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Sustainability of Healthcare Insurance in India: A Review of Health Insurance Scheme Launched by States in India

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***Abstract*—**This paper presents an overview of the accessibility, design, and functioning of health insurance plans launched by state governments in India. In recent years, the governments of several states in India have come forward to provide health insurance coverage for the low-income group and rural population to reduce the out of pocket expenditure (OPE) on healthcare. Different health insurance schemes have different structures and offerings which differ in the different demographic factors. This study will portray a comparative analysis of the various health insurance schemes by analyzing different offerings and finance generation of the schemes. The comparative analysis will explain the lesson to be learned from these schemes and extend the existing knowledge of the health insurance in India. This would help in recognizing tension between various drivers and identifying issues pertaining to the sustainability of health insurance schemes in India.

***Keywords*—**Health insurance, out of pocket expenditure, universal healthcare, sustainability.

I. Introduction

UNIVERSAL health coverage (UHC) is a platform for providing financial protection to citizens while obtaining access to health care. In recent years, low and middle-income countries have included UHC as a national policy plan [1]. The existing literature shows that each country has its own country-specific, political and social contexts while introducing large-scale reforms such as UHC [2]. This suggests that each country has its own inherited healthcare system and a single blueprint for implementing UHC does not exist, rather each country has its own strategy to adapt according to the need in their indigenous healthcare system [3].

In the list of countries having highest OPE, India ranks third among the Southeast Asian region [4]. There are significant differences between the spending and health status within the states of India as healthcare is subjected to state in the federal form of government. Researchers have pointed out that OPE is usually the most regressive way to pay for health which exposes the people to face catastrophic financial risks [7]. The universal health insurance is key to reach the goal by 2022 to reduce the OPE [8]. Moreover, there exist significant differences between the spending and health status within the states of India as healthcare is subjected to a state in the federal form of government. The chances that the family will enter into poverty due to hospitalization were 17% in Kerala and just double of that in the states of Uttar Pradesh and Bihar [9].

The universal healthcare for all was planned and to be implemented by the government until 2020, but the deadline has been extended to 2022 [6]. The universal health insurance is key to reach the goal by 2022 to reduce the OPE [7]. The major problem of high OPE is that it drives the people to have reduced utilization of preventive care and uptake of preventive medication [8], [9]. Researchers have pointed out that OPE is usually the most regressive way to pay for health which exposes the people to face catastrophic financial risks [10].

In recent years, the government of India has introduced healthcare reforms and promoted the expansion of health insurance as one of the essential elements for healthcare reforms and poverty reduction. Since 2007, several health insurance schemes have been initiated by central and the state government of India. The central government has launched a national hospitalization health insurance scheme, Rashtriya Swasthya Bima Yojana (RSBY) in 2008 [11].

State governments have taken initiatives to do the same in their respective states. Several states have launched insurance schemes that provide financial support to the weaker section of the society. The objective of the state-funded insurance program is to enhance the accessibility and availability of essential healthcare services which in turn improves the health outcomes. In this paper we will discuss the schemes launched by different states: Rajiv Aarogyasri in Andhra Pradesh, Yeshasvini Cooperative Farmers Health Care Scheme in Karnataka, Chief Minister's Comprehensive Health Insurance Scheme in Tamil Nadu, Rajiv Gandhi Jeevandayee Arogya Yojana (RGJAY) Maharashtra and Mukhyamantri Amrutum (MA) Yojana, Gujarat.

II. Schemes of State Government

A. Rajiv Aarogyasri Community Health Insurance Scheme (RACHIS)

RACHIS was launched in 2007, by the Andhra Pradesh government to provide financial support to the deprived population for availing high-end health care service [12]. The scheme is offered to the BPL population and citizens of state earning INR 75,000 in an urban area as well as for rural area having an income of INR 60,000.

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The financial entitlements for the scheme are INR 1.5 Lakh and a buffer of INR 0.5 Lakh per family on floater basis. The floater basis gives an advantage to the family to avail the beneficiary limit individually or collectively by members of the family. The buffer of INR 0.5 Lakh is applied when the cost of healthcare services exceeds the allocated INR 1.5 Lakh for a family [12]. The scheme covers the beneficiary with pre-existing illness and without any age limit. The coverage under the scheme is for the period of one year with a run-off period of one month. The run-off period is the period after the expiry of the policy and if the pre-authorization is done within the policy tenure time then the treatment can be performed up to one month from the expiry of the policy period.

At NWH, if the beneficiary can be treated as an outpatient (OP), the doctor prescribes the drugs and other necessary follow-up and the patient are discharged. If the patient needs any of the listed therapies then the patient is forwarded to the Rajiv Aarogyasri Medical Coordinator (RAMCO). RAMCO registers the details of an investigation conducted by the NWH, convert the case into inpatient (IP) and initiate the process of preauthorization.

The pre-authorization applications are examined and inspected as per the guidelines of the trust. The first point of inspection is done by the specialist, the second level is done by the trust doctors and final notification is provided within 12 hours of submission of the preauthorization request. If the patient requires emergency care or immediately intervention then NWH shall obtain preauthorization through dedicated telephone lines and telephonic approval will be treated as provisional approval that must be followed by a regular pre-authorization process within 24 hours. The claims for the surgeries can be submitted within 90 days from the discharge of the patient and the trust shall settle the payment within 7 working days.

1. Yeshasvini Cooperative Farmers Health Care Scheme (YCFHCS)

Yeshasvini Cooperative Farmers Health Care Scheme was launched in 2002, by the state Government of Karnataka, for the Co-operative farmers. The Yeshasvini Trust was unique of its kind and registered under the Indian Trust Act 1882 [13]. The advantage and innovation of the scheme is the involvement of tripartite paradigm having key players from different sectors public, private and cooperative. The state Government collects revenue, mobilizes membership and monitors the scheme. The co-operative organizes the farmers and other unorganized workers in an institutional framework to communicate the program. The co-operative assists the state government by encouraging the rural population for the membership drive. On the other hand it keeps check on the state government policies for the scheme. The private insurance and NWH offer the financial and healthcare support to the scheme.

The farmers who are members of a cooperative society for at least 6 months and their family members are eligible for the scheme. The beneficiary can enroll in the scheme with the pre-existing disease but the upper age limit is fixed for 75 years. The scheme covers a maximum limit of reimbursement of INR 1.25 lakh in case of single admission and INR 2.00 lakh in case of multiple admissions. The beneficiary will be enrolled using Unique Health Identification enrollment through barcode.

The scheme is a contributory type where the beneficiary pays a certain amount of money to enroll himself for a year. The member's contribution in a rural area is INR 250, but for the Scheduled Castes (SCs) and Scheduled Tribes (STs) the enrollment fee is INR 50 and the remaining amount is subsidized by the state government. In an urban area, a member has to pay INR 710 but for SCs/STs the fees are INR 110 and the remaining amount is subsidized by the state government [14]. The scheme covers well-defined 823 procedures, provides free OPD as well as a discount of up to 50% on all laboratory tests.

The beneficiary is required to provide his UHID card at Yeshasvini Counter in NWH. The coordinator will do the verification process and explain the scheme protocols. Subsequently, the cooerdinator will extend a free OP consultation with the concerned specialist doctor. The pre-authorization process is initiated at the NWH if the beneficiary is advised by the consultant for the treatments covered under the scheme. The coordinator at NWH will initiate the process and send the pre-authorization form along with the copy of UHID Card. The trust will scrutinize the documents for the pre-authorization and notify the pre-authorization approval/rejection of the NWH. The preauthorization approval is valid for one month from the date of issuance of the preauthorization. In the case of immediate emergency care, the beneficiary will get the treatment without the pre-authorization with an undertaking. The undertaking will mention that in case the treatment of the beneficiary is not covered under the scheme, the cost of treatment will be borne by the patient.

2. Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS)

The Chief Minister's Comprehensive Health Insurance Scheme was launched in 2009, by the Tamil Nadu State Government. The beneficiary was enrolled at the village camps and the family having an annual family income of less than INR 72, 000 is eligible for the scheme. The income of household must be certified by competent authorities. The coverage of the scheme is up to INR 1 Lakh per family per year on floater basis and can extend up to INR 1.5 lakh for certain procedures. The scheme includes 1016 procedures, 113 follow up packages and 23 diagnostic procedures [15].

The NWH is not only from the state of Tamil Nadu, but also from the neighboring states. This enables the beneficiary to avail the best treatment available for a particular ailment in the NHW without the geographical constraint of the state boundary. Each NWH has a Liaison officer from the insurance company. The Liaison Officer is responsible for facilitating the beneficiary, coordinating the pre-authorization and claim, and act as a representative for the scheme.

3. Rajiv Gandhi Jeevandayee Aarogya Yojana (RGJAY), Maharashtra

The Rajiv Gandhi Jeevandayee Arogya Yojana has been launched in 2012, for BPL as well as APL families of the state of Maharashtra. The Scheme provides 971 surgeries with 30 specialized categories with 121 follow-up procedures. The families of the state, holding yellow ration card, Antyodaya Anna Yojana (AAY) card, Annapurna card and Orange ration card are eligible for enrollment under the scheme. The scheme will provide a coverage of INR 1.5 lakh per family per year in NWH on floater basis [16].

The family shall visit the nearby General, Network Hospital where Arogyamitra will facilitate the family. The Arogyamitra at NWH will scrutinize the referral card, health card and then facilitate the beneficiary to have a specialist consultation along with the required preliminary diagnostic tests. The NWH admits the beneficiary on the basis of diagnosis and generate an E-preauthorization request to the insurer, if the procedure is covered under the scheme. The E-preauthorization request will also be reviewed by the RGJAY Society. If the beneficiary needs an immediate emergency care, the NWH will give a telephonic call to the executive of RGJAY Society and provide the details of the beneficiary. The call will be connected to the specialist doctor of the society and the attending doctor. The attending doctor will communicate the status of the patient (beneficiary) to the specialist doctor to get the notification of preauthorization. The Aarogya Mitra at NWH has to register the beneficiary from telephonic approval ID. The NWH shall start the treatment of the beneficiary after getting telephonic approval ID and must submit E-preauthorization request within 72 hours.

4. Mukhyamantri Amrutum Yojana (MAY)

Mukhyamantri Amrutum Yojana was launched by the state government of Gujarat in 2012, for the BPL population. The scheme was initially designed for the BPL family (five members) but later on, in 2014, it is extended for the families having an annual income of less than Rs. 1.2 lakh. The coverage is Rs 2 lakh for a family on floater basis and an additional INR 300 for transportation of beneficiary in every instance. The scheme covers 544 defined procedures along with follow-up. The scheme is directly funding the claims from the state department of Gujarat and no insurance agency is in between the state and NWH.

The enrollment process is done at the Taluka Kiosk (Block healthcare center at each Taluka). The kiosks are equipped with hardware, software, biometric equipment and trained manpower. In each kiosk, at the time of enrollment of the beneficiary a Verifying Authority (VA) appointed by the State Government is present to verify the beneficiary information and authenticate the MA card. The MA card acts as an identity of the beneficiary and will be used while availing cashless treatment under the scheme. The package rates for the scheme are decided by the bidding process rather than from the recommendation by Advisory Committee members in this Scheme [17].

III. Analysis

A. Tension Matrix

In this section, we analyze two distinct factors; economic (profit) and social (people). The tension matrix is used to identify the conflicts in the design process [18]. "A conflict may exist when two or more requirements oblige the system to satisfy opposing directions in-laws of society" [19]. The tensions are the potential dilemmas between the two drivers and are determined by comparing a pair of the issue. The tension matrix identifies the key area which requires deep thinking to understand and analyze the conflicts. The focus of the factor social is access to quality and affordable healthcare and for economic is financial support for OPE. The issues of major concern are affordability, information asymmetry and availability of services. The issues for economics are premium cost and resource utilization. The tension points occur in between affordability and premium (T1), information asymmetry and premium cost (T2) and, availability of services and resource utilization (T3) as described in Table I.

1. Tension 1 (Affordability and Premium)

The sustainability of the health schemes means a continuation of the health program. "The long-term ability of an organizational system to mobilize and allocate sufficient and appropriate resources (manpower, technology, information, and finance) for activities that meet individual or public health needs and demands" [20]. The aim of the schemes discussed in this paper is to reduce the OPE and provide financial support for costly healthcare events to the marginal income population. The intentions are clear to reach the poor and except Yeshasvini, other schemes are fully funded by the state Governments.

The RACHIS scheme is facing the financial crisis and the total pre-authorization amount has reached to INR 1557.35 Cr in between 2 June 2014 till 2016. The state government of Andhra Pradesh has approached the central government to support the scheme financially on sharing basis but the sharing formula was not accepted by the planning commission of India [21].

The premium cost of all the 5 schemes are going up and the financial burden is bearded by the state governments in 4 schemes. The state-level taxation on alcohol "sin tax" has been used in these schemes as an innovative way to support these schemes [22]. Though innovative methods have been used by the states to cover the financial burden of the schemes, still a lot needs to be done to reduce the financial burden of state governments to make it sustainable.

2. Tension 2 (Information Asymmetry and Premium)

In health insurance, there are existing well-defined problems of moral hazard and adverse selection. Moral hazard is an information asymmetry that exists when the ex-post risk is higher than the ex-ante risk of individual [23]. In simple terms consumer overuses the healthcare services as they are insured (consumer moral hazard) while a provider may suggest inappropriate and unnecessary medical care to increase the incentive (provider-induced moral hazard). Moral

hazard has been seen negatively by the economists, as in conventional theory the additional healthcare expenditure created by health insurance presents a welfare loss to the society. The healthcare expenditure is growing with the health insurance but the value for the consumer is less than that of its cost, which generates the inefficiency that is called as moral-hazard welfare loss [24].

The theory has taken a shift now, as moral hazard which is considered as welfare loss in conventional theory is now classified as welfare gain. The costly and life-critical medical treatments that the consumer cannot afford by themselves and need health insurance coverage are treated as welfare gain instead of welfare loss [25].

The five schemes discussed here provide financial support for the surgical, critical events which are life-saving and high-cost for the population under the scheme. This suggests that economist theory of welfare gain is applicable to the schemes discussed in this paper and the moral hazard associated with the schemes is welfare gain instead of welfare loss for the society.

The overhead cost associated with the non-care cost while availing the free of cost treatment is substantial to reduce the moral hazard. The income lost during the ailment and the recovery may be substantial for the family and the intrinsic unpleasantness of illness dismisses the chances of consumer side moral hazards [26]. The producer side moral hazard has been kept in control by the tight monitoring system and pre-authorization requirements which marginalize the chances of over care. All five schemes have fixed rate of tariffs for surgeries, which are lower than the market price that discourages the service providers to perform unneeded surgery.

Adverse selection is a problem when a high-risk person purchases more insurance coverage. Adverse selection induces three types of losses: efficiency losses from individuals being allocated to the wrong plans; risk sharing losses since premium variability is increased; and losses from insurers distorting their policies to improve their mix of insured.

Adverse selection, as well as moral hazard, has a positive relationship with the insurance coverage and ex-post realization of risk [27]. The adverse selection problem is marginalized when the health insurance scheme works on a large group of the randomly selected population [23]. The schemes discussed in this paper cover a huge and randomly selected population which marginalized the effect of adverse selection in the schemes.

3. Tension 3 (Availability of Services and Resource Utilization)

The choice of NWH plays important role in price negotiation as well as the quality of services. The higher level of market captured by the insurer will provide bargaining power to negotiate a lower price with the service provider [28]. The basic model of all the schemes is to provide cashless treatment for the beneficiary at NWH. The payments system has made these schemes to come under demand-side financing (DSF). DSF means that the consumer has the purchasing power of healthcare services to increase the accessibility [29]. The consumers are given the choice of NWH and it is assumed that the quality assurance has been done while selecting it [30]. The problem that the consumer may face is a lack of knowledge, education, and awareness while selecting the NWH. The DSF leads to the "money follows patients" approach [31]. The schemes have contributed to increasing the access to specialized care for the low-income group while benefiting the private sector substantially [32].

IV. Discussion

The five schemes discussed in this paper are designed for the low-income group. The schemes provide financial support for costly and surgical treatments and the key features of the schemes are described in Table II. The schemes discussed in this paper have focused on meeting the desperate growing need for the surgical and critical care.

TABLE 1
TENSION MATRIX FOR THE HEALTH INSURANCE

Driver			**Economic**	
	Focus		Financial support for OPE	
		Issue	Premium	Resource utilization
Social	Access to Quality and Affordable Healthcare	Affordability	Yes (T1)	
		Information Asymmetry	Yes (T2)	
		Availability of Services		Yes (T3)

Investment in the surgical treatments will save lives and promote economic growth. The overall comparison chart of the 5 schemes is described in Table III. Out of five schemes, only Yeshasvini is operating on the contributory mechanism, where the beneficiary and state Government of Karnataka jointly finances the scheme, rest of the schemes are fully funded by the state Governments. Except for Yeshasvini, which is designed for the farmers, the other four schemes are designed for the low-income people and the eligibility criteria are set according to income level. The entitled amount ranges from INR 100000 to INR 200000 per family per year on floater basis. The MA Yojana does not use the pre-authorization mechanism, but the rest of the schemes use pre-authorization for the reimbursement of the treatment cost. The preauthorization is used in designing the insurance scheme to put check and balances on the claim process.

The Yeshasvini scheme has an upper age limit of 75 years, but the rest of the schemes do not have any age limit for enrollment. The upper age limit is not set in the other schemes as the scheme covers the low-income population and at the higher age, the risk of getting sick is high, which forces the family to a health catastrophe.

Table I shows the issues and focus of the schemes discussed in this paper. The tension matrix shows three tension points T1, T2, T3. T1 is the tension between the affordability and premium cost and except Yeshasvini, rest of the schemes are facing huge financial crunch and putting the additional financial burden on the state governments. The states are

levying additional taxes on alcohol and tobacco products to increase their revenue to cope up with this financial burden.

TABLE II
FEATURES OF THE HEALTH INSURANCE SCHEME

Scheme	RACHIS	CMCHIS	YCFHCS	RGJAY	MAY
Eligibility	Citizen earning less than INR75,000 in urban and INR 60,000 in rural annually	Citizens having annual income of INR 72, 000 or less	The Farmers who are members of cooperative society for at least 6 months	Families holding yellow ration card, Antyodaya Anna Yojana card (AAY), Annapurna card and orange ration card	Families having annual income of less than INR 120000
Entitled Amount	INR 1.5 Lakh and a buffer of INR 0.5 Lakh	INR 100000 per family per year can extend up to INR 150000	INR 125000 in case of single admission and INR 200000 in case of multiple surgeries	INR 150000 per family per year	INR 200000 per family per year
Floater Basis for family	Yes	Yes	Yes	Yes	Yes
Preauthorization	Yes	Yes	Yes	Yes	No
Collaboration of Insurance Company	Yes	Yes	Yes	Yes	No
Number of Procedures	942	1016	823	971	544
Upper Age Limit	No	No	75 years	No	No
Contribution by beneficiary	No	No	INR 250 per member	No	No

TABLE III
COMPARISON OF FIVE SCHEMES

Scheme	RACHIS	CMCHIS	YCFHCS	RGJAY	MAY
Affordability/ Financial Sustainability	No	No	Yes	No	No
Moral Hazard	Yes	Yes	Yes	Yes	Yes
Adverse Selection	Yes	Yes	Yes	Yes	Yes
Adverse selection on Hospitals (Public/Private)	No	No	No	No	No
Income Group	Low	Low	Low and Middle Income	Low	Low
Spreading Awareness for Health Insurance in Rural Region	Yes	Yes	Yes	Yes	Yes

T2 is the tension Information Asymmetry and premium. The problem of moral hazard and adverse selection is persisting problems for a health insurance. The procedure covered under the schemes is mostly surgical events and the beneficiary covered under these schemes is a low-income population. These schemes have increased the accessibility and affordability of the low-income population to avail the costly medical procedures and act as a welfare gain for the society. The problem of adverse selection is marginalized as the schemes discussed here select the random large group of the population.

The moral hazard has been kept in control by the tight monitoring system and pre-authorization requirements which marginalize the chances of over care. The preauthorization can be seen as the gatekeeping function that controls the access of the services valued by the masses [33]. The gatekeeping function is used for coordination of specialized care, cost control, referral, and equality. The gatekeeping function can be justified by the information asymmetry. Several countries have the national gatekeeping function like Austria, Poland, Turkey, and Sweden.

T3 is the tension between the availability of services and resource utilization. The choice of the insurer, as well as the NWH, plays important role in deciding the cost of the plan. The market power has enabled the insurance provider to bargain with the service provider to provide services at a lower cost. This cost competition has pushed the private hospitals to optimize the cost by design the system that works on optimal resource utilization. Bigger chain of NWH provides the increased choice to the beneficiary which leads to adverse selection and private sector healthcare providers are getting benefitted.

V. CONCLUSION

The challenge that India is witnessing in the current scenario is large BPL population and high OPE for health care. The governments are taking measures to improve the health status by purchasing health care services and insurance plans from private service providers on behalf of marginalized income people. The five health insurance schemes discussed in this paper have an identical aim (for poor) and target services (mostly surgical and costly events). The difference comes in the number of surgical events, administration, and management. Except for the Chief Minister's Comprehensive Health Insurance Scheme that allows NWH in neighboring states, rest of the schemes work under intra-state boundary. To give added benefits to the beneficiary, the other four schemes can add the facility of having NWH in neighboring states.

Similar schemes are coming up in different states like Himachal Pradesh has started Mukhya Mantri State Health Care Scheme (MMSHCS) from the financial year 2015-16. Rajasthan has also launched a similar scheme Bhamashah Swasthya Bima Yojana (BSBY) a top-up scheme over RSBY, and Goa has launched Deen Dayal Swasthya Seva Yojana. This shows that there is a political will as well as the social need for such schemes in every state of India.

A single such scheme can be launched with the help of the central Government in all the states and Union Territories of India. The implementation issues regarding the scheme with pros-and-cons are well known with the experience of the above schemes. RSBY has been launched by the central

Government but the coverage is mere INR 30000 and the covered medical ailments are limited. The schemes discussed in the paper have a wider range of surgical treatments covered under the scheme those can be clubbed with RSBY. The nationwide scheme will increase the customer base and the number of the beneficiary. This will provide a better negotiation power to the central Government with the service providers (insurance company and healthcare providers) to design better plans and services for the target population.

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