (14.4%), circulatory system diseases (13.0%), respiratory system diseases (10.0%), contact with health services (9.6%), and eye and adnexa diseases (8.8%).
- In-hospital mortality from the sample was estimated at 5.5%. The highest mortality was recorded for neurological disorders (42.6%), followed by cardiovascular disease, endocrinal and metabolic diseases, and infectious diseases all at 11.9%.
- Average length of stay (ALOS) was 2.3 ($\pm$5.8) days. The longest ALOS was for accidents (8.0 $\pm$5.7 days), followed by neurological diseases, endocrine/metabolic diseases, and neoplasms at 5.0 $\pm$12.1 days.
- Average cost per admission was PKR 31,395, which was 20-40% higher in private hospitals. The KP government spent PKR 2.96 billion on 94,387 patients of which 0.83 billion (28.0%) were spent on treating cardiovascular diseases. The mean cost of treating cases of ischemic heart disease was PKR 89,919.
- Most frequent medical procedures undertaken were unilateral cataract extraction with IOL, appendicectomy, chemotherapy, coronary angiography, normal delivery, and Caesarean delivery.
- Average time taken to send the claims by empanelled hospitals was 51 +52.8 days, while the average time taken to settle the claims by SLIC was 21 +26.1 days.

Review of record of surgical admissions for Bellwether Procedures[1] of SCP users and SCP nonusers from four tertiary care hospitals of Peshawar demonstrated the following:

- Of the 1,853 patients, 63.7% had surgery at private hospitals. LSCS was the most common surgical procedure (62.1%), followed by ORIF (29.5%), and exploratory laparotomy (8.4%). ORIF was more commonly done in public hospitals (59.3%), while LSCS in private hospitals (83.0%).
- The difference in hospital mortality for surgical interventions between public (1.2%, n=7) and private (0.8%, n=10) hospitals was not significant. For LSCS, mortality was not recorded in any hospital.

[1] Bellwether Procedures that include - lower (uterine) segment Caesarean section (LSCS), open reduction and internal fixation (ORIF) fractures, and exploratory laparotomy.

- Readmission was higher in SCP nonusers as compared to SCP users. The 14-day readmission was 15.1% vs 12.7%, and 30-day readmission 5.9% vs 3.2% respectively.

3.4 Policy, Legislative, Institutional, Financial Review of Sehat Card Plus KP

This analysis reviews four aspects of the *Sehat Card Plus KP*: (i) governance, legislative and organizational arrangements; (ii) financing and financial sustainability; (iii) organization and delivery of health services; and (iv) monitoring and evaluation of the programme.

3.4.1 Governance and Organizational Arrangement of Sehat Card Plus KP

- The *KP Sehat Insaf Card Bill, 2018* and the *Universal Health Coverage Act 2022* demonstrate strong political commitment towards UHC and long-term sustainability of the *Sehat Card Plus KP*. Proper rules and regulations are needed to assign roles and responsibilities for effective implementation.
- The *Sehat Card Plus KP* Policy Board is Chaired by the Minister Health with representation from the public and private sectors. Stakeholders representing the voice of citizens are needed as in other L&MICs with more mature programs.
- The Directorate of SHPI has been instrumental in the piloting, rollout, and universalization of the *Sehat Card Plus KP* in KP, however it lacks technical staff and logistic support due to limited operational budget, which needs to be corrected on an urgent basis.
- State Life Insurance Corporation (SLIC) has legal status, with reference to *UHC Bill 2022*, which makes it the preferred third party despite mention of competitive bidding process. The Bill indemnifies SLIC's actions in previous years, which legally endorses the status of SLIC.
- As the implementer of *Sehat Card Plus KP*, SLIC's role includes defining service package, contracting and empanelment of hospitals, pre-authorization of admission, claims processing, consumer rights protection, and monitoring. *In the short run, this has been a useful measure as it has helped to rapidly establish and roll out the Sehat Card Plus KP across the province.*
- SLIC receives 11.27% of total premium annually as the administrative overheads for implementing the *Sehat Card Plus KP*. In addition, it also retains 15% of any unspent budget at year end, hence bears minimal financial risk.
- The SHPI Directorate relies on SLIC for implementation and monitoring. A Technical Advisory Committee for independent monitoring is needed on an urgent basis.
- Health Care Commission of KP should be engaged along with SLIC in the empanelment of hospitals for greater independence and transparency under *Sehat Card Plus KP*.
- Health Foundation KP is not involved in facilitating public-private partnership arrangements or for providing soft loans to empaneled or eligible health facilities in remote districts of the province.
- The Independent Monitoring Unit of DOH can play a pivotal role in monitoring the performance of empaneled hospitals and providing feedback to SHPI. This opportunity has not been tapped yet.

3.4.2 Financing and Financial Sustainability of *Sehat Card Plus KP*

- *Sehat Card Plus KP* is not based on contributions but on entitlements. The *Sehat Card Plus KP* and the KP government can be highly applauded from an equity perspective, but its financial sustainability is a concern.

- The rapid expansion of population coverage from targeting the poor to fully subsidized entitlement by *Sehat Card Plus KP* for all poses a major challenge for the KP government to sustain it financially. Evidence is emerging of non- and delayed release of payments to SLIC.
- The premium paid by the *Sehat Card Plus KP* is set at PKR 2,849 per family, which does not seem to be calculated based on actuarial estimation. It is likely that in future the premium will be increased along with the change in health care utilization as the *Sehat Card Plus KP* matures.
- The KP government plans to introduce an *Opt-Out voluntary insurance* for the formal sector, starting with civil servants. Although politically feasible, the KP government needs to consider its various advantages and disadvantages associated with its introduction.
- The *case-based payment method* adopted by the Programme is a wise policy choice. Eventually, it needs to transition to *DRG-based payment system* considering severities and comorbidities.
- The government needs to reduce regular budget to public hospitals and channel funds via increased premium support and better tariffs. This would maximize the effect of strategic purchasing and demand-side financing on hospital performance.
- SLIC has rapidly enhanced its capacity for claims processing, and most get reimbursed within a month. At the same time, SLIC needs to improve its capacity as a *strategic purchaser*.

3.4.3 Organization and Delivery of Services under Sehat Card Plus KP

- Current benefits package of *Sehat Card Plus KP* is mainly for inpatient care with a cap of PKR 1.0 million. The exclusion of primary care is not based on evidence of cost effectiveness and disease burden of KP. The approved *Essential Package of Health Services* for KP, which includes 98 interventions, should progressively be incorporated within the Sehat Card Plus KP.
- SLIC has empaneled almost 200 hospitals, of which 48 private hospitals were recently dis-empaneled due to non-performance. *KP's Health Care Commission* should be involved in the empanelment of hospitals for greater independence and transparency under Sehat Card Plus KP.
- Despite the importance of monitoring quality of care, the current tools developed by SLIC and HCC focus on input and some process indicators and not on outputs such as infection control, patient safety, waiting times, and clinical outcomes to monitor quality.
- *Sehat Card Plus KP* and SLIC need to improve the transparency of grading hospitals and setting tariffs as expressed by many providers and effectively communicate the way grading is made.

3.4.4 Monitoring and Evaluation

- SLIC maintains a robust MIS for the *Sehat Card Plus KP*, which is connected to NADRA database for instant verification. It is electronic, provides live reporting through customized dashboards, records diagnosis based on ICD-10, and offers hierarchical access to its users.
- The MIS does not record data on patient wealth status/poverty score, has limited use in terms of result-based and outcome-level assessment. The selection of indicators lacks strategic purpose and operational definitions, and the SLIC MIS is not integrated with hospital HMIS.

- Building an independent M&E system is an essential pillar for improved governance of the *Sehat Card Plus KP* and as a management tool for decision makers to determine its outputs and outcomes.
- Central Management Information Systems (CMIS) has been developed, although it is unclear whether it is hosted in SHPI Directorate, SLIC or DOH and what are its existing capacities.

4. Strengths and Areas for Improvement

The *Sehat Card Plus KP* has many strengths that need to be reinforced and institutionalized. At the same time, there are areas for improvement that need to be addressed as progress is made towards UHC in KP province. These are summarized in the Table below.

Strengths	Areas for Improvement
▪ Unequivocal political commitment of MOH leadership and SHPI Directorate to *Sehat Card Plus KP*, backed up strong parliamentary legislation	▪ Sehat Card Plus KP Policy Board has representation from the public and private sectors but lacks stakeholders representing the citizens and providers.
▪ Increasing allocation of financial resources over the last three years to strengthen and expand the *Sehat Card Plus KP*	▪ SHPI Directorate, given its pivotal role, lacks technical staff and infrastructural support, which needs to be corrected urgently to independently monitor the Programme.
▪ Outsourcing the implementation of Sehat Card Plus KP to SLIC, which has the capacity to scaleup the programme has been a useful measure in the short run	▪ Rapid expansion of population coverage from targeting poor to fully subsidized entitlement for all poses a major challenge to financially sustain *Sehat Card Plus KP*. Evidence is emerging of non- and delayed release of payments to SLIC.
▪ Tertiary care hospitals have cumulative readiness to provide core clinical services, though not so for many secondary hospitals.	▪ SLIC has a legal status, with reference to *UHC Bill 2022*, which makes it the preferred third party despite mention of competitive bidding process.
▪ Majority of hospitals (81% secondary, 75% tertiary) reported receive timely settlement of claims by SLIC.	▪ SLIC receives 11.27% of total premium as administrative overheads, and retains 15% of unspent budget at year end, hence bears minimal financial risk.
▪ Case-based payment method adopted is a wise policy choice, which needs to transition to DRG-based payment system.	▪ HCC, Health Foundation, IMU, not engaged in helping SHPI Directorate and SLIC in implementation, e.g., in empanelment of hospitals, PPPs, M&E.
▪ SLIC maintains an electronic MIS, connected to NADRA database for verification and provides live reporting through customized dashboards.	▪ Before introducing the Opt-Out voluntary insurance for formal sector, KP government should carefully weigh its advantages/ disadvantages.
▪ Two-thirds of *SCP* users, at the time of discharge, did not report incurring out-of-pocket expenditure during admission.	▪ Exclusion of primary care and preventive interventions is a major gap. The endorsed EPHS for KP should progressively be incorporated within

Strengths	Areas for Improvement
	the Sehat Card Plus KP if UHC is to be achieved.
▪ High level of awareness about the *Sehat Card Plus KP,* reaching 90%, and a favorable perception among population towards the *Sehat Card Plus KP,*	▪ Empanelment, monitoring quality of care and clinical outcomes should focus on input, processes and output indicators (e.g., infection control, patient safety).
▪ Significant reduction in mean out-of-pocket expenditure for inpatient services for SCP users compared with SCP nonusers	▪ *Sehat Card Plus KP* needs to improve transparency of grading hospitals, setting tariffs, and effectively communicate the way grading is made.
▪ Level of catastrophic health expenditure for all wealth quintiles and place of residence was significantly lower for SCP users as compared to SCP nonusers.	▪ An independent M&E system is an essential tool for improved governance of Sehat Card Plus KP and for decision makers. It needs to be urgently set up.
	▪ Accessing healthcare from remote districts and reaching distant hospitals is challenge expressed by 25% of respondents.
	▪ Readiness for support services, especially blood banks was deficient in 44% of secondary and 19% for tertiary facilities.
	▪ Secondary hospitals reported deficiencies in readiness of health management information systems and handling of billing & reimbursements.
	▪ Standardized system for coding of medical conditions, such as ICD-10, was practiced by less than 35% secondary & 50% tertiary hospitals.
	▪ Sehat Card Plus KP users and nonusers (33%) expressed dissatisfaction with health providers' communication.
	▪ Among SCP nonusers, 44% were not eligible due to citizenship and domicile, 19% due to not having CNIC, B-form.

5. Strategic Priorities and Recommendations

The *Sehat Card Plus KP* in KP province has made significant achievements in a short period of 7 years and has been able to extend coverage by increasing access and utilization of inpatients care and enhancing financial risk protection to the beneficiaries of the Programme. This has been substantiated at all levels of the three-tiered evaluation – household surveys, health facility assessment and exit interviews, analysis of SLIC data, and during dialogues with policymakers in KP. In this regard, the KP government needs to be commended for this achievement and for its commitment to extend health coverage to the population of KP. *There is good evidence that given its performance the Sehat Card Plus KP needs to be sustained and institutionalized in KP province to be among the first to achieve universal health coverage (UHC) in Pakistan.*

This section provides a set of priorities that would help sustain and institutionalize the *Sehat Card Plus KP*. It highlights the strategic priorities that require action in the short, medium, and long run. The actions and implementation modalities for each priority are detailed in Chapter 6.

1.1 Strengthen the Governance, Institutional Capacity and Financial Sustainability of Sehat Card Plus KP: Strategic and Policy Priorities

Priority 1: *Sehat Card Plus KP Policy Board has representation from the public and private sectors but lacks stakeholders representing the citizens and providers.*

Priority 2: *SHPI Directorate, given its pivotal role, lacks technical staff, IT capacity, and infrastructural support, which needs to be corrected urgently for independent Programme monitoring.*

Priority 3: *Ensure financial sustainability of the Sehat Card Plus KP by allocating adequate funds that meet the demand of rapid expansion of population coverage from targeting poor to fully subsidized entitlement for all.*

Priority 4: *Given SLIC's legal status in UHC Bill 2022 as the preferred 3rd party (despite mention of competitive bidding), establish independent capacity to monitor and optimize SLIC's performance in Sehat Card Plus KP implementation.*

Priority 5: *Engage Health Care Commission, Health Foundation, IMU in enhanced implementation of Sehat Card Plus KP (e.g., in Empanelment, PPPs, M&E)*

Priority 6: *Before introducing the Opt-Out voluntary insurance for formal sector, KP government should carefully weigh its pros and cons.*

Priority 7: *Include primary care and preventive interventions in the service package by incorporating the Essential Package of Health Services (EPHS) developed for and endorsed by government of KP.*

Priority 8: *In the long run, the KP Government needs to consider establishing an autonomous purchasing agency or health insurance organization to administer the Sehat Card Plus KP.*

Priority 9: *Review the premium per family at regular intervals based on actuarial studies, financial projections, cost-effectiveness, fiscal space, and levels of utilization.*

Priority 10: *The case-based payment method adopted by the Programme is a wise policy choice. Eventually, it needs to move towards a more elaborate DRG-based payment system.*

Priority 11: *Reconsider the current reimbursement as a top-up pay to public hospitals by reducing direct budgetary allocation and maximizing the effect of strategic purchasing by Sehat Card Plus KP on hospital performance.*

Priority 12: *Urgently build capacity in remote districts by upgrading secondary hospitals in the public and private sectors.*

Priority 13: *SHPI Directorate and SLIC should continuously work towards what is called "More health for money" by improving efficiency gains.*

Priority 14: *Improve monitoring and evaluation of Sehat Card Plus KP for corrective action and informed decision making in a timely manner.*

1.2 Strengthening the Service Delivery Capacity of Empaneled Hospitals

The strategies proposed to improve service delivery in the secondary and tertiary hospitals is the shared responsibility of Department of Health, SHPI Directorate, autonomous health institutions and the empanelled health facilities in KP.

Priority 1: *Address district level variation in the readiness of secondary facilities to efficiently provide the package of services across the province under Sehat Card Plus KP.*

Priority 2: *Build and enhance the low level of capacity to manage emergency and critical care at the secondary level hospitals, particularly in public facilities.*

Priority 3: *Tackle deficiencies in blood banking as a critical support service for medical procedures, including surgeries, obs/gyn care, trauma care and cancer treatment in secondary and tertiary hospitals.*

Priority 4: *Strengthen infection prevention and control measures in all hospitals, to reduce negative outcomes such as increased risk of healthcare associated infections, decreased patient safety and increased healthcare costs.*

Priority 5: *Respond to gaps and weaknesses in readiness of hospitals to adopt new technologies such as electronic medical records and e-claims for efficient delivery and management healthcare services.*

Priority 6: *Overcome barriers, such as difficulties in producing necessary documents to access and benefit from Sehat Card Plus KP for a minority but significant number of users.*

Priority 7: *Minimize health care related out-of-pocket payments for all inpatient admissions at empanelled facilities so as not to off-set the goal of reducing catastrophic health expenditures.*

1.3 Enhancing impact of the Sehat Card Plus KP at the level of the community

Priority 1: *Raise awareness about different functional components of the Sehat Card Plus KP (48%) to optimize its benefits, understand entitlements and privileges, and enhance utilization of services offered by the Programme.*

Priority 2: *Enhance trust and confidence among SCP users to access public hospitals, especially at the secondary level, at the same level as private hospitals.*

Priority 3: *Despite favorable perception about the Sehat Card Plus KP, respond to the communities' demand for inclusion of outpatient services and provide additional support to patients in remote districts to access tertiary care hospitals.*

Priority 4: *In spite of acceptable level of perceived quality of inpatient care among SCP users, there is a need to address gaps in relation to patient centeredness and responsiveness.*

Priority 5: *Monitor and ensure that the Sehat Card Plus KP serves lower socioeconomic quintiles as much as, and possibly more than, higher income quintiles to keep out-of-pocket payment and catastrophic health expenditures as less as possible and adhere to the principle of 'progressive universalism'.*

Theis is a long list of priorities for consideration of the leadership in Department of Health and SHPI Directorate. These need to be further prioritized along with the recommendations for action and implemented in a phased manner. **It is recommended that the *Sehat Card Plus KP* evaluation should lead to a planning exercise to develop a strategic plan over a medium to long term horizon and a timebound implementation roadmap to sustain its successful implementation.**

Chapter 1: Introduction to Health Financing and Rationale for Social Health Insurance in Pakistan and Khyber Pakhtunkhwa

1.1 Overview of Health Care Financing in Pakistan

Pakistan is a lower-middle income country with a GDP per capita of US$ 1,538 in 2021. Its current health spending in 2019 was low at 3.4% of GDP or US$ 39.5 per capita. Government spending on health at 4.9% of its annual expenditure is inadequate to accommodate health needs of the population, which results in high level of out-of-pocket payment, at 53.8% of current health expenditure (CHE).[2] Table 1 provides the relevant statistics.

Table 1 Key Health Financing Indicators for Pakistan

Key indicators	2010	2015	2016	2017	2018	2019	2020	2021
Population, million	179.4	199.4	203.6	207.9	212.2	216.6	220.9	225.2
Annual Population growth (percent)	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.9
GDP per capita (current US$)	987.4	1,356.7	1,540.2	1,631.5	1,678.0	1,481.8	1,359.5	1,537.9
UHC service coverage index	36.0	41.0	---	43.0	---	45.0	---	---
Current health expenditure (% of GDP)	2.6	2.7	2.9	2.9	3.2	3.4	---	---
Current health expenditure per capita (US$)	25.3	36.0	39.4	42.3	42.9	39.5	---	---
Domestic general government health expenditure (% of CHE)	22.0	27.5	29.8	31.6	35.7	32.0	---	---
Out-of-pocket expenditure (% of CHE)	70.4	66.2	62.2	60.2	56.2	53.8	---	---
External health expenditure (% of CHE)	4.9	3.8	1.8	1.7	0.6	7.1	---	---
Domestic general government health expenditure (% of GGE)	2.8	3.7	4.3	4.3	5.3	4.9	---	---
Catastrophic health spending (OOP > 10% of household consumption or income)	3.0	4.5	---	---	---	4.0	---	---

GDP: Gross Domestic Product; UHC: Universal Health Coverage; CHE: Current Health Expenditure; GGE: General Government Expenditure

[2] World Health Organization, Global Health Expenditure Database. https://apps.who.int/nha/database

The health care financing landscape in Pakistan, like many other low- and middle-income countries (L&MICs) is dominated by out-of-pocket (OOP) payments. Data from the last round of National Health Accounts show that OOP spending in Pakistan, as a percent of the total health expenditure, is 58%[3] (NHA 2018). Government spending as a proportion of current health expenditure is less than 32%.[2] A recent study has estimated that almost 13.2% of the population is estimated to be vulnerable to financial catastrophe due to healthcare payments[4]. There is critical need for Pakistan to make a shift towards prepayment arrangements to improve financial risk protection for its citizens.

Launched towards the end of 2015, the Prime Ministers National Health Insurance, later known as the *Sehat Sahulat Programme* (SSP), has been working to provide financial protection to the poor against catastrophic health expenditure. This initiative of Pakistan's Federal, Provincial and Regional Governments was based on the health financing thematic pillar of National Health Vision 2016-2025 that proposes pro-poor social protection initiatives. This is in line with the global commitment made by all countries at the UN General Assembly in 2015 to achieve Sustainable Development Goals (SDGs) by the year 2030. In the context of health, this pertains to SDG 3 or Goal of Health and Wellbeing. An overarching target (Target 3.8) of SDG 3 is to achieve Universal Health Coverage (UHC). Progress towards SDG is monitored by a joint WHO and Word Bank Monitoring report every two years[5]. The SSP in Pakistan is responding to this global commitment.

1.2 Current State of Health System and Health Outcomes in Pakistan and Khyber Pakhtunkhwa

Pakistan is a lower-middle income country with a population exceeding 230 million that resides in 156 districts across provinces and regions of the country. Over last three decades, Pakistan has lagged behind its South Asian neighbors in demonstrating improvements in the health status of its population. For instance, neonatal and child mortality in Pakistan is among the highest in the world (Table 2).[6]

Inadequate spending on the production, deployment and retention of health workforce has resulted in a low level of health workforce density, as measured by number of physicians, nurses and midwives. In 2019, Pakistan's health workforce density (physicians, nurses and midwives) was equivalent to 1.6 per 1000 population against a global target of 4.45 per 1,000 for achieving UHC by 2030.[7] There are more physicians than nurses in Pakistan, for which training, and education policy needs to strengthen production of fit for purpose allied health professionals.[8,9]

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[3] Pakistan Bureau of Statistics. National Health Accounts Analysis 2017-18. https://www.pbs.gov.pk/sites/default/files/national_accounts/national_health_accounts/national_health_accounts_2017_18.pdf

[4] Bashir S, Kishwar S, Salman. Incidence and determinants of catastrophic health expenditures and impoverishment in Pakistan. Public Health. 2021;197: 42–47.

[5] https://www.who.int/publications/i/item/9789240040618

[6] UNICEF. Data monitoring the situation of women and children. https://data.unicef.org/country/pak/ (Site accessed on June 30, 2021)

[7] https://apps.who.int/iris/bitstream/handle/10665/250368/9789241511131-eng.pdf

[8] Carranza AN, Munoz PJ, Nash AJ. Comparing quality of care in medical specialties between nurse practitioners and physicians. J Am Assoc Nurse Pract. 2020 May 6;33(3):184-193. doi: 10.1097/JXX.0000000000000394

[9] Laurant M, van der Biezen M, Wijers N, Watananirun K, Kontopantelis E, van Vught AJ. Nurses as substitutes for doctors in primary care. Cochrane Database Syst Rev. 2018 Jul 16;7(7):CD001271. doi: 10.1002/14651858.CD001271

Further, while some health service indicators have performed well, others have fallen short of the desired levels. For instance, the coverage for 4+ antenatal care visits was 51.4% in 2018, measles immunization coverage among 1-year-olds was 76.0%, treatment success rate of new bacteriologically confirmed TB cases was 94.0% in 2016, and most recent DTP3-containing vaccine/pentavalent coverage among children under 1 year of age group was estimated at 83.0%. On the other hand, coverage for the rising incidence of noncommunicable diseases and its risk factors such as control of diabetes, hypertension, and smoking is far below the desired level, and for many the information is not readily available.

Khyber Pakhtunkhwa is the north-western province of Pakistan with a population of 35.53 million[10]. The province is administratively spread over 38 districts and 986 union councils (UCs). The province recorded a mortality rate for children <5 years of age to be 64 per 1000 live births and vaccination coverage of 55% in children <2 years (PDHS 2017-2018). Table 3 provides comparison of the change in life expectancy in Pakistan, KP and other provinces, while Table 4 provides a summary of antenatal and delivery services, along with its related health outcomes in KP, disaggregated by urban-rural populations.

Table 2: Selected Health Status and System Indicators for Pakistan – 2005 – 2021

Key indicators	2005	2010	2015	2016	2017	2018	2019	2020	2021
Health Status									
IMR* per 1000 live birth	76.6	70.1	62.1	60.5	58.9	57.3	55.7	54.2	---
U5MR* per 1,000 live birth	96.3	87.1	76.0	73.8	71.6	69.5	67.3	65.2	---
NMR* per 1,000 live birth	52.6	49.8	45.2	44.3	43.3	42.3	41.4	40.4	---
MMR* (modelled estimate) per 100,000 live births	237.0	191.0	154.0	143.0	140.0	---	---	---	---
Health Workforce and Infrastructure (per 1,000 population)									
Physicians	0.8	0.8	0.9	1.0	1.0	1.0	1.1	---	---
Nurses and midwives	---	0.6	---	---	0.6	---	0.5	---	---
physician, nurses and midwives	0.8	1.4	0.9	1.0	1.6	1.0	1.6	---	---
Hospital beds	0.7	0.6	0.6	0.6	0.6	---	---	---	---
Health Services									
Prevalence of current tobacco use (% of adults)	31.9	27.4	23.6	---	---	20.8	20.8	20.2	---
Births attended by skilled health staff (% of total)	31.0	---	59.0	---	---	69.3	73.7	68.0	---
DPT (% of children ages 12-23 months)	63.0	52.0	72.0	75.0	75.0	80.0	84.0	77.0	83.0

*IMR – Infant Mortality Rate; U5MR – Under 5 Mortality Rate; NMR – Neonatal Mortality Rate; MMR – Maternal Mortality Ratio. Source: World Bank, World Development Data, Available form https://data.worldbank.org/

1.3 Evolution of Social Health Insurance in Khyber Pakhtunkhwa Province

KP province embarked on health sector financing reforms in 2013, when the new political regime came into power, with health as a major item on the reform agenda. The program was started by KP's government in four Districts of KP as a pilot project and as a joint venture with the German K*f*W Development Bank, ensuring access to people living below poverty line as per Benazir Income Support Programme (BISP) criteria (of earning less than US$ 67 per month

[10] Source: Pakistan Bureau of Statistics, 2017

and having a female applicant with a valid CNIC). At the provincial level, the program was overseen by a project steering committee, while implementation was carried out by the project management unit. The funding was channeled through the Annual Development Program (ADP) scheme.

Table 3: Change in Life Expectancy in Pakistan and its Provinces – 2010 -2019

Country/ Province/ Region	Life expectancy at birth		Healthy life expectancy		Socio-demographic index	
	2010	2019	2010	2019	2010	2019
Pakistan	**62.3**	**65.0**	**55.2**	**57.4**	**0.4**	**0.5**
Azad Jammu and Kashmir	65.6	67.8	57.4	59.3	0.5	0.5
Balochistan	60.4	62.6	53.7	55.4	0.4	0.4
Gilgit-Baltistan	61.2	63.9	54.3	56.5	0.4	0.4
Islamabad Capital Territory	69.8	71.4	61.8	63.0	0.7	0.7
Khyber Pakhtunkhwa	**63.6**	**66.4**	**56.2**	**58.4**	**0.3**	**0.3**
Punjab	61.3	64.0	54.7	56.8	0.4	0.5
Sindh	62.9	65.7	55.4	57.7	0.5	0.5

Table 4: ANC and Delivery Services and related indicators of health status in KP province

Characteristic	ANC Services			Health Status				
	Percent receiving ANC from skilled provider	Percent satisfied with the service provided	Percentage delivered in health facility	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-5 mortality
Overall	80.1	78.1	61.8	42	11	53	12	64
Urban	92.2	91.1	71.6	29	8	36	5	41
Rural	77.4	77.5	59.7	45	12	57	13	69

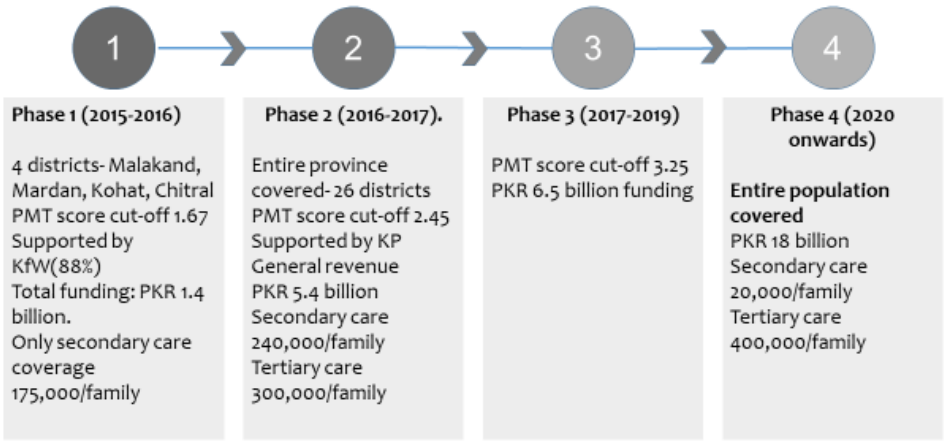
Source DHS 2017-18

The *Sehat Sahulat Programme (SSP) in* KP was launched in 2015 as KP government's flagship publicly funded health insurance programme for its citizens. The programme was implemented through State Life Insurance Corporation (SLIC), selected after a competitive bidding process. The objectives of SSP were to improve the health status of the targeted population by increasing access to quality inpatient health services and to enhance financial risk protection through the reduction of OOP payments for health expenditures. The programme provided inpatient care at empanelled public and private hospitals through a *Sehat Card*, making it cashless at the point of care for the beneficiary families. Initially, the eligible beneficiaries included those earning below US $1.25 per day, selected through a proxy mean testing (PMT) score of below 16.17.

In April 2020, the KPK government announced extending the coverage to all households in the province, irrespective of poverty status, and renamed it the *Sehat Card Plus KP*. SCP claims to provide an annual cover of up to PKR 1 million per family. Currently, more than 7.2 million

families of KP are eligible to get free-of-cost inpatient health services at the point of care under this Programme (Figure 1)[11]. This is unique as the provincial government has chosen to provide insurance coverage to the entire population, a shift from the poverty score-based beneficiary enrolment. This is not a common practice for other, wider welfare entitlements nationally, such as the federally administered Prime Minister's Health Insurance Programme and Benazir Income support Programme (BISP cash transfer programme). An earlier evaluation of SCP was supported by the German Agency for International Cooperation (GIZ) in 2017, where 4 districts were covered under Phase One of the scheme. *A comprehensive evaluation is now needed to determine how this social health insurance scheme has performed in meeting its key objectives and in enhancing financial risk protection to the population of KP.*

Figure 1: From SSP to Sehat Card Plus, Khyber



Pakhtunkhwa : Progressive Timelines

1.4 Purpose and Objective of Evaluation of the Sehat Card Plus (SCP) Program

The Aga Khan University (AKU) was requested by the Department of Health KP to assist the provincial government in undertaking an in-depth and independent review of the *Sehat Card Plus KP*. The purpose of the review was to identify areas that are doing well, determine areas that needed further improvement and develop a roadmap that would guide the expansion and consolidation of the Sehat Card Plus KP towards the achievement of UHC in the province. In response, AKU developed proposal for a comprehensive review of the Programme to provide empirical evidence on its diverse aspects including those related to beneficiary enrolment, appropriateness of the service package, provider contracting, programme monitoring, and impact on access and financial protection. The proposal was accepted and funded by the German Agency for International Cooperation (GIZ).

This evaluation of Sehat Card Plus KP **aims** to assess its potential impact and effectiveness on financial protection and whether it has had a positive influence on enhancing health equity by extending coverage to vulnerable groups. Following are the **key objectives** of the evaluation:

[11] https://sehatcardplus.gov.pk/

- Identify gaps and challenges as well as opportunities for improved planning, coordination, and programmatic governance with particular reference to the arrangements related to third party implementation of Sehat Card Plus KP.
- Identify gaps, challenges and opportunities for improving delivery of the programme by the public and private providers, including their monitoring and surveillance, quality of care monitoring, and utilization of insurance-related information system.
- Undertake an assessment of the effectiveness and appropriateness of the beneficiary enrollment mechanisms, benefits package, premium setting, empanelment of health facilities, and billing reimbursement mechanisms.
- Assess the level of user satisfaction and determine the extent of programme utilization by the insured population from an equity perspective.
- Identify barriers and opportunities for enhancing communication to the beneficiaries of SCP, and to determine the bottlenecks in the implementation of communication strategy.
- Propose a roadmap for further improvement and rapid expansion of the SCP across the province.

The complete proposal and terms of reference (TORs) of the SCP evaluation are available in Annex 1.

1.5 Evaluation Framework and Design

The TORs of this evaluation have been achieved by designing a three-tiered evaluation framework. The in-depth review of the *Sehat Card Plus KP* has three evaluation components that has collected data from a representative sample of population and health facilities across 10 districts of the province of KP. The evaluation components include:

- **Micro-level assessment** - this includes an in-depth household level interview of more than 4,000 households that assesses the level of awareness about *Sehat Card Plus KP* and the extent to which it has provided financial protection to the population of KP.
- **Meso-level assessment** – this includes assessing the readiness of up to 40 secondary and tertiary care hospitals in KP that are empaneled by SLIC to provide inpatient services to the insured population. In addition, this component evaluates the level of client satisfaction as well as the perspective of hospital and SLIC managers who are involved in the delivery of this Programme. Another area of this component has been the review of hospital records for surgical cases from selected hospitals to determine the impact of the Programme on health outcomes.
- **Macro-level assessment –** this component includes an exhaustive review of the governance and institutional aspects of the Sehat Card Plus KP. Also included is the assessment of key areas such as appropriateness of service package, effectiveness of the information system, monitoring and supervision, and communication. A critical element of this review is to determine the current state of financing of *Sehat Card Plus KP* and its future sustainability.
- **Analysis of SLIC Data** – A final component of the evaluation was the secondary analysis of a sample of almost 100,000 admissions retrieved from the electronic database of SLIC to determine the Programme's operational aspects as well as its outputs and outcomes.

1.6 Ethical considerations

This study was approved by the Institutional Review Board at Aga Khan University, Karachi and the National Bioethics Committee, Pakistan. All hospitals provided informed written consent

for their participation. All collected data was kept confidential with restricted password protected access available only to the study investigators.

1.7 The Evaluation Report

The evaluation report comprises several key sections presented in the form of chapters. These chapters include:

(i) **Household survey** that presents the level of awareness and the impact of the program on financial risk protection among the population.

(ii) **Assessment of empaneled hospitals** focusing on their readiness to implement the SCP package of services and provide quality care; determination of the level of user satisfaction based on patient exit survey; and the perception of the hospital and SLIC managers and providers involved in the implementation of Sehat Card Plus KP.

(iii) Secondary analysis and findings from a sample of almost 100,000 records in the **SLIC database** along with the assessment of health outcomes of over 1,850 **hospital records** retrieved from four tertiary hospitals who underwent surgical procedures.

(iv) Identification of challenges and opportunities, priorities for improvement, and **recommendations for action** to further enhance the performance of the program.

1.8 Evaluation Team

The AKU evaluation team was led by Professor Sameen Siddiqi, Chair, Department of Community Health Sciences (CHS), and Professor Adil Haider, Dean, Medical College. Other members of the team from CHS Department included Waqas Hameed, Senior Instructor and Lead Household Surveys; Shifa Habib, Senior Instructor and Lead Health Facility Assessment; Junaid Siddiqi, Research Specialist; Kiran Sohail Azeemi, Research Specialist; Ali Hussaini, Research Manager; and from CITRIC, Asma Altaf Husain Merchant, Research Specialist. In addition, Muhammad Zaffar, former Director General, Department of Health, KP and Arsalan Khan, freelance expert served as consultants and were part of the team during the entire process of evaluation.

Viroj Tangcharoensathien, Senior Adviser to International Health Policy Program (IHPP), Ministry of Public Health; and Soonman Kwon, Professor and former dean of the School of Public Health, Seoul National University (SNU) in Korea contributed extensively during all stages of the evaluation and participated in the mission to KP in November 2022. Somtanuek Chotchoungchatchai and Patiphak Namahoot from Thailand also participated in the mission.

Chapter 2: From Awareness and Perception to Impact on Access and Financial Protection at the household level by *Sehat Card Plus KP*

Key Findings

- The awareness level regarding the *Sehat Card Plus KP* was high (90%), however knowledge regarding its different functional components was relatively low (48%). 'Word of mouth' was identified as the predominant source of information about the Programme (52%).
- There was a highly favorable perception of population towards the *Sehat Card Plus KP*. However, there was a demand for inclusion of outpatient services (diagnostic services and medicines) within existing programme coverage.
- Accessing healthcare through *Sehat Card Plus KP* from remote districts and reaching distant hospitals was considered a challenge as expressed by 25% of respondents.
- As compared with SCP nonusers, the SCP users were more likely to seek inpatient care from private hospitals, covered more distance to get to the health facility, and the average length of stay in hospital slightly was higher, especially for patients with chronic diseases and injuries.
- Patients' perceived quality of inpatient care was higher among SCP users (72%) as compared to the SCP nonusers (55%).
- The wealth status of SCP users and SCP nonusers were not significantly different indicating the rich and the poor are equally likely to utilize SCP services.
- **There was a significant reduction in medical care component of mean out-of-pocket expenditure for inpatient services for SCP users (PKR 1,006 ± 9248) as compared to SCP nonusers (PKR 30,042 ± 69014).** The nonmedical component (transport etc.) was similar.
- **The level of catastrophic health expenditure by households when disaggregated by wealth quintiles and place of residence was significantly lower for all strata of SCP users (14%) as compared to SCP nonusers (35%).** This has contributed to higher perceived economic well-being among SCP users.

2.1 Introduction

In Pakistan, similar to many low- and middle-income countries (L&MICS), out-of-pocket (OOP) payments represent around 50% or more of total health expenditures[12]. Government spending as a proportion of current health expenditure is less than 32%[13]. Consequently, a significant (13.2%) proportion of the population is vulnerable to financial catastrophe and impoverishment due to healthcare payments[14]. It is well-documented that direct healthcare expenditures are responsible for aggravating economic shock in poor families and influence

[12] Pakistan Bureau of Statistics. *National Health Accounts 2015–16*. (2018)
[13] World Health Organization. Global Health Expenditure Database. https://apps.who.int/nha/database/ViewData/Indicators/en (2019)
[14] Bashir S, Kishwar S, Salman null. Incidence and determinants of catastrophic health expenditures and impoverishment in Pakistan. Public Health. 2021;197: 42–47.

health outcomes[15,16,17]. There is a critical need for Pakistan to enhance financial risk protection for its citizens and commit to UHC.

The Khyber Pakhtunkhwa (KP) Government's Social Health Protection Initiative (SHPI) aims at financing and managing health care based on risk pooling, mainly contributed by the government. There is empirical evidence from many L&MICs[18,19,20] that such an approach protects people against financial and health burden and is a relatively fair method of financing health care[21]. This chapter focuses on the perspectives and experiences of the people of KP province regarding the *Sehat Card Plus KP*. The chapter provides insights into three broad aspects of the *Sehat Card Plus KP*:

a) awareness/knowledge of and perception regarding *Sehat Card Plus KP* among general population
b) effect of *Sehat Card Plus KP* on utilization of healthcare, satisfaction, and financial risk protection including out-of-pocket expenditure and catastrophic health expenditures
c) equity in access and coverage of *Sehat Card Plus KP*

2.2 Methodology

The team relied on an outcome-evaluation approach using quantitative methods to assess the level of awareness and perceptions regarding the Sehat Card Plus KP and evaluate the effect of the programme on healthcare utilization and changes in out-of-pocket expenditures for inpatient services. Given the distinct objectives of the evaluation, two separate survey methodologies were developed in accordance as described below.

2.2.1 Knowledge/awareness and perception (KPS) survey

A population-based cross-sectional survey was conducted in 436 clusters (also called 'enumeration blocks') across 10 selected districts of KP province to assess awareness/knowledge and perceptions about *Sehat Card Plus KP*. Assuming 58% anticipated proportion[22] with 3% margin of error, 95% confidence interval, 1.5 design effect and 10% non-response, a sample size of 1,733 households was estimated to assess the awareness/knowledge of SCP. Households in which at least one member was living, and where the household head was older than 18 years at the time of survey were invited to take part in this evaluation. The survey was completed by 1839 households.

2.2.2 Financial risk protection (FRP) survey

A population-based, comparative, cross-sectional survey design was used to evaluate the effect of *Sehat Card Plus KP* on healthcare utilization and out-of-pocket expenditures. The

[15] Khan, S. & Hussain, I. Inequalities in health and health-related indicators: a spatial geographic analysis of Pakistan. *BMC Public Health* **20**, (2020).
[16] Central Intelligence Agency. CIA. Pakistan. https://www.cia. gov/the-world-factbook/countries/pakistan/#people-and-society (2021).
[17] Forman, R., Ambreen, F., Shah, S. S. A., Mossialos, E. & Nasir, K. Sehat sahulat: A social health justice policy leaving no one behind. *The Lancet Regional Health - Southeast Asia* **7**, 100079 (2022).
[18] Tangcharoensathien V, Tisayaticom K, Suphanchaimat R, Vongmongkol V, Viriyathorn S, Limwattananon S. Financial risk protection of Thailand's universal health coverage: results from series of national household surveys between 1996 and 2015. International Journal for Equity in Health. 2020;19: 163.
[19] Suryanto BA, Mukti AG, Kusnanto H, Satriawan E. The Role of Health Insurance, Borrowing and Aids to Pay for Health Care on Reducing Catastrophic Health Expenditure in Indonesia. Rochester, NY; 2015.
[20] Yardim MS, Cilingiroglu N, Yardim N. Financial protection in health in Turkey: the effects of the Health Transformation Programme. Health Policy and Planning. 2014;29: 177–192.
[21] World Health Organization. *Social Health Insurance Report of a Regional Expert Group Meeting New Delhi, India, 13-15 March 2003*. (2003).
[22] Baseline for Communication Strategy of Sehat Card Plus Khyber Pakhtunkhwa: A Knowledge, Attitude and Practices Study. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); 2021

target population was households in which at least one member had received inpatient services under the *Sehat Card Plus KP* (referred to as "SCP users" hereafter) within the last 12 months. For the purpose of comparison, within the same clusters we recruited neighboring households in which at least one member had received inpatient services within the last 12 months, but not under the *Sehat Card Plus KP* (referred to as "SCP nonusers" hereafter). Sample size of 3,840 households was estimated. The primary outcome of interest was average annualized expenditure (PKR) for inpatients, assuming 20% difference (4000 PKR) between SCP user and nonuser households. The baseline value of approximately 20,000 PKR was assumed from PSLM 2015-16[23] in the absence of *Sehat Card Plus KP*, with 95% confidence interval, 80% power, design effect of 1.5, and 10% non-response. The survey was completed on a sample of 3,619 households (1,874 SCP users and 1,745 SCP nonusers).

2.2.3 Sampling strategy

We used the sampling frame of 2017 National Census which is developed by the Federal Bureau of Statistics. A total of 20 urban-rural strata for each of the ten districts were created, followed by random selection of clusters using probability proportional to the number of households in each cluster. Both the surveys were conducted in the same clusters. In each cluster, the team completed the desired number of KPS survey followed by recruitment of SCP users and SCP nonuser households for the FRP survey (Table 1).

Table 1: Distribution of sample by districts according to the type of survey

District	Awareness and perception (KPS)	Financial Risk Protection (FRP)	
		SCP users	SCP nonusers
	# of households	# of households	# of households
Abbottabad	150	153	152
Bannu	132	142	148
Chitral	71	67	66
DIK	194	179	195
Kohat	122	118	111
Malakand	95	75	25
Peshawar	497	544	537
Swabi	201	196	183
Swat	259	298	247
Upper Dir	118	102	81
Total	**1,839**	**1,874**	**1,745**

Note: The distribution of sample across districts was proportionate to the population size of each district

The strategy for the selection of KPS households within clusters was such that the team identified a major landmark in each cluster and by spinning a bottle/pen on the ground to identify the direction of starting point. The k^{th} interval varied for each cluster and was determined by dividing the number of households in the cluster with the desired sample. For the selection of FRP households, the team used the starting point followed by a consecutive recruitment of households, meeting either SCP user or SCP nonuser eligibility criteria, till the desired sample for each group was achieved.

2.2.4 Study Instruments

A unified, comprehensive, structured questionnaire was developed for both the surveys. The questionnaire was based primarily on literature review, adaptation of existing validated

[23] Khalid, F., Raza, W., Hotchkiss, D. R. & Soelaeman, R. H. Health services utilization and out-of-pocket (OOP) expenditures in public and private facilities in Pakistan: an empirical analysis of the 2013–14 OOP health expenditure survey. *BMC Health Serv Res* **21**, 178 (2021).

questionnaires, and consultation with experts. The adaptation of standardized modules was done in view of the design of Sehat Card Plus KP and its on-ground implementation. The final questionnaire comprised of following sections: a) respondent characteristics, b) demographics of household members, c) awareness and perceptions about SCP, d) out-of-pocket health expenditures for inpatient (last 12 months) and outpatient (last 3 months) for all household members, e) perception about inpatient healthcare services for most recent admission, f) wealth status using demographic health survey approach, g) household monthly income and expenditures, and h) access to media and healthcare needs. Sections 'a', 'c', 'f' and 'h' were administered to KPS respondents, whereas all sections were administered to FPR respondents except for 'h'. Notably, the development of questions to assess perception regarding SCP was guided by the well-established Integrated Behavioural Model (IBM). A total of 44 questions were developed that were reduced to 18 (Annex X) using factor analysis.

2.2.5 Training, data collection and management

Training and data collection were outsourced to an experienced organization[24] due to security restrictions, which carried out the survey. Ten field teams were engaged for electronic data collection on tablets, each led by a district-level supervisor. The data collectors were local residents of each district and were familiar with geography and languages. The field team members were thoroughly trained by the Research Team of Aga Khan University (AKU) during a four-day workshop prior to data collection. The training included interactive sessions, field practice and piloting. The field teams were closely monitored by the AKU Research Team on a daily basis and efforts were made to directly receive and review data electronically on the AKU server despite multiple logistical and communication challenges. The data collection took place from November 2022 to February 2023.

Face-to-face interviews were conducted in home-based settings. For ease of administration, two separate data entry platforms were designed on REDCap® software for KPS and FRP surveys. On average, the KPS and FRP interview lasted for 30 and 60 minutes respectively. Data were routinely examined during the survey for missing values, out of range responses, and logical inconsistencies. Field teams were routinely consulted for rectification of errors. The cleaned data were then transferred to Stata® software for analysis.

2.2.6 Data Analysis

The dataset for both the surveys were analyzed separately to achieve the desired objectives. Stata version 16.1 (StataCorp LP, Texas, United States) was used for all analyses, and p-value of less than 0.05 was considered statistically significant. All analyses were adjusted to account for complex survey design, stratification, and primary sampling units (clusters).

2.2.6.1 Knowledge/awareness and perceptions about SCP

The characteristics of survey respondents were described using means, standard deviation, frequencies, and percentages. Similarly, we used descriptive analysis to examine awareness and perceptions regarding SCP. In addition to the analysis of individual questions, we also created composite scores of awareness and perception about the Sehat Card Plus KP. The overall measure of awareness was constructed by adding the score of six dichotomized questions about the *Sehat Card Plus KP* that respondents were asked to answer. Finally, this overall composite index was also categorized into low (score of ≤3) and high (score of ≥4) awareness/knowledge. The same procedure was repeated for creating a composite measure of perception about the Programme. The only additional step was dichotomization of perception questions by coding a 'favorable response' as '1' and 'unfavorable or neutral response' as '0' after making the scoring consistent for positively and negatively worded

[24] ASK Development (URL: https://www.askdevelopment.org/)

questions. Thereafter, we performed sub-group analysis of the overall measures of awareness and perception by wealth quintile (poorest, poor, middle, rich, and richest) and place of residence (urban/rural). Wealth quintile was used as a primary measure of socio-economic position (SEP). The index was computed by using principal component analysis, based on information on household assets and amenities following demographic and health survey methodology[25]. Finally, using structural equation modelling we attempted to identify underlying reasons/factors that influence people's intention to and utilization of inpatient services through Sehat Card Plus KP.

2.2.6.2 Financial risk protection (FRP)

The approach for FRP survey was slightly different as it examined the differences in key outcomes between SCP users and SCP nonusers. First, we applied bivariate analyses using independent t-test (continuous variables) and Pearson chi-square test (categorical variables) to compare the characteristics of households and head of household between the two groups. Second, we performed analysis to examine the effect of Sehat Card Plus KP on key outcome indicators outlined in Table 2. However, to determine the effect caused by Sehat Card Plus KP, it was not considered sufficient to simply compare key outcomes between SCP users and SCP nonusers. This is because of the possible systematic differences between SCP users and SCP nonusers (e.g., wealth status and place of residence urban/rural etc.). If not accounted for, such fundamental differences between the two groups may yield incorrect inferences regarding the change attributable to the Sehat Card Plus KP. Propensity Score Matching (PSM), a standard statistical technique, was used to address the problem of the counterfactual. This technique seeks to eliminate systematic differences in characteristics of the sample in each intervention group that are the source of selection bias. This was done by using information from the survey data to construct a propensity score for each household, which estimates the likelihood that this household received inpatient services from Sehat Card Plus KP conditional on its observable characteristics. The choice of variables we included in our propensity score model for SCP evaluation was based on a combination of existing literature and data-driven approaches. These variables are outlined in Table 2 below. Please see annex 8 for further details on propensity score matching.

The effect of *Sehat Card Plus KP* on key outcome indicators was examined by comparing SCP user and SCP nonuser households after adjusting for propensity scores. We used multivariate generalized linear and logistic regression models to estimate the differences in key outcome indicators per inpatient encounter between SCP user and SCP nonuser households after adjusting for propensity scores. For the ease of interpretation, we preferred to report adjusted means and percentage instead of regression coefficients such as mean differences or odds ratios. It is pertinent to note that some estimates are derived at the level of admission (denominator) while others are reported at the household level.

Table 2: Description of key study indicators

Variable	Description
Awareness/Knowledge and Perception Survey	
Awareness/knowledge regarding SCP	
Ever heard of Sehat Card Plus KP	Percentage of respondents who reported to have ever heard of Sehat Card Plus KP (shown SCP card and logo)

[25] Rutstein, S. & Johnson, K. *DHS Comparative Reports 6: The DHS Wealth Index*. (2004).

Variable	Description
Composite measure of awareness/ knowledge regarding Sehat Card Plus KP	Percentage of respondents who correctly reported on any four or more questions pertaining to the Sehat Card Plus KP i) SCP entitlement criteria (i.e., KP CNIC) ii) SCP target beneficiaries (i.e., every KP citizen) iii) SCP services from an empanelled hospital anywhere in Pakistan iv) Inpatient services through SCP may be received from both public and private hospitals v) Allocated amount per family vi) Utilization of leftover coverage fund
Perception regarding SCP	
Composite measure of perception regarding Sehat Card Plus KP	Percentage of respondents who reported 'favourably' on more than four questions pertaining to the Sehat Card Plus KP i) Receiving free healthcare services through SCP can be helpful to reduce financial burden of expenditure on health ii) Sehat Card Plus KP enables you to access health care timely in case of need iii) The total annual amount allocated to each family for healthcare services is sufficient iv) Sehat Card Plus KP should only provide coverage to the poor families who cannot afford, rich people should pay for themselves v) Sehat Card Plus KP should also provide coverage for outpatient services vi) If you had to avail health services through SCP from a distant hospital, would you still be able to access it vii) If you need medical care in future, you intend to avail healthcare services through the SCP viii) People in our area support utilization of healthcare services through Sehat Card Plus KP
Coverage of Sehat Card Plus KP	
Utilisation of inpatient services in the past 12 months	Percentage of households in which at least one member received inpatient services in the past 12 months
Access and Financial Risk Protection Survey	
Access and utilisation of healthcare services	
Distance to facility for inpatient services	Average distance (in km) travelled from home to health facility for inpatient services
Length of stay in hospitals for inpatient care	Average number of days a patient stayed in the hospital for inpatient care
Share of public sector empanelled hospital providing inpatient services	Percentage of household members reported to have received inpatient services from a public sector empanelled hospital in the past 12 months
Experiences of care	
Perceived quality of inpatient care	Average composite score of perceived quality for inpatient care – overall and by three sub-domains **Professional standards:** i) Staff conducted a thorough medical examination ii) Other patients could not see or overhear consultations with service provider iii) Staff did not pressurize you to opt for particular treatment **Interpersonal care:** iv) Staff gave complete information about treatment v) Staff spoke politely with the patient or companion vi) Staff listened carefully to patient or companion vii) Staff considered patient's personal situation when advising about medical condition

Variable	Description
	viii) Staff did not treat patient harshly ix) Sehat Card Plus KP should also provide coverage for outpatient services **Facility infrastructure /environment:** x) Patient and family members were able to easily get all necessary services xi) Adequate level of cleanliness in the hospital xii) Hospital had all required amenities (e.g., bed, medicines etc.) The total scores were converted to percentage by divided the score attained with maximum possible score
Financial risk protection	
Out-of-pocket health expenditure for inpatient services	Average out-of-pocket health expenditure incurred for inpatient services in the past 12 months per admission both direct/medical (admission fee, consultation, medicines, medical supplies, diagnostic, surgery) and indirect/non-medical (transport, food, tip, accompany person, and wage loss)
Catastrophic out-of-pocket health spending among beneficiaries	Percentage of households who received inpatients services and whose expenditures on health greater than 10% of the total household income
Economic well-being of household	
Coping with out-of-pocket health payments for inpatient services	Percentage of households reported to have used savings or took loan or sold asset to manage out-of-pocket expenditures for inpatient care
Perceived difficulty in meeting the cost for inpatient services	Percentage of households reported that meeting the costs associated with inpatient health services was extremely difficult, for any member who inpatient services
Perceived impact of last one year of illness/hospitalization on economic status	Percentage of household considering impact of events of illnesses on economic status household to be 'very severe', 'severe' or 'moderate'

2.3 Results and Key Findings

The results are broadly divided into two sections organized according to the two survey types described: 1) awareness/knowledge about the Sehat Card Plus KP (KPS); and 2) effect of SCP on financial risk protection (FRP).

The equity analysis is also discussed/embedded within the findings of each survey. Under KPS results, the initial set of tables are descriptive which show characteristics of survey respondents followed by level of awareness about the Sehat Card Plus KP and perception. The subsequent tables show level of awareness and perception by different segments of populations, according to their socio-economic and demographic characteristics.

The second section on financial risk protection primarily presents results of comparative analysis between SCP users and SCP nonusers. It begins with the comparison of household characteristics and subsequently presents differences in key outcome indicators in the form of adjusted means and percentages. We have also estimated relative change (known as the average treatment effect on the treated), which is the magnitude of the change in outcomes associated with the Sehat Card Plus KP.

All tables follow a standard format. For indicators where a comparison is shown, we have presented statistically significant results using asterisk (*).

2.3.1 Knowledge/Awareness and Perception Survey (KPS)

2.3.1.1 Demographic characteristics

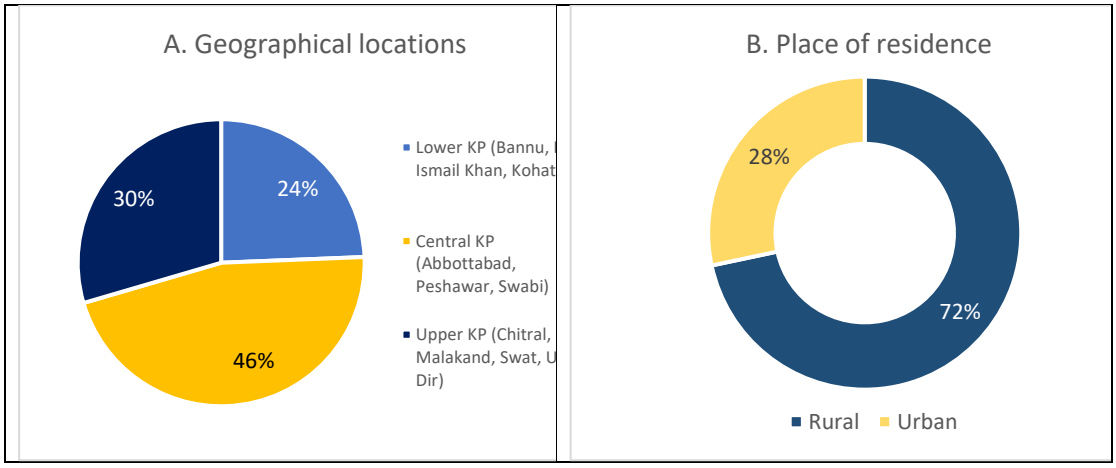
Table 3 shows the background characteristics of the 1,839 respondents who took part in the KPS survey. About two-third (67%) of the respondents were heads of the household which culminated into 77% of the sample being male. The mean age of the respondents was 42 ±13.2 years. Ninety-nine percent of the respondents were Muslim with diversity within ethnicity, where 73% of the respondents were Pashtun, 11% Hindko, and 9% Saraiki. With regards to education, 22% of the respondents were illiterate (who could not read or write), approximately 10% had completed primary-level education, 11% had completed secondary-level education, and 37% had completed higher-level education. About two-thirds (67%) of the respondents were living in a joint family system.

Table 3: Characteristics of KPS respondents

Respondent characteristics	n	%
Sex		
Male	1,426	77.54
Female	406	22.08
Age		
Mean (± SD)	41.91	13.18
Religion		
Islam	1,826	99.29
Hinduism	1	0.05
Christianity	2	0.11
Ethnicity		
Pashtun	1336	72.9
Hindko	206	11.2
Siraiki	167	9.1
Chitrali	70	3.8
Others (Muhajir)	53	2.8
Education		
Illiterate (cannot read or write)	407	22.13
Primary	181	9.84
Secondary	199	10.82
Higher	682	37.09
Family system		
Joint	608	33.06
Nuclear	1,224	66.56
Head of household		
Yes	1,233	67.05
No	593	32.25

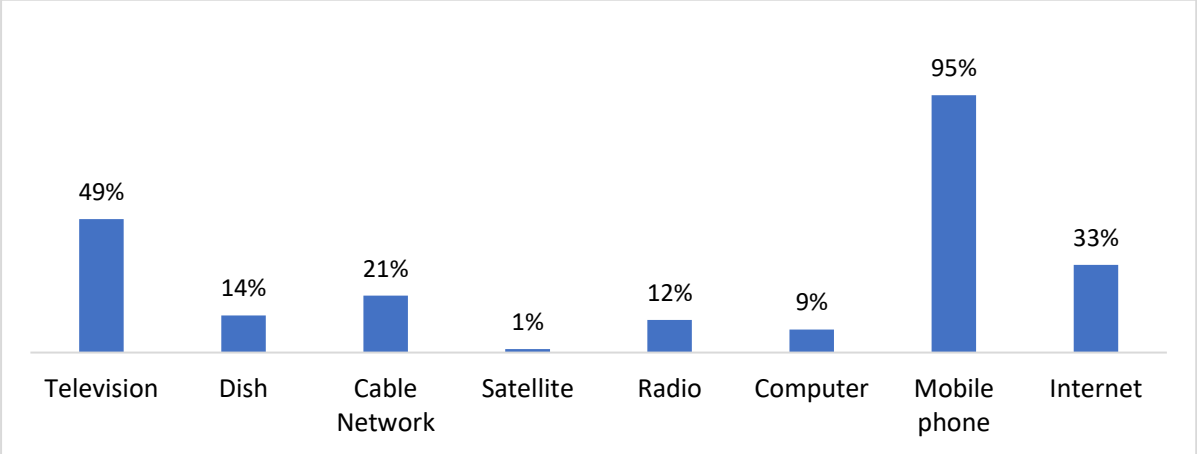
According to Figure 1, nearly half (46%) of the respondents belonged to Central KP i.e., Districts Abbottabad, Peshawar, and Swabi, followed by Northern KP i.e., Districts Chitral, Malakand, Swat, and Upper Dir (29.5%), and Southern KP i.e., Bannu, Dera Ismail Khan, Kohat (24.4%). Approximately 7 out of every 10 respondents resided in rural areas as compared 28% who resided in urban areas.

Figure 1: Characteristics of surveyed households



With regards to accessibility to media, mobile phones and television were the most common information and communication devices used by the respondents. Almost all households (95.4%) had access to a mobile phone, and one-third had access to internet services. About half of the households owned a television with 21.1% having a cable network. Twelve percent of the households had access to radio, and 1 in every 10 households had access to a computer at home (Figure 2).

Figure 2: Households' Access to Different Types of Media (n=1,839)



2.3.1.2 Awareness/Knowledge about Sehat Card Plus KP

Every 9 in 10 respondents reported having heard of Sehat Card Plus KP. Word of the mouth was the most cited source of information about SCP with relatives accounting for 30% and friends accounting for 23%. This was followed by advertisement on TV (14%), advertisement in newspaper (9%), and government SMS (7%). Festival and other sources were the least popular sourcesat two percent each. Furthermore, 77% knew that SCP is a government initiative (Table 4).

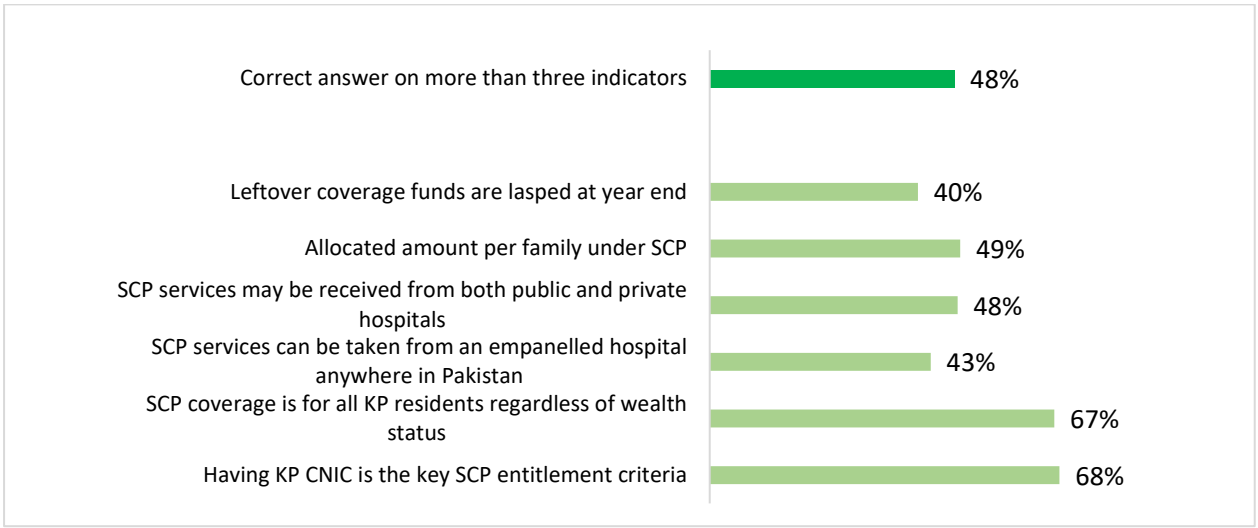
Table 4: Awareness/Knowledge about Sehat Card Plus, Khyber Pakhtunkhwa

Awareness about Sehat Card Plus	n	%
Household respondent has heard of Sehat Card Plus KP		
Yes	1,644	89.4
No	195	10.6
Source of SCP information		
Government SMS	119	6.47

Advertisement on TV	250	13.6
Advertisement in Newspaper	158	8.6
Friend	417	22.7
Relatives	561	30.5
Hospital staff during admission	64	3.5
Festival	35	1.9
Others	32	1.7
Know that SCP is government initiative	1,418	77.1

Participants who had heard of the *Sehat Card Plus KP* were further asked about its different components such as entitlement criteria, allocated amount per family, and coverage of healthcare services for beneficiaries. Figure 3 elicits the percentage of respondents who correctly answered the questions about the Programme. The majority of the respondents were aware of the target beneficiary (i.e., all KP permanent residents) of the Programme (67%) and basic entitlement criteria i.e., possessing a CNIC (68%). The level of awareness regarding other components of the Programme varied between 40% and 50%, for example, 43% of the respondents knew that healthcare services through *Sehat Card Plus KP* can be taken from empanelled hospitals anywhere in Pakistan. Similarly, 48% were aware that inpatient services through the Sehat Card Plus KP can be availed at both public and private hospitals. About half of the respondents correctly reported the maximum amount of PKR 1.0 million allocated to each family in KP, and 40% were aware that the non-utilized amount is lapsed at year end. The aggregated knowledge of respondents who correctly answered on more than 3 indicators was 48%.

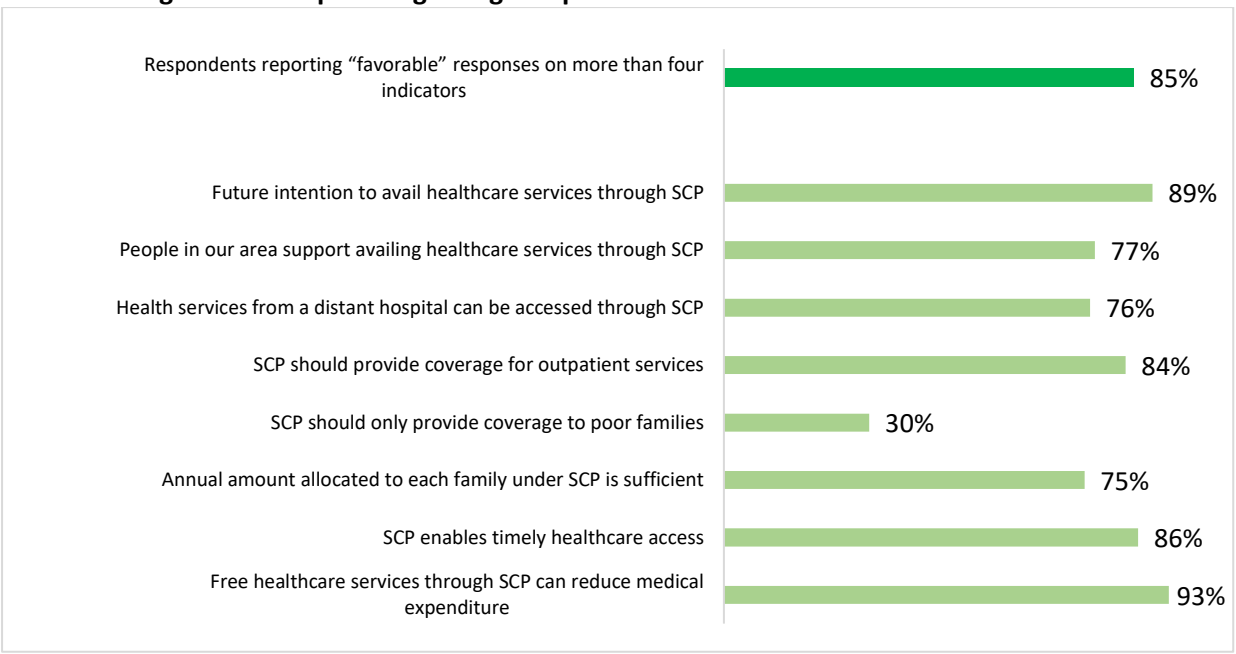
Figure 3: Awareness/Knowledge about the Sehat Card Plus KP



Respondents' beliefs were highly favorable with regards to the *Sehat Card Plus KP*. With regards to norms, about 77% of the respondents reported that people in their area support utilization of healthcare through SCP. According to majority of the respondents (86%), *Sehat Card Plus KP* is perceived as a means to enabling people to access timely healthcare when in need. About three-fourths (76%) of the respondents reported that they will be able to access healthcare through *Sehat Card Plus KP* at a distant hospital with better facilities. Interestingly, 3 in every 10 respondents were of the view that *Sehat Card Plus KP* should only provide free healthcare coverage to the poor families who cannot afford healthcare while richer segments of the population should pay for themselves.

An overwhelming majority (84%) of the respondents think that the Programme should also provide coverage for outpatient services. Seventy-five percent of the respondents think that the total amount allocated to each family is sufficient. More than 90% of the respondents feel that receiving free healthcare services through the Programme could reduce the burden of financial expenditures, and about similar proportion (89%) of the respondents showed intention to use healthcare services through *Sehat Card Plus KP* in case of need. Overall, we observed that a high proportion (85%) of the respondents shared a favorable response to more than four indicators which signifies that majority of the people have a positive opinion about the *Sehat Card Plus KP* (Figure 4).

Figure 4: Perception regarding components of the Sehat Card Plus KP



2.3.1.3 Equity in the level of awareness/knowledge and perception about Sehat Card Plus KP

Table 5 shows the overall level of knowledge/awareness and perception regarding *Sehat Card Plus KP* according to different segment of the population, specifically poor-rich, urban-rural, and educated-uneducated strata, and by district. It was observed that the level of knowledge/awareness regarding SCP increased steadily with the wealth status of the household, from 44% respondents who belonged to the poorest quintile to 55% of those in the richest quintile. Similarly, respondents who had received formal education had higher awareness (52%) as compared with their less educated counterparts. The level of awareness/knowledge did not differ significantly between urban (45%) and rural (49%) areas. We observed remarkable differences in the level of *Sehat Card Plus KP* awareness among districts. Respondents from Malakand (72%), Swat (67%), Bannu (60%), and Peshawar (56%) demonstrated higher awareness about the Programme, while Swabi (22%) and Abbottabad (25%) had the lowest.

Eight indicators (Figure 5) were used to assess perceptions, 5 pertained to perception of benefits while 3 related to domains of future intent to use, agency to use, and norm around using *Sehat Card Plus KP*, respectively. Respondents with more than four favorable out of 8 indicators were considered to have an overall favorable perception about *Sehat Card Plus KP*. The percentage of overall perception varied between 83% to 93%, being significantly higher among respondents in the richest quintile (93%). The perception of *Sehat Card Plus KP* did not

differ significantly by educational status of the respondents and place of residence (urban-rural). While overwhelming majority of the respondents shared a favorable perception about the Programme, we observed a significant variation across districts. More than 90% of respondents from Chitral (99%), Bannu (97%), Abbottabad (94%), Kohat (93%) and Upper Dir (92%) expressed favorable perception about the Programme. In contrast, respondents in Dera Ismail Khan (66%) and Peshawar (79%) shared a comparatively lower perception on that measure.

Table 5: Level of knowledge and perception regarding SCP according to key socio-economic factors

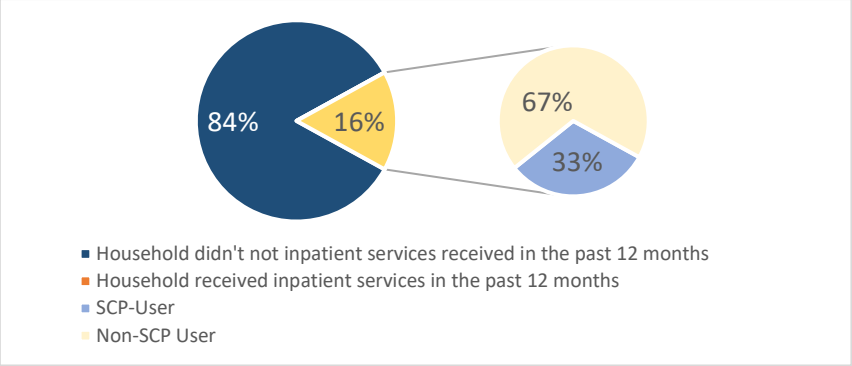
Socio-economic factors	Overall measure of knowledge about SCP[1]			Overall measure of perception about SCP[2]		
	N	%	p-value	n	%	p-value
Wealth quintile**						
Poorest	153	43.6		311	83.0	
Poor	150	42.9		310	82.8	
Middle	163	45.9	0.013	311	83.4	0.001
Rich	187	49.4		300	83.9	
Richest	220	56.2		339	93.4	
Place of residence			0.239			0.550
Urban	255	44.8		423	85.0	
Rural	601	48.8		1,148	85.8	
Education status***						
No formal education	561	41.8	<0.001			0.223
Any formal education	308	51.7		945	84.7	
District***						
Abbottabad	42	24.8		140	93.9	
Bannu	80	59.4		128	97.2	
Chitral	24	35.6		70	98.8	
Dera Ismail Khan	66	37.3		126	65.4	
Kohat	55	46.3		113	92.4	
Malakand	66	72.2	<0.001	91	98.0	<0.001
Peshawar	283	55.9		399	79.1	
Swabi	43	22.4		167	84.3	
Swat	173	66.6		230	87.4	
Upper Dir	41	37.1		107	92.1	

[1] Respondents reporting correct answer on more than three indicators
[2] Respondents reporting "favorable" response on more than four (half of the) indicators

2.3.1.4 Access and utilization of inpatient services

With regards to respondents' accessibility to overall healthcare services in their districts, respondents reported an average distance of five kilometers (5.0 ± 6.6) to any healthcare facility and 95% reported being visited by a community health worker (CHW). Figure 5 shows the utilization of healthcare services amongst households in the past 12 months, where 16% percent of the respondents reported that at least one member of their household received inpatient care. Of those who utilized inpatient care, one-third (33%) opted for Sehat Card Plus KP.

Figure 5: Utilization of inpatient healthcare services in the past 12 months (n=1839)



Drivers of Perception and SCP Utilisation:

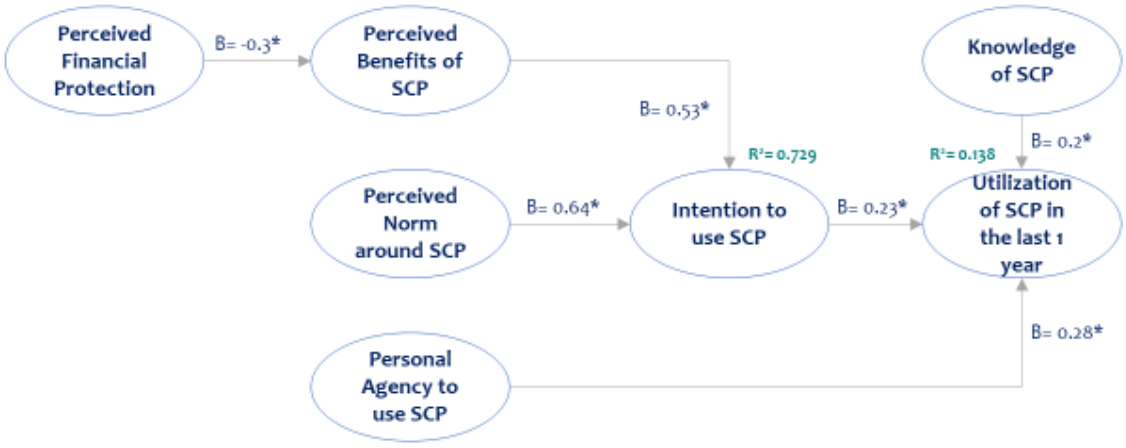
The figure 5a below shows several relationships. The three key interpretation of the figure is summarized here:

a) Respondents perception of how financially protected their family is directly affects how beneficial they perceive the SCP KP to be, and the more financially vulnerable participants' perceive their family to be, the more beneficial they are likely to percive the SCP KP. This shows that impoverished households percievev SCP as a means to protect them from financial hardship due to illness.

b) The more beneficial participants perceive the SCP KP to be and the more social support that they have, the higher their intention will be to use the program.

c) The analysis revealed that participants' intentionality, personal agency, and knowledge also lead to utilization of SCP KP in the last one year. This highlights the importance of certain programmatic aspects for targeted commmunication, namely, program's provision of coverage for inpatient care and the entire family, and the program's capacity to enable access to distant hospitals and expensive treatments.

Figure 5a: Underlying factors that influence people's intention to and utilization of SCP KP services



2.3.2 Financial Risk Protection Survey (FRP)

2.3.2.1 Demographic Characteristics:

There is a high level of similarity between the demographic and household characteristics of SCP users and SCP nonusers (Table 6). The households in both the groups are predominantly headed by males (92%) with a mean age of around 46 years. Nearly half of household heads (46% in SCP users and 45% in SCP nonusers) had received no formal education or did not

complete primary-level education. Sales and services (23%), skilled manual (20%), and unskilled manual (14%) were the most commonly cited occupations of household heads.

Table 6: Socio-demographic characteristics of household head by SCP user and SCP nonuser groups

Characteristics of Household head	SCP user		SCP nonuser		p-value
	n	%	n	%	
Sex - head					
Male	1709	91.2	1613	92.4	0.275
Female	164	8.9	133	7,6	
Age – head***					
Mean (± SD)	48.8	13.6	44.6	13.9	<0.001
Education – head					
No formal/less than primary education	855	45.6	765	43.8	0.0379
Primary	173	9.2	148	8.4	
Secondary	216	11.5	167	9.6	
Higher	629	33.6	666	38.1	
Occupation – head**					
Professional, technical, or managerial	165	8.8	177	10.11	0.002
Clerical	57	3.0	61	3.5	
Sales and services	399	21.3	426	24.4	
Skilled manual	366	19.5	350	20.0	
Unskilled manual	249	13.3	253	14.5	
Agriculture	84	4.4	63	3.6	
Domestic service	12	0.6	24	1.3	
Retired	54	2.8	37	2.1	
Unemployed	486	25.9	355	20.3	
Student	1	0.05	0	0	

With respect to the household characteristics, statistically significant differences were found between the two groups for family system, average number of household members, and average earning members. However, the differences in the said characteristics were not substantive. Across both the groups (SCP users and SCP nonusers), almost all surveyed households were Muslims (99%) with Pashtun (73%) being the predominant ethnicity. The average household size was slightly higher than 6 members with on average 1.2 earning members – relatively higher in SCP users as compared with SCP nonusers. Whilst majority of households lived in a nuclear family system in both the groups, the percentage was slightly higher in SCP nonusers (78%) as compared with SCP users (72%). We did not observe a significant difference in wealth status of the household between the two groups (Table 7).

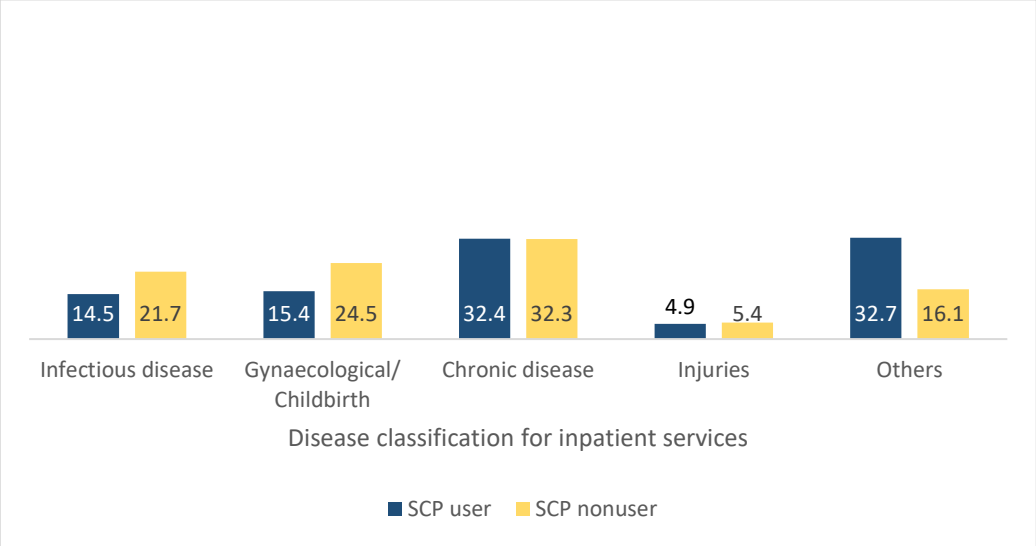
We found significant differences amongst SCP users and SCP nonusers in terms of the type of diseases for which inpatient care was sought. The proportion of infectious diseases and obstetric/gynecological was higher among SCP nonusers whereas the proportion of chronic disease and injuries were similar in both the groups (Figure 6).

Table 7: Socio-demographic characteristics of sampled households by SCP user and SCP nonusers

Household Characteristics	SCP users		SCP nonusers		p-value
	n	%	n	%	
Religion					
Islam	1870	99.8	1740	99.7	0.644

Household Characteristics	SCP users		SCP nonusers		p-value
	n	%	n	%	
Hinduism/Christianity/Kalash	4	0.21	5	0.28	
Christianity	---	---	---	---	
Ethnicity					
Pakhtun	1390	74.2	1267	72.6	
Hindko	215	11.5	208	11.9	
Siraiki	150	8.0	177	10.1	0.081
Chitrali	68	3.6	67	3.8	
Others (Muhajir/Kohistani etc.)	51	2.7	26	1.5	
Family system*					
Joint	515	27.5	381	21.8	0.001
Nuclear	1359	72.5	1364	78.2	
Total members in household**					
Mean (± SD)	5.81	2.6	4.84	2.2	0.001
Total earning member in household*					
Mean (± SD)	1.28	0.76	1.17	0.64	0.001
Wealth quintile					
Poorest	380	20.3	344	19.7	
Poor	345	18.4	379	21.7	
Middle	384	20.4	340	19.5	0.120
Rich	364	19.4	360	20.6	
Richest	401	21.4	322	18.4	

Figure 6: Percent distribution of disease for inpatient care among SCP user and SCP nonusers



2.3.2.2 Access and Utilization of healthcare services

The comparative analysis of access and utilization of inpatient healthcare services between SCP users and SCP nonusers reveals that people who utilized inpatient care through *Sehat Card Plus KP* had to cover significantly more distance to get to the health facility as compared to SCP nonusers (Table 8). The mean travel distance among SCP users was approximately 44 kms (95% CI: 39.8 – 48.1) compared to 34.7 kms (95% CI: 30.4 – 39.0) for SCP nonusers. Furthermore, the average length of stay (ALOS) in the hospital for inpatient care was fractionally higher for SCP-users (Mean=3.4, 95% CI 3.2 – 3.6) as compared to SCP nonusers (Mean=3.0, 95% CI 2.8 – 3.2). The SCP users were less likely to seek inpatient care through public-sector hospitals (47%) as opposed to SCP nonusers (53%).

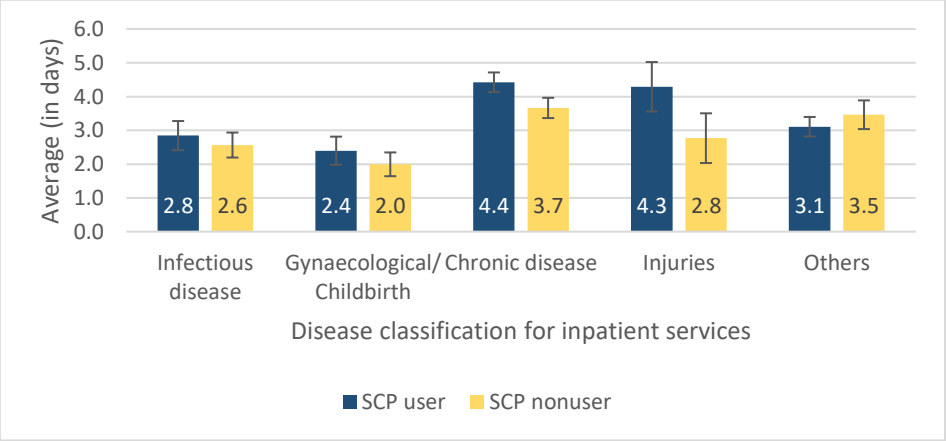
Table 8: Access and utilization of healthcare services for inpatient care

Healthcare utilization	SCP users (n=1874)		SCP nonusers (n=1745)		Relative change (%)	p-value
	Mean	(95% CI)	Mean	(95% CI)		
Distance to hospital for inpatient services (kilometers)**	43.9	(39.8 – 48.1)	34.7	(30.4 – 39.0)	21.0	0.003
Length of stay in the hospital for inpatient care**	3.39	(3.2 – 3.5)	2.99	(2.8 – 3.1)	11.5	0.002
	n	%	n	%		
Share of public sector hospital for inpatient services**	928	47.5	1023	53.7	-13.1	0.001

Note: These estimates are adjusted for propensity score; CI stands for confidence interval

Figure 7 presents the ALOS in the hospital for inpatient care by type of disease, and according to SCP user and SCP nonuser. The ALOS was variable, with patients suffering from chronic conditions having longer ALOS (mean=4.4 days in SCP users and 3.7 days in SCP nonusers) as opposed for other diseases. The differences in length of stay in the hospital were not significantly different between SCP users and SCP nonusers.

Figure 7: Average length of stay in the hospital for inpatient care by type of disease and user



Note: These estimates are adjusted for propensity score

The percentage of inpatients seeking care from the public-sector by type of disease elicits the preference for seeking inpatient care from public sector hospital does not vary significantly according to the type of disease (Figure 8). For each given medical condition, the percentage share of public-sector hospital was similar between SCP users and SCP nonusers. However, among SCP users, the only exception was obs/gyn conditions for which patients were less likely to opt for public hospitals (36%) relative to other conditions such as chronic disease (59%) and infectious disease (55%).

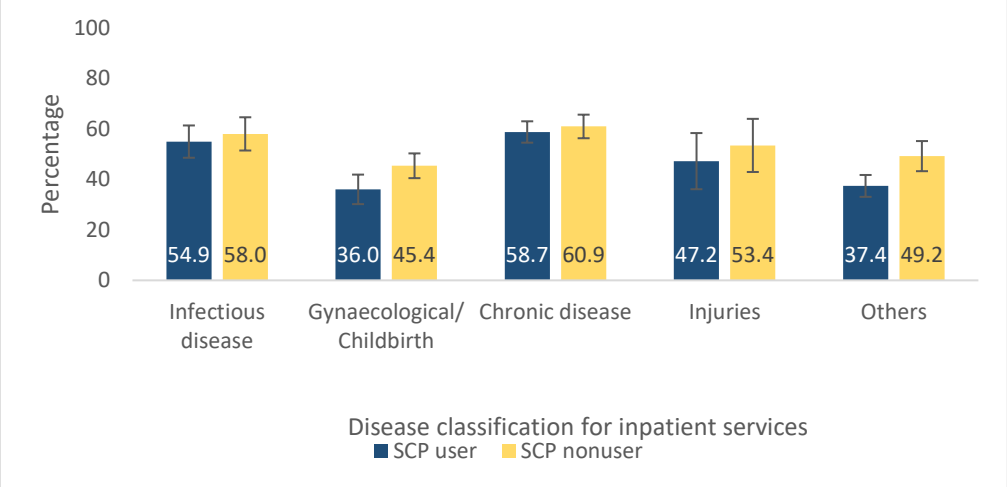
2.3.2.3 Perceived Quality of Healthcare Services

Healthcare providers and patients define the quality of care differently and attach varying levels of importance to its attributes[26]. When assessing the quality of care, healthcare professionals tend to prioritize technical competence (clinical quality), while patients place high value on patient-centeredness, amenities, and reputation (service quality). This theme

[26] Williams JR, Gavin LE, Carter MW, Glass E. Client and Provider Perspectives on Quality of Care: A Systematic Review. Am J Prev Med. 2015 Aug;49(2 Suppl 1):S93-S106.

focuses on perceptions of quality of inpatient services from patient/beneficiary/companion perspective. The data on perceived quality was collected only on the most recent admission.

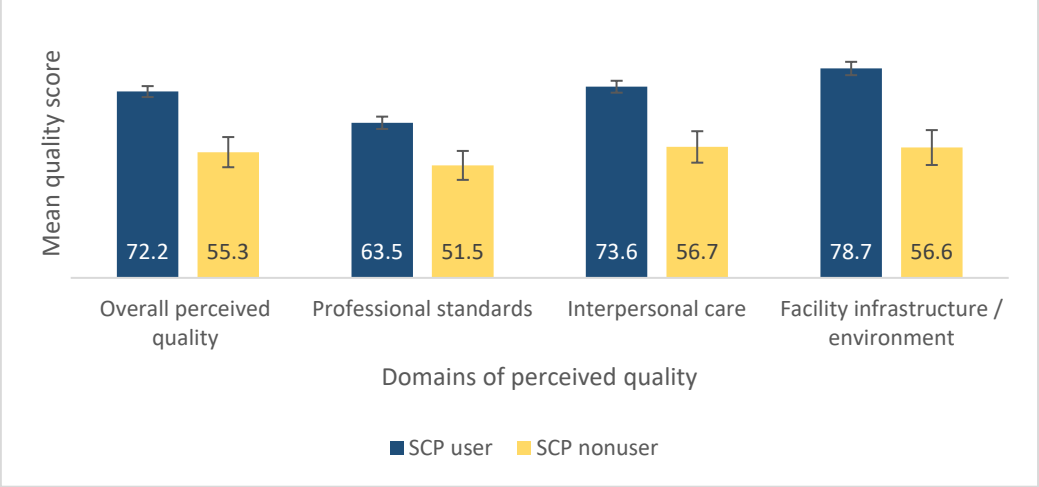
Figure 8: Percent share of public sector hospitals for inpatient services by type of disease and user



Note: These estimates are adjusted for propensity score

Figure 9 illustrates that around 8 out of every 10 respondents reported highly on perceived quality of inpatient services from the SCP group. We observed significant differences in terms of mean quality score between SCP users and SCP nonusers for the overall measure (SCP users=72% vs. SCP nonusers=55%), and for the three sub-domains of quality including professional standards (SCP users=63% vs. SCP nonuser=51%), interpersonal care (SCP users=74% vs. SCP nonusers=57%), and facility infrastructure/environment (SCP users=79%% vs SCP nonusers=56%).

Figure 9: Perception regarding quality of inpatient services by SCP users and SCP nonusers



Note: These estimates are adjusted for propensity score

SCP users reported significantly better quality as compared to their counterparts across all domains. For ten of the eleven indicators in the three domains, the difference was statistically significant (Table 9). Except for the attribute related to patient privacy during consultation in the domain of professional standards (37.4% vs. 35.9%, p value 0.554), every other attribute of perceived quality scored higher in case of SCP users compared to SCP nonusers, with most of the attributes having a percentage difference of 20 or more.

Table 9: Perception regarding quality of inpatient services by type of user for each indicator

Perceived quality	SCP users (n=1855)		SCP nonuser (n=1011)[1]		Relative change (%)	p-value
	N	%	n	%		
Professional standards						
Staff conducted a thorough medical examination***	1502	81.2	567	61.7	24.0	<0.001
Other patients could not see or overhear consultations with service provider	693	37.4	354	35.9	4.0	0.554
Staff did not pressurize you to opt for particular treatment***	1328	71.7	574	58.5	18.4	<0.001
Interpersonal care						
Staff gave complete information about treatment***	1446	78.1	539	58.5	25.1	<0.001
Staff spoke politely with the patient or companion***	1462	79.1	548	60.2	23.9	<0.001
Staff listened carefully to patient or companion***	1430	77.3	547	59.4	23.9	<0.001
Staff considered patient's personal situation when advising about medical condition***	1155	62.5	477	50.7	23.1	<0.001
Staff didn't treat patient harshly***	1305	70.5	565	58.1	18.8	<0.001
Facility infrastructure/ environment						
Patient and family members were able to easily get all necessary services***	1424	76.9	499	54.3	17.5	<0.001
Adequate level of cleanliness in the hospital***	1493	80.6	563	61.1	29.3	<0.001

Hospital had all required amenities (e.g., bed, medicines etc.) ***	1445	78.1	530	57.3	24.2	<0.001

Note: [1] The module for perceived quality was introduced in the SCP nonuser questionnaire later during the survey resulting in a relatively a smaller sample. These estimates are adjusted for propensity score

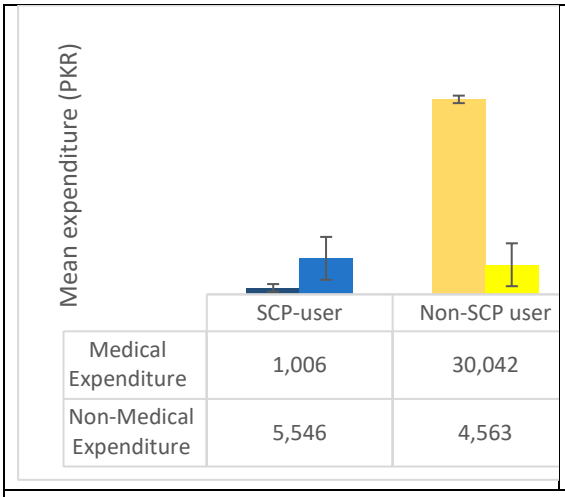
2.3.2.4 Effect of SCP on financial risk protection

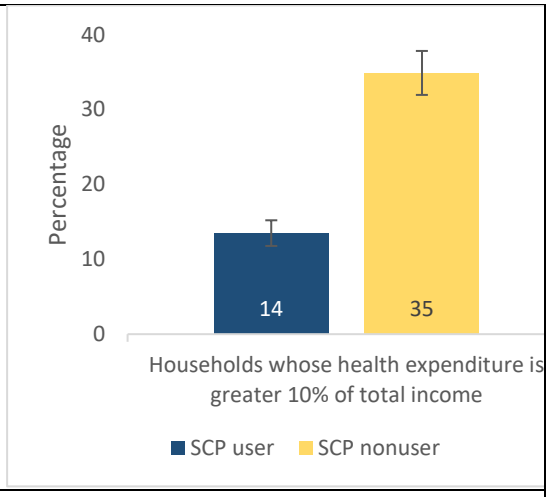
Financial risk protection provided by the Sehat Card Plus KP was assessed by comparing the mean out-of-pocket health expenditure for inpatient care amongst SCP users and SCP nonusers, as well as by comparing the proportion of households incurring catastrophic health expenditure (CHE). It is important to note that the estimation of CHE was done on households in which at least one member had received inpatient care during the last 12 months. Hence, the estimates are not directly comparable with existing surveys in which CHE is estimated on general population (i.e., inclusive of households with no inpatient admission).

Out-of-pocket health expenditure was estimated using the average medical and non-medical expenditures incurred while availing inpatient care. Medical expenditure during inpatient care was aggregated from the following cost-associated elements – hospital admission charges, physician's consultation fee, medicines, medical supplies, diagnostic tests, surgery, and medical durables. Non-medical expenditure aggregates the following cost-associated components incurred during inpatients admission – transportation, food, tips, cost of accompanying person, and other incidental costs. *The mean out-of-pocket expenditure for SCP users was PKR 6,551 ± 12534 (medical = PKR 1,006 ± 9248); non-medical = PKR 5,546 ± 7891) which is significantly lower than the overall mean expenditure of PKR 34,639 ± 72188 (medical = PKR 30,042 ± 69014; non-medical = PKR 4,563 ± 5680) for SCP nonusers* (Figure 10). The main drivers of expenditure for receiving medical care amongst SCP users were the costs of medicines and laboratory tests, which were 30 times less than for SCP nonusers. For the latter group, the main drivers of costs under medical care were physician's consultation fee and surgery. The cost of non-medical care was similar with the SCP users spending almost PKR 1,000 more than the SCP nonusers (p-value <0.001) perhaps due to longer distance travelled.

With regards to catastrophic health expenditure, the proportion of households whose health expenditure was greater than 10% of the total household income was compared. Overall, around one out of every four households incurred catastrophic health expenditure. Among SCP nonusers, 35% reported incurring catastrophic health expenditure compared to 14% among SCP users.

Figure 10: Effect of Sehat Card Plus KP on healthcare expenditure





Note: These estimates are adjusted for propensity score

Table 10 compares the distribution of SCP users and SCP nonusers whose households incurred catastrophic health expenditure across wealth quintile and place of residence. Overall, households from the poorest wealth quintile and those living in rural areas were more likely to experience catastrophic health expenditure in both groups. With regards to wealth, proportion of households incurring catastrophic health expenditure is highest in the poorest wealth quintiles in both groups (SCP users =20% vs SCP nonusers =47%) and lowest in the richest quintiles for both groups (SCP users =8% vs SCP nonusers =28%). Moreover, with respect to the place of residence, SCP nonusers living in rural areas incurred catastrophic health expenditure most frequently (37%), followed by SCP nonusers living in urban areas (31%), urban SCP users (14%), and rural SCP users (13%).

Table 10: Effect of Sehat Card Plus KP on catastrophic health expenditure across socio-economic strata

Socio-economic factors	Household whose health expenditure > than 10% of total income[2]				
	SCP users		SCP nonusers		
	n	%	n	%	p-value
Wealth quintile**					
Poorest	76	19.9	158	46.9	<0.001
Poor	53	16.1	119	33.1	
Middle	37	9.6	107	32.2	
Rich	54	15.1	135	38.9	
Richest	33	8.0	90	28.1	
Place of residence					
Urban	74	13.9	157	31.3	<0.001
Rural	179	13.4	452	37.3	

Note: These estimates are adjusted for propensity score

2.3.2.5 Economic well-being of households:

One of the key outcomes of any social health insurance programme is to improve the economic well-being of its beneficiaries, which in turn, leads to a healthier and prosperous population. Table 11 illustrates the effect of Sehat Card Plus KP on economic well-being of the families who experienced the burden of hospitalization expenditures in the past 12 months.

The Sehat Card Plus KP demonstrates a remarkable effect in helping families manage out-of-pocket expenditures for inpatient healthcare. In order to manage out-of-pocket expenditure for inpatient care, SCP user households reported using savings, taking out loans, or selling assets for 55% of the admissions as compared to 75% of the admissions for SCP nonusers, which is a relative difference of 37% less for SCP users. Similarly, 69% households, among SCP nonusers reported that meeting inpatient costs was extremely difficult as compared with to 44% for SCP users, which is approximately 58% less than the former. Finally, with regards to the perceived impact of last one year hospitalization on economic status, while 1 in every 5 households among SCP users reported the impact was 'severe or very severe', the proportion was significantly higher among SCP nonusers at 36%.

Table 11: Effect of Sehat Card Plus, Khyber Pakhtunkhwa on economic well-being

Indicators of economic well-being	SCP user (n=2007)		SCP nonuser (n=1849)		Relative difference (%)	p-value
	n	%	n	%		
[1]Household used savings or took loan or sold assets to manage OOP for inpatient care***	1104	55.1	1389	75.4	-36.8	<0.001
[1] Perceived level of difficulty for family to meet inpatient costs ***						
Extremely difficult	872	43.5	1266	68.5	-57.6	<0.001
Somewhat difficult	702	35.0	470	25.4		
Not at all difficult	433	21.6	113	6.1		
Perceived impact of last one year of illness/hospitalizations on economic status***						
Severe or very severe impact	392	22.3	464	36.1	-13.8	<0.001
Moderate or no impact	1431	78.5	829	64.1		

Note:
[1] The denominator for this indicator is the number of admissions

2.4 Conclusions

In Pakistan, there is huge burden of out-of-pocket payments, leading to the vast majority of population being vulnerable to financial catastrophe and impoverishment due to healthcare payments. This chapter has assessed three broad aspects of the Sehat Card Plus KP: a) awareness/knowledge of and perception regarding Sehat Card Plus KP among general population; b) effect of Sehat Card Plus KP on utilization of healthcare, satisfaction, and financial risk protection including out-of-pocket expenditure and catastrophic health expenditures; and c) equity in access and coverage of Sehat Card Plus KP. In order to respond to these distinct objectives, two separate survey methodologies were developed at the level of households that included a knowledge/awareness and perception survey (n=1839) and a financial risk protection survey (n= 3,840).

In terms of knowledge and perception, every 9 in 10 respondents reported having heard of *Sehat Card Plus KP*. The level of awareness regarding other components of the Programme varied between 40% and 50% for different elements. There were remarkable differences in the level of *Sehat Card Plus KP* awareness between different districts of KP.

In the area of quality of care, there was a significant difference in terms of mean quality score between SCP users and SCP nonusers (SCP users=72% vs. SCP nonusers=55%). Except for the attribute related to patient privacy during consultation (SCP users=37.4% vs. SCP

nonusers=35.9%, p value 0.554), every other attribute of perceived quality scored higher in case of SCP users compared to SCP nonusers.

From a utilization perspective, 86% perceived *Sehat Card Plus KP* as a means to enable people to access timely healthcare. A great majority (84%) of respondents thought the Programme should provide coverage for outpatient services, and 75% respondents thought that the allocated amount in monetary terms for each family is sufficient.

Finally, the Sehat Card Plus KP offers substantial financial risk protection to its users. The mean out-of-pocket expenditure for SCP users was PKR 6,551 (medical = PKR 1,006, and non-medical PKR 5,546), which was significantly lower than the mean expenditure of PKR 34,639 (medical = PKR 30,042, non-medical = PKR 4,563) for SCP nonusers. Among SCP nonusers 35% reported incurring catastrophic health expenditure compared to 14% among SCP users. Households from the poorest wealth quintile and those living in rural areas were more likely to experience catastrophic health expenditure in both groups.

These findings point to several strengths as well as gaps and challenges that need to be addressed as the *Sehat Card Plus KP* moves to the next level of implementation and consolidation. The final chapter on Priorities and Recommendations for Action in this Report proposes several suggestions to address these challenges.

Chapter 3: Health Facility Readiness to Provide Services Covered Under *Sehat Card Plus, Khyber Pakhtunkhwa* , Khyber Pakhtunkhwa

Key findings

- The cumulative readiness of tertiary care hospitals in the province to provide core clinical services for Accident & Emergency, Critical Care, General Surgery, Gynecology and Obstetrics, was found to be adequate, there was however wide variation at the district level in the readiness of secondary facilities.
- Cumulative readiness to provide General Surgery services was measured over 90% at both secondary and tertiary level hospitals. Secondary hospitals had low levels of readiness to handle Accidents & Emergencies (< 75%) and conditions requiring intensive/critical care (< 65%).
- Readiness for lifesaving support services such as blood banks was found to be critically deficient, measured to be 56% at secondary and 81% at tertiary facilities.
- Secondary hospitals also reported deficiencies in readiness of health management information systems (64%) and handling of billing & reimbursements (76%).
- Majority of the hospitals (22 of 26 secondary and 9 of 12 tertiary hospitals) reported receiving timely settlement of claims by SLIC.
- Most hospitals did not employ a standardized system for coding of medical conditions, such as ICD-10. This was being practiced by < 35% secondary and < 50% tertiary hospitals.
- Nearly one-third of *Sehat Card Plus KP* users and nonusers expressed dissatisfaction with health providers' communication. Specific deficiencies were reported in patients not being given adequate information about the cost of treatment and all other associated costs.
- Two-thirds of *Sehat Card Plus KP* users did not report incurring out-of-pocket expenditure during admission. For the other one-third, the estimated mean expenditure was PKR 5,464 on medicines and PKR 3,519 on diagnostic tests.
- Among *Sehat Card Plus KP* nonusers, 44% were not eligible, mostly due to citizenship and domicile issues. A total of 19% nonusers were eligible but could not benefit due to nonavailability of required document (CNIC, B-form).

3.1 Introduction

3.1.1 Health Facility Readiness

A readiness assessment measures the preparedness of an institution to undergo a major change or take on a significant new project[27]. In the context of a publicly funded social health insurance schemes, this concept refers to the level of preparedness of the empanelled hospitals for implementation[28]. Readiness of health facilities is the cumulative availability of various components required to provide services – infrastructure/amenities, basic supplies/equipment, standard precautions, laboratory tests, medicines and commodities and

[27] Gallagher, B. 2019. What is an organizational readiness assessment? Partners-Audits without anxiety. From: https://www.ispartnersllc.com/blog/why-organizational readiness-assessments-are-important/(accessed 4 August 2020)

[28] Mukwena, N. V. (2021). *Readiness assessment for the implementation of the National Health Insurance Scheme at a hospital in Johannesburg* (Doctoral dissertation).

health professionals[29]. In addition, capacity to process claims is an important and newly acquired skill in implementing health insurance schemes since providers could face losses in revenue, should there be any rejections in claims submitted[30].

Since its introduction, there have been increasing levels of utilization of health services under *Sehat Card Plus KP*, as had been anticipated by extending it to full population coverage[31]. However, the increased demand may put a strain on both the healthcare workers and the hospital infrastructure in Khyber Pakhtunkhwa (KP). With the legislation on health insurance (*KP Universal Health Coverage Act 2022*), and expansion of coverage under the *Sehat Card Plus KP*, it has become imperative for hospitals to get empanelled, to maintain their clientele and profitability. This has led not only to the growth of the private hospital market but has also incentivized public facilities to provide better quality of care to become eligible for empanelment. This chapter provides evidence on how a representative sample of public and private empanelled hospitals from across the province is responding to the increased demand for health care services under the *Sehat Card Plus KP*.

3.1.2 Quality of Care and Patient Satisfaction

Globally, the movement on quality of care is gaining momentum, including in L&MICs[32]. The spectrum of quality-of-care stretches from health system interventions to health outcomes and overall user satisfaction. To meet UHC targets, patients from all socio-economic backgrounds must have equitable access to quality healthcare including dignified treatment, safe medical care, and adequate information on their health status and treatment options.

In recent times, the evidence for examining quality of care and patients' satisfaction in L&MICs has steadily increased[32]. Measuring patient satisfaction or perceived quality of care may offer a simple first step towards understanding healthcare provision at various levels of health facilities. Many previous studies on perceived quality of care have primarily measured perceptions among people who visited the health facilities and used the services[33,34,35,36]. The evidence generated may be used in designing interventions to improve service delivery and to prioritize capacity building needs and resource distribution[30]. A systematic review from 2016 found that providers' competence, interpersonal skills and facility characteristics (e.g., physical environment, type and level of facility) are associated with higher levels of patients' satisfaction[37].

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[29] Abazinab, S., Woldie, M., & Alaro, T. (2016). Readiness of health centers and primary hospitals for the implementation of proposed health insurance schemes in Southwest Ethiopia. *Ethiopian journal of health sciences*, *26*(5), 449-456.

[30] Aryeetey, G. C., Nonvignon, J., Amissah, C., Buckle, G., & Aikins, M. (2016). The effect of the National Health Insurance Scheme (NHIS) on health service delivery in mission facilities in Ghana: a retrospective study. *Globalization and health*, *12*, 1-9.

[31] Hasan SS, Mustafa ZU, Kow CS, Merchant HA. "Sehat Sahulat Program": A Leap into the Universal Health Coverage in Pakistan. International Journal of Environmental Research and Public Health. 2022 Jun 7;19(12):6998.

[32] Wiseman V, Lagarde M, Kovacs R, Wulandari LP, Powell-Jackson T, King J, Goodman C, Hanson K, Miller R, Xu D, Liverani M. Using unannounced standardised patients to obtain data on quality of care in low-income and middle-income countries: key challenges and opportunities. BMJ global health. 2019 Sep 1;4(5):e001908.

[33] Shan L, Li Y, Ding D, Wu Q, Liu C, Jiao M, Hao Y, Han Y, Gao L, Hao J, Wang L. Patient satisfaction with hospital inpatient care: effects of trust, medical insurance and perceived quality of care. PloS one. 2016 Oct 18;11(10):e0164366.

[34] Baltussen RM, Yé Y, Haddad S, Sauerborn RS. Perceived quality of care of primary health care services in Burkina Faso. Health policy and planning. 2002 Mar 1;17(1):42-8.

[35] Lahariya C. Access, utilization, perceived quality, and satisfaction with health services at Mohalla (Community) Clinics of Delhi, India. Journal of Family Medicine and Primary Care. 2020 Dec;9(12):5872.

[36] Aldana JM, Piechulek H, Al-Sabir A. Client satisfaction and quality of health care in rural Bangladesh. Bulletin of the world Health Organization. 2001;79(6):512-7.

[37] Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patients' satisfaction: a systematic review. Perspect Public Health. 2016; XX: 1±13. https://doi.org/10.1177/1757913916634136 PMID: 27004489

In a social health insurance scheme, such as the *Sehat Card Plus KP*, the organizer or implementer, which in this case is the State Life Insurance Corporation (SLIC), is the main controller of funds and can negotiate 'better quality of care' with the contracted providers. In addition, with increasing competition between public-private providers and private-private providers, the providers will have to upgrade their quality of services to maintain empanelment with the *Sehat Card Plus KP*. Thus, insured patients should hypothetically receive better quality of care from empaneled providers,[38] as shown in recent review of the positive effect of social health insurance on quality of care in Asian and African countries[39]. A key consideration in the current evaluation of the *Sehat Card Plus KP* in KP has been to determine the quality of care and level of patient satisfaction as a key component of the level of readiness of the empanelled hospitals.

3.1.3 Purpose and Objectives

The primary purpose of this component of the study is to undertake a comprehensive assessment of the readiness of the empanelled health facilities – both the secondary and tertiary care hospitals under the *Sehat Card Plus KP* to appropriately implement the package of health services, meet quality of care standards, have the managerial capacity, and meet expectations of the insured population.

The specific objectives are to:

1. determine the overall readiness of empaneled facilities to provide services specified in the *Sehat Card Plus* package.
2. determine the readiness and experience of health facilities in billing and reimbursement under the *Sehat Card Plus, Khyber Pakhtunkhwa* .
3. determine the readiness of the Health Management Information System (HMIS) to provide information on specified services in the *Sehat Card Plus* package.
4. ascertain the levels and predictors of satisfaction among *Sehat Card Plus* users relative to non-users.
5. determine the barriers preventing patients from using their *Sehat Card Plus* for receiving inpatient care.
6. understand programme implementation experience, strengths, and barriers from the perspective of hospital-level implementers.

3.2 Methods and Approach

3.2.1 Study Design and Setting

Health facility readiness study used a cross-sectional design comprising two comprehensive components Health Facility Assessment and Patient Exit Interview, at 38 empaneled hospitals providing services under the *Sehat Card Plus KP* in KP. The assessment forms part of a larger evaluation of the *Sehat Card Plus KP* by Aga Khan University between October and December 2022. In addition, a qualitative exploratory study was conducted to complement the quantitative components, in the form of in-depth interviews with a range of key informants from hospitals.

3.2.2 Sampling Strategy

[38] Devadasan N, Criel B, Van Damme W, Lefevre P, Manoharan S, Van der Stuyft P. Community health insurance schemes & patient satisfaction-evidence from India. The Indian journal of medical research. 2011 Jan;133(1):40.

[39] Crow H, Gage H, Hampson S, Hart J, Kimber A, Storey L, Thomas H. Measurement of satisfaction with health care: Implications for practice from a systematic review of the literature. Health technology assessment. 2002.

For the 10 districts of KP included in the assessment, a master list of all empaneled hospitals as of September 2022, was obtained from SLIC and used as the sampling frame for the survey. The list included a total of 109 health facilities with a mix of secondary and tertiary care hospitals from the public and private sectors. Stratified, proportionate sampling was done to select 40 facilities from the list for the purpose of the evaluation. Two facilities refused to participate, while 38 facilities took part in the survey and formed the final sample. Table 1 provides the breakdown of these facilities by ownership and level of secondary or tertiary care and Annex 2 list's the names of all included facilities.

Table 1: Ownership and Level of Care Provided by Sampled Facilities

	Public	Private	Total
Secondary	10 (26%)	16 (42%)	26 (68%)
Tertiary	4(11%)	8 (21%)	12 (32%)
Total	14 (37%)	24 (63%)	38 (100%)

For patient exit interviews, the proportion of *Sehat Card* users satisfied with received care was taken as the primary outcome of interest. Based on similar previous studies, we assumed a satisfaction of 80% among users, and a 10%-point lower satisfaction in non-users. With a design effect of 1.5, 95% confidence level, and 80% power, we estimated a total sample of 972 patients, with equal group sizes of SCP users and SCP nonusers. The total sample was distributed across the 38 facilities proportional to the average monthly admissions at each sampled facility. The following inclusion criteria was used for recruitment of participants: 1) patients aged 18 years or older (or caregiver aged 18 or above for younger patients); and 2) patient discharged on the day of the data collector's visit and preparing to exit from the facility after receiving inpatient care.

In addition, a total number of 126 semi-structured in-depth interviews were conducted with different cadre of staff in the 38 hospitals. The key informants were recruited from hospitals under assessment in the following categories: (i) hospital leader/senior manager; (ii) clinical staff (doctors); and (iii) health facilitation officer employed by SLIC.

3.2.3 Data Collection Tools

3.2.3.1 Health Facility Assessment Tool

Readiness was defined in terms of a composite "Health Facility Readiness Score" calculated based on unweighted tracer indicators under 8 domains: (i) Access & Infrastructure; (ii) Governance & Management; iii) Health Management Information System; vi) Infection Prevention and Control vii) Sehat Card desk services; viii) Billing & Reimbursement iv) Clinical Services; v) Clinical Support Services; (for details, see section Survey Instrument). The Health Facility Assessment tool was adapted from the WHO Service Availability and Readiness Assessment (SARA)[40] and Harmonized Health Facility Assessment (HHFA)[41] for evaluating

[40] World Health Organization. Service availability and readiness assessment (SARA): an annual monitoring system for service delivery: reference manual. World Health Organization; 2013.
[41] World Health Organization. Harmonized health facility assessment (HHFA): comprehensive guide. World Health Organization; 2023 Jan 9.

hospitals. The tool was further contextualized for the *Sehat Card Plus KP* by 1) matching it with the *Empanelment Checklist Tool* used by SLIC for assessment of hospitals 2) selecting tracer clinical and clinical support services for assessment from among the services that are included in the SCP benefits package. The tool was also reviewed by health systems and medical service experts of relevant clinical services at the Aga Khan University. For each domain, tracer items were used to generate domain-wise scores which were then summed to calculate a composite Health Facility Readiness Score for all *Sehat Card Plus KP* empaneled hospital.

3.2.3.2 Patient Exit Interview Survey

The survey included the following sections: (i) Sociodemographic information; (ii) Reason of admission and access to the facility; (iii) Patient perceptions on quality of care received; (iv) Experience of using *Sehat Card*; and (v) Out-of-pocket expenditure. The survey was designed in English and translated into Urdu, and pre-tested at a pilot site in Peshawar.

Section iii on patient perceptions was adapted from a previous study conducted in Ghana and included items grouped into 5 domains (6 domains for Sehat Card users) as listed in Box 1. Respondents expressed the perceived quality of care on a 3-level Likert Scale: 1) Not at all 2) Partially 3) Completely.

Box 1: Domains of Perceived Quality of Care under *Sehat Card Plus, Khyber Pakhtunkhwa*

Domain 1: Perceived quality of hospital infrastructure

Domain 2: Perceived promptness of service

Domain 3: Perceived quality of health care provider conduct

Domain 4: Perceived quality of health provider communication

Domain 5: Perceived quality of health service delivery

Domain 6: Perceived quality of Sehat Card Program services *(for Sehat Card users only)*

3.2.3.3 Key Informant Interviews

A semi-structured interview guide was used to collect data from hospital heads/senior managers, clinical staff, and health facilitation officers employed by SLIC. The purpose of this interview guide was to identify the specific areas of strengths and gaps and highlight the opportunities to further improve the *Sehat Card Plus KP*.

3.2.4 Data Collection

Data was collected during the period October 2022 to February 2023 after obtaining necessary permissions from the Department of Health, KP. A written (signed) consent was obtained from the hospital leadership to conduct health facility assessments. Data collection was carried out over 2 to 3 days at each facility, depending on the size of the hospital and availability of administrative staff. For patient exit interviews, eligible respondents were recruited from the hospital wards and written consent was obtained. Data was collected electronically using survey App Zoho, installed on digital tablets. Key informant interviews were conducted by the core research team from AKU, with some support from trained qualitative data collectors. Majority of the interviews conducted were in Urdu. The interviews were digitally recorded, transcribed by two research associates, skilled in transcription and translated into English language for analysis.

3.2.5 Data Analysis

For Health Facility Assessment, each domain of the tool carried key tracer indicators that were scored as 1 for "present" and 0 for "absent" at each facility. All the scores were summed domain-wise to arrive at a Total Readiness Score for each facility (Table 2).

For Patient Exit interviews, frequencies were generated for sociodemographic and baseline characteristics of the *Sehat Card Plus* users and nonusers. Each patient's responses were scored on a 3-point Likert Scale.

The key informant interviews were analyzed using NVivo software. The content analysis was done by first organizing the data into categories and initial codes using a deductive approach based on a conceptual framework developed *a priori*. The data was then coded into themes and sub-themes.

Table 2: Domains, No. of indicators and maximum achievable scores for Health Facility assessment

	Domain	Number of Indicators
	Systems and Structures	
1	Access & Infrastructure	12
2	Governance & Management	6
3	Health Management Information System	4
4	Infection Prevention & control	7
5	*Sehat Card* Desk Services	4
6	Billing & Reimbursement	10
	Clinical & Clinical Support Services	
7	Clinical Services	99
8	Clinical Support Services	78
	Total	220

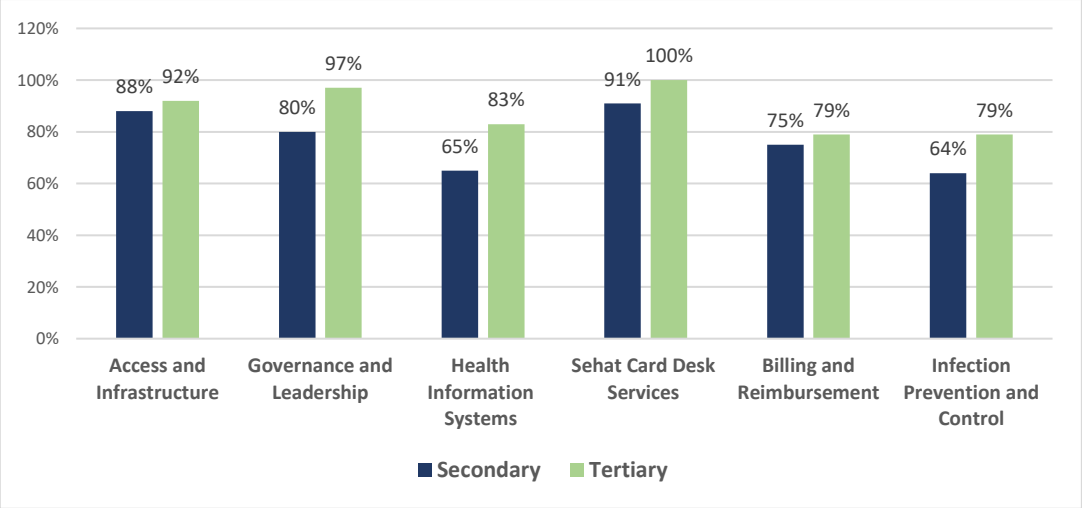
3.3 Results and Findings

3.3.1 Health Facility Assessment

3.3.1.1 Hospital Readiness – Infrastructure and Systems

For all domains of structure and systems, under assessment, the tertiary hospitals were found to have higher level of readiness (Figure 1). The empanelled secondary and tertiary hospitals scored 88% and 92% on access and infrastructure indicators respectively. There was nearly a 20-percentage point difference between secondary and tertiary hospitals for Governance and Management. For secondary hospitals, the HMIS readiness score was 65%, while for readiness to manage billing & reimbursements, it was 75%.

Figure 1: Health Facility Readiness – Structure and Systems, by level of facility



Access and Infrastructure

At least 85% of secondary hospitals and 75% of tertiary hospitals were located at less than 5-minute walk from the closest public transport access point. Only 9 out of the 26 secondary facilities (35%) had their own-managed ambulance service as compared to 7 out of 12 tertiary facilities (58%). All hospitals included in the assessment had wheelchairs and stretchers available for patient use. In terms of amenities, drinking water availability for patients was deficient with 65% and 83% availability at secondary and tertiary hospitals respectively. Alternate/back-up power supply was present at all facilities under assessment (Table 3).

Table 3: Hospital Readiness on Key Access and Infrastructure indicators- by level of facility

Indicators	Secondary Hospitals n= 26		Tertiary Hospitals n=12	
	n	%	n	%
Hospital has high accessibility through public transport (Less than 5-minute walk from closest public transport point)	22	85%	9	75%
Hospital has entrance that is accessible by wheelchair/ stretcher	26	100%	12	100%
Hospital has wheelchairs and stretchers available	26	100%	12	100%
Hospital has a functional phone	25	96%	12	100%
Hospital has functional Internet device	25	96%	12	100%
Hospital has power supply at the time of assessment	25	96%	12	100%
Hospital has power supply backup	26	100%	12	100%
Hospital has appropriate water supply for general use	26	100%	11	92%
Hospital has filtered water supply on each floor for drinking purposes	17	65%	10	83%
Hospital has its own ambulance service	9	35%	7	58%

Indicators	Secondary Hospitals n= 26		Tertiary Hospitals n=12	
	n	%	n	%
Hospital has functional toilets for patients	26	100%	12	100%
Hospital has a functional Firefighting system	21	81%	12	100%
Average Access and Infrastructure Readiness Score %		**88%**		**92%**

**Maximum Score: 312 for secondary hospitals and 144 for tertiary hospitals*

▪ Governance and Management

All empanelled hospitals assessed had designated senior leaders to oversee the management of hospitals. Almost 15% of secondary hospitals reported not having regular meetings with the SLIC representatives. Eighteen out of 26 (69%) secondary hospitals reported carrying out formal case reviews for patient outcomes and 54% reported having a system for identifying and monitoring adverse events such as patient falls, hospital acquired infections etc.

Table 4: Hospital Readiness on Key Governance and management indicators- by level of facility

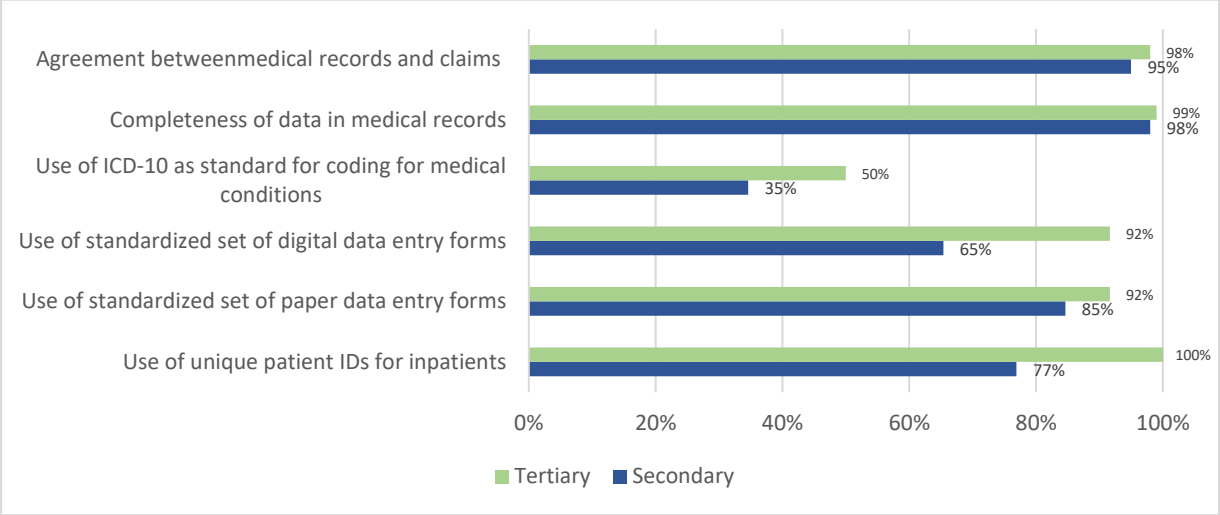
Indicators	Secondary Hospitals (n=26)		Tertiary Hospitals (n=12)	
	n	%	n	%
Hospital has designated staff members responsible for hospital management	26	100%	12	100%
Hospital has policies, guidelines and SOPs for all departments and supporting services	23	88%	11	92%
Hospital management has regular meetings with State Life representative	22	85%	12	100%
Hospital carries out formal case reviews for patient outcomes	18	69%	12	100%
Hospital has a system for identifying and monitoring adverse events such as patient falls, hospital acquired infections	14	54%	11	92%
Hospital has a focal person to address patient's complaints	21	81%	12	100%
Average Governance and Management Readiness Score %		**79%**		**97%**

**Maximum Score: 156 for secondary hospitals and 72 for tertiary hospitals*

▪ Health Management Information Systems (HMIS) and Data Quality

The assessment demonstrated that only 35% secondary, and 50% tertiary facilities used *International Classification of Diseases Version 10* (ICD-10) as a standardized system for coding of medical conditions. Individual patient records with unique patient identifiers were maintained at all tertiary care facilities, whereas this figure was 77% for secondary facilities. Overall completeness of data elements at secondary hospitals was 98% and agreement of data among the three types of records, i.e., patients' folder, discharge summary and claim form was 95% as assessed by data collectors on the day of the visit. Standardized data entry forms were also not available at all facilities, with 92% availability at tertiary hospitals, whereas digital and paper-based standardized forms were available at 65% and 35% secondary facilities respectively.

Figure 2: Hospital Readiness on key HMIS and Data Quality indicators- by level of facility



▪ Billing & Reimbursement

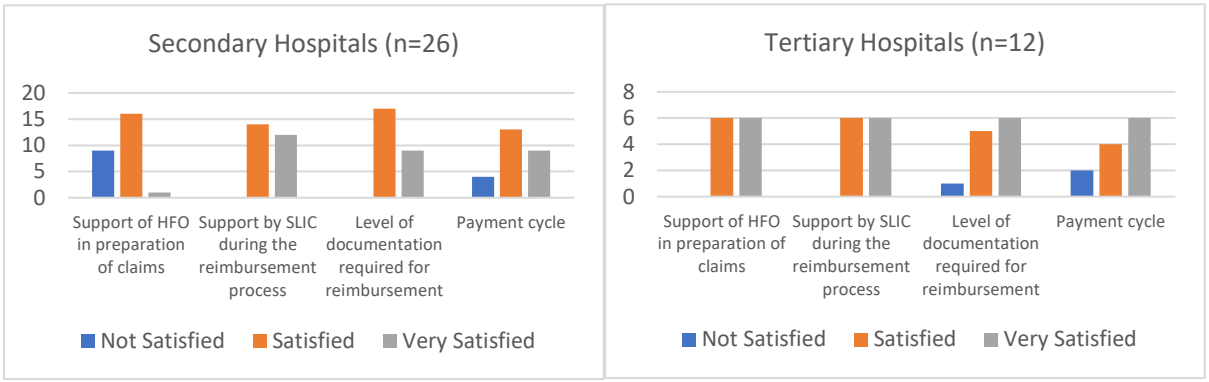
Of the 26 secondary hospitals assessed, 3 reported not having received written *Sehat Card* Policy guidelines for processing claims. Additionally, 42% secondary and 25% tertiary hospitals reported having received no training on *Sehat Card* Package and Reimbursement Policy by SLIC. All empaneled hospitals reported having at least one functional computer and one designated staff member for processing claims. At the time of assessment only 19% secondary and 25% tertiary hospitals were using the e-claims/online claims submission system respectively. A total of 22 (out of 26) secondary and 9 (out of 12) tertiary facilities reported receiving timely reimbursements from SLIC. Incomplete documentation was cited as the most common reason for delay in reimbursements. A total of 9 secondary hospital managers/leaders reported dissatisfaction with the role of Health Facilitation Officer in the preparation of claims, whereas 4 secondary and 2 tertiary facilities expressed dissatisfaction with the reimbursement cycle.

Table 5: Hospital Readiness on key billing & reimbursement indicators- by level of facility

Indicators	Secondary Hospitals (n=26)		Tertiary Hospitals (n=12)	
	n	%	n	%
Written Sehat Card policy guidelines for processing claims received at the hospital	23	88%	12	100%
List of conditions included and reimbursable by SCP KP available at hospital	25	96%	12	100%
Policy document available with the hospital has timelines and durations for payment cycle mentioned	15	58%	10	83%

Indicators	Secondary Hospitals (n=26)		Tertiary Hospitals (n=12)	
	n	%	n	%
Hospital manager/nominated staff provided training on Sehat Card Package and Reimbursement policy by State Life	15	58%	9	75%
Designated hospital staff provided training on Sehat Card package and reimbursement policy by the hospital leadership/SLIC	14	54%	6	50%
Hospital uses standard medical claim form issued by SLIC	24	92%	10	83%
Hospital has at least one functional computer dedicated to claims processing	26	100%	12	100%
Hospital has at least one dedicated staff for preparing claims	26	100%	12	100%
Hospital uses the online claims submission system	5	19%	3	25%
Hospital is reimbursed by the State Life/Government in a timely manner	22	85%	9	75%
Average Readiness		**75%**		**79%**

Figure 3: Satisfaction of empaneled facilities with services provided by SLIC



▪ Infection Prevention and Waste Management

A total of 20 (out of 26) secondary and 11 (out of 12) tertiary hospitals had infection control guidelines available. A technical Infection Prevention and Control (IPC) committee had been formulated at 58% secondary and 75% tertiary hospitals to oversee the IPC and waste management. However, a formal IPC assessment had been conducted at only 19% secondary and 25% tertiary facilities. The disposal of sharp and infectious waste through proper incineration was not being practiced at 38% secondary and 8% tertiary facilities. At 5 secondary facilities, the waste was not disposed in clearly labelled containers on the day of the visit/observation.

Table 6: Readiness on Infection Control and Waste Management Indicators by level of hospitals

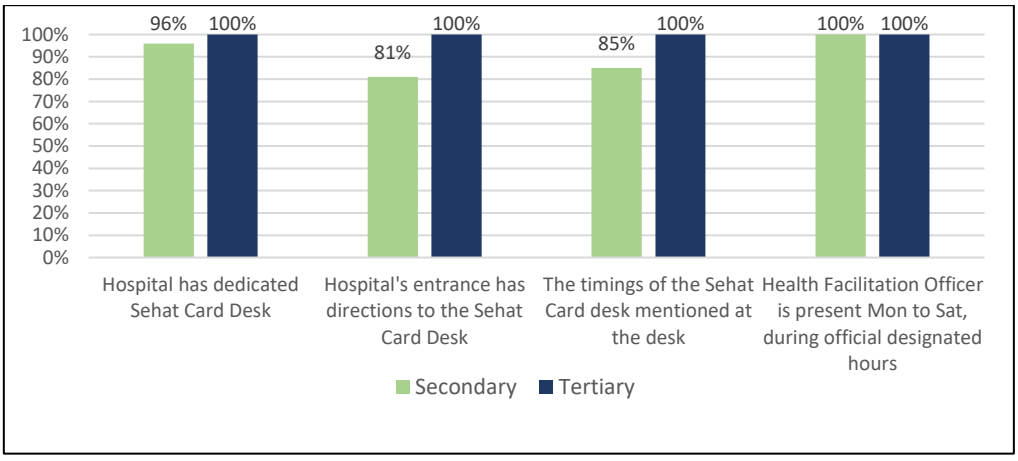
Indicators	Secondary Hospitals (n=26)		Tertiary Hospitals (n=12)	
	n	%	n	%
Hospital has Infection Prevention and Control (IPC) Guidelines	20	77%	11	92%
Hospital has a technical IPC Committee	15	58%	9	75%
Hospital conducted an IPC assessment within 1 past month from the day of visit	5	19%	3	25%
Hospital has guidelines on medical waste management	23	88%	10	83%
Hospital disposes of sharps waste through an incinerator (in-house/outsourced)	16	62%	11	92%
Hospital disposes of infectious waste through an incinerator (in-house/ outsourced)	16	62%	11	92%
Waste observed at the hospital was properly contained in clearly labelled waste containers	21	81%	11	92%
Average Readiness %		**64%**		**79%**

*Maximum Score: 182 for secondary hospitals and 84 for tertiary hospitals

- **Sehat Card Desk Services**

All the surveyed hospitals had a dedicated *Sehat Card* desk present on the premises. Five secondary hospitals did not have clear directions from the entrance to the *Sehat Card* desk to guide patients and 4 did not have the desk's operational times mentioned. The Health Facilitation Officers (HFOs) performing the role of *Sehat Card* representative were present during designated duty days and timings at all the hospitals. The cumulative readiness to provide Sehat Card Desk services was found to be 90% for secondary and 100% for tertiary hospitals.

Figure 4: Hospital Readiness on key *Sehat Card* Desk indicators- by level of facility



3.3.1.2 Hospital Readiness – Clinical and Clinical Support Services

Readiness of empanelled hospitals to provide clinical services to *Sehat Card* users was assessed for four most utilized services. These included: (i) Accident & Emergency; (ii) Intensive and Critical Care Services; (iii) General Surgery; and (iv) Obstetrics and Gynecology.

Concurrently, the readiness to provide clinical support services was also assessed for four essential services: (i) Laboratory and Diagnostics services; (ii) Blood Bank services; (iii) Radiological and Imaging services; and (iv) Medicines and Pharmaceutical services.

- **Clinical Services**

For the four categories of clinical services assessed, the tertiary care hospitals had a higher level of readiness compared to secondary hospitals. Table 7 provides a summary of the readiness score of the 38 hospitals assessed in the 10 study districts for each of the four clinical areas assessed. For more detailed information on each indicator assessed for the different domains of readiness, please refer to Annex 3.

Overall, most secondary and all tertiary hospitals were well equipped with qualified **Emergency Rooms** (ER). However, 4 out of the 24 secondary hospitals (15%) did not have an ER. These included one facility in Chitral, one in Upper Dir and 2 facilities in Dera Ismail Khan. The ER equipment was found to be deficient in 29% secondary hospitals and 17% tertiary hospitals. In addition, standardized treatment guidelines were not available in the ER in 44% secondary and 29% tertiary facilities. The cumulative readiness to provide Emergency and Accident services was measured to be 74% and 87% at secondary and tertiary facilities respectively.

Table 7: Hospital Readiness on Key Indicators of Clinical Care - by level of facility

Tracer Indicators	Secondary (n=24)		Tertiary (n=12)	
	n	%	n	%
1. Accident & Emergency				
Infrastructure (availability of dedicated ER Room/Department)	20	83%	12	100%
Readiness - Infrastructure %	75	78%	46	96%
Human Resources	80	83%	44	100%
Treatment Guidelines	27	56%	17	71%
Readiness-Guidelines	12	50%	8	73%
Standard Precautions for Infection Prevention and Control	94	78%	55	92%
Equipment	170	71%	99	83%
Composite Readiness to provide Emergency Services-%	**446**	**74%**	**261**	**87%**
**Maximum Score: 600 for secondary hospitals and 300 for tertiary hospitals*				
2. ICU and Critical Care				
Infrastructure (Availability of ICU)	109	65%	81	96%
Human Resources	95	66%	69	96%
Guidelines	10	59%	9	75%
Standard Precautions for Infection Prevention and Control	81	68%	59	98%
Equipment Items	154	64%	112	93%
Composite Readiness to provide ICU Services-%	**449**	**64%**	**330**	**92%**
**Maximum Score: 696 for secondary hospitals and 348 for tertiary hospitals*				
3. General Surgery				
Infrastructure	89	93%	48	100%
Human Resources	92	96%	48	100%
Guidelines	15	63%	9	75%
Standard Precautions for Infection Prevention and Control	135	94%	72	100%
Equipment	207	86%	118	98%
Composite Readiness to provide General Surgical Services-%	**538**	**90%**	**295**	**98%**
**Maximum Score: 576 for secondary hospitals and 288 for tertiary hospitals*				
4. Gynecology & Obstetrics				

Infrastructure	58	81%	30	83%
Human Resources	100	83%	50	83%
Guidelines	15	63%	6	50%
Standard Precautions for Infection Prevention and Control	99	83%	50	83%
Tracer Equipment Items	180	75%	95	79%
Composite Readiness to Provide Gynae OT Services %	**452**	**78%**	**231**	**80%**

**Maximum Score: 576 for secondary hospitals and 288 for tertiary hospitals*

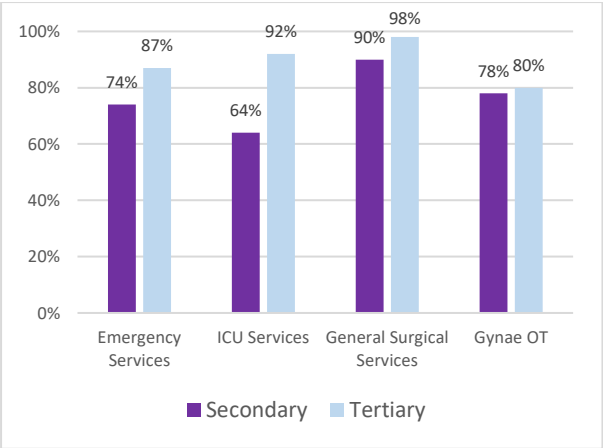
Note: 2 of the 26 secondary hospitals did not meet the quality standards and hence were dropped from the final analysis.

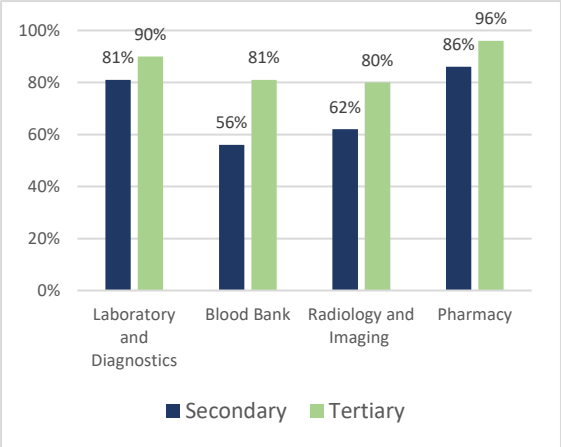
Intensive Care Units were available in 17 out of 24 secondary hospitals and in all 12 tertiary hospitals. At one secondary hospital, the ICU was not functional round the clock, while 59% of secondary and 75% tertiary hospitals used standardized guidelines for the clinical care of critically ill patients. The cumulative readiness to provide intensive and critical care services was measured to be 65% and 92% at secondary and tertiary facilities respectively.

For **General Surgery**, operating rooms (OR) were available and functional in 23 (out of 24) secondary and all 12 tertiary hospitals included in the assessment. The secondary hospital where OR was unavailable was situated in DI Khan district. It was found that all secondary and tertiary hospitals included in the assessment had qualified surgeons and staff to carry out general surgery procedures, where an OR was available. Post-Op recovery rooms were not available in 2 secondary facilities. In terms of essential equipment, a defibrillator and electric autoclave were absent in 29% and 33% secondary and tertiary facilities respectively.

A fully functional **Obstetrics & Gynecology** (Obs/Gyn) OR was found in 20 of the 24 (83%) secondary hospitals and 10 out of 12 (83%) tertiary hospitals included in the assessment. All hospitals at both levels of care had the required human resource for carrying out newborn deliveries including C-sections. The availability of guidelines for safe childbirth and maternal and newborn care was higher at secondary than tertiary facilities. Functional incubators were found in 63% secondary and 67% tertiary facilities. The cumulative readiness to provide Obs/Gyn services was estimated at 78% and 80% for secondary and tertiary facilities respectively.

Figure 5: Hospital Readiness on Clinical and Clinical Support Services- by level of facility





- **Clinical Support Services**

The readiness to provide clinical support services was assessed for four essential services: (i) Laboratory and Diagnostics Services; (ii) Blood Bank services; (iii) Radiological and Imaging services; and (iv) Medicines and Pharmaceutical services. Table 8 provides a summary of the readiness score of the 38 hospitals assessed in the 10 study districts for each of the four clinical support areas assessed. For more detailed information on each indicator assessed for the different domains of readiness, please refer to Annex 4.

In the domains for clinical support services, urban hospitals had a significantly higher readiness rate at 70% compared to 15% in rural hospitals for blood bank services, highlighting the critical need for improved blood banking facilities for patients in rural areas. In Lab and Diagnostics, both rural and urban hospitals exhibited high readiness rates, with urban hospitals at 84% and rural hospitals at 79%, indicating comparable availability of lab and diagnostic services in both settings. Urban hospitals had a higher readiness rate at 72% compared to 56% in rural hospitals

for Radiology and Imaging, highlighting the need to invest in and improve these services in rural hospitals to ensure equitable access to covered services in Sehat Card for patients. Both rural and urban hospitals had high readiness rates for the Pharmacy domain, with urban hospitals at 90% and rural hospitals at 94%.

Readiness for **laboratory services** was measured at 81% and 90% at secondary and tertiary hospitals respectively. Only 80% of laboratories present at secondary hospitals were operated under the supervision of a qualified pathologist. Electronic records of laboratory investigations and their results were found at 52% secondary and 83% tertiary hospitals. The availability of 18 tracer diagnostic tests was found to be 78% and 89% at secondary and tertiary facilities respectively (Figure 6). Both rural and urban hospitals exhibited high readiness rates, with urban hospitals at 84% and rural hospitals at 79%,

It was found that readiness of **blood banks** was low in both secondary and tertiary hospitals (56% and 81% respectively). A total of 17 (out of 25) secondary and 10 (out of 12) tertiary facilities had a functional blood bank within the facility. Out of these, the blood bank was headed by a qualified pathologist in only 8 secondary and 10 tertiary hospitals. Deficiencies were found in the availability of blood bank refrigeration, plasma separator, blood warmer, electronic inventory of blood products and use of FDA and WHO[42] approved testing kits at secondary facilities.

The cumulative readiness for providing **radiological and imaging services** was found to be 62% for secondary and 80% for tertiary care hospitals. Radiation monitoring devices were present at 64% secondary and 83% tertiary hospitals. In terms of availability of key radiological and imaging services, X-ray and ultrasound services were widely available in nearly all the hospitals assessed. More sophisticated tests like MRI were available at 28% secondary and 50% tertiary hospitals. Similarly, CT scanning facility was available in 20% secondary and 75% tertiary hospitals. Mammography for screening of breast cancer was only available at 12% secondary and 33% tertiary facilities (Figure 7).

Table 8: Hospital Readiness on Key Indicators of Clinical Support Services - by level of facility

Tracer Indicators	Secondary (n=24)		Tertiary (n=12)	
	n	%	n	%
1. Laboratory and Diagnostics				
Infrastructure	166	83%	91	95%
Human Resources	20	80%	12	100%
Availability of Tracer Laboratory Tests	361	80%	190	88%
Composite Readiness to provide Laboratory Services-%	**547**	**81%**	**293**	**90%**
**Maximum Score: 675 for secondary hospitals and 324 for tertiary hospitals*				
2. Blood Bank				
Infrastructure (incl. Availability of blood bank)	152	55%	106	96%
Human Resources	25	50%	20	83%
Availability of Tracer procedures for screening and cross matching of blood products	32	64%	20	83%
Composite Readiness to provide Blood Banking Services-%	**209**	**56%**	**146**	**81%**
**Maximum Score: 375 for secondary hospitals and 180 for tertiary hospitals*				
3. Radiology and Imaging				
Infrastructure	104	66%	56	93%

[42] FDA – Food and Drug Administration (USA); WHO – World Health Organization

Human Resources	19	76%	11	92%
Availability of Tracer Radiological and Imaging tests	98	56%	58	69%
Composite Readiness to provide Radiology and Imaging Services-%	**221**	**62%**	**125**	**80%**
**Maximum Score: 325 for secondary hospitals and 156 for tertiary hospitals*				
4. Pharmacy				
Infrastructure	159	91%	84	100%
Human Resources	21	84%	10	83%
Management of expired products	41	82%	23	96%
Availability of WHO 14 Essential Medicines	294	84%	160	95%
Composite Readiness to Provide Pharmacy Services %	**515**	**86%**	**277**	**96%**
**Maximum Score: 600 for secondary hospitals and 288 for tertiary hospitals*				

Note: 1 of the 26 secondary hospitals did not meet the quality standards and hence were dropped from the final analysis.

Figure 6: Availability of Essential Laboratory Tests in Secondary and Tertiary Hospitals

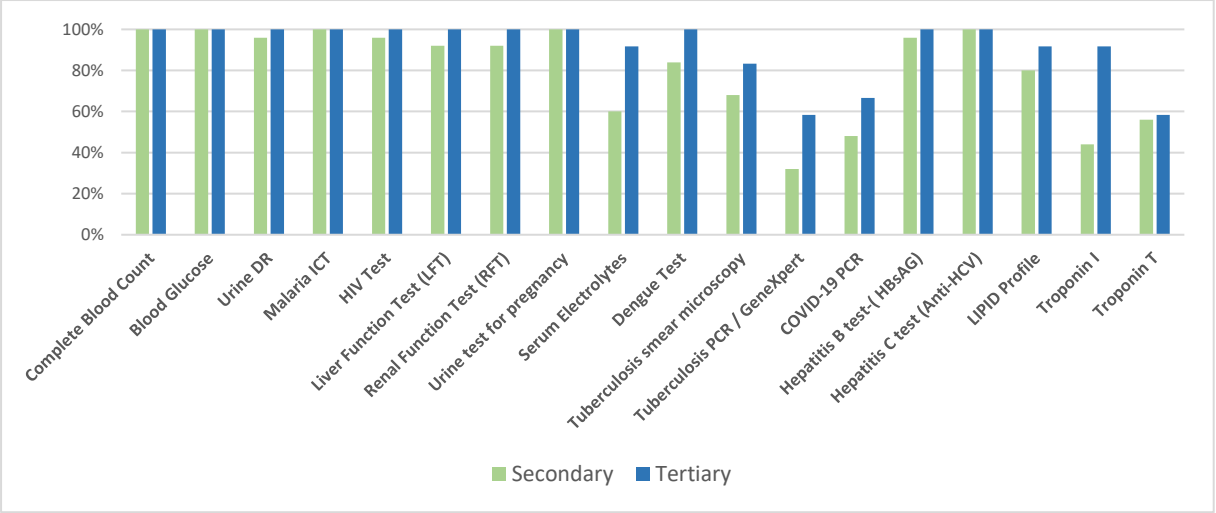
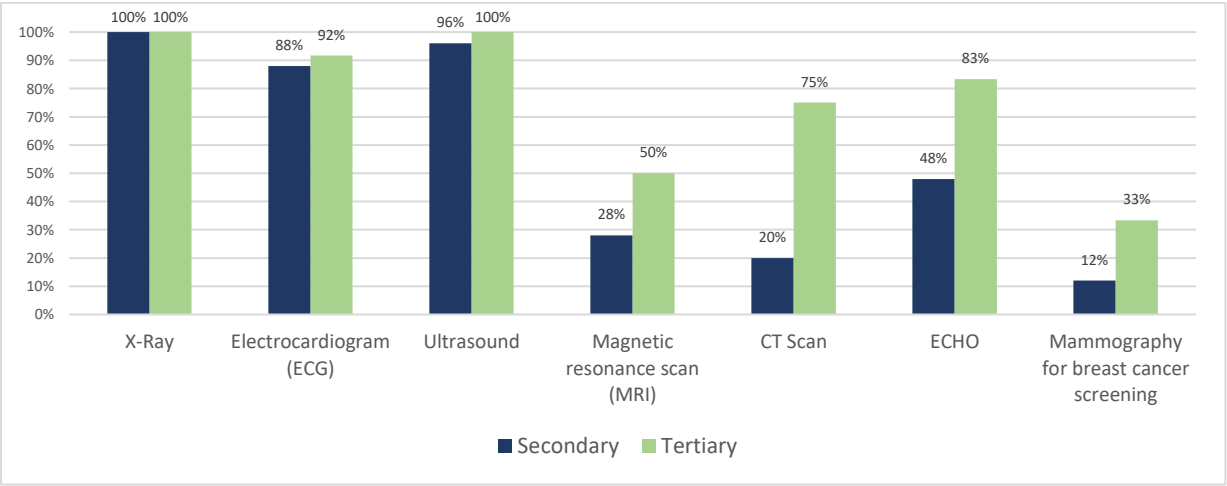


Figure 7: Availability of Radiological and Imaging services at Secondary and Tertiary Hospitals



The readiness for provision of **pharmaceutical products** was higher at tertiary hospitals. A total of 20 secondary and 7 tertiary facilities had an in-house pharmacy, whereas 3 secondary facilities had outsourced pharmacy services. Functioning thermostat was available at only 60% secondary facilities. In secondary hospitals, 83% pharmacies were headed by a qualified pharmacist registered with Pakistan Pharmacy Council. There were deficiencies found in record maintenance of expired drugs, where 72% secondary and 92% tertiary facilities were maintaining the record. During spot check more there were > 2 expired medicines at 2 secondary level facilities. The overall availability of 14 essential medicines recommended by WHO was found to be 84% and 95% for secondary and tertiary facilities respectively (Figure 8). A secondary care hospital in Kohat reported critically low availability of essential medicines (1 out of 14). A secondary hospital in DI Khan had 9 out of 14 essential medicines available, whereas a tertiary care hospital in Swat reported 50% availability of the same.

Annex 5 provides a bird's eye view of the readiness of the 38 empaneled hospitals by clinical and clinical support services assessed.

Figure 8: Availability of 14 Essential Medicines at Secondary and Tertiary Hospitals

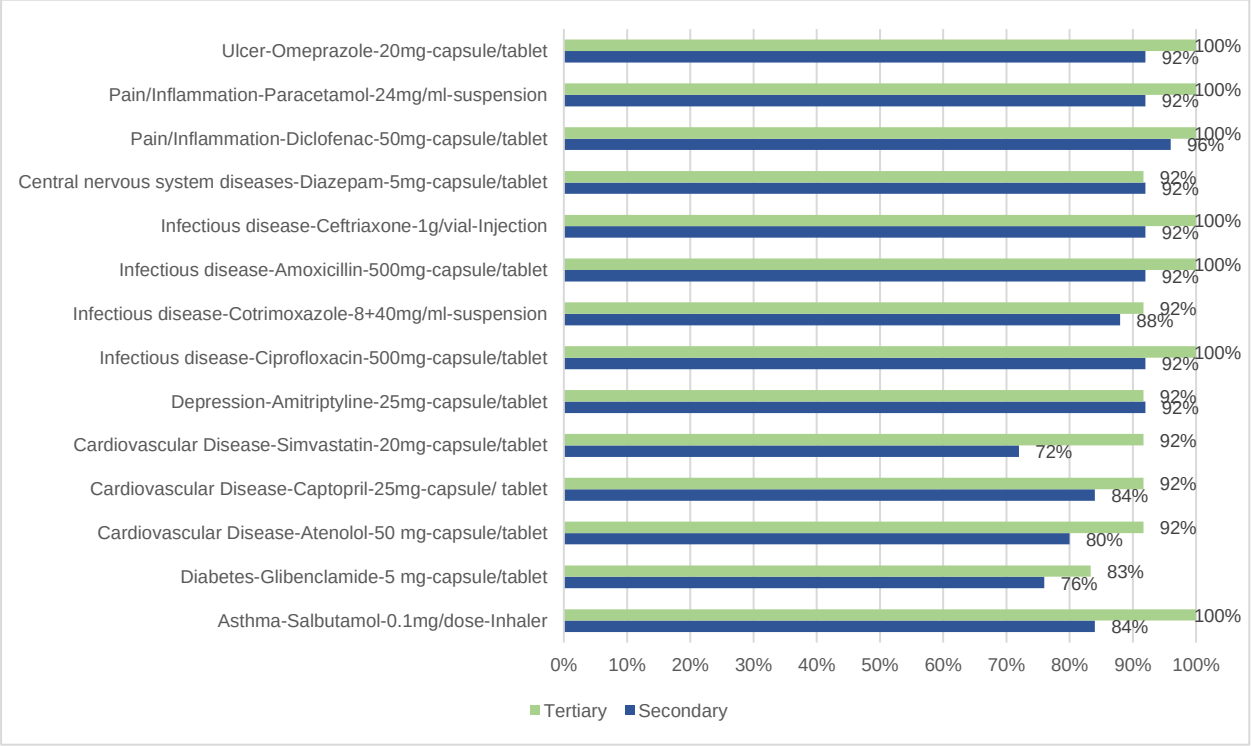
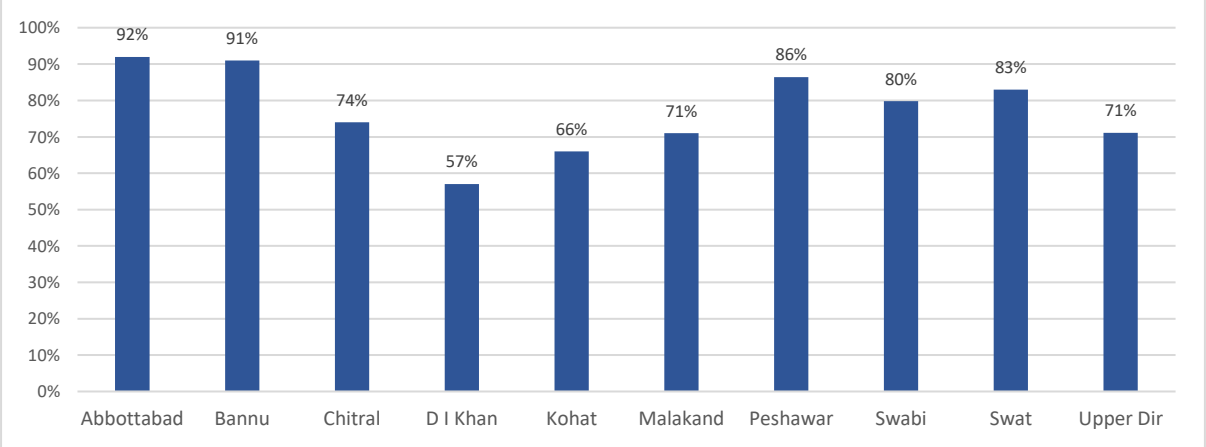


Figure 8a : Composite Hospital Readiness - by district



The composite readiness score, computed by combining the scores on 220 indicators, was found to be variable across districts.

3.3.2 Patient Exit Survey

3.3.2.1 Socio Demographic Profile of Sehat Card Plus Users and Nonusers

Majority of *Sehat Card* users included in the assessment were males (58%), aged between 16 and 40 years (53%) and having Pashtun ethnicity (81%). Majority of our study participants had received no formal education (53% users and 75% nonusers). Among the *SCP* users, 35% had attained secondary education or above as compared to 15% nonusers. Similarly, 22% of SCP users were unemployed relative to 48% nonusers. As reported by the respondents, 62% SCP users had a monthly household income of less

Table 9: Sociodemographic characteristics of the Patient Exit Survey participants

	SCP Users (n= 517)		SCP Non-users (n=489)		
Characteristics	**n**	**%**	**n**	**%**	**p-value**
Gender					
Male	303	58%	284	58%	0.865
Female	214	41%	205	41%	
Age					
<5 years	11	2%	101	21%	<0.001
5 to 15 years	37	7%	48	10%	
16 to 40 years	269	52%	161	33%	
41 to 60	129	25%	118	24%	
>60	71	14%	61	12%	
Ethnicity					
Pashtun	420	81%	445	91%	<0.001
Hazara	40	8%	4	1%	
Afghan	0	0%	17	4%	
Chitrali	40	8%	3	1%	
Others	17	4%	20	4%	
Education					
None/ Informal/ Madarsa	275	53%	370	75%	<0.001
Primary	57	11%	43	8%	
Secondary to Higher Secondary	145	28%	55	11%	
Graduation or above	40	7%	21	4%	
Occupation					
Unemployed	114	22%	235	48%	<0.001
Housewife	178	34%	114	23%	
Informal Employment	79	15%	81	16%	
Govt Job	32	6%	17	3%	
Private job	38	7%	11	2%	
Self employed	29	5%	19	3%	
Others	38	7%	11	2%	
Old/disabled/retired	9	1%	1	0%	
Monthly household income (PKR)	n=210		n=162		
Less than 30k	130	62%	91	56%	
30k to 50k	40	19%	46	29%	
50k to 80k	25	12%	19	12%	
More than 80k	15	7%	6	4%	

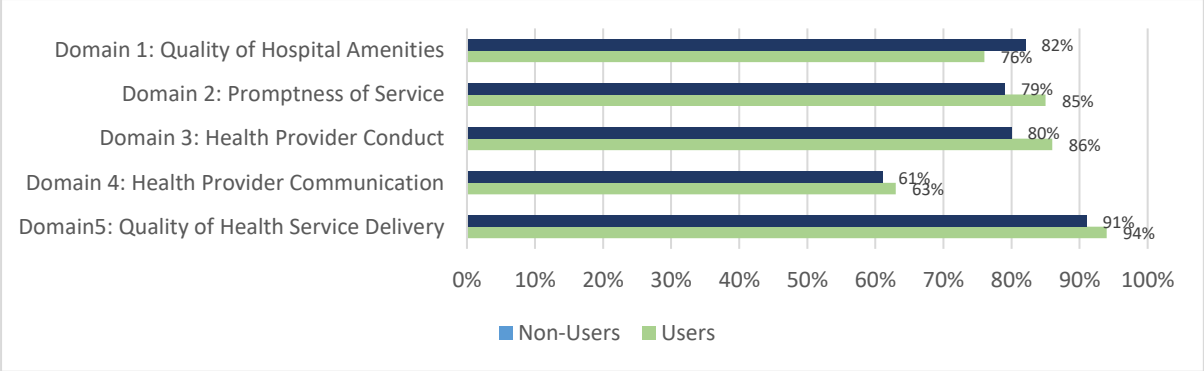
3.3.2.2 Patients' Perception of Quality of Care in the Hospital

The SCP nonusers expressed higher perception about quality of hospital infrastructure and amenities relative to SCP users. On the other hand, the SCP users reported a higher satisfaction with promptness of service, healthcare provider conduct, healthcare provider communication and quality of health service delivery (Table 10 & Figure 9). Only 63% users, and 61% nonusers were satisfied with healthcare provider communication. Specific deficiencies in this regard were reported in patients not being given adequate information about the cost of treatment and all other associated costs during hospital stay. 67% of *Sehat Card* users reported that *Sehat Card* Desk Representative gave them complete information about the benefits and services under the programme.

Table 10: Patients' Perception of Quality of care at the Hospital by Insurance User Status

Components of Patients' Perception Assessed	SCP Users (n= 517)		SCP Non-users (n=489)		
	n	%	n	%	p-value
Domain 1: Perception of Quality of Hospital Amenities					
Hospital environment's adequately clean	385	74%	376	77%	0.66
Seating area adequately clean	410	83%	329	73%	0.001*
Washroom facility adequately clean	296	63%	200	45%	<0.001
Domain 2: Patients' Perception of Promptness of Service					
Waiting Time from arrival to admission appropriate	383	74%	312	64%	0.002
Domain 3: Patients Perception of healthcare provider conduct					
Health care providers were polite	480	93%	426	87%	0.004
Health care providers listened carefully	483	93%	428	88%	0.004*
Health care providers ensured patient confidentiality	307	60%	387	79%	<0.001
Patients involved in all medical decision-making	441	85%	353	72%	<0.001
Healthcare provider did not pressurize to opt for a certain treatment	28	6%	12	5%	0.029
Domain 4: Patients Perception of Health Provider Communication					
Adequate and clear information provided about diagnosis	475	92%	391	80%	<0.001*
Adequate and clear information provided about treatment	466	90%	373	76%	<0.001
Adequate and clear information about the purpose, procedure, and risks of the diagnostic tests	183	59%	180	57%	0.028
Clear instructions given about usage & dose of medicines at discharge	407	84%	296	69%	<0.001
Adequate and clear information provided about cost of treatment and other associated costs during stay	62	21%	75	16%	<0.001
Adequate and clear information about the follow-up visit	271	77%	213	80%	0.474
Domain5: Patients Perception of Quality of health service delivery					
Healthcare providers were qualified to manage patient's treatment	474	92%	435	89%	0.363*
Healthcare provider conducted a thorough examination	492	95%	430	88%	<0.001*
Patients completely satisfied with the treatment received at hospital	446	86%	409	84%	0.411
Patients would recommend the hospital to friends and family	427	82%	371	76%	0.025
Domain 6: Quality of *Sehat Card* Program services					
Sehat Card Desk representative was polite	448	87%			
Sehat Card Desk Representative provided complete information about benefits and services offered	344	67%			
Waiting time to get approval for admission with Sehat Card to be appropriate	487	94%			

Figure 9: Perception of Quality of Care for SCP Users and SCP Nonusers



It was observed, that the districts with lower scores on health facility readiness, also demonstrated corresponding low scores of perceived quality of care such as DI Khan and Kohat.

Table 9a: Composite patient satisfaction and hospital readiness by district

District	Composite Pperceived Quality of Care Score %	Composite Hospital Readiness Score %
Abbottabad	82%	92%
Bannu	80%	91%
Chitral	76%	74%
D I Khan	63%	57%
Kohat	64%	66%
Malakand	82%	71%
Peshawar	76%	86%
Swabi	82%	80%
Swat	88%	83%
Upper Dir	88%	71%

3.3.2.3 Experience of using Sehat Card at the hospitals (n=517)

Almost 95% of SCP users reported being able to avail treatment at the empaneled hospital using their Computerized National Identity Card (CNIC). Overall, only 7% Sehat Card users at private tertiary hospitals, 2% at public tertiary and 4% SCP users at public secondary facilities reported complaints about the Sehat Card Plus KP. No complaints were recorded among the SCP users interviewed at private secondary facilities. At private tertiary facilities, 31% SCP users reported complete availability of free-of cost medicines and supplies, whereas at all other types of facilities, this proportion ranged from 93-98%. At secondary hospitals, a higher number of SCP users reported SLIC representatives to have given them complete information about the package of services under Sehat Card Plus KP. This figure is 40% and 52% for private tertiary and public tertiary hospitals (Figure 10). At all levels of facilities, knowledge about additional benefits such as transportation allowance, maternity allowance, and funeral charges was reported as low. The latter service has recently been withdrawn.

A longer waiting time was reported at public hospitals, relative to private hospitals. A total of 81% users at private facilities reported a waiting time of less than 15 minutes from arrival at the front desk to being approved for admission under Sehat Card, relative to 48% users at

public secondary facilities. A total of 11% users at public tertiary facilities reported a waiting time of between 30 minutes to 1 hours relative to 1% at private tertiary hospitals (Figure 11).

Figure 10: Experience of using Sehat Card at the hospitals on selected indicators (n=517)

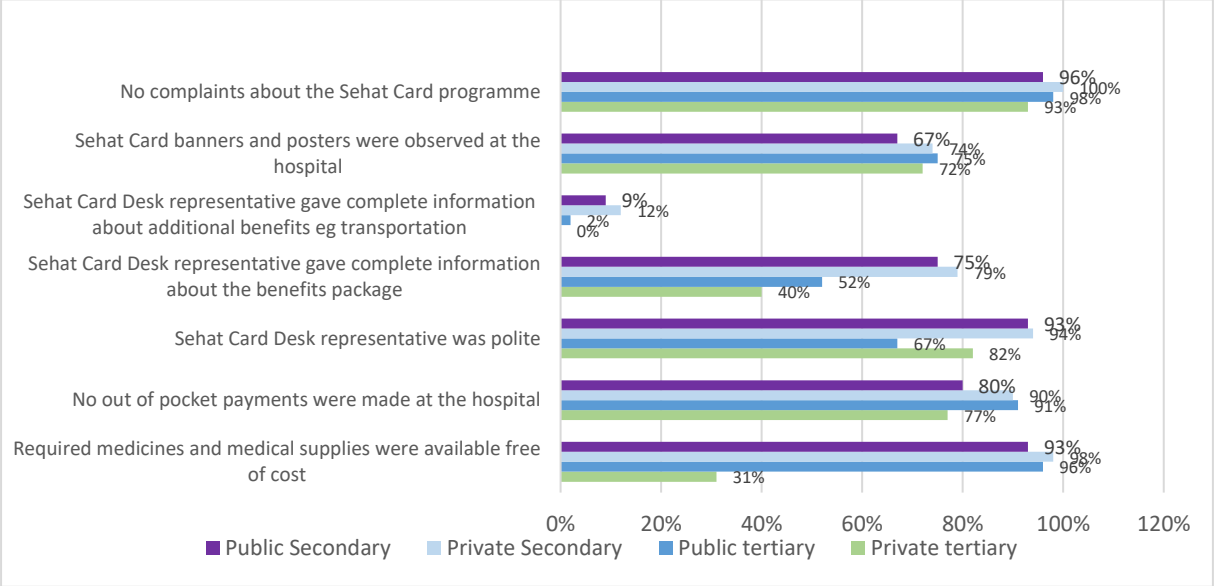
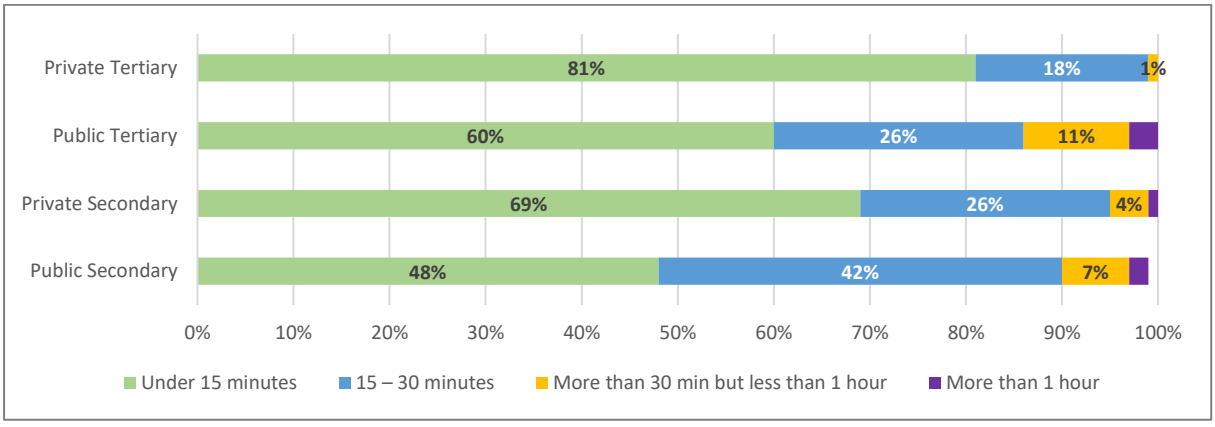


Figure 11: Waiting Time to get Admission approved on Sehat Card



3.3.2.4 Out of Pocket Expenditures among SCP users at Empaneled Facilities

A total of 517 SCP users were included in the patient exit survey, out of which 340 (66%) reported incurring no out of pocket (OOP) expenditure. A total of 57 users reported OOP expenditures to purchase medicines at a mean of PKR 5,464 (SD ± 10,764). A total of 71 users

reported OOP expenditure on diagnostic tests with an average of PKR 3,519, (SD ± 6619), whereas 87 users reported an average of PKR 586 per patient spent on outpatient consultation prior to admission (SD ± 551). Transportation expenses were reported by 138 users at an average of PKR 2,621 per patient (SD ±3690). The highest mean expenditure was reported at public tertiary facilities at PKR 14,237 (SD ±32,842). The 83 SCP-users at private tertiary facilities reported a mean expenditure of PKR 5,979 (SD ±5855).

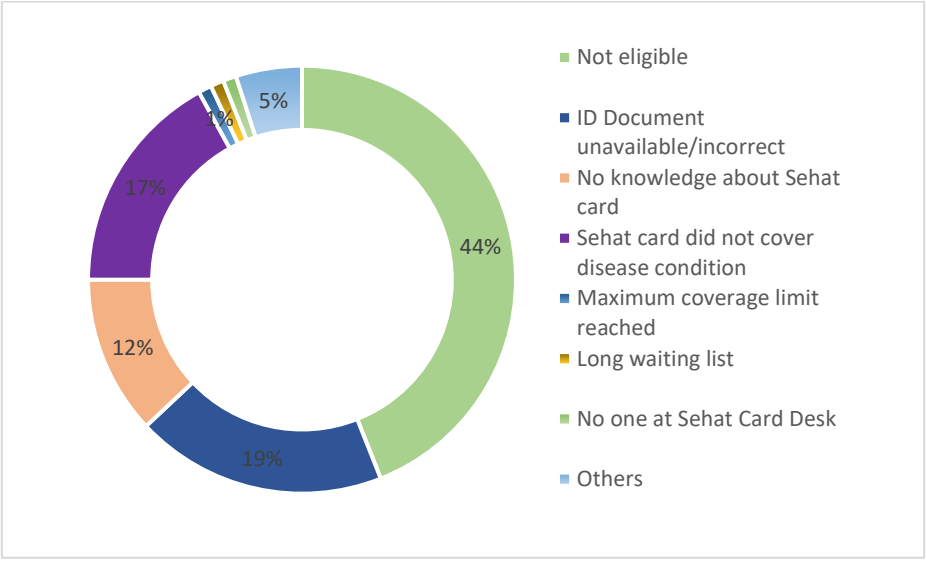
Table 11: Expenditures incurred by SCP users at empaneled facilities (n=517)

Category	Respondents reporting expenditure (No & %)	Mean OOP expenditure (No)	Std. deviation (PKR)
Medicines	57 (11%)	5,464	10,764
Diagnostic Tests	71 (14%)	3,519	6,619
OPD	87 (17%)	586	551
Transport	138 (27%)	2,621	3,690
Hospital type			
Public Secondary	26 (5%)	5,288	5,186
Public Tertiary	38 (7%)	14,237	32,842
Private Secondary	29 (6%)	4,116	4,073
Private Tertiary	83 (16%)	5,979	5,855

3.3.2.5 Reasons for non-utilization of Sehat Card among SCP Nonusers

Among SCP nonusers, it was found that 44% were not eligible due to citizenship and domicile issues. A total of 19% SCP nonusers were eligible but could not benefit due to unavailability of required document (CNIC, B-form). Furthermore, 17% of nonusers reported that their disease condition was not covered under *Sehat Card Plus KP*, while 12% reported not being aware of the Programme.

Figure 12: Top Reasons for not being able to use Sehat Card



3.3.3 *Sehat Card Plus, Khyber Pakhtunkhwa* Implementation Challenges: Key Informant Interviews with Hospital Managers, Clinicians, and SLIC Staff

The AKU research team had in-depth discussions with key informants to identify the wider challenges of implementing the *Sehat Card Plus KP* at the level of empanelled facilities. There were over 100 hospital managers, clinicians, and SLIC representatives interviewed to elicit their perceptions, concerns, and achievements regarding the Sehat Card Plus KP. While an in-depth discussion is beyond the scope of this report, this section presents several themes that emerged from these interviews along with key statements, presented as direct quotes, made by different interviewees. The basic characteristics of these respondents are given in Table 12. The five themes that emerged include: (i) Low imbursement rates may lead to poor quality of care; (ii) Issues related to documentation have been identified as a barrier for patients; (iii) Nonavailability of required procedures at all empaneled facilities leads to patient frustration; (iv) The preparation of claims is resource intensive and reimbursement process is often times very slow; and (v) Lack of quality assurance knobs and external monitoring systems.

Table 12: Baseline characteristics of Key Informants (n=103)

Respondent Characteristics	(n)	(%)	Respondent Characteristics	(n)	(%)
Gender			**Years of Experience**		
Male	97	94%	Up to 5 years	68	66%
Female	6	6%	More than 5 years	35	34%
Age			**Designation**		
Up to 45 years	72	70%	Health Facility Leader	42	41%
Above 45 years	31	30%	Clinical staff	26	25%
			State Life Insurance Personnel	35	35%

Theme 1: Low imbursement rates may lead to poor quality of care

In-depth interviews with key informants including hospital management and physicians revealed their dissatisfaction with the disease-wise reimbursement rates ascertained by SLIC. The reimbursement rates have also not been revised according to the rise in inflation and devaluation of the local currency. The process of setting reimbursement rates was not consultative and does not consider the quality of consumables and service delivery costs. Hospitals often need to settle for quality of medicines, consumables and prosthetics that is lower than what they would otherwise recommend. A few important medicines are expensive, and not covered in the pre-defined package, however they can be approved by SLIC as 'special approval' on reasonable request.

It's difficult to entertain the patient in the given package of Sehat Card, hospital bears more cost, than we are reimbursed. We face difficulty in giving good standard medicines

(Doctor, Private Secondary hospital, Peshawar)

Some hospitals do not take medicines from certified distributors to manage their expenses. For example, Isoflurane, which is an imported anesthesia from US, costs Rs. 2400. All the

other hospitals take it in black, for Rs. 1200 to Rs. 1400. They mix chloroform and another volatile gas, this is severely nephrotoxic and hepatotoxic.

(CEO, Private, Tertiary care hospital, Swat)

When we talk about knee replacement, its prosthesis comes in high quality as well, it comes in an acceptable quality and of low quality too. Forcibly, we have to go for low quality. Whoever has done the pricing of these packages, that is unrealistic.

(Director Quality, Public Tertiary hospital, Peshawar)

"There is an injection named as "Aggrastat" which costs around 24,000-25,000 PKR. Upon talking to State Life, they asked us to send the claim under special approval, and it takes around 4-5 days for online approval. Even after approval, they did not reimburse it.

(Focal person, Public Secondary Hospital-Peshawar)

Theme 2: Issues Related to Documentation have been identified as a barrier for patients

Based on the results of interviews with informants, it is known that among the population entitled to *SCP KP* benefits, there are members who are unable to use SCP due to missing or incomplete identity documents. Most encountered issues include missing unchanged marital status (and husband's name) on CNIC for married women that hinders them from availing child delivery services. The names of children are also often not updated in the list of family members under head of household. Also, B-forms for children are also not available in many cases that results in challenges in admitting pediatric patients, according to the SLIC policy. The key informants also reported that due to the requisite documentation required for SCP entitlement, they have witnessed an upward trend in KP locals registering their families, children and wives with the National Database and Registration Authority (NADRA). Delays at the end of NADRA may create further bottlenecks.

In our province of KP, people do not make the Form B for newborn kids. So, when the kids are brought here without Form B, we can't facilitate them on Sehat Card. Or if their record or 'Shajra' is not correct, we ask them to go to NADRA and correct it. -

The main problem is the NIC and its synchronization with State Life. If a patient has made his NIC to avail the facility, sometimes the patient's NIC card Is still not synchronized with State Life. So, we can't facilitate the patients.

HFO, Public Secondary hospital, Upper Dir)

NADRA updates the status after every 6 months like in June and January, therefore Gynae patients face many issues as their husband's name is not updated on their CNIC. Widows also face problems because of not updating her status in NADRA.

(HFO, Public Secondary hospital, Abbottabad)

Theme 3: Non-availability of required procedure at all empaneled facilities leads to patient frustration

The findings from the key informant interviews revealed that different hospitals are empaneled for provision of variable set of services. The complete range of services covered in the benefits package are not available at every empaneled hospital. This often leads to

confusion for the patients and can be frustrating if the required clinical service is not available at the hospital of their preference and convenience. This is especially true in the case of some specialist services such as cardiothoracic surgery, chemotherapy etc.

Key health issue is cardiac surgery is not available anywhere in any medical center of Swabi.

(Doctor, Private Secondary hospital, Swabi)

The patient often complains about the unavailability of procedures. Sometimes the facilities are provided by the government, but it is not being provided at the hospital level, then the patients complain and even fight because they expected that it would be available.

(Focal person, Private Tertiary hospital, Peshawar)

Main issue is not all investigations are available here because of which the patient is unable to avail all Sehat Card facilities.

(Hospital In charge, Private Secondary hospital, D I Khan)

Theme 4: The preparation of claims is resource intensive and reimbursement process is often slow

The standard time of 2 weeks is stated on the policy document for reimbursement, however minor errors and missing supporting documents result in delays in reimbursement. The delay becomes more challenging when payments have to be made to contractual employees and external vendors.

The process of filing the claims is tedious as no extra resource has been allocated for this function and hospitals have to cater to the extra workload using their existing resource envelope. This also includes time and cost of hospital resource person/manager involved with filing and vetting claims, the expenses incurred on printing and photocopies of all supporting documents and the transportation/courier charges for the hard copies of the documents.

When we send them the claim, we do not get quick response on it. It takes sometimes several months. Now, if there is a signature or NIC missing in a file, they send file back for completion after 6 months, when only half an hour is required to complete it

(Focal person, Private Tertiary hospital, Peshawar)

We don't have SSP pharmacy in the hospital. We have had meetings with the Pharmacy, but they complain that they had given medicines worth of 50 Lakh Rupees in Sehat Card, but they get the payments so late. So, if the payments are received so late by SSP, the services are dropped

(DMS, Public Secondary hospital, Upper Dir)

Sometimes we do multiple procedures that are required, but we are getting paid for only one procedure. Time and logistics are being extra used but the system is not paying us for triple procedures, we are not getting even half the amount of it.

(CEO, Private Secondary hospital, Bannu)

"Their requirement is way too much, so much paperwork is required and verification, if something is misplaced then we have to print again, and resources usage are also an additional burden."

(Admin Officer, Private secondary hospital -Chitral)

Theme 5: Lack of Quality assurance knobs and external monitoring systems

Quality assurance of service delivery is not carried out routinely at most facilities. While the large tertiary care hospitals have quality assurance departments, monitoring of quality of care is not an area of focus at smaller secondary hospitals. SLIC carried out assessment of the hospitals at the time of empanelment, however routine monitoring is deficient. The role of the HealthCare Commission is still under development, as they are now conducting workshops with the hospitals on minimum service delivery standards.

"No, we have not made any department of quality assurance yet"

(Manager, Private Secondary Hospital-Peshawar)

"We had a workshop earlier with HealthCare Commission on minimum service delivery standards. So, our working on that is continued, there are some standards and indicators. Some are completed and some are still in progress. So, we are following those."

(Manager, Public Secondary Hospital-Peshawar)

"Our hospital is certified by ISO and SGS group has also certified it, so it's one of the best hospitals at the secondary level and we are providing the best services."

(Admin Officer, Secondary Hospital- Chitral)

3.4 Conclusion

This chapter presents the assessment of a sample of health facilities empanelled under the *Sehat Card Plus KP*. The assessment was carried out for 8 domains, of which 6 were related to Infrastructure and Systems and 2 were related to clinical and clinical support services. In addition, we also assessed perceived quality of care at the facilities using a Patient Exit Survey. Key informant interviews were conducted with hospital managers, clinical staff, and State Life facilitation officers to understand the implementation challenges faced at the Hospitals.

It was found that while the cumulative readiness of tertiary care hospitals in the province to provide core clinical services for Accident & Emergency, Critical care, General Surgery, and Obs/Gyn services was adequate, there was wide variation at the district level in terms of the readiness of secondary facilities. The secondary hospitals demonstrated deficiencies in provision of services for Accidents & Emergency, Blood Bank, Health Management Information Systems, Infection Prevention and Billing and Reimbursements.

The SCP nonusers expressed higher perception about quality of hospital infrastructure and amenities relative to SCP users. The SCP users reported a higher satisfaction with promptness of service, healthcare provider conduct, healthcare provider communication and quality of health service delivery.

Among SCP nonusers, it was found that 44% were not eligible, mostly due to citizenship and domicile issues. A total of 19% of nonusers were eligible but could not benefit due to unavailability of the required documents (CNIC, B-form).

Key informant interviews pointed towards challenges related to low reimbursement rates affecting quality of services, need for extra resources to prepare claims, lack of external quality assurance mechanisms, and missing patient documents as a barrier for eligible patients.

The findings presented in this chapter point to several strengths as well as gaps and challenges that need to be addressed as the *Sehat Card Plus KP* moves to the next level of implementation and consolidation. Many of these have been addressed in the final chapter on Priorities and Recommendations for Action in this Report.

Chapter 4: Healthcare and Clinical Outcomes of *Sehat Card Plus, Khyber Pakhtunkhwa* : Analysis of SLIC's Inpatients Data

Key Messages

Analysis of SLIC Health Insurance Database from the 10 Study Districts (n=94,387)

- Almost 63% admissions were in private hospitals and 37% in public hospitals. Similarly, 65% were in secondary hospitals and 35% in tertiary hospitals.
- Over 63% of the *Sehat Card Plus KP* beneficiaries were admitted in hospitals within their home district, 30.6% in other districts of KP, and 6.2% were admitted to facilities in other provinces.
- Healthcare facilities in Peshawar accounted for 29.3% of admissions (68% in tertiary and 32% in secondary hospitals).
- Based on ICD-10, top 6 disease groups accounted for 71% of all admissions. These included pregnancy, childbirth, and puerperium (15.3%), digestive system diseases (14.4%), circulatory system diseases (13.0%), respiratory system diseases (10.0%), contact with health services (9.6%), and eye and adnexa diseases (8.8%).
- Hospital mortality from the sample was estimated at 5.5%. The highest mortality was recorded for neurological disorders (42.6%), followed by cardiovascular disease, endocrinal and metabolic diseases, and infectious diseases all at 11.9%.
- Average length of stay (ALOS) was 2.3 (±5.8) days. Due to Accidents and SARS it was 8.0 (±5.7) days, and for neurological diseases, endocrine/metabolic diseases, and neoplasms was 5.0 (± 12.1) days.
- Average cost per admission was PKR 31,395, which was 20-40% higher in private hospitals. The government of KP spent PKR 2.96 billion on 94,387 patients of which 0.83 billion (28.0%) were spent on treating CV diseases. The average cost of treatment for ischemic heart disease was PKR 89,919.
- Most frequent medical procedures were unilateral cataract extraction with IOL, appendicectomy, chemotherapy, coronary angiography, normal delivery, and Caesarean delivery.
- Average time taken to send the claims by empanelled hospitals was 51 days (± 52.8), while the average time taken to settle the claims by SLIC was 21 (± 26.1) days.

Utilization of Sehat Card among Surgical Patients and the Outcomes (n=1,853)

- Of the 1,853 patient records retrieved from four tertiary hospitals of Peshawar, majority of patients had surgery at private hospitals (63.7%).
- The most common surgical procedure was LSCS* (62.1%), followed by ORIF* (29.5%), and exploratory laparotomy (8.4%). ORIF was more commonly done in public hospitals (59.3%), while LSCS in private hospitals (83.0%).
- In-hospital mortality for all three surgical interventions was 1.2% (n=7) for public hospitals and 0.8% (n=10) for private facilities. For LSCS, there was no mortality recorded in any hospital.
- Readmission rates were higher in SCP non-users as compared to SCP users. The 14-day readmission was 15.1% vs 12.7%, and 30-day readmission 5.9% vs 3.2% respectively.
- Patients had a higher mean length of stay at public facilities compared to private facilities for each of the three included surgical procedures.

*LSCS - lower (uterine) segment Caesarean section; ORIF - open reduction and internal fixation

4.1 Introduction

The *Sehat Sahulat Programme* (SSP) has been implemented in KP since 2015 and was targeted to cover the population below poverty line based on Benazir Income Support Programme (BISP) database. In April 2020, it was upgraded as the *Sehat Card Plus KP* to cover the entire population of KP province. The Programme has been outsourced to State Life Insurance Corporation (SLIC), which is responsible for its implementation. As a result of this rapid transition of the SSP to SCP the earlier requirement for a *Sehat Insaaf Card* as a 'means test' to identify the target population has been replaced by the Computerized National Identity Card (CNIC). Hence every CNIC holder is now entitled to health insurance under the *Sehat Card Plus KP* for inpatients care in KP.

Among other responsibilities, SLIC maintains an electronic database of all inpatient admissions in KP province and is the primary source of information about the profile of patients, clinical procedures, costs, and the performance parameters of *Sehat Card Plus KP*. Hence it was important to request SLIC to provide a sample of the database to undertake preliminary analysis of data and make inferences.

In addition, it was also considered essential to have a measure of clinical outcomes by comparing the same health problems between SCP users and SCP nonusers, where possible. While not part of the formal terms of reference, it was decided to do a comparative analysis of outcomes for selected surgical conditions by collecting data from selected tertiary hospitals of Peshawar.

This chapter is presented in two parts. The first provides an analysis of healthcare and management outcomes from a sample of inpatient admission records from the SLIC database, while the second part presents information on health outcomes for patients who received surgical care from the records of four tertiary care hospitals in Peshawar.

4.2 Healthcare & Management Outcomes: Analysis of SLIC Health Insurance Database

4.2.1 Methods

Using the *Sehat Card Plus KP* Management Information System (MIS), a sample of 100,029 records of beneficiaries from the 10 study districts[43] for the period January 1st, 2021, to October 31st, 2022, was made available by SLIC. There were 94,387 beneficiary records in the final dataset used for analysis after removing 5,642 duplicates. The dataset had missing and ambiguous values for variables related to treatment, treatment category, and department in the hospital. However, the diseases in the database were partially coded to the three-character International Classification of Diseases (ICD) Version 10. Hence, it was possible to at least identify ICD-10 disease group and disease category for the treatments provided.

The key variables available in the database provided were the beneficiaries' district, age and sex; geographical district of hospital, hospital level (secondary/tertiary), hospital ownership (public/private); length of stay, treatment provided, treatment outcome, treatment cost quoted by hospital, amount settled with hospital by SLIC, duration from hospital discharge to claim received by SLIC, duration from claim received to settlement released by SLIC; ICD disease chapter (referred to as "broad disease category"), and ICD disease code (referred to as "disease"). Descriptive statistics were used to analyze the dataset using Stata SE 14.2.

[43] Abbottabad, Bannu, Chitral, Dera Ismail Khan, Kohat, Malakand, Peshawar, Swabi, Swat, Upper Dir

4.2.2 Results

4.2.2.1 Demographic Profile of SCP Beneficiaries

Table 1 provides the breakdown of the 94,387 inpatient admissions under *Sehat Card Plus KP* from the 10 study districts of KP that were selected from the upper, central, and lower regions of the province. The sample of patients was uniformly distributed across all the 10 districts, ranging between 9.5% in Swabi to 10.8% in Bannu. Almost 55% of the admissions were women, the highest in district Chitral (60.3%) and lowest in district Bannu (43.2%). More than half (50.2%) of the admissions for women were in the age group 15-45 years, while almost 33% of men admitted were in the age group 60 and above. It is plausible that the younger age for admission of women is due to pregnancy and childbirth.

4.2.2.2 Accessibility and utilization of hospitals within beneficiary district and province

Out of the total of 94,387 beneficiaries, 63.2% received inpatient care through *Sehat Card Plus* from empaneled facilities within their district, 30.6% beneficiaries visited empaneled facilities in other districts within KP while 6.2% beneficiaries visited empaneled facilities in other provinces. More than 50% of patients from Upper Dir (89.8%), Bannu (57.1%), and Kohat (50.6%) received inpatient care from outside their own districts. Almost 25% patients from district Dera Ismail Khan (n= 2,388) visited the nearby Bhakkar district of Punjab province, and 16.8% patients from district Abbottabad (n=1,513) were admitted outside the province, perhaps due to its proximity to Islamabad. Healthcare facilities from district Peshawar accounted for the largest patient-load with 27,618 (29.3%) beneficiaries from the ten study districts, which was also the only district where 68% patients were admitted to tertiary and 32% to secondary hospitals. The smallest patient-load was observed in healthcare facilities of district Upper Dir where only 997 (1.1%) of the 98,437 beneficiaries availed inpatient care. The detailed breakdown of healthcare facilities visited by beneficiaries is presented below in Table 2.

4.2.2.3 Choice of hospitals by level of care and public-private ownership

Amongst the data provided by SLIC on 94,387 patients from the 10 study districts, 62.5% admissions were in private hospitals (secondary and tertiary), while 37.5% admissions were in public hospitals (secondary and tertiary). Almost two-thirds (64.6%) of admissions were in secondary hospitals, while one-third (35.4%) were in tertiary hospitals. Further analysis revealed that of all the 94,387 patients admitted, 46.3% patients were admitted in secondary private hospitals, 18.3% in secondary public hospitals, 16.2% in tertiary private hospitals, and 19.3% in tertiary private hospitals (Table 3a). There was a difference in terms of hospital admissions by level of care. For secondary care, 71.7% of patients were admitted in private hospitals, while for tertiary care, 54.3% were admitted to public hospitals (Table 3b).

Table 1 Demographic Distribution of Patients from the 10 Study Districts (n=94,387)

Beneficiary District	Male						Female						Overall	
	<5	5-18	19-45	45-60	>60	Total	<5	5-18	19-45	45-60	>60	Total		
Abbottabad	194	376	954	990	1,481	3,995	148	209	2,467	1,051	1,154	5,029	9,024	**9.6%**
Bannu	168	838	1,787	1,200	1,777	5,770	78	479	1,636	1,120	1,068	4,381	10,151	**10.8%**
Chitral	142	354	992	614	1,912	4,014	86	314	3,408	866	1,427	6,101	10,115	**10.7%**
D I Khan	44	286	1,194	1,130	2,263	4,917	25	233	1,791	1,251	1,524	4,824	9,741	**10.3%**
Kohat	70	423	1,002	893	1,611	3,999	77	306	2,533	957	1,297	5,170	9,169	**9.7%**
Malakand	172	890	1,450	715	962	4,189	71	726	3,135	742	912	5,586	9,775	**10.4%**
Peshawar	214	612	1,255	1,007	1,482	4,570	134	429	2,283	1,281	1,181	5,308	9,878	**10.5%**
Swabi	145	757	1,181	585	1,182	3,850	56	654	2,727	754	903	5,094	8,944	**9.5%**
Swat	402	802	1,217	416	618	3,455	200	771	3,113	652	282	5,018	8,473	**9.0%**
Upper Dir	424	834	1,492	695	901	4,346	291	618	2,652	625	585	4,771	9,117	**9.7%**
Total	1,975	6,172	12,524	8,245	14,189	**43,105**	1,166	4,739	25,745	9,299	10,333	**51,282**	**94,387**	**100%**
Percent of Total	**2.1%**	**6.5%**	**13.3%**	**8.7%**	**15.0%**	**45.7%**	**1.2%**	**5.0%**	**27.3%**	**9.9%**	**10.9%**	**54.3%**	**100%**	
Percent by Gender	**4.6%**	**14.3%**	**29.1%**	**19.1%**	**32.9%**	**100%**	**2.3%**	**9.2%**	**50.2%**	**18.1%**	**20.1%**	**100%**		

Table 2 Healthcare Facilities Visited by Beneficiaries for Inpatient Care

Beneficiary District	Within District		Outside District within KP		Outside Province		Total
Abbottabad	7,184	79.6%	330	3.7%	1,513	16.8%	9,027
Bannu	4,352	42.9%	5,288	52.1%	511	5.0%	10,151
Chitral	7,912	78.2%	2,017	19.9%	186	1.8%	10,115
Dera Ismail Khan	6,622	68.0%	731	7.5%	2,388	24.5%	9,741
Kohat	4,529	49.4%	4,082	44.5%	558	6.1%	9,169
Malakand	5,983	61.2%	3,701	37.9%	91	0.9%	9,775
Peshawar	9,516	96.3%	233	2.4%	129	1.3%	9,878
Swabi	5,565	62.2%	3,106	34.7%	273	3.1%	8,944
Swat	6,988	82.5%	1,320	15.6%	165	1.9%	8,473
Upper Dir	991	10.9%	8,044	88.2%	82	0.9%	9,117
Total	**59,642**	**63.2%**	**28,852**	**30.6%**	**5,896**	**6.2%**	**94,387**

Table 3 Distribution of Healthcare Facilities Visited by Beneficiaries

Table 3a: Summary of all admissions by level and ownership of hospitals

Hospital	Secondary	Tertiary	Total
Private	43,701 (46.3%)	15,279 (16.2%)	58,980 (62.5%)
Public	17,228 (18.3%)	18,178 (19.3%)	35,406 (37.5%)
Total	60,929 (64.6%)	33,457 (35.4%)	94,386 (100%)

*All percentages are derived from the total number of admissions (n=94,386)

Table 3b: Distribution of all admission by districts, level and ownership of hospitals

Healthcare Facility District	Secondary			Tertiary			Total
	Private	Public	Total	Private	Public	Total	
Abbottabad	2,360	2,314	4,674	641	2,066	2,707	7,381
Bannu	3,972	50	4,022	314	25	339	4,361
Chitral	1,987	4,755	6,742	---	1,183	1,183	7,925
Dera Ismail Khan	3,293	1,892	5,185	26	1,462	1,488	6,673
Kohat	1,995	1,080	3,075	4	1,488	1,492	4,567
Malakand	3,689	2,041	5,730	449	213	662	6,392
Peshawar	5,580	3,146	8,726	8,916	9,976	18,892	27,618
Swabi	3,403	1,017	4,420	577	694	1,271	5,691
Swat	6,286	81	6,367	1,062	316	1,378	7,745
Upper Dir	868	---	868	129	---	129	997
Facility within home district	33,433	16,376	49,809	12,118	17,423	29,541	79,350
Facility outside home districts within KP province	6,587	668	7,255	1,771	121	1,892	9,147
Facility outside KP Province	3,681	184	3,865	1,390	634	2,024	5,889
Total	**43,701**	**17,228**	**60,929**	**15,279**	**18,178**	**33,457**	**94,386**
Percentages	**71.7%**	**28.3%**	**100%**	**45.7%**	**54.3%**	**100%**	

4.2.2.4 Disease Profile, Mortality Outcome and Cost of Care of Admitted Patients

Of the 94,387 cases available from the SLIC database, information on ICD-10 codes was not available for 1,297 records, resulting in their exclusion from analysis. Thus, 93,090 cases were analyzed which had an

ICD Classification at the level of broad disease groups and at disease level. Table 4 provides the list of most common health problems for which patients were admitted. The top 6 categories of diseases accounted for 71% of all 94,387 inpatient admissions. This included pregnancy, childbirth, and the puerperium (n=14,476, 15.3%), digestive system diseases (n=13,581, 14.4%), circulatory system diseases (n=12,293, 13.0%), respiratory system diseases (n=9,398, 10.0%), contact with health services (n=9,028, 9.6%), and eye and adnexa diseases (n=8,317, 8.8%). Table 4 provides a breakdown of disease categories and other associated variables, which is further detailed by specific diseases in Table 5.

Table 4: Disease Category Groups, Frequency, Cost, Length of Stay, and Hospital Mortality

Broad Category of Diseases	No of admissions	Percent	Average LOS	Average Cost	No. Expired	Hospital Mortality
Pregnancy, childbirth, and the puerperium	14,476	15.3%	1	18,077	19	0.1%
Digestive system diseases	13,581	14.4%	2	20,542	410	3.0%
Circulatory system diseases	12,293	13.0%	2	67,407	1,460	11.9%
Respiratory system diseases	9,398	10.0%	2	22,504	526	5.6%
Chemotherapy and Follow-up Care	9,028	9.6%	4	42,004	495	5.5%
Eye and adnexa diseases	8,317	8.8%	1	15,666	0	0.0%
Genitourinary diseases	6,362	6.7%	3	25,485	327	5.1%
Injury and poisoning	4,159	4.4%	2	34,707	112	2.7%
Skin and subcutaneous tissue diseases	2,315	2.5%	2	10,310	57	2.5%
Fever and abnormal clinical diseases	2,155	2.3%	3	29,934	221	10.3%
Musculoskeletal system and connective tissue diseases	2,059	2.2%	2	36,953	23	1.1%
Nervous system diseases	1,916	2.0%	5	34,003	816	42.6%
Neoplasms	1,778	1.9%	5	32,419	58	3.3%
Endocrine, nutritional, and metabolic diseases	1,461	1.5%	5	14,564	174	11.9%
Infectious and parasitic diseases	1,385	1.5%	4	36,388	165	11.9%
Congenital diseases	1,202	1.3%	3	111,950	116	9.7%
Blood disorders	521	0.6%	3	11,499	41	7.9%
Accidents	300	0.3%	8	59,963	0	0.0%
Ear and mastoid process diseases	283	0.3%	2	19,084	0	0.0%
Perinatal conditions	95	0.1%	2	12,605	2	2.1%
Mental and behavioural disorders	5	0.0%	4	140,600	0	0.0%
Severe acute respiratory syndrome (SARS)	2	0.0%	8	535,000	1	50.0%
Missing ICD Classification	1,297	1.4%	4	31,369	177	13.6%
Total	**94,387**	**100.0%**	**2**	**31,395**	**5,200**	**5.5%**

Out of the 94,387 admissions, there were 5,200 deaths (in-hospital mortality rate of 5.5%). Barring the 2 cases of SARS with 50% mortality, the highest mortality was recorded for admissions due to neurological disorders at 42.6%, followed by cardiovascular disease, endocrinal and metabolic diseases, and infectious diseases all at 11.9% (Table 4). Further analysis by specific diseases based on ICD Classification revealed the highest hospital mortality to be due to polyneuropathies (61.8%), cerebral infarction (49.2%), chronic

renal disease (24.6%), pneumonia (15.3%), and type 2 diabetes mellitus (10.9%). There was no major difference in the mortality rates for these disorders between the secondary and tertiary hospitals (Table 5). The overall mortality for cardiovascular diseases was 6.1%, however it was much higher in secondary care hospitals (16.5%) compared to tertiary hospitals (5.9%). This is indicative of lack of quality care for acute cardiovascular events. Of the 7,403 patients with cardiovascular disease admitted to tertiary hospitals, the hospital mortality for private hospitals was less than half (4.1%) compared to public hospitals (8.8%). The detailed breakdown of disease frequency by outcome, healthcare facility tier, and facility ownership is presented in Table 5 for the 93,030 inpatients for which the information was available.

The average length of stay (ALOS) for the sample of patients was 2.3 ±5.8 days. The ALOS for admissions due to accidents and SARS was 8.0 ±5.7 days, followed by 5.0 ± 12.1 days for admissions due to neurological disease, endocrine and metabolic diseases, and neoplasms. For admissions due to pregnancy, childbirth, and puerperium, and for eye and adnexa diseases the ALOS was 1.1 ± 2.0 day.

The average cost of treatment was PKR 31,395 ±66,012 per patient. SARS cases (n= 2) had the highest average cost per patient at PKR 535,000 ±586,598, followed by treatment of mental and neurological disorders (n= 5) at PKR 140,600 ± 54,596, and treatment of congenital malformations and chromosomal abnormalities (n= 1,202) at PKR 111,950 ±123,645. Given the average cost of PKR 31,395, the government of KP spent PKR 2.963 billion on the sample of 94,387 patients of which 0.83 billion or 28.0% were spent on treating cardiovascular diseases. The average cost of treatment for chronic ischemic heart disease was PKR 89,919 ±104,714. For tertiary care hospitals the average cost per admitted patient was twice as high in private hospitals PKR 117,063 ±111,565 compared to public hospitals PKR 63,602 ±89,618. Table 6 provides a breakdown of costs of treatments for the common health problems for which the patients were admitted, disaggregated by secondary and tertiary and public and private hospitals. In general, the cost of care for the same health problem was 20%-40% higher in private hospitals.

The database of admitted patients under *Sehat Card Plus KP* did not report on COVID-19 cases as these were covered by a special public sector fund. It was only in the year 2020 that cases were treated by private hospitals and reimbursed under *Sehat Card Plus KP*. Below is provided the number and cost of COVID-19 cases treated under the reserve fund till the practice was later discontinued.

Number and Cost of COVID-19 Cases treated under the reserve fund of Sehat Card Plus KP in year 2020

Type Treatment	No. of Cases Admitted	Total Cost (PKR)
COVID- HDU	629	163,233,344
COVID – ICU	125	33,652,200
COVID – ICU on Ventilator	68	54,067,060
Total	**822**	**250,952,604**

Table 5 Breakdown of Admissions by Common Diseases and Hospital Mortality (n=93,090)

Diseases	Secondary						Tertiary						Total	
	Private		Public		Total		Private		Public		Total			
	Expired	Discharged	Expired	Discharged	Expired	% Expired	Expired	Discharged	Expired	Discharged	Expired	% Expired	Total Admissions	% Expired
Polyneuropathies	**38**	**54**	**19**	**2**	**57**	**50.40%**	**338**	**278**	**322**	**109**	**660**	**63.00%**	**717**	**61.80%**
Cerebral infarction	**7**	**25**	**71**	**104**	**78**	**37.70%**	**81**	**53**	**384**	**379**	**465**	**51.80%**	**543**	**49.20%**
Chronic kidney disease	**0**	**12**	**13**	**32**	**13**	**22.80%**	**122**	**400**	**140**	**398**	**262**	**24.70%**	**275**	**24.60%**
Pneumonia	**43**	**411**	**177**	**814**	**220**	**15.20%**	**1**	**0**	**0**	**0**	**1**	**100.00%**	**221**	**15.30%**
Type 2 diabetes mellitus	**2**	**54**	**10**	**65**	**12**	**9.20%**	**24**	**123**	**103**	**897**	**127**	**11.10%**	**139**	**10.90%**
Other medical cases <1,000	**160**	**10,274**	**544**	**6,979**	**704**	**3.90%**	**647**	**7,796**	**1,120**	**9,981**	**1767**	**100.00%**	**2,471**	**6.60%**
Fever	**12**	**177**	**86**	**1,324**	**98**	**6.10%**	**2**	**6**	**2**	**15**	**4**	**16.00%**	**102**	**6.30%**
Chronic ischemic heart disease	**8**	**46**	**19**	**91**	**27**	**16.50%**	**161**	**3,958**	**303**	**3,445**	**464**	**5.90%**	**491**	**6.10%**
Cholelithiasis	14	2,408	12	386	26	0.90%	2	86	8	103	10	5.00%	36	1.20%
Single delivery by caesarean section	6	4,681	4	1,099	10	0.20%	2	0	0	0	2	100.00%	12	0.20%
Single spontaneous delivery	1	4,719	2	1,683	3	0.00%	0	0	1	0	1	100.00%	4	0.10%
Calculus of kidney and ureter	0	714	0	103	0	0.00%	1	1,045	0	61	1	0.10%	1	0.10%
Acute appendicitis	1	3,649	2	784	3	0.10%	0	0	0	0	0	0.00%	3	0.10%
Acute tonsillitis	2	3,538	0	413	2	0.10%	0	0	0	0	0	0.00%	2	0.10%
Inguinal hernia	1	2,090	2	275	3	0.10%	0	1	0	0	0	0.00%	3	0.10%
Disorders of nose and nasal sinuses	1	1,510	0	187	1	0.10%	0	0	0	0	0	0.00%	1	0.10%
Abnormal products of conception	1	1,236	0	264	1	0.10%	0	0	0	0	0	0.00%	1	0.10%
Senile cataract	0	6,537	0	992	0	0.00%	0	2	0	0	0	0.00%	0	0.00%
Hemorrhoids	0	1,022	0	178	0	0.00%	0	0	0	0	0	0.00%	0	0.00%
Total	297	43,157	961	15,775	1258	2.10%	1,381	13,748	2,383	15,388	3764	100.00%	5,022	5.40%

Note: 1,297 cases had missing values for the ICD classification hence the sample size drops from 94,387 to 93,090

Table 6: Average Cost for Major Diseases by Secondary and Tertiary Levels of Care (PKR)

Disease	Secondary		Tertiary		
	Private	Public	Private	Public	Ave. Cost
Chronic ischemic heart disease	15,219	6,863	117,063	63,602	89,919
Other polyneuropathies	16,999	16,302	38,383	45,443	38,910
Other medical conditions	15,286	10,752	74,431	42,363	34,675
Chronic kidney disease	11,773	8,446	51,878	18,969	33,847
Calculus of kidney and ureter	29,135	30,011	35,085	40,369	32,773
Cholelithiasis	28,555	28,970	53,557	52,051	30,202
Single delivery by caesarean section	22,491	22,617	563,000*	---	22,701
Abnormal products of conception	22,212	24,746	---	---	22,658
Inguinal hernia	21,570	21,887	37,240	---	21,614
Hemorrhoids	19,283	20,023	---	---	19,393
Disorders of nose and nasal sinuses	17,905	18,971	---	---	18,022
Acute tonsillitis	16,823	17,540	---	---	16,898
Acute appendicitis	16,782	16,220	---	---	16,682
Senile cataract	16,027	13,657	23,100	---	15,716
Single spontaneous delivery	14,077	12,718	---	36,400	13,723
Type 2 diabetes mellitus	10,578	8,113	11,469	14,330	13,472
Cerebral infarction	12,933	9,951	16,326	13,717	13,414
Pneumonia	10,739	8,919	445,000*	---	9,792
Fever	7,657	7,767	8,341	13,741	7,820
Total	**17,860**	**13,071**	**79,684**	**40,639**	**31,395**

*Only 1-2 cases with such high costs

4.2.2.5 Top treatment procedures: Frequency, length of stay, and costs

Analysis of the most frequent procedures done included unilateral cataract extraction with IOL phacoemulsification, appendicectomy, chemotherapy, coronary angiography, normal delivery, and Caesarean delivery (Table 7). Unexpectedly, some of the conditions that needed a longer stay were radiotherapy and brain biopsy. Normally done on an outpatient basis, these could be due to patients traveling long distances to receive the procedure that required admission to the hospital. This however needs to be verified.

Sehat Card Plus KP also covers for liver and renal transplant procedures, which are the two most expensive modalities of treatment. The reimbursed cost of a liver and renal transplant was PKR 3.8 million and PKR 1.98 million respectively. This puts a question mark on the cost-effectiveness of these interventions under the *Sehat Card Plus KP* and raises equity concerns. The other high-cost procedures include AICD or pacemaker implantation, ICU care with artificial ventilation for COVID, double valve replacement, coronary artery bypass grafting.

Table 7 provides a detailed breakdown of the top 10 procedures conducted, those with the longest length of stay, and the most expensive interventions. Also provided in Table 7 are diseases with the highest number of hospital deaths reported.

Table 7: Top 10 procedures in terms of frequency, length of stay, cost of intervention and hospital mortality

Top 10 Most Frequent Treatments	Frequency	Top 10 Treatments with Longest Average Length of Stay	LOS	Top 10 Treatments with the Highest Maximum Settlement	Amount in PKR	Top 10 Treatments with the Highest Number of Patients Expired	Frequency
Cataract with IOL Phacoemulsification – Unilateral	7,076	Radiotherapy	65	Liver Transplant	3,800,000	Cerebral infarction (Ischemic/hemorrhagic stroke)	435
Appendicectomy	4,145	Embolization-Peripheral/Visceral	47	Kidney Transplant	1,400,000	Multimorbidity cases admitted to ICU#	292
Oncology – Chemotherapy	3,383	Brain Biopsy	38	AICD* (Pacemaker)	1,152,200	Ischemic Heart Disease	240
Coronary Angiography	3,359	Oncology – Radiotherapy	35	COVID - ICU with Ventilator	654,047	Pneumonia/LRTI	182
Normal Delivery	2,947	Diagnostic Gamma Imaging - Skeletal System - Bone Scan	26	DVR + Tricuspid valve repair	500,000	Chronic Liver Disease	162
Caesarean delivery	2,270	Duroplasty – Endogenous	25	Double Valve Replacement (DVR)	450,625	Conservative Management for Kidney Failure	140
Tonsillectomy – Bilateral	2,018	Spine - Intramedullary Tumor	24	Coronary Artery Bypass Grafting (CABG) + MVR	450,000	Coronary Care Unit#	111
Tonsillectomy	1,936	Tumor Meninges – Posterior	24	CABG + AVR	450,000	Complications of diabetes mellitus	107
Ischemic Heart Disease	1,615	Embolization Uterine Artery	24	Endovascular Coiling + Stenting (Brain Aneurysm)	400,000	Workup for Malignancy	105
Multiple	11,797	Lithotripsy	21	Double Valve Repair	396,000	Multiple/Others#	1,756

* Automatic implantable cardioverter-defibrillator; # Cause of mortality not identified

4.2.2.6 Analysis of Settlements and Claims

Based on the SLIC data made available, 87,417 (92.6%) of the 94,387 cases had been settled. Analysis of the settled amount demonstrated that 72% of claims were in the range of PKR 10,000 – 50,000. Almost 6.0% of claims were between PKR 100,000 - 1,000,000 and only 0.04% were above PKR 1,000,000. The average time taken to send the claims by the empanelled hospitals from the date of discharge was 51 days (± 52.8), while the average time taken to settle the claims by SLIC was 21 (± 26.1) days. The difference in the amount claimed by the hospitals and settled or reimbursed by SLIC was progressively higher for larger claims. In this sample of admitted patients, the average amount of settled claim was PKR 31,038 and the total funds disbursed were just over PKR 2.7 billion, with almost PKR 1.3 billion for claims ranging between PKR 10,000 and 50,000 (Table 8).

Table 8: Breakdown of Hospital Claims and their Settlement by SLIC

Range of Settled Amount (PKR)	Frequency	Average Discharge to Claim Duration (Days)	Average Cost Claimed (PKR)	Average Amount Settled (PKR)	Average Difference in Cost and Settlement (PKR)	Average Claim to Settlement Duration (Days)	Volume of Settled Amount (PKR)
<10,000	16,845	63	5,465	5,469	558	22	92,132,942
10,000 - 49,999	62,976	47	20,287	20,100	1,442	20	1,265,811,887
50,000 - 99,999	2,434	65	68,523	67,748	10,510	18	164,899,560
100,000 - 1,000,000	5,124	55	222,773	221,008	15,390	21	1,132,444,685
>1,000,000	38	82	1,641,287	1,526,319	304,424	23	58,000,106
	87,417	**51**	**31,395**	**31,038**	**2,494**	**21**	**2,713,289,180**

4.3 Utilization of Sehat Card among Surgical Patients and Their Outcomes

4.3.1 Introduction

Sehat Card Plus KP in KP has been implemented since 2015. Several aspects of the program have been reviewed earlier as well. None of these reviews have attempted to look directly at its impact on health status outcomes such as hospital mortality or readmission, which are important to assess the quality of care in empanelled hospitals. The current evaluation of the *Sehat Card Plus KP* has endeavored, among others, to determine whether the Programme has had any influence on patient outcomes in terms of hospital mortality and morbidity. Thus, this component is responding to the cardinal question – *does the SCP make a difference to the lives of the admitted patients*.

Preliminary information on hospital mortality is also available from the State Life Insurance Corporation (SLIC) database (See Section 2 above). However, there are gaps in information, disease classification, and there is no information on readmissions of patients for the same problem. This component has focused on selected problems that required surgical interventions and their outcomes and relies on the records of four empanelled tertiary hospitals of Peshawar.

The aim of this component of the evaluation was to determine the utilization of *Sehat Card Plus KP* by the population of KP for Bellwether Procedures[44] and to identify its impact on patient outcome such

[44] Bellwether procedures were identified as any procedure involving laparotomy, cesarean section, or treatment of open long bone fracture and then classified as emergent or elective.

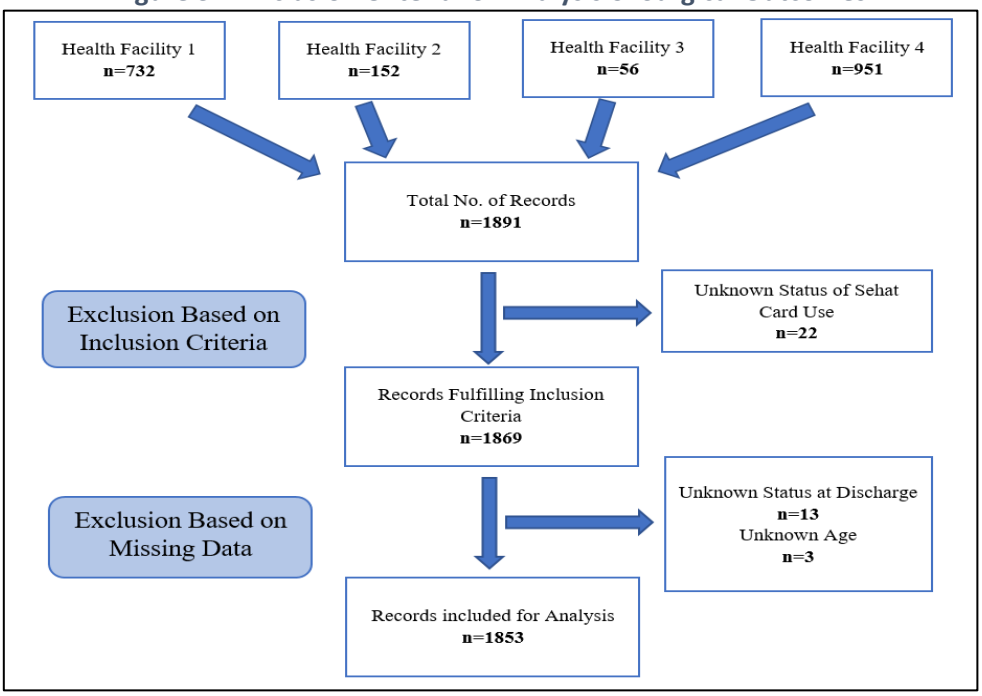
as in-hospital mortality, length of stay and readmission. Moreover, this study also sought to compare the distribution of SCP use between private and public hospitals to determine any difference in impact the type and ownership of facility might have on patient outcomes.

4.3.2 Methodology of Data Collection

The data was collected from four empaneled hospitals in Peshawar that provide tertiary care services to the population covered under *Sehat Card Plus KP*. The data was extracted both via manual file reviews and electronic systems of the four hospitals for the period 1st June 2021 to 30th September 2022. Patients who underwent any of the Bellwether Procedures during this time at any of the four facilities were included in the study. Key variables collected for each patient included their age, gender, district of residence, use of Sehat Card/CNIC as part of *Sehat Card Plus KP* for treatment, type of Bellwether Procedure done, length of stay, outcome at discharge and readmission within 14 and 30 days after discharge (in the same specialty).

A total of 1891 records fulfilled the inclusion criteria from the four hospitals. After removal of missing data (Figure 1), 1853 records were included for final analysis.

Figure 3.1: Inclusion Criteria for Analysis of Surgical Outcomes

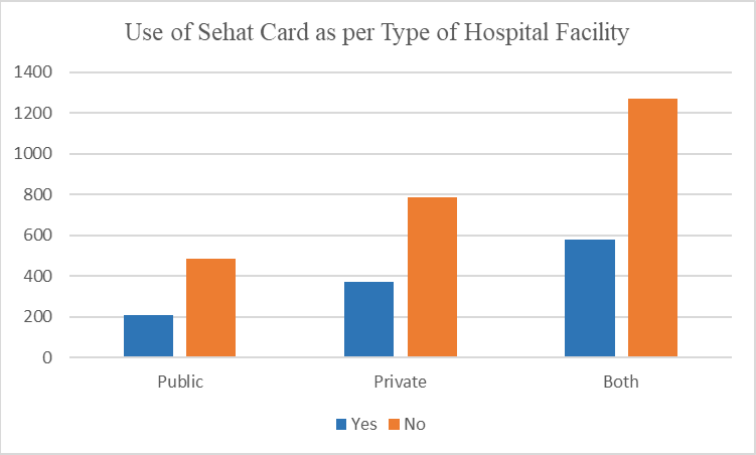


4.3.3 Findings and Discussion

4.3.3.1 Utilization of SCP for Bellwether Procedures

Of the 1,853 patient records included in the analysis, the proportion of patients who were SCP users was less than one-third. Further, in both public and private facilities, almost twice as many patients undergoing Bellwether procedures were SCP nonusers when compared with SCP users (Figure 2), although there was a trend of progressively increasing use of *Sehat Card Plus KP* over the study period.

Figure 1: Distribution of Sehat Card Utilization as per Type of Hospital Facility



The majority of patients underwent surgery at private hospitals (62.4%) (Table 9). Of the 1,853 cases recorded, the distribution of cases by age and sex was significantly different between the public and private hospitals. Almost 88% of all patients admitted in private hospitals were in the age range 19-44 years as compared to 54% in public hospitals. Similarly, women constituted almost 89% of all cases admitted to private hospitals as compared to 51% to public hospitals. On the other hand, there was no major difference in terms of the use of SCP between public (30%) and private hospitals (32%).

The most common procedure performed was lower (uterine) segment Caesarean section or LSCS (62.1%), followed by open reduction and internal fixation or ORIF (29.5%) and exploratory laparotomy (8.4%). The most common of the three procedures performed in public hospitals was ORIF (59.3%) while LSCS (83.0%) was the most frequent of the three Bellwether procedures done in private facilities.

Table 9: Patient-Related Factors as per Type of Facility (n=1853)

Patient Characteristics	Public Facility (N=697) n (%)	Private Facility (N=1156) n (%)	p-value
Age			
≤ 18	219 (31.4)	73 (6.7)	
19-44	377 (54.1)	1012 (87.5)	<0.001
45-64	75 (10.8)	50 (4.3)	
≥ 65	26 (3.7)	21 (1.8)	
Gender			
Male	341 (48.9)	133 (11.5)	<0.001
Female	356 (51.1)	1023 (88.5)	
Use of Sehat Card			
Yes	211 (30.0)	371 (32.1)	0.413
No	486 (69.7)	785 (67.9)	
Surgical Intervention			
- Exploratory Laparotomy	93 (13.2)	63 (5.4)	
- Lower (uterine) Segment Caesarean Section (LSCS)	191 (27.4)	959 (83.0)	<0.001
- Open Reduction Internal Fixation (ORIF)	413 (59.3)	134 (11.6)	

Table 10 highlights the differences in patient- and facility-related factors for SCP users and SCP nonusers disaggregated by public and private facilities. Admissions in the age group of 19-44 years were the most frequent, whether being an SCP user or SCP nonuser for both public and private

facilities. In terms of gender, women were more commonly admitted (74.4%) compared to males (25.6%) for all categories except for admissions of SCP nonusers to public hospitals. Lower (uterine) Segment Caesarean Section (LSCS) was the most commonly performed Bellwether procedure. Of all the LSCS, 83.4% were carried out in private hospitals, while for Open Reduction Internal Fixation (ORIF) 75.5% was done in public sector hospitals.

The in-hospital mortality for SCP users was 1.2% (n=7), while it was marginally lower for SCP nonusers i.e., 0.8% (n=10). A more detailed analysis of mortality by each facility is given in Section 4.3.3.3 below and in Table 12. The readmission rates at 14- and 30-days after discharge were higher for SCP nonusers as compared to the SCP users.

Table 10: Patient- and Facility-Related Factors and Outcomes as per Insurance Status

Patient Characteristics	SCP Users (n=582)		SCP Nonuser (n=1271)	
	Public (n=211)	Private (n=371)	Public (n=486)	Private (n=785)
Age				
≤ 18	26 (12.3)	15 (4.0)	193 (39.7)	58 (7.4)
19-44	157 (74.4)	336 (90.6)	220 (45.3)	676 (86.1)
45-64	17 (8.1)	19 (5.1)	58 (11.9)	31 (3.9)
≥ 65	11 (5.2)	1 (0.3)	15 (3.1)	20 (2.5)
Gender				
Male	81 (38.4)	28 (7.5)	260 (53.5)	105 (13.4)
Female	130 (61.6)	343 (92.5)	226 (46.5)	680 (86.6)
Mean Length of Stay ± SD	7.89 ± 8.04	2.66 ± 1.84	7.26 ± 5.18	2.66 ± 2.91
Surgical Intervention				
- Exploratory Laparotomy	44 (20.9)	18 (4.9)	49 (10.1)	45 (5.7)
- Lower (uterine) Segment Caesarean Section (LSCS)	104 (49.3)	325 (87.6)	87 (17.9)	634 (80.8)
- Open Reduction Internal Fixation (ORIF)	63 (29.9)	28 (7.5)	350 (72.0)	106 (13.5)
Status at Discharge				
Alive	206 (97.6)	369 (99.5)	484 (99.6)	777 (99.0)
Expired	5 (2.4)	2 (0.5)	2 (0.4)	8 (1.0)
	n=206	**n=369**	**n=484**	**n=777**
14 day Readmission				
Yes	20 (9.7)	11 (3.0)	51 (10.5)	36 (4.6)
No	186 (90.3)	343 (93.0)	433 (89.5)	703 (90.5)
Unknown	0 (0.0)	15 (4.1)	0 (0.0)	38 (4.9)
30 Day Readmission				
Yes	5 (2.4)	3 (0.8)	17 (3.5)	19 (2.4)
No	201 (97.6)	351 (95.1)	467 (96.5)	720 (92.7)
Unknown	0 (0.0)	15 (4.1)	0 (0.0)	38 (4.9)

4.3.3.2 Length of Stay during Primary Admission as per Type of Facility

The average length of stay (ALOS) was calculated for each surgical intervention to observe any potential differences within public and private facilities. The ALOS for discharged patients was estimated for each of the four hospitals, as well as overall for public and private facilities. Since data on ALOS could not be retrieved from one private facility for exploratory laparotomy and ORIF, ALOS could not be calculated.

Exploratory laparotomy had the highest ALOS for both public and private hospitals. However, public facilities had a greater overall ALOS (10.64 ± 11.76 days) than private hospitals (6.39 ± 8.48 days). A similar trend was noted for LSCS and ORIF, where patients admitted in the public facility had a greater

mean length of stay than patients at private facilities, with a mean difference of approximately 3 and 5 days respectively (Table 11). This indicates an increased utilization of resources at public facilities and offers opportunities for efficiency gains. Another potential reason for this difference could be the possibility of increased disease severity in patients presenting to public hospitals as compared to private hospitals, however, data was not available to substantiate this proposition.

Table 11: Number of Patients and Mean Length of Stay as per Facility After Removal of Mortality

Variable	Public	Private			
	Facility 1 n=690	Facility 1 n=149	Facility 2 n=53	Facility 3 n=944	Overall n=1146
Number of Patients	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
Exploratory Laparotomy	87 (12.6)	0 (0.0)	11 (1.0)	46 (4.9)	57 (5.0)
Lower (uterine) Segment Caesarean Section (LSCS)	191 (27.7)	149 (100.0)	28 (52.8)	782 (82.8)	959 (83.7)
Open Reduction Internal Fixation (ORIF)	412 (59.7)	0 (0.0)	14 (26.4)	116 (12.3)	130 (11.3)
Length of Stay	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Exploratory Laparotomy	10.64 ± 11.76	-	6.45 ± 3.78	6.37 ± 9.29	6.39 ± 8.48
Lower (uterine) Segment Caesarean Section (LSCS)	5.92 ± 3.84	2.84 ± 1.12	3.00 ± 0.82	2.29 ± 1.25	2.40 ± 1.24
Open Reduction Internal Fixation (ORIF)	7.31 ± 4.80	-	0.93 ± 0.27	2.95 ± 3.16	2.73 ± 3.05

4.3.3.3 In-hospital Mortality of Patients as per Type of Facility

The in-hospital mortality rate for all three surgical interventions were approximately the same for both public and private facilities, with 1.2% (n=7) for the former and 0.8% (n=10) for the latter. Given the small number of deaths this difference is likely to be incidental and not statistically significant. Public sector hospitals had a higher overall mortality for exploratory laparotomy (0.9% vs 0.5%), while the private sector hospitals had an overall greater mortality for ORIF (0.3% vs 0.1%). However, in one private sector hospital 3 of the 11 (27%) cases who underwent exploratory laparotomy died. Whilst the greatest number of patients were admitted for LSCS, there was no mortality observed for it at either of the four hospitals. Table 12 shows distribution of the outcome of patients for each surgical intervention as per the hospital facility.

Table 12: Outcome of Patients for Specific Surgical Intervention as per Type of Facility

Surgical procedures	Public		Private							
	Facility 1 n=697		Facility 1 n=149		Facility 2 n=56		Facility 3 n=951		Overall N=1156	
Number of Patients	**n (%)**		**n (%)**		**n (%)**		**n (%)**		**n (%)**	
Outcome	**D**	**E**	**D**	**E**	**D**	**E**	**D**	**E**	**D**	**E**
Total	690 (99.0)	7 (1.0)	149 (100.0)	0 (0.0)	53 (94.6)	3 (5.4)	944 (99.3)	7 (0.7)	1146 (99.1)	10 (0.9)
Exploratory Laparotomy	87 (12.5)	6 (0.9)	-	-	11 (19.6)	3 (5.4)	46 (4.8)	3 (0.3)	57 (4.9)	6 (0.5)
Lower (uterine) Segment Caesarean Section (LSCS)	191 (27.4)	0 (0.0)	149 (100.0)	0 (0.0)	28 (50.0)	0 (0.0)	782 (82.2)	0 (0.0)	959 (83.0)	0 (0.0)
Open Reduction Internal Fixation (ORIF)	412 (59.1)	1 (0.1)	-	-	14 (25.0)	0 (0.0)	116 (12.2)	4 (0.4)	130 (11.2)	4 (0.3)

D: Patients Discharged after Primary Hospital Admission
E: Patients who Underwent In-hospital Mortality during Primary Hospital Admission

4.4 Conclusion

SLIC maintains a fairly robust database that provides records of all hospital admissions and is the main source of routine information in the KP province about the *Sehat Card Plus KP*. There is however room for improving the quality of the database and addition of new indicators for more rigorous and independent monitoring by the SCP Directorate.

The analysis of SLIC Health Insurance Database from the 10 Study Districts (n=94,387) reveals that almost 63% admissions were in private hospitals and 37% in public hospitals. Similarly, 65% were in secondary and 35% in tertiary hospitals. Over 63% beneficiaries admitted through *Sehat Card Plus* were within their home district, 30.6% in other districts of KP, and 6.2% were admitted to facilities in other provinces. Hospital mortality from the sample was estimated at 5.5%, average length of stay (ALOS) was 2.3 (±5.8) days, and the average cost per admission was PKR 31,395. The latter was 20-40% higher in private hospitals. The average time taken to send the claims by empanelled hospitals was 51 days (± 52.8), while the average time taken to settle the claims by SLIC was 21 (± 26.1) days.

Of the 1,853 patient records included from four tertiary hospitals of Peshawar, the majority of patients had surgery at private hospitals (63.7%). The most common surgical procedure was LSCS* (62.1%), followed by ORIF* (29.5%), and exploratory laparotomy (8.4%). In-hospital mortality for all three surgical interventions was 1.2% (n=7) for public hospitals and 0.8% (n=10) for private facilities. For LSCS, there was no mortality recorded in any hospital. The 14-day readmission was 15.1% for public vs 12.7% for private hospital, and 30-day readmission 5.9% vs 3.2% respectively. Patients had longer ALOS at public facilities compared to private facilities for each of the three included surgical procedures.

Chapter 5: Strategic Review of the Sehat Card Plus, Khyber Pakhtunkhwa : Governance, Legislative, Institutional and Financial Perspective

Key Messages

Governance, Legislative and Organizational Arrangement of *Sehat Card Plus KP*

- The *KP Sehat Insaf Card Bill, 2018* and the *KP Universal Health Coverage Act, 2022* demonstrate strong political commitment towards UHC and long-term sustainability of the *Sehat Card Plus KP*. Proper rules and regulations need to be developed assigning clear roles and responsibilities to different stakeholders for effective implementation.
- The *Sehat Card Plus KP* Policy Board is Chaired by the Minister Health with representation from the public and private sectors. Stakeholders that represent the voice of citizens are needed as in other L&MICs with more mature UHC system.
- The *Sehat Card Plus KP* and SHPI Directorate rely entirely on SLIC for implementation and monitoring while an independent monitoring arrangement in the form of a Technical Advisory Committee (TAC) to the Policy Board does not exist. This should be established on an urgent basis.
- SLIC has legal status with reference to *UHC Bill 2022*, which makes it *de jure* the preferred third party despite the mention of competitive bidding process; and *de facto* will be selected due to its prior experience and large financial backup. The Bill also indemnifies SLIC's actions in previous years, which is an important legal endorsement of the status of SLIC.
- As the main implementer, SLIC's role includes defining service package; contracting and empanelment of hospitals; pre-authorization of admission after verification; claims processing; consumer rights protection; and monitoring. *In the short run, SLIC has been instrumental in rapidly establishing and rolling out the Programme.*
- SLIC receives 11.27% of total premium annually as the administrative overheads for implementing the *Sehat Card Plus KP*. In addition, it also retains 15% of any unspent budget at year end, hence has minimal financial risk.
- The Directorate of SHPI has been instrumental in the piloting, rollout, and universalization of the *Sehat Card Plus KP* in KP, however it lacks technical staff both in number and in skill mix, IT infrastructure, and logistic capacity due to limited operational budget, which needs to be corrected on an urgent basis.
- Up to 2022, SLIC had empaneled almost 200 public and private hospitals, of which 48 private hospitals were recently dis-empanelled due to non-performance. Presently, Health Care Commission in KP is not involved in the empanelment of hospitals which can ensure greater independence and transparency under *Sehat Card Plus KP*.
- *Sehat Card Plus KP* needs to improve the transparency of the grading and setting tariffs as expressed by many providers and to effectively communicate the way grading is scored.
- Health Foundation KP is currently not involved in facilitating public-private partnership arrangements or in providing soft loans to support strengthen public and private health facilities in remote districts in KP to be eligible for empanelment.
- The *Independent Monitoring Unit of DOH* can play a pivotal role in independently monitoring the performance of empaneled hospitals and providing feedback to SHPI. This opportunity has not been tapped yet.

Financing and Financial Sustainability of *Sehat Card Plus KP*

- The rapid expansion of population coverage from targeting the poor to the fully subsidized entitlement for all by *Sehat Card Plus KP* poses a major challenge for the KP government to sustain it financially. Evidence is emerging of non- and delayed release of payments to SLIC.
- *Sehat Card Plus KP* is not based on contributions but on entitlements. The *Program and the KP government can be highly applauded from an equity perspective, but its financial sustainability is a concern.*
- The *premium* paid by the *Sehat Card Plus KP* is set at PKR 2,849 per family, which at the current level does not seem to be calculated based on actuarial estimation. It is likely that in future the premium will be increased along with the change in health care utilization as the *Sehat Card Plus KP* matures.
- The KP government plans to introduce an *Opt-Out voluntary insurance* for the formal sector, already covered by *Sehat Card Plus KP*, starting with civil servants. The Opt-Out option may minimize fiscal pressure on *Sehat Card Plus KP* in the short run but may harm the political support for the program in the long run.
- The *case-based payment* method adopted by the Programme is a wise policy choice. Eventually, it needs to move towards a more elaborate *DRG-based payment system.*
- The government needs to reduce state budget to public hospitals to maximize the effect of strategic purchasing and demand-side financing on hospital performance, and channel funds via increased premium support and better tariffs by the *Sehat Card Plus KP*.
- SLIC has been rapidly increasing the capacity for claim processing, and most get reimbursed within a month. At the same time, SLIC needs to improve its capacity as a strategic purchaser.

Organization and Delivery of Services under *Sehat Card Plus KP*

- Current benefits package of *Sehat Card Plus KP* covers only inpatient care with a cap of PKR 1.0 million per family per year. *The exclusion of primary care is not based on evidence of cost effectiveness and disease burden of KP*. The approved EPHS adapted for KP, which includes 98 interventions, should progressively be incorporated within the *Sehat Card Plus KP*.
- Despite the importance of monitoring quality of care, the current tools developed by SLIC and HCC focus on input and some process indicators and not on outputs such as infection control, patient safety, waiting times, and clinical outcomes to monitor quality.

Monitoring and Evaluation

- SLIC maintains a robust MIS for the *Sehat Card Plus KP*, which is connected to NADRA database for online instant verification of patients' eligibility. It is electronic, provides live reporting through customized dashboards, records diagnosis based on ICD-10, and offers hierarchical access to its users with password protection.
- The MIS does not record data on patient wealth status/poverty score, has limited use in terms of result-based and outcome-level analysis, the selection of indicators lacks clear strategic purpose and operational definitions, and the SLIC MIS is not integrated with hospital HMIS.
- Building an independent M&E system is an essential pillar for improved governance of the *Sehat Card Plus KP* and as a management tool for decision makers to determine its outputs and outcomes and program performance.
- *Central Management Information Systems (CMIS)* has been developed, although it was unclear whether it is hosted in SHPI Directorate, SLIC or DOH and what were its existing capacities.

5.1 Introduction

An overarching objective of the external evaluation of the *Sehat Card Plus KP* is to determine the extent to which it has been successful in providing quality services and in protecting vulnerable segments of the population in KP from financial catastrophe. This evaluation aims to provide recommendations for

action to further improve and consolidate the *Sehat Card Plus KP*, and to enhance its health and financial impact as well as distil lessons that other provinces of the country could benefit from.

The macrolevel component reviews the policy and strategic aspects of the *Sehat Card Plus KP* with a focus on its legislative and governance, institutional, monitoring, financial and sustainability aspects. The review of *Sehat Card Plus KP* at the macrolevel covers four aspects that include: (i) Governance, legislative and organizational arrangements; (ii) Financing and financial sustainability; (iii) Organization and delivery of health services; and (iv) Monitoring and evaluation of the Programme.

5.2 Approach and Methods

The specific terms of reference for this component of the evaluation include:

(i) review of the planning, coordination, and Programmatic governance of the *Sehat Card Plus KP* with reference to the arrangements related to third party administration (by State Life Insurance Corporation) and legislative support to the Programme.
(ii) review of the trends in financing of the *Sehat Card Plus KP* including premium setting and means of its sustainability.
(iii) assessment of the effectiveness and appropriateness of the service delivery, beneficiary enrollment mechanisms, benefits package, empanelment of health facilities, and billing and reimbursement mechanisms from a policy perspective.
(iv) engage in a dialogue with policymakers and senior managers in KP government, functionaries of SLIC, managers of public and private sector hospitals, representative of development partners.

The macrolevel assessment comprised review of documents published in the literature as well as unpublished reports and documents of the government and development partners. In general, the documentation of the Programme has not been extensive, and much reliance had to be placed on the mission and meetings with stakeholders.

A high level assessment mission comprising a team from the Aga Khan University led by the Principal Investigator along with a team of international experts in health systems and health financing from Thailand and South Korea participated. The team also included senior health systems experts from the province of KP. The assessment team made a one week visit to the province in November 2022 to meet different stakeholders that included the minister of health, senior government functionaries in health and other relevant departments, autonomous and regulatory institutions in health. The mission had extensive deliberations at the Directorate of the Social Health Protection Initiative (SHPI) in KP as well as the Regional Office of the State Life Insurance Corporation (SLIC). In addition, meetings were held with development partners, and at the federal level with members of the HPSIU in the Ministry of National Health Services Regulation and Coordination (MONHSRC) and the Sehat Sahulat Programme (SSP).

5.3 Policy and Strategic Review of the Sehat Card Plus, Khyber Pakhtunkhwa in KP

5.3.1 Governance, Legislative and Organizational Arrangements of Sehat Card Plus KP

5.3.1.1 Overview of Organizational Arrangement of Sehat Card Plus KP

Sehat Card Plus KP is the flagship Programme of the Government of KP to advance towards universal health coverage (UHC) by providing inpatients care to the 35.53 million population of the province[45]. The Programme has been led by the then Minister of Health of KP and is overseen by the Social Health Protection Initiative (SHPI) Directorate of the Department of Health, KP, which receives strategic

[45] Population as stated in the National Census 2017

guidance from the SCP Policy Board. The implementation of the Programme has been outsourced to the State Life Insurance Corporation (SLIC) through an open national competitive bidding process.

The Programme was launched in 2015 and was then termed *Sehat Sahulat Programme* (SSP). It was responsible for covering the population below poverty line in collaboration with the National Database and Registration Authority (NADRA). In April 2020, the Programme was expanded to cover the entire population of the province, covering 7.2 million households and was renamed as *Sehat Card Plus KP*.

Figure 1 illustrates the organizational arrangement of *Sehat Card Plus KP* at policy and implementation levels. At the time of evaluation, the *Sehat Card Plus KP* relied entirely on SLIC for implementation and monitoring and an independent Technical Advisory Committee (TAC) did not exist for technical assistance and guidance to the SHPI Directorate for the smooth and timely achievements of defined targets. Bodies such as the Health Care Commission, Health Foundation, and Independent Monitoring Unit of the Department of Health do not have a formal role in assisting *Sehat Card Plus KP* implementation.

5.3.1.2 Current State of Legislation and Regulations of the SCP

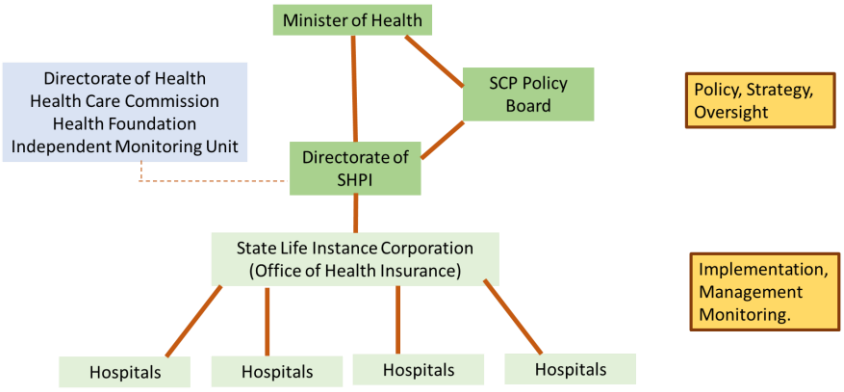
Since 2019, the *Sehat Card Plus KP*[46] has been given an autonomous status through legislation by enactment of the *Khyber Pakhtunkhwa Sehat Insaf Card Bill, 2018* from the Provincial Assembly and the financing of the Programme has been transferred to regular budget of the government of KP. Though enactment of the *Sehat Card Plus KP* has been done, the rules and regulations for effective and efficient management of the Programme are yet to be framed and notified.

Subsequent to the Act of 2018, the *Khyber Pakhtunkhwa Universal Health Coverage Act, 2022* (UHC Act) was legislated on 3 June 2022 and came into force on 8 June 2022. It demonstrates strong political and legislative commitment towards UHC. Although the Programme has been operational since 2015, and has progressively expanded to the whole population, the legislation came several years after with the view to ensure its long term sustainability.

Concurrently, the federal government policies are also supportive to UHC. Similar initiatives in other provinces (though not yet legislated) demonstrate strong political commitment by most provincial and regional governments. Hence experiences both positive and negative from KP would inform Programme design and implementation in other provinces, though SLIC sets a strong foothold as the principal contractor to manage UHC in these provinces.

Figure 1: Existing Organizational Arrangement of Sehat Card Plus

[46] Prior to April 2020, the *SCP KP* was called Sehat Sahulat Programme. However, for the purpose of convenience and to avoid confusion the Report will use the term *SCP KP*.



5.3.1.3 The Role of the Policy Board of *Sehat Card Plus KP*

Subsequent to the Act, UHC Bill 2022 provides for the establishment of a Policy Board, as the oversight governing body of the *Sehat Card Plus KP*, which is Chaired by the Minister Health in addition to having representation of relevant stakeholders from the public and the private sectors. The Project Director renamed as the Chief Executive Office of SHPI Directorate has been designated as the Secretary cum Member of the Policy Board. The UHC Bill 2022 endorses eight members of the Policy Board (Box 1).

The UHC Bill 2022 has the provision to include health insurance experts, retired civil servants, retired officers of medical profession, quality assurance experts, financial management experts, philanthropists having significant contribution in health, and a representative of civil society (Section 7(3)). Though there is provision for three people from the non-government sector it is vital to have stakeholders that represent the voice of citizens, which needs to be heard. Unlike other countries, such as Thailand, Indonesia, and Iran, not represented on the Policy Board are members of the community who are the actual beneficiaries of the Programme.

Box 1: Membership of Sehat Card Plus KP Policy Board

a) *Minister for Health, Khyber Pakhtunkhwa as chairperson,*
b) *Secretary to Government, Health Department or his nominee not below the rank of an Additional Secretary,*
c) *Secretary to Government, Finance Department or his nominee not below the rank of an Additional Secretary*
d) *d) Director General Health Services*
e) *three persons from private sector to be appointed by the Chief Minister on the recommendations of the Department; and*
f) *Chief Executive Officer and member and Secretary.*

It was defended by many partners (including government and minister) of a preferred lean policy body, though section 12 of the UHC Act has the provision for the appointment of advisors, consultants, and technical experts. This provision sounds more of a technical advisory role than explicitly representing view and experiences of users who are the key beneficiaries and healthcare providers who are critical for the success or failure of *Sehat Card Plus KP*.

The constitution and TORs of the policy board are provided in Annex 6. The Policy Board is responsible for the approval of all policy matters concerning the package, payments, caps in benefits etc., as well as the approval of annual plans and financial allocations to the *Sehat Card Plus KP*.

5.3.1.4 State Life Insurance Corporation and its legal status in the UHC Bill 2022

SLIC has a legal status, with reference to UHC Bill 2022 under its different clauses (Box 2). These clauses greatly put SLIC as the preferred third party despite the mention of the competitive bidding process. Section 19 (e) in the Bill that states – *"Expansion of Sehat Card Plus to all population of the province done during 2020 and 2021, through State Life Insurance Corporation, shall be deemed to have been done under this Act".* This gives the most important legal endorsement of the status of SLIC and mitigates against a competitive and transparent bidding process in the future.

It also expresses the government's intent of implementing *Sehat Card Plus KP* through an independent third-party arrangement in the medium to long run instead of establishing an autonomous provisional health insurance organization. The Act also gives SLIC a huge opportunity to expand its private voluntary health insurance market to interested individuals, families, or group when they pay additional premium for an additional package, though the premium is determined by KP government as recommended by the Policy board (as a consumer protection mechanism).

From this analysis and for reasons of practicality SLIC has been the forerunner since the time of the pilots and roll out in 2015 and has the comparative advantage of a large financial base in subsequent rounds of contract. There is thus a very high potential that *de facto* SLIC is the permanent third-party insurance carrier not only for KP but for Pakistan. This may extend SLIC's monopoly status nation-wide. The law does not allow room for the government, or for a public independent statutory body to manage the *Sehat Card Plus KP* in the long term. If this analysis is pertinent, there will be little room for the *Sehat Card Plus KP* and SHPI Directorate to optimize benefits for the population and better regulate and/or collaborate with SLIC to ensure public health goals, UHC and enhance efficiency.

Box 2: Status of State Life Insurance Corporation vis-à-vis UHC Bill 2022

Section 3(3) as it states that - *"The Programme shall be executed by the Policy Board through a third-party insurance firm having expertise in the field of health insurance. The third-party insurance firm shall be selected through a transparent bidding process, in accordance with the provision of the Procurement law and rules".*

In addition, Section 3(4) states that – *"For the purpose of sub-section (3), the Policy Board shall enter into an agreement with the selected firm, covering all the matters relating to the execution of the Programme, including the basic package, claims management and other ancillary matters.*

Further, section 4(1) states that - *"The insurance firm may, with the approval of the Policy Board, offer additional package, which is over and above the basic package, to interested individuals, families and groups on payment of such additional premium, as determined by Government on the recommendation by the Policy Board, in the manner as may be prescribed in rules".*

Section 19 (e) also mentions that – *"Expansion of Sehat Card Plus to all population of the Province done during 2020 and 2021, through State Life Insurance Corporation, shall be deemed to have been done under this Act".*

5.3.1.5 State Life Insurance Corporation and its critical role in Sehat Card Plus KP implementation

The implementation of *Sehat Card Plus KP* has been outsourced to the State Life Insurance Corporation (SLIC) through an open competitive process. Hence all matters related to the empanelment and subsequent contracting of facilities, defining the package and the services available, reimbursement of bills, SCP monitoring, and most importantly the decision to admit a patient under the Programme is at the discretion of SLIC. *This in the short run has been a useful measure as it has helped rapidly establish and roll out the Programme.* In the longer run other measures could be considered such as establishing an independent health insurance organization under the statute of the government although the UHC Bill 2022 does not explicitly support such an option.

SLIC, due to its entrepreneurship has higher capacity, has its own staffs in empanelled hospitals - health facility officer (HFO) and in districts (DMOs) to facilitate services, and for verification of membership with NADRAs computerized database. Being the major player in *Sehat Card Plus KP* implementation, SLICs practical role, among others, includes: (i) empanelment of hospitals classified into five grades for differential tariffs; (ii) pre-authorization of patient for admission through verification with NARDA database; (iii) claims processing, review, approval, and suspension; (iv) consumer rights protection through complaint monitoring and rectification action. SLIC administers the SCP not only in KP but also in Punjab, which runs a similar Programme for UHC in Pakistan. *Sehat Card Plus KP* is fully subsidized by the KP government, who pays a fixed premium per eligible family to the SLIC, which in turn manages the inpatients healthcare expenditure of the registered users.

SLIC has comparative advantages and experience in managing the *Sehat Card Plus KP* since its inception in 2015. It was selected and contracted for a period of three years for which SLIC received 11.27% of total premium annually as the administrative and management overheads for implementing the Programme. The arrangement has been that at the end of the year, if there is unspent budget, 85% is returned to the government, while SLIC keeps the remaining 15%. Hence theoretically, SLIC has the incentive not to spend. However, at the end of the year, if budget was overspent, the KP government will absorb the negative balance through additional budget allocation. This means there is minimal financial risk to SLIC. During interviews with SLIC and SHPI Directorate staff it was unclear how the 11.27% cost for management administrative overheads has been estimated. The remaining 88.73% is paid to service providers. However, in 2022 fiscal year, there was delayed premium payment by KP government to SLIC that led to delayed clearance of bills submitted by hospitals.

From the analysis and review of the reports made available by SLIC, there is a high level of supplier induced demand by both public and private hospitals such as high level of Caesarean section rate, appendectomy, and tonsillectomy. There is a need to provide quantitative data to verify this observation. From the interview and onsite observation, SLIC employs numerous competent staff, almost 90 in number, in its regional office in Peshawar as well as its own staff as service navigators in empanelled hospitals. Compared with the SHPI Directorate, SLIC has much higher human resource capacity.

During interview with a private hospital CEO, it was highlighted that there is lack of clarity as to how the tariffs were estimated as well as the differentiation of tariffs into five scales by the level of empanelled hospitals. It is uncertain whether the process of empanelment and grading of a hospital involves due consultation with private hospitals for whom the cost of treatment is higher than the public hospitals. Similarly, it is unknown which cost items the tariff covers, for example, whether it includes full labor cost, or only diagnostic and treatment. Further the tariff setting exercise does not

consider the inflation rate or whether the tariff is revised regularly. The inflation and the related consumer price increased from 2.5% in 2015 to 9.5% in 2021 and is much higher in 2023.[47]

The selection of health care facilities as per predefined criteria/standards is done by SLIC after completion of codal formalities (rules and procedures). The empaneled health facilities are classified into different grades in accordance with the scoring criteria and enjoy varying payment slabs which are reimbursed on submission of claim. Simultaneously, other important relevant committees are needed such as for quality assurance, complaint redressal, and dispute/litigation redressal. These need to be constituted as they have a role in safeguarding interest of health care providers and the public in case of disputes/complaints. Ultimately, these mechanisms need to be institutionalized within the insurance system.

5.3.1.6 Contractual arrangements – SLIC and Hospitals

As stated, SLIC empanels hospitals at different grades (and tariffs) by entering into contractual arrangements with these. So far, almost 200 public and private hospitals have been empanelled by SLIC. The entire process of empanelment and contracting is managed by SLIC and there are often political pressures to include hospitals. According to SLIC they have so far resisted such interference as much as possible. Table 1 provides breakdown of hospitals empanelled by SLIC by level and ownership.

Table 1: Breakdown of Hospitals Empanelled by SLIC by Level and Ownership in KP

Hospital Level	Public	Private	Total
Secondary	28	124	152
Tertiary	21	20	41
Total	49	144	193

Many of the hospitals have been empanelled for a specific service as they are unable to provide the entire package of services at the secondary or tertiary level. More recently SLIC dis-empanelled 48 hospitals, all from the private sector, due to non-performance. This is indicative of the lack of capacity of hospitals to deliver quality secondary/tertiary care services, engage with *Sehat Card Plus KP* and suggests that SLIC itself may have limited capacity at the time of empanelment.

5.3.1.7 Directorate of Social Health Protection Initiative: Strengths, Capacities and Gaps

The Directorate of Social Health Protection Initiative (SHPI) is the principal department that has been entrusted with the task of managing and monitoring the *Sehat Card Plus KP* in the KP government. The SHPI Directorate, under the Bill UHC 2022, is an autonomous body that reports to the Policy Board and works directly with the Minister of Health through its Chief Executive Officer. It is also the Directorate that works closely with SLIC to ensure Programme implementation however it stays away from any direct implementation related activities.

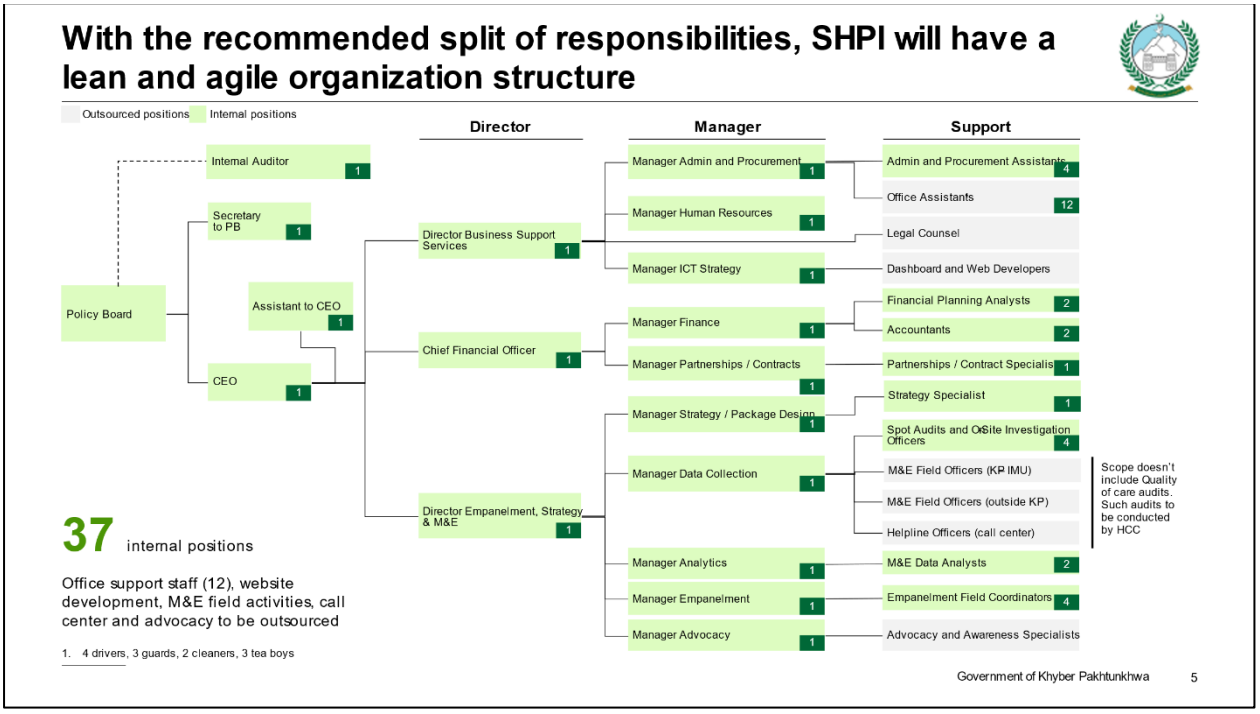
The SHPI Directorate has been instrumental in the piloting, rollout, and universalization of the *Sehat Card Plus KP* in KP province. In this respect, its role has to be commended. This has happened despite the limited number of staff in SHPI, which at the time of the assessment was 9. There is shortage of technical staff and logistic support due to limited operational budget, which needs to be corrected on an urgent basis for the SHPI to effectively function as the directorate of health insurance and to monitor the performance of SLIC as the custodian of public funds. At present it seems that SHPI Directorate relies entirely on information from SLIC to assess performance and output. A well thought

[47] https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=PK

out organizational structure of the SHPI Directorate has already been developed (Figure 2), which needs to be operationalized on an urgent basis.

With reference to Section 10(1) of the Act, the role of the CEO of the SHPI Directorate is day-to-day management of the *Sehat Card Plus KP*. There is a need to define, at the operational level, the function and capacity required by the SHPI Directorate to support the CEO. The Act states – "*There shall be a Chief Executive Officer of the Programme who shall be responsible for day-to-day administration of the affairs of the Programme and shall exercise such powers and perform such functions, as may be prescribed by regulations or assigned to him by the Policy Board.*"

Figure 2: Proposed Organized Structure of the Directorate of Social Health Protection Initiative



The SHPI as the directorate responsible for *Sehat Card Plus KP* is dependent on SLIC for advisory role, especially on implementation related matters, which may result in a conflict of interest and SHPI Directorate may not be in a position to safeguard the interest of end user or health care providers. Similarly, the SHPI Directorate has not developed its own surveillance and management information system (MIS) and is dependent on SLIC database but has no real time interface (having limited access to live data). Additionally, the establishment of a technically competent Programme management committee at provincial level could be extremely helpful in helping the CEO of SHPI Directorate in strategic management, planning, and supervision to ensure effective coordination.

There are several areas that need to be strengthened in SHPI Directorate to effectively function as the office responsible for the implementation of the flagship Programme of the government of KP. These include, among others: (i) enhanced staff capacity – technical, administrative, and monitoring; (ii) improved infrastructure and skill mix in terms of data processing and analysis, information management and technology; (iii) improved capacity for hospital empanelment through monitoring rather than direct implementation; and (iv) independent capacity for appraising and auditing the performance SLIC, conduct medical audit against negligent clinical or supplier-induced demand,

undertake financial reimbursement audit in case of false claims. At present, all the audit functions are being undertaken by SLIC and the findings are not regularly shared with the SHPI Directorate.

5.3.1.8 Role of autonomous and regulatory bodies

The ***Health Care Commission*** **(HCC)** in KP is an autonomous body governed by the Khyber Pakhtunkhwa Health Care Commission Act, 2015. The Act envisages regulation of both public and private health care establishments in the province to improve quality. The commission is mandated to provide protection to the people of the province in securing their right to quality healthcare through eradication of quackery and other malpractices, setting standards for all types of medical practice, including but not limited to allopathic and alternative medicines. HCC carries out this function through registration and licensing of the health care establishments[48].

At present HCC has not been involved in the empanelment of hospitals and this function has entirely been given to SLIC, which is mandated to do so. SLIC empanels health facilities based on their own standards while the HCC has its own standards for licensing which are tantamount to duplication of work and is thus not cost-efficient. During meetings with HCC, they expressed keenness to participate in this task in collaboration with the SHPI Directorate. This will bring greater independence and transparency in the empanelment of hospitals under the *Sehat Card Plus KP*.

The Health Foundation in KP was established with the vision to enable the development of innovative health care delivery models to achieve policy of the Government of KP. This would be achieved by improving coverage through various means of Public Private Partnership (PPP) for healthcare delivery services and the matters connected therein[49]. So far, the Health Foundation has also not been involved in matters related to the implementation of SCP vis-à-vis the private healthcare providers. During discussions it was evident that the Health Foundation is interested in facilitating the public-private partnership arrangements with private hospital institutions. While direct contracting of private facilities should continue to be the mandate of SLIC, it could rely on the experience and guidelines of the Health Foundation for a more efficient PPP arrangement. Similarly, the Health Foundation should provide soft loans to preferentially support empaneled or eligible private health facilities to build secondary healthcare capacities in remote districts of the province.

It seems an ***Independent Monitoring Unit (IMU),*** with almost 200 staff, is functional within the DOH in KP. While a meeting could not be held with IMU, given the limited monitoring capacity of SHPI Directorate, it can play a pivotal role in independently monitoring the performance of empaneled hospitals and providing feedback. This opportunity has not been tapped yet. This is not to undermine SLIC's own monitoring system, which should continue to play its role, but to support the SHPI Directorate to safeguard the interests of the KP population that it is meant to serve.

It has also been observed that there is no formal system to integrate the functions/activities of *Sehat Card Plus KP* within the health care system specifically for independent and monitoring, human resource development. In this regard, the ***Provincial Health Services Academy*** could be considered a potential partner for capacity development activities.

There is no doubt introduction of new stakeholders other than SHPI Directorate and SLIC in the implementation of SCP in KP will bring with it new challenges operationally, will need greater effort

[48] https://hcc.kp.gov.pk/
[49] https://www.kphf.gov.pk/vision-and-mission/

towards better coordination, and require clearly laid out rules of business and responsibilities. However, this will also bring in greater transparency and reduce any conflicts of interests thereby. The engagement of independent bodies with their clearly delineated mandates will be critical for the health insurance system in KP as is the case in other countries that have more mature health insurance programme.

5.3.2 Financing and Financial Sustainability of SCP

5.3.2.1 Macroeconomics situation and associated challenges

Alongside high population growth at 2.1% annually, Pakistan currently faces a multifaceted macroeconomic crisis. The continued devaluation of the Pakistani Rupee, high levels of inflation, depleting foreign exchange reserves, and a less than satisfactory economic growth rate pose significant challenges for the sustainability of the *Sehat Card Plus KP* in KP in the short to medium term.

One needs some data on the trend on GDP and government expenditure in KP to examine the macroeconomic conditions. However, global trends as countries emerge from the COVID-19 pandemic, suggest that the economic condition of Pakistan and KP is not favorable for the financial sustainability of *Sehat Card Plus KP*. Considering the very rapid expansion of population coverage from targeting the poor to the fully subsidized entitlement for all by the *Sehat Card Plus KP* will pose a major challenge for the KP government to sustain it financially. Recently, for example, due to economic downturn in Ghana, the government could not allocate budget to the health insurance fund (2.5% Value Added Tax (VAT) to National Health Insurance Authority. Similarly, in Lao PDR an economic downturn meant that the government could not fund a full subsidy for the informal sector to National Health Insurance. The financial capacity of the KP government is crucial. It is unique that *Sehat Card Plus KP* is fully funded by provincial government with no financial contribution by the central government (in many countries, financial responsibility is usually shared between the central and provincial government).

5.3.2.2 Funding & Financial Management of SCP

The annual budget of the Programme is approved as part of overall provincial budget by the Provincial Assembly and is disbursed on quarterly basis by the Finance Department to the *Sehat Card Plus KP* from where it is transferred to SLIC for payment to the contracted health care providers as reimbursement claimed by the empaneled health care facility. The CEO of the *Sehat Card Plus KP* is the Principal Accounting Officer (PAO).

The most recent budget book shows the government allocations to the *Sehat Card Plus KP* for the years 2021/22 and 2022/23 (Table 2, Figure 3). Based on discussions with the senior staff of SHPI Directorate, during the year 2022-23 so far PKR 19.0 billion have been released to *Sehat Card Plus KP* by the KP government. During discussion with SLIC functionaries there was a major concern of non- and delayed release of payments by the KP government. There was an outstanding amount of PKR 20.0 billion that was released to SLIC after huge efforts in late 2022. Subsequently, the government agreed to pay a monthly amount of PKR 3.2 billion to SLIC. At the time of writing this report, the installment for the month of March 2023 remained outstanding. Despite the high level of political commitment this puts a major question mark on the short- and long-term sustainability of the programme. The government has allocated PKR 1.0 billion for covering extremely high cost interventions such as liver and renal transplants (Figure 2a) with little evidence of their cost effectiveness. This further puts a question mark on the financial sustainability of the *Sehat Card Plus KP*.

Table 2a: Government Allocations for the Year 2021/22 and 2022/23 to Sehat Card Plus KP

Object/Head	Budget Estimate 2021-22	Revised Estimate 2021-22	Budget Estimate 2022-23
Regular Districts of KP			(PKR billions)
Annual Insurance Premium	21.0	21.0	23.5
Inclusion of liver transplant & other services	1.0	1.0	1.5
Premium under group insurance (Total)	**22.0**	**22.0**	**25.0**
Merged Districts			
Premium under group insurance	**1.0**	**1.0**	**3.5**

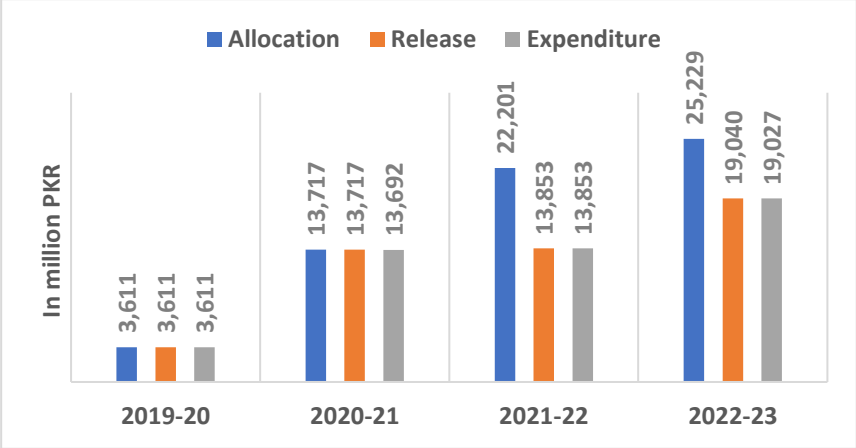
Table 2b: Cumulative and Year wise Budget Allocation, Release, and Expenditure by Sehat Card Plus KP

Year	Allocation	Release	Expenditure
2019-20	3,611,274,538	3,611,274,538	3,611,274,537
2020-21	13,717,455,804	13,717,455,804	13,692,066,708
2021-22	22,200,795,000	13,852,974,719	13,852,974,719
2022-23	25,228,628,000	19,039,646,628	19,026,895,147
	64,758,153,342	**50,221,351,689**	**50,183,211,111**

5.3.2.3 Trends in SCP financing – past, present, and future

Sehat Card Plus KP is not based on contributions but on entitlements, fully funded by the government budget. The role of tax-based financing and entitlement-based approach is increasing globally. In high-income countries, population ageing and longer life expectancy after retirement diminish the role of payroll taxation or contribution-based insurance. In low- and middle-income countries collection of contributions from the informal sector is very difficult even when the poor are fully subsidized by government budget. Universal coverage of population with full subsidy can also avoid the cost of implementing the means test to identify the poor and vulnerable. *So, the SCP KP of the KP government can be highly applauded from an equity perspective, but its financial sustainability is a concern.*

Figure 3: Budget Allocation, Release, and Expenditure by Sehat Card Plus KP



Health financing policy and the progress to UHC is a highly political process. The rapid expansion of *Sehat Card Plus KP* in KP shows the importance of political commitment as a key factor for UHC. Once *Sehat Card Plus KP* has covered the entire population, it will be difficult for the government to withdraw the commitment. Nevertheless, the high degree of political commitment, thanks to the legislative act that prevents its reversibility, can be threatened by the deteriorating macroeconomic

condition of the country. At the same time, it is also true that *Sehat Card Plus KP* can be sustainable as long as government gives high priority to health resulting in continued funding of the Programme.

The **premium** paid by the *Sehat Card Plus KP* is set at PKR 2,849 per family. Family-based coverage is always preferred to individual coverage in terms of the speed of expansion of population coverage. The current level of premium does not seem to be calculated based on any actuarial estimation, but as an input to the bidding process. The premium of *Sehat Card Plus KP* in KP is much lower than that of the similar health insurance programme in Punjab, which according to SLIC is partly related to the risk sharing arrangement. In case of surplus, 85% is given back to the government and 15% remains with SLIC in the current risk sharing arrangements of the *Sehat Card Plus KP*. It is not clear how the division of 85/15 has been decided.

It is likely that in future the premium will be increased along with the change in health care utilization as the *Sehat Card Plus KP* matures. If the government introduces an *opting-out option of insurance for formal sector workers* (discussed later), it can ease the upward pressure on the premium of the *Sehat Card Plus KP* to some extent.

When health insurance is introduced or financial barriers are removed, health care utilization almost always increases. It is a natural process because unmet need gets fulfilled by the introduction of such a programme. The *Sehat Card Plus KP* needs to build an evidence base about who is using which types of services and how much health care they are utilizing. This question is partly being addressed by the household survey being conducted under the current evaluation.

5.3.2.4 Package of interventions - cost-effectiveness

Current benefits package of *Sehat Card Plus KP* is mainly for inpatient care although it covers 1 day before and 5 days after admission, plus transportation cost for maternity and tertiary care. In addition to basic treatment package which covers secondary care services up to PKR 200,000 per family per year. *Sehat Card Plus KP* also covers advanced treatment up to PKR 400,000 per family per year, and additional coverage of certain high-cost treatments such as chemotherapy, radiation and surgical treatment for cancer, kidney transplantation, accident and emergency and ICU care up to a maximum of PKR 400,000. (Figure 4). Considering that even a small amount of user fee can be a financial burden to access for the poor and vulnerable, no copayment under *Sehat Card Plus KP* seems reasonable.

Figure 4: Sehat Card Plus KP Benefits Package: Basic and Advanced Treatment and Additional Coverage

When more data are available on the distribution of the benefits amount that are actually used, one can reassess the adequacy of benefits package and the annual ceiling. Benefits ceiling has been introduced to protect financial sustainability of *Sehat Card Plus KP* but increases the risk of protecting households from financial hardship, such as catastrophic expenditure and impoverishment due to illness. For financial risk protection of households, the benefits ceiling needs to be increased or abolished in the long run. If the benefits ceiling cannot be abolished due to fiscal constraints, there may arise a dilemma whether a small amount of copayment needs to be introduced in order to increase or eliminate benefits ceiling. There was a concern in the use of reserve fund to benefit some high-cost treatments, e.g., dialysis. SLIC also expressed concern that there are some cases where hospitals deny care to the beneficiaries and some hospitals allocate only a limited number of beds to *Sehat Card Plus KP* supported patients.

Benefits package decisions should be based on evidence of cost effectiveness and value judgment of society, such as social acceptability, equity, medical ethics, budget impact, etc. *The exclusion of primary care in the benefits package is not based on clear evidence of cost effectiveness and disease burden of KP*. Catastrophic health expenditure results not only from inpatient care or surgeries but also from outpatient care or primary care, for example, treating chronic conditions such as noncommunicable diseases (NCDs) require long-term treatment and use of medicines, leading to catastrophic expenditure and impoverishment. Effective care of NCDs can minimize unnecessary admissions, hence primary care is very cost-effective. An essential packages of health services (EPHS) has already been developed in Pakistan and endorsed and adapted by all provincial and federal governments. The EPHS adapted for KP is a district level package, which includes 98 interventions at the community, primary care and district hospital level at a reasonable cost of US$ 17.60. It should progressively be incorporated within the package of services and implemented by the *Sehat Card Plus KP* (Table 3).

Table 3: Essential Package of Health Services, Khyber Pakhtunkhwa

Platform	Immediate Priority Interventions	Unit cost per capita in US$	DALYs averted
Community	21	3.74	530,138
PHC Center	35	3.28	1,255,150
First Level Hospital	42	9.28	925,205
District EPHS	**98**	**16.30**	**2,710,492**
Tertiary Hospital	22	8.15	342,263
Population Level	12	4.47	---
All Five Platforms	**132**	**28.92**	**3,052,755**

Inpatient-based benefits packages pose a serious concern on the efficiency of service delivery. It can induce unnecessary admissions and have harmful effects on continuum of care as well as on prevention, primary care, and post-acute care. In India, high cost of (un-covered) outpatient care and excessive admissions with the by-passing of primary care was one of the major challenges for the Rashtriya Swasthya Bima Yojna or RSBY[50], which was also a fully subsidized scheme covering only inpatient care for the poor. The *Sehat Card Plus KP* needs to seriously consider the reshuffling of benefits package with the expansion to primary care. *Considering rising incidence of noncommunicable diseases, increasing life expectancy, and the high cost of medicines as an important source of catastrophic expenditure and unmet need, the revision of benefits package is critical.*

Benefits packages cannot be fixed but need to be continuously revised in a transparent way. It should be aligned not only with financial sustainability of the *Sehat Card Plus KP* but also with patients' need and access to care. In that sense, patient participation in the SCP Policy Board, in addition to the inputs by experts, is very important to ensure fair and transparent decision processes for the benefits package.

5.3.2.5 Opt-out voluntary insurance for formal sector employees: An emerging policy direction

The KP government plans to introduce an *Opt-Out voluntary insurance* for the formal sector, starting with civil servants. As the *Sehat Card Plus KP* is an entitlement based (instead of contribution based) system and is available for all who want, the opting-out for voluntary insurance is not likely to harm equity in terms of access to health care in KP. As it is voluntary for formal sector workers, who can choose between *Sehat Card Plus KP* entitlements and the *Opt-Out Scheme*, it would not cause political opposition for the government. Opting out for voluntary insurance can potentially ease financial pressure on the *Sehat Card Plus KP* although its magnitude will depend on the number and the risk profile of people who are willing to opt out of *Sehat Card Plus KP* entitlement. If the majority of formal sector employees, public and private, are currently not using *Sehat Card Plus KP* services even though they are entitled to (i.e., they use inpatient care as self-paying patients), the effect of opting out option on the financing of the *Sehat Card Plus KP* will be minimal.

An opting-out option in contribution-based social health insurance, e.g., substitutive private insurance in Germany, harms the equity and efficiency of health financing. As those who opt out tend to be better off and healthier than those who remain, the social health insurance pool shrinks and its risk pooling capacity declines because revenues decrease, and overall risks increase. In contrast, a potential opting-out option is less likely to harm the efficiency and equity of a universal entitlement programme such as the *Sehat Card Plus KP* as it is not based on contributions by the insured population. In this case, opting-out will not reduce the revenue base, rather it can reduce the cost of the *Sehat Card Plus KP*.

The ultimate impact of the voluntary Opt-Out insurance scheme on the *Sehat Card Plus KP* will depend on the details of its design. At face value, it seems a politically clever option as it is different from the multiple financing pools that cover different segments of population (e.g., civil servants, private formal sector workers, informal sector) by mandate in other countries. An Opting-Out voluntary insurance may not cause serious social stratification as long as entitlement is guaranteed in the *Sehat Card Plus KP*. In the long run, however, if many people choose to opt out, political support for *Sehat Card Plus KP* can decrease resulting in the potential decline of support for the expansion of benefits package of

[50] https://www.india.gov.in/spotlight/rashtriya-swasthya-bima-yojana

Sehat Card Plus KP. The KP government needs to consider various advantages and disadvantages associated with the introduction of the top-up voluntary insurance.

5.3.2.6 Provider payment methods

- ***How to pay: Payment system for inpatients care***

Currently *Sehat Card Plus KP* pays providers based on *case-based payment*, which is a wise policy choice. Although more systematic research is requested to assess the performance of the current case-based payment system, it needs to move towards a *Diagnostic Related Group* or *DRG-based payment system* incrementally, considering severities, comorbidities, etc. *Sehat Card Plus KP* needs to decide for designing its own or buy an existing DRG-based payment system being implemented in another lower-middle income country.

Elaboration of case-based payment and its transition into a DRG-based payment system for inpatient care needs to consider such factors as the optimal number of case groups, setting base rate, adjustments for outliers, inclusion of expensive drugs/devices, etc. All the above factors can be contextual and can be decided by the balance between policy goal, quality, and access to care for citizens and other technical aspects and acceptability by providers. Rather than a comprehensive change in a short time, incremental implementation and elaboration is recommended. It can elaborate case classifications and base rate over time by monitoring and evaluating the overall impact as well as potential unintended effects, such as the selection of patients with lower severity. Should the *Sehat Card Plus KP* decide to include outpatients care in future, then other payment methods such as *capitation* need to be considered.

- ***How much to pay: Setting the tariff***

It is not feasible to assess the adequacy of the tariffs without rigorous analysis of costs. However, voluntary participation of private hospitals in the *Sehat Card Plus KP* means that tariffs are not too low or not low enough for private providers to incur losses. Alternatively, private providers still have self-paying patients (unless 100% of patients are from the *Sehat Card Plus KP*), and they can still use cross-subsidy from self-paying patients for *Sehat Card Plus KP* patients. Private providers can do that as long as *Sehat Card Plus KP* tariff is greater than marginal (not average) cost of treating insured patients. At present, public hospitals are not much concerned about tariffs as *Sehat Card Plus KP* reimbursement is a top-up funding.

Even if private providers break-even from reimbursements for *Sehat Card Plus KP* patients, it is likely that the tariffs of some services are higher and those of others lower than the actual cost, thereby profitability of individual cases can be different. Different profitability margins across different cases are not an efficient way of reimbursement as it causes distortions in the optimal case mix, i.e., over-provision of high-margin cases and under-provision of low-margin ones. *Sehat Card Plus KP* and SLIC need to examine the trend for different cases based on needs in order to assess the potential for over- and underpricing. *A costing study is needed in the near future for optimal price setting of cases.* Academic institutions or provider associations need to be engaged or consulted in the process of setting tariffs, including the participation of representatives of providers on the Policy Board.

Currently, the tariffs are adjusted based on the grading of hospitals, which is a form of pay for performance (P4P). One of the key challenges of P4P is the definition and measurement of performance, which should be communicated to the providers in a transparent way. From interviews with both public and private providers, it was apparent that *Sehat Card Plus KP* needs to improve the transparency of the grading and effectively communicate to providers about the way the grading is

made. Another concern that came up was whether the current difference in tariff levels for different grades are enough to give performance incentives. A complaint was also made that grading was based more on grievance, which is sometimes very subjective, than on quality of care. In any case, more efforts are needed to improve communication among payers and providers.

5.3.2.7 Rationalization of public hospital budgets and SCP reimbursement

Private providers complain that the same tariff for public and private providers is not appropriate, considering that public providers are already supported by state budget. The current system of reimbursement as a top-up payment over and above their regular budgets to public hospitals is not considered an appropriate means to incentivize performance although it can be used to strengthen the capacity of public hospitals. However, it is also true that the current system of top-up pay still provides some incentives to increase the scale of activities (seeing more patients) because public providers can use reimbursement revenue more flexibly than state budget. It also increases the acceptability of *Sehat Card Plus KP* by public providers.

In order to maximize the effect of strategic purchasing and demand-side financing on hospital performance, the government needs to reduce state budget to public hospitals and instead channel it via increased premium support and better tariffs by the *Sehat Card Plus KP*, which can incentivize public hospitals to improve performance. This change in funding flow can also provide better ground for fair competition between public and private hospitals. Increased premiums can be used to expand benefits to primary care. One of the key challenges is the willingness of Department of Health to accept this change in fund flow and the 'decline' in its power and authority to allocate state budget to public providers. However, public hospitals in KP especially the secondary hospitals, have been underfunded for a long time and need to strengthen their capacity and infrastructure.

5.3.2.8 Billing and reimbursement (Claims Review) as a means of for Strategic Purchasing

Overall, SLIC has rapidly increased its capacity for claim processing, and most claims get reimbursed within a month. SLIC needs to further improve its capacity as a strategic purchaser beyond the efficiency in billing, fraud detection, and management of grievance. The most important performance measure of *Sehat Card Plus KP* is its contribution to the financial protection of patients, i.e., whether people in KP have been effectively protected from financial hardship through access to quality health care. This aspect has been assessed through the household survey component of this evaluation.

Strategic purchasing provides an opportunity to continuously review and assess the quality of care, however, currently assessment of clinical appropriateness is lacking in the *Sehat Card Plus KP*. The *Sehat Card Plus KP* and SLIC need to move towards viewing empanelment as selective contracting with providers that are willing to accept the payments/tariffs and the potential intervention by the purchaser in the clinical decision making through review and assessment, rather than a tool for quality-control. There exists a tension between SLIC and service providers over the intervention by DMO in the clinical decision making. Providers should have a better understanding that empanelment means they accept the SLICs role in clinical decision making.

The capacity of DMOs and SLIC in general, in quality review and assessment needs to be strengthened. For example, if there is an increasing trend in C-section, the purchasing function of *Sehat Card Plus KP* should be able to assess why, e.g., is it due to the tariff difference between C-section and normal delivery (i.e., margin of C-section is higher compared with normal delivery for providers), patient severity and complications (i.e., more severe cases are admitted following the improved awareness of

the benefits of *Sehat Card Plus KP*) or demand inducement? *Sehat Card Plus KP* should be able to examine severity-adjusted C-section rate across providers and inform them to change their behavior.

In the long run, *Sehat Card Plus KP* needs to strengthen capacity for strategic purchasing. Currently, the Department of Health and the Directorate of SHPI lack the capacity to manage, hence the *Sehat Card Plus KP* has been contracted out to SLIC. This can cause accountability issues due to divided governance between SHPI and SLIC in managing the Programme. *Without capacity building of SHPI Directorate, SLIC can dominate operations that have the potential problem of monopolistic behavior by the insurance carrier.* For example, the current level of 11.27% administrative charge paid to SLIC seems too high, yet the government may not be able to reduce this due to SLIC being the sole contracting agency.

Currently, SHPI has fewer than 10 staff members, which is far below the capacity for a purchasing directorate/agency. Although key functions are currently contracted to SLIC, SHPI Directorate is mainly accountable for the performance of the *Sehat Card Plus KP*, such as financial protection and access to quality health care. Therefore, a roadmap is needed to strengthen SHPI to play the role of a strategic purchaser with clear public responsibility for financial protection and access to quality care. Data and information linkage between SLIC and SHPI Directorate is a crucial step toward strategic purchasing. Financial protection and access to quality care should be explicitly included as key performance measures of *Sehat Card Plus KP* and should be disclosed to the public periodically.

While a publicly funded insurance scheme can contract out specific technical tasks, such as claim processing to third-party, it is rare that a public scheme contracts out its core purchasing functions to a privately managed insurance organization. Although SLIC is not a private insurance organization, operationally it functions in a similar manner, which has its pros and cons. Private insurance can be efficient in operations but is not designed to ensure financial protection for people and their access to quality care. For government, the potential transaction cost of monitoring SLIC for those key performance areas is high too. In the *Pradhan Mantri Jan Arogya Yojana* or PM-JAY of India, which also provides fully subsidized coverage for inpatient care for vulnerable families, many states have moved to the *'trust' model*, running the Programme on their own, although the majority of the states in India adopted the contracting model with insurance carriers in the initial years of implementation.

5.3.3 Organization and Delivery of Services under Sehat Card Plus KP – the critical role of SLIC

The implementation of *Sehat Card Plus KP* has been awarded to SLIC, which is primarily responsible for the organization and delivery of health services to the covered population through sub-contracting to different empaneled hospitals across the province. This is where the *rubber hits the road* and is the test whether health services are accessible, affordable, acceptable, meet quality standards, and make a difference to health outcomes. An in depth assessment of the organization and delivery of services has been presented in Chapter 3. This section considers several aspects from a policy perspective that include empanelment and contracting with hospitals, service package and its feasibility, monitoring the quality of care, incentives for hospitals and providers, differing interests and incentives of public and private providers, impact on access and equity, user satisfaction, complaints and their redressal.

5.3.3.1 Empanelment, contracting, and differential tariffs with hospitals

For empaneling and contracting hospitals, SLIC has developed a standardized checklist and sends an assessment team following requests by a hospital to get empanelled. Prior to the assessment, the hospital is invited to provide information on a standardized checklist based on self-assessment

regarding eligibility for empanelment. Following this, the SLIC team visits the hospital to make an onsite assessment to verify and classify based on the five grades of hospitals.

The process of empanelment of hospitals is entirely the responsibility of SLIC with little or no input by the DOH, SHPI Directorate or the Health Care Commission. It seems that sometimes there is an influence on SLIC to empanel certain hospitals from the higher level, which is resisted by them more often than not. On the other hand, SLIC has shown a more lenient stance to empanel hospitals in remote districts as an incentive for them to get upgraded. The verification and classification of a hospital at a specific grade has implications due to the differential tariffs for the same clinical or surgical conditions, which understandably favors the higher-grade empanelled hospitals.

There are 976 tariffs applied for case-base payment for different conditions within internal medicine (including cardiology, neurology, gastroenterology, and others) and surgery (including cardiac surgery, pediatric surgery, obs/gyn, orthopedics and other conditions). Each tariff provides five levels of payment according to the grading of empanelled hospitals, with the highest tariff at grade 5, though payments for grades 4 and 5 are almost at similar rate. For instance, the tariff for Caesarean section at grade 5 is PKR 30,000 as compared to PKR 16,500 for normal delivery. Hence, SLIC pays 1.8 times higher for Caesarean section than normal delivery, which sends a strong incentive for hospitals to opt for Caesarean section. Based on global evidence, close monitoring of clinical indicators and regulatory intervention for non-adherence is required.[51]

Public empanelled hospitals benefit significantly from the *Sehat Card Plus KP* since the legislative provision maintains double financing for public health facilities which means (i) annual budget allocation (without loss of budget) and (ii) the revenue generated from reimbursement by the *Sehat Card Plus KP*. As a result of this arrangement, there is ambiguity in the accountability mechanism as it is unclear whether the public health facilities should be reporting to the provincial Health Department or to the *Sehat Card Plus KP*. Further, public health facilities have incentives to admit patients to generate additional income.

From the private sector provider perspective, this is not a level playing field between them and the empanelled public hospitals. Indeed, the private hospitals do not receive an annual budget allocation, rather their earnings are from the *Sehat Card Plus KP* and other out-of-pocket payment services provided. Provision in section 5(5) of the 2022 UHC Act provides incentives for public healthcare facilities to generate revenue from the *Sehat Card Plus KP* as part of revenue is paid for strengthening health service quality and incentives for staffs (Box 3).

Box 3: The double dipping phenomenon among empanelled public sector hospitals in KP

Public empanelled hospitals benefit significantly from SCP, as its routine supply side annual budget allocations are intact, according to section 5(4) and 5(5) of the 2022 UHC Act.

5(4) "Public hospitals shall retain, without loss of budget, all of the additional income (generated from SCP).

[51] Boatin AA, Cullinane F, Torloni MR, Betrán AP. Audit and feedback using the Robson classification to reduce caesarean section rates: a systematic review. BJOG. 2018 Jan;125(1):36-42. doi: 10.1111/1471-0528.14774

5(5) "The additional income under sub-section (4), shall be retained and utilized for the improvement of quality of healthcare services and payment of incentives to the hospital staff in such a manner as may be prescribed in regulations."

5.3.3.2 Service package and its feasibility

The *Sehat Card Plus KP's* service package concentrates only on inpatient services that are within the capacity of empanelled hospitals to provide these, while quality of care is validated through empaneling process conducted by SLIC. The package of inpatient services offered is available on SCP website (Figure 4)[52]. In addition to basic treatment package which covers secondary care services up to PKR 200,000 per family per year. SCP also covers advanced treatment up to PKR 400,000 per family per year, and additional coverage of certain high-cost treatments such as chemotherapy, radiation and surgical treatment for cancer, kidney transplantation, accident and emergency and ICU care up to a maximum of PKR 400,000. Despite a favorable package, there are 22 exclusions that can be seen in Annex 6. *Sehat Card Plus KP* thus claims to provide an annual cover of up to PKR 1,000,000 per family. As of March 2023, based on the information available on the website, *Sehat Card Plus KP* had registered more than 9.2 million families of KP for free-of-cost at point of care, inpatient services. There have been 3.1 million total visits made to the hospitals, with almost 2.1 million hospitalizations[53]. Since implementation commenced, 4.95 million enrollment Sehat Cards were issued till the Programme became universal and replaced by the CNIC.

In mid of 2022, revised case wise packages for inpatient admissions under individual disease conditions were launched. As reported by SLIC, the pre-defined rates for these conditions were assigned based on market research. During visits to the hospitals, it was reported by a representative of a secondary care facility that for some conditions such as typhoid fever, the predefined package cost is much lower than the cost of antibiotics required to be administered to follow the international treatment guidelines. In such cases, 'special approvals' are required from the SLIC office, processed by the Health Facilitation Officer (HFO). Private tertiary care hospitals have also reported dissatisfaction over the package reimbursement rates, which are lower than the cost incurred for some treatments (See Section 3.2.6.2). Following discharge patients are provided five days of medications following which they are on their own till a readmission is required. At the moment, SCP does not cover outpatients or preventive care (See Section 3.2.4 above).

5.3.3.3 Impact on access and equity

Sehat Card Plus KP claims to ensure financial and service access for all. This was a critical decision made in April 2020 to go universal, which was a major shift from the prior policy of targeting population below poverty line. Hence in principle every citizen of KP province, irrespective of financial status, is entitled to receive inpatients services as defined in the package. An important aspect of the inpatients service coverage aspect of universal access is determined by the number of empanelled hospitals in each district of the province. Table 4 provides information on the number of enrolled families, empanelled hospitals, enrolled family per hospitals, and discrepancy index across 38 districts in KP province.

By January 2023, 196 hospitals had been empanelled in 29 out of 38 districts. Nine districts did not have empanelled hospitals which meant patients had to travel to neighboring districts for care or

[52] https://sehatcardplus.gov.pk/
[53] Sehat Card Plus KPK. https://sehatcardplus.gov.pk/

admission. Most of these districts have recently been incorporated within KP from what in the past was the Federally Administered Tribal Areas or FATA (Table 4). Alternatively, patients from these districts have to pay out-of-pocket to receive services and could not avail inpatients services to which they are entitled. Analysis of SLIC data on 94,387 admissions shows that while 62% patients were admitted in their home district, the rest had either to travel to another district in KP (32%) or to the neighboring province (6%) to seek treatment and in some instances, the travel cost can itself was prohibitive (See Chapter 4). This structural inequity in the provision of care can partially be addressed by referral support to remote districts or by incentivizing hospitals in these districts to become empanelled on a fast-track basis. The Health Foundation may have a role in helping to build capacities in these districts.

Similarly, the number of enrolled families per empanelled hospital and the difference in *discrepancy index* across districts are key performance indicators for the SHPI Directorate and SLIC to consider by increasing number of empanelled hospitals thereby minimizing the inequity gap. Availability of empanelled hospitals in each district reflects the gaps in admission rate (measured by admission per capita population) across 38 districts. This can be verified from routine statistics held by SLIC.

Table 4: No. of enrolled families, empanelled hospitals, and discrepancy index by districts in KP

District	Families Enrolled	No. of Empanelled Hospitals	Enrolled Families per Empanelled Hospital	Discrepancy Index	District	Families Enrolled	No. of Empanelled Hospitals	Enrolled Families per Empanelled Hospital	Discrepancy Index
Abbottabad	460,471	10	46,047	0.93	Madan	660,625	20	33,031	0.67
Bajaur Agency	298,982	5	59,796	1.21	Mohmand Agency	172,584	1	172,584	3.48
Bannu	310,933	4	77,733	1.57	N Waziristan Agency	230,704	1	230,704	4.65
Batagram	161,736	8	20,217	0.41	Nowshera	376,060	9	41,784	0.84
Buner	242,602	3	80,867	1.63	Orakzai Agency	110,584		NA	
Charsadda	451,651	9	50,183	1.01	Peshawar	816,814	31	26,349	0.53
Chitral	130,059	3	43,353	0.87	S Waziristan Agency	225,077	---	NA	---
D. I. Khan	366,428	5	73,286	1.48	Shangla	218,250	5	43,650	0.88
Hangu	142,301	2	71,151	1.43	Swabi	482,342	15	32,156	0.65
Haripur	334,597	4	83,649	1.69	Swat	658,691	23	28,639	0.58
Karak	214,808	3	71,603	1.44	T A Adj Bannu	10,984	---	NA	---
Khyber Agency	291,663	2	145,832	2.94	T A Adj D.I.khan	17,410	---	NA	---
Kohat	269,330	5	53,866	1.09	T A Adj Kohat	32,688	---	NA	---
Kohistan	93,646	1	93,646	1.89	T A Adj Peshawar	12,791	---	NA	---
Kurram Agency	182,981	---	NA	---	T A Adj Tank	13,389	---	NA	---
Lakki Marwat	216,107	3	72,036	1.45	T.A Adj Lakki Marwat	5,538	---	NA	---
Lower Dir	358,636	10	35,864	0.72	Tank	89,557	1	89,557	1.81
Malakand P Area	197,222	5	39,444	0.80	Tor Ghar	37,135	---	NA	---
Mansehra	555,912	4	138,978	2.80	Upper Dir	267,694	4	66,924	1.35
Total KP	9,718,982	196	49,587	1.00					

Source: https://sehatcardplus.gov.pk/enrollment/ access 4 January 2023

5.3.3.4 Monitoring the quality of care

Other than assessment undertaken at the time of the empanelment of a hospital, there are no defined criteria or initiatives to monitor the quality of care provided by the empaneled hospitals. Currently, the Department of Health and the SHPI Directorate lack the capacity to monitor quality of care offered at the empanelled hospitals. Some levels of monitoring carried out by SLIC, is focused on countering supplier induced demand; particularly for surgical procedures such as appendectomies, cataracts, C-sections. The health division at SLIC is currently in the process of compiling treatment protocols for 20 disease conditions and plans to train healthcare providers at empanelled hospitals on these.

The ***Health Care Commission (HCC)*** in KP established under the KP HCC Act, 2015 has a critical role improve the quality of health care delivery across the province, which has so far not been employed by the Sehat Card Plus KP (Section 3.1.8). For empanelment, the only mandatory requirement is for the facility to be registered with HCC, however licensing is not a criterion for empanelment. According to a representative of HCC, the Department of Health, is interested in expanding the role of HCC to ensure licensure of empanelled facilities, however there are budgetary and systemic constraints. The KP HCC has developed the Minimum Service Delivery Standards supported with a Reference Manual. For Category I Health Care Establishments it comprises 34 standards and 160 indicators[54]. These standards are not currently defined for other category hospitals. The HCC representative quoted - *"If empanelment is linked with licensing immediately, many facilities may not be able to meet minimum standards and hence may not be empaneled"*.

The current tools developed by SLIC and HCC lack outcome indicators on quality of care, and mainly focus on input and some process indicators. Hence, these primarily assess availability of service inputs (infrastructure, equipment, personnel) and assess little in terms of, for instance, infection control practices, patient safety, waiting times, and clinical outcomes to monitor quality. This seems to be a major gap in the healthcare system of KP. The *Sehat Card Plus KP* provides an opportunity to address this gap by empaneling hospitals, at least initially, to meet the MSDS as set by the HCC. Later this can evolve into a mature health care accreditation programme as is the practice in many L&MICs.

5.3.3.5 Incentives for Hospitals and Providers: Moral Hazards of Insurance Programme

Interview with SLIC senior management revealed that the spending rate increased from 45% of total premium in 2015 to almost 100% in 2021 due to increased utilization rate and potential supplier-induced demand. Although data could not be made readily available, there was a clear perception that the admission rate of ambulatory care sensitive conditions (ACSC) was relatively high. For example, the frequency of admissions for conditions such as asthma, which can be treated on an outpatient care basis, is a useful index for identifying ACSCs. This can happen under two circumstances: (i) when patients demand to be treated as inpatients for conditions such as NCDs, to seek coverage under *Sehat Card Plus KP*, but can be treated as outpatient services; and (ii) hospitals, especially private for-profit hospitals, have perverse incentives to admit patients for these conditions and get it reimbursed from SLIC. There is a need to do a differential analysis of the causes of admission of ACSC.[55]

Both public and private empanelled hospitals have interests to generate revenue from service provision under the *Sehat Card Plus KP*, they may have differing interests and incentives. Public hospitals staff have incentives from additional revenue from *Sehat Card Plus KP*, while private hospitals see this as an opportunity to participate in the UHC movement for which there is a strong political

[54] https://hcc.kp.gov.pk/downloads/

[55] Sarmento J, Rocha JVM, Santana R. Defining ambulatory care sensitive conditions for adults in Portugal. BMC Health Serv Res. 2020 Aug 15;20(1):754. doi: 10.1186/s12913-020-05620-9

commitment. The case-based payment applied by SLIC, in theory, can induce healthcare providers' perverse behavior towards provision of unnecessary admissions. One private hospital in a smaller district in KP, reportedly conducted eye screening camps and admitted a large number of patients for cataract surgeries. Surgeries such as Caesarean section instead of normal delivery can cause pediatric and maternal complications[56], especially placenta accreta[57], which have been reported where long-term monitoring of the complication from Caesarean section is undertaken.

5.3.3.6 User satisfaction, complaints, and their redressal

According to SLIC, it monitors satisfaction regularly, the redressal is immediately taken by district medical officer (DMO) and health facility officers (HFO) who are on site in each empanelled hospital. From the interviews with healthcare providers, they are confident that there is no extra billing for patients. The patient exit interviews have to a large extent validated this assertion by SLIC. From the interviews during hospital visits, patients who accessed inpatient services did not have to make co-payments, though it is unknown if there are unofficial or under the table payments being made. Chapter 3 provides a more detailed analysis based on patient exit surveys.

5.3.4 Monitoring and Evaluation

5.3.4.1 Management Information System (MIS) of Sehat Card Plus KP

State Life Insurance Cooperation (SLIC) has developed and maintained a robust management information system (MIS) for the *Sehat Card Plus KP*. The application is developed in Oracle that provides live information on routine inpatient registrations/services and claims through a customized dashboard reporting modules embedded in it. The *Sehat Card Plus KP* application is also connected with NADRA database that is used for instant verification of SCP entitlement on the basis of a valid Computerized National Identity Card (CNIC). The application also provides a hierarchical and customized access to SLIC users based on their roles and responsibilities: Health Facility Officer (HFO) sitting in each hospital; District Management Officer (DMO) at the district level; zonal team supervising cluster of contiguous districts; provincial office based in Peshawar; and to the Regional Office in Islamabad, where most of the analysis is done. Table 5 presents a summary of the strengths and gaps of the MIS.

Table 5: Strengths and Gaps and Challenges of the SLIC Management Information System

Strengths	Weaknesses
▪ Electronic information management system (inpatient services and claim management – partially)	▪ Does not record data on patient wealth status/poverty score
▪ Provides live reporting through customized dashboards	▪ Utility of MIS information is primarily driven by traditional activity-oriented approach
▪ Collects information on patients' vital statistics, disease, date of admission and discharge, treatment outcome, expense details	▪ Limited dashboard/customized reports for HFO, DMO and Zonal in-charge, and to the Directorate of Social Health Protection Initiative (SHPI)

[56] Słabuszewska-Jóźwiak A, Szymański JK, Ciebiera M, Sarecka-Hujar B, Jakiel G. Pediatrics Consequences of Caesarean Section-A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2020 Oct 31;17(21):8031. doi: 10.3390/ijerph17218031

[57] Anderson DJ, Liu H, Kumar D, Patel M, Kim S. Placenta Percreta Complications. Cureus. 2021 Oct 17;13(10):e18842. doi: 10.7759/cureus.18842

Strengths	Weaknesses
▪ Record patient diagnosis based on International Classification of Diseases (ICD-10)	▪ Limited use of result-based and outcome-level data beyond customized reports
▪ Hierarchical access of MIS to its users based on needs (HFO, DMO, Zonal head, and Provincial head, and central headquarter in Islamabad)	▪ The selection of indicators to be included in dashboard lack clear strategic purpose and operational definitions
▪ Password protection and restrictive access to users to ensure data safety and security	▪ The SLIC HMIS system is not integrated with hospital HMIS

5.3.4.2 Monitoring & Evaluation by SHPI Directorate

Building an independent monitoring and evaluation (M&E) system and capacity is an essential pillar for improved governance of the *Sehat Card Plus KP*. It serves as a management tool for decision makers to determine the outputs and outcomes of *Sehat Card Plus KP*` implementation by SLIC and reflect on their own actions. The routine operations of SLIC for the management of *Sehat Card Plus KP* `are well-defined and are supported by a robust MIS and activity-oriented monitoring systems. However, result-based monitoring was identified as a weak link within the *Sehat Card Plus KP* both at the end of SLIC and SHPI Directorate.

- **Registration of entitled patients:** Only empaneled hospitals offer inpatient health services under *Sehat Card Plus KP*. A SLIC representative (Health Facility Officer - HFO) is based at each empaneled hospital who registers the incoming patients under *Sehat Card Plus KP* after online NADRA verification and doctor's advice of hospital admission.
- **Validation and reimbursement of claims:** Claims are raised manually (hardcopies) by the hospitals and are checked and verified at several levels. First, at the hospital level, the claims documents are endorsed by relevant hospital authorities. Second, DMO is responsible to verify the claim by screening the supporting documents (including patient records) and by contacting index patients. Finally, the claims are rechecked and verified by different teams at the provincial office that collectively are 90 staff. For contested claims, relevant hospitals are intimated and asked for explanation within 2 weeks. External audits are conducted by SLIC for claims management. *SLIC has plans to digitize the entire claim management system in the coming months.*
- **Complaint redressal system:** A multi-pronged complaint redressal system is in-place by SLIC whereby SCP users and nonusers could lodge complaints using the following sources: a) paper-based complaint form in hospital; b) complaint email; c) NADRA outbound call; d) SLIC outbound call; e) *Sehat Card Plus KP* hotline number; and f) Prime Minister's Delivery Unit (PMDU). Complaints registered from these sources are posted on a shared WhatsApp group where relevant team members from SHPI Directorate and SLIC conduct formal investigation to resolve them. While paper-based complaint mechanism is most commonly used by the patients/attendants (as reported by SLIC officials), these complaints are not posted on the shared WhatsApp group. The most common complaints registered during the year 2022 include improper behavior of hospital staff, high service charges, substandard service, and entitlement issues.
- **Key Performance Indicators (KPIs) reporting:** SHPI Directorate as well as SLIC have not yet identified KPIs for the *Sehat Card Plus KP*. There are certain process-level indicators that are used for monitoring through customized dashboard (e.g., claims raised and settled, beneficiaries registered etc.).

5.3.4.3 Areas of improvement in Monitoring & Evaluation

While the above four mechanisms represent the monitoring strategy of SLIC, there are limited opportunities for a more in-depth evaluation of progress/performance of SLIC by the SHPI Directorate and other related institutions that fall under the umbrella of Department of Health in KP. Although SLIC standard operating protocols (SOPs) are well-defined, they primarily look at the operational aspects of the Programme that are useful for monitoring day-to-day progress. Therefore, there is a clear need to embed more comprehensive result-oriented monitoring and evaluation (M&E) systems within the *Sehat Card Plus KP.* The following areas have been identified for strengthening M&E of *Sehat Card Plus KP* in KP:

- **Capacity building of SHPI staff on M&E:** There is an evident need for building capacity of SHPI Directorate staff in the area of M&E. Currently, the team has limited M&E capacity and heavily relies on SLIC for data processing and performance monitoring to gain insights about Programme implementation. There is no separate budget allocated to SHPI for staff training. Recently, it has been decided to offer some project management and M&E training to SHPI pertinent staff members. In the longer run, a reputable institution in Pakistan or in a country of the region should engaged to build capacity of SHPI staff in M&E of the *Sehat Card Plus KP*.
- **M&E framework:** SLIC does not have a well-defined performance oriented monitoring system. Hence, the need to develop a comprehensive M&E framework/plan for the *Sehat Card Plus KP* in collaboration with SHPI Directorate that delineates a parsimonious list of key performance indicators at the level of input, activity, output, process, outcome, and impact. The framework should guide the amendments in SLIC MIS to generate customized reporting based on the needs of Programme implementers, managers and policymakers.
- **M&E activities:** There is a separate M&E wing/section within SHPI Directorate, however, due to limited capacity, it is not fully functional to independently assess *Sehat Card Plus KP* implementation and performance. Guided by the M&E plan for *Sehat Card Plus KP*, SHPI Directorate may conduct or outsource periodic surveys to an independent body to improve implementation processes such: exit interview, verification of claims, standardized or mystery patient survey, and qualitative investigations with relevant stakeholders (hospital and SLIC staff and SCP beneficiaries). While SLIC is doing a good job in activity-based monitoring, SHPI should take the lead in result-based monitoring – for example, monitoring of insurance-related risks (e.g., risk of adverse selection, risk of over-consumption or risk of over-prescription etc.), and routinely conduct outcome-level analysis (e.g., treatment outcomes, health determinants and risks, morbidity, cause-specific mortality etc.). Additionally, SHPI Directorate should consider doing periodic cost analysis using routine data on patients and finance to identify areas for improving operational- and cost-efficiencies (e.g., cost per beneficiary). This could be complemented by predictive modeling to forecast funding needs.
- **Knowledge management:** SHPI M&E Wing should serve as a knowledge management hub for the production of district and provincial level disaggregated data and for reporting and monitoring health situation and trends; producing regular performance reports; creating dashboards for dissemination of information. These reports should not only guide the *Sehat Card Plus KP* but can be used for planning and decision-making more broadly.
- **Role of Independent Monitoring Unit (IMU) in SHPI:** Health Department of Khyber Pakhtunkhwa has established an IMU to regularly evaluate performance of the public sector healthcare facilities and take measures to improve quality of services at the government hospitals in the province. According to the key informants, the role of IMU is limited to monitoring human resources and availability of equipment and supplies in public hospitals. Currently, IMU plays no direct role in the *Sehat Card Plus KP*. Since SHPI Directorate has limited human resources, going forward, the

potential of engaging IMU can be explored for monitoring *Sehat Card Plus KP* over the next 2-3 years.

Finally, during discussions, it became apparent that a *Central Management Information Systems (CMIS)* has been developed, although it was unclear whether it is hosted in SHPI Directorate, SLIC or DOH and what were its existing capacities. It seems that *de facto* SLIC is managing the CMIS which includes statistics on empanelled hospitals, clinical data related to claims and payment, consumer protection and management of complaints database, while NARDA maintains the beneficiary database. It is imperative that eventually the CMIS should be owned and managed by the SHPI Directorate. Indeed, the existence of CMIS according to UHC Act 2022, Section 6(3), is a legally mandated requirement as it states – "*the Policy Board, the empanelled hospitals and the insurance firm shall provide necessary data for the establishment and update of the Central Management Information System.*

5.3.4.4 Evaluation

SHPI may consider embedding third party evaluations (such as this one) every 4 to 5 years from its own resources or by requesting external funds from a donor or development partner. Such an evaluation can help track changes in health outcomes either by conducting special household-based surveys annually or making use of existing surveys such as MICS, PSLM and PDHS. In addition, and for optimum use, de-identified MIS data may be made available to researchers/academicians for use, and implementation research may be conducted to answer specific questions for programmatic decision making.

5.3.4.5 Communication Strategies of Sehat Card Plus KP

Sehat Card Plus KP provides coverage for inpatient services for the entire population of KP. A programme of such measure requires an effective communication strategy. An in depth review of the communication strategy and its different modalities was not conducted under this evaluation. However preliminary information revealed that the Department of Health and the SHPI Directorate conduct sporadic awareness campaigns to promote and advertise the *Sehat Card Plus KP* through different media, including television, FM Radio, newspapers, billboards, banners, posters and streamers. For facilitation of *Sehat Card Plus KP*, State Life has established Facilitation Desks at prominent places in each empaneled hospital. The desks are properly branded, equipped with necessary equipment and needed human resources. Additionally, information elicited from the household survey suggested over 90% knowledge of the *Sehat Card Plus KP*. The knowledge of the different components of the Programme however was less than 50%. The most common modality for disseminating information about the Programme was through the 'word of mouth'.

The Programme also has a grievance redressal mechanism in place to address complaints and grievances from beneficiaries. The awareness efforts also provide information to beneficiaries about the means of lodging complaints. Posters are displayed at empaneled hospitals and notable points to reinforce the messaging and explaining how to lodge a complaint (See complaint redressal system above). The mechanism for complaint registration by the beneficiaries at the empaneled facilities presents a conflict of interest as gatekeepers at the facility level (i.e., HFO) are employees of SLIC and local hospital staff. Lack of communication skills and inadequate knowledge about the Programme components can contribute to ambiguity at empaneled health facilities.

5.4 Conclusions

The *Sehat Card Plus KP* is a flagship initiative of the Department of Health, KP and has done commendably in a short period of seven years to provide inpatients coverage to a large segment of

population of the province. There is a high level of political commitment for the Programme, which is legally covered under the UHC Bill 2022 that mitigates against its reversibility.

Organizationally, the *Sehat Card Plus KP* is overseen by a Policy Board chaired by the minister of health and managed by the SHPI Directorate led by a CEO. The implementation of the Sehat Card Plus KP has been contracted out to SLIC given the capacity challenges within the Department of Health. While this arrangement has worked well in the short run, and although not supported by the UHC 2022 Act, the establishment of an independent provincial health insurance organization needs serious consideration in the long run.

The government of KP has allocated adequate funds to the Program over the last few years, however, given the precarious macroeconomic situation of the country this puts a question mark on its long term sustainability. The decision in April 2020 to universalize and cover the entire population poses additional financial burden on the Programme and mitigates against the progressive universalism approach.

While the *Sehat Card Plus KP* provides a fairly generous package of inpatients care, it goes beyond by extending coverage to some high cost interventions such as organ transplants and implants, and at the same time does not extend coverage to primary care interventions despite the existence of a well-defined, cost effective and evidence informed Essential Package of Health Services for KP. This is essential as outpatients care is equally responsible for causing catastrophic expenditure and even impoverishment, especially as the disease burden shifts towards NCDs and other chronic diseases.

The implementation of the *Sehat Card Plus KP* has several elements that include empanelment and grading of hospitals, setting of tariffs for different treatments, delivery of care and monitoring quality, provider payment modalities, claims review and reimbursement, and monitoring and evaluation. The entire responsibility of implementation has been outsourced to SLIC, which is also the source of information about Programme performance.

There is an urgent need to strengthen the human resource and infrastructural capacity of SHPI Directorate along with the involvement of other bodies such as the Health Care Commission, Health Foundation, and the Independent Monitoring Unit of the DOH to support SHPI Directorate in independently monitoring implementation of the Sehat Card Plus KP.

Finally, a *Central Management Information System (CMIS)* has been developed, which is currently being managed by SLIC that includes statistics on empanelled hospitals, clinical data related to claims and payment, consumer protection and management of complaints database, while NARDA maintain the beneficiary database. It is imperative that eventually the CMIS should be owned and managed by the SHPI Directorate.

Chapter 6: Priorities and Recommendations for Institutionalization of *Sehat Card Plus KP* in Khyber Pakhtunkhwa Province

6.1 Preamble

The *Sehat Card Plus KP* in KP province has made significant achievements in a short period of seven years and has been able to extend coverage by increasing access and utilization of inpatients care and enhancing financial risk protection to the beneficiaries of the *Programme*. This has been well substantiated at all levels of the three-tiered evaluation – household surveys, health facility assessment and exit interviews, and analysis of SLIC data; and during dialogues with policymakers in KP. *In this regard, the KP government needs to be commended for this achievement and for its commitment to extend health coverage to the population of KP. There is good evidence that given its performance the Sehat Card Plus KP needs to be consolidated and institutionalized in KP province to be among the first to achieve universal health coverage (UHC) in Pakistan.*

6.2 Strengths and Areas for Improvement

The *Sehat Card Plus KP* has many strengths that need to be reinforced and institutionalized. At the same time, there are several areas for improvement that ought to be addressed if progress is to be made towards UHC in KP. The main strengths and areas for improvement are summarized in Table 1.

Table 1: Strengths & Areas for Improvement to Optimize Performance of the *Sehat Card Plus KP* in KP

Strengths	Areas for Improvement
▪ Unequivocal political commitment of MOH leadership and SHPI Directorate to *Sehat Card Plus KP*, backed up strong parliamentary legislation	▪ Sehat Card Plus KP Policy Board has representation from the public and private sectors but lacks stakeholders representing the citizens and providers.
▪ Increasing allocation of financial resources over the last three years to strengthen and expand the *Sehat Card Plus KP*	▪ SHPI Directorate, given its pivotal role, lacks technical staff and infrastructural support, which needs to be corrected urgently to undertake independent monitoring of the Programme.
▪ Outsourcing the implementation of Sehat Card Plus KP to SLIC, which has the capacity to scaleup the programme has been a useful measure in the short run	▪ Rapid expansion of population coverage from targeting poor to fully subsidized entitlement for all poses a major challenge to financially sustain *Sehat Card Plus KP*. Evidence is emerging of non- and delayed release of payments to SLIC.
▪ Tertiary care hospitals have cumulative readiness to provide core clinical services, though not so for many secondary hospitals.	▪ SLIC has a legal status, with reference to UHC Bill 2022, which makes it the preferred third party despite mention of competitive bidding process.
▪ Majority of hospitals (81% secondary, 75% tertiary) reported receive timely settlement of claims by SLIC.	▪ SLIC receives 11.27% of total premium as administrative overheads, and retains 15% of unspent budget at year end, hence bears minimal financial risk.
▪ Case-based payment method adopted is a wise policy choice, which needs to transition to DRG-based payment system.	▪ HCC, Health Foundation, IMU, not engaged in helping SHPI and SLIC in implementation, e.g., in empanelment, PPPs, M&E.

Strengths	Areas for Improvement
▪ SLIC maintains an electronic MIS, connected to NADRA database for verification and provides live reporting through customized dashboards.	▪ Before introducing the Opt-Out voluntary insurance for formal sector, KP government should carefully weigh its advantages/ disadvantages.
▪ Two-thirds of *SCP* users, at the time of discharge, did not report incurring out-of-pocket expenditure during admission.	▪ Exclusion of primary care and preventive interventions is a major gap. The endorsed EPHS for KP should progressively be incorporated within the Sehat Card Plus KP if UHC is to be achieved.
▪ High level of awareness about the *Sehat Card Plus KP,* reaching 90%, and a favorable perception among the population towards the *Sehat Card Plus KP,*	▪ Empanelment and quality of care monitoring should focus on input, processes and output indicators (e.g., infection control, patient safety, waiting times), as well as clinical outcomes.
▪ Significant reduction in mean out-of-pocket expenditure for inpatient services for SCP users compared with SCP nonusers	▪ Sehat Card Plus KP needs to improve the transparency of the grading and setting tariffs & effectively communicate the way grading is made.
▪ Level of catastrophic health expenditure for all wealth quintiles and place of residence was significantly lower for SCP users as compared to SCP nonusers.	▪ An independent M&E system is an essential tool for improved governance of Sehat Card Plus KP and for decision makers. It needs to be urgently set up.
	▪ Accessing healthcare from remote districts and reaching distant hospitals is challenge expressed by 25% of respondents.
	▪ Readiness for support services, especially Blood Banking was deficient, estimated at 56% for secondary and 81% for tertiary facilities.
	▪ Secondary hospitals reported deficiencies in readiness of health management information systems and handling of billing & reimbursements.
	▪ Standardized system for coding of medical conditions, such as ICD-10, was being practiced by less than 35% secondary & 50% tertiary hospitals.
	▪ *Sehat Card Plus KP* users (33%) seemed less satisfied with communication by healthcare providers.
	▪ Among SCP nonusers, 44% not eligible due to citizenship and domicile, 19% due to not having CNIC, B-form.

6.3 Strategic Priorities and Recommendations for Action

The in-depth review of the *Sehat Card Plus KP* based on the three-tiered evaluation framework at the household (microlevel), health facility (mesolevel), and for *Programme* governance and financing (macrolevel) has highlighted several strengths and areas for improvement that are essential for its continuation and institutionalization. This section provides a set of priorities and recommendations for action that would help sustain and institutionalize the *Sehat Card Plus KP*.

The priorities and recommendations for action focus on aspects related to: (i) Strengthening of governance, institutional capacity and financial sustainability of *Sehat Card Plus KP*; (ii) Strengthening the organizational and service delivery capacity of empanelled hospitals; and (iii) enhancing impact of the *Sehat Card Plus KP* at the level of the community.

6.3.1 Strengthen the Governance, Institutional Capacity and Financial Sustainability of Sehat Card Plus KP: Strategic and Policy Priorities and Recommendations

Priority 1: *Sehat Card Plus KP Policy Board has representation from the public and private sectors but lacks stakeholders representing the citizens and providers.*

Recommendation for Action:

- Include representatives of citizens and beneficiaries of the Sehat Card Plus KP and representatives of health care providers in the Policy Board as is practiced in similar decision making bodies in L&MICs. (For example, see membership of the National Health Security Board, Thailand[58].

Priority 2: *SHPI Directorate, given its pivotal role, lacks technical staff, IT and infrastructural support, which needs to be corrected urgently for independent Programme monitoring.*

Recommendation for Action:

- Make adequate budgetary provisions, prepare post descriptions, and advertise and recruit relevant technical staff in the SHPI Directorate according to its organogram, based on open competition and market based remuneration. These positions should at minimum include M&E specialists, health insurance experts, data analysts, and IT specialists.
- Locate the office of SHPI Directorate in a more conducive working environment with sound infrastructure, access to utilities, and state of the art facilities for information technology.

Priority 3: *Ensure financial sustainability of the Sehat Card Plus KP by allocating adequate funds that meet the demand of rapid expansion of population coverage from targeting poor to fully subsidized entitlement for all.*

Recommendation for Action:

- Allocate and release from public sector domestic resources PKR 25.0 billion annually and on time in quarterly tranches to SLIC, the implementing organization for the 9.0 million or so entitled families in the province. This amount should progressively increase over time as the premium gets revised.
- Reshuffle resources from high cost (and cost ineffective) interventions such as liver and renal transplant and reallocate these funds to more cost effective primary care and preventive interventions by incorporating the EPHS for KP.
- Progressively reduce regular budgets of large public sector (supply-side) and channel these resources through insurance funds (demand-side) thereby increasing competition among hospitals and an imperative to perform better.
- Introduce public health taxes such as against tobacco, sugary drinks, junk foods and earmark these to *Sehat Card Plus KP.* In future a small proportion of VAT could also be earmarked for health insurance funds as has been done by other L&MICs.

[58] https://eng.nhso.go.th/view/1/NHSO_Board/EN-US)

- Undertake a political economy analysis as part of the introduction of these reforms to identify pockets of resistance and ensure political buy in of stakeholders and constituencies.

Priority 4: *Given SLIC's legal status in UHC Bill 2022 as the preferred 3rd party (despite mention of competitive bidding), establish independent capacity to monitor and optimize SLIC's performance in Sehat Card Plus KP implementation.*

Recommendation for Action:

- As *Sehat Card Plus KP* has contracted out its core purchasing functions to SLIC, strengthen data and information linkage between SLIC and SHPI Directorate as a crucial step for better accountability due to the shared governance between these two institutions in managing the Programme.
- Develop independent capacity within SHPI Directorate (as stated above) to better monitor and oversee SLIC for greater achievement of the goals of *Sehat Card Plus KP*.
- Provide oversight and support to build the capacity of SLIC capacity to become a strategic purchaser in areas such as contract negotiation, rationalization of tariffs, effective quality of care monitoring, and introducing performance based contracting with public and private hospitals.
- As much as possible, review and negotiate in subsequent years the 11.27% of total budget of *Sehat Card Plus KP* as the administrative cost and 15% retention of unspent funds by SLIC.
- Establish Technical Advisory/Programme Management Committee for technical support and improved coordination on all technical and operational aspects of SCP KP implementation. The Committee, in addition to SHPI Directorate and SLIC, should have representation from the DOH, HCC, Health Foundation, provincial HSA, private providers, academia and beneficiaries of the Programme.
- Develop a mechanism and dedicate funds for an independent third party performance audit annually from financial and technical perspectives.

Priority 5: *Engage Health Care Commission, Health Foundation, IMU in enhanced implementation of Sehat Card Plus KP (e.g., in Empanelment, PPPs, M&E)*

Recommendation for Action:

- Health Care Commission KP can assist SHPI Directorate and SLIC in the empanelment of health facilities beyond initial registration. Empanelment of health facilities jointly by HCC and SLIC will bring greater transparency and also include in the assessment process outputs and outcomes indicators such as infection control, patient safety, waiting times, and clinical outcomes.
- Health Foundation KP should be invited to strengthen PPP arrangements, especially to build capacity in remote districts by fast tracking the upgradation of secondary hospitals.
- Explore the role of Independent Monitoring Unit (IMU), Department of Health to independently monitor health facilities providing care under the *Sehat Card Plus KP*.
- Engage these institutions by including them in the Technical Advisory/Programme Management Committee (proposed above) and by signing MOUs with clear TORs with SHPI Directorate.

Priority 6: *Before introducing the Opt-Out voluntary insurance for formal sector, KP government should carefully weigh its pros and cons.*

Recommendation for Action:

- Undertake an independent exercise to determine the feasibility of introducing the Opt-Out Voluntary Insurance option in the formal sector starting with civil servants. This should include

assessment of feasibility from a financial, institutional, political and sustainability perspective of the Sehat Card Plus KP in the short and long run and presented to the Policy Board for decision.

Priority 7: *Include primary care and preventive interventions in the service package by incorporating the Essential Package of Health Services (EPHS) developed for and endorsed by the government of KP.*

Recommendation for Action:

- Integrate EPHS KP, which is evidence informed and cost effective package of community, primary and secondary level interventions, within the service package of the *Sehat Card Plus KP*. In the short run, advantage should be taken of the National Health Support Program funded by a soft loan from the World Bank for implementing the EPHS in selected districts of the provinces before scaleup. *This will address the major gap that currently exists in the Sehat Card Plus KP.*
- Monitor the proportion of out-of-pocket payment as % of CHE at the household level for inpatient and outpatient care. The latter is the major source out-of-pocket payment (72%) in the country based on national health accounts analysis.
- Apply capitation based payment to providers following the inclusion of outpatient care in the benefit package. This can be piloted before scaleup and directly implemented by the SHPI Directorate by contracting out to accredited providers.

Priority 8: *In the long run, the KP Government needs to consider establishing an autonomous purchasing agency or health insurance organization to administer the Sehat Card Plus KP.*

Recommendation for Action:

- The arrangement with SLIC in the short run has worked well and should be sustained. In the long run, the KP Government should consider establishing an autonomous purchasing agency or health insurance organization to administer the *Sehat Card Plus KP.* Such a public purchasing agency will require investment in IT infrastructure and appropriate skill mix. Such an organization should have capacity and public responsibility for financial protection and access to quality care as key performance outcomes of *Sehat Card Plus KP*.

Priority 9: *Review the premium per family at regular intervals based on actuarial studies, financial projections, cost-effectiveness, fiscal space, and levels of utilization.*

Recommendation for Action:

- The SHPI Directorate should revise the estimate of the premium with a help of a credible institution to determine the *premium* paid, which is likely to increase from the current level of PKR 2,849 per family, with the increase in health care utilization and the inclusion of the EPHS as the *Sehat Card Plus KP* matures.

Priority 10: *The case-based payment method adopted by the Programme is a wise policy choice. Eventually, it needs to move towards a more elaborate Diagnostic Related Group or DRG-based payment system.*

Recommendation for Action:

- Tariff for case-based payment is better than fee for service which stimulates unnecessary diagnostics and treatments to generate more revenue. Case-based payment should evolve into a DRG system where the tariffs are based considering case mix severities, comorbidities and complications, etc. The level of tariff needs to consider the cost of services and acceptability by providers.

- SHPI Directorate, in consultation with SLIC, should decide whether to develop its own DRG system or purchase an existing one from a more mature insurance programme.
- Monitor early discharge and repeat admissions within 14 – and 28-days, which is a gaming of the system. Monitoring of ALOS is also essential for life-threatening conditions.

Priority 11: *Reconsider the current reimbursement as a top-up pay to public hospitals by reducing direct budgetary allocation and maximizing the effect of strategic purchasing by Sehat Card Plus KP on hospital performance.*

Recommendation for Action:

- Undertake a study to assess the economic feasibility and political expediency of progressively reducing the regular (supply side) budget of public sector hospitals and channeling it through the *Sehat Card Plus KP* (demand side) to introduce a levelled playing field for public and private hospitals, healthier competition, improved tariffs, and higher levels of performance.
- This should initially be introduced in major tertiary hospitals of the province that have sound infrastructure and good management capacity before implementing in others, especially secondary care hospitals, that largely rely on government budget for infrastructural support.

Priority 12: *Urgently build capacity in remote districts by upgrading secondary hospitals in the public and private sectors.*

Recommendations for Action:

- Fast track upgradation of secondary hospitals in up to 9 (mostly recently merged) districts in the province that currently do not have empaneled facilities. Seek support of DOH and Health Foundation in the upgradation of hospitals in these districts.

Priority 13: *SHPI Directorate and SLIC should continuously work towards what is called "More health for money" by improving efficiency gains.*

Recommendations for action:

- The above can be achieved by taking several measures that include by monitoring and rationalizing: (i) large proportion of unnecessary admissions and treatments; (ii) supplier induced demand by providers' choosing higher than lower tariff for clinical conditions; (iii) untimely discharge of patients in order to save cost; (iv) readmission of patients with same clinical indications.
- Organize clinical audits at regular intervals to ensure quality of care. The empaneling process does not guarantee quality of care provided. Hence clinical audits are important for consumer protection.

Priority 14*: Improving monitoring and evaluation of Sehat Card Plus KP for corrective action and informed decisionmaking in a timely manner.*

Recommendations for action:

- Develop M&E framework that provides a parsimonious list of key performance indicators at the level of input, activity, output, process, outcome, and impact of Sehat Card Plus KP and is the basis for monitoring *Sehat Card Plus KP* performance. Such a framework does not exist at present.
- Build capacity of SHPI staff in the area of M&E to independently monitor *Sehat Card Plus KP* by providing them with training in a reputable institution of Pakistan or in a country of the region.

- Activate the M&E wing/section within SHPI Directorate to become fully functional to independently assess *Sehat Card Plus KP* implementation and performance guided by the M&E framework and plan.
- Establish a knowledge management function in SHPI Directorate to produce quarterly and annual reports, newsletters, create dashboards and keep the website live and interactive by reporting on health situation and trends and program performance.

6.3.2 Strengthening the Service Delivery Capacity of Empaneled Hospitals

The gaps, priorities, and recommendations proposed in the Section to improve service delivery in the secondary and tertiary hospitals is the shared responsibility of the Department of Health, SHPI Directorate, autonomous health related institutions and the empanelled health facilities in KP.

Priority 1: *Address district level variation in the readiness of secondary facilities to efficiently provide the package of services across the province under Sehat Card Plus KP.*

Recommendations for Action:

- Empanel hospitals to deliver the service package under Sehat Card Plus KP only when they meet the service standards instead of empaneling substandard facilities (as was the case) and then dis-empaneling them. Deal with all public and private facilities, evenhandedly.
- The Technical Advisory Committee should advise on fast tracking the upgrading of secondary hospitals that do not meet empaneled criteria, by allocating investment budget for their upgradation. The Health Foundation should do the same for private hospitals by providing soft loans for their upgradation.

Priority 2: *Build and enhance the low level of capacity to manage emergency and critical care at the secondary level hospitals, particularly in public facilities.*

Recommendations for Action:

- Upgrade emergency rooms of empaneled secondary hospitals that do not meet minimum or essential standards infrastructurally (medical supplies, equipment, and communication tools) and train ER staff. The resources should come from the reimbursement of claims settled by SLIC or from the regular budget of the DOH KP for these facilities.
- DOH KP should support the development of emergency preparedness and management plan and conduct drills for every empaneled hospital for efficient response in the event of event of natural disasters, mass casualty events, pandemics.

Priority 3: *Tackle deficiencies in blood banks as a critical support service for medical procedures, including surgeries, obs/gyn care, trauma care and cancer treatment in Sehat Card Plus KP empanelled secondary and tertiary hospitals.*

Recommendations for Action:

- Implement a province wide program to strengthen blood banking services by Safe Blood Transfusion authority based on the regulatory framework.
- Ensure all empaneled hospitals have onsite or access to standard blood banking services at both secondary and tertiary level hospitals at the time of empanelment and during monitoring post-empanelment. It is too critical to be left unattended.

- Blood banking services should ensure, among others, availability of blood and blood products, screening for commonly transmissible infections, high-quality blood screening kits, and enhancing the capacity of staff to provide blood banking services.

Priority 4: *Strengthen infection prevention and control measures in all Sehat Card Plus KP empanelled hospitals, to reduce negative outcomes such as increased risk of healthcare associated infections, decreased patient safety and increased healthcare costs.*

Recommendations for Action:

- Assign the Health Care Commission the responsibility to ensure compliance of empaneled hospitals with regulatory and accreditation standards for infection prevention and control, establish infection prevention and control teams, and train hospital personnel.
- Provide standardized guidelines and protocols for clinical and clinical support services thereby contributing to improved quality of care at all empaneled hospitals.
- Introduce measures and conduct clinical audits related to proper use of personal protective equipment (e.g., gloves, masks, gowns), aseptic technique, hand hygiene, and environmental infection control measures as primary methods to protect patients from transmission of microorganisms from other patients and from the health care workers.

Priority 5: *Respond to gaps and weaknesses in readiness of hospitals to adopt new technologies such as electronic medical records and e-claims for efficient delivery and management healthcare services.*

Recommendations for Action:

- Develop and rollout a standardized, customized and cloud-based software programme to support all empaneled hospitals to transition from a paper based to a paperless system by having electronic health records of all admissions and electronic claims for settlement over a 12 – 18 months period.
- Implement a standardized system of coding of medical conditions based on ICD-10 on 11 that minimizes inaccuracies in medical records, inefficiencies in coding and billing, and delayed reimbursement of claims.
- Improve the quality of SLIC database of hospital admissions by minimizing missing information, and introducing variables related to specific diagnosis, cause of death, treatment provided, ICD-11 classification to the level of the specific disease and associated co-morbidity.
- Establish ongoing training programs for hospital managers in the use of e-technologies, claim preparation and submission, and introduce a cultural change in adopting the new paperless system.
- Develop a *Sehat Card Plus KP* wide comprehensive plan for adopting and implementing the new healthcare technology that includes timelines, resource requirements, and training programs for staff.
- Use the new technology in auditing supply-induced demand by providers for such instances as high rate of Caesarean section and certain surgical interventions. As stated above, SLIC needs to monitor quality of care in terms of process and outcomes.

Priority 6: *Overcome barriers, such as difficulties in producing necessary documents to access and benefit from Sehat Card Plus KP for a minority but significant number of users.*

Recommendations for Action:

- Streamline the documentation process and simplify the eligibility criteria, at the same time make the necessary information available at *Sehat Card Plus KP* desks in hospitals and launch awareness campaigns to better inform public of the documentary requirements.
- Improve branding of the *Sehat Card Plus KP* at empaneled hospitals to have greater visibility and recognition of the programme.

Priority 7: *Minimize health care related out-of-pocket payments for all inpatient admissions at empanelled facilities so as not to off-set the goal of reducing catastrophic health expenditures.*

Recommendations for Action:

- Ensure availability of medicines and diagnostic tests for inpatient admissions at all empaneled facilities.
- Rationalize tariffs and payment methods to ensure health facilities make available diagnostic and therapeutic services within the premises of the empaneled hospitals.

6.3.3 Enhancing impact of the Sehat Card Plus KP at the level of the community

Priority 1: *Raise awareness about different functional components of the Sehat Card Plus KP (48%) to optimize its benefits, understand the entitlements and privileges, and enhance utilization of the services offered by the Programme.*

Recommendation for Action:

- Use mobile phones as well as orient lady health workers to disseminate information about *Sehat Card Plus KP* among general population. The messaging should be cohesive and consistent in improving people's knowledge, agency to utilize services, and norms around *Sehat Card Plus KP*.
- Prepare hospital and SLIC staff (HFO and DMO) to inform what services the Sehat Card Plus KP offers to beneficiaries customized to the dynamics of each district and literacy level of the population.
- Reinforce various communication channels to keep the public informed and help improve the complaints redressal process *in Sehat Card Plus KP* by:
    - providing clear and transparent information about coverage, benefits, and limitations to all SCP beneficiaries and empaneled hospitals.
    - training and educating staff in empaneled hospitals to effectively communicate the rights and privileges the SCP offers to the users of the Programme.
    - offering multiple communication channels, such as phone, email, and WhatsApp chat, that allows SCP beneficiaries to choose the method that works best for them; and
    - listening to the concerns and complaints of SCP beneficiaries empathetically at empaneled hospitals, making them feel heard, and responding as best as possible in a timely manner.

Priority 2: *Enhance trust and confidence among SCP users to access public hospitals, especially at the secondary level, at the same level as private hospitals.*

Recommendation for Action:

- Reprofile public hospitals, especially district level secondary hospitals, by adhering to strict empanelment criteria, investing in infrastructure, introducing competition through demand side financing, and better marketing in the health insurance scenario.
- See section 3.2 for a wide range of proposed recommendations for action.

Priority 3: *Despite favorable perception about the Sehat Card Plus KP, respond to the communities' demand for inclusion of outpatient services and provide additional support to patients in remote districts to access tertiary care hospitals.*

Recommendation for Action:

- Refer to Section 3.1, Priority no.7

Priority 4: *In spite of acceptable level of perceived quality of inpatient care among SCP users, there is a need to address gaps in relation to patient centeredness and responsiveness.*

Recommendation for Action:

- Increase patient centeredness by paying more attention to aspects of responsiveness of healthcare related to patient privacy, confidentiality, information sharing, respect and dignity and patients' autonomy to make informed choices, as expressed by patients and families during surveys.

Priority 5: *Monitor and ensure that the Sehat Card Plus KP serves lower socioeconomic quintiles as much as, and possibly more than, the richer quintiles of the population to keep the out-of-pocket payment and catastrophic health expenditures as less as possible and adhere to the principle of 'progressive universalism'.*

Recommendation for Action:

- Devise strategies and monitor implementation that promotes increased utilization by poor segment of the population of the services offered under *Sehat Card Plus KP* to maximize impact on financial risk protection among poor households and improving economic well-being.

This is a long list of recommendations that provide an array of options for the consideration of the leadership in the Department of Health and SHPI Directorate. These need to be further prioritized along with the recommendations for action and implemented in a phased manner. **It is recommended that the Sehat Card Plus KP evaluation should lead to a planning exercise to develop a strategic plan over a medium to long term horizon and an implementation roadmap of shorter duration to sustain the successful implementation of the *Sehat Card Plus KP*.**

Annexures

Annex 1: Proposed Terms of Reference for Evaluation of the Sehat Card Plus, Khyber Pakhtunkhwa

Third party evaluation of *Sehat Sahulat Programme*, Khyber Pakhtunkhwa

Sehat Sahulat Programme-KPK (SSP) is Khyber Pakhtunkhwa (KPK) Government's flagship, publicly funded Health Insurance Programme for the citizens of KPK. The programme is being implemented through State Life Insurance Corporation, selected through national competitive bidding. The programme currently provides inpatient care at empaneled public and private hospitals through a Sehat Card, making it cashless at the point of care for the beneficiary families. Initially, the eligible beneficiaries included those earning below US $1.25 per day, selected through a Proxy Mean Testing Score of below 16.17. In 2020, the KPK government announced extending the coverage to all households in the province, irrespective of poverty status. Currently, more than 7.2 million families of KP are eligible to get free-of-cost inpatient healthcare services, under the programme.

In October 2021, the leadership from Aga Khan University and *Sehat Sahulat Programme*, KP came together and expressed interest for collaboration to strengthen the health sector in KPK. A priority area of shared interest that emerged was to carry out an independent evaluation of the SSP-KPK that would furnish evidence to inform and further strengthen the programme in the province as well as provide a roadmap for other provinces in the country to benefit from.

1. Scope of Evaluation: This project will have the following main objectives:

a. Undertake an assessment of key components of the *SSP-KPK* from the health systems lens, including (but not limited to) governance, financing, service delivery and monitoring and evaluation mechanisms, and to identify strengths and gaps in the overall strategy and operations.

b. Undertake an assessment of the insurance related components of the programme, including (but not limited to)– beneficiary enrollment mechanisms, benefits package, premium setting, empanelment of health facilities, billing reimbursement mechanisms, quality of care monitoring, insurance related information system, forums for complaints and their redressal, and user satisfaction.

c. Identify key areas of strengths and gaps within the programme and highlight challenges and opportunities to address those

d. Determine the extent of programme utilization from an equity perspective, including assessing the level of utilization by the poor, vulnerable and marginalized segments (estimated at over one-third of the population of the province)

e. Assess the existence and effectiveness of a communication strategy that enables the population, especially the vulnerable segments, to utilize services as well as the level of satisfaction of the communities with the Programme

f. Review the financial feasibility of the *SSP-KPK*, propose a roadmap for its long-term sustainability and institutionalization in the province of KPK, and lessons for other provinces to benefit from.

2. Outline of Methodology: As a part of this evaluation, the evaluation team will employ following methods to achieve the stated terms of reference of this task:

a. Desk review: This will include review of national and provincial policy documents, strategic plans and policy revisions along with mapping of key stakeholders for *SSP-KPK.* Other documents will include published and unpublished reports, assessments, and claims data for the programme.

b. Key informant interviews: In-depth interviews will be conducted with the stakeholders mapped during desk review and through other sources. Interviews will probe on demand and supply-side barriers, stakeholder coordination mechanisms and adequacy and dynamics of resourcing.
c. Health facility assessment: The evaluation will include rapid facility assessment of empaneled public and private facilities in selected districts of the province, encompassing i) health facility readiness (infrastructure, staffing, supplies, maintenance); ii) data on facility utilization, content of care and referral.
d. Client satisfaction survey: Patient satisfaction will be gauged using client exit interviews.
3. Key Deliverables:

a. Inception Report: Within a month of project initiation with the launch of an inception workshop. The inception report would provide the methodological approach of the assessment based on the feedback received during the workshop.

b. Draft Consolidated Report: Summary of key implementation gaps, barriers, and challenges with recommendations at the end of three months of the launch of the study for comments and feedback of the leadership and management of the SSP-KPK

c. Final Report: That will include, in addition, an executive summary with a roadmap for future scale up and consolidation of SSP-KPK and will be presented to the provincial leadership at a high-level provincial workshop

d. Publications for dissemination of key findings. These will include technical report of the evaluation, policy brief, and a manuscript for joint publication in an international peer reviewed journal.

4. Project Duration: Max 4-6 months since from the signing of the contract

Once a funding agency interested to support the evaluation has been identified, The Aga Khan University will develop a technical and financial proposal and present in partnership with the SSP-KPK management, and the identified funding agency.

Annex 2: List of names of empanelled hospitals surveyed

	District	Hospital Name
1	Abbottabad	Jinnah Hospital
2	Abbottabad	Abbottabad Medical Complex
3	Abbottabad	Benazeer Bhutto Shaheed Hospital
4	Bannu	Shifa Medical And Surgical Center
5	Bannu	Khalifa Gulnawaz Hospital
6	Chitral	Boni Medical Centre
7	Chitral	DHQ Chitral
8	D I Khan	Al Fateh Medical Centre
9	D I Khan	Women And Children Hospital
10	D I Khan	DHQ D I Khan
11	Kohat	Frontier Medical Center
12	Kohat	Liaqat Memorial
13	Malakand	DHQ Batkhela
14	Malakand	Siraj Shaheed Hospital
15	Malakand	THQ Dargai
16	Peshawar	Afridi Medical Complex and Diagnostic Center
17	Peshawar	Al Khidmat Hospital
18	Peshawar	Hayatabad Medical Complex
19	Peshawar	Khyber Medical Complex
20	Peshawar	Khyber Teaching Hospital
21	Peshawar	Kuwait Teaching Hospital
22	Peshawar	Mercy Teaching Hospital
23	Peshawar	Northwest Hospital
24	Peshawar	Prime Teaching Hospital
25	Peshawar	Zia Medical Complex
26	Swabi	Ali Medical And Surgical Center
27	Swabi	Jamal Medical Centre
28	Swabi	Royal Medical Complex
29	Swabi	Shams Hospital
30	Swabi	DHQ Swabi
31	Swat	Royal Imperial Hospital
32	Swat	Sikandar Medical
33	Swat	Luqman International
34	Swat	Kings International Hospital
35	Swat	Saidu Trauma Hospital
36	Swat	Saidu Teaching Hospital
37	Upper Dir	Ikhlas Medical Center
38	Upper Dir	Category D Waadi Hospital

Annex 3: Clinical Services - Domains and Indicators

3.1: Checklist to assess readiness to provide Accident and Emergency Service

	Tracer Indicators	Yes (1) /No (0)
	Availability of a dedicated Emergency Room/Department	
	Infrastructure	
1	ER is functional 24 hours	
2	Separate seating for male and female attendants in waiting area outside Emergency Department	
3	Waiting area is ventilated	
	Readiness – Infrastructure(%)	
	Human Resources	
1	Dedicated trained on-site Emergency Medical Officers	
2	Senior consultants on-call	
3	ER nurses	
4	Technicians	
	Readiness-HR (%)	
	Treatment Guidelines	
1	Standardized Guidelines document for management of patients in ER	
2	ACS protocol	
	Readiness-Guidelines (%)	
	Standard Precautions for Infection Prevention and Control	
1	Hand washing area with clean, running water	
2	Hand hygiene material eg soap	
3	Waste bins clearly marked, labeled or colour coded, for general and infectious waste	
4	Sharps Container	
5	Environmental disinfectant (e.g. chlorine, alcohol)	
	Readiness-Infection Prevention and Control Practices (%)	
	Equipment	
1	Integrated bedside physiologic monitors	
2	Resuscitation equipment	
3	Defibrillator	
4	Nebulizer with accessories	
5	Oxygen cylinders with flow meters/face mask/nasal prongs	
6	Suction apparatus	
7	Vascular Access Devices (Central, Arterial)	
8	Intubation Equipment (Laryngoscope)	
9	Ventilators	
10	Endo tracheal tube	
	Readiness-Tracer Equipment Items(%)	
	Composite Readiness to provide Emergency Services-(%)	

3.2: Checklist to assess readiness to provide ICU and Critical Care services

	Tracer Indicators	Yes (1) /No (0)
	Does this Hospital have an ICU?	
	Infrastructure	
1	ICU is functional 24 hours	
2	ICU is accessible via stairs/ ramp/ lift	
3	There is separate seating for male and female patients and attendants in waiting area outside ICU	
4	Waiting area is ventilated	
5	Designated space for the care of critically ill patients	
6	Isolation Areas for patients with a suspected or confirmed contagious disease	
	Readiness-Infrastructure-(%)	
	Human Resources	
1	Dedicated trained on-site Emergency Medical Officers	
2	Senior consultants on-call	
3	ICU nurses	
4	ICU Technicians	
5	ICU is headed by an intensivist	
6	Anesthetist available 24 hours in case of Emergency	
	Readiness-HR (%)	
	Guidelines	
1	Guidelines for the essential care of critically ill patients	
	Readiness-Guidelines (%)	
	Standard Precautions for Infection Prevention and Control	
1	Hand washing area with clean, running water	
2	Hand hygiene material eg soap	
3	Waste bins clearly marked, labeled or colour coded, for general and infectious waste	
4	Sharps Container	
5	Environmental disinfectant (e.g. chlorine, alcohol)	
	Readiness-Infection Prevention and Control Practices (%)	
	Tracer Equipment Items	
1	Diaflow each bed	
2	ECG Machine	
3	Equipment for maintenance of body temperature	
4	ICU special Bed with all management	
5	Indwelling Urinary Catheter (IDC)	
6	Infusion of ionotropic support	
7	Intravenous Infusion Pump	
8	Oxygen Main supply and Emergency Oxygen Cylinder	
9	Suction Machine	
10	Ventilator machine with all Accessories	
	Readiness- Tracer Equipment Items %	
	Composite Readiness to provide ICU Services-(%)	

3.3: Checklist to assess readiness to provide General Surgical Services

	Tracer Indicators	**Yes (1) / No (0)**
1	Does this Hospital have an Operating Room?	
	Infrastructure	
1	Designated space for OT	
2	Designated Scrubbing Area	
3	Post-operation recovery room	
	Readiness - Infrastructure (%)	
	Human Resources	
1	Dedicated trained on-site surgeons (medical officer) available 24/7	
2	Senior consultants surgeon on-call	
3	OT nurses	
4	OT Technicians	
	Readiness - HR (%)	
	Guidelines	
1	Availability of Guidelines for the essential surgery	
	Readiness-Guidelines (%)	
	Standard Precautions for Infection Prevention and Control	
1	Scrubbing area with clean, running water	
2	Hand hygiene material eg soap and pyodine	
3	Waste bins clearly marked, labeled or colour coded, for general and infectious waste	
4	Sharps Container	
5	Environmental disinfectant (e.g. chlorine, alcohol)	
6	Sterilization System available and compliance being done	
	Readiness – Infection prevention and control (%)	
	Equipment	
1	Oxygen Supply	
2	Operating tables	
3	Pulse oximeter	
4	Ventilator Support	
5	Anaesthesia machine	
6	Disposable OT equipment/surgical instruments	
7	Defibrillator	
8	Electric Autoclave	
9	Surgical/ Respiratory Masks	
10	Non-sterile protective gowns	
	Readiness-Equipment (%)	
	Composite Readiness to provide General Surgical Services-(%)	

3.4: Checklist to assess readiness to provide Gynecology and Obstetrics Services

	Tracer Indicators	Yes (1) / No (0)
1	Hospital has a Gyne OT	
	Infrastructure	
1	Designated space for Gyne OT	
2	Post Operation Recovery room	
	Readiness - Infrastructure (%)	
	Human Resources	
1	Dedicated trained on-site personnel (medical officer) who can perform C-section available 24/7	
2	On-call consultant who can perform C-section present or on call 24h	
3	Trained anesthetist	
4	OT Nurse	
5	OT technicians	
	Readiness - HR (%)	
	Guidelines	
1	Availability of guidelines for safe childbirth and maternal and newborn care	
	Readiness – Guidelines %	
	Standard Precautions for Infection Prevention and Control	
1	Hand washing area with clean, running water	
2	Hand hygiene material eg soap	
3	Waste bins clearly marked, labeled or colour coded, for general and infectious waste	
4	Sharps Container	
5	Environmental disinfectant (e.g. chlorine, alcohol)	
	Readiness- Infection Prevention and Control Practices (%)	
	Tracer Equipment Items	
1	Operation Theater table	
2	Central Oxygen	
3	Suction	
4	Functional incubator	
5	Anaesthesia Machine with all accessories	
6	Gases Supply e.g. O2, NO2, Air	
7	Vaginal Hysterectomy Set	
8	Outlet Forceps	
9	Sterilization (Autoclave / Boiling)	
10	Electric Autoclave	
	Readiness - Equipment (%)	
	Composite Readiness to provide Gynaecology and Obstetrics Services – (%)	

Annex 4: Mapping of Readiness of each hospital to provide services under Sehat Card Plus KP

DISTRICT	Level of Facility	Access and Infrastructure	Governance and Management	HMIS	Sehat Card Delivery	Infection Prevention and Control	Billing and Reimbursement	Blood Bank	Lab and Diagnostics	Radiology and Imaging	Pharmacy	Accident & emergency	ICU and Critical Care	General Surgical Services	Gynecologicy & Obstetrics	Total Avg Readiness
		12	6	4	4	7	10	15	28	12	23	23	28	24	24	220
abbottabad	Tertiary	100%	100%	75%	100%	71%	90%	100%	100%	92%	100%	96%	89%	96%	92%	93%
abbottabad	Tertiary	100%	100%	100%	100%	86%	80%	100%	86%	83%	100%	96%	100%	96%	96%	94%
abbottabad	Secondary	83%	100%	75%	100%	100%	70%	87%	71%	75%	91%	100%	96%	96%	88%	88%
bannu	Secondary	83%	100%	75%	100%	86%	80%	93%	89%	58%	96%	91%	86%	92%	88%	87%
bannu	Secondary	100%	100%	100%	100%	86%	90%	100%	89%	92%	96%	100%	100%	92%	92%	95%
chitral	Secondary	83%	100%	100%	75%	86%	70%	0%	96%	58%	100%	0%	0%	67%	96%	67%
chitral	Secondary	75%	83%	75%	75%	43%	60%	80%	86%	67%	96%	100%	96%	100%	96%	81%
DI Khan	Secondary	92%	50%	75%	100%	0%	70%	0%	57%	33%	78%	0%	0%	100%	0%	47%
DI Khan	Secondary	75%	17%	75%	100%	0%	90%	73%	57%	33%	61%	0%	0%	0%	92%	48%
DI Khan	Tertiary	92%	83%	25%	100%	29%	80%	100%	100%	67%	91%	87%	93%	100%	0%	75%
kohat	Secondary	83%	67%	25%	100%	43%	70%	0%	71%	92%	91%	78%	93%	96%	96%	72%
kohat	Secondary	83%	83%	50%	100%	43%	90%	0%	71%	58%	30%	52%	0%	100%	88%	61%
malakand	Secondary	92%	67%	100%	100%	86%	70%	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	86%
malakand	Secondary	67%	50%	25%	100%	43%	60%	0%	71%	75%	91%	96%	96%	96%	92%	69%
malakand	Secondary	92%	50%	25%	25%	71%	80%	80%	71%	58%	30%	No Data	No Data	No Data	No Data	58%
Peshawar	Tertiary	100%	100%	75%	100%	43%	60%	100%	86%	83%	100%	87%	96%	96%	92%	87%
Peshawar	Secondary	100%	100%	100%	75%	86%	90%	100%	96%	67%	96%	87%	0%	96%	92%	85%
Peshawar	Tertiary	92%	100%	100%	100%	100%	50%	100%	100%	100%	96%	100%	96%	100%	96%	95%
Peshawar	Secondary	100%	100%	100%	75%	43%	100%	0%	61%	67%	96%	83%	93%	88%	0%	72%
Peshawar	Tertiary Teaching	100%	100%	100%	100%	100%	90%	100%	100%	92%	100%	100%	96%	100%	96%	98%
Peshawar	Tertiary Teaching	92%	100%	100%	100%	71%	80%	93%	82%	83%	100%	83%	89%	96%	83%	89%
Peshawar	Secondary	92%	100%	75%	100%	86%	50%	80%	86%	75%	100%	87%	86%	96%	83%	85%
Peshawar	Tertiary	100%	100%	100%	100%	100%	90%	100%	100%	100%	100%	100%	100%	100%	96%	99%
Peshawar	Secondary	100%	83%	100%	50%	100%	60%	87%	100%	83%	83%	87%	96%	96%	0%	80%
Peshawar	Secondary	83%	67%	75%	75%	29%	80%	87%	68%	67%	100%	52%	75%	96%	79%	74%
swabi	Secondary	83%	100%	25%	100%	86%	80%	60%	79%	50%	83%	83%	100%	92%	92%	79%
swabi	Secondary	100%	50%	75%	100%	86%	80%	73%	96%	75%	96%	100%	96%	100%	88%	87%
swabi	Secondary	100%	100%	50%	100%	86%	80%	87%	79%	58%	100%	91%	93%	100%	96%	87%
swabi	Secondary	100%	67%	0%	100%	57%	60%	73%	89%	75%	100%	100%	100%	96%	96%	80%
swabi	Secondary	83%	50%	0%	100%	86%	70%	53%	75%	58%	96%	91%	0%	83%	79%	66%
Swat	Secondary	92%	100%	75%	100%	86%	90%	0%	82%	58%	83%	78%	0%	100%	92%	74%
Swat	Secondary	92%	83%	75%	100%	86%	60%	87%	96%	92%	100%	91%	100%	88%	92%	89%
Swat	Tertiary	83%	83%	100%	100%	86%	80%	100%	96%	92%	100%	96%	96%	96%	92%	93%
Swat	Tertiary	83%	100%	75%	100%	86%	80%	0%	71%	67%	91%	96%	96%	100%	88%	81%
Swat	Tertiary	75%	100%	75%	100%	86%	80%	80%	82%	58%	70%	87%	68%	100%	92%	82%
Swat	Tertiary Teaching	92%	100%	75%	100%	86%	90%	0%	100%	75%	100%	87%	100%	100%	0%	79%
upper dir	Secondary	92%	100%	100%	100%	43%	80%	93%	79%	58%	91%	83%	93%	92%	92%	85%
upper dir	Secondary	75%	100%	50%	100%	29%	70%	0%	68%	42%	100%	0%	71%	92%	0%	57%
		90%	85%	71%	93%	69%	76%	63%	83%	71%	90%	79%	75%	93%	76%	80%

Annex 5

5.1: Checklist to assess readiness to provide Laboratory and Diagnostics Services

	Indicators	Yes (1) / No (0)
1	The lab is operated under the supervision of a qualified pathologist	
2	There are designated areas for storage of specimens, reagents and records	
3	Expected times for test results are mentioned for patients	
4	Lab has established reference ranges for each test	
5	Lab has displayed price-list	
6	Lab has safety policy document	
7	Collected samples are labeled with Patient IDs, date and time	
8	Medical waste is discarded properly in color-coded waste bins	
9	All lab tests/investigations and test results are recorded digitally	
	Readiness – Lab Infrastructure, systems and policies %	
	List of Tracer Tests	
1	Complete Blood Count	
2	Blood Glucose	
3	Urine DR	
4	Malaria Test (ICT)	
5	HIV Test	
6	Liver Function Test (LFT)	
7	Renal Function Test (RFT)	
8	Blood culture	
9	Urine test for pregnancy	
10	Serum Electrolytes	
11	Dengue Test	
12	Tuberculosis smear microscopy	
13	Tuberculosis PCR / GeneXpert	
14	COVID-19 PCR	
15	Hepatitis B test-(HBsAG)	
16	Hepatitis C test (Anti-HCV)	
17	LIPID Profile	
18	Troponin I	
19	Troponin T	
	Availability of Tracer Lab and Diagnostic Tests - %	
	Composite Readiness Score for Lab and Diagnostics Services (%)	

5.2 Checklist to assess readiness to provide Blood Bank services

	Indicators	Yes (1) / No (0)
1	Hospital has blood bank services	
2	Blood bank is headed by a qualified doctor (MBBS with postgrad in hematology and pathology)	
3	Cross-matching is available	
4	Blood screening available for HIV, Hepatitis B, & Hepatitis C	
5	Trained staff is available for blood transfusion	
6	Functional blood-bank specific refrigerator is available (3 degree Celsius to 6 degree Celsius)	
7	Backup electricity is available for the fridge	
8	Plasma separator is available	
9	Blood warmer is available	
10	Microscope is available	
11	BP apparatus is available	
12	Computerized inventory of blood products is maintained	
13	Kits used for essential screening of blood are WHO and FDA approved	
14	Disposable syringes are used for transfusion	
15	Syringes are safely discarded	
	Readiness to provide blood bank services (%)	

5.3 Checklist to assess readiness to provide Radiology and Imaging services

	Indicators	Yes (1) / No (0)
1	Hospital has radiological and imaging services	
	Infrastructural and HR indicators	
1	Lab has lead-lined walls	
2	Staff has protective clothing	
3	Radiation monitoring devices are available	
4	Radiation warning signs are displayed	
5	Female staff is present to help female patients during radiological examination	
	Readiness Score for Infrastructural and HR Indicators (%)	
	List of 7 Tests	
1	X-Ray	
2	Electrocardiogram (ECG)	
3	Ultrasound	
4	Magnetic resonance scan (MRI)	
5	CT Scan	
6	ECHO	
7	Mammography for breast cancer screening	
	Availability of 7 Tracer Radiological and Imaging Tests (%)	
	Composite Readiness Score to provide Radiology and Imaging Services (%)	

5.4 Checklist to assess readiness to provide Pharmacy services

	Indicators	Yes (1) / No (0)
1	Hospital has pharmaceutical services available	
	Infrastructural, Systems and HR Indicators	
1	Pharmacy is headed by a qualified pharmacist with a Pharmacy Council registration number	
2	Pharmacy dispenses medicines based on signed prescriptions of doctors	
3	Pharmacy is clean and ventilated (good air flow and/or AC)	
4	Medicines are stored in labeled shelves	
5	Functioning thermostat is available	
6	Functioning refrigerator is available	
7	Pharmacy maintains a stock register/record (paper/ digital/ both)	
8	Pharmacy maintains record for expired/ unusable drugs being removed from main inventory	
9	No expired drugs found in random spot check of 10 different medicine boxes on date of visit	
	Readiness – Pharmacy Infrastructure, Systems and HR(%)	
	Availability of 14 Essential Medicines – Recommended by World Health Organization (WHO)	
1	Asthma-Salbutamol-0.1mg/dose-Inhaler	
2	Diabetes-Glibenclamide-5 mg-capsule/tablet	
3	Cardiovascular Disease-Atenolol-50 mg-capsule/tablet	
4	Cardiovascular Disease-Captopril-25mg-capsule/ tablet	
5	Cardiovascular Disease-Simvastatin-20mg-capsule/tablet	
6	Depression-Amitriptyline-25mg-capsule/tablet	
7	Infectious disease-Ciprofloxacin-500mg-capsule/tablet	
8	Infectious disease-Cotrimoxazole-8+40mg/ml-suspension	
9	Infectious disease-Amoxicillin-500mg-capsule/tablet	
10	Infectious disease-Ceftriaxone-1g/vial-Injection	
11	Central nervous system diseases-Diazepam-5mg-capsule/tablet	
12	Pain/Inflammation-Diclofenac-50mg-capsule/tablet	
13	Pain/Inflammation-Paracetamol-24mg/ml-suspension	
14	Ulcer-Omeprazole-20mg-capsule/tablet	
	Availability of 14 Essential Medicines (%)	
	Composite Readiness to provide Pharmacy Services (%)	

Annex 6: Exclusion list from service package coverage of SCP

The following treatment, items, conditions, activities and their related or consequential expenses are not included in Sehat Card Plus, Khyber Pakhtunkhwa .

1. Costs resulting from self-inflicted injury, attempted suicide, abuse of alcohol, drug addiction or sexual disorders and treatment of sexually transmitted diseases.
2. Psychotic mental or nervous disorders (including any neuroses and their physiological manifestation) or sensual reassignment (whether or not of psychological reasons).
3. Treatment or investigation of fertility, infertility, sterilization or contraception and any complication relating thereto or hormone treatment and investigations.
4. Participation in or training for any dangerous or hazardous sport, pastime or competi0on or any professional sport.
5. Injuries as a result of an illegal act by the person
6. Injury or treatment is resulting from war, riots, invasion, the act of foreign enemies, hostilities or warlike operations (whether war be declared or not), civil war, mutiny, civil commotion assuming the proportions of or amounting to a popular uprising, military uprising, insurrection, rebellion, military or usurped power or any act of any person acting on or on behalf of or in connection with any Organization actively directed towards the overthrow or to the influencing of any Health Department or ruling body by force, terrorism or violence.
7. Ionizing radiation or contamination by radioactivity from any nuclear fuel or nuclear waste, from the process of nuclear fission or from any nuclear weapons material.
8. Services or treatment in any spa, hydro clinic, sanatorium, nursing home or long term-care facility that is not a hospital.
9. Experimental or unproven treatment.
10. Cosmetic procedure, Cosmetic plastic surgeries and hair transplants and dental procedure including examination, D rays, Extractions, filling, general dental care/treatment orthodontic treatment or oral surgery except as a result of emergency due to accident.
11. Cost of correction of refractive errors of the eye and procedures such as Radial Keratotomy and Excimer Laser.
12. Routine medical examinations or check-ups including charges arising out of any hospital confinement or admission primarily for diagnostic purposes (except Breast Cancer Screening), routine eye or ear examinations, vaccinations, medical certificate, examination for employment or travel, spectacles, contact lenses, hearing rids and any treatment that is not considered medically necessary.
13. Cosmetic or plastic surgery, unless it is reconstructive surgery necessitated by an injury that occurred during the period whilst the insured person was covered under this Agreement and subject to the limits and sub-limits stated in the Benefits package.
14. Any charges in respect of the donor for organ transplant claims (excluding kidney transplant of the already eligible/matched donor).
15. Treatment received in a location other than the empanel health care facilities.
16. Any Outpatient Treatment
17. Corrective devices and medical appliances which are not surgically required.
18. Unjustified hospital admission.
19. Screening, grouping and cross-matching of blood donor.
20. Personal comfort items such as charges for telephone, convenience items, meals or other items not medically necessary.
21. Natural Catastrophes or epidemics/pandemics including but not limited to flood, earthquake, avalanche and cyclone etc.
22. All dental treatment or oral surgery except trauma.

Annex 7

Bill No. 232

A
BILL

to provide for health protection to the all the families in the Province of Khyber Pakhtunkhwa.

WHEREAS it is expedient to provide for health protection of all the permanent resident families of the Province of Khyber Pakhtunkhwa through a systematic approach and clear delineation of roles of key stakeholders towards better performance in the health system and to ensure that all the permanent resident families of the Province of Khyber Pakhtunkhwa registered with NADRA are guaranteed equitable access to a predefined package of healthcare services and to provide for other matters ancillary herewith and incidental thereto;

It is hereby enacted by the Provincial Assembly of the Khyber Pakhtunkhwa as follows:

CHAPTER-I
PRELIMINARY

1. Short title, extent and commencement.---(1) This Act may be called the Khyber Pakhtunkhwa Universal Health Coverage Act, 2022.

Deputy Legislation Officer
Government of Khyber Pakhtunkhwa
Law Department

(2) It shall extend to the whole of the Province of Khyber Pakhtunkhwa.

(3) It shall come into force at once.

2. Definitions.---In this Act, unless there is anything repugnant in the subject or context,-

(a) **"additional income"** means income generated by the empanelled hospitals through the Programme;

(b) **"basic package"** means the free of cost healthcare service provided under the Programme;

(c) **"beneficiary" or "beneficiaries"** mean any member of the family registered with NADRA as permanent resident of the Province;

(d) **"Department"** means the Health Department of Government;

(e) **"empanelled hospital"** means a hospital, nursing or maternity home or such other medical service providers in public and private sectors, selected for provision of healthcare services to the beneficiaries and policy holders of the Programme;

(f) **"family"** means a group of persons registered as family with NADRA;

(g) **"Fund"** means the Fund established under section 14 of this Act;

(h) **"Government"** means the Government of the Khyber Pakhtunkhwa;

(i) **"health insurance services"** mean the healthcare services under the basic package offered to the beneficiaries under this Act;

(j) **"member"** means a member of the Policy Board;

(k) **"NADRA"** means the National Database and Registration Authority established under section 3 of the National Database and Registration Authority Ordinance, 2000 (Ordinance No. VIII of 2000);

(l) **"Policy Board"** means the Khyber Pakhtunkhwa Universal Health Coverage Policy Board established under section 7of this Act;

(m) **"policy holder"** means an individual, family or a group who has purchased an additional package under section 4 of this Act;

(n) **"premium"** means an amount paid annually by the Policy Board or by a policy holder to the hired insurance firm/third party, in order to provide them a basic package or, as the case may be, the additional package alongwith the basic package of services as explained in sections3and 4 of this Act;

(o) **"prescribed"** means prescribed by rules or regulations;

(p) **"Procurement law and rules"** means respectively the Khyber Pakhtunkhwa Public Procurement Regulatory Authority Act, 2012 (Khyber Pakhtunkhwa Act No. XI of 2012) and the Khyber Pakhtunkhwa Public Procurement of Goods, Works and Services Rules, 2014;

(q) **"Programme"** means the Sehat Card Plus Programme as provided in section 3 of this Act;

(r) **"Province"** means the Province of the Khyber Pakhtunkhwa;

(s) **"registered population"** means the population registered with NADRA as permanent residents of the Province;

(t) **"regulations"** mean the regulations made under this Act;

(u) **"rules"** mean rules made under this Act;

(v) **"Social Health Protection Initiative"** means the Social Health Protection Initiative of the Province branded as Sehat Card Plus Programme; and

(w) **"universal health coverage"** means provision of needed healthcare services to the beneficiaries of the Programme when and where they need them, without financial hardship in the manner as provided in section 3 of this Act.

CHAPTER-II
THE PROGRAMME

3. Sehat Card Plus Programme.---(1) Soon after the commencement of this Act, Government shall, under the auspices of the Policy Board, provide health protection to the beneficiaries under a Programme to be known as the Sehat Card Plus Programme in accordance with section 5 of this Act.

(2) The Programme shall be a body corporate having perpetual succession and a common seal with powers to acquire and hold property, enter into contract, sue and be sued by its name.

(3) The Programme shall be executed by the Policy Board through a third party insurance firm having expertise in the field of health insurance. The third party insurance firm shall be selected through a transparent bidding process, in accordance with the provisions of the Procurement law and rules.

(4) For the purpose of sub-section (3), the Policy Board shall enter into an agreement with the selected insurance firm, covering all the matters relating to the execution of the Programme, including the basic package, claims management and other ancillary matters.

(5) The Computerized National Identity Card of each beneficiary shall serve as the basis of eligibility for availing benefits under the Programme.

(6) Subject to the available budget, all the beneficiaries of the Programme shall be provided with a basic package of inpatient healthcare services to be determined by the Policy Board with the approval of Government.

(7) The maximum limit of the basic package, in terms of money, shall be fixed by Government on the recommendations of the Policy Board.

4. Additional package.---(1) The insurance firm may, with the approval of the Policy Board, offer additional package, which is over and above the basic package, to interested individuals, families and groups on payment of such additional premium, as determined by Government on the recommendation by the Policy Board, in the manner as may be prescribed in rules.

(2) The additional package under sub-section (1), shall be regulated in the manner as may be prescribed by rules.

5. Service providers.---(1) Healthcare services to the beneficiaries under the basic package as provided in section 3 or an additional package as provided in section 4, shall be provided through empanelled hospitals.

(2) Service providers shall be empanelled in the manner, as may be prescribed by regulations.

(3) The empanelled hospitals shall be paid by the insurance firm for the provision of services in a manner, as may be prescribed by regulations.

(4) Public hospitals shall retain, without loss of budget, all of the additional income.

(5) The additional income under sub-section (4), shall be retained and utilized for the improvement of quality of healthcare services and payment of incentives to the hospital staff in such a manner as may be prescribed in regulations.

6. Central Management Information System.---(1) For the purpose of managing information regarding the Programme, the Policy Board shall establish a Central Management Information System. The Policy Board may procure the services of a third party for the purpose of establishing the Central Management Information System.

(2) All the information regarding enrolment of beneficiaries, empanelment, admissions and treatment in hospitals, claims data, beneficiaries' grievances and any other information approved by the Policy Board, shall be collected and processed on the Central Management Information System.

(3) The Policy Board, the empanelled hospitals and the insurance firm shall provide necessary data for the establishment and updation of the Central Management Information System.

CHAPTER-III
THE POLICY BOARD

7. Khyber Pakhtunkhwa Universal Health Coverage Policy Board.---(1) Soon after the commencement of this Act, the Department shall, by notification in the official Gazette, establish a Policy Board to be known as the Khyber Pakhtunkhwa Universal Health Coverage Policy Board.

(2) The Policy Board shall consist of the following, namely:

(a)	Minister for Health, Khyber Pakhtunkhwa;	Chairperson
(b)	Secretary to Government, Health Department or his nominee not below the	Member

rank of an Additional Secretary;

(c)	Secretary to Government, Finance Department or his nominee not below the rank of an Additional Secretary;	Member
(d)	Director General Health Services, Khyber Pakhtunkhwa;	Member
(e)	three persons from private sector to be appointed by the Chief Minister on the recommendations of the Department; and	Members
(f)	Chief Executive Officer.	Member -cum- Secretary.

(3) The members at clause (e) of sub-section (2), may include health insurance expert, retired civil servants, retired officers of medical profession or patient's safety, financial management experts, philanthropists having significant contribution in health, quality assurance experts and a representative of civil society.

(4) The members at clause (e) of sub-section (2), shall hold office for a term of three years or during the pleasure of the Chief Minister, whichever is earlier.

(5) The members at clause (e) of sub-section (2), may resign from his office by tendering resignation to the Chief Minister:

Provided that the member shall continue to hold the office until his resignation is accepted.

(6) Any vacancy caused due to death, resignation or removal of any member at clause (e) of sub-section (2), shall be filled in by the Chief Minister through appointment of another person as member and such appointee shall hold such office for the unexpired term of his predecessor.

8. Meetings of the Policy Board.---(1) The Policy Board shall hold at least six meetings every year or as frequently as required. The meeting of the Policy Board shall be convened by the Chairperson.

(2) The Chairperson shall preside over the meeting of the Policy Board. In case of his absence, the Secretary of the Department shall act as Chairperson of the Policy Board.

(3) The quorum for the meeting shall be five members.

Annex 8: Propensity Score Matching

In order to isolate the effect caused by Sehat Card Plus KP on key outcomes, it was not sufficient to simply compare key outcomes between SCP users and SCP nonusers. This is because there may be systematic differences between SCP and SCP users (e.g., wealth status and place of residence urban/rural etc.). Such fundamental differences can invalidate naïve comparisons in outcomes, if there are a set of underlying characteristics that are associated with both exposure to the Sehat Card Plus KP and the level of final outcomes.

Propensity Score Matching (PSM), a statistical technique, overcomes this problem of the counterfactual by constructing a comparison group for the treatment groups that resembles as closely as possible the comparison group that might have been selected if the programme had been assigned at random. In other words, it seeks to eliminate systematic differences in characteristics of the sample in treatment group that are the source of selection bias. This was done by using information from the survey data to construct a propensity score for each household, which estimates the likelihood that this household received inpatient services from Sehat Card Plus KP conditional on its observable characteristics. Based on the review of published literature, we included following variables to derived propensity score:

a) **Household characteristics:** Religion, Ethnicity, Family system, household size (# of members), number of earning members, and wealth quintile
b) **Characteristics of household head:** Sex, age, education, and occupation

It is important to note that there were no substantial differences were found between the socio-economic and demographic characteristics of SCP users and SCP nonusers households even before propensity score matching. There were some characteristics that differed significantly (p-value < 0.05) – mainly due to the large sample size. Nonetheless, those differences also turned insignificant after adjusting for the propensity score matching. Hence, all our regression analyses were adjusted for the propensity score derived from the aforementioned observed covariates. Notably, regression models that were performed at the level of inpatient admission (e.g. mean out-of-pocket expenditure for inpatient, mean travel distance to health facility, average length of stay in the hospital, share of public sector health facilities, perceived difficulty in managing inpatient expenditure, etc.), we took into account other variables that were collected at the admission level such as disease type in addition to the propensity scores.

Annex 9: Final Scales of Perception Factors

Factors and Item Statements

Knowledge of Sehat Card Plus KP

Know that SCP is government initiative

Knows that SCP does not provide outpatient healthcare services

Knows that all family members are eligible for treatment through the SLIC

Perceived Benefits of Sehat Card Plus KP

Using health services through SCP could prevent financial hardship if you get sick

This programme will help you protect your personal savings

Hope that government should continue this Sehat Card Plus KP

Personal Agency to Utilize Sehat Card Plus KP

Can avail health services through SCP from a distant hospital

Can access healthcare services through SCP in case of financial difficulty

Confident about accessing health services through SCP

Perceived Norm around Using Sehat Card Plus KP

Household members favour availing healthcare services through Sehat Card Plus KP

People in area support healthcare services through Sehat Card Plus KP

People in area avail healthcare services through Sehat Card Plus KP

Intention to Utilize Sehat Card Plus KP

Intention to use Sehat Card Plus KP in case medical care is needed in the future

Intention to use SCP for ensuring your family's health and wellbeing

Intention to utilize Sehat Card Plus KP for healthcare services

Perception of Financial Protection

Family can handle a major unexpected expense

Family's financial future is secure

Family has money left over at the end of the month