national health authority
सत्यमेव जयते

प्रधानमंत्री जन आरोग्य योजना
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PM-JAY

GOA INSTITUTE OF MANAGEMENT
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An assessment of the trust and insurance models of AB PM-JAY implementation in six states

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Acknowledgements

This report presents key findings from a study carried out on the 'Assessment of the trust and insurance model of PMJAY implementation in six states'. It provides a detailed analysis of the comparative performance of these two models vis-à-vis different aspects of their operational and purchasing functions across these states.

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Abbreviations

CSC	common service centre
DEC	District Empanelment Committee
DIU	District Implementation Unit
EHCP	empanelled health care provider
HP	Himachal Pradesh
IC	insurance company
ISA	implementation support agency
J&K	Jammu & Kashmir
MHIS	Megha Health Insurance Scheme
MoHFW	Ministry of Health and Family Welfare
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NHA	National Health Authority
PMJAY	Pradhan Mantri Jan Arogya Yojana
RSBY	Rashtriya Swasthya Bima Yojana
SEC	State Empanelment Committee
SHA	State Health Agency
TAT	turn-around time
TPA	third party administrator
UP	Uttar Pradesh

Executive summary

Background

Since the launch of the Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (PMJAY) in September 2018, States have been given the flexibility to adopt Trust, Insurance or a combination of both, termed the Hybrid mode of implementation. The Trust mode indicates that a government-registered trust, also termed the State Health Authority (SHA), purchases services directly from empanelled providers. Third-party administrators (TPAs), referred to in this case as implementation support agencies (ISAs), may be contracted to support the scheme administration functions of the Trust. In the Insurance mode, the SHA contracts an insurance company (IC) to insure beneficiaries and pay providers for the services included in the benefits package at fixed bundled rates in return for a fixed premium per beneficiary family unit covered. Here, insurers are responsible for authorizing treatments, processing claims and paying providers. Consequently, the insurance company performs fraud detection and overall financial risk management. To date, 24 and 6 States/Union territories have adopted the Trust and Insurance mode, respectively, while three states adopted the hybrid mode.

Existing evidence from earlier publicly financed health insurance schemes indicated that both, Trusts and ICs had strengths and limitations, which were likely to affect scheme objectives. An early case study on the two models under PMJAY indicated that both models showed similar efficiencies with respect to claim management. The Trust model appeared to be vigilant to fraud, as evident through higher claim rejection rates and fraud investigation rates than the insurance company. However, these findings were limited by the single state examples for either model and the early dynamic phase of scheme implementation during which the study was carried out. A similar but expanded assessment was solicited to understand variations in the implementation models in States, analyse their performance with respect to purchasing functions, and likely implications on the scheme performance. The study was developed based on the requirements of and in consultation with the National Health Authority (NHA).

Objectives

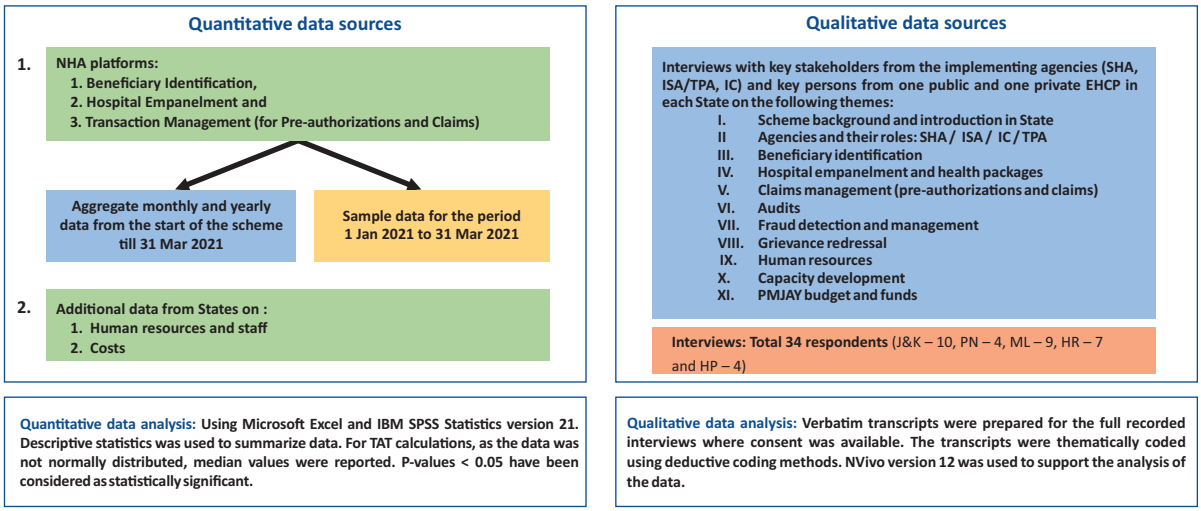
We sought to understand the comparative performance of States adopting either the Insurance or Trust model of PMJAY implementation and provide insights into the implications of adopting either model.

1. To assess the performance of purchasing actions, including beneficiary enrolment, pre-authorization and claims management, audits and fraud management, and empanelled hospital management in both models.
2. To understand the institutional structure, human resource composition of the purchasing agencies and costs associated with both models.

Methods

This was a mixed methods study of six States, viz. Trust mode: Haryana, Uttar Pradesh (UP), Himachal Pradesh (HP); Insurance mode: Jammu & Kashmir (J&K), Punjab and Meghalaya. States were selected purposively in consultation with the NHA and among those without changes in the model adopted since the start of the scheme. Data sources and analysis methods are summarized in Fig. 1. Uttar Pradesh did not consent to participate in interviews and for the provision of data on the human resource composition and scheme costs. These data are therefore missing in the analysis.

Fig. 1. Data sources and analysis methods



Results

While there are some overall differences in the performance outputs between the two models, variations between States within either model persist. These variations, when explored, indicate the overwhelming importance of other contextual implementation factors that drive performance on purchasing functions, going beyond the type of model adopted by the State. The key quantitative observations on differences across the two models are summarized in *Table 1.* These are further explained with their associated state-specific implementation factors in the following summary, and these associations are represented in Fig. 2.

The choice of model to be adopted by States was influenced by their earlier experiences with State schemes prior to PMJAY (such as the Megha Health Insurance Scheme (MHIS) in Meghalaya) or the perception of the numbers of human resources necessary to implement PMJAY. States expressed that more human resources were required in a Trust-run scheme, which would be more challenging to recruit and maintain. On the other hand, with insurance companies, these requirements would be fewer on the part of the State. We found that Trust states did have larger SHAs and a higher density of human resources than Insurance states. However, the scheme outputs were not always higher, as these were also influenced by other factors. Haryana, which does not contract an implementation support agency (ISA), had the largest SHA among Trust states (and the highest utilization). However, officials were concerned about being able to continue to implement the scheme under the same model, as they anticipated higher utilization (with increasing awareness levels and expansion of the beneficiary pool) with time and the consequent rising workloads. They expressed that a revision in the scheme model would have to be considered going ahead.

We found that within either model, some variations occurred between States in their respective composition of the agencies involved in purchasing functions. Among Insurance states, the IC of Meghalaya conducted claim processing within the organization, without an externally contracted TPA, in contrast to the ICs of other States, which contracted one or more TPAs. Among Trust states, Haryana operated the scheme without an ISA, while UP and HP contracted ISAs (four and one ISA, respectively). It was interesting to note that Meghalaya and Haryana also consequently reported slightly different results on some parameters compared to the other States within the same model. Primarily, these differences were seen in lower claims ratios and claim rejection rates, as well as faster claims processing in Meghalaya as compared to other insurance states, and lower claim processing times and claim rejection rates in Haryana, as compared to other Trust states.

Table 1. Summary of key indicators comparing Insurance and Trust models

Assessment theme	Insurance	Trust	Remarks
Beneficiary identification			
Beneficiary registration rate	41.84%*	25.37%*	Better registration efficiency was observed among states with universal schemes, vis-à-vis limited results in States with targeted eligibility criteria. Meghalaya showed the highest coverage (60%), and UP showed the lowest (23%).
Proportion of rejections	7.9%*	17.5%*	Common reasons for rejection across states include name mismatches, poor quality scanned documents, and incorrect documents uploaded.
The proportion of disabled cards	4.2%*	1.3%*	Reasons include identification of fraudulent cards and policy changes in approval (such as non-Aadhaar linked cards disabled in Haryana)
Management of empanelled hospitals			
Empanelled hospitals by sector			
Public EHCPs	489 (38.2%)	1351 (37.8%)	
Private EHCPs	683 (53.3%)	2140 (59.8%)	
GOI (operated by central Ministries other than MoHFW)	109 (8.5%)	85 (2.4%)	The majority of GOI hospitals were inactive (only 3 /194 had raised pre-authorizations)
NABH accredited private EHCPs	229 (33.5%)*	270 (12.6%)*	A higher proportion of NABH accredited hospitals in Insurance states implies the need to evaluate whether there is a greater sense of trust or willingness to participate in the scheme among good quality private hospitals, based on whether the State adopted a Trust or Insurance model.
The proportion of NABH accredited hospitals empanelled in state	87.4%	38.1%	
Hospital capacity: Beds per 10 000 beneficiaries			
Public EHCPs	8.5	10.4	
Private EHCPs	8.1	15.0	
Empanelment rejection rate			
Public EHCPs	5.6%*	11.2%*	Trust states have a higher proportion of inactive hospitals, despite having a higher rejection rate at the time of empanelment.
Private EHCPs	9.5%*	21.9%*	
De-empanelment rate			No hospital was de-empanelled in J&K and Meghalaya, and few hospitals were -empanelled because of frauds in Punjab. In HP, inactive public and private hospitals were de-empanelled. UP had the highest number of de-empanelled hospitals.
Public EHCPs	0%	0.96%	
Private EHCPs	2.5%*	5.2%*	

Assessment theme	Insurance	Trust	Remarks
Inactive hospitals			Lack of adequate infrastructure and facilities were reported reasons for the inactivity of hospitals.
Public EHCPs	4.5%*	16.7%*	
Private EHCPs	10.0%*	7.8%*	
Scheme utilization			
The proportion of pre-authorizations raised			Public hospitals are more active in Insurance states.
Public EHCPs[b]	46.5%	19.6%	
Private EHCPs[b]	53.5%	80.4%	
Scheme utilization among registered beneficiaries (April 2020 – March 2021)	493 pre-authorizations per 10,000 golden cards	281 pre-authorizations per 10,000 golden cards	The trend in utilization follows the trend of a higher registration rate of beneficiaries in Insurance states. Meghalaya had the highest utilization rate, which could be further attributed to the inclusion of several additional packages like out-patient/daycare packages and earlier experience with MHIS.
Estimated hospitalization rate[b]	2.8%*	2.5%*	Despite Trust states having a higher number of empanelled health care providers and a higher number of available beds per 10 000 eligible beneficiaries, they show slightly lower rates of hospitalizations among the beneficiary population.
Pre-authorization and claims management			
Total number of claims submitted per 10 000 registered beneficiaries	475*	274*	
Average value per claim (in Rupees)	9599	9434	
Pre-authorization rejection rate	2.0%*	1.4%*	The state-specific context for rejections – capacity issues in public hospitals Data indicates the need for assessment of the capacities of public hospitals to submit timely and complete documentation of case records for claim reimbursement. J&K reported the highest rejection rate for pre-authorizations (7%) and for claims (12.3%). This further increased to 9.8% and 20.2% post universalization for pre-authorizations and claims, respectively.b These rates were later reduced due to SHA interventions. Meghalaya reported the lowest claim rejection rate (0.2%). Haryana, which does not have an ISA, reported a lower rejection rate (2.3%) than the other Trust states.
Public EHCPs[b]	4.2%*	1.2%*	
Private EHCPs[b]	2.1%*	1.1%*	
Claim rejection rate	2.9%*	4.6%*	
Public EHCPs[b]	7%*	9.1%*	
Private EHCPs[b]	3.4%*	2.6%*	

Assessment theme	Insurance	Trust	Remarks
Pre-authorization turn-around-time in hours (median, inter quartile range)[b]	5.8 (1.9 – 18.1)*	3.2 (0.8 – 10.3)*	There were significant differences in the pre-authorization and claim processing times between Insurance and Trust states. Haryana, which does not have an ISA, reported a lower median TAT (28 days) than the other two states with a Trust model (60 days). Decisions on claims take the same amount of time for public and private hospitals in all States, except J&K and UP, where claims from public hospitals require a longer time to process.
The proportion of delayed decisions (>6 hours)[b]	49.4%*	39.6%*	
Claim payment turn-around-time in days (from submission to payment) (median, inter quartile range)b	14 (10-19)*	49 (28-77)*	
Proportion of delayed payments (>15 days)[b]	39.3%*	97.6%*	
The structural capacity of SHAs and supporting agencies			
Total SHA staff (State + Districts) and proportion calculated about the number of NHA recommended positions for each state	J&K – 33 (27.97%) Punjab – 106 (75.71%) Meghalaya – 35 (47.95%)	Haryana – 240 (148.15%) HP – 62 (79.49%) UP – data not available	Trust states had a slightly larger workforce combining State and district resources than the Insurance states.
The proportion of contractual staff in SHA only	J&K – 15.1% Punjab – data not available Meghalaya – 60%	Haryana – 50.4% HP – 58.7% UP – data not available	In most states' SHAs, more than half of the total workforce (not including ICs/ISAs/TPAs) was comprised of contractual employees recruited for the purpose of the scheme only.
Work force density (eligible beneficiary families served per PMJAY staff)	J&K -13,975 Punjab – 13,414 Meghalaya – 10,217	Haryana- 6,441 HP – 4,519 UP – data not available	Trust states had a higher workforce density as compared to the three Insurance states

[a]Missing data on bed strength from 365 hospitals in UP, 6 in HP, 5 in J&K, and 4 in Haryana among public hospitals and 12 in UP, one each in HP, Haryana and Punjab among private hospitals
[b]These calculations are based on the sample data for three months (January – March 2021)
**P value<0.05 for comparison between Insurance and Trust models*
All calculations are for the year April 2020 – March 2021 unless otherwise indicated
Data on hospital empanelment is as of March 2021

The relationship between the SHAs and the supporting agencies was governed by contracts as modelled by the National Health Authority (NHA), and it was seen that States largely adopted these terms. SHAs reported monitoring key performance indicators (KPIs) under these contracts. During the two years of the pandemic, some allowances had to be made as agencies couldn't keep up with all the performance indicators. It was observed that **in smaller states (such as HP and Meghalaya), there was an understanding and more collaborative working relationship between SHAs and supporting agencies, irrespective of whether it was an ISA or an IC. In the other two insurance States, it appeared that the ICs were stringent about processing documentation and guidelines that affected claim approval processes.** In J&K, we found that the SHA intervened to revoke wrongfully rejected claims and allow more time for responses to queries to enable public hospitals with weaker capacities to meet documentation requirements. This affected decreasing claims rejection rates over time. In Punjab, hospitals were required to approach grievance redressal committees to resolve any concerns with wrongfully rejected claims. State intervention was via these committees and the State Anti-Fraud Unit. At the time our interviews were completed, there were still claim payments pending due to unresolved issues between the IC and hospitals (Punjab, however, reports a lower claim rejection rate than the Trust States). More efforts to streamline communication between SHAs, hospitals and ICs would benefit the states in the smooth functioning of the scheme.

Insurance states showed higher overall registration rates among eligible beneficiaries. In States where PMJAY eligibility is universal (J&K and Meghalaya), the registration of eligible beneficiaries is the highest, indicating the efficiency of the universal approach as compared to targeted programmes. Yet, all States, irrespective of the model, have much to be achieved to reach the entirety of their target population. The data indicated that there is under-utilized capacity within the workforce in States to process beneficiary registration applications. Awareness of the scheme is an important determinant of registrations. Although we did not collect this data in our study, available data indicates higher awareness levels are observed in States that report higher utilization (Punjab, Haryana and Meghalaya).[1] This factor was also a possible confounder to our further findings on the utilization of the scheme.

All three Insurance states have achieved high levels of utilization of the scheme as compared to the three Trust States (J&K, Meghalaya- universal eligibility; eligibility in Punjab is also relatively high at 72%). The difference in Year 3 is most pronounced, with 493 pre-authorizations per 10,000 golden cards in Insurance states taken together, compared to 281 pre-authorizations per 10,000 golden cards in Trust states (a 1.8-fold higher count). This is despite the higher density of empanelled hospital beds in Trust states as compared to the Insurance states. We also found a higher proportion of inactive hospitals, specifically public hospitals, in Trust states. **However, these differences in scheme utilization were reduced to negligible levels when estimated hospitalization rates were compared between models (2.8% in Insurance and 2.5% in Trust states, $p<0.05$, Cohen's $h = 0.02$).** We compared individual State hospitalization rates to National Sample Survey 75th round data and found that Punjab, Meghalaya and Haryana have achieved higher hospitalization rates under PMJAY for those registered under the scheme, improving access for these populations. The other States are yet to achieve population-level hospitalization rates. It is, however, important to reiterate that all States are yet to reach all eligible beneficiaries through their registration processes to achieve the actual utilization potential of the scheme.

We found that Insurance states could empanel a higher proportion of available NABH (National Accreditation Board for Hospitals & Healthcare Providers) accredited hospitals (entry-level and full accreditation) compared to Trust states. Reliable data on all private sector resources in States was unavailable to ascertain whether Insurance states were also able to empanel a higher proportion of all private hospitals. Additional data may be useful to ascertain whether there was a greater sense of trust or willingness to participate in the scheme among good-quality private hospitals, based on whether the State adopted a Trust or Insurance model. The empanelment process is, however, undertaken in the same way in both models, and the role of the insurance companies is limited with regards to empanelment, with final decisions remaining with the SHAs.

In terms of efficiency, claim processing turn-around times (TAT) were significantly longer for all Trust states compared to the Insurance states.[2] However, once claims were approved, payments

1 Policy Brief No 11 Available at https://pmjay.gov.in/sites/default/files/2022-01/Policy-Brief-11-Awareness-PMJAY.pdf

2 TAT calculations as per PMJAY service contracts of ICs and ISAs do not include the time that hospitals take to respond to queries. However, for the purpose of the study, and as per the data made available to us, TAT calculations include the total time taken from start to end of the process.

were made by all States on time, irrespective of model, and within 0 to 4 days. Hospitals in Trust states reported that payments took time but did not report dissatisfaction with the processing times.

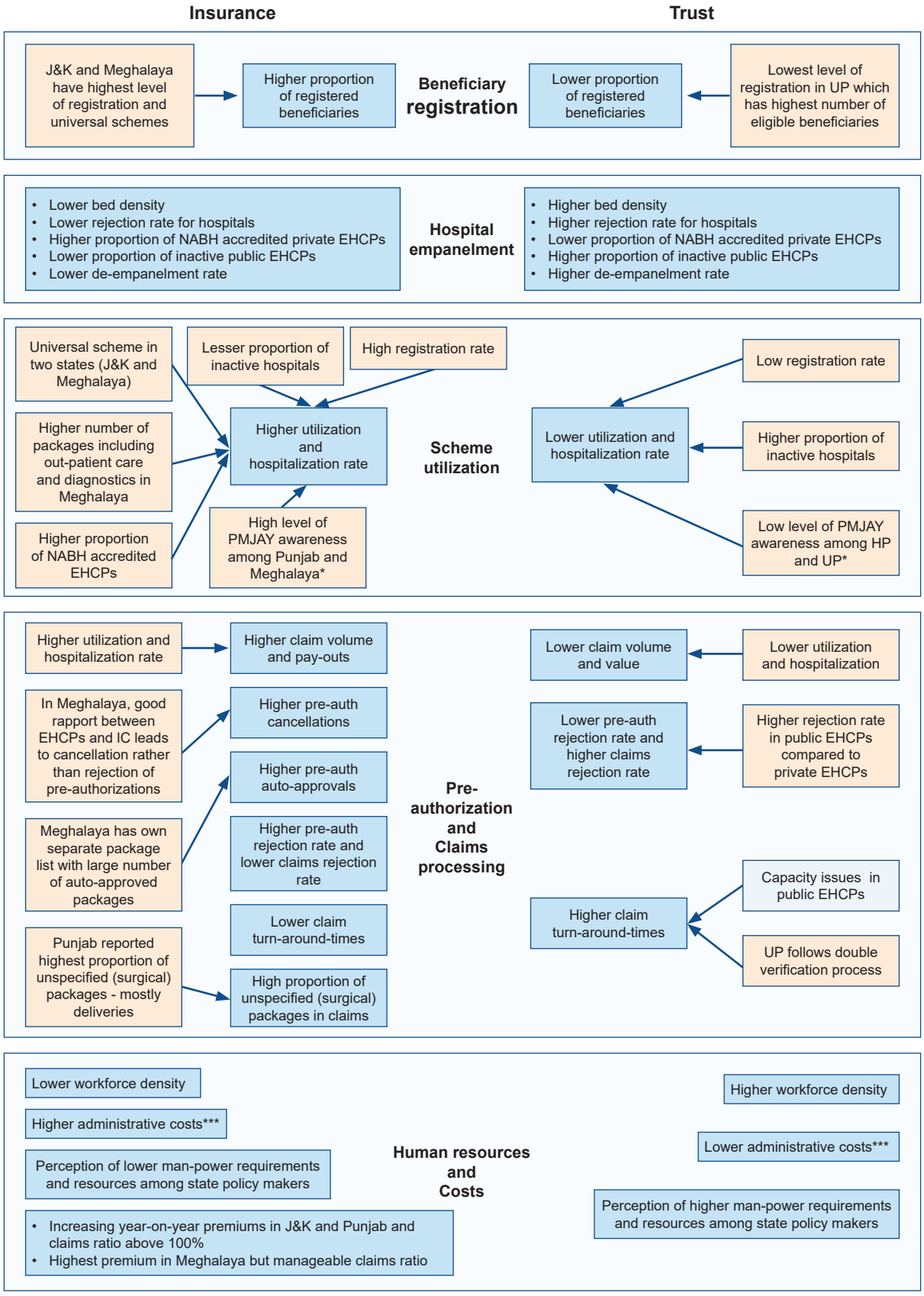
Haryana reported a significantly lower TAT for processing claims among Trust states than UP and HP. Haryana reported that the workload was manageable at the current utilisation level but claimed processing teams needed to work six days a week (they officially have a five-day work week) to maintain an acceptable TAT. In the absence of an ISA, the single level of processing appeared to contribute to faster processing times in Haryana. The claim teams of Insurance states were processing a higher daily volume of claims and maintaining lower TATs, as per guidelines and as contracts. Despite TAT delays in HP, no financial penalties had been levied on the ISA so far, as processing delays were seen to be genuine and multi-factorial in the state (hospital capacities, internet connectivity and response of the IT system, and occasional manpower constraints of the ISA).

Trust states reported an overall higher rate of claim rejections than insurance states (4.8% vs 2.3%). However, in either model, there was an exception in J&K and Haryana. The high rejection rates in J&K were reportedly due to limited capacities within the public hospitals to submit claims correctly and promptly, which resulted in some amendments to guidelines for public hospitals. The SHA in J&K had also reported that many claim rejection decisions had been revoked due to 'wrongful rejections', and penalties had been imposed on the IC. In Haryana, the 'customization' of claim processing by the experienced, regular medical doctors of the State Health department who form the Trust reportedly led to lower rejection rates in the state. Among reasons for claim rejections across States, delayed pre-authorizations, inability to submit the required documentation and delayed responses to queries appeared to be the main reasons for rejection. The variations are seen in J&K and Haryana, as compared to other States with the same model, further reflect that even within models, other factors may contribute to the rates of rejections of claims.

We did not have sufficient data on audits and fraud management to determine whether insurance companies or Trusts were more effective in detecting fraud. Our analysis of unspecified package utilization and an average length of stay did not provide clear insights on the effectiveness of the agencies specifically concerning this function. Across States, audits were being conducted, and frauds had been detected. The National Anti-Fraud Unit also appeared to play a significant role in detecting and sharing fraud triggers with States. Hospitals had been de-empanelled to a greater extent in Trusts than in Insurance states, following the trend of disabled eligibility cards and claim rejections.

Based on experiences in earlier government-sponsored health insurance schemes, it is expected that Insurance companies are likely to control their risk and maximize gains through low claims ratios, achieved through stringency in claim management, and reflected by high claim rejection rates. **However, we found that Insurance companies derive benefit from the investment profits they can make through government-sponsored insurance schemes rather than any underwriting profit.** These large group schemes provide a total premium amount that cannot be compared to any other type of scheme offered by the health insurance companies. The PMJAY contract between SHAs and ICs ensures that undue profits are not made by keeping a cap on administrative costs and requiring the return of unspent balances to the SHAs. There appears to be neither any significant incentive nor a possibility for insurance companies to reject large numbers of claims. In this scenario, high rates of claim rejections would result in widespread dissatisfaction among hospitals, and eventually their non-co-operation or withdrawal from the scheme, as is being reported currently in Punjab. It appears that **the premium rate quoted is of more significance in ensuring a smooth implementation of the scheme in the Insurance model.** This is reflected in the differences in experiences among Insurance states. As reported in Punjab, persistently high claims ratios above 100% resulted in an increase in premium from the first to the second year of scheme implementation. The State did not report a higher claim rejection rate than other States. J&K also reported that claims ratios had increased above 120% post universalization of the scheme, and official data on claims ratios and revised premiums for the latest policy period will be important to determine the financial implications for the scheme. Meghalaya, which reported a near zero claim rejection rate, also reported a much higher premium charged and a claim ratio of 70.3%. The SHA in Meghalaya appeared satisfied with the performance of the IC over the years.

Fig. 2. Key differences between Insurance and Trust models



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***Costing data does not include the costs of regular government cadre resources*

Blue boxes indicate key indicators for each purchasing function; orange boxes indicate the contributing factors.

Our data on costs were not sufficient to conclude model comparisons. We could not obtain data on the costing of government resources allocated to institutional structures in the States (specific within SHAs and district implementation units). We also did not obtain complete data for Punjab, J&K & UP to compare preliminary costs across models. **With these limitations, the administrative cost per beneficiary family in Meghalaya was much higher (~10 times) than in the Trust states of Haryana and HP. However, due to high utilization levels in Meghalaya, these differences decreased significantly when comparing total costs incurred by SHAs per beneficiary family. Further, regarding total cost per claim, Haryana reported a higher cost than Meghalaya.** This is possibly attributable to Meghalaya's high claim volume and relatively lower claim value (Rs 7,500). On the other hand, Haryana reports the highest utilization among Trust states and an average claim value of Rs 10,458. These claim values reflect the package utilization in these two States.

It is important to note that going ahead in the scheme and as utilization continues to increase, the Insurance states of J&K and Punjab are likely to have significantly higher costs, as ICs will not be able to continue providing services at the current levels of premiums being offered, with claims ratios persistently exceeding 100%. SHA resources would also have to be increased in J&K to meet the increasing scheme demand following universalization.

Conclusions and recommendations

Differences in performance between Insurance and Trust states appeared to relate to several state-level implementation factors beyond the type of model adopted. However, our findings on scheme utilization, claim processing efficiencies, current workforce density, empanelment of NABH hospitals, premiums, claims ratios, and costs merit specific actions to monitor and improve the performance of these models.

- Both Haryana (Trust) and Meghalaya (Insurance) operated without implementation support or third-party agency; both states also reported better performance on claim management.
- Premium rates charged by insurance companies were important for the smooth implementation of the scheme in Insurance states. Proper actuarial calculations are needed in this regard. ICs could not use claim rejections to control claims ratio; contract terms and SHA oversight effectively enabled this. However, when premium rates were inadequate to meet scheme utilization rates, it affected relationships between hospitals and implementing agencies, creating challenges for the scheme.
- Close working relationships between SHAs, ICs/ISAs and hospitals ensured smoother implementation.
- Insurance states processed claims faster as compared to Trust states. Despite this, there was no difference between Insurance and Trust states with regard to satisfaction with the timeliness of their payments.
- The administrative cost per beneficiary family in Meghalaya (Insurance) was much higher (~10 times) than in the Trust states of Haryana and HP. However, due to high utilization levels in Meghalaya, these patterns changed when comparing total costs incurred by SHAs per claim; Haryana reported a higher cost than Meghalaya. The cost implications of the two models need to be closely monitored with complete costing data- to further inform policy going ahead. We offer some recommendations for states and also indicate the scope for further research in order to fully understand the implications of the implementation models and their effects on scheme objectives.

For states that adopt the Insurance model:

- Actuarial calculations of premium rates need to be properly estimated by SHAs, as scheme utilization increases. These estimations may be factored into the technical criteria in the tenders for ICs, so that a disproportionately low L1 rate quoted by ICs eager to participate in PMJAY does not adversely affect scheme implementation.
- SHA oversight and intervention through maintaining open and responsive communication channels remains vital to ensure that implementation challenges faced by hospitals and ICs do not negatively affect scheme outcomes. Hospitals should be able to approach both ICs and SHAs easily to resolve queries and other issues when required.

- Functions such as audits of IC rejected claims must be completely and comprehensively carried out on time to ensure that these are fair. In cases where public hospitals struggle to keep up with the requirements of claim processing guidelines, SHA intervention remains vital to adjust these guidelines as appropriate.

For states that adopt the Trust model:

- SHAs need to better leverage ISA resources to improve registration rates and claim processing efficiencies.
- The higher workforce density and lower output, as compared to Insurance states, merits a detailed exploration of ways to improve overall efficiency within Trusts.

For all states, irrespective of model:

- Public hospital capacity building is required through joint actions of SHAs with ICs/ ISAs. Support in the form of additional human resources, as well as standardization of processes and creating awareness among treating doctors, nurses and support staff involved in PMJAY beneficiary management, is essential in ensuring that claims from public hospitals are submitted in a way that they can be reimbursed without impediments.
- Medical doctors with clinical experience in hospital settings within ISAs/TPAs and SHAs are necessary to improve claim processing efficiencies. SHAs must ensure that these staffing requirements are maintained at all times in support agencies.
- A comprehensive costing of scheme implementation in a sufficient number of States across both models is necessary in order to determine the cost-efficiencies and financial implications for the sustainability of these models.

A figurative overview of specific findings for each State is provided in Appendix X at the end.

Scope for further work

The findings of this study indicate the need for a detailed costing exercise to be carried out for each of the implementation models. Since performance on purchasing actions appears to be largely associated with implementation factors other than the models adopted, the implications of cost and cost-efficiency will have implications for the sustainability of the models. Hybrid models may also be included in such further work. An exploration of the reasons for higher proportions of NABH accredited hospitals having been empanelled in insurance states, along with the higher utilization observations, would provide vital insights contributing to the scheme's success.

1 Background and purpose of the study

The Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (PMJAY) scheme of the Government of India was officially launched in September 2018 to provide access to hospitalization services for the poorer sections of the population. PMJAY increased the scope of services available under the earlier existing Rashtriya Swasthya Bima Yojana (RSBY), offering beneficiaries access to secondary and tertiary in-patient care services up to five lakh Indian rupees per registered family without a limit on the number of members per family.[1]

The institutional design of PMJAY differs in many ways from the earlier RSBY, with attempts to increase public oversight of contracted private entities involved in scheme operations. State-level autonomous public agencies (State Health Agencies, SHA) have been set up with dedicated human resources for scheme implementation. Funds for the scheme are transferred jointly by the Central and State governments to the SHAs. SHAs are tasked with the oversight of all functions related to scheme implementation. However, they are primarily responsible for beneficiary enrolment, provider contracting and grievance redressal.[2] The processing and paying of claims are carried out through one of two existing models or through a combination of both, known as the mixed or hybrid model. The first is the Insurance model, similar to RSBY, under which the SHA can contract an insurance company (IC) to insure beneficiaries and pay providers for the pre-defined list of services in return for a fixed premium per beneficiary family unit covered. Here, insurers are responsible for authorizing treatments, processing claims and paying providers. Consequently, the insurance company performs fraud detection and overall financial risk management. The second is the Trust model, wherein the SHA is registered as a not-for-profit trust and purchases services directly from empanelled providers. Third-party administrators (TPAs), referred to in this case as implementation support agencies (ISAs), may be contracted to support the scheme administration functions of the Trust.[1] The differences in the Trust and Insurance models are therefore most explicit in terms of the agencies involved in treatment authorization, claim management and payments to providers. States have been provided with the choice of model to be adopted for these purchasing actions.

Consequently, the institutional arrangements in each of the models, the participating agencies, their payment terms and oversight of contracted agencies by the SHA have the potential to influence the realization of the objectives of PMJAY. For example, it has been observed that when insurance company profits are linked to claim pay-outs, there are incentives to unnecessarily reject claims or empanel a limited number of hospitals or hospitals with insufficient capacity to provide services.[3–5] Such misalignments of incentives between insurance companies and the government suggest that healthcare purchasing through an insurance company may limit the achievement of programme objectives that seek to expand access. On the other hand, arguments have also been made about the inefficiencies of government functionaries in administering large finance schemes within a Trust due to the lack of required expertise, inability to control supplier-induced demand, or to absorb risk,[4,6] as also the fixed costs of setting up the SHA.

Therefore, these inherent motivations of the Trust and insurance company are expected to influence their purchasing behaviour under PMJAY, which would further affect scheme outputs and outcomes. It is imperative, therefore, to understand these two models and their constituent agencies and assess their performance with respect to healthcare purchasing. An early insight was obtained into this aspect through a study of two States with either model, based on the first six months of PMJAY implementation.7 Both models showed similar efficiencies with respect to claim management, although utilization was higher in the Insurance model. The Trust model appeared to be more vigilant to fraud, as evident through higher claim rejection rates and fraud investigations. Preliminary analysis revealed that the Trust model costs less per beneficiary than the Insurance model. However, these findings were limited by the State specific contextual factors that may have influenced certain findings, as well as the early dynamic phase of scheme implementation during which the study was carried out.

Against this background, a similar but expanded assessment was necessary to understand variations in the implementation models in States, analyse their performance with respect to purchasing functions, and likely implications on the scheme performance. These findings would serve to inform scheme policy going forward. In the current study, a mixed methods assessment of the performance of six States adopting either model has been undertaken to understand the effectiveness of the purchasing actions. The purchasing actions that have been studied are those most directly linked to the model differences. Qualitative interviews were conducted to understand processes and contextualize the quantitative findings, where possible. We conclude with a summary of the main findings and their implications for policy.

2 Objectives

The study aims to understand the structural capacity and performance of the purchasing models (Insurance and Trust) in carrying out selected purchasing actions. In addition, an assessment of overall costs and cost-utilization will be carried out to provide insights into the implications of adopting either model for the states and the National Health Authority (NHA).

1. To assess the performance of purchasing actions, including beneficiary enrolment, pre-authorization and claims management, audits and fraud management, and empanelled hospital management in both models.
2. To understand the institutional structure, human resource composition of the purchasing agencies and costs associated with both models.

3 Methodology

3.1 State selection under the Insurance and Trust models

Six states, three operating under each model (Insurance and Trust), were selected for the study (Table 2). The states were selected in consultation with the NHA based on certain parameters such as 1) relative stability of the model since the start of the scheme and 2) mix of states with either model across size and health system performance.

Table 2. State selection in the study

Model	State	Category	Health Performance Index ranking category (Actual score)
Trust	Uttar Pradesh (UP)	B	Index score < 48 (29.16)
	Haryana	B	Index score > 48 and < 62 (54.08)
	Himachal Pradesh (HP)	A	Index score > 62 (63.10)
Insurance	Meghalaya	A	Index score > 48 and < 62 (55.95)
	Jammu & Kashmir (J&K)	A	Index score > 62 (62.92)
		B	Index score > 62 (63.41)

Greenfield states are underlined
Niti Aayog Health Performance Index ranking (round 2, 2017-2018)

3.2 Data sources

We conducted a mixed methods study combining quantitative and qualitative data sources. We used the qualitative data collected through interviews with key stakeholders to contextualize the findings from the quantitative analysis.

3.2.1 Quantitative data sources

Data were obtained from the three independent digital platforms of the NHA established for the management of 1) Beneficiary Identification, 2) Hospital Empanelment, and 3) Transaction management (Pre-authorization and Claims). Aggregate monthly and yearly data from all the three platforms was obtained from the start of the scheme in each State till 31 March 2021. In addition, sample data for the period 1 January 2021 to 31 March 2021 was obtained for analysing turn-around times (TAT) and associated variables for pre-authorizations and claims processing.

Data was also collected from the states on scheme-related human resources and staff and costs, using structured formats for the period up to 31 March 2021 (Appendix I). Uttar Pradesh did not provide any data on the human resource composition and scheme costs and is not included in those analysis sections.

3.2.2 Qualitative data sources

To better understand the purchasing actions/functions in each State and contextualize the observations from the quantitative data, interviews with key stakeholders from the implementing agencies (SHA, ISA/TPA, IC) in each State were carried out (Table 3). In addition, key persons from the empanelled health care providers (EHCPs) (one public and one private) were also carried out. All the interviews were conducted using an interview guide (Appendix II–VI), specific to each implementing agency. The interview guide included the following themes:

I. Scheme background and introduction in State
II. Involved agencies: SHA / ISA / IC / TPA
III. Beneficiary identification
IV. Hospital empanelment and health packages
V. Claims management (pre-authorizations and claims)
VI. Audits
VII. Fraud detection and management
VIII. Grievance redressal
IX. Human resources
X. Capacity development
XI. PMJAY budget and funds

Additional guides were developed to cover certain specific processes in detail, attached as annexures (Appendix-VII). All interviews were conducted virtually to cover a large number of stakeholders across the six states within a limited time. Informed consent was taken from the participants to record the interviews. Where interviews could not be recorded, we developed memos and detailed notes of the interviews. We did not receive permission from the State Health Agency in UP to conduct interviews with stakeholders. Hence it was not possible to include any qualitative data from the state.

Table 3. List of stakeholders interviewed in the states

Implementation agencies	Stakeholders	Jammu & Kashmir	Punjab	Meghalaya	Haryana	Uttar Pradesh1	Himachal Pradesh
SHA (Appendix II)	Nodal person in charge of the following functions:						
	Beneficiary awareness/ IEC	1	1 with ACEO	1	1		1 (2 Consultants)
	Beneficiary verification and enrolment	1 (also looks after capacity development) *			1 – Nodal Officer		
	Hospital empanelment (also one member of SEC)	1		1			
	Claims management/ adjudication	1			1 – Medical Officer in charge		
	Grievance redressal	1		1	1 – 1 Medical Officer and 2 Consultants related to medical audits and grievance management		
	Capacity Development	*					
	Monitoring & Evaluation	1		1			
	Other relevant functionaries			1 – State Manager	1 – Dy CEO		
				1 – Finance Manager			
ISA/IC/TPA (Appendix III – V)	State Project Manager	1 – team (PPD/CPD/ Senior level person)	1 – Senior executive2	2 (1 – Claims Manager and 1 – State Coordinator)			1 – team (PPD/CPD/ Senior level person)
	State Medical Manager						
	PPD						
	CPD						
	Full-time medical auditor						
EHCP (one public and one private) (Appendix VII)	Nodal person in charge of PMJAY	1 – private EHCP 2 – public EHCP	1 – private EHCP 1 – public EHCP	1 – private EHCP 1 – public EHCP	1 – private EHCP 1 – public EHCP		1 – private EHCP 1 – public EHCP
Total interviews		**10**	**4**	**9**	**7**		**4**

[1]We did not receive permission from UP SHA to conduct interviews in the state
[2]The Insurance company (IC) in Punjab working during the study period (start of scheme to March 2021) has changed in the current policy period. Only a single 3 hr interview with a senior executive of the IC working closely with the scheme during the study period was conducted, and all functions were discussed.

3.3 Data analysis

3.3.1 Quantitative data analysis

All quantitative data were processed and analysed using Microsoft Excel. Descriptive statistics were used to summarize the data. As the data were not normally distributed for TAT calculations, median values were reported instead of the mean. Further analysis was carried out in IBM SPSS Statistics version 21. P-values < 0.05 have been considered statistically significant.

3.3.2 Qualitative data analysis

Notes or memos were created for the interviews. If consent was provided for recording of the interviews, verbatim transcripts were prepared for the full interviews in the same language as the interview was conducted (i.e., English or Hindi). The transcripts were thematically coded using deductive coding methods. NVivo version 12 was used to support the analysis of the data.

3.4 Ethical review

Ethical approval for the study was obtained from The Board of Research Ethics (BORE), Goa Institute of Management. Verbal informed consent was taken from all participants prior to the conduct of interviews.

4 Results

4.1 Implementing agencies and roles in purchasing functions across States and models

Among the States studied under each model, some variations in the composition of the agencies associated with purchasing functions were observed (*Table 4*). Among Insurance states, Meghalaya contracted an insurance company, which worked independently, without an externally contracted TPA for administrative processes. However, J&K and Punjab both had ICs which had further contracted TPAs, which is the usual practice. The IC in Meghalaya is one of few that does not utilize the services of a TPA for claims processing and managing functions within the organization. Among Trust states, Haryana did not contract an ISA for implementation support. All functions were carried out by the SHA staff, including regular (major proportion) and contractual staff.

Table 4. Models and agencies associated with purchasing functions

	INSURANCE			TRUST		
	Jammu & Kashmir	Punjab	Meghalaya	Haryana	Uttar Pradesh	Himachal Pradesh
SHA	✓	✓	✓	✓	✓	✓
IC	✓	✓	✓			
TPA	✓ 1 TPA contracted by IC	✓ 3 TPAs contracted by IC	No TPA			
ISA				No ISA	✓ 4 ISAs contracted by SHA	✓ 1 ISA contracted by SHA
Any other agency	None	None	1 agency contracted by IC for golden card generation	None	Data not available	None

SHA State Health Agency, IC Insurance Company, TPA Third Party Administrator, ISA Implementation Support Agency

Further, for each of the functions studied, a summary of the role of the implementing agencies, state-specific processes and deviations, if any, from NHA guidelines are listed in *Table 5* below. Overall, all the states follow the NHA guidelines for most functions. However, there are differences in the roles of implementing agencies across the states. In Meghalaya, the entire SHA team is incentivized to review

rejected beneficiary applications due to the two-step verification model in the beneficiary identification system. In Haryana, a Trust state without an ISA, contracted staff working as part of the SHA, process the applications. In Meghalaya, PMJAY is implemented in convergence with the state scheme (Megha Health Insurance Scheme, MHIS). Most public facilities were already empanelled under MHIS, leading to a fast-track empanelment in PMJAY. The insurance company had a role in verifying only the private facilities for empanelment. Additionally, in Meghalaya, the insurance company carries out all claim processing functions within the organisation without an external TPA. In J&K, the IC had contracted a single TPA, and in Punjab, the IC has contracted three TPAs.

Table 5. Role of key agencies in carrying out purchasing functions in each State

	Insurance			Trust		
Purchasing function	**Jammu & Kashmir**	**Punjab**	**Meghalaya**	**Haryana**	**Uttar Pradesh**	**Himachal Pradesh**
Beneficiary identification	NHA guideline: IC to verify beneficiary data and approve or recommend applications for rejection, where appropriate.			NHA guideline: Trust to verify beneficiary data and approve or reject applications.		
	✓ All applications rejected by the IC are scrutinized by SHA for a final decision.	✓ All applications rejected by the IC are scrutinized by SHA for a final decision.	✓ All applications rejected by the IC are scrutinized by SHA for a final decision.	✓ A large team of junior executives process the applications; rejected applications are scrutinized by a senior executive.	NA	✓ ISA accepts or rejects applications; rejected applications are scrutinized by SHA for a final decision.
Hospital empanelment	NHA guideline: DEC to conduct on-site verifications of hospital data, based on which rejections are accepted or rejected by the SEC. IC representative is a member of the DEC and SEC.			NHA guideline: DEC to conduct on-site verifications of hospital data, based on which rejections are accepted or rejected by the SEC.		
	✓ IC representative plays a significant role in the verification of hospital resources.	✓	Since the majority of hospitals were empanelled under an earlier existing scheme, few private hospital applications were processed by the IC (No DEC and SEC)	✓	NA	✓
Claims management	NHA guidelines: IC processes pre-authorizations and claims and is responsible for the final decision. SHA audits approvals and rejections and may re-open a rejected claim for re-consideration.			NHA guidelines: The ISA, if in place, processes pre-authorizations and claims; the SHA reviews rejected pre-authorizations and provides the final decision on all claims.		
	✓ Rejection decisions by the IC, which are contested by SHA, are discussed thoroughly prior to the final decision entered into the IT system.	✓ Several rejection decisions by IC are contested by EHCP through the grievance redressal mechanism.	✓ The state has very low rejection rates	✓ Single, well-capacitated teams with one level of decision-making in the absence of the ISA.	NA	✓

✓NHA guidelines followed in State
NHA National Health Authority, SHA State Health Agency, ISA Implementation Support Agency, DEC District Empanelment Committee, SEC State Empanelment Committee, EHCP Empanelled Health Care Provider
NA Not available

4.2 Beneficiary identification and registration

4.2.1 Eligibility under the scheme

To understand the scope of coverage of the scheme in each State, *Table 6* provides an overview of eligibility across the studied states. There were wide variations in the numbers of beneficiaries eligible under the PMJAY scheme in both groups of states. Among Insurance states, numbers range from 8.4 lakh families in Meghalaya to 20.5 lakh in J&K; in the Trust states, numbers range from as low as 4.8 lakh in HP to 1.25 crore families in UP. Hence, the choice of model in a state does not appear to depend on the number of people to be covered by the scheme in the state.

Further, **only two states have universal eligibility for the PMJAY scheme (J&K and Meghalaya).** Punjab has received approval for the universalization of the scheme; however, the implementation of the directive is pending currently. In Haryana and UP, less than 40% of the state population is covered by PMJAY. Although HP covers only 32% of its population through PMJAY, it runs another publicly funded HIMCARE scheme available for certain other segments of the population.

In the next section, we further looked at the proportion of registrations among eligible beneficiaries to determine the effectiveness of the outreach activities of the scheme.

Table 6. State beneficiary eligibility under the PMJAY scheme

	Insurance			Trust		
	Jammu & Kashmir	Punjab	Meghalaya	Haryana	Uttar Pradesh	Himachal Pradesh
Number of families eligible as per SECC + RSBY criteria	5,97,801	14,64,802	3,47,013	15,45,936	1,16,84,453	4,78,985
Additional Families eligible as per State criteria	14,56,497	24,92,403	4,90,270	-	8,43,876	-
Total families eligible under PMJAY (% of all households in the State)	20,54,298 98.1%*	39,57,205 71.8%	8,37,283 100%	15,45,936 33.4%	1,25,28,329 38.6%	4,78,985 32.3%
Total eligible individual beneficiaries (as of Aug 2021)	1,04,69,200	1,97,86,025	27,70,655	77,29,680	6,26,41,645	23,94,925

* *The scheme is universal in J&K*

4.2.2 Level of registration under the scheme

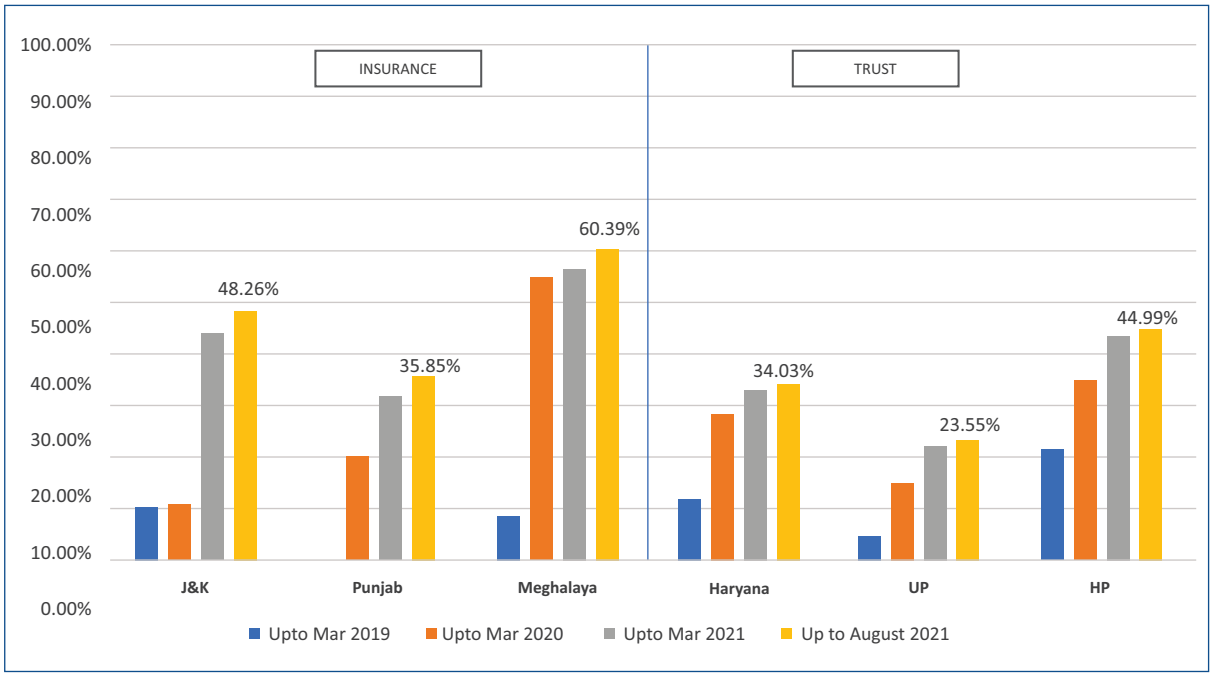
The generation of e-cards or golden cards (proof of registration under the scheme) is indicative of the ability of the state to identify and reach those entitled under the scheme and provide them with a tangible record of their beneficiary status and registration. **While ICs and ISAs process applications, the SHAs are responsible for final decisions on registering beneficiaries and all applications rejected by the supporting agencies are scrutinized by the SHA** (Table 4). **The creation of awareness and IEC activities such as registration drives are primarily the responsibility of the SHAs, and agencies like TPAs / ISAs and ICs only provide support.**

Registration is also a function of population awareness of PMJAY eligibility and benefits, the number of outlets available for golden card generation and access to these, and the efficiency of functionaries outside the PMJAY implementation architecture, i.e., village level entrepreneurs, common service centres (CSCs), etc. Cards were made to a large extent at CSCs, and some are generated at hospitals when beneficiaries come directly for treatment purposes.

Despite this, based on the overall registration rates **(**Fig. 3**)**, the Insurance states appeared to obtain better coverage than Trust states. On further observation, **registration in UP was very low at 23.5%**

and contributed to the low registration level for the Trust group of states.[3] Among Insurance states, **Meghalaya and J&K have achieved the highest levels of registration. They are also the states with universal eligibility under the PMJAY scheme, possibly contributing to the registration efficiency.** This observation further contributes to the evidence that targeted schemes and their approaches to beneficiary coverage achieve limited results. On the other hand, universalization appears to have made registration processes more effective.

Fig. 3. Trend of beneficiary registration (proportion of eligible beneficiaries with golden cards)



	Insurance	Trust
Up to March 2019	3.99%	5.82%
Up to March 2020	19.98%	17.05%
Up to March 2021	37.83%	23.88%
Up to August 2021	41.84%*	25.37%*

**p-value < 0.05*

Yet, all States, irrespective of the model, have much to be achieved to reach the entirety of their target population. Challenges associated with using the SECC 2011 database persist, and low registration rates are also attributable to difficulties in correctly identifying beneficiaries.

"The topography is not like that; it is a mountainous area over there, and people cannot register themselves or get to the nearest service centre. But because of the data fidelity issues, we cannot find the families. Families that are there in this database, we are not able to locate. So these kinds of things have also been raised by the district administration. They have also raised these things ki; we cannot locate the families, so data fidelity is there. So that is the challenge that we are facing since the inception of this scheme" (sic)

SHA official #1, Insurance state #1

"You and us know the data is of 2011and RSBY data is of 2014-15, so identifying beneficiaries was very difficult, we could not get their addresses (and) where an address was given, there that beneficiary was not available" (sic)

SHA official #1, Trust state #1

In some cases, despite awareness about the scheme, beneficiaries do not see any advantages to obtaining a golden card before they need treatment, as indicated below.

3 UP also had the highest number of eligible beneficiaries among all States (6.26 crore beneficiaries), and a significantly larger beneficiary pool than Punjab, which had the second largest pool (1.97 crore beneficiaries)

"People are reluctant to come forward. They have this assumption (that) whenever we have the requirement, then at that time, we will go for Ayushman Bharat card generation. Since we do not require it, we need not go" (sic)

SHA official #1, Trust state #2

4.2.3 Human resource capacities for beneficiary registration processing

Based on the human resources within the IC, TPA or ISA who were tasked with the back-end processing of beneficiary applications, we calculated the average volume of beneficiary registration applications that were processed in each State for each year of implementation (*Table 7*). Across States, the volumes of applications processed showed a decreasing trend each year, despite a high proportion of eligible beneficiaries without golden cards yet (Fig. 3). Meghalaya, which has achieved the highest registration level, also showed the highest workload per resource. In Meghalaya, the processing is done by the IC, which had also contracted an agency to be at the front end of the registration process. This is reflected in the higher volumes of applications processed per IC resource in the State. The low volumes processed from April 2020 to March 2021 may be attributable to the pandemic. However, the data indicate that states have the under-utilised capacity to process beneficiary registration applications.

Table 7. Daily volumes of beneficiary applications processed per functionary

Indicator	Jammu & Kashmir	Punjab	Meghalaya	Haryana	Uttar Pradesh	Himachal Pradesh
Daily number of applications per approver - up to March 2019	NA	NA	195.7	81.2	NA	108.9
Daily number of applications per approver - April 2019 to March 2020	NA	NA	170.9	82.7	NA	35.8
Daily number of applications per approver - April 2020 to March 2021	NA	NA	5.6	25.3	NA	24.4

NA data is not available

4.2.4 Rejected applications and disabled cards

Registration applications that the ISA or IC rejects are re-checked by the SHAs for the validity of the rejections. While all states report following this process, the data indicates a higher rejection rate for all applications by the Trust group of states than the Insurance group (*Table 8*). However, in both buckets, there is an outlier. J&K and HP report an unusually high and low rate of card rejections, respectively. J&K reported that they faced a high proportion of rejected cards in the first two years of the scheme due to limitations in the capacities of the CSCs to understand documents, verify and upload them appropriately. Urdu documentation was also a challenge for the IC to process at the time. The state reported that over time, with increased training and capacity building, these rejection rates have come down, which has also been observed in the data.

The reverse trend is seen for disabled cards, i.e. Insurance states have a slightly higher rate of disabled cards than Trust states, specifically driven by Punjab. Punjab reported several errors in cards, such as adding up to 100 family members on a single card, data entry errors and some fraudulent cards generated. These frauds may be picked up by the IC during their usage at hospitals or may be triggered by the IT system.

Table 8. The proportion of registration applications rejected and proportion of cards disabled

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
The proportion of registration applications rejected								
Up to March 2019	14.0	0.0	1.6	12.0	9.0	8.6	0.9	7.8
Up to March 2020	15.6	4.6	1.8	6.1	15.0	16.7	1.4	15.5
Up to March 2021	10.7	7.2	1.9	7.9*	17.6	18.5	1.8	17.5*
The proportion of cards disabled								
Up to March 2019	1.5	0.0	1.5	1.5	7.7	0.6	0.6	2.1
Up to March 2020	1.7	10.0	3.1	7.0	4.7	1.2	1.0	1.8
Up to March 2021	0.4	7.3	3.0	4.2*	4.1	0.8	0.9	1.3*

** $p < 0.05$ for comparison between Insurance and Trust models*

4.3 Management of empanelled hospitals

PMJAY beneficiaries can avail health care services through a network of empanelled public and private healthcare providers. As per the NHA guidelines, all public health facilities capable of providing in-patient services are deemed empanelled, while public hospitals under other Ministries (referred to as GOI hospitals henceforth) can be directly approved for empanelment by NHA. However, private facilities can be empanelled based on certain minimum criteria set forth for empanelment. The process of empanelment is predominantly driven by State and district empanelment committees in both models of implementation. There is a representation of the Insurance company on these committees in Insurance states; however, they usually do not play a significant role in empanelment-related decisions.

In this section, we report the numbers, types and bed capacities of empanelled hospitals, with an objective to determine the effectiveness of States to empanel sufficient hospitals with the requisite capacity and quality. These findings provide context to scheme utilization outcomes reported later in the report, as well as provide some insight into the willingness of private sector hospitals to participate in the scheme under either model. Data on de-empanelment and empanelment rejections are meant to indicate oversight of hospitals by SHAs and implementing agencies together.

4.3.1 Hospital empanelment: Current status

Overall, 1281 hospitals in the Insurance states and 3576 hospitals in the Trust states were empanelled under the scheme. All the three Category A states (J&K, Meghalaya and HP) had a higher proportion of empanelled public facilities than private facilities. Additionally, 194 GOI hospitals were empanelled in the scheme (ranging from 8 in Meghalaya to 68 in Jammu and Kashmir) under various Ministries (Home Affairs, Railways, Power, Labor and Employment).

However, in terms of utilization of the scheme, only three GOI (3/194), that is, 1.5% of the hospitals raised pre-authorization requests (one from Haryana and two from Uttar Pradesh), amounting to Rs. 2,16,800. Hence the GOI hospitals were excluded from further analysis. Except in J&K, where two GOI hospitals were rejected, none of the States had any rejections or de-empanelment of GOI hospitals.

The difference between the proportion of public hospitals that requested pre-authorizations in the Insurance states compared to the Trust states was pronounced (95.5% and 83.3%, respectively) since each of the Insurance states reported pre-authorization requests from over 90% of the empanelled public hospitals (Table 9). In contrast, among the Trust states, Haryana

Table 9. Current status of empanelment and utilization under PMJAY

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Total number of empaneled hospitals	229	870	182	1281	584	2758	234	3576
GOI hospitals N (%)	68 (29.7)	33 (3.9)	8 (4.4)	109 (8.5)	12 (2.1)	64 (2.3)	9 (3.8)	85 (2.4)
Public hospitals N (%)	125 (54.6)	208 (24.4)	156 (85.7)	489 (38.2)	162 (27.7)	1039 (37.7)	150 (64.1)	1351 (37.8)
Private hospitals N (%)	36 (15.7)	629 (72.3)	18 (9.9)	683 (53.3)	410/ (70.2)	1655 (60)	75 (32.1)	2140 (59.8)
Number of hospitals that requested pre-authorizations*								
GOI hospitals N (%)	0	0	0	0	1 (8.3)	2 (3.1)	0	3 (3.5)
Public hospitals N (%)	113 (90.4)	207 (99.5)	147 (94.2)	467 (95.5)	111 (68.5)	913 (87.9)	102 (68.0)	1126 (83.3)
Private hospitals N (%)	36 (100)	561 (89.2)	18 (100)	615 (90)	388 (94.6)	1522 (92.0)	63 (84.0)	1973 (92.2)

**Data as of 31 March 2021*

and HP reported pre-authorization requests from less than 70% of the empanelled public facilities. In comparison, UP reported pre-authorization requests from 88% of the public hospitals. The presence of such inactive hospitals in the scheme emerged as a cause for de-empanelment in HP. Despite each Insurance state showing pre-authorization requests from a high proportion of private hospitals, an overall higher proportion of pre-authorizations were raised from private hospitals in the Trust states than in the Insurance states (92.2% and 90% respectively).

4.3.2 Empanelment process output

Overall, a higher proportion of public and private health care provider empanelment requests were accepted in the Insurance states (94.4% and 90.5%, respectively) than in the Trust states (88.8% and 78.1%, respectively), as shown in Table 10. While the Guidelines on empanelment state that "All public facilities with capability of providing inpatient care are deemed empanelled under AB-PMJAY", none of the states, except Meghalaya (where the hospital empanelment was done on fast-track mode for all hospitals, previously empanelled under MHIS) has 100% empanelment of public health facilities. The primary reason for the rejection of empanelment was the lack of adequate infrastructure and the inability to meet the minimum criteria at the public facility. On the other hand, empanelment applications from private health facilities are scrutinized closely. Following both documentary and physical verification, the private hospital is empanelled under the scheme.

Reliable data on all private sector resources were unavailable for the States to accurately determine the extent of their participation in the scheme. The distribution of large, medium and small empanelled hospitals was not too different among the states (Table 10). **While the data indicates a preference among small and medium-sized hospitals to participate in PMJAY, the distribution could also reflect the overall distribution of hospitals in the respective states.** However, among the empanelled public hospitals, data on bed strength was missing for a large proportion of public hospitals (35%) in UP, followed by J&K and HP (4% each) and Haryana (2.5%). Hence, these hospitals could not be categorized. Since bed strength is a mandatory field in the application form, such incompleteness of data could indicate leniency on behalf of the administration in dealing with public hospitals, and the long-term negative consequences of missing and incomplete data need to be considered.

Insurance states show a significantly higher proportion of NABH accredited private hospitals among the empanelled hospitals compared to Trust states (33.5% and 12.6%, respectively). We used the NABH hospital listing data to determine the extent of NABH hospital participation. It was observed that Insurance states have indeed empanelled a higher proportion of accredited hospitals compared to Trust states (87.4% and 38.1%, respectively.4 However, additional data is required to ascertain whether there is a greater sense of trust or willingness to participate in the scheme among good-quality private hospitals when the State adopts a Trust or Insurance model.

Since the Trust states have a higher number of health facilities involved in the scheme, they also show a higher number of beds available per 10,000 eligible beneficiaries and a lower bed-to-beneficiary ratio. UP is the main contributor here, having the highest number of empanelled hospitals among all the states. **While these indicators would be considered a proxy of the overall capacity to meet the population's increasing forecasted health needs/demands, the actual utilization is lower in the Trust states** (see Section 4.3.1). Proportionate utilization of PMJAY is higher in public hospitals in J&K and HP; utilization is distributed almost equally between public and private hospitals in Meghalaya, while in Punjab, Haryana and UP, the private sector accounts for the major proportion of utilization. The utilization of private sector hospitals is disproportionately higher in Haryana and UP, as well as Meghalaya, in terms of available bed capacity. Although, the higher number of beds available in the Trust states, a significantly higher proportion of public and private hospitals remain inactive.

In addition, the average number of specialities registered and available among empanelled hospitals is higher in the Insurance States in the public hospitals but lower in the private hospitals compared to Trust states. Meghalaya has the highest average number of specialities among states in private empanelled hospitals, while for public hospitals, Punjab has the highest average number of specialities empanelled.

4 Proportion of empanelled accredited (Entry-level or Full) hospitals (up to 31 March 2021): 40% (2/5) in Jammu & Kashmir, 88% (224/254) in Punjab, 100% (3/3) in Meghalaya, 48% (183/380) in Haryana, 26% (86/328) in Uttar Pradesh, and 67% (2/3) in Himachal Pradesh.

Table 10. Empanelled health care provider distributions and capacities

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Empanelment rate								
Number of public hospitals empaneled n/N (%)	125/144 (86.8)	208/217 (95.9)	156/156 (100)	**489/517 (94.4)**	162/170 (95.3)	1039/1191 (87.2)	150/160 (93.8)	**1351/1521 (88.8)**
Number of private hospitals empaneled n/N (%)	36/48 (75)	629/688 (91.4)	18/19 (94.7)	**683/755 (90.5)**	410/435 (94.3)	1655/2221 (74.5)	75/84 (89.3)	**2140/2740 (78.1)**
Hospital distribution as per the number of beds: public hospitals*								
Large public hospitals (having 100+ beds)	25 (20.0)	23 (11.1)	6 (3.8)	**54 (11.0)**	18 (11.1)	93 (9.0)	17 (11.3)	**128 (9.5)**
Mid-sized public hospitals (having 30-100 beds)	46 (36.8)	165 (79.3)	34 (21.8)	**245 (50.1)**	105 (64.8)	537 (51.7)	69 (46.0)	**711 (52.6)**
Small public hospitals (having <30 beds)	49 (39.2)	20 (9.6)	116 (74.4)	**185 (37.8)**	35 (21.6)	44 (4.2)	58 (38.7)	**137 (10.1)**
Hospital distribution as per the number of beds: private hospitals*								
Large private hospitals (having 100+ beds)	3 (8.3)	27 (4.3)	8 (44.4)	**38 (5.6)**	22 (5.4)	125 (7.6)	1 (1.3)	**148 (6.9)**
Mid-sized private hospitals (having 30-100 beds)	8 (22.2)	224 (35.6)	5 (27.8)	**237 (34.7)**	159 (38.8)	784 (47.7)	23 (30.7)	**966 (45.1)**
Small private hospitals (having <30 beds)	25 (69.4)	377 (59.9)	5 (27.8)	**407 (59.6)**	228 (55.6)	734 (44.4)	50 (66.7)	**1012 (47.3)**
Number of private empanelled hospitals with NABH (Entry-level or Full) accreditations N (%)	2 (5.6)	224 (35.6)	3 (16.7)	**229 (33.5)****	182 (44.4)	86 (5.2)	2 (2.7)	**270 (12.6)****
The average number of specialities empanelled								
Public hospitals	3.1	24.1	6.3	**13.0**	5.1	2.9	2.8	**3.2**
Private hospitals	8.0	6.4	11.8	**6.6**	7.0	8.2	5.5	**7.9**
Hospital capacity: available beds per 10 000 eligible beneficiaries								
Total beds available per 10 000 eligible beneficiaries	11.2	18.3	25.9	**16.7**	38.5	22.6	55.0	**25.4**
Public beds available per 10 000 eligible beneficiaries	9.6	6.7	17.3	**8.5**	15.8	8.4	43.3	**10.4**

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Private beds available per 10 000 eligible beneficiaries	1.6	11.5	8.6	**8.1**	22.7	14.2	11.7	**15.0**
Hospital capacity: beneficiary-to-bed ratio								
Beneficiary to bed ratio (all)	894.8	547.7	385.7	**600.3**	259.7	442.1	181.8	**394.1**
Beneficiary to bed ratio (public)	1041.1	1486.0	577.2	**1172.3**	631.4	1187.6	231.0	**965.6**
Beneficiary to bed ratio (private)	6368.1	867.3	1162.2	**1230.4**	441.1	704.2	852.9	**665.9**
Proportionate utilization (pre-auths initiated within State)	N=42671	N=104664	N=37405	**N=184740**	N=38458	N=116352	N=7675	**N=162485**
Public hospitals	56.3	41.3	49.9	**46.5**	8.3	19.9	70.9	**19.6**
Private hospitals	43.7	58.7	50.1	**53.5**	91.7	80.1	29.1	**80.4**
The proportion of inactive hospitals N (%)								
Public hospitals	12 (9.6)	1 (0.5)	9 (5.8)	**22 (4.5)****	51 (31.5)	126 (12.1)	48 (32.0)	**225 (16.7)****
Private hospitals	0	68 (10.8)	0	**68 (10.0)****	22 (5.4)	133 (8.0)	12 (16.0)	**167 (7.8)****

**Missing data on bed strength from 365 hospitals in UP, 6 in HP, 5 in J&K, and 4 in Haryana among public hospitals and 12 in UP, 1 each in HP, Haryana and Punjab among private hospitals*
*** $p < 0.05$ for comparison between Insurance and Trust models*

4.3.3 Empanelment process stringency and efficiency

The overall rejection rate at the time of hospital empanelment was significantly higher in the Trust states, among both public and private hospitals, compared to the Insurance states ($p < 0.05$) (Table 11). Among the public hospitals, Insurance states have low rejection rates and zero de-empanelment. This ties well with data in *Table 9* that over 90% of the empanelled public hospitals have requested pre-authorization. In contrast, Trust states have higher rejection rates during empanelment yet report lower contributions of pre-authorizations from empanelled public hospitals. Many public health care facilities lack adequate infrastructure and cannot meet the norms for empanelment. **Trust states de-empanelled a higher proportion of hospitals as compared to Insurance states. HP reported having to de-empanel inactive public hospitals to reduce the unnecessary number of inactive hospitals with no infrastructure, and one private hospital was de-empanelled for fraudulent activities. Fraud also emerged as a reason for the de-empanelment of private hospitals in Punjab.**[5] There were also instances of NABH accredited hospitals getting rejected (1 in Haryana) and de-empanelled (1 in HP and 7 in Punjab) in the scheme. Regarding the speciality-wise rejection rates, higher rejection rates were observed for each speciality among the Trust states compared to Insurance states, consistent with the overall hospital rejection rate (*Appendix VIII*).

Overall, empanelment criteria as laid out by the National Health Authority are followed in States. However, even though the need for relaxation or leniency in some criteria was expressed in states like J&K due to limited private hospital resources, explicit relaxations in criteria are not yet recorded.

"J&K is having very limited penetration of private sector in the health care, it's important that some relaxations may be given in the empanelment criteria for attracting more private hospitals. We have small towns and good enough hospitals like the standard Delhi are not there. But they are ok as per the standards here; they are clean, their (operation) theatres are very good, and their faculty is very good. So we can empanel such hospitals too." (sic)

SHA official #2, Insurance state #1

5 In HP, none of the 12 de-empanelled public facilities had submitted any pre-authorisations (date up to 31 March 2021). Their bed strength ranged from 1 – 25 beds (four hospitals did not provide data on the number of available beds). Among the private hospitals as well, 5/8 were inactive. In Haryana all the de-empanelled hospitals were private (mean bed strength 25 beds) and 4/5 had not requested any pre-authorizations. In Punjab, all de-empanelled hospitals were private with mean bed strength of 43 beds; and all but one had been active in the scheme. Of these, 9 EHCPs had a total claim amount overdue of Rs. 27,10,135 as of 31 March 2021. UP had the highest number of de-empanelled hospitals (100) with an average bed strength of 42 in 95 private hospitals.

Table 11. The stringency of empanelled hospital management and empanelment turn-around times

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Empanelment rejection								
Public hospitals rejected N (%)	19 (13.2)	9 (4.1)	0 (0.0)	29 (5.6)*	8 (4.7)	152 (12.8)	10 (6.3)	**170 (11.2)***
Private hospitals rejected N (%)	12 (25)	59 (8.6)	1 (5.3)	72 (9.5)*	25 (5.7)	566 (25.5)	9 (10.7)	**600 (21.9)***
Hospital de-empanelment								
Public hospitals de-empanelled N (%)	0	0	0	0	0	1 (0.1)	12 (8)	**13 (0.96)**
Private hospitals de-empanelled N (%)	0	17 (2.7)	0	17 (2.5)*	5 (1.2)	100 (6.0)	8 (10.7)	**113 (5.2)***
Median empanelment TAT in days (IQR)								
Public hospitals	0 (0 - 1)	113 (67.75 - 129)	9 (2.5 - 9)a	32 (0 - 117)a	32 (6 - 38)	3 (1 - 11.75)	5 (0 - 10)b	**5 (1 - 14)b**
Private hospitals	32.5 (18 - 84)	205 (122 - 268)	38 (14 - 124)	194 (111.25 - 265.75)	54.5 (29 - 168.5)	36 (19 - 68)	48 (21 - 64)	**39 (21 - 78)**
Number of hospitals with TAT > 30 days								
Public hospitals	2 (1.6)	172 (82.6)	0	174 (50.1)*	84 (51.9)	65 (6.3)	2 (1.5)	**151 (11.3)***
Private hospitals	20 (55.6)	622 (98.9)	10 (58.8)	652 (95.6)*	304 (74.1)	946 (57.2)	49 (65.3)	**1299 (60.7)***

[a] excludes 142 public hospitals where was not possible to calculate TAT as the hospitals were empanelled at backend of the application directly
[b] excludes 17 public hospital which could not be included in the TAT calculations
**p < 0.05 for comparison between Insurance and Trust models*

Since, as per guidelines, public hospitals are deemed empanelled, their actual empanelment is more of a formality, which is reflected in the short TATs across the states and models. Punjab emerged as an outlier in terms of needing a longer time for empanelment for both public and private health facilities and contributed the highest proportion of facilities empanelled beyond the recommended TAT of 30 days. However, this was attributed to the delays in certification at the district level (DECs) due to the COVID-19 situation (Punjab launched the PMJAY scheme in August 2019, later than the other states) and the novelty of the IT system. UP had the highest number of empanelled hospitals and reported the lowest median TAT (3 days for public and 36 days for private health facilities). UP also had the highest proportion of hospital de-empanelment among the private hospitals and missing data fields (like bed strength) among public hospitals.

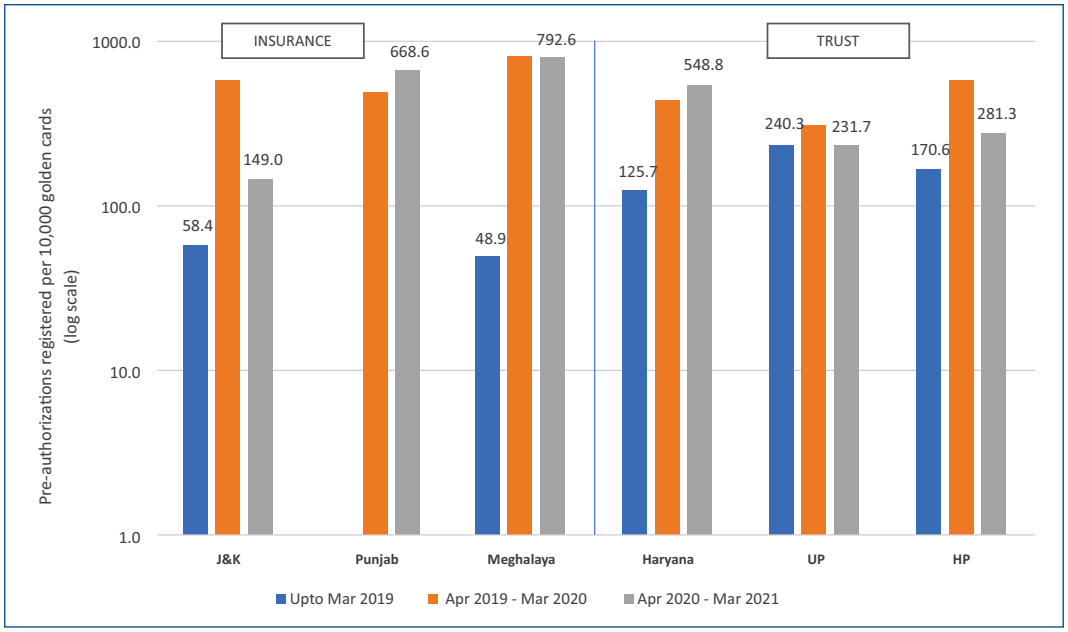
4.4 Pre-authorization and claim processing

The processing and management of claims is the main function in which States adopting either model differ with regard to the distribution of work among implementing agencies (Section 4.1). In this section, we examine the scheme output in either model in terms of utilization and hospitalizations, patterns in utilization, timeliness, and decisions received on pre-authorization and claim requests from hospitals. These findings provide insights into the performance of the implementing agencies, as well as issues related to hospitals, and other scheme-related factors, outside the control of implementing agencies.

4.4.1 Scheme utilization among registered beneficiaries

Fig. 4. denotes the trends of utilization and volumes of pre-authorizations among registered beneficiaries in the states. Despite a lower utilization rate at the start of the scheme, in Years 2 (April 2019 – March 2020) and 3 (April 2020 – March 2021), Insurance states appear to report higher utilization of the scheme than Trust states. **The difference in Year 3 is most pronounced, with 493 pre-authorizations per 10,000 golden cards in Insurance states taken together, as compared to 281 pre-authorizations per 10,000 golden cards in Trust states (a 1.8-fold higher count).** This trend in utilization follows the trend of a higher rate of registration of beneficiaries in Insurance states. The agencies involved in processing pre-authorizations and claims are distinct in the two models, and their capacities may be reflected by these differences in utilization (see Section 4.5). Among the Trust states, Haryana has attained a significant volume of hospitalizations in Year 3 compared to the other Trust states. The decline in J&K hospitalizations in Year 3 is attributable to the temporary disruption of services brought by political changes in the State during that time. Meghalaya has the highest utilization rate of the scheme, which is attributable to the inclusion of several out-patient/daycare packages within the State's permissible list of services under PMJAY, as well as the earlier existing MHIS, and thereby brownfield status of the state.

Fig. 4. Trend in scheme utilization and volumes of pre-authorizations since the start of the scheme among registered beneficiaries



	Insurance	Trust
Up to March 2019	56.7	207.8
April 2019 – March 2020	589.1	350.7
April 2020 – March 2021	492.6*	280.8*

**p-value < 0.05*

Punjab launched the PMJAY scheme in August 2019, later than the other states.

4.4.2 Comparison of hospitalization rates under PMJAY with population-level expected hospitalizations

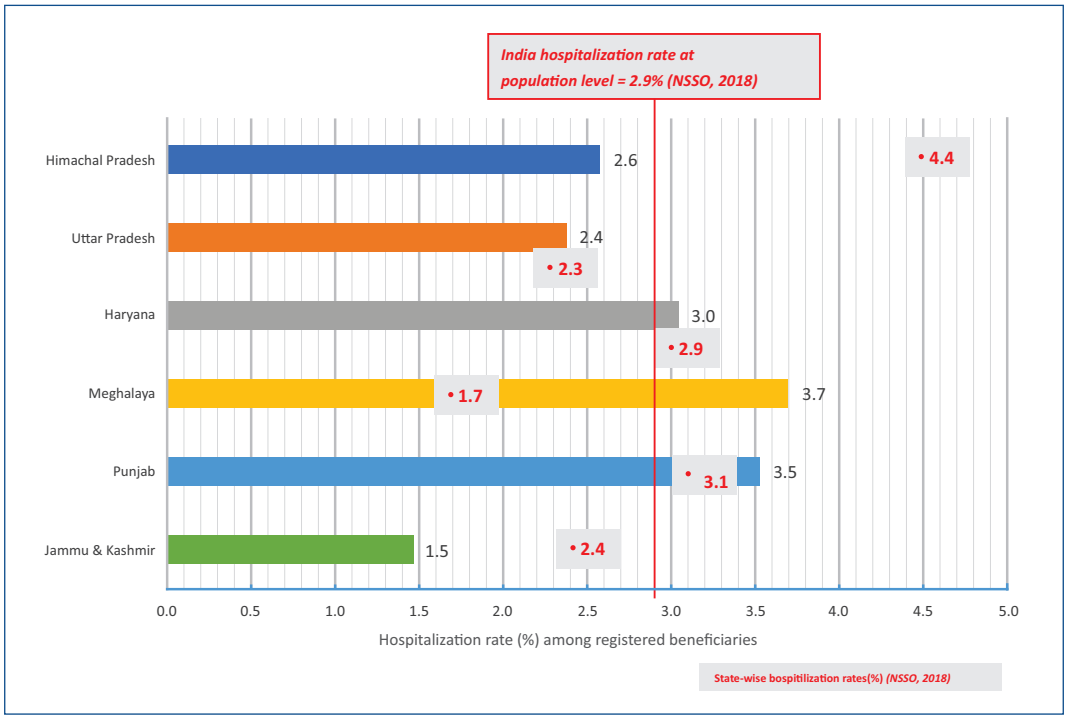
Using the sample data for three months from January to March 2021, we estimated each state's annual hospitalizations in PMJAY. We compared the PMJAY annual hospitalization rates (pre-authorizations involving ≥1 day of hospitalization per 100 registered beneficiaries and excluded pre-authorizations for childbirths) with the population-level hospitalization rate for India (2.9%), as reported in the National Sample Survey 75th round data, 2018 **(**Fig. 5**)**. The difference in estimated hospitalization was small between Trust and Insurance states (2.5% vs 2.8%). Although the differences remained statistically significant, they were practically negligible ($p<0.05$, Cohen's $h= 0.02$). **Three states, i.e. Meghalaya (3.7%), Haryana (3.0%) and Punjab (3.5%), had a higher hospitalization rate than the national hospitalization rate, while HP (2.6%), UP (2.4%) and J&K (1.5%) showed a lower rate of hospitalizations among registered beneficiaries.** Meghalaya, which has universal health care and covers many packages/procedures (2886 including both secondary and tertiary care procedures) in the scheme, had the highest hospitalization rate. Punjab reported that the earlier experience of people with public health insurance schemes, a significant proportion of cards generated for PMJAY, and the high density of good hospitals in the State all contributed to the high utilization rates in the State.

This indicates that in Meghalaya, Haryana and Punjab, PMJAY has improved access to care among those to whom the scheme has been able to reach out for registration. In the remaining States, efforts are required to further improve scheme outreach to eligible beneficiaries and, thereby, utilization.

However, when we expanded the analysis to include the total eligible population in each state, the hospitalization rate for each state reduced significantly (Fig. 6). UP had the lowest hospitalization rate, despite having the highest number of estimated hospitalizations. UP has the highest eligible beneficiary population per SECC data; however, the State still has a long way to go in reaching eligible beneficiaries. This study could not explore the associated reasons for these findings since the SHA did not consent to conduct interviews.

Following the utilization trends seen earlier, states with an Insurance model appear to be on track to achieve expected levels of hospitalizations faster than those with a Trust model. However, there are exceptions in either group (J&K among Insurance states; Haryana among Trust states). We found that state-specific factors also determine the utilization rates within models.

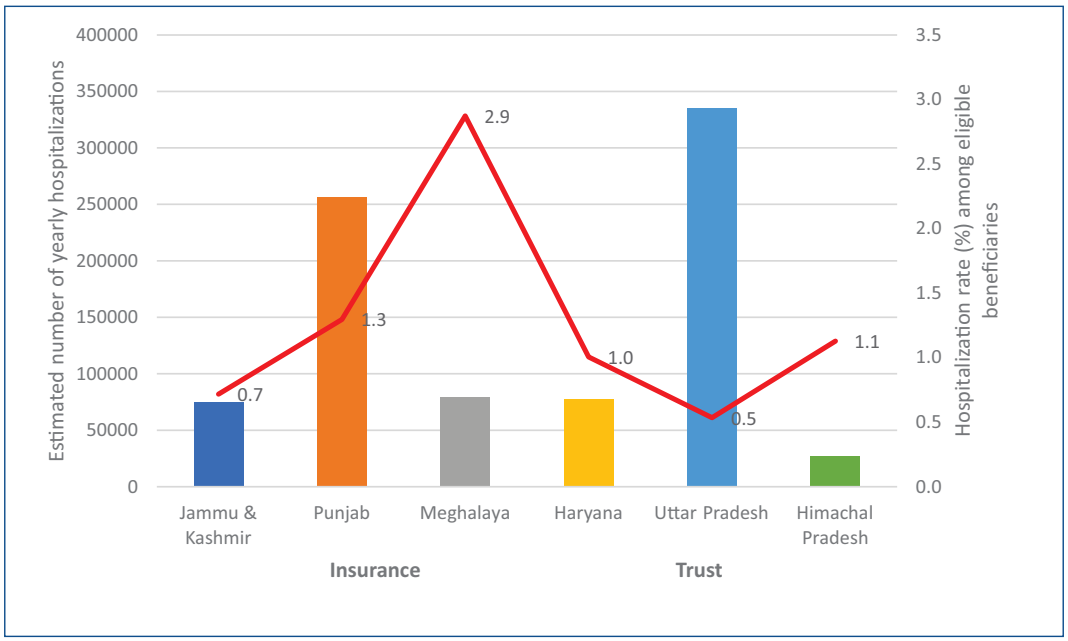
Fig. 5. Hospitalization rates (%) among PMJAY registered beneficiaries



Insurance	Trust
2.8%*	2.5%*

**p-value < 0.05*

Fig. 6. Hospitalization rates (%) among PMJAY eligible beneficiaries

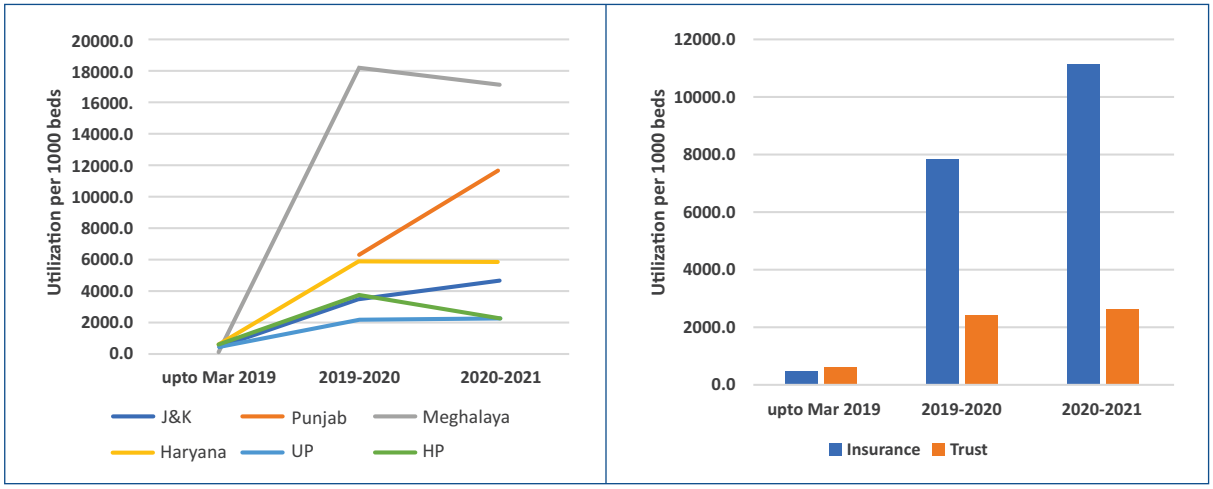


Insurance	Trust
1.2%	0.6%

**p-value < 0.05*

The number of hospitals available for treating beneficiaries is also a determinant of volumes of hospitalizations in the states. **Despite Trust states having higher number of empanelled health care providers and higher number of available beds per 10 000 eligible beneficiaries (Table 10), they show lower rates of utilization among the beneficiary population.** In terms of the utilization (all pre-authorizations) per 1000 beds, while a clear increasing trend emerged across both Insurance and Trust states in each successive year, Insurance states clearly showed higher number of pre-authorizations (Fig. 7). However, the effect of the COVID-19 pandemic in the past two years needs to be considered, as PMJAY utilization numbers have been affected to some extent as a result of lockdown measures.

Fig. 7. Utilization per 1000 available beds in a) All states and b) Insurance and Trust models



4.4.3 Volumes and value of claims processing

Following the trend of pre-authorizations, the claims submitted per 10 000 beneficiaries in the Insurance states are significantly higher than the volumes in the Trust states (*Table 12*). J&K, which reported high claim volumes in the second year, found a dip in volumes in year three due to politically determined interruptions in the scheme. Consequently, the claim payouts incurred by Insurance states are higher than those incurred by Trust states, except for Haryana among Trust states.

The average value per claim processed was similar between the two models (~INR 9,500). However, state-level variations occurred across all the states studied (*Table 12*). For example, Punjab and Haryana comprised many private hospitals with entry-level NABH or full accreditation. This possibly explains the higher average claim value reported in both States. However, HP reported the highest average claim value among all States. We were not able to explore the reasons for this finding.

Table 12. Claim volumes, approvals and value

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Total number of claims submitted per 10 000 registered beneficiaries								
Up to Mar 2019	48	-	41	**47**	112	215	106	**180**
April 2019- March 2020	577	474	815	**570**	427	301	551	**340**
April 2020- March 2021	123	653	788	**475***	536	226	276	**274***
Total number of claims approved per 10 000 registered beneficiaries								
Up to Mar 2019	46	0	40	**45**	107	199	99	**167**
April 2019- March 2020	561	463	812	**560**	411	275	498	**314**
April 2020- March 2021	104	641	786	**461***	523	206	252	**255***
The total value of claims approved per 10 000 registered beneficiaries (in Rupees)								
Up to Mar 2019	3,32,042.2	-	2,19,414.5	**3,11,990.0**	15,73,526.8	21,69,393.9	10,39,808.0	**19,07,988.7**
April 2019- March 2020	26,57,576.0	51,81,159.5	56,35,271.1	**48,52,041.2**	50,59,489.2	29,20,716.1	49,22,688.3	**34,32,630.4**
April 2020- March 2021	7,04,008.2	67,75,005.8	58,94,454.3	**44,27,324.2**	54,65,048.7	18,01,271.9	29,94,370.4	**24,06,405.7**
Average value per claim (in Rupees)								
Up to Mar 2019	7210.9	-	5437.7	**6928.0**	14691.2	10928.2	10542.0	**11408.6**
April 2019- March 2020	4740.1	11185.2	6942.4	**8661.0**	12299.0	10607.2	9891.1	**10922.8**
April 2020- March 2021	6748.0	10571.4	7499.8	**9598.6**	10458.4	8733.1	11865.9	**9433.9**

**p < 0.05 for comparison between Insurance and Trust models4.4.4 Package utilization*

4.4.4.1 Package utilization patterns

We analyzed the ten packages that accounted for the highest proportion of pre-authorizations in each State to understand emergent patterns in the types of treatments for which care was being accessed through the scheme (*Table 13*). Together, the top ten packages accounted for between 44%-70% of all pre-authorizations for the respective State. We further categorized these packages into functional categories for easier comparison across States and models. Across Trust states, there appeared to be a similarity in utilization in that haemodialysis (27.8%) and cataract management (20.4%) packages accounted for the highest proportions of all treatments sought. Other treatments accounted for smaller proportions of all packages, such as laparoscopic treatments of gall stones and chronic obstructive pulmonary disease treatments in HP; enteric fever and gastroenteritis in UP; and blood transfusions and cardiovascular intervention in Haryana.

In Insurance states, variations in utilization were much higher and reflected state-specific variations in the scheme offerings. Meghalaya was the only state that allowed unspecified medical management daily packages in public and private hospitals; these accounted for 25% of all pre-authorizations. Animal bites and normal deliveries also accounted for more than 10% of utilization. Haemodialysis accounted for 12% of utilization in Meghalaya but also the highest in J&K (41%) and Punjab (33%). In contrast, cataract management was not among the highest utilized packages in these states, as in Trust states. Caesarean and normal deliveries (booked under unspecified obstetrics and gynaecological surgical packages, see Section 4.4.1) are also packaged with high utilization in Punjab.

It appeared that package utilization reflected the choices made by States in providing access to specific services to beneficiaries, as well as the morbidity pattern variations across States. However, it also indicated higher conformity among Trust states in the adoption of PMJAY guidelines, with Insurance states showing greater variations in benefits offered. (See *Tables 2-4* (*Appendix VIII*) for an un-categorized list of popular packages in each State)

Table 13. Top 10 packages among approved pre-authorizations across states

Package	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Haemodialysis	41.29	32.59	11.6	29.94	30.46	26.04	12.02	27.79
Cataract management	3.11	1.35	-	1.45	20.53	17.96	12.34	20.44
Without Exploration of CBD	3.62	-	-	0.81	2.8	3.37	5.54	3.82
Blood transfusion	-	3.25	-	1.8	1.73	-	-	0.42
Cardiological intervention	-	1.32	-	0.73	1.46	-	1.52	0.44
Chronic obstructive pulmonary disease	1.41	-	-	0.32	1.31	-	4.16	0.55
Diagnostics	-	1.34	8.59	2.65	1.1	-	-	0.25
Severe anemia	-	-	-	-	-	1.37	-	1.04
Animal bites	-	3.36	11.9	4.48	-	-	-	-
Caesarean delivery	4.95	3.04	3.87	3.65	-	-	-	-
Enteric fever	-	-	-	-	-	4.01	-	3.04
Gastroenteritis	2.08	1.68	-	1.18	-	4.14	1.38	3.22
Hemorrhoidectomy without stapler	2.17	-	-	0.49	-	-	-	-
Hernia	-	-	-	-	-	1.32	-	1
Normal delivery	-	-	10.83	2.38	-	-	-	-
Pneumonia	1.38	-	-	0.31	-	-	-	-
Unspecified surgical package - Obstetrics & Gynecology	-	4.62	-	2.57	-	-	-	-
Unspecified surgical package - General Surgery	-	-	-	-	-	-	2.33	0.13
General ward unspecified	-	-	24.74	5.43	-	-	-	-

– Indicates the package does not feature among the top ten packages in the state, and has not been included in this analysis

4.4.5 Pre-authorization auto-approvals, cancellations and claim pendency

In Table 14*,* we present the data on auto approvals and cancellations among pre-authorizations. Auto-approvals are usually allowed for surgical packages only and for the first day of treatment/admission for medical management. Based on the sample data on claims from January to March 2021, we analyzed the trends in some of the sub-decisions on pre-authorizations and claims. The minor variations among States in the proportion of auto-approved packages reflect the differences in packages utilized in these states. However, in Meghalaya, auto-approvals account for 78% of all pre-authorizations initiated. This is because the highest utilization of PMJAY in Meghalaya is of general medicine unspecified package which is a daily package and is auto-approved, these packages are booked in both public and private hospitals (`~25% of the total package utilization) This package is not available in other States. However, the relatively high proportion of auto-approvals was known to the SHA and being deliberated at the time of the interviews with the State.

Meghalaya also reported a slightly higher pre-authorization cancellation rate as compared to other States, both for all packages and for auto-approved packages. The IC reported that in many cases, hospitals might block the wrong package at the pre-authorization stage or block a package that is actually not admissible under PMJAY (under an existing package category). At this stage, the IC interacts with the hospitals and advises them to cancel the pre-authorization request and advises on the correct package to be blocked, where applicable. In this way, the further claim rejection rate is also kept at a minimum. This information provided by the IC tied up with the findings on pre-authorization cancellations and claim rejections. J&K reported lower pre-authorization approval rates than other states due to the large delays in responding to pre-authorization-related queries, due to which rejections would take place. The TAT for public hospitals to respond has now been increased to allow them time to revert on queries raised.

A detailed analysis of pre-authorization and claim rejections is provided in the next section. In terms of payments, there didn't appear to be a large variation between Trust and Insurance states, with almost all approved claims being paid out (the payment status is as of August 2021 for claims generated on 31st March 2021). However, there was a small proportion of claims in Trust states (3.5%) for which decisions were still pending at the time. These were mostly in the states of UP and HP. Among Insurance states, J&K reported pending decisions in 2.4% of claims.

Table 14. Pre-authorization auto-approvals, cancellations and claim pendency

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Pre-authorization decisions								
Number of pre-authorizations initiated	43642	112931	37754	194327	40291	126695	9547	176533
% approved	88.9	97.9	99.7	96.2	98.2	98.4	98.2	98.3
% cancelled	3.6	3.9	5.7	4.2	2.8	2.8	5	2.9
% auto approvals	29.6	34.7	78	42.4	26.2	32	35.8	30.9
% approved pre-authorizations cancelled later	3.1	3.1	5.5	3.6	2.2	2.3	4.3	2.4
% approved pre-authorizations rejected later	0.3	0.2	0	0.2	0	0.1	0.2	0.1
% auto approved pre-authorizations that were cancelled	6.5	4.6	6.4	5.5	3.2	2.6	5.8	2.9
% auto approved pre-authorizations that were rejected	1	0.5	0	0.4	0.1	0.3	0.5	0.3
Claim decisions								
Number of claims submitted	36415	106705	35568	178688	38521	120270	8715	167506
% approved	77.9	98.9	99.7	94.8	98.8	90.9	93.9	92.9
% paid (of approved)	85.8	99.3	99.9	97.2	98.4	98.9	99.3	98.8
% of claims neither approved nor rejected	2.38	0.07	0.04	0.5	0.35	4.53	4.02	3.5

4.4.6 Claim rejection rates

Rejections of pre-authorizations and claims showed different patterns among Trust and Insurance States. **While Insurance states reported a slightly higher proportion of pre-authorizations rejected as compared to Trust states (1.6% vs 1.4%, p=0.000), Insurance States reported an overall lower rate of claim rejections (2.3% vs 4.8%, p=0.000)** (Table 15).

In this case, as in the case of utilization and claim volumes, J&K was an exception among Insurance states. **J&K reported a high overall rejection rate of 6.4% for three years (which went as high as 12.3% in year 3)**. Reasons for large numbers of claims rejected in J&K were found to be the inability of hospitals to respond to queries on time or the inability to submit the requisite documents as per the STGs. These limitations were higher among public hospitals, which constitute the major proportion of hospitals in the State. Consequently, rejection rates in public hospitals were much higher than in private hospitals (27.2% vs 13.1%, p=0.000) (*Table 16*). Officials of the SHA reported that certain relaxations in the necessary documentation guidelines were granted to public hospitals to enable claims to get reimbursed. Public hospitals were also provided more time to respond to queries. These measures have resulted in the current decrease in rejection rates.

"The relaxation in terms of standard treatment guidelines, so it was you know before you know they were asking for this card photographs, so mostly the rejections were because of the photographs because the patient was you know not willing to give their photographs, so because of that insurance company was rejecting because it was mandatory in this standard treatment guidelines. So later on for only public hospitals, so we relaxed this, means they don't need to upload this photographs, card photographs of the beneficiary." (sic)

SHA official #3, Insurance state #1

"So for this, we recently issued new TAT guidelines in which we have, you know, increased the TAT for the government hospitals, all the Public Hospitals." (sic)

SHA official #1, Insurance state #1

"Here, patient footfall is very high because people prefer medical college hospitals. Mostly mistakes happen in the documentation since there are a lot of documents in the system, they upload somebody else's documents by mistake or mismatch reports." (sic)

SHA official #2, Trust state #1

Further, it was also reported that the SHA had revoked a very high number of claims that were wrongfully rejected by the IC (~10,000) and levied a penalty of 5 crores due to this. It was observed that in J&K, hospitals would inform the SHA of rejected claims by the IC. The claim audit officer at the SHA would review all these rejected claims and determine the reasons through discussion with the hospital and the IC. In cases where rejections were due to a TAT issue, guidelines would be relaxed in favour of the hospital. In this way, claim rejections had been revoked, and it appeared that the role of the SHA was important in keeping a check on the IC, as well as ensuring that genuine issues faced by hospitals were given consideration. **However, since J&K was the only state with a high rejection rate (and reportedly a high claims ratio in the current policy year), the details concerning wrongful rejections require to be closely monitored by the SHA.**

"There were some mistakes done by some hospitals, particularly those where the footfall of the patients is very high… like we have public tertiary care hospitals where footfall is very high. So in these hospitals, to maintain each and every… you know to monitor every patient… because this is an IT-based platform PMJAY. So you must cater the services and simultaneously maintain the record. So there were mistakes made by the hospitals. Like they were not following the turnaround time guidelines. If you are aware of those guidelines, we have to submit a particular claim or discharge the patient within that turnaround time. So there were cases where hospitals violated those guidelines, and that's why the rejections are high." (sic)

SHA official #1, Insurance state #1

"You understand, every admitted patient doesn't need an IV line, he needs observation, he needs other things, so the cases got rejected on that, but then we took it over, and they were also reverted. We got the case revocations also. We got case revocations."

"So these were the things you know which gave high rejection, but it was taken eventually to SHA, and in writing, we had given the case numbers. And the cases were revoked." (sic)

Public hospital doctor, Insurance state #1

Haryana was also an exception among Trust states, with a low claim rejection rate of 2.7%, less than Trust states' overall rate. The State reported that the processing of claims is 'customized', in that the pre-authorization and claim processing doctors have a good understanding of the medical management of cases and hence didn't reject cases as frequently or need to query cases as much as Trust states with ISAs. The difference between rejection rates in private and public hospitals could not be properly explained by the SHA.

All States, except for Punjab and Haryana, showed a higher claim rejection rate among public hospitals as compared to private hospitals. This merits an assessment of the capacities of public hospitals to submit timely and complete documentation of case records for the purpose of claim reimbursement. Support in the form of additional human resources, as well as standardization of processes and creating awareness among treating doctors, nurses and support staff involved in PMJAY beneficiary management, was found to be essential in ensuring that claims from public hospitals are submitted in a way that they can be reimbursed without impediments.

The variations observed in J&K and Haryana further reflect that even within models, other factors also contribute to the rates of rejections of claims. Contract terms and SHA oversight appear to keep claim rejection rates under control to some extent. Within the duration of the scheme studied, administrative costs for the ICs were dependent on claims ratios achieved, and the unspent balance was to be returned to SHAs. Maximum administrative payouts are allowed for ICs at a claims ratio of 70-80%, and above 115-120%, ICs and SHAs share the losses.[6] J&K and Punjab have reported claims ratios above 100%, J&K post universalization, and Punjab above 120% in the first year, meaning that ICs would have to share the risk of excess payments with the SHA. This would have incentivized the ICs to strictly follow guidelines for claim processing and rejection/approval, despite which rejection rates in Insurance states combined are lower than in trust states. In Meghalaya, extremely low rejection rates are seen; however, claims ratios have been retained between 60-70% up to now, which is in stark contrast to Punjab & J&K. At this level of claims ratio, the IC retains a proportion as administrative costs and returns unspent balance to the State. The claims ratios achieved in the Insurance States indicate that the IC in Meghalaya appears to offer services at a more viable premium than in J&K and Punjab (see *Table 24* for premium and claims ratio data). In this way, it is also able to keep rejection rates at a minimum. We also observed a close working relationship between the SHA, Insurance company and hospitals in Meghalaya that appeared to facilitate smooth scheme operations. The IC had remained the same in the state since the start of the scheme, which had facilitated this, and further good practices, such as document standardization for claim submissions, also contributed to the smooth scheme implementation. When hospitals had difficulties, these could be communicated to the SHA and IC for resolution.

"But I think primarily because we are a small state, and we don't have that many hospitals, so the interaction between doctors and the state nodal agency and the insurance company is very close-knit. Because there is a discussion, an email even before it goes on the TMS also so that everybody is aware and we say ok this is... And in most cases, the decision that we take at the state nodal agency is taken as per the final decision." (sic)

SHA official #1, Insurance state #2

6 In Category A States (administrative cost cannot exceed 20%)
- i. Administrative cost allowed 10% if claim ratio less than 60%.
- ii. Administrative cost allowed 15% if claim ratio between 60 to less than 70%.
- iii. Administrative cost allowed 20% if claim ratio between 70 to less than 80%.

In Category B States (administrative cost cannot exceed 15%)
- i. Administrative cost allowed 10% if claim ratio less than 60%.
- ii. Administrative cost allowed 12% if claim ratio between 60 to less than 70%.
- iii. Administrative cost allowed 15% if claim ratio between 70 to less than 85%.

In case the claim settlement ratio exceeds 120% (115% in the case of Category B States) in any policy period, then the excess amount shall be initially shared in equal proportion between the insurance company and State Government / Union Territory.
Source: https://pmjay.gov.in/about/pmjay

"See the low the number, the reason for low rejection, I would say it is because of the pre-defined medical document, standard medical documentation that we have come up with standard medical documentation whereas every hospital, mainly public hospitals they go through, they have to club this formats to upload into the TMS. And even in the private hospital also, if they have their standard medical documents, it's well and good, but it should be in line with ours. So it makes things easier to read and the difference and all that." (sic)

SHA official #2, Insurance state #2

The moderate level of claim rejections in UP and HP (Trust states) possibly indicates that Trusts can be stringent in rejecting claims and are capacitated and vigilant in this matter. However, these findings need to be further validated.

Table 15. Pre-authorization and claim rejection rates

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Pre-authorization rejection rate (%)								
Upto Mar 2019	0.2	0.0	0.4	0.2*	1.3	1.0	1.4	1.1*
April '19–March 2020	0.7	1.3	0.1	0.8*	2.1	1.0	3.7	1.5*
April '20–March 2021	7.0	1.9	0.0	2.0*	1.2	1.3	3.6	1.4*
Cumulative for 3 years	3.7	1.7	0.03	1.6*	1.6	1.1	3.5	1.4*
Claim rejection rate (%)								
Upto Mar 2019	1.8	0.0	0.2	1.6*	2.9	2.7	0.8	2.6*
April '19–March 2020	1.6	1.7	0.4	1.3*	3.2	6.5	5.0	5.6*
April '20–March 2021	12.3	2.4	0.2	2.9*	2.3	5.1	9.7	4.6*
Cumulative for 3 years	6.4	2.2	0.3	2.3*	2.7	5.5	6.4	4.8*

**p< 0.05 for the difference between Insurance and Trust models*

Table 16. Pre-authorization and claim rejection rates in private and public hospitals

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Pre-authorization rejection rate (%)								
Public hospitals	14.4	0.4	0	4.2*	5.5	0.6	1.3	1.2*
Private hospitals	4.3	2.1	0	2.1*	0.7	1.3	0.6	1.1*
Claim rejection rate (%)								
Public hospitals	27.2	0.6	0.3	7*	1.2	11.6	2.8	9.1*
Private hospitals	13.1	1.5	0.2	3.4*	1.5	3	1.1	2.6*

**p< 0.05 for the difference between Insurance and Trust models*

The experiences of the hospitals in Punjab with the IC provided some important insights. With regards to the IC operating during the study period (two policy periods from August 2019 to August 2021), it was reported that although rejections took place, they were not perceived as being too many by the public hospital. Public hospitals were burdened with queries, especially as they face high claim volumes and a shortage of Ayushman Mitras to facilitate resolution. However, they reported that claim payments were made in time, and only a few were still pending. The private hospital stakeholder reported that rejections took place, and grievance committees constituted by the SHA were approached to resolve these differences. However, all grievances had not been resolved yet, and there were unpaid claims from the earlier IC. The current IC, however, had begun paying claims only a few days before the interviews took place. While issues with the earlier IC were reported, the hospitals were considerably more disgruntled with the current IC. Hospitals in Haryana also reported that patients from Punjab were being denied treatment in Haryana since there were concerns about receiving payments from the IC in Punjab. The public hospital in Punjab reported that they did not have a contact person from the IC to coordinate with in case of issues faced and hadn't received any payments yet.

These issues in Punjab merit further study and monitoring, as there appeared to be significant dissatisfaction with the IC, and thereby with the implementation of the scheme.

4.4.7 Efficiency of pre-authorization and claim processing

Using all claims generated between January and March 2021 as a sample, we calculated turn-around times (TATs) for processing pre-authorizations and claims. Since TAT guidelines for claims vary for those generated within the State (15 days) and outside the State (30 days), only claims generated within the State were included. TAT calculations per service contract for scheme implementation do not include the time hospitals take to respond to queries. However, for the study, and as per the data made available to us, TAT calculations include the total time taken from start to end of the process. These findings indicate the efficiency of the stakeholders involved in the process. ICs and ISAs are also responsible for supporting empanelled hospitals in scheme-related functions. Delays in claim reimbursements impact hospitals and their interest and ability to continue participating in the scheme. TAT calculations are presented in *Table 17*.

While pre-authorizations were processed significantly faster in the Trust States than in Insurance states (3.2 hours vs 5.8 hours, (p=0.000)), the time taken for claim decisions was much longer in the Trust States as compared to Insurance states (48 days vs 14 days (p=0.000)) (Table 17**).** All States except J&K largely conformed to the national guideline for processing pre-authorization requests of six hours. J&K reported a median TAT of 16 hours, with 79% of pre-authorizations being delayed. Despite having a median TAT within six hours, delays for a significant proportion of cases were observed in Punjab (42%), Haryana (27%) and UP (46%).

Table 17. Pre-authorization and claim processing turn-around-times and delays

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Timeliness of pre-authorization processing	n= 31510	n= 73621	n= 8297	n= 113428	n= 29630	n= 86080	n= 6099	n= 121809
Pre-authorization TAT * (median in hours, IQR)	16.3 (7.2 – 42.2)	4.6 (1.9 – 15.3)	0.7 (0.2 – 1.8)	5.8 (1.9 – 18.1)**	1.9 (0.6 – 6.9)	5.2 (1.1 – 11.2)	0.4 (0.1 – 1.1)	3.2 (0.8 – 10.3)**
Proportion of delayed decisions (>6 hours)	78.9%	41.7%	6.6%	49.4%**	26.9%	46.4%	5.6%	39.6%**
Timeliness of claim processing	n=23712	n= 97348	n= 35117	n=156177	n= 35854	n= 99962	n= 6401	n=142217
Claim payment TAT (submission to payment) (median in days, IQR)	22 (16-38)	13 (8-19)	13 (13-14)	14 (10-19)	28 (23-43)	60 (35-85)	58 (48-81)	49 (28-77)
Proportion of delayed payments (>15 days)	78.8%	38.7%	14%	39.3%**	99.9%	96.6%	99.9%	97.6%**
Claim submission to decision TAT (median in days, IQR)	17 (13-31)	12 (8-18)	14 (11-16)	14 (9-19)**	28 (23-43)	60 (34-83)	58 (45-78)	48 (28-76)**
Claim submission to approval decision TAT (median in days, IQR)	18 (14-31)	12 (8-18)	14 (11-16)	14 (9-18)	28 (23-43)	60 (34-83)	58 (46-78)	48 (28-76)
Claim submission to rejection decision TAT (median in days, IQR)	14 (9-31)	12 (7-34)	12 (5.5-24)	14 (9-31)	111 (24-149)	67 (23-87)	29 (15-43)	67 (23-93)
Claim approval to payment TAT (median in days, IQR)	2 (1-4)	0 (0-0)	0 (0-0)	0 (0-1)	0 (0-0)	0 (0-1)	0 (0-3)	0 (0-0)

**all decisions, excluding auto-approvals*
*** $p < 0.05$ for comparison between Insurance and Trust models*

With regards to claim settlements, none of the Trust states were able to conform to national guidelines for claim settlement (15 days), and reported significantly longer TATs than all Insurance states *(*Fig. 8*).* The distribution of cases by TAT clearly indicates that for all three Insurance states, the highest proportion of cases are processed within the guideline, while for Trust states, the least proportion of cases are processed within the guideline. UP and HP also report a significant proportion of cases processed beyond a 60-day TAT.

However, once claims were approved, payments were made by all States in a timely manner, irrespective of the model, and within 0 to 4 days. Hospitals in Trust states reported that payments took time but did not report dissatisfaction with the processing times.

"See as soon (as long as) as they (payments) are coming in three to four weeks, we don't bother at all" (sic)

Private hospital doctor, Trust state #2

"Because of getting streamlined the process, some government process is there, so since starting, we got delayed. Afterwards, the bulk of the claim was settled simultaneously. And, after that, we are receiving the continuous payment, continuously within two months within one month, sometimes within one month also, we are getting the payment." (sic)

Private hospital doctor, Trust state #1

Haryana, which does not have an ISA, reported a significantly lower median TAT (28 days) than the other two states with a Trust model (60 days). This indicates that better performance is possible in Trusts, even without a supporting agency. Haryana reported a large SHA (>100 staff), with qualified, experienced medical doctors, who are regular employees of the Health Department, assigned to process pre-authorizations and claims. The relatively better performance of the State in these functions has been attributed largely to this factor by the officers in charge of the scheme.

HP reported that long TATs were due to genuine reasons associated with the process. These include slow hospital response to queries, the response time of the IT system, which was found to be slow in numerous instances, and occasional manpower constraints of the ISA. No financial penalties have been levied upon the ISA in this regard in the State, as the reasons for delayed settlements were found to be genuine.

To understand the wide variation observed in the data on processing times, we analyzed the presence and proportion of outliers (*Appendix IX*).

Fig. 8. Distribution of claim processing time (submission to decision) across States and in each model

Decisions on claims take the same time for public and private hospitals in all States, except J&K and UP. The major proportion of claims in J&K comes from public hospitals. Stakeholders reported the capacity of public hospitals to submit correct documentation on time and respond to queries. Further, poor internet connectivity was a major deterrent to timely operations in the State. Although HP also reports a major proportion of claims being generated in public hospitals, the TAT for decisions is similar in both types of hospitals. This indicates that there may be a need in J&K for capacity building of public hospitals to avoid delays in claim settlement. These issues were also found to affect claim rejections, as was discussed earlier.

We also observed that the TAT does not vary in Insurance states depending on whether claims are approved or rejected (median of 14 days for both). However, in the Trust States, the TAT for rejected claims is higher (67 days) compared to 48 days for approved claim decisions. This is driven mainly by longer rejection TATs reported in Haryana for private hospital claims compared to public hospital claims (123 days vs 30 days) (*Table 18*). HP also reported a longer TAT of 58 days for approval decisions compared to 29 days for rejection decisions. Only two States, i.e. J&K and UP, reported significant differences in the claim decision and claim payment TATs between public and private hospitals. Both States reported higher TATs for acceptance decisions in public hospitals (as compared to private hospitals). It appeared that both States allow more time for public hospitals to respond to queries. Although there are in-built deadlines within the IT system for these processes, the SHA in both States allows for the software's re-opening to allow hospitals to respond to queries, albeit late. Public hospitals appeared to take longer to submit claims post-patient discharge in most States. However, the median TATs were within the seven-day norm.

Table 18. Claim processing times in public and private hospitals

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
TAT claim submission after discharge (median in days)								
All claims (median in days, IQR)	3 (1-10)	1 (0-3)	0 (0-1)	**1 (0-4)**	2 (0-5)	1 (0-3)	1 (0-5)	**1 (0-4)**
Claims from public hospitals (median in days, IQR)	6 (2-18)	1 (0-5)	1 (0-2)	**6 (2-18)**	5 (1-13)	3 (1-9)	1 (0-5)	**3 (0-9)**
Claims from private hospitals (median in days, IQR)	2 (1-4)	1 (0-2)	0 (0-0)	**1 (0-2)**	1 (0-4)	1 (0-3)	1 (0-4)	**1 (0-3)**
TAT claim submission to a decision (days)								
All claims (median in days, IQR)	17 (13-31)	12 (8-18)	14 (11-16)	**14 (9-19)**	28 (23-43)	60 (34-83)	58 (45-78)	**48 (28-76)**
Claims from public hospitals (median in days, IQR)	24 (14-103)	12 (8-18)	13 (11-15)	**14 (9-20)**	27 (22-40)	72 (37-89)	58 (46-79)	**60 (36-85)**
Claims from private hospitals (median in days, IQR)	15 (12-20)	13 (8-18)	14 (12-16)	**14 (8-28)**	28 (23-43)	58 (33-82)	57 (45-76)	**46 (27-75)**
TAT claim submission to approval (days)								
All claims (median in days, IQR)	18 (14-30)	12 (8-13)	14 (11-16)	**14 (9-18)**	28 (23-43)	60 (34-83)	58 (46-78)	**48 (28-76)**
Claims from public hospitals (median in days, IQR)	27 (16-119)	12 (8-18)	13 (11-15)	**27 (16-119)**	27 (22-40)	72 (38-90)	59 (46-80)	**59 (37-86)**
Claims from private hospitals (median in days, IQR)	15 (13-19)	13 (8-18)	14 (12-16)	**14 (9-18)**	27 (23-43)	58 (34-81)	57 (45-76.5)	**46 (27-75)**
TAT claim submission to rejection (days)								
All claims (median in days, IQR)	14 (9-31)	12 (7-33.8)	12 (5.5-24)	**14 (9-31)**	111 (24-249)	67 (23-87)	29 (2-217)	**67 (23-93)**
Claims from public hospitals (median in days, IQR)	14 (7-32)	9 (6-17)	16.5 (9.8-26.3)	14 (7-32)	30 (21-45)	69 (25-79)	28 (2-217)	**67 (24-79)**
Claims from private hospitals (median in days, IQR)	17 (11-28)	14 (7-43)	5 (3-9.5)	17 (10-31)	123 (25-150)	66 (21-96)	31 (13-67)	**68 (22-109)**
TAT claim submission to payment (days)								

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
All claims (median in days, IQR)	22 (16-38)	13 (8-19)	13 (13-14)	14 (10-19)*	28 (23-43)	60 (35-85)	60 (48-81)	**48 (28-77)***
Claims from public hospitals (median in days, IQR)	32 (19-126)	12 (8-18)	13 (13-14)	32 (19-126)*	27 (22-41)	72 (38-90)	60 (48-80)	**60 (37-86)***
Claims from private hospitals (median in days, IQR)	18 (15-23)	13 (8-19)	13 (13-14)	14 (10-18)*	28 (23-43)	58 (34-83)	61 (47-83)	**46 (27-75)***

** p < 0.05 for comparison between Insurance and Trust models*
IQR interquartile range

4.4.8 Reasons for pre-authorization and claim rejections

In order to understand the reasons for rejections of pre-authorizations, claims, or claims that were pending decisions for more than six months, we randomly selected 30 such cases from each state. While the sample size is too small to quantify the findings, we developed a few categories to obtain an exploratory insight into some of the reasons related to these case decisions. These are presented in *Table 19*. After due process, in 18 cases, the claim was paid (2 in J&K and Haryana, 4 in Punjab, 5 in Meghalaya and UP). This discrepancy has arisen due to the difference in timelines between a request for data and received data-claims rejected/pending at the time of data request were subsequently updated in the received data.

Delays of various types were among the most common reason for rejection within the sample. Both pre-authorizations and claims were rejected because of the late initiation of pre-authorizations. There were instances of pre-authorizations being initiated after the discharge of patients (4 in Punjab and 1 in Haryana). In a couple of cases in UP, after telephonic verification, it was found that the procedure had been done before approval, so the pre-authorization requests were rejected. Another frequent reason for rejections of claims was that EHCPs were unable to provide requested documents (including admission forms, OT notes, various investigation reports, photographs etc.) in time or did not provide the documents at all. Lack of documents resulted in either outright rejections or instances of pre-authorizations and claims being kept pending.

Table 19. Exploratory analysis of reasons for pre-authorization and claim rejections, pendency

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
EHCP-side factors	22	16	12	50	18	18	29	65
Delayed pre-authorization requests	5	4	0	9	7	3	5	15
Delayed claim submissions	3	0	0	3	2	0	0	2
Delayed response to queries	4	0	0	4	1	1	1	3
Documents-not submitted / incomplete / missing / discrepancy	8	2	3	13	5	10	9	24
Patient mismatch / wrong patient	0	1	0	1	0	1	1	2
Wrong package blocked	1	3	0	4	2	0	6	8
Double booking / double claim submission	1	1	3	5	0	1	5	6
Mismatch between package blocked and actual treatment	0	1	6	7	0	0	2	2
Enhancement / Change of ward requests rejection	0	4	0	4	1	1	0	2
Failure to follow directives	0	0	0	0		1 – MEDCO was directed to reduce claim amount	0	1
Beneficiary identification related	1	1	0	2	0	0	0	0
Discrepancy in beneficiary card / disabled card	1	1	0	2	0	0	0	0
Rejection from banks	0	0	0	0	2	3	1	6
Fraud cases	2	3	0	5	10	4	0	14
Pending cases	3	0	6	9	0	4	0	4

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Rejection reason not determined#	1	6	0	7	0	0	0	0
Other	1 - Hospital was not empanelled for the specific procedure	1 - Public hospital reserved package, 1 - patient referred to another hospital, 1 - technical issue in system, 1 - available amount exhausted	7 - Available amount exhausted* 5 - Exclusions under scheme**	9	0	1 - Erroneous claim	0	1

EHCP Empanelled Health Care Provider
CPD Claims Processing Doctor
#Claim was approved by CPD but later rejected
**Meghalaya has separate cover limit for secondary and tertiary care*
***As per IC contract women beneficiaries with gravida >2 are excluded from maternity benefits under the scheme, babies born prior to policy renewal need separate enrolment, and specific COVID-19 testing protocol*
[a]One case was approved after audit
[b]Fraud detected by CPD
[c]Fraud detected by SAFU (State Anti-Fraud Unit)
[d]In one case SAFU recommended reduction in the claim amount leading to current claim rejection (new claim was to be submitted)

Claims were also rejected when queries were not responded to by the EHCPs on time. However, in Meghalaya, in three instances, EHCPs informed the IC about the delays and claim amounts were subsequently paid. The mismatch between the actual treatment given to patients and the initial blocked package and wrong package blocking were also reasons for rejection.

There were also certain technical reasons for claim rejections - like technical issues leading to hospitals registering patients twice, enhancement details not visible on the system and rejections by the bank. Two (1 in Haryana and UP each) claim payments were rejected by the bank (for lack of IFSC code), and in three (1 in Haryana and 2 in UP) other cases, the ACO re-initiated the payment, and the claim was ultimately paid.

In Meghalaya, secondary and tertiary care packages included under PMJAY have ceiling amounts linked to these benefits (Rs. 3,50,000 for tertiary care and Rs. 1,50,000 for secondary care). In seven cases, further claims were rejected due to the beneficiary having already utilized the amount. Additionally, Meghalaya was the only state which included normal delivery as a package under PMJAY and had several cases of rejections for normal delivery packages due to non-conformity to guidelines such as women having more than two children, home delivery etc. A few claims were rejected based on audits that revealed fraudulent activity. These are discussed in the next section.

4.5 Audits and fraud management

We did not receive the specific data requested on audit and fraud management. However, during the interviews, all stakeholders were asked about the processes followed for these functions. The KPIs for all agencies mandate sample audits for beneficiaries, pre-authorizations, claims, hospitalizations, hospital audits, medical audits and complete mortality audits. All stakeholders reported completing these requirements under normal circumstances. However, it appeared that there had been disruptions in field audits in some places due to the COVID-19 pandemic. These had not been fully resumed at the time of conducting the study. Desk audits were being carried out, and actions were taken against offenders as per guidelines. Audits were usually applicable only to private hospitals. ICs had their software to generate fraud triggers. However, they also regularly received trigger alerts from the National Anti-Fraud Unit (NAFU).

In terms of outcomes of investigations, hospital de-empanelment was higher among Trust states (5.2%) as compared to Insurance states (2.5%). Among Insurance states, only Punjab reported de-empanelling 17 hospitals, while the other States had not de-empanelled any hospitals. J&K had only temporarily suspended one hospital due to quality issues. All three Trust states had de-empanelled hospitals (*Table 10*).

The Punjab IC reported that in addition to the mandated two audits to be carried out per private hospital in a year, the IC and TPA also visited hospitals frequently to investigate claims. Based on the reported infrastructure of the hospitals, sometimes discrepancies were observed by the agencies between the volumes and types of pre-authorizations and the available infrastructure or manpower in the hospital. In these cases, hospitals were audited specifically with regard to these suspicions. When the fraud was suspected, the IC would communicate the same to the State Anti-Fraud Unit (SAFU). On receiving approval from SAFU, suspension and de-empanelment notifications went sent directly from the IC to the hospitals. This manner of operationalizing the de-empanelment through the IC (and not the SHA) was not well received by hospitals. The private hospital also communicated that de-empanelment from PMJAY was a source of embarrassment for the hospitals and affected their reputation. Step-wise processes such as putting hospitals on a watch-list, then levying penalties, followed by suspension and de-empanelment, which are the guidelines issued by the NHA, were reportedly not fully complied with. However, the IC reported that erring hospitals were provided time to respond to notices of suspension. They also reported that when other triggers were investigated, such as the charging of patients and claim reimbursements from the IC, penalties had been levied against the hospitals up to several lakhs, as per guidelines. The intensity of the corrective actions was dependent on the nature of the malpractice undertaken by the hospital. These finding needs to be further corroborated with documentation and other private providers; however, it appeared to create a sense of distrust between hospitals and the IC. There were reportedly some hospitals suspended for suspected fraudulent activity in Punjab that had not responded to those notices to date. These hospitals remained suspended from operationalizing the scheme.

Some fraudulent activity was also detected by the Punjab IC in public hospitals. However, this was carried out by the Ayushman Mitras, who was contracted through an agency and whose payment

depended on claim volumes. They were paid a fixed fee per claim processed. Due to this, they booked fraudulent claims for attendants of patients, etc. Some of these claims were paid out before the fraud was detected and addressed. In a few instances, fraud in public hospitals was also reported in the early days of the scheme, with respect to reserved government packages. Some public doctors were found to be referring these cases to private hospitals (they were allowed to do this in the absence of requisite specialists) under the false pretext of unavailability of requisite resources and would obtain payment from the private hospitals in return. These instances indicate that the IC was well aware of fraudulent activity at the ground level in both private and public hospitals.

The IC in J&K reported that they regularly carried out audits based on triggers generated through their own software and NAFU triggers. Negative beneficiary feedback was also a trigger that merited an investigation of the hospital. However, there were challenges in auditing hospitalized patients, as pre-authorizations were sometimes raised late, almost at the time of discharge of patients.

4.5.1 Findings from sample data

We used a random sample of 30 cases from each State on claim rejection reasons to also elucidate information on possible frauds. While the sample is small, it nevertheless provides valuable insights into the audit process in the States.

In J&K, in the medical audit of claims, one claim was rejected because the patient was found to have been charged for the treatment availed (initially approved at the CPD level but later rejected.). The beneficiary audit led to the rejection of one claim due to discrepancies in beneficiary documents.

In Punjab, three cases of fraud were detected at the level of CPD, and the claims were rejected. Unfortunately, additional details were not available to comment on the type of fraud.

In Meghalaya, 15 claims were assigned to experts for a second opinion. Of these, 12 were rejected for various reasons, and only 3 were approved.

Haryana had the highest number (10/30) of SAFU-triggered claim rejections due to confirmed fraud. Claims that were initially approved were later rejected (on average 4 months later).

In UP, in 13 cases, the CPD assigned the claim to experts for second opinions. Of these 13 cases, four were rejected, six were approved, two were kept pending, and in one case, the medical auditor directed the EHCP to reduce the claim amount, but the claim was finally rejected due to non-compliance.

In HP, a single claim was assigned to experts for a second opinion. It was approved but ultimately rejected by the bank, while in Haryana, of the 6 cases assigned to experts, 3 were rejected, 2 were approved, and 1 was kept pending.

Overall, it was observed that rejected claims usually went through an iterative process of review, and frauds were being detected across States with either model. The sample size was insufficient to quantitatively determine trends in the occurrence of fraud. The effectiveness of the audit process would require a second clinical audit of these cases. A greater detection of fraud in States may indicate either its higher occurrence, better vigilance in the State, or both. The evidence was insufficient to determine whether ICs or Trusts are more effective in this area.

4.5.2 Length of stay for selected packages

Deviations from the expected average length of stay (LOS) for hospitalizations due to a specific condition/ treatment are usually listed among potential fraud triggers. NHA guidelines do not provide a prescriptive length of stay for treatment packages. However, the indicator is important from a claim adjudication and quality of care perspective. We analyzed the median length of stay for a selected list of packages, which were among the most commonly utilized packages across all states and required more than 1-day hospitalisation. We also analyzed a few neonatal care packages as we observed that they appeared among the rejected claims in Punjab.

The data indicated that in most cases, minor variations in LOS take place (Table 20). These variations are more pronounced between individual States than across the two models. However, in some packages, such as acute febrile illness, gastroenteritis with moderate and severe dehydration and enteric fever, more than two days of variation occur across models. These variations indicate that even within packages, the difference in patient profiles, with regards to characteristics such as age, co-morbidities

and condition at the time of admission, would possibly impact the LOS. However, in the absence of a detailed analysis of the clinical notes forming a part of the claims, the misuse of these packages, or 'sick discharges'[7] of patients, resulting in lower LOS is also not possible to identify, or exclude, as a reason for the variations. Inter-state differences are more pronounced in advanced packages such as advanced, intensive and critical neonatal care packages (J&K- 4 days, Meghalaya-16.5 days, HP-47 days). The number of cases treated under these packages is lower; however, the large variations between States indicate that the clinical conditions of the newborns may be significantly different. ***Given the importance and need to also use LOS as an indicator of the effectiveness of ICs and ISAs/ Trusts to correctly adjudicate claims and detect any perverse behaviour by hospitals, a detailed analysis of these claims is warranted. States need to identify sample claims from among these packages and audit them for evaluating the adjudication process. Further, the scheme must work towards more sophisticated payment methods that consider patient characteristics while categorizing them.*** Diagnosis Related Groups (DRGs) require detailed data, and with the scheme having completed three years, steps need to be taken towards utilizing past available data to develop locally relevant classifications groups for provider payments, going forward.

7 'Sick discharges', or discharging patients prior to full recovery as indicated by a shorter than recommended length of stay, have been previously identified as a negative incentive created in case-based provider payment systems.

Table 20. Length of stay for selected packages across States and models

Procedure		Insurance				Trustt			
		Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Caesarean delivery	Number	1727	3284	1452	**6463**	89	1132	4	**1225**
	% of total pre-authorizations	3.96	2.91	3.85	**3.33**	0.22	0.89	0.04	**0.69**
	Median days	3	4	5	**4**	4	5	4.5	**5**
	Q1	2	4	4	**3**	3	4	4	**4**
	Q3	4	7	7	**6**	5	7	5.75	**7**
Acute febrile illness	Number	166	1390	47	**1603**	25	965	57	**1047**
	% of total pre-authorizations	0.38	1.23	0.12	**0.82**	0.06	0.76	0.60	**0.59**
	Median days	4	5	4	**5**	2	1	4	**2**
	Q1	2	3	3	**3**	1	1	3	**1**
	Q3	8	7	5	**7**	5	4	6	**4**
Acute gastroenteritis with severe dehydration	Number	29	570	10	**609**	404	1511	50	**1965**
	% of total pre-authorizations	0.07	0.50	0.03	**0.31**	1.00	1.19	0.52	**1.11**
	Median days	3	4	4	**4**	3	1	3	**2**
	Q1	1	2	2.5	**2**	3	1	2	**1**
	Q3	4	5	5	**5**	4	4	4	**4**
Acute gastroenteritis with moderate dehydration	Number	29	1858	168	**2055**	27	2125	129	**2281**
	% of total pre-authorizations	0.07	1.65	0.44	**1.06**	0.07	1.68	1.35	**1.29**
	Median days	3	3	4	**3**	2	1	3	**1**
	Q1	1	2	3	**2**	1	1	2	**1**
	Q3	4	5	5	**5**	5	3	5	**3**

Procedure		Insurance				Trustt			
		Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Enteric fever	Number	217	1054	105	**1376**	23	4937	51	**5011**
	% of total pre-authorizations	0.50	0.93	0.28	**0.71**	0.06	3.90	0.53	**2.84**
	Median days	2	5	5	**5**	4	2	4	**2**
	Q1	1	3	5	**3**	3	1	4	**1**
	Q3	5	6	5	**6**	6	4	5	**4**
PTCA, inclusive of diagnostic angiogram	Number	294	1302	0	**1596**	570	627	45	**1242**
	% of total pre-authorizations	0.67	1.15	0.00	**0.82**	1.41	0.49	0.47	**0.70**
	Median days	3	2		**3**	2	3	2	**3**
	Q1	2	2		**2**	2	2	1	**2**
	Q3	4	3		**4**	3	4	3	**3**
Cholecystectomy - Without Exploration of CBD - Open	Number	295	223	0	**518**	177	1593	158	**1928**
	% of total pre-authorizations	0.68	0.20	0.00	**0.27**	0.44	1.26	1.65	**1.09**
	Median days	2	6		**3**	3	5	4	**5**
	Q1	1	4		**2**	3	4	3	**4**
	Q3	3	10		**7**	4	6	6	**6**
Advanced neonatal care package1	Number	50	484	37	**571**	83	182	1	**266**
	% of total pre-authorizations	0.11	0.43	0.10	**0.29**	0.21	0.14	0.01	**0.15**
	Median days	6	6	14	**6**	11	6	8	**7**
	Q1	4	5	10	**5**	7	4	8	**4.25**
	Q3	10	7	22	**8**	13.5	7	8	**9**
Intensive neonatal care package2	Number	13	1054	144	**1211**	94	144	2	**240**
	% of total pre-authorizations	0.03	0.93	0.38	**0.62**	0.23	0.11	0.02	**0.14**
	Median days	6	5	9	**6**	7	5	14	**6**
	Q1	2	5	7	**5**	5	4	10.5	**4**
	Q3	10	6	14.25	**7**	9	9	17.5	**9**

Procedure		Insurance				Trustt			
		Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Critical care neonatal package3	Number	19	367	18	**404**	82	48	2	**132**
	% of total pre-authorizations	0.04	0.32	0.05	**0.21**	0.20	0.04	0.02	**0.07**
	Median days	4	6	16.5	**6**	16	7	47	**14**
	Q1	3	5	7.25	**5**	11	4	46.5	**6**
	Q3	5	11	42	**11**	21	13.25	47.5	**17**

1Advanced: Babies with birthweight of 1200-1499g
2Intensive: Babies with birthweight 1500-1799 g or
Babies of any birthweight and at least one of the following conditions:
• Need for mechanical ventilation for less than 24 hours or non-invasive respiratory support (CPAP, HFFNC)
• Sepsis / pneumonia without complications
• Hyperbilirubinemia requiring exchange transfusion
• Seizures
• Major congenital malformations (pre-surgical stabilization, not requiring ventilation)
• Cholestasis significant enough requiring work up and in- hospital management
• Congestive heart failure or shock
Mother's stay and food in the hospital for breastfeeding, family centred care and (Kangaroo Mother Care) KMC is mandatory and included in the package rate
3Critical- :
Babies with birthweight of <1200 g or
Babies of any birthweight with at least one of the following conditions:
• Severe Respiratory Failure requiring High Frequency Ventilation or inhaled Nitric Oxide (iNO)
• Multisystem failure requiring multiple organ support including mechanical ventilation and multiple inotropes
• Critical congenital heart disease
Mother's stay and food in the hospital for breastfeeding, family centred care and (Kangaroo Mother Care) KMC is mandatory and included in the package rate

4.5.3 Unspecified (surgical) packages

Unspecified packages are blocked for procedures that do not have a specific package code and rate assigned to them. The rates for these packages are decided by SHAs in Trust states and ICs in Insurance states, using the Central Government Health Scheme rates or adapting the rate of the nearest similar package. Except for Meghalaya, which allowed unspecified packages to be booked for medical treatments and daily admissions, all other States only permitted unspecified packages to be booked for surgical procedures. Since there is some subjectivity in approving unspecified packages, we analyzed their proportionate composition among all packages blocked in States.

There was no clear difference among Trust and Insurance states in the total proportion of unspecified packages approved of the total approved claims (*Table 21*). However, Punjab showed a high proportion (5%) of unspecified surgical packages as compared to other States. Most of the packages were those related to Obstetrics and Gynecology surgical procedures. An earlier study indicated that this high proportion is attributable to the absence of a normal delivery package in Punjab's master package list.[8]

HP also reported that 2.6% of all claims were approved to be of unspecified packages. However, the state reported that all requests for unspecified packages are sent to the SHA for approval, following which the ISA provides approval on the IT system. Hence, these are verified twice, both by the ISA and the SHA. Both Punjab and HP reported a higher proportion of pre-authorizations for unspecified rejected packages than those approved. Consequently, claim payouts attributable to unspecified packages amounted to INR 4,23,04,970 (3.5% of total claims payouts for Punjab in three months), which was the highest among all States. For HP, this proportion amounted to 56,37,105 (4.9% of total claims payouts for HP in three months). While HP and Punjab would need to be watchful of the high proportion of claim payouts on un-specified packages, we were unable to determine if there were any discrepancies in their approval up to now.

8 Policy Brief No 10 Available at: (https://pmjay.gov.in/sites/default/files/2021-05/Policy_Brief_Unspecified_Package_Utilization_under_AB_PM-JAY.pdf)

Table 21. The unspecified surgical package claims approved

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
Burns management	0	18	0	18	1	2	0	3
Orthopaedics	10	35	0	45	37	0	6	43
Surgical oncology	0	4	1	5	0	17	4	21
Ophthalmology	2	4	0	6	107	6	1	114
General surgery	52	160	14	226	118	16	160	294
Ent	1	2	0	3	4	3	0	7
Oral & maxillofacial surgery	0	7	0	7	2	2	0	4
Neurosurgery	0	0	0	0	6	0	0	6
Obstetrics & gynaecology	1	4978	2	4981	7	0	1	8
Plastic & reconstructive surgery	0	1	0	1	5	0	0	5
Paediatric surgery	0	0	0	0	4	0	0	4
Polytrauma	0	0	0	0	0	0	0	0
Urology	21	2	0	23	3	1	1	5
Ctvs	5	1	0	6	0	1	30	31
Unspecified surgical package	2	27	84	113	80	1	6	87
All unspecified packages as a proportion of pre-authorizations initiated	250 (0.6%)	5634 (5.0%)	105 (0.3%)	5989 (3.1%)	476 (1.2%)	210 (0.2%)	315 (3.3%)	1001 (0.6%)
All unspecified packages as a proportion of pre-authorizations approved	153 (0.6%)	5418 (7.5%)	104 (1.3%)	5675 (5.3%)	407 (1.4%)	73 (0.1%)	275 (4.6%)	755 (0.6%)
All unspecified packages as a proportion of pre-authorizations rejected	74 (1.7%)	139 (8.8%)	0	213 (3.6%)	38 (8.6%)	92 (6.4%)	16 (16.7%)	146 (7.4%)

	Insurance				Trust			
	Jammu & Kashmir	Punjab	Meghalaya	Total	Haryana	Uttar Pradesh	Himachal Pradesh	Total
All unspecified packages as a proportion of claims approved	94 (0.3%)	5239 (5%)	101 (0.3%)	5434 (3.2%)	374 (1%)	49 (0)	209 (2.6%)	632 (0.4%)
All unspecified packages as a proportion of claims rejected	43 (0.6)	15 (1.2%)	0	58 (0.7%)	10 (1.7%)	4 (0.1%)	8 (4.4%)	22 (0.3%)
Claim amount approved for all unspecified packages (% of total claim amount approved) in Rupees	24,85,032 (0.9%)	4,23,04,970 (3.5%)	23,15,181 (0.9%)	4,71,05,183 (2.7%)	50,13,136 (1.0%)	12,71,225 (0.1%)	56,37,105 (4.9%)	1,19,21,466 (0.7%)

ENT ear nose throat, CTVS Cardiothoracic and Vascular Surgery

4.6 Structural capacity of SHAs and supporting agencies

Most States studied are greenfield in nature, having launched PMJAY anew, without a prior existing state health insurance scheme operational at the time of its launch. States have set up new agencies or significantly expanded earlier existing bodies (operating for RSBY implementation) into SHAs, as well as contracted ISAs, and ICs to implement the scheme. While the technical capacity may be reflected through performance indicators reported earlier, the structural capacity of these agencies is important for the current and long-term implementation of the scheme. Where scheme expansion is envisaged, or where access and utilization need to be improved, the current workload and requirements to meet future workload also assume importance. We report in this section the available human resources (HR) in the State SHAs and supporting implementation agencies (i.e., Insurance companies, TPAs and ISAs) in *Table 22* and *Table 23* below. These were compared to the recommended staffing norms provided by the NHA to the States, which are not binding upon States.

4.6.1 State health agencies

Structural capacities of the states varied individually, and no clear trends were seen across Trust and Insurance states (data for UP was not made available for this component). However, both the Trust states had a slightly larger workforce, combining State and district resources as compared to the Insurance states (Table 23**).** The SHAs of J&K, Meghalaya and HP had >70% compliance with the recommended numbers of human resources at the State level. Punjab SHA had a 33% larger workforce than the recommended norms, in addition to the capacities of the contracted IC (however, the district workforce was smaller than recommended numbers). Haryana is the only Trust state without an ISA; hence the SHA capacity in the State is the highest among the States studied and exceeded the norms set by the NHA. The SHA comprises regular doctors of the Haryana health department, deputed to managerial positions to constitute the main functional staff in the SHA. Contractual staff are also hired to augment the capacity of functional teams for administrative operations and call centre management. While the overall numbers of staff are high in the SHA, managerial staff meet only 52% of the recommended strength. This may be explained by the difficulty of deputing many regular government doctors from other health verticals to PMJAY. There are, therefore, challenges in managing the workload, as reported by the officers. However, the performance of the State as reflected by indicators of enrollment, utilization of the scheme and efficiency of claim processing indicates that the State is performing better than other Trust states.

Combining State and district resources, J&K and Meghalaya had lower than half of the recommended workforce, with J&K reporting only 28% of the recommended workforce composition. Punjab and HP (Trust) met more than 75% of the recommended staff requirement, while Haryana had 48% more than the recommended workforce. Punjab appeared to be lacking a Beneficiary Verification Manager. However, the State reported that all applications for registration which are rejected by the IC are verified by the SHA. This indicates that SHA staff perform work across more than one function. This was also reported in other States; wherein a single resource may be assigned multiple roles, overseeing multiple purchasing functions.

In the SHAs of all States, more than half of the total workforce (not including ICs/ISAs/TPAs) comprises contractual employees recruited for the scheme's purpose only. Regular government officers are usually appointed in the CEO positions, nodal officers in districts, or one or two administrative roles (except for Haryana, which has regular officers in most managerial positions). States did not report any disadvantages to the contractual manner of recruitment. Attrition, although reported, was not frequent in SHAs. However, in Haryana, despite the availability of qualified medical resources from within government services, periodic transfers of officers resulted in some disruptions and the need for fresh training of new appointees.

Table 22. Composition of SHAs and comparison with a recommended staffing pattern

SHA core team	NHA recommended staff		Insurance						Trust			
			Jammu and Kashmir		Punjab		Meghalaya		Haryana		Himachal Pradesh	
			Category A		Category B		Category A		Category B		Category A	
Positions as per NHA guidelines	Category A states	Category B states	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended
Ceo	1	1	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	100.0%
Operations Manager(s)	2	3	0	0.0%	1	33.3%	0.5	25.0%	1	33.3%	2	100.0%
Monitoring & evaluation manager	2	4	0	0.0%	0	0.0%	1	50.0%	1	25.0%	2	100.0%
Manager policy	1	2	0	0.0%	0	0.0%	0.5	50.0%	1	50.0%	2	200.0%
IT Support cum Data Manager	2	3	0	0.0%	1	33.3%	1	50.0%	3	100.0%	1	50.0%
Beneficiary verification manager	1	2	0	0.0%	0	0.0%	0.5	50.0%	1	50.0%	1	100.0%
Grievance redressal manager	1	2	0	0.0%	1	50.0%	1	100.0%	1	50.0%	2	200.0%
Medical management & quality manager	2	4	0	0.0%	1	25.0%	1	50.0%	1	25.0%	1	50.0%
Iec manager	1	2	0	0.0%	1	50.0%	0.5	50.0%	1	50.0%	2	200.0%
Capacity development manager	1	2	0	0.0%	0	0.0%	1	100.0%	1	50.0%	2	200.0%
Finance manager	2	3	0	0.0%	1	33.3%	1	50.0%	0	0.0%	1	50.0%
Accounts assistant	1	1	2	200.0%	1	100.0%	0.5	50.0%	2	200.0%	1	100.0%
Administrative officer	1	1	0	0.0%	0	0.0%	0.5	50.0%	1	100.0%	1	100.0%
Total staff as per NHA recommended positions	18	30	3	16.7%	8	26.7%	10	55.6%	15	50.0%	12*	66.7%
Other State specific positions												
Jt CEO					1		1		1			
ACEO					1							

SHA core team	NHA recommended staff		Insurance						Trust			
			Jammu and Kashmir		Punjab		Meghalaya		Haryana		Himachal Pradesh	
			Category A		Category B		Category A		Category B		Category A	
Positions as per NHA guidelines	Category A states	Category B states	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended
Dy CEO									1			
Director finance							1					
Claims officer/manager					1		1					
State nodal officer			1									
Consultants			5						3		2	
PPD									5			
CPD									12			
CEX									10			
Junior programmers									24			
Accounts officer			1						1			
Assistant accounts officer			1									
Eo admin									1			
Audit manager					1							
Deputy managers					8							
Executive					7							
Other supporting staff including deo's, steno, peons etc.			2		13				29			
Call centre executives									50			
Total staff in State specific positions			10		32		3		137		2	
Total SHA staff at State level	18	30	13	72.22%	40	133.33%	13	72.22%	152	506.67%	14	77.78%
District teams (per district)												

SHA core team	NHA recommended staff		Insurance						Trust			
			Jammu and Kashmir		Punjab		Meghalaya		Haryana		Himachal Pradesh	
			Category A		Category B		Category A		Category B		Category A	
Positions as per NHA guidelines	Category A states	Category B states	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended	Number	% of recommended
District nodal officer	1	1	1	100.00%	1	100.00%	1	100.00%	1	100.00%	1	100.00%
District program coordinator	1 with ISA	2 without ISA	0	0.00%	1	100.00%	1	100.00%	0	0.00%	1	100.00%
District information systems manager	1	1	0	0.00%	1	100.00%	0	0.00%	1	100.00%	0	0.00%
District grievance manager	1	1	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	100.00%
District medical officer	1	1	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	100.00%
Total per district	5	6	1	40.00%	3	60.00%	2	40.00%	4	66.67%	4	80.00%
Number of districts			20		22		11		22		12	
Total SHA staff at district level			20	20.00%	66	60.00%	22	40.00%	88	66.67%	48	80.00%
Total SHA staff (State + Districts)			33	27.97%**	106	75.71%**	35	47.95%**	240	148.15%**	62	79.49%**
Proportion of contractual staff in SHA only			15.1%		NA		60%		50.4%		58.7%	
Number of eligible families served per staff (State + Districts)			62,251		37,332		23,922		6,441		7,726	
Number of eligible beneficiaries served per staff (State + Districts)			3,17,248		1,86,661		79,162		32,207		38,628	

CEO Chief Executive Officer, NHA National Health Authority, SHA State Health Agency, ISA Implementation Support Agency
**The total is less than the sum of all positions as one resource has been given multiple roles*
***This is calculated in relation to the number of NHA recommended positions for each state*
Uttar Pradesh has not been included in the table due to lack of data from the state

4.6.2 Implementing agencies and total capacities

Table 23 presents the number and densities of staff available in the supporting agencies of the States. The shortfall of SHA resources in J&K was met by the contracted IC and TPA staff, especially within districts. Overall, J&K and Punjab reported large numbers of staff contributed by the IC & TPA. However, the workforce density (eligible beneficiary families served per staff), was higher in Meghalaya than in J&K and Punjab; and both Trust states had a higher workforce density as compared to the three Insurance states. Due to higher utilization volumes in Insurance states (other than J&K in the year April 2020 to March 2021), this staffing has implications for future scheme expansion plans, which may be challenging at current workload densities. It also indicates that Trusts have a higher current staffing density to serve their eligible beneficiary population and that higher utilization levels can be met with the current workforce. J&K utilization was known to have increased significantly post universalization (after December 2020), and therefore, the workload numbers reported here are expected to have significantly increased.

J&K had one TPA; Punjab has three TPAs, two of which were contracted by the IC in Year 1, and a third was added in the second year of the scheme to meet the high volumes of services being delivered under the scheme. The IC was consequently required to coordinate operations with three different agencies to maintain scheme operations in the State. TPAs also provided medical officers and grievance officers at the district level. TPA staff constituted the majority of the human resource capacity in the State of Punjab (6 resources from the IC and 183 from the TPA), resulting in a large team for scheme implementation. At the State level, there is one manager each from the IC and each TPA (total 4) in the position of State Coordinator, State Medical Manager and State Operations Manager. **The IC in Punjab reported that getting qualified medical resources for processing preauthorizations and claims was a challenge. He also referred to high attrition among TPA staff, which challenges the smooth conduct of operations.** However, despite a large workforce for PMJAY, the number of eligible families served per staff is the highest in Punjab.

In Meghalaya, the IC has an in-house team for claim processing; hence, all 47 staff are IC staff. **While Punjab, Meghalaya and J&K all have an Insurance model of scheme implementation, this difference in the structure of the IC in Meghalaya may have implications for the overall conduct of operations in the State. This structure may have possible implications for the control by the SHA of overall IC operations and internal IC operations.**

In terms of the workload, it is seen that all the States have sufficient HR to meet the workload norms for claims management (pre-authorization and claim processing)[9], processing less than the recommended volumes. Haryana matched the workload norms for pre-authorizations but not claims, while in Meghalaya, PPDs and CPDs were processing higher pre-authorizations and claims closer to recommended norms. However, despite having a larger TPA workforce in Punjab, the volumes processed are lower than that in Meghalaya. While the high volumes in Meghalaya are attributable to OPD services also admissible under PMJAY in the State, the efficiency of the IC, working together with the SHA, is significant in processing a higher volume of cases. J&K workforce was reportedly processing very few claims. However, as utilization was affected during that year due to political changes in the State and COVID-19 and consequent increases post universalization, these numbers are expected to have increased.

HP shows that a much higher workload can be taken up by the existing resources of the ISA in the State, which has implications for further scheme expansion. There are six resources at the district level belonging to the SHA and the ISA. However, this is also required due to the hilly terrain of the State. Haryana, also a Trust state, processes a much higher density of pre-authorizations per day and a slightly higher volume of claims. The State functionaries reported that the workload is manageable at current utilisation levels but were concerned about whether the current capacities would be sufficient to meet future demand for the scheme (the State plans to expand the eligible beneficiary population). Between the two Trust states, HP staff process a lower volume of claims but report a longer TAT, while the opposite is seen in Haryana. **Hospital delays notwithstanding, this also indicates a greater efficiency by the regular government doctors of Haryana compared to the ISA doctors in HP.**

9 Workload norms are as defined by NHA in 'Schedule 15 Minimum Manpower Requirements' of the Model tender document for ISA - Schedules (https://pmjay.gov.in/resources/documents). Refer to Table 23 for actuals.

Table 23. Combined composition of SHAs and supporting agencies (Insurance companies, TPAs and ISAs) and comparison with staffing and workload norms

IC/TPA/ISA	NHA recommendations	Insurance			Trust	
		Number of resources				
Minimum manpower requirements		Jammu & Kashmir	Punjab	Meghalaya	Haryana	Himachal Pradesh
State project manager	1	2a	4e	1	Not applicable	1
State medical manager	1	3b	4e	1	Not applicable	1
State operations coordinator	1	3	4e	1	Not applicable	1
District coordinator	1 per district	44c	22	11	Not applicable	12
PPD	Workload norm	12	23	5	Not applicable	5
CEX	Workload norm	5	17	6	Not applicable	3
CPD	Workload norm	20	46	6	Not applicable	4
Fulltime medical Auditors	1 per cluster	12d	25f	3	Not applicable	4
Empaneled medical auditors	As per requirement	0	0	0	Not applicable	0
Empaneled hospital auditors	As per requirement	2	0	0	Not applicable	12
Other State specific resources						
District kiosk operators (ic)		0	0	11	Not applicable	0
Help desk operator		0	0	1	Not applicable	0
Toll free operator		0	0	1	Not applicable	0
District grievance manager		0	22	0	Not applicable	0
District medical officer		0	22	0	Not applicable	0
Other (role not specified)		11			Not applicable	
Total resources		114	189	47	Not applicable	43
Support agency composition						
Number of ICs		1	1	1	0	0
Staff in ICs		31	6	47	0	0
Number of TPAs		1	3	0	0	0
Staff in TPAs		83	183	0	0	0
Number of ISAs		0	0	0	0	1
Staff in ISAs		0	0	0	0	56
Total staff (SHA+IC+ISA+TPA)		147	295	82	240	106

IC/TPA/ISA	NHA recommendations	Insurance				Trust
		Number of resources				
Minimum manpower requirements		Jammu & Kashmir	Punjab	Meghalaya	Haryana	Himachal Pradesh
Number of eligible families served per staff of PMJAY		13,975	13,414	10,217	6,441	4,562
Number of eligible beneficiaries served per staff of PMJAY		71,219	67,071	33,788	32,207	22,594
Comparison with workload norm for Claim management						
PPD (estimated pre-authorizations processed per PPD per day)g	**100-120 Pre-authorization requests per day per person**	22	71	95	107	23
CEX (estimated claims processed per CEX per day)g	**100-120 claims processing per person per day**	44	93	79	52	37
CPD (estimated claims processed per CPD per day)g	**70-100 claims per person per day**	11	35	79	43	28

IC Insurance Company, ISA Implementation Support Agency, TPA Third Party Administrator, SHA State Health Agency, NHA National Health Authority
PPD Pre-authorization Processing Doctor, CEX Claims Executive, CPD Claims Processing Doctor
[a] *1 from IC and 1 from TPA*
[b] *1 from IC and 2 from TPA*
[c] *20 from IC and 24 from TPA*
[d] *6 from IC and 6 from TPA*
[e] *1 from IC and 3 from TPAs*
[f] *3 from IC and 22 from TPAs*
[g] *for the period from April 2020 to March 2021 assuming a 260-work day year*

4.7 Cost of scheme

PMJAY primarily addresses access to hospital care for secondary and tertiary services. The cost implications of the model that States choose to adopt are important in future budgetary provisions for the various schemes and programmes under State and Central health budgets.

To estimate the direct costs incurred by the SHAs on implementation of the scheme, we collated data on the following heads: a) SHA operational costs for the State and district staff- including salaries of staff, transportation and material costs related to office operations; b) value of the contract with ISA (if applicable) c) total premium paid to the IC, un-utilized and returned amount if any, administrative costs and official claim ratio d) cost of contracting any other agency for implementation (none of the States studied reported contracting an additional agency for functions included during the study period). Our data does not include the costs of regular government resources in the agencies, as these data were not provided.

We initially report the costs of the insurance companies and later compare the total costs of the two modes of implementation, taking SHAs and other implementing agencies together. The limitations of this data in drawing comparisons are also highlighted, as we did not receive complete data for all parameters and comparable periods.

4.7.1 Cost incurred by insurance companies

Table 24 provides the total costs of the insurance companies in terms of premiums, administrative fees and unspent amounts that are returned to the State. Since the administrative fee that may be retained by ICs is dependent on the claim ratios achieved, these are also indicated in the table.

It was observed that Punjab reported very high claims ratios in the first and second years of the scheme, resulting in losses to the IC. Although the premium was increased by the IC from the first to second year

in order to circumvent this, it appeared to be lower than what would be required to meet the demand of the scheme among beneficiaries. The premium was also much lower than the ceiling premium indicated by NHA (Rs 1052). The low premium rate quoted by ICs also played a role in encouraging the State to adopt a full Insurance model instead of a Hybrid model, which was the initial plan. The claim rejection rate increased marginally from the first to the second year of the scheme; overall, Punjab's claim rejection rates are lower than that of all the Trust states studied, as well as J&K (*Table 15*).

Punjab has had experience with the Insurance model of implementing health insurance schemes over a long period, even before RSBY. During those times, the state reported that high claims ratios, resulting in losses to insurance companies, resulted from low premiums quoted. Subsequently, due to repeated losses, the IC terminated the scheme and withdrew. The trend of low premiums, high claims ratios, and subsequent changes in the IC, seems to be continuing in Punjab. Although our study covers the period up to March 2021, it was reported that the current IC bid an even lower premium than the earlier IC, and is currently operating the scheme, which has encountered numerous problems related to high claim rejections and pending payments. The lack of a properly calculated and quoted premium, and selection of ICs, despite this understanding, appears to be affecting the scheme's implementation in Punjab. Where States are compelled to select the lowest bidding IC (L1 rate), technical specifications may be re-considered to ensure that known limitations are addressed beforehand.

The reverse is observed in Meghalaya. The state also has very high utilization, but claims ratios are much lower, and this is despite having extremely low claim rejection rates (close to zero and the lowest among States). The state has a comparatively small eligible population; however, the total costs of the scheme are high at this rate of premium. The administrative costs retained by the IC have also been at the highest bracket allowable under the contract, i.e. 20% of the premium. The unspent balance returned to the State by the IC amounts to 9.7% of the premium.

J&K has undergone significant changes like the scheme since its initiation. During the interviews with the IC, it was reported that premiums were INR 775 and INR 720 in the first two years. *Table 24* includes recent data as provided officially by the State. Low utilization in year 1 resulted in a decrease in premium in year 2. In the third year (December 2020 onwards), when the scheme was universalized, the number of beneficiary families increased from 6,13,648 to 20,54,466 and thereby, the premium increased to INR 849. However, while claims ratios were well below 100% in the first two years, they exceeded 120% in the third year of the scheme, post universalization. This is likely to significantly impact the premiums quoted by the ICs in the next policy period. The IC was unwilling to comment on the specifics of this. Therefore, despite having a higher premium than Punjab, it appeared that the IC was incurring losses in J&K as well, despite the higher claim rejection rate in the State. Administrative costs were linked to claims ratios in the earlier policy periods (12% and 20%) but were now fixed at 15%. The change in the premium charged by the IC in the new policy period starting in January 2022 will be an important determinant of the future costs of the scheme in an Insurance model.

Table 24. Costs of contracted Insurance companies

	Jammu & Kashmir				Punjab		Meghalaya		
Policy period	**1 December 2018 – 30 November 2019**	**1 December 2019 – 29 February 2020**	**1 March 2020 – 25 December 2020**	**26 December 2020 onwards**	**20 August 2019 – 19 August 2020**	**20 August 2020 – 19 August 2021**	**1 February 2019 – 31 January 2020**	**1 February 2020 – 31 January 2021**	**1 February 2021 – 31 January 2022**
Number of families covered	6,13,648	6,13,648	5,97,801	20,54,466	40,73,429	39,50,473	7,88,256	7,88,256	7,88,256
Total premium paid per year (in Rupees)	47,55,77,200	11,85,68,562	35,37,67,167	1,74,42,41,634	243,11,60,786	290,28,40,176	128,48,57,280	128,48,57,280	128,48,57,280
Premium rate per family (in Rupees)	775	193	592	849	597	735	1630	1630	1630
Amount returned (if unutilized) (in Rupees)	16,84,65,480	46,61,189	19,40,43,179	Final claims settlement in process*	0	0	31,51,03,292	12,44,55,805	Ongoing policy
% of premium returned	35.42%	3.93%	54.85%		0%	0%	24.52%	9.69%	
Claims ratio per year	52.57%	76.06%	33.10%		159.61%	108.36%	60.48%	70.32%	
Administrative costs depending on claims ratio (in Rupees)	5,70,69,264	2,37,13,712	4,24,52,060		-	-	19,27,28,592	25,69,71,456	
Administrative costs as % of premium	12%	20%	12%		-	-	15%	20%	

**Pending the provision of official figures, we were verbally informed that claims ratios were higher than 120%*

4.7.2 Direct costs to the State Health Agencies in PMJAY implementation

We used data for 2020-21 to estimate the direct costs of implementing the scheme by the SHAs in each State[10](*Table 25*). Punjab did not provide data on the operating costs of the SHA. Hence only the costs of the IC are included in the calculations here. J&K did not provide data on the complete insurance policy period covering 2020-21; hence older data provided for a complete policy period was used. The latest data for J&K is vital because the period post-December 2020 includes the transition to the universalization of the scheme, and hence costs and claims ratios incurred are important to understand. Total administrative costs for HP included the direct operating costs of the SHA and the value of the contract with the ISA. For the Insurance states, the direct operating costs of the SHA and the administrative costs retained by the IC were considered. None of the costs of regular government resources in the agencies was included, as these were not provided by the States. **The following comparisons are limited by the above-mentioned data shortfalls.**

It was observed that administrative costs of the scheme were much higher in Insurance states as compared to Trust states. The administrative cost per beneficiary family in Meghalaya was around 10 times the cost in Trust states. Despite the higher volumes of claims processed in Meghalaya, the unit administrative cost per claim was at least 5.5 times that of Trust states. Cost variations are much lower between the two Trust states than between Insurance states. This has implications for financial planning when states consider adopting insurance models. **While it is expected that ICs are more expensive than government-operated Trusts, the break-up of the data for J&K and Meghalaya shows that their SHA operating unit costs are similar to those of the Trust states. The large variation emerges due to the administrative cost of the IC.**

Further, to compare the total costs incurred by the SHAs in each model, the claim payouts were included. When comparing the total costs incurred by SHAs in each model, for Trusts, we included the SHA operating costs, the ISA contract value and the claim payout incurred. For ICs, we included the SHA operating costs and the total premium paid to the IC; and subtracted any unspent balance returned to the SHA by the insurance company. The analysis here is further limited due to the lack of SHA operating costs data from Punjab and recent- most insurance policy data for J&K.

The data was insufficient to directly compare the total costs of the scheme incurred by SHAs across the two models. These total costs also reflect the utilization of the scheme, as claim payouts are included.

The differences between Meghalaya and both Trust state they decreased in terms of total costs to the SHA. The unit costs per beneficiary family unit in Meghalaya was about 1.6 times the cost for Haryana and 1.8 times that for HP. Further, in terms of cost-utilization of the scheme, due to the higher utilization and volumes of claims, these unit costs were only slightly different. Meghalaya had a lower unit cost per claim as compared to Haryana. Haryana has the highest utilization among Trust states and an average claim value of Rs 10,458. Although it operates without an ISA, the SHA is large, with half of its total strength comprising contractual staff paid for by the SHA. The cost per claim submitted in Haryana is the highest compared to other States.

However, the overall data indicate that while Trust states operate at significantly lower administrative costs, the lower level of utilization requires to be addressed to bring about the greater cost efficiency of the scheme in these States.[11] Data on additional Trust states (such as UP) would be helpful to further validate these findings. It is also, however, important to note that J&K and Punjab are most likely to have significantly higher costs going ahead, as ICs are not likely to continue providing services at the current levels of premiums being offered due to claims ratios persistently exceeding 100%.

These preliminary observations on unit administrative costs and cost-efficiency need to be further validated with complete data for all States before drawing any conclusions on the costs and cost-efficiency of the models. For individual States, these findings provide insights to be considered together when planning further expansion strategies for the scheme.

10 We used the latest policy period reported for Insurance States and used the closest financial year expenditure data to policy period

11 It may be recalled that volumes of claims processed by the workforce in Trusts is lower than Insurance states.

Table 25. Direct administrative costs and total costs incurred by the SHAs for PMJAY in 2020-21

Cost component	Insurance			Trust	
	Jammu & Kashmir*	Punjab	Meghalaya	Haryana	Himachal Pradesh
Administrative cost of SHA (in Rupees)	1,65,47,660	Data not available	1,87,48,326	5,65,17,989	1,25,02,656
Administrative cost of IC (in Rupees)	5,70,69,264	-	25,69,71,456	Not applicable	Not applicable
The administrative cost of ISA (in Rupees)	Not applicable	Not applicable	Not applicable	Not applicable	29,96,018.82
Total administrative cost (SHA + IC/ISA) (in Rupees)	7,36,16,924	-	27,57,19,782	5,65,17,989	1,54,98,674.82
SHA administrative cost per beneficiary family unit (in Rupees)	27.0	Data not available	23.8	36.6	26.1
IC administrative cost per beneficiary family unit (in Rupees)	93.0	-	326.0	Not applicable	Not applicable
Total administrative cost per beneficiary family unit (in Rupees)	120.0	-	349.8	36.6	32.4
Total administrative cost per claim submitted (in Rupees)	1,765.4	-	2,286.7	417.1	373.0
Total cost for SHA in the insurance model					
Administrative cost of SHA + Premium paid to IC - Unutilized amount returned by IC (in Rupees)	32,36,59,380	2,90,28,40,176**	1,17,91,49,801	-	-
Total cost per beneficiary family (in Rupees)	527.4	734.8**	1,495.9	-	-
Total cost per claim submitted (in Rupees)	7,761.6	6,840.6**	9,779.2	-	-
Total cost for SHA in the Trust model					

Cost component	Insurance			Trust	
	Jammu & Kashmir*	Punjab	Meghalaya	Haryana	Himachal Pradesh
The administrative cost of SHA + Claim pay-outs in the policy period (in Rupees)	-	-	-	1,43,92,09,743	37,94,30,789.8
Total cost per beneficiary family (in Rupees)	-	-	-	931.0	792.2
Total cost per claim submitted (in Rupees)	-	-	-	10,622.4	9,132.1

IC Insurance Company, ISA Implementation Support Agency, SHA State Health Agency
**For Jammu & Kashmir, the administrative costs calculated are for FY 2019-20 since it is the financial year nearest to the policy period for which data was provided*
***These costs are an underestimate since the costs of the SHA have not been included due to missing data*

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6 Annexures

Appendix I Format for data collection on human resources and costs

Health systems research on PMJAY: Study on implementation models

Name of State:_____

Name of person entering/validating data: _____

Date: _____

Table 1: Institutional structures and human resources in the States for PMJAY implementation

Sr. No.	Parameter/ Question	Response	Remarks, if any	
1	Has the State Health Agency (SHA) been newly formed for PMJAY? Answer as Yes / No			
2	If No, what existing body is functioning as the SHA? Mention name of body			
3	Are there any additional agencies involved in scheme implementation? Indicate which of the following are involved and their number/ names: Implementation support agency (ISA), Third party administrator (TPA), Insurance company (IC).			
5	Please specify if any other agency (other than ISA, TPA, IC) is involved for implementation Please mention the name and function of other agencies contracted/ involved in implementation			
6	Fill in following table on HR details for the State and Districts			
	Position (State)	**Number of positions sanctioned**	**Positions filled as on 31 March 2021 – indicate regular and contractual positions**	
			Regular	**Contractual**
6.1	CEO, SHA			
6.2	Operations Manager(s)			
6.3	Monitoring and Evaluation Manager(s)			
6.4	Manager(s) policy			
6.5	IT support cum data manager(s)			
6.6	Beneficiary Verification Manager(s)			
6.7	Grievance redressal manager(s)			
6.8	Medical management and quality manager(s)			
6.9	IEC manager(s)			
6.10	Capacity development manager(s)			
6.11	Finance manager(s)			
6.12	Accounts assistant			
6.13	Administrative officer			
6.14	Any other positions (list all)			
	Position (District)			

Sr. No.	Parameter/ Question	Response	Remarks, if any	
6.15	District nodal officer			
6.16	District program coordinator(s)			
6.17	District information systems manager			
6.18	District grievance manager			
6.19	District medical officer			
7	Are there any **consultants** involved in PMJAY at State level?			
7.1	If yes, indicate number and designation/ function			
8.	**ISA**			
8.1	Project office			
8.2	District office			
8.3	State project manager			
8.4	State medical manager			
8.5	State operations coordinator			
8.6	District coordinator			
8.7	PPD			
8.8	CEX			
8.9	CPD			
8.10	Fulltime medical Auditors			
8.11	Empaneled medical auditors			
8.12	Empaneled Hospital Auditors			
8.13	Others (list all)			
9.	**IC**			
9.1	State project manager			
9.2	State medical manager			
9.3	State operations coordinator			
9.4	District coordinator			
9.5	PPD			
9.6	CEX			

Sr. No.	Parameter/ Question	Response	Remarks, if any	
9.7	CPD			
9.8	Fulltime medical Auditors			
9.9	Empaneled medical auditors			
9.10	Empaneled Hospital Auditors			
9.11	Others (list all)			
10.	**TPA**			
10.1	State project manager			
10.2	State medical manager			
10.3	State operations coordinator			
10.4	District coordinator			
10.5	PPD			
10.6	CEX			
10.7	CPD			
10.8	Fulltime medical auditors			
10.9	Empaneled medical auditors			
10.10	Empaneled Hospital Auditors			
10.11	Others (list all)			
11.	Other agencies for implementation (list all positions with numbers below)			
11.1				

Table 2. Costing framework to calculate costs of implementation
SHA and DIU

S. No.	Designation	Number in State (March 2019)	Average Annual Salary (FY 2018-19)	Number in State (March 2020)	Average Annual Salary (FY 2019-20)	Number in State (March 2021)	Average Annual Salary (FY 2020-21)	Remarks
	SHA							
1	CEO, SHA							
2	Operations manager(s)							

S. No.	Designation	Number in State (March 2019)	Average Annual Salary (FY 2018-19)	Number in State (March 2020)	Average Annual Salary (FY 2019-20)	Number in State (March 2021)	Average Annual Salary (FY 2020-21)	Remarks
3	Monitoring and evaluation manager(s)							
4	Manager(s) policy							
5	IT Support cum data manager(s)							
6	Beneficiary verification manager(s)							
7	Grievance redressal manager(s)							
8	Medical management and quality manager(s)							
9	IEC manager(s)							
10	Capacity development manager(s)							
11	Finance manager(s)							
12	Accounts assistant							
13	Administrative officer							
14	Transportation cost							
15	Materials cost							
16	Other costs (list any other applicable heads)							
	DIUs							
17	District nodal officer							
18	District program coordinator(s)							
19	District information systems manager							
20	District grievance manager							
21	District medical officer							
22	Transportation cost							
23	Materials cost							
24	Other costs (list any other applicable heads)							

B) ISA

Sr.No.	Name of ISA (fill separately for each ISA)	Period of contract	Payment as per contract (per family unit) (Mention each FY separately if payment terms have changed since start of scheme to March 2021)	Number of districts under ISA (in contract period)	No of families covered (for the contract period)	Additional amount (if any paid in contract period)	Total penalties levied (in contract period)	Cost Including Tax (in contract period)	Remarks

C) IC

Name of IC:				
	As of 31 March 2019 (From start of scheme till 31 March 2019)	As of 31 March 2020 (F.Y. 2019-2020)	As of 31 March 2021 (F.Y. 2020-2021)	Remarks
Number of families				
Total premium paid per year				
Amount returned (if unutilized) *				
Claims ratio per year				
Administrative costs depending on claim ratio				

D) Other agencies, if any (please fill as many tables as the number of agencies applicable)

		Remarks
If any other agency is contracted by State (name and function)		
Name of agency		
Value of Contract		
Period of Contract		
Total number of human resources available as per Contract		

		Remarks
If any other agency is contracted by State (name and function)		
Name of agency		
Value of Contract		
Period of Contract		
Total number of human resources available as per Contract		

Appendix II Interview Guide: SHA

Health systems research on PMJAY: Study on implementation models

Name of State:

Name of respondent:

Designation:

Date:

Interview schedule

I. Scheme related

1. (Confirm the model adopted by the State) Has it always been so or have there been any changes since the start of the scheme?
2. Has the State Health Agency (SHA) been newly formed for PMJAY? If not, what existing body is functioning as the SHA?
3. Was there any State insurance scheme prior to PMJAY? If yes, how has the State transitioned from the earlier State insurance scheme to PMJAY?
4. What aspects of the earlier scheme were integrated into PMJAY and how? What were the timelines followed for the integration?
5. What is the benefit cover in the State? Has the State expanded the benefit cover?
6. What is the cost-sharing pattern between Centre and State governments?
7. What is the IT system that is being used by the State? If the State is using own IT system, how is it integrated with the NHA?
8. Are there any additional agencies involved in scheme implementation? Are the administrative functions related to operationalization of the scheme managed solely by the SHA or is an ISA/ TPA involved?
9. What is the HR organizational structure and distribution of functions among members of the SHA?

II. ISA related

1. Why was the ISA(s) brought on board for implementation of the scheme?
2. When was the ISA(s) operationalized? What was the process of contracting the ISA(s)? What was the contract period?
3. What are the scheme related functions designated to the ISA(s)?
4. What is ISA's organizational structure to manage these functions?
5. What are ISA's terms of service with the SHA?
6. What are the payment terms for the ISA?
7. Are there any performance measures linked to these payment terms? How are they monitored? Who monitors them?
8. What are the penalties (financial or otherwise)? Have any penalties been imposed so far?
9. Has there been any change in ISA(s) since the start of the scheme? If yes, for what reason?

III. In case of no ISA

1. Why was no support agency involved in the implementation architecture of the scheme?

IV. IC related

1. When did IC begin operations under PMJAY? What was the process of contracting the IC? What was the contract period?
2. What are the terms of service for IC with the SHA?
3. What are the payment terms (premium per beneficiary)?

4. What aspects of operationalization is the IC responsible for (beneficiary identification and enrolment, hospital empanelment, claim management, audits and fraud control, grievance management)? What is the IC's role and contribution to each?
5. What is IC's organizational structure to manage these functions?
6. Are there any performance measures linked to these service terms? How are they monitored? Who monitors them?
7. What are the penalties (financial or otherwise)? Have any penalties been imposed so far?
8. Has there been any change in the IC contract since start of the scheme? If yes, explain the changes and reasons.
9. Ask for copy of contract

V. TPA related

1. What aspects of operationalization is the TPA responsible for?
2. What are the service terms between IC and the TPA?
3. What are the scheme related functions designated to TPA?
4. What is the TPA's organizational structure to manage these functions?
5. What are the payment terms agreed upon with IC?
6. How are the TPAs monitored? What is the role of IC/SHA in monitoring?
7. Have there been any changes in the TPA contracted by the IC since start of the scheme? If yes, explain the changes and reasons.
8. Ask for copy of contract – also in case of multiple TPAs

VI. Other agency

1. Is there any other agency (other than ISA, TPA, IC) involved with the State for PMJAY related work (e.g. contract based for any specific operation)?
2. If yes, what are the terms of service and payment terms?
3. Ask for copy of contract, timelines of contracting

VII. Beneficiary identification related

1. What are the various activities undertaken to carry out BI since start of the scheme?
2. What is the role of each agency in the State in beneficiary identification?
3. What are the timelines adopted for each aspect of beneficiary identification?
4. Are the beneficiaries restricted to SECC database or has there been any expansion in coverage in the state? If yes, what were the timelines involved in expansion? How did the integration take place?
5. Are there any particular activities carried out to make beneficiaries aware of their entitlements and obligations w.r.t PMJAY? Who does this?
6. What has been the State's experience with enrolling beneficiaries?
7. Are there any indicators used for monitoring the BIS process?
8. Explore reasons for current % of eligible PMJAY beneficiaries (35.9%) with e-cards.

VIII. Hospital empanelment related

1. What is the composition of the SEC in Punjab? Are DECs formed in all districts?
2. What is the process of hospital empanelment?
3. What is the role of each agency in the State in hospital empanelment? What is their involvement and contribution to SEC and DEC?
4. What is the usual time taken for completing the hospital empanelment process?

   As per the Guidelines on Hospital Empanelment and De- Empanelment (Version – 2.0), final decision on empanelment has to be completed withing a period of 30 days from receipt of application. For Punjab, only 1.1% of private and 17.3% of public hospitals fall in that category.

5. Has the State developed its own criteria for hospital empanelment? If yes, what was the process followed for development of the empanelment criteria?
6. What has been the State's experience with empanelling hospitals?
7. Have any hospitals been de-empanelled? For what reasons?
8. How are the EHCPs monitored? Who monitors them?

IX. Health packages related

1. Which package is the State using? HBP 1.0 or HBP 2.0?
2. In case of transition from HBP 1.0 to HBP 2.0, when and how did the transition happen?
3. Has there been any revision in package rates in the State? If yes, for which packages?
4. What were the processes followed for revision of package rates?
5. Are there reserved packages for public hospitals? If yes, which packages have been reserved for public hospitals and why?
6. Are there any challenges in current package rates? (For SHA/ EHCPs)

X. Claim management related

1. What is the process of preauthorization in the State? To what extent is the SHA involved?
2. What are the timelines for preauthorization? Are there any deviations from recommended guidelines in the State?
3. What are the pain points in this process that affect preauthorization?
4. What is the process from the time a claim is generated to reimbursement of providers?
5. Why are there differences in the amount claimed for reimbursement by hospitals, and the final amount paid to hospitals?
6. What are the timelines for claim processing? Are there any deviations from recommended guidelines in the State?
7. What are the pain points in this process that affect timeliness?
8. How do you monitor the pre-authorization and claim TAT? What are the challenges in adhering to the mandated TAT?

XI. Audits related

1. What is the process of pre-authorization adjudication and claim adjudication audit?
2. What proportion of pre-authorizations are audited and by whom?

   Pre-authorization Adjudication Audit - 5% of total pre- authorizations across disease specialties
   SHA to do 2% direct audit +2% of audit done by the Insurer/TPA/ISA
3. What proportion of claims are audited and by whom?

   Claims Adjudication Audit - 5% of total claims approved)
   SHA to do 2% direct audit +2% of audit done by the Insurer/TPA/ISA
   Claims audit for rejected claims – 100% to be done by SHA
4. What is the frequency of conducting claim adjudication audits? What are the issues that arise from such audits? (Obtain sample audit reports)
5. What are the specific roles of ICs/ISAs and SHAs in claim auditing?
6. What is the composition of SAFU and what is its role in claims adjudication audits?
7. Are there any risks involved if all claims are not audited prior to reimbursement? Can you explain?
8. What are the challenges faced in auditing claims?
9. Have you ever levied financial or other penalties for non-compliance by the ISA/IC to TAT or other KPIs? Could you elaborate?
10. What is the frequency with which you revoke claims rejected by the ISA/IC? (Supporting data for Jan- March 2021 may be obtained)

XII. Fraud detection and management related

1. What are the triggers that are used by ICs and SHAs for detecting fraud (beneficiary fraud, payer fraud, provider fraud)?
2. Do you maintain any records of fraud oversight?
3. What are the capacities that have been developed for fraud detection and management at State and District level?
4. What are the barriers to fraud detection and management?

XIII. Grievance redressal related

1. What is the process of grievance redressal to be followed for beneficiaries and providers?
2. What are the sources of grievances? What are the channels for redressal of grievances?
3. What are the most recurring / common grievances that are received?
4. What are the final actions in addressing grievances?
5. What is the composition of the grievance redressal committee at the State and District level? Are there any deviations from the recommended guidelines?
6. Can you comment on the Grievance Redressal Portal function and use?

XIV. Human resources related

1. Have DIUs been formed in the State? What are their functions? Are there any challenges in their functioning?
2. What is your assessment of the HR available in the State for implementation – SHA, DIU, ISA, IC, TPA, other, if any?
3. Is there any mismatch between the HR and workloads for various functions at State and District levels?
4. Are there sufficient regular positions for PMJAY implementation?
5. What are the reasons for vacancies and/or attrition at State and District levels?
6. Which scheme functions/operations are HR intensive and how are they affected due to non-availability/attrition of staff?
7. Are any consultants involved at the State and District levels? If yes, in what capacities?

XV. PMJAY budget and funds related

1. What is the contribution of State/Centre to the PMJAY corpus at the State? How is the corpus managed?
2. What are the budget heads and types of expenditure under State control vs Centre?
3. What all operating costs are covered under the budget? Are there any caps on the involved costs?
4. What is the process of disbursement of funds to the State from Centre and the frequency of transfers?
5. What have the claims ratios been in the last years of the scheme? Have this resulted in refund from or to the IC? What are your views on the claims ratios achieved?
6. How is the payment to public hospitals managed? What proportion of claims amount is deducted?
7. What all costs are shared between State and Centre and in what proportion (payment to beneficiary (SECC vs expanded lists), cost of ISA, in case of increased benefit cover, administrative costs?
8. Are there any challenges in maintaining the fund availability for PMJAY? (Probe payments to IC/ISA, delays in receiving Central share etc, and if these impacts claim settlements in any way)

XVI. Capacity development

1. Can you comment on the SHA's capacity development plans? How often were trainings undertaken (frequency - from start of scheme to March 2021)?
2. How does the SHA undertake capacity development activities across various thematic areas? Can you provide the frequency of trainings undertaken (from start of scheme to March 2021)?
    a. Policies and Guidelines
    b. Hospital Empanelment
    c. Provider Payment
    d. Quality Assurance
    e. IEC
    f. IT tools (BIS, TMS) and platforms
    g. Data security and privacy
    h. Audit and Compliance including monitoring and evaluation, fraud and corruption
    i. Grievance Redressal
    j. Operations and Management
    k. Administrative and legal

Appendix III Interview Guide: ISA

Health systems research on PMJAY: Study on implementation models

Name of State:

Name of ISA:

Name of ISA representative and designation:

Date:

I. Scheme related

1. Since when has the ISA been functioning in the State? When was the ISA(s) operationalized?
2. What was the process of contracting the ISA(s) (check if L1 and what rate per beneficiary)? What was the contract period?
3. What are the ISA's terms of service with the SHA?
4. What are the payment terms (fee per beneficiary family unit)?
5. What are the scheme related functions designated to the ISA(s)?

   Indicative list of functions as per model contract

   a. Processing and approval of beneficiary identity verification requests
   b. Processing of pre□authorization requests
   c. Scrutinizing bills from the network hospitals/ Claim processing
   d. Fraud detection and control
   e. Conduct audit as per Anti Fraud Guidelines
   f. Support in deployment of SHA IT platform and maintenance
   g. Support in hospital empanelment related activities
   h. Set up Project and district office and Provide staff
   i. Providing hardware and managing its maintenance at Public Hospitals
   j. Participate in and coordinate timely redressal of grievances
   k. Undertake feedback functions
6. What is ISA's organizational structure to manage these functions? (explore state ad district level organization)

II. Beneficiary identification related

1. What is the process followed for beneficiary identification? How does the ISA process and verify the requests?
2. What kind of scrutiny does the ISA undertake prior to approval? How long does it take to approve the beneficiary identification?

   Scrutiny and approval of beneficiary identity verification requests if all the conditions are fulfilled, within 30 minutes of receiving the requests from Pradhan Mantri Arogya Mitras at the network hospital.
3. What are the challenges encountered while approving beneficiaries?
4. Does the SHA oversee beneficiary approvals being carried out by you? How do they audit/ monitor the same?
5. What are the major reasons for rejecting applications?
6. Have you been provided any training for the BIS system and the process of identifying beneficiaries?
7. Do you carry out any activities to make beneficiaries aware of their entitlements and obligations w.r.t PMJAY in the State?

III. Hospital empanelment related

1. Do you assist in any process related to empanelling hospitals?
2. If yes, ask about:
   a. specific role e.g. field verification
   b. timelines involved
   c. challenges faced
3. What is your role with respect to Empaneled hospitals?
4. Is there a need to relax some criteria for empanelment to balance access and availability requirements, especially in remote districts?
5. What are some of the reasons why hospitals are rejected for empanelment?
6. Have you participated in any processes related to 'watchlist', 'show-cause notice' issuing or de-empanelment of hospitals? What are the reasons why actions have been taken/ hospitals have been de-empanelled?
7. Are you aware of any financial penalties levied against empaneled hospitals? What are the reasons for this?
8. Have you participated in any processes to renew the empanelment applications of hospitals?
9. Do you have any mechanisms in place for ensuring the quality-of-service delivery by the EHCPs?
10. Do you ensure that each EHCP has the required IT infrastructure (hardware and software) as per the AB-PMJAY guidelines? If yes, how?
11. Do you train the Ayushman Mitras deputed in each EHCP? If yes, could you on the trainings provided?

IV. Health packages related

1. Confirm which package the State is using: HBP 1.0 or HBP 2.0.
2. What is the process for booking and approving unspecified packages? (Probe for any difference in process for >1 lakh packages and in Public hospitals)
3. What are the popular reasons for which unspecified packages have been blocked?

V. Claim management related

1. What is the process of preauthorization in the State? What is your role in the process?
2. What are the timelines for preauthorization? Are there any deviations from recommended guidelines in the State?

   Scrutiny and approval of preauthorization requests if all the conditions are fulfilled, within 6 hours of receiving the preauthorization requests from the EHCP.
3. What are the pain points in this process that affect preauthorization and challenges in adhering to mandated TAT?
4. We have noticed in our data that some pre-authorizations that were initially approved were later cancelled or rejected. Could you elaborate on why does this happen?
5. Do you also scrutinize the auto-approved preauthorisations?
6. What is the process from the time a claim is generated to reimbursement of providers?
7. Why are there differences in the amount claimed for reimbursement by hospitals, and the final amount paid to hospitals?
8. How do you scrutinize bills from EHCPs? (e.g. charges as per the package rates, relevant documents are provided etc.) What are the timelines for this scrutiny? Are there any deviations from recommended guidelines in the State?

   Scrutinize the bills from the network hospitals (i.e. ensuring charges are as per the package rates, relevant documents are provided etc.) and give recommendation for the sanction of the bill and forward it to the State Health Agency within 10 days of receipt of complete claim so as to ensure payment within 15 days of receipt of the bills from the EHCP.
9. What are the pain points in this process that affect claim processing and challenges in adhering to mandated TAT?

10. How do you monitor claim settlement? What are the timelines for this scrutiny? Are there any deviations from recommended guidelines in the State?
11. How does the SHA monitor your performance in preauthorization and claim management including TAT adherence?

VI. Audits related

1. What is the process of preauthorization and claim auditing?
2. How are preauthorizations audited? What proportion are audited? Who does the audit?
3. How are claims audited? What proportion are audited? Who does the audit?
4. Are there any risks involved if all claims are not audited prior to reimbursement? Can you explain?
5. What are the challenges faced in auditing pre-authorizations and claims (manpower, number/ volume, capacities, specific challenges with SHA & EHCPs)?

   All Claims audits/investigations shall be undertaken by qualified and experienced Medical Practitioners appointed by the ISA to ascertain the nature of the disease, illness or accident and to verify the eligibility thereof for availing the benefits under this Implementation Support Contract and relevant Policy.
6. What reports do you submit to the SHA regarding audits? Could you enumerate and provide frequency of reporting?

   The ISA shall submit monthly details of: all Claims that are under investigation to the district nodal officer of the State Health Agency for its review; every Claim that is pending Beyond Turn Around Time to the State Health Agency, along with its reasons for delay in processing such Claim.
7. Do you conduct any audits of the hospitals? If yes, what kind of audits and with what frequency?

VII. Fraud detection and management related

The ISA is expected to have the capability of develop a comprehensive fraud control system for the scheme which shall at the minimum include regular monitoring, data analytics, ecards audit, medical audit, field investigation, hospital audit, corrective action etc.

Investigations pursuant to any such alert shall be concluded within 07 (seven) days.

1. How do you maintain alertness to fraud (analyse data for patterns etc., triggers)?
2. What are the common triggers encountered?
3. What is the process followed in case any fraud trigger is detected? Who (ISA/SHA) investigates the trigger? What proportion/numbers are investigated?
4. What are the challenges in detecting or taking action on suspected frauds?
5. What support do you provide to the SHA in taking actions against the fraudulent acts?
6. Do you maintain any records of fraud oversight?
7. What are the barriers to fraud detection and management?
8. Could you provide an estimate of the type of queries raised and their frequency? What happens once you raise a query?

VIII. Additional support activities

1. Do you provide any support to the SHA for the following activities? How?
   a. IT platform deployment and maintenance
   b. Any hardware and its maintenance (incl AMC) at public hospitals
   c. Management of toll-free call centre
   d. Feedback functions - designing feedback formats, collecting data based on those formats from different stakeholders like AB PM-JAY beneficiaries, the EHCPs etc., analysing the feedback data and recommending appropriate actions

IX. Grievance redressal related

1. What is your role in grievance redressal?

   The ISA is expected to participate in and coordinate timely redressal of grievances in close coordination with the concerned Grievance Redressal Committee.
2. What is the process of grievance redressal to be followed for beneficiaries and providers?
3. What are the sources of grievances? What are the channels for redressal of grievances?
4. What are the most recurring / common grievances that are received?
5. What are the final actions in addressing grievances?

X. Human resources related

1. What is your experience in ensuring the required staff (as per Schedule 16)?
   a. *State Project Manager*
   b. *State Medical Manager*
   c. *State Operations Coordinator*
   d. *District Coordinator*
   e. *PPD*
   f. *CEX*
   g. *CPD*
   h. *Fulltime medical Auditors*
   i. *Empaneled medical auditors*
   j. *Empaneled Hospital Auditors*
2. What additional staff do you require for the various functions (e.g. beneficiary identification)?
3. Is there any attrition and what are the reasons for vacancies and/or attrition at different levels?
4. Which scheme functions/operations are HR intensive? Do you feel the staff is sufficient for the volume/workload in the state (e.g. preauth approval, claim processing, beneficiary identification, audits?
5. Could you elaborate on the trainings (type, frequency and who trains) received for carrying out the various functions?

   The ISA shall establish a Project Office at a convenient place for coordination with the SHA.

   The ISA shall set up an office in each of the districts of the State at the district headquarters of such district (each a District Office) within given timelines.

XI. Oversight by SHA

1. How does the SHA monitor the KPIs? If yes, which ones and how often?
   a. *Initial Setting up - KPIs*
   b. *Performance - KPIs*
   c. *Audit Related - KPIs*
   d. *Payment - KPIs*
   e. *Productivity - KPIs*
2. How regularly do you report KPIs to the SHA? What are the challenges with reporting these KPIs? (Obtain a copy of KPI reporting, indicators reported, frequency of reporting)
3. What are the penalties (financial or otherwise)? Have any penalties been imposed and paid so far?
4. Are there any challenges in receiving regular payments from the SHA? Do challenges with fund flow, if any, influence your functioning in any way?
5. What is the process of review at the end of 12 months (though the Contract period is for 3 (three) years)?
6. How often does the SHA undertake Performance Review and Monitoring Meetings?

   The SHA shall organize fortnightly meetings for the first three months and monthly review meetings thereafter with the ISA.

Appendix IV Interview Guide: IC

Health systems research on PMJAY: Study on implementation models

Name of State:

Name of IC:

Name of IC representative and designation:

Date:

I. Scheme related

1. Since when has the IC been functioning in the State? When was the IC operationalized?
2. What was the process of contracting the IC? (check if L1 and what premium) What was the contract period?
3. What are the scheme related functions designated to the IC?

   Indicative list of functions as per model contract

   a. *Processing and approval of beneficiary identity verification requests*
   b. *Pre-authorisation functions*
   c. *Claim processing functions*
   d. *Hospital empanelment functions*
   e. *Audit and fraud control functions*
   f. *Set up Project and district office and Provide staff*
   g. *Providing hardware and managing its maintenance at Public Hospitals*
   h. *Information Technology related functions*
   i. *Implement and participate in the grievance redressal mechanism*
   j. *Management Information System (MIS) functions*
   k. *Feedback functions*
4. What is the IC's organizational structure to manage these functions?
5. What are the IC's terms of service with the SHA? Is the contract along the NHA model contract terms or are there any deviations?
6. What are the payment terms (premium)?
7. What is your claims ratio (average for a period of … years)?

II. Beneficiary identification related

1. What is the role of IC in beneficiary identification?

   The role of insurer is only for approval of e-cards based upon the documents provided. In case of any issue, the Insurer shall only recommend for rejection for e-card request to the SHA
2. What kind of scrutiny does the IC undertake prior to approval? How long does it take to approve the beneficiary identification?
3. What are the challenges encountered while approving beneficiaries?
4. Does the SHA oversee beneficiary approvals being carried out by you? How do they audit/ monitor the same?
5. What are the major reasons for recommending rejection of applications?
6. Have you been provided any training for the BIS system and the process of identifying beneficiaries?

III. Hospital empanelment related

1. What is the IC's role in empanelling hospitals?
2. What is your role in the SEC/ DEC?
3. What are the challenges encountered while verifying hospitals for empanelment?

4. Is there a need to relax some criteria for empanelment to balance access and availability requirements, especially in remote districts?
5. What are some of the reasons why hospitals are rejected for empanelment?
6. Have you participated in any processes related to 'watchlist', 'show-cause notice' issuing or de-empanelment of hospitals? What are the reasons why actions have been taken/ hospitals have been de-empanelled?
7. Are you aware of any financial penalties levied against empaneled hospitals? What are the reasons for this?
8. Have you participated in any processes to renew the empanelment applications of hospitals?
9. Do you have any mechanisms in place for ensuring the quality-of-service delivery by the EHCPs?
10. Do you ensure that each EHCP has the required IT infrastructure (hardware and software) as per the AB-PMJAY guidelines? If yes, how?
11. How do you manage the IT infrastructure in public EHCPs?
12. Do you train the Ayushman Mitras deputed in each EHCP? If yes, could you on the trainings provided?

As a part of the Agreement, the Insurer shall ensure that each EHCP has within its premises the required IT infrastructure (hardware and software) as per the AB-PMJAY guidelines. All Private EHCPs shall be responsible for all costs related to hardware and maintenance of the IT infrastructure. For all Public EHCPs the costs related to hardware and maintenance of the IT infrastructure shall be borne by the Insurance Company.

The Insurer shall train Ayushman Mitras that are deputed in each EHCP who responsible for the administration of the AB-PMJAY on the use of the Hospital IT infrastructure for making Claims electronically and providing Cashless Access Services

IV. Health packages related

1. Confirm which package the State is using: HBP 1.0 or HBP 2.0.
2. What is the process for booking and approving unspecified packages? (Probe for any difference in process for >1 lakh packages and in Public hospitals)
3. What are the popular reasons for which unspecified packages have been blocked?

V. Claim adjudication related

1. Could you describe the process of preauthorization at your end?
2. What are the timelines for preauthorization? Are there any deviations from recommended guidelines in the State?
3. What are the pain points in this process that affect preauthorization and challenges in adhering to mandated TAT?
4. What are the common reasons for denial of preauthorization requests?

The Insurer needs to file a report to the SHA explaining reasons for denial of every such pre-authorisation request.

5. What is the process from the time a claim is generated to reimbursement of providers?
6. Why are there differences in the amount claimed for reimbursement by hospitals, and the final amount paid to hospitals?
7. What are the common reasons for rejecting claims?
8. What are the pain points in this process that affect claim processing and challenges in adhering to mandated TAT?
9. How does the IC monitor claim settlement? What are the timelines for this scrutiny? Are there any deviations from recommended guidelines in the State?
10. How does the SHA monitor the IC's performance in pre-authorization and claim management including TAT adherence?

The process specified in relation to Claim Payment or investigation of the Claim shall be completed such that the Turn-around Time shall be no longer than 15 days.

VI. Audits related

1. What is the process of pre-authorization and claim auditing?
2. How are pre-authorizations audited? What proportion are audited?

   Pre-authorization Adjudication Audit - 5% of total pre- authorizations across disease specialties

   SHA to do 2% direct audit +2% of audit done by the Insurer/TPA/ISA
3. How are claims audited? What proportion are audited?

   Claims Adjudication Audit - 5% of total claims approved)

   SHA to do 2% direct audit +2% of audit done by the Insurer/TPA/ISA

   Claims audit for rejected claims – 100% to be done by SHA
4. Are there any risks involved if all claims are not audited prior to reimbursement? Can you explain?
5. What are the challenges faced in auditing pre-authorizations and claims (manpower, number/ volume, capacities, specific challenges with SHA & EHCPs)?

   All Claims audits/investigations shall be undertaken by qualified and experienced Medical Practitioners appointed by the Insurer to ascertain the nature of the disease, illness or accident and to verify the eligibility thereof for availing the benefits under this Insurance Contract and relevant Policy.
6. What reports do you submit to the SHA regarding audits? Could you enumerate and provide frequency of reporting?

   The Insurer shall submit monthly details of all Claims that are under investigation to the district nodal officer of the State Health Agency for its review; and every Claim that is pending Beyond Turn Around Time to the State Health Agency, along with its reasons for delay in processing such Claim.
7. Do you conduct any audits of the hospitals? If yes, what kind of audits and with what frequency?

VII. Fraud detection and management related

The insurer is expected to have the capability of develop a comprehensive fraud control system for the scheme which shall at the minimum include regular monitoring, data analytics, ecards audit, medical audit, field investigation, hospital audit, corrective action etc.

Investigations pursuant to any such alert shall be concluded within 07 (seven) days.

1. How do you maintain alertness to fraud (analyse data for patterns etc., triggers)?
2. What are the common triggers encountered?
3. Based on your experience have you added any additional triggers to the NHA indicative list?
4. What is the process followed in case any fraud trigger is detected?
5. What are the challenges in detecting or taking action on suspected frauds?
6. What support do you provide to the SHA in taking actions against the fraudulent acts?
7. Do you maintain any records of fraud oversight?
8. What are the barriers to fraud detection and management?
9. Who do you report suspected fraud cases to (SHA/SAFU/NAFU)?
10. What is the role of SAFU / NAFU in fraud detection and how does it oversee your work?

VIII. Grievance redressal related

1. What is the IC's role in grievance redressal?
2. Have there been any instances of appeal by EHCPs against claim rejection decisions? If yes, could you provide elaborate with an example the process of grievance redressal in this case.
3. Have any claims need to be re-opened due to EHCP appeals? If yes, could you provide elaborate with an example the process of grievance redressal in this case.

IX. Human resources related

1. What is your experience in ensuring the required staff (as per Schedule 16)?
   a. *State Project Manager*
   b. *State Medical Manager*
   c. *State Operations Coordinator*
   d. *District Coordinator*
   e. *PPD*
   f. *CEX*
   g. *CPD*
   h. *Fulltime medical Auditors*
   i. *Empaneled medical auditors*
   j. *Empaneled Hospital Auditors*
2. What additional staff do you require for the various functions (e.g. beneficiary identification)?
3. Is there any attrition and what are the reasons for vacancies and/or attrition at different levels?
4. Which scheme functions/operations are HR intensive? Do you feel the staff is sufficient for the volume/workload in the state (e.g. preauth approval, claim processing, beneficiary identification, audits?
5. Could you elaborate on the trainings (type, frequency and who trains) received for carrying out the various functions?

   The Insurer shall establish a Project Office at a convenient place for coordination with the SHA.

   The Insurer shall set up an office in each of the districts of the State at the district headquarters of such district (each a District Office) within given timelines.

X. Additional functions

1. Could you elaborate on the following additional functions in terms of your role and manpower:
   a. Information Technology related functions: collating and sharing claims related data with the SHA and running of the website at the State level
   b. Management Information System (MIS) functions, which include creating the MIS dashboard and collecting, collating and reporting data
   c. Processing and approval of beneficiary identity verification requests
   d. Feedback functions - designing feedback formats, collecting data based on those formats from different stakeholders like AB PM-JAY beneficiaries, the EHCPs etc., analysing the feedback data and recommending appropriate actions

XI. TPA / other agencies related

1. Have you hired any TPA for any claim related functions? If yes, who was hired and what is their role and contract period?
2. What mechanisms do you have in place for overseeing the functioning of the TPA?

   In case the insurer hires Third Party Administrator (TPA), it shall ensure that the TPA does not approve or reject any Claims on its behalf and that the TPA is only engaged in the processing of Claims.
3. Have you outsourced any non-core functions to any agency? If yes, who was hired and what is their role and contract period?
4. What mechanisms do you have in place for overseeing their functioning?

XII. Oversight by SHA

1. How does the SHA monitor the KPIs?
   a. *Initial Setting up - KPIs*
   b. *Performance - KPIs*
   c. *Audit Related - KPIs*
   d. *Payment - KPIs*
   e. *Productivity - KPIs*
2. How regularly do you report KPIs to the SHA? What are the challenges with reporting these KPIs? (Obtain a copy of KPI reporting, indicators reported, frequency of reporting)
3. What are the penalties (financial or otherwise)? Have any penalties been imposed and paid so far?
4. Are there any challenges in receiving regular premium payments from the SHA? Do challenges with fund flow, if any, influence your functioning in any way?
5. Have you had to refund any premium amount to the SHA? After adjusting admin costs, have you ever refunded the surplus to SHA? If yes, elaborate on why and how much.
6. How often does the SHA undertake Performance Review and Monitoring Meetings?

   The SHA shall organize fortnightly meetings for the first three months and monthly review meetings thereafter with the IC.

Appendix V Interview Guide: TPA

Health systems research on PMJAY: Study on implementation models

Name of State:

Name of TPA:

Name of TPA representative and designation:

Date:

I. Scheme related

1. Since when was the TPA hired by the IC? What is the contract period?
2. What are the scheme related functions designated to the TPA by IC?

   Indicative list of functions

   a. Processing and approval of beneficiary identity verification requests
   b. Pre-authorisation functions
   c. Claim processing functions
   d. Hospital empanelment functions
   e. Audit and fraud control functions
   f. Set up Project and district office and Provide staff
   g. Providing hardware and managing its maintenance at Public Hospitals
   h. Information Technology related functions
   i. Implement and participate in the grievance redressal mechanism
   j. Management Information System (MIS) functions
   k. Feedback functions
3. What is the TPA's organizational structure to manage these functions?
4. What are the TPA's terms of service with the IC?
5. What are the payment terms?

II. Beneficiary identification related

1. What is the role of TPA in beneficiary identification?
2. What kind of scrutiny does the IC undertake prior to approval? How long does it take to approve the beneficiary identification?
3. What are the challenges encountered while approving beneficiaries?
4. Does the SHA oversee beneficiary approvals being carried out by you? How do they audit/ monitor the same?
5. What are the major reasons for recommending rejection of applications?
6. Have you been provided any training for the BIS system and the process of identifying beneficiaries?

III. Hospital empanelment related

1. What is the TPA's role in empanelling hospitals?
2. What are the challenges encountered while verifying hospitals for empanelment?
3. Is there a need to relax some criteria for empanelment to balance access and availability requirements, especially in remote districts?
4. What are some of the reasons why hospitals are rejected for empanelment?
5. Have you participated in any processes related to 'watchlist', 'show-cause notice' issuing or de-empanelment of hospitals? What are the reasons why actions have been taken/ hospitals have been de-empanelled?
6. Are you aware of any financial penalties levied against empaneled hospitals? What are the reasons for this?

9. Have you participated in any processes to renew the empanelment applications of hospitals?
10. Do you have any mechanisms in place for ensuring the quality-of-service delivery by the EHCPs?
11. Do you ensure that each EHCP has the required IT infrastructure (hardware and software) as per the AB-PMJAY guidelines? If yes, how?
12. How do you manage the IT infrastructure in public EHCPs?
13. Do you train the Ayushman Mitras deputed in each EHCP? If yes, could you on the trainings provided?

IV. Health packages related

1. Confirm which package the State is using: HBP 1.0 or HBP 2.0.
2. What is the process for booking and approving unspecified packages? (Probe for any difference in process for >1 lakh packages and in Public hospitals)
3. What are the popular reasons for which unspecified packages have been blocked?

V. Claim management related

1. Could you describe the process of preauthorization at your end?
2. What are the timelines for preauthorization? Are there any deviations from recommended guidelines in the State?
3. What are the pain points in this process that affect preauthorization and challenges in adhering to mandated TAT?
4. What are the common reasons for denial of preauthorization requests?
5. What is the process from the time a claim is generated to reimbursement of providers?
6. Why are there differences in the amount claimed for reimbursement by hospitals, and the final amount paid to hospitals?
7. What are the common reasons for rejecting claims?
8. What are the pain points in this process that affect claim processing and challenges in adhering to mandated TAT?
9. How does the IC monitor claim settlement? What are the timelines for this scrutiny? Are there any deviations from recommended guidelines in the State?

VI. Audits related

1. What is the process of pre-authorization and claim auditing?
2. How are pre-authorizations audited? What proportion are audited?
3. How are claims audited? What proportion are audited?
4. Are there any risks involved if all claims are not audited prior to reimbursement? Can you explain?
5. What are the challenges faced in auditing pre-authorizations and claims (manpower, number/ volume, capacities, specific challenges with SHA & EHCPs)?
6. What reports do you submit to the IC regarding audits? Could you enumerate and provide frequency of reporting?
7. Do you conduct any audits of the hospitals? If yes, what kind of audits and with what frequency?

VII. Fraud detection and management related

1. How do you maintain alertness to fraud (analyse data for patterns etc., triggers)?
2. What are the common triggers encountered?
3. Based on your experience have you added any additional triggers to the NHA indicative list?
4. What is the process followed in case any fraud trigger is detected?
5. What are the challenges in detecting or taking action on suspected frauds?
6. Do you maintain any records of fraud oversight?
7. What are the barriers to fraud detection and management?

VIII. Grievance redressal related

1. What is the TPA's role in grievance redressal?
2. Have there been any instances of appeal by EHCPs against claim rejection decisions? If yes, could you provide elaborate with an example the process of grievance redressal in this case.
3. Have any claims need to be re-opened due to EHCP appeals? If yes, could you provide elaborate with an example the process of grievance redressal in this case.

IX. Human resources related

1. What is your experience in ensuring the required staff (as per Schedule 16)?
   a. State Project Manager
   b. State Medical Manager
   c. State Operations Coordinator
   d. District Coordinator
   e. PPD
   f. CEX
   g. CPD
   h. Fulltime medical Auditors
   i. Empaneled medical auditors
   j. Empaneled Hospital Auditors
2. What additional staff do you require for the various functions (e.g. beneficiary identification)?
3. Is there any attrition and what are the reasons for vacancies and/or attrition at different levels?
4. Which scheme functions/operations are HR intensive? Do you feel the staff is sufficient for the volume/ workload in the state (e.g. preauth approval, claim processing, beneficiary identification, audits?
5. Could you elaborate on the trainings (type, frequency and who trains) received for carrying out the various functions?

X. Additional functions

1. Could you elaborate on the following additional functions in terms of your role and manpower:
   a. Information Technology related functions: collating and sharing claims related data with the SHA and running of the website at the State level
   b. Management Information System (MIS) functions, which include creating the MIS dashboard and collecting, collating and reporting data
   c. Processing and approval of beneficiary identity verification requests
   d. Feedback functions - designing feedback formats, collecting data based on those formats from different stakeholders like AB PM-JAY beneficiaries, the EHCPs etc., analysing the feedback data and recommending appropriate actions

XI. Oversight by IC

1. Does the IC have any KPIs that it monitors?
   E.g. list of KPIs
   k. Initial Setting up - KPIs
   l. Performance - KPIs
   m. Audit Related - KPIs
   n. Payment - KPIs
   o. Productivity - KPIs
2. How regularly do you report KPIs to the IC? What are the challenges with reporting these KPIs? (Obtain a copy of KPI reporting, indicators reported, frequency of reporting)
3. What are the penalties (financial or otherwise)? Have any penalties been imposed and paid so far?
4. How often does the IC undertake any type of Performance Review and Monitoring Meetings?

Appendix VI Interview Guide: EHCP

Health systems research on PMJAY: Study on implementation models

Name of State:

Name of EHCP:

Name of EHCP representative and designation:

Date:

I. Hospital empanelment related

1. When was your hospital empaneled under PMJAY? Were you empaneled under any previous state health scheme?
2. What specialties are you empaneled for in PMJAY?
3. What was the process followed for empaneling your hospital?
4. Was any field verification done at the time of empanelment? By whom?

II. Beneficiary identification related

1. What is the load of PMJAY beneficiaries out of total hospital utilizations/patient load?
2. What is the frequency of new beneficiary registrations done currently at the hospital?
3. Has your staff/ you received any training in conducting the BIS process?
4. What are the challenges encountered in registering new eligible beneficiaries?
5. Do you sometimes receive rejections from the IC/SHA for new beneficiaries? What are the reasons for rejection? How do you manage their treatment if this happens?

III. Health packages related

1. Confirm which package the State is using: HBP 1.0 or HBP 2.0. Are you satisfied with the package rates?
2. How often do the unspecified packages need to be blocked? What issues do you face on blocking them for approvals?
3. Does your hospital receive any incentive payments in addition to the package rate reimbursement?

IV. Claims management related

1. Who carries out the pre-authorization requests for treatments?
2. Has your staff/ you received any training in conducting the pre-authorization requests?
3. What are the challenges in generating pre-authorization requests and getting approvals?
4. What are the reasons for cancelling initiated pre-authorization requests? How often does this happen?
5. Why are approved pre-authorization requests at times cancelled later?
6. Do approved pre-authorizations get rejected later?
7. What are the reasons for which this happens?
8. How often do pre-authorization requests get later rejected?
9. How do you manage patients who are already admitted and on treatment, and whose preauthorization request gets rejected?
10. Have you ever appealed against rejected pre-authorization requests?
11. Why are claims not submitted for all approved pre-authorization requests?
12. What are the challenges encountered in uploading the claim request after patient discharge?
13. What is the average number of queries on every claim submitted for reimbursement?
14. What are the types/ reasons for which queries are raised?
15. How long does it usually take to respond to the queries raised?
16. How often do claims get rejected? What are the usual reasons for rejection?

17. Are you able to appeal and resolve cases where claims are rejected? What is the process for this?
18. With what frequency do you receive the payments for each claim? What is the average time it takes to receive payments?
19. How often do you receive lower payments than claimed?

V. HR and training related

1. How many human resources are dedicated for management of PMJAY in your hospital? (Get an idea about designations and roles)?
2. Has any training been provided to the HR for PMJAY? What kind of training and with what frequency?
3. What kind of trainings are provided to the Ayushman Mitras by IC/ISA deputed at your hospital?

VI. Monitoring / Audits related

1. Are you required to submit any periodic self -assessment to the SHA?
2. Does the SHA review or monitor your performance in any way? How and with what frequency?
3. Does the ISA/TPA/IC review or monitor your performance in any way? How and with what frequency?
4. How often are medical audits conducted and by whom?
5. How often are hospital audits conducted and by whom?
6. Do you experience any challenges during the conduct of audits?
7. How often are claim audits conducted? How are these audits conducted?

VII. PUBLIC HOSPITALS:

1. Do you face issues with the IT infrastructure that IC/ISA maintains at your site? What kind of issues/problems?
2. What proportion of claim payout can you retain and use?

Appendix VII Additional questions (PPD / CPD / Medical auditor)

Health systems research on PMJAY: Study on implementation models

PPD

1. What is your daily workload/volume? (100-120 Pre-authorization request per day per person as per Schedule 16)
2. How often does it happen that the initial pre-authorization request was for a lower amount, but a higher amount was approved? What are the reasons for this?
3. Why are approved pre-authorization requests cancelled later? What are the reasons and how frequently does this happen?
4. Do approved pre-authorizations get rejected later? What are the reasons for which this happens?
5. What are the common reasons for pre-authorizations being rejected?
6. Have there been any appeals from hospitals on rejected pre-authorizations?
7. Has SHA revoked any rejected pre-authorizations?
8. How frequently are queries raised?
9. What are the common reasons for raising queries?
10. What are the challenges to decision making for pre-authorizations?
11. What are the common triggers for flagging a case for investigation/audit? What is the role of SAFU/NAFU?
12. Is there any additional scrutiny of unspecified packages that are blocked?

CPD

1. What is your daily workload/volume? (70 -100 Claims per day per person as per Schedule 16)
2. Why are claims not submitted for all approved pre-authorization requests?
3. How frequently are queries raised?
4. What are the common reasons for raising queries?
5. What are the challenges to decision making for claims?
6. What are the common triggers for flagging a case for investigation/audit?
7. Is there any additional scrutiny of unspecified packages?
8. How often does the Medical Committee get involved for second opinions?
9. Have there been any appeals from hospitals on rejected claims?
10. Has SHA revoked/re-opened any rejected claims?
11. Does it happen that a claim approved by CPD is later rejected by ACO/IC/SHA? How often and for what reasons?
12. What are the common triggers for flagging a case for investigation/audit? What is the role of SAFU/NAFU?
13. How do you handle doubtful/suspicious claims?
14. What sort of reports do you prepare and who do you submit to? What frequency?
15. What is the role of SAFU/NAFU and how does it oversee/audit your work?

Medical auditor

1. What is your role in claims investigation?
2. What is your workload/volume (daily/monthly/other frequency)?
3. How are doubtful/suspicious claims identified?
4. How do you choose cases for medical audit? What is the frequency?

   Medical Audit (Desk Audit/ field audit) - 5% of total cases hospitalised and SHA to do 2% direct audit +2% of audit done by the Insurer / TPA /ISA

5. How do you choose cases for beneficiary audit? What is the frequency?

   Beneficiary Audit (At hospital / At home) - 3% of total cases hospitalised and SHA to do 2% direct audit +2% of audit done by the Insurer / TPA /ISA

6. How do you choose cases for Tele audit/feedback? What is the frequency?

   Tele Audit (Beneficiary feedback) - 5% of total cases hospitalised and SHA to do 2% direct audit +2% of audit done by the Insurer / TPA /ISA

7. How often do you undertake desk audits vs medical audit at hospital vs beneficiary medical audit?

   Mortality Audit – 100% by both medical auditor and SHA

8. Who do you submit the audit records to (SHA / SAFU / NAFU)? What is the frequency of reporting?
9. What are the challenges to the different types of audits you undertake?

Appendix VIII Supplementary tables

Table 1 Specialty-wise rejection rates

		Insurance				Trust			
	Specialty	J&K	Punjab	Meghalaya	Total	Haryana	UP	HP	Total
All hospitals	Burns,Plastic & reconstructive Surgery	23.5	3.3	6.7	**4.3**	2.5	19.3	18.8	**16.7**
	Cardio Thoracic Surgery	18.2	0.8	14.3	**1.8**	5.3	20.3	14.3	**17.6**
	Cardiology	6.3	2.9	7.1	**3.3**	3.3	16.6	9.1	**14.0**
	Chest diseases and respiratory medicine (Pulmonology)	20.0	4.1	3.8	**5.0**	4.1	21.8	9.1	**18.9**
	Critical Care	16.7	4.0	4.2	**4.5**	6.0	20.4	11.1	**17.4**
	ENT	17.6	5.0	0.6	**4.9**	3.3	20.2	8.9	**17.2**
	General Medicine	10.7	5.5	0.6	**5.4**	5.4	18.4	4.6	**15.9**
	General Surgery	11.4	6.7	0.6	**5.9**	5.6	23.9	6.9	**20.7**
	Genitourinary Surgery	25.0	2.8	9.1	**3.8**	5.0	21.8	11.8	**18.5**
	Medical Gastroenterology			0.0	**0.0**			6.3	**6.3**
	Medical Oncology	20.0	2.5	9.1	**3.6**	1.8	22.5	9.1	**19.4**
	Neonatology	15.0	2.3	5.6	**3.3**	1.6	17.9	9.1	**15.1**
	Nephrology	20.7	3.4	7.1	**4.8**	4.5	21.7	15.4	**19.0**
	Neuro Surgery	25.0	2.5	14.3	**3.4**	3.6	21.8	22.2	**19.3**
	Neurology	16.7	2.3	9.1	**2.9**	3.2	22.8	11.1	**20.2**
	Obstetrics & Gynaecology	14.1	6.1	0.6	**5.7**	2.9	21.2	8.0	**18.1**
	Ophthalmology	13.8	4.8	4.2	**5.8**	3.8	16.0	8.5	**13.7**
	Orthopaedics	10.9	5.3	2.0	**5.5**	5.4	21.3	6.3	**18.5**
	Paediatric Cancer	50.0	0.9	10.0	**2.5**	3.3	22.5	16.7	**19.7**
	Paediatric surgery	29.4	2.8	5.9	**4.4**	2.3	22.3	7.1	**19.4**
	Paediatrics	8.0	3.4	0.6	**3.0**	1.8	19.2	7.0	**16.1**
	Polytrauma	23.1	3.3	5.3	**4.0**	3.9	21.7	16.7	**18.8**
	Psychiatry	0.0	0.5	0.0	**0.5**	0.0	9.7	28.6	**8.7**
	Radiation Oncology	33.3	0.9	16.7	**2.5**	4.2	20.4	0.0	**17.2**
	Surgical Gastroenterology				**0.0**		0.0		**0.0**
	Surgical Oncology	26.7	1.4	7.7	**2.8**	1.5	18.3	20.0	**15.8**
	Treatment Procedure Dental Procedures	6.4	3.4	1.4	**3.4**	1.6	19.6	6.1	**15.6**

		Insurance				Trust			
	Specialty	J&K	Punjab	Meghalaya	Total	Haryana	UP	HP	Total
Public hospitals	Burns,Plastic & reconstructive Surgery	50.0	0.5	0	**1.0**	9.1	15.9	25.0	**15.3**
	Cardio Thoracic Surgery	25.0	0.5	0	**1.0**	12.5	20.0	33.3	**19.4**
	Cardiology	25.0	1.0	0	**1.4**	7.1	14.8	20.0	**13.7**
	Chest diseases and respiratory medicine (Pulmonology)	20.0	1.0	0	**1.8**	6.5	14.6	6.7	**12.6**
	Critical Care	11.1	1.0	0	**1.3**	6.7	18.6	25.0	**15.4**
	ENT	7.7	1.0	0	**1.1**	5.0	14.6	12.5	**12.4**
	General Medicine	21.7	1.5	0	**3.2**	1.7	7.9	2.8	**6.7**
	General Surgery	4.9	2.4	0	**1.8**	2.8	13.2	3.3	**10.5**
	Genitourinary Surgery	33.3	1.0	0	**1.4**	10.0	21.6	0.0	**18.8**
	Medical Gastroenterology			0	**0.0**			0.0	**0.0**
	Medical Oncology	25.0	0.5	0	**0.9**	0.0	27.0	20.0	**20.8**
	Neonatology	8.3	0.5	0	**0.9**	0.0	11.8	22.2	**9.6**
	Nephrology	33.3	0.5	0	**1.0**	6.3	32.4	0.0	**23.1**
	Neuro Surgery	33.3	1.0	0	**1.4**	0.0	34.5	0.0	**27.0**
	Neurology	25.0	0.5	0	**1.0**	0.0	28.1	0.0	**21.4**
	Obstetrics & Gynaecology	4.9	2.0	0	**1.5**	1.0	6.0	12.0	**5.3**
	Ophthalmology	6.3	1.0	0	**1.6**	3.9	11.8	13.0	**10.3**
	Orthopaedics	6.3	1.0	0	**1.5**	6.1	8.6	8.3	**8.1**
	Paediatric Cancer	50.0	0.5	0	**1.0**	0.0	19.0	33.3	**15.6**
	Paediatric surgery	25.0	1.0	0	**1.4**	0.0	19.0	16.7	**15.0**
	Paediatrics	3.1	0.5	0	**0.5**	0.0	6.9	11.1	**6.0**
	Polytrauma	25.0	1.0	0	**1.4**	6.7	20.0	25.0	**16.7**
	Psychiatry	0.0	0.5	0	**0.5**	0.0	10.3	28.6	**9.1**
	Radiation Oncology	50.0	0.5	0	**1.4**	0.0	11.1	0.0	**8.1**
	Surgical Gastroenterology				**0.0**		0.0		**0.0**
	Surgical Oncology	50.0	0.5	0	**1.0**	0.0	16.0	25.0	**13.5**
	Treatment Procedure Dental Procedures	6.7	0.5	0	**1.0**	0.9	12.2	6.7	**8.0**

		Insurance				Trust			
	Specialty	J&K	Punjab	Meghalaya	Total	Haryana	UP	HP	Total
Private hospitals	Burns,Plastic & reconstructive Surgery	20.0	6.8	12.5	**8.2**	1.8	19.1	16.7	**16.5**
	Cardio Thoracic Surgery	14.3	1.9	33.3	**4.8**	3.3	20.4	0.0	**17.2**
	Cardiology	0.0	5.8	11.1	**5.7**	2.8	16.6	0.0	**13.9**
	Chest diseases and respiratory medicine (Pulmonology)	20.0	7.2	9.1	**8.1**	3.6	22.9	11.1	**20.0**
	Critical Care	20.0	6.1	9.1	**6.9**	5.9	20.4	8.7	**17.5**
	ENT	25.0	8.8	9.1	**10.3**	2.9	21.1	4.8	**18.2**
	General Medicine	19.2	8.1	5.6	**8.7**	7.0	25.1	10.6	**22.2**
	General Surgery	23.1	8.7	6.7	**9.4**	6.0	26.0	10.9	**23.0**
	Genitourinary Surgery	23.1	4.6	14.3	**6.0**	4.7	21.5	12.5	**18.2**
	Medical Gastroenterology			0.0	**0.0**			14.3	**14.3**
	Medical Oncology	18.2	7.7	14.3	**9.4**	2.2	22.0	0.0	**19.2**
	Neonatology	25.0	6.2	8.3	**7.7**	2.0	18.5	0.0	**15.8**
	Nephrology	19.2	7.1	10.0	**8.9**	4.2	21.1	18.2	**18.7**
	Neuro Surgery	22.2	4.5	20.0	**5.9**	3.9	21.1	25.0	**18.8**
	Neurology	12.5	4.6	14.3	**5.4**	3.5	22.4	14.3	**20.0**
	Obstetrics & Gynaecology	28.6	8.6	7.1	**10.0**	3.8	24.8	6.0	**21.6**
	Ophthalmology	25.0	8.5	11.1	**10.2**	3.8	16.6	4.3	**14.3**
	Orthopaedics	18.2	7.7	8.3	**8.3**	4.8	23.3	5.3	**20.3**
	Paediatric Cancer	50.0	4.5	20.0	**12.9**	4.5	23.0	0.0	**20.4**
	Paediatric surgery	30.8	7.1	9.1	**10.1**	2.6	22.3	0.0	**19.5**
	Paediatrics	17.6	6.5	6.3	**7.3**	2.5	22.5	3.4	**19.2**
	Polytrauma	22.2	6.1	12.5	**7.1**	3.5	21.6	14.3	**18.7**
	Psychiatry	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.0**
	Radiation Oncology	20.0	5.3	50.0	**11.5**	5.9	22.6	0.0	**19.7**
	Surgical Gastroenterology				**0.0**		0.0		**0.0**
	Surgical Oncology	23.1	3.4	12.5	**6.5**	1.7	18.5	16.7	**16.0**
	Treatment Procedure Dental Procedures	6.7	8.4	10.0	**8.3**	2.3	21.4	6.3	**18.3**

Table 2. Top 10 pre-authorizations in each category among the Insurance states

	Jammu & Kashmir			Punjab			Meghalaya		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Initiated pre-authorizations	MG072A	Haemodialysis	39.84	MG072A	Haemodialysis	32.81	M123101	GENERAL WARD UNSPECIFIED (General Medicine)	21.17
	SO057A	Caesarean Delivery	5.83	SOU100	Unspecified surgical package - Obstetrics & Gynecology	4.5	M723005	ANIMAL BITE (DOGCATRAT) PER DOSE	11.86
	SG039C	Without Exploration of CBD - Lap.	3.48	ER003A	Animal bites (Excluding Snake Bite)	3.21	S100214	Hemodialysis per sitting	11.56
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	2.05	SO057A	Caesarean Delivery	2.95	S423110	NORMAL DELIVERY	7.87
	SG032A	without Stapler	1.93	MG074A	Whole Blood transfusion	1.8	SO057A	Caesarean Delivery	3.89
	MG029A	Acute excaberation of COPD	1.26	MG009A	Acute gastroenteritis with moderate dehydration	1.68	M1123079	GENERAL WARD UNSPECIFIED (PHC or CHC medical)	3.52
	MG016A	Pneumonia	1.23	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.55	M1023091	ULTRASOUND SONOGRAPHY TEST WHOLE ABDOMEN	3.12
	SE020B	SICS with non-foldable IOL	1.19	MG074B	Blood component including platelet transfusion (RDP, PC, SDP)	1.38	S423126	NORMAL DELIVERY WITH EPISIOTOMY AND P REPAIR	2.93
	MG025A	Recurrent vomiting with dehydration	0.98	SE020B	SICS with non-foldable IOL	1.34	DL001MGA	Rapid Antigen Test (COVID-19)	2.51
	MC011A	PTCA, inclusive of diagnostic angiogram	0.98	MG001A	Acute febrile illness	1.32	DL004MGA	CB - NAT (COVID-19)	1.54

	Jammu & Kashmir			Punjab			Meghalaya		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Approved pre-authorizations	MG072A	Haemodialysis	41.29	MG072A	Haemodialysis	32.59	M123101	GENERAL WARD UNSPECIFIED (General Medicine)	21.23
	SO057A	Caesarean Delivery	4.95	SOU100	Unspecified surgical package - Obstetrics & Gynecology	4.62	M723005	ANIMAL BITE (DOGCATRAT) PER DOSE	11.9
	SG039C	Without Exploration of CBD - Lap.	3.62	ER003A	Animal bites (Excluding Snake Bite)	3.36	S100214	Hemodialysis per sitting	11.6
	SG032A	without Stapler	2.17	SO057A	Caesarean Delivery	3.04	S423110	NORMAL DELIVERY	7.89
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	2.03	MG074A	Whole Blood transfusion	1.84	SO057A	Caesarean Delivery	3.87
	MG029A	Acute excaberation of COPD	1.41	MG009A	Acute gastroenteritis with moderate dehydration	1.68	M1123079	GENERAL WARD UNSPECIFIED (PHC or CHC medical)	3.5
	MG016A	Pneumonia	1.38	MG074B	Blood component including platelet transfusion (RDP, PC, SDP)	1.41	M1023091	ULTRASOUND SONOGRAPHY TEST WHOLE ABDOMEN	3.12
	MG025A	Recurrent vomiting with dehydration	1.1	SE020B	SICS with non-foldable IOL	1.35	S423126	NORMAL DELIVERY WITH EPISIOTOMY AND P REPAIR	2.94
	SE020B	SICS with non-foldable IOL	1.08	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.34	DL001MGA	Rapid Antigen Test (COVID-19)	2.5
	MG009A	Acute gastroenteritis with moderate dehydration	0.98	MG038A	Congestive heart failure	1.32	DL004MGA	CB - NAT (COVID-19)	1.48
							S423082	3RD ANC CHECKUP (USG SCREENING BLOOD TEST MEDICINES) 1 VISIT	1.48

	Jammu & Kashmir			Punjab			Meghalaya		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Cancelled pre-authorizations	SO057A	Caesarean Delivery	6.56	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	5.15	M123101	GENERAL WARD UNSPECIFIED (General Medicine)	58.6
	MG025A	Recurrent vomiting with dehydration	4.69	SB039A	Primary - Total Knee Replacement	3.66	S423110	NORMAL DELIVERY	5.22
	MG072A	Haemodialysis	4.38	SOU100	Unspecified surgical package - Obstetrics & Gynecology	3.66	M1123079	GENERAL WARD UNSPECIFIED (PHC or CHC medical)	2.45
	MG029A	Acute excaberation of COPD	3.94	MG072A	Haemodialysis	3.42	S100214	Hemodialysis per sitting	1.82
	SG040B	Operative Cholecystostomy, laprpscopic	3.13	SO057A	Caesarean Delivery	2.43	SO057A	Caesarean Delivery	1.82
	MG016A	Pneumonia	2.63	ER003A	Animal bites (Excluding Snake Bite)	1.9	DL001MGA	Rapid Antigen Test	1.54
	MG039A	Acute asthmatic attack	2.44	SE020B	SICS with non-foldable IOL	1.83	DL003MGA	TRU - NAT	1.41
	MC001B	Left Heart Catheterization	2.38	MG001A	Acute febrile illness	1.64	MN001A	Basic neonatal care package: Babies that can be managed by side of mother in postnatal ward without requiring admission in SNCU/NICU	1.27
	MG072B	Peritoneal Dialysis	1.94	MG074B	Blood component including platelet transfusion (RDP, PC, SDP)	1.49	M1023091	ULTRASOUND SONOGRAPHY TEST WHOLE ABDOMEN	1.23
	MG062A	Accelerated hypertension	1.69	MG038A	Congestive heart failure	1.46	DL004MGA	CB - NAT	1.18
	SG040A	Operative Cholecystostomy, open	1.69						

	Jammu & Kashmir			Punjab			Meghalaya		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Rejected pre-authorizations	MG072A	Haemodialysis	25.68	MG072A	Haemodialysis	31.61	0		0
	SO057A	Caesarean Delivery	14.07	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	9.42	0		0
	SO056A	Secondary suturing of episiotomy	4.58	MN004A	Advanced Neonatal Care Package:	4.41	0		0
	MC011A	PTCA, inclusive of diagnostic angiogram	2.23	MG072B	Peritoneal Dialysis	4.06	0		0
	SE020B	SICS with non-foldable IOL	2.23	MN003A	Intensive Neonatal Care Package Babies with birthweight 1500-1799 g	3.71	0		0
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	2.1	SGU100	Unspecified surgical package - General Surgery	3.18	0		0
	MC001A	Right Heart Catheterization	2.03	SOU100	Unspecified surgical package - Obstetrics & Gynecology	2.12	0		0
	SG039C	Without Exploration of CBD - Lap.	1.98	MN005A	Critical Care Neonatal Package:	1.82	0		0
	MC001B	Left Heart Catheterization	1.91	MG076A	High end histopathology (Biopsies) and advanced serology investigations	1.77	0		0
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.27	MC011A	PTCA, inclusive of diagnostic angiogram	1.41	0		0

Table 3 Top 10 pre-authorizations in each category among the Trust states

	Haryana			Uttar Pradesh			Himachal Pradesh		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Initiated pre-authorizations	MG072A	Haemodialysis	26.44	MG072A	Haemodialysis	25.98	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	12.42
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	18.23	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	17.92	MG072A	Haemodialysis	10.28
	S100214	Hemodialysis per sitting	3.99	MG006A	Enteric fever	3.94	SE020B	SICS with non-foldable IOL	4.41
	SG039C	Without Exploration of CBD - Lap.	2.79	SG039C	Without Exploration of CBD - Lap.	2.42	MG029A	Acute excaberation of COPD	4.1
	S300029	Cataract with foldable hydrophobic acrylic IOL by Phaco emulsification tech	2.13	MG009A	Acute gastroenteritis with moderate dehydration	1.68	SG039C	Without Exploration of CBD - Lap.	3.7
	MG074A	Whole Blood transfusion	2.03	MG064A	Severe anemia	1.35	SGU100	Unspecified surgical package - General Surgery	2.64
	MC011A	PTCA, inclusive of diagnostic angiogram	1.77	SG050A	Inguinal - Open	1.3	SG039A	Without Exploration of CBD - Open	1.84
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.4	SG039A	Without Exploration of CBD - Open	1.28	MG072B	Peritoneal Dialysis	1.7
	MG029A	Acute excaberation of COPD	1.37	MG072B	Peritoneal Dialysis	1.23	MG038A	Congestive heart failure	1.58
	MG009B	Acute gastroenteritis with severe dehydration	1.16	SE020B	SICS with non-foldable IOL	1.21	MG009A	Acute gastroenteritis with moderate dehydration	1.36

	Haryana			Uttar Pradesh			Himachal Pradesh		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Approved pre-authorizations	MG072A	Haemodialysis	23.63	MG072A	Haemodialysis	26.04	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	12.34
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	18.37	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	17.96	MG072A	Haemodialysis	10.32
	S100214	Hemodialysis per sitting	4.07	MG006A	Enteric fever	4.01	SE020B	SICS with non-foldable IOL	4.36
	SG039C	Without Exploration of CBD - Lap.	2.8	SG039C	Without Exploration of CBD - Lap.	2.43	MG029A	Acute excaberation of COPD	4.16
	M100070	Haemodialysis/Peritoneal Dialysis (only for ARF) - per session	2.77	MG009A	Acute gastroenteritis with moderate dehydration	1.71	SG039C	Without Exploration of CBD - Lap.	3.67
	S300029	Cataract with foldable hydrophobic acrylic IOL by Phaco emulsification tech	2.16	MG064A	Severe anemia	1.37	SGU100	Unspecified surgical package - General Surgery	2.33
	MG074A	Whole Blood transfusion	1.73	SG050A	Inguinal - Open	1.32	SG039A	Without Exploration of CBD - Open	1.86
	MC011A	PTCA, inclusive of diagnostic angiogram	1.46	SG039A	Without Exploration of CBD - Open	1.3	MG072B	Peritoneal Dialysis	1.71
	MG029A	Acute excaberation of COPD	1.31	MG009B	Acute gastroenteritis with severe dehydration	1.22	MG038A	Congestive heart failure	1.52
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.1	MG025A	Recurrent vomiting with dehydration	1.21	MG009A	Acute gastroenteritis with moderate dehydration	1.38

	Haryana			Uttar Pradesh			Himachal Pradesh		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Cancelled pre-authorizations	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	16.63	MG006A	Enteric fever	2.15	SGU100	Unspecified surgical package - General Surgery	6.02
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	4.42	MG072A	Haemodialysis	4.77	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	4.42
	SG039C	Without Exploration of CBD - Lap.	4.34	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	17.89	SG039A	Without Exploration of CBD - Open	3.21
	MG072A	Haemodialysis	3.69	SE020B	SICS with non-foldable IOL	1.38	MG038A	Congestive heart failure	3.01
	DL001A	RT-PCR Testing	1.88	SG039A	Without Exploration of CBD - Open	1.75	MG029A	Acute excaberation of COPD	2.81
	S300029	Cataract with foldable hydrophobic acrylic IOL by Phaco emulsification tech	1.88	SG039C	Without Exploration of CBD - Lap.	4.66	SG039C	Without Exploration of CBD - Lap.	2.81
	MG029A	Acute excaberation of COPD	1.47	SG050A	Inguinal - Open	1.64	MC001A	Right Heart Catheterization	2.21
	MG009B	Acute gastroenteritis with severe dehydration	1.31	SG056A	Operation for Hydrocele (U/L)	1.17	MG034A	Ascites	2.21
	MC011A	PTCA, inclusive of diagnostic angiogram	1.23	SO010B	Abdominal Hysterectomy + Salpingo-oophorectomy	1.19	SE020B	SICS with non-foldable IOL	2.21
	SO010A	Abdominal Hysterectomy	1.23	SU007A	PCNL (Percutaneous Nephrolithotomy)	1.93	MG045A	AKI / Renal failure	1.81

	Haryana			Uttar Pradesh			Himachal Pradesh		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Rejected pre-authorizations	MG072A	Haemodialysis	43.45	MG072A	Haemodialysis	21.12	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	15.31
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	7.42	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	12.76	SGU100	Unspecified surgical package - General Surgery	14.29
	MC011A	PTCA, inclusive of diagnostic angiogram	5.02	MG072B	Peritoneal Dialysis	8.74	SE020B	SICS with non-foldable IOL	8.16
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	3.49	SO010A	Abdominal Hysterectomy	6.7	MG072A	Haemodialysis	7.14
	MG072B	Peritoneal Dialysis	2.4	SO010B	Abdominal Hysterectomy + Salpingo-oophorectomy	5.36	SG039C	Without Exploration of CBD - Lap.	6.12
	SOU100	Unspecified surgical package - Obstetrics & Gynecology	2.4	SO010D	Vaginal hysterectomy with anterior and posterior colpoperineorrhaphy	4.08	MG001A	Acute febrile illness	2.04
	S1200024	PTCA - single stent (medicated, inclusive of diagnostic angiogram)	1.97	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	2.04	MG034A	Ascites	2.04
	SGU100	Unspecified surgical package - General Surgery	1.75	SCU100	Unspecified surgical package - Surgical Oncology	1.91	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	2.04
	U100	Unspecified Surgical Package	1.53	SE020B	SICS with non-foldable IOL	1.91	MO014E	Capecitabine + Oxaliplatin Capecitabine 1000mg/m2 D1-D14 + Oxaliplatin 130 mg/m2 D1 every 21 days	2.04

	DL001A	RT-PCR Testing	1.31	MG006A	Enteric fever	1.53	MO026B	Carboplatin + Gemcitabine Gemcitabine 1000 mg/m2 D1 D8 + Carboplatin AUC 5-6 D1 every 21 days	2.04
	M100070	Haemodialysis/Peritoneal Dialysis (only for ARF) - per session	1.31	SGU100	Unspecified surgical package - General Surgery	1.47	S1200024	PTCA - single stent (medicated, inclusive of diagnostic angiogram)	2.04
	M100071	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging) - can only be clubbed with medical package. Rs 5000 per annum limit to a family	1.31				SG040B	Operative Cholecystostomy, laprpscopic	2.04
	SEU100	Unspecified surgical package - Ophthalmology	1.31				SO010B	Abdominal Hysterectomy + Salpingo-oophorectomy	2.04

Table 4. Comparison of top 10 pre-authorizations in each category among the Insurance and Trust states

	Insurance			Trust		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Initiated pre-authorizations	MG072A	Haemodialysis	28.01	MG072A	Haemodialysis	25.24
	M123101	GENERAL WARD UNSPECIFIED	4.1	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	17.7
	SO057A	Caesarean Delivery	3.77	MG006A	Enteric fever	2.87
	SOU100	Unspecified surgical package - Obstetrics & Gynecology	2.63	SG039C	Without Exploration of CBD - Lap.	2.57
	M723005	ANIMAL BITE (DOGCATRAT) PER DOSE	2.3	MG009A	Acute gastroenteritis with moderate dehydration	1.3
	S100214	Hemodialysis per sitting	2.25	MG009B	Acute gastroenteritis with severe dehydration	1.15
	ER003A	Animal bites (Excluding Snake Bite)	1.96	MG072B	Peritoneal Dialysis	1.14
	S423110	NORMAL DELIVERY	1.53	MG025A	Recurrent vomiting with dehydration	1.13
	MG009A	Acute gastroenteritis with moderate dehydration	1.2	SE020B	SICS with non-foldable IOL	1.13
	MG074A	Whole Blood transfusion	1.07	SG039A	Without Exploration of CBD - Open	1.12

	Insurance			Trust		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Approved pre-authorizations	MG072A	Haemodialysis	27.4	MG072A	Haemodialysis	24.65
	M123101	GENERAL WARD UNSPECIFIED	4.66	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	17.75
	SO057A	Caesarean Delivery	3.65	MG006A	Enteric fever	2.92
	M723005	ANIMAL BITE (DOGCATRAT) PER DOSE	2.61	SG039C	Without Exploration of CBD - Lap.	2.58
	SOU100	Unspecified surgical package - Obstetrics & Gynecology	2.57	MG009A	Acute gastroenteritis with moderate dehydration	1.32
	S100214	Hemodialysis per sitting	2.55	MG009B	Acute gastroenteritis with severe dehydration	1.14
	ER003A	Animal bites (Excluding Snake Bite)	1.96	SG039A	Without Exploration of CBD - Open	1.14
	S423110	NORMAL DELIVERY	1.73	MG025A	Recurrent vomiting with dehydration	1.12
	MG009A	Acute gastroenteritis with moderate dehydration	1.19	SE020B	SICS with non-foldable IOL	1.12
	MG074A	Whole Blood transfusion	1.05	S100214	Hemodialysis per sitting	1.09
Cancelled pre-authorizations	M123101	GENERAL WARD UNSPECIFIED	15.29	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	16.39
	SO057A	Caesarean Delivery	3.05	SG039C	Without Exploration of CBD - Lap.	4.42
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	2.92	MG072A	Haemodialysis	4.21
	MG072A	Haemodialysis	2.71	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	1.82
	SB039A	Primary - Total Knee Replacement	2.02	SG039A	Without Exploration of CBD - Open	1.64
	SOU100	Unspecified surgical package - Obstetrics & Gynecology	2.01	SU007A	PCNL (Percutaneous Nephrolithotomy)	1.64
	MG025A	Recurrent vomiting with dehydration	1.4	MG006A	Enteric fever	1.53
	S423110	NORMAL DELIVERY	1.36	SG050A	Inguinal - Open	1.26
	SE020B	SICS with non-foldable IOL	1.22	SE020B	SICS with non-foldable IOL	1.15
	ER003A	Animal bites (Excluding Snake Bite)	1.1	MG029A	Acute excaberation of COPD	1.06

	Insurance			Trust		
	Procedure code	Procedure name	%	Procedure code	Procedure name	%
Rejected pre-authorizations	MG072A	Haemodialysis	27.35	MG072A	Haemodialysis	25.29
	SO057A	Caesarean Delivery	10.18	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	10.88
	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	3.56	MG072B	Peritoneal Dialysis	7.02
	SO056A	Secondary suturing of episiotomy	3.29	SO010A	Abdominal Hysterectomy	4.99
	MC011A	PTCA, inclusive of diagnostic angiogram	2	SO010B	Abdominal Hysterectomy + Salpingo-oophorectomy	4.1
	SE020B	SICS with non-foldable IOL	1.75	MG075A	High end radiological diagnostic (CT, MRI, Imaging including nuclear imaging)	3.2
	MG072B	Peritoneal Dialysis	1.74	SO010D	Vaginal hysterectomy with anterior and posterior colpoperineorrhaphy	3.06
	SE020A	Phaco emulsification with foldable hydrophobic acrylic IOL	1.54	SGU100	Unspecified surgical package - General Surgery	2.12
	SGU100	Unspecified surgical package - Obstetrics & Gynecology	1.51	SE020B	SICS with non-foldable IOL	1.84
	MC001A	Right Heart Catheterization	1.46	SCU100	Unspecified surgical package - Surgical Oncology	1.46

Appendix-IX Outlier analysis

We analysed the presence of outliers in the TAT calculations using the standard inter-quartile range (IQR) formula (Q1 – 1.5 IQR and Q3 + 1.5 IQR), where Q1 and Q3 are the first and third quartile values, respectively. Overall, there were high proportions of outliers in all states for the various TAT calculations, with the highest proportion of outliers in Meghalaya for pre-authorization TAT (29.3%) and claim payment TAT (30.8%). Haryana too, had a relatively high proportion of outliers in the pre-authorization TAT (22.3) but had a low proportion of outliers in the other TAT calculations (0 – 9.9%).

Insurance states had more outliers than the Trust states in the pre-authorization TAT (42.4% and 38.4%, respectively) despite having lower median values, thus indicating the higher variability of the data points. Similarly, all claim-related TAT calculations except the TAT for claim approval to payment (19.8% and 22.7%, respectively) also had higher proportions of outliers in the Insurance states compared to the Trust states.

Table 1 Proportion of outliers in TAT calculation among the states

	INSURANCE				TRUST			
	J&K	Punjab	Meghalaya	Total	Haryana	UP	HP	Total
Timeliness of pre-authorization processing								
Pre-authorization TAT *	11.2	2.1	29.3	42.4	22.3	0.7	9.6	38.4
Timeliness of claim processing								
Claim payment TAT (submission to payment)	20.6	7.5	30.8	9.9	2.4	1.8	3.6	1.9
Claim submission to decision TAT	16.9	6.1	4.9	8.3	2.2	1.8	2.6	2.1
Claim submission to approval decision TAT	18.9	5.9	4.8	7.7	2.1	1.7	2.4	2.0
Claim submission to rejection decision TAT	8.8	10.0	8.4	9.8	0.0	2.3	17.1	1.7
Claim approval to payment TAT	6.0	5.4	12.8	19.8	9.9	6.7	3.3	22.7

**all decisions, excluding auto-approvals*

Due to the identified outlier points being a legitimate part of the TAT (indicative of delays at various levels of the claim adjudication process) and the high proportions of outliers, we decided to not exclude these extreme values but instead report the median values for the TAT calculations, since medians are less affected by outliers. Unfortunately, at this stage we are unable to attribute the delays to specific reasons.

Appendix-X Key state-specific findings for Jammu & Kashmir, Punjab, Meghalaya, Haryana and Himachal Pradesh

Jammu & Kashmir

CONTEXT

Eligible population : 20,54,298 families (100% of state population)
Agencies involved: SHA (Total staff 28% of recommended) + IC (1 TPA)

PURCHASING FUNCTIONS

Beneficiary Identification

- 48.3% of eligible population has been registered[a]
- 10. 7% of beneficiary registration applications rejected – uploaded documents of poor quality – lack of effectiveness of virtual trainings
- 0.4% of cards disabled[b]
- Large number of cards pending SHA approval

Management of empanelled hospitals

- Predominance of public hospitals among empanelled facilities
- IC play supportive role in field verification of hospitals applying for empanelment
- SHA may choose to relax certain criteria to allow for better hospitalization access in resource limited settings
- Empanelled hospitals expressed that they needed more support and streamlined processes from the SHA
- Universalization of scheme increased workload which AMs were not capacitated to handle
- Some private hospitals reported not receiving payments which was affecting service delivery
- Capacity development of medical superintendents along with AMs needed

Pre-authorizations and Claim processing

- Hospitalization rate (1.5%) in PMJAY lower than NSSO 2018 data (2.4%)
- Highest claim rejection rate – claim rejection rate increased after universalization of scheme (12.3% for April '20 - March 2021)
- Higher claim rejection rate in public hospitals (27.2%) compared to private hospitals (13.1%)
- Certain relaxations provided by SHA to public hospitals in order to bring down the rejection rate
- SHA intervened to revoke wrongfully rejected claims
- Reasons for rejection include inability of hospitals to reply to queries on time and upload required documents - pendency due to longer time required for reports like histopathology
- High claims ratios above 120% post universalization likely to result in high year on year premiums, with financial implications for scheme

Audits and Fraud management

- Instances of frauds at CSCs resulted in SHA customizing BIS by restricting the add member facility

AM Arogya Mitra
CSC Common Service Centre
IC Insurance Company
SHA State Health Agency
TAT Turn-around-time
[a]as of August 2021

Punjab

CONTEXT

Eligible population : 39,57,205 families (71.8% of state population)
Agencies involved: SHA (Total staff 76% of recommended) + IC (3 TPAs)

PURCHASING FUNCTIONS

Beneficiary Identification

- 35.9% of eligible population has been registered[a]
- 7.2% of beneficiary registration applications rejected
- 7.3% of cards disabled
- High pressure to approve large number of cards during drives leading to errors

Management of empanelled hospitals

- Predominance of private hospitals among empanelled facilities
- Private hospitals dissatisfied with HBP rates
- Perception among hospitals that Trust model would be better, due to challenges with claim approvals
- Perception among hospitals that Government believes Trust mode will result in claim payouts beyond Government control

Pre-authorizations and Claim processing

- Hospitalization rate (3.5%) in PMJAY slightly higher than NSSO 2018 data (3.1%); possibly due to population experience with earlier existing public insurance schemes, large number of tertiary hospitals
- Dissatisfaction with type of queries raised by IC
- Disagreements between treating doctors and CPDs at IC
- High claims ratios above 120%; low premiums quoted which do not account for scheme utilization levels. Calls for revisiting technical specifications in tenders to filter out unsuitable ICs.
- Hospitals lack time and resources to lodge and follow-up grievances related to claim management by IC

Audits and Fraud management

- Reported de-empanelment of hospitals due to frauds
- Perception among hospitals that in Trust model, Government cannot detect hospital fraud efficiently
- Instances of frauds at CSCs at time of beneficiary identification

AM Arogya Mitra
CPD Claims Processing Doctor
CSC Common Service Centre
HBP Health Benefit Package
IC Insurance Company
SHA State Health Agency
TPA Third Party Administrator
TAT Turn-around-time
[a]as of August 2021

Meghalaya

CONTEXT

Eligible population : 8,37,283 families (100% of state population)
Agencies involved: SHA (Total staff 48% of recommended) + IC (no TPA)

- SHA has experience of working with I Cs for earlier MHIS phases - this helped in managing IC in current phase
- SHA has good working relationship with IC
- SHA persons are available and accessible in case of any issues

PURCHASING FUNCTIONS

Beneficiary Identification

- 60.4% of eligible population has been registered[a] - highest among states
- 1.9% of beneficiary registration applications rejected
- 3% of cards disabled
- Offline registration in areas with poor internet connectivity
- Focused registration drives and mechanisms in place to track progress
- Registrations at PHCs and CHCs as people trust in them
- SHA involved in microlevel planning involving other frontline health system workers and stakeholders

Management of empanelled hospitals

- Predominance of public hospitals among empanelled facilities
- Fast-track empanelment of hospitals already empanelled under MHIS
- PHCs empanelled as paucity of hospitals in districts
- Consultative meetings with private hospitals at time of empanelment
- Public hospitals not able to answer all queries and on time - on provision of valid explanation, SHA supports them to get claims payments
- Hospitals can take up issues with SHA nodal persons directly

Pre-authorizations and Claim processing

- Hospitalization rate (3.7%) in PMJAY higher than NSSO 2018 data (1.7%)
- Highest proportion of cancelled pre-authorizations, as a measure to reduce claim rejections of wrongfully booked packages
- Lowest claim rejection rate among all States (0.3%)
- Low claim rejection because of well-defined medical documentation practices in state
- Hospitals check with IC before raising pre-auth in case of doubt-this helped reduce later rejections
- Some dissatisfaction with type of queries raised by IC
- Faster email authorization process for OPD packages
- Hospitals satisfied with claim settlement TATs
- Hospitals claim under offline mode with SHA help
- SHA instituted weekly reporting on all claims by IC and hospitals
- Lowest claims ratios and highest premium among Insurance states

Audits and Fraud management

- Incorrect triggers from NAFU due to differences in scheme parameters in state (such as OPD packages)
- Meghalaya has own audit formats for various activities
- SHA not inclined to deempanel hospitals due to a limited number of private hospitals available in the State
- When IC auditor visits hospitals for one case, then the auditor also audits all live cases there - thus more than 5%mandatory cases are audited
- Perception among stakeholders that there are no frauds in the state

CHC Community Health Centre
IC Insurance Company
MHIS Megha Health Insurance Scheme
OPD Out Patient Department
PHC Primary Health Centre
SHA State Health Agency
TPA Third Party Administrator
TAT Turn-around-time
[a]as of August 2021

Haryana

CONTEXT

Eligible population: 15,45,936 families (33.4% of State population)
Agencies involved: no ISA, SHA includes doctors on deputation from Health Department + contractual staff (Total staff 148% of recommended)

PURCHASING FUNCTIONS

Beneficiary Identification

- 34% of eligible population has been registered[a] -
- Respondent 1: *"people are reluctant to come forward. They have this assumption ki whenever we will have the requirement then at that time we will go for Ayushman Bharat card generation. Since we do not require it, we need not to go"*
- 18% of beneficiary registration applications rejected – mostly persons not belonging to SECC database
- 4% of cards disabled – bulk disablement of non-Aadhaar seeded cards

Management of empanelled hospitals

- Predominance of private hospitals among empanelled facilities
- Active interaction with private hospitals to bring them into the scheme
- Mandatory empanelment under Ayushman Bharat PMJAY in order to be empanelled with State Government for other Government schemes
- Incentives to AMs in public hospitals (per claim processed), but low salary per month

Pre-authorizations and Claim processing

- Hospitalization rate (3%) in PMJAY similar to NSSO 2018 data (2.9%)
- Highest average value per claim among Trust states
- Low claim rejection rate of 2.7%, lesser than the overall rate for Trust states
- All PPDs and CPDs are regular Health Department staff on deputation – high confidence in abilities to review claims properly with fewer queries and rejections
- Lower median TAT (28 days) than the other Trust states – Hospitals are satisfied with TAT, no major complains

Audits and Fraud management

- Addressing all NAFU system generated triggers is resource intensive
- Involve specialist doctors at district level for audits
- Pendency in conducting hospital audits due to manpower crunch
- Use of patient biometrics to authenticate – to minimize chances of frauds in Government schemes

AM Arogya Mitra
CPD Claims Processing Doctor
NAFU National Anti-Fraud Unit
PPD Pre-authorization Processing Doctor
SECC Socio-Economic and Caste Census
SHA State Health Agency
TAT Turn-around-time
[a]as of August 2021

Himachal Pradesh

CONTEXT

Eligible population: 4,78,985 families (32.3% of state population)
Agencies involved: SHA (Total staff 79% of recommended) + ISA

- SHA persons easily available for beneficiaries and hospitals to contact
- Constitution of WhatsApp groups for hospitals with SHA and ISA members to facilitate communication and for resolution of queries
- AMs given CUG connections to facilitate communication

PURCHASING FUNCTIONS

Beneficiary Identification

- 45% of eligible population has been registered[a]
- 1.8% of beneficiary registration applications rejected
- 0.9% of cards disabled
- Manageable workloads - no pendency

Management of empanelled hospitals

- Predominance of public hospitals among empanelled facilities
- Reported de-empanelment of hospitals due to inactivity
- Hospitals satisfied with payment TATs
- Hospitals have support of SHA - can inform SHA directly of anticipated delays on hospital end

Pre-authorizations and Claim processing

- Hospitalization rate (2.6%) in PMJAY lower than NSSO 2018 data (4.4%)
- High average value per claim
- Claim rejection rate of 6.4% - but overall hospitals are satisfied
- Higher rejection rate in public (2.8%) compared to private (1.1%) hospitals
- High proportion of unspecified packages (3.3%) among pre-authorizations raised – state developed own format for hospitals blocking unspecified packages
- Dissatisfaction with type of queries raised by ISA
- Hospitals lack time and resources to lodge and follow-up grievances related to claim management by ISA

Audits and Fraud management

- Disincentive to fraud in hospitals - HP single window empanelment policy for all government schemes
- Use of patient biometrics to authenticate - to minimize chances of frauds in Government schemes
- Perception that there are no frauds in Government health facilities
- SHA district coordinators visit hospitals for audits
- Instances of frauds at CSCs resulting in fraudulent cards getting blocked

AM Arogya Mitra
CSC Common Service Centre
CUG Closed user group
ISA Implementation Support Agency
SHA State Health Agency
TAT Turn-around-time
[a]as of August 2021

List of tables and figures

Tables

Figures

Institutional structure and process design significantly impact the implementation of health programmes. This report provides a comparative review of various institutional models deployed under Ayushman Bharat Pradhan Mantri Jan Aarogya Yojana (AB PM-JAY), a flagship programme of Government of India which provides financial protection to households against hospital related expenditure.