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Original Article

Insurance coverage under different health schemes in Uttar Pradesh, India

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ABSTRACT

Background: Health insurance is advocated as a means for improving healthcare utilization, reducing rising healthcare cost and protecting households against impoverishment by high medical expenses. This study addresses the research question that whether health insurance schemes have been able to provide financial risk protection to a larger segment of the society?

Objective: The study aims to review the status of Health Insurance Schemes in terms of providing financial risk protection to the people in Uttar Pradesh (UP), India.

Data and methods: The present study is drawn from the unit level records of the 71st round of National Sample Survey Office (NSSO). Out of this nationwide survey, we considered only UP for this study. Data were analyzed using STATA 13.0. We used bivariate cross-tabulations to highlight salient feature of insurance coverage with socio-economic and demographic characteristics.

Results: The results reveal that the government funded insurance schemes (Employee State Insurance Scheme (ESIS), Rashtriya Swasthya Bima Yojna (RSBY) and Central Government Health Scheme (CGHS)) and others have succeeded to provide financial support to a very limited population. Only 4.8% population are covered by any health insurance scheme in UP. **Conclusion:** Reducing high out-of-pocket expenditure through health insurance coverage is a major concern, and therefore, there is a need to maximize the coverage under different health insurance schemes in UP. Otherwise, growing number of people will keep falling into poverty in the future.

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1. Introduction

Owing to the low level of public spending on healthcare services in India, over 70% of the population is forced to go for high out-of-pocket spending in the private sector.¹ Rising medical expenditures not only prevent Indians from accessing healthcare services but also drag them further into poverty.²

As per the Rangarajan Expert Group Report, 29.5% of the Indian population lives below the poverty line.³ These poor residents are the most underprivileged people with high healthcare needs.⁴ A study carried out by Hooda⁵ shows that 40% of the inpatient spending is met through borrowing (33%) and sale of assets (6%), and the remaining is supported through household income or savings (48%) and help obtained from friends (12%), while 80% of the outpatient spending is financed

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through own income or savings. The study thus suggests that high out-of-pocket spending is covered largely through borrowing; therefore, it becomes important that people, particularly poor, should be protected from it for their health needs.^{5,6}

Due to large-scale privatization, health insurance has become the preferred method for financing healthcare in India today.⁷ Health insurance is advocated as a means for increasing healthcare utilization by removing affordability constraints and protecting households against impoverishment suffered due to high medical expenses.^{5,8} Vishwanathan⁹ suggested that health insurance is one of the measures of social security by which members of the community are assured benefits of both maintenance of health and medical care when they fall sick. Though insurance existed in India in the pre-economic liberalization phase, yet it was only after 1999 when the insurance sector was opened up to foreign investment that it gained ground among the people as a means of financing healthcare expenditure.¹⁰

Uttar Pradesh (UP) is the largest state in India and is also the state with the highest population in the country.¹¹ It also has the unfortunate distinction of having an above average poverty ratio, as 39.8% of its population lies below the poverty line.³ Furthermore, it has the highest disease burden in the country, which greatly increases the demand for affordable healthcare within the state.⁴ Scanty availability of public healthcare services, particularly in the most needed pockets, is responsible for high dependence on private providers to meet the health needs of the state's ailing population.¹² Lack of insurance coverage has been found to be an important reason restricting the individual's access to healthcare services.⁵ Perceiving the need for greater insurance coverage to enhance health service access, both the state and federal governments have introduced several health insurance schemes, such as the Employee State Insurance Scheme (ESIS) and Central Government Health Scheme (CGHS), for its formally employed labourforce.⁸ The CGHS was introduced in 1954 as a contributory health scheme to provide comprehensive medical care to the central government employees and their families. It was basically designed to replace the cumbersome and expensive system of reimbursement. ESIS provides both the cash and the medical benefits. It is managed by the Employees State Insurance Corporation (ESIC).⁸ It was conceived as a compulsory social security benefit for workers in the formal sector. Similarly, in recent years, the central government introduced the *Rashtriya Swasthya Bima Yojna* (RSBY), which is a flagship programme, launched by the Ministry of Labour and Employment, Government of India in 2008 for all Below Poverty Line (BPL) families. It provides coverage for hospitalization costs up to Rupees 30,000 (USD 441) for five members of a family.¹³

Despite having a large disease burden,⁴ UP carries the highest proportion of the population dependent on private sources of healthcare for their health needs.¹⁴ As insurance is being promoted heavily in India to increase affordability and accessibility to health services, this study addresses the research question: whether health insurance schemes have been able to provide the financial risk protection to larger segments of the society? Therefore, the present study reviewed the status of Health Insurance Schemes in terms of providing financial risk protection to the people.

2. Data and methods

2.1. Data source

The present study is drawn from the unit level records of the 71st round of National Sample Survey Office (NSSO) on 'Social Consumption: Health'. This survey was conducted in the country from January to June, 2014.¹⁵ A stratified multi-stage sampling design is generally used in socio-economic surveys undertaken by NSSO. This survey aimed at generating basic quantitative information on the behaviour of the sample households seeking treatment (for ailments) during the past 15 days and hospitalization (as inpatients) during the past 365 days. The information on insurance coverage was collected for both reference periods. This survey offers detailed information on healthcare, including expenditure incurred on treatment for more than 60 diseases, including communicable, non-communicable, reproductive and other illnesses. One of the vital components of the schedule was dedicated to collect information, which was relevant for determination of the prevalence rate of different diseases among various age–sex groups in different regions of the country.

2.2. Variable used

In this phase of survey, respondents were asked “whether they are covered by any scheme for health expenditure support?” If, yes, then they were asked for type of Scheme: (1) Government funded insurance scheme (RSBY, CGHS, ESIS and others); (2) Employer supported health protection (other than government); (3) Arranged by household with insurance companies; (4) Not covered. This allows us to identify the insured and uninsured people under a particular scheme. Table 1 shows the percentage distribution of the study population covered by different types of health insurance schemes in UP. As depicted in the table, 95% of the sampled population was not covered by any type of insurance scheme. Only 3.27% reported using government funded insurance schemes (RSBY, CGHS and ESIS), followed by Employer supported health protection (0.73%).

2.3. Data analysis

In this nationwide survey, overall 47,083 inpatients (who visited hospital during the past 365 days) were surveyed in UP. Out of the total inpatients surveyed, UP carries 10.97% (5470)

Table 1 – Distribution of samples in UP.

Type of insurance	%	N
Government funded insurance scheme (RSBY, CGHS, ESIS and others)	3.27	1612
Employer supported health protection (other than government)	0.73	288
Arranged by household with insurance companies	0.12	123
Others	0.03	56
Not covered	95.8	45,004
Total	100	47,083

hospitalized persons. Data were analyzed using STATA 13.0. Bivariate cross-tabulations have been used to highlight the salient features of the insurance coverage. These have been tabulated with socio-economic and demographic characteristics of the sampled population and usual monthly per capita consumption expenditure (UMPCE).

3. Results

3.1. Insurance coverage

Health insurance protects people against catastrophic financial burden resulting from unexpected illness or injury⁶; hence, it is considered as being an integral aspect of any poverty reduction strategy. The present study reveals that the government funded insurance schemes, including RSBY, CGHS and ESIS, cover only 3.3% population in UP (Fig. 1), which is around four times lower than India's national average (12.8%). Publicly run insurance schemes are performing below par in rural areas (3%) of UP than in the urban parts (4.3%). Furthermore, it was found that RSBY, which targets the BPL population, too did not cover all people living below the poverty line in the state.⁹ It is thus significant to note that 95.8% of the people in UP are not protected under any health insurance scheme. Whilst comparing it with the national figure, it was found that the state lagged behind the national average, wherein 84.8% population lacked an insurance cover.

3.2. Insurance coverage by socio-demographic characteristics

Fig. 1 shows that around 86% of the rural population and 82% of the urban population were still not covered under any insurance scheme in India.¹⁵ It was also observed that such coverage was broadly correlated with levels of living in both rural and urban sectors. However, the relationship is stronger in urban than in rural areas. In UP, only 4.2% population is

covered by any health insurance scheme. Within the different age groups (Table 2), people belonging to 60–69 years age group have a slightly higher coverage (7.79%) than the age group of 0–15 years (3.04%), which is found statistically true for all the age groups ($p < 0.01$). Further, the study reveals that people residing in urban areas are found to be slightly less protected (4.68%) than people living in rural areas (4.90%), which is also found true in the statistical test ($p < 0.01$). Education was found to play an important role in mediating access to health insurance.¹⁶ In the present study, it was revealed that people holding a graduate degree had a higher proportion of insurance coverage (9.08%) than their lesser educated counterparts.

Caste-wise cataloguing of the NSSO 71st round data also revealed difference in the insurance coverage of different social groups. People belonging to Scheduled Castes (SCs) had the highest insurance coverage (5.51%), followed by Other Backward Castes (3.75%), others (3.99%) and Scheduled Tribes (1.15%), which is found statistically significant ($p < 0.01$), as depicted in Table 2. Health insurance schemes were also found wanting in their ability to protect the BPL population of the state, given that their coverage was limited to just 4.66% of the beneficiary population.

The people, who belong to the poorest wealth quintile in rural areas, have better access to government health insurance schemes (4.5%) than their urban counterparts (1.7%). However, in urban areas, as the wealth quintile increases, access to government insurance schemes also increases. It was also observed that a relatively higher proportion of the population falling in the richest wealth quintile category in urban areas had access to private sector insurance schemes (Table 3A). The results further show that people belonging to the richest category have the highest insurance cover than any other socio-economic group, at 27%. Only 2.3% households of richest wealth quintile of urban areas had some arrangement of medical insurance from the private providers, while in rural areas, across all economic groups, the extent of private insurance cover was negligible (0.1%).

Fig. 1 – Insurance coverage under different schemes in UP and India, NSSO-2014.

Table 2 – Percentage distribution of insurance coverage with background characteristics in UP, NSSO-2014.

Background	Government funded (e.g., RSBY, CGHS and ESIS)	Arrange by household with insurance companies	Employer supported health protection (other than government)	Not covered	χ^2	<i>p</i>
Age						
00–15	2.28	0.71	0.05	96.96	136.5	***
16–49	3.77	0.78	0.15	95.3		
50–59	3.35	0.49	0.24	95.93		
60–69	6.12	1.22	0.45	92.21		
70 and Above	4.39	0.16	1.14	94.31		
Sex						
Male	3.32	0.67	0.18	95.84	1.36	
Female	3.26	0.8	0.12	95.81		
Place of residence						
Urban	2.97	1.61	0.1	96.32	272.2	***
Rural	4.39	0.15	0.36	95.10		
Education						
Illiterate	2.94	0.63	0.08	96.35	98.7	***
Up to Primary school	2.8	0.75	0.07	96.38		
Up to Intermediate school	3.65	0.56	0.22	95.57		
Graduation and above	6.28	2.04	0.75	90.93		
Caste						
Scheduled tribes	1.09	0.03	0.03	98.85	276.2	***
SCs	4.99	0.38	0.14	94.49		
OBC	2.65	1.01	0.09	96.25		
Others	3.14	0.51	0.34	96.01		
Poverty level						
APL	2.08	1.73	0.2	95.99	42.15	***
BPL	3.87	0.74	0.06	95.36		
Level of care						
Public	5.86	0.19	0.22	93.72	37.84	**
Private	3.42	0.95	0.51	95.12		
Total	3.29	0.73	0.15	95.82		
Note: χ^2 : Chi-square value, <i>p</i> : <i>p</i> -value.						
Significance level:						
* <i>p</i> < 0.10; 90% confidence interval.						
** <i>p</i> < 0.05; 95% confidence interval.						
*** <i>p</i> < 0.01; 99% confidence interval.						

Table 3B presents the insurance coverage of hospitalized people for the past 365 days, which is correlated with UMPCE of respondents. Half of those hospitalized in the given time duration, belonging to the poorest wealth quintile of rural areas, were protected by a publicly financed health insurance scheme. In urban areas, the same figure for people belonging to the poorest wealth quintile category stood at 17%. However, among the richest of the hospitalized population in urban areas, 35% were protected by government funded insurance schemes. There is a huge difference in insurance coverage arranged by households with insurance companies; the inpatients of the richest wealth quintile of rural areas had eight times lower coverage (8%) than inpatients of urban areas (64%). Further, under employer supported health protection, the gap is also very high between those who had received inpatient care in the richest wealth quintile in rural (5%) and urban (40%) areas of UP.

3.3. Choice of provider (public/private) for hospitalization under insurance schemes

The percentage of the choice of provider for hospitalization at different levels (public or private hospitals) in the past 365 days is shown in Fig. 2. It was found that among the people covered by publicly funded insurance schemes (RSBY, CGHS and ESIS), most of them were hospitalized in private (66.5%) health facilities in comparison to public (33.5%) facilities. In urban areas of UP, among those who enjoy insurance coverage arranged by a household, 98.5% were hospitalized in private hospitals. Further, the results reveal that under employer supported health protection (other than government) schemes, 72% reported being hospitalized in private health facilities, while only 28% sought recourse in public hospitals.

Table 3A – Percentage distribution of insurance coverage under different usual monthly per capita consumption expenditure (UMPCE) in UP, NSSO-2014.

Type of insurance coverage	Government funded (e.g., RSBY, CGHS and ESIS)		Arrange by household with insurance companies		Employer supported health protection (other than government)		Not covered		χ^2	p
UMPCE quintile	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban		
Poorest	4.5	1.7	0	0	0.6	0.9	95	97	143.2	***
Poorer	3.4	2.1	0.1	0.1	0.2	0	96	98		
Middle	1.3	2.3	0.1	0.2	0.8	1.6	98	96		
Rich	2.2	11.4	0	0.5	1.1	1	97	87		
Richest	1.1	18.6	0.1	2.3	0.4	5.5	98	73		
Total	3	4.3	0.1	0.3	0.6	1.1	96	94		

Note: χ^2 : Chi-square value, p: p-value.
Significance level:
* $p < 0.10$; 90% confidence interval.
** $p < 0.05$; 95% confidence interval.
*** $p < 0.01$; 99% confidence interval.

Table 3B – Percentage distribution of insurance coverage under different usual monthly per capita consumption expenditure (UMPCE) for hospitalized people in UP, NSSO-2014.

Type of insurance coverage	Government funded (e.g., RSBY, CGHS and ESIS)		Arrange by household with insurance companies		Employer supported health protection (other than government)		Not covered		Total	
UMPCE quintile	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Poorest	50	17	8	2	34	32	32	45	33	43
Poorer	27	12	33	4	9	0.6	23	25	23	25
Middle	9	7	42	10	26	18	21	13	21	13
Rich	11	29	8	20	26	9	15	10	15	11
Richest	3	35	8	64	5	40	8	6	8	8

4. Discussion

In the present study, we reviewed the extent to which people are financially protected under different health insurance schemes in UP. The results reveal that in UP health insurance is still not particularly popular among the people. Around 96% people of UP do not come under the purview of any health insurance scheme. However, the critical goal of any health financing strategy is to protect households from financial catastrophe and impoverishment.^{16,17} Since 2003, the central and state governments have launched various new medical insurance schemes covering different sections of the population. Despite their professed goal of providing financial cushion to patients suffering from illness and seeking healthcare, the track record of such insurance models has been by and large poor in securing financial risk protection to the beneficiary population.^{18,19}

It is widely acknowledged that India has the largest private healthcare system in the world, with 72% of health expenditure being financed by the private sector.^{20–22} It is interesting to observe that a large share of households covered by insurance

essentially prefer utilizing private facilities in UP. This can also be seen as an indictment on the state of UP's public healthcare infrastructure. The public system in the state, suffering from years of under-investment, is marked by poor quality of healthcare services, long waiting times and inadequate healthcare staff.⁴ Such a state of affairs has meant that the government healthcare infrastructure has failed to cater the healthcare needs of the state's population.¹² Hooda⁵ has observed that weak service delivery system, in terms of insufficient health facilities, may diminish due to the likely impact of publicly financed insurance schemes on access to healthcare use. Shahrawat and Rao²³ have carried out a study and found that social health insurance programmes of India cover only hospital expenses. Leaving out expenditure incurred in seeking outpatient care and the cost of drugs, on which a substantial portion of health expenditure is made, has meant that such schemes have failed to effectively protect the poor from high out-of-pocket payments.²³ In addition, the results show that the government insurance schemes seem to be more favourable for people aged 60 years and above. As health insurance in the Indian context is an emerging social security instrument,²⁴ in the face of deteriorating public

Fig. 2 – Choice of provider for hospitalization under each insurance scheme in UP, NSSO-2014.

healthcare infrastructure¹² and increased reliance on private facilities, better financial protection under these schemes is providing social security to elderly people.

One interesting finding of this study has been the unexpected higher insurance coverage among the SC population of UP vis-à-vis other social groups. SCs occupy the lowest rung of the caste ladder in India and are among the most deprived socio-economic communities in India and in the state of UP.²⁵ Their improved performance in this parameter can be partially explained by the rise of the *Bahujan Samaj Party* (BSP) in UP, which has dedicated itself to economic and social uplift of this backward caste group.²⁶ In previous years, the BSP government has extended efforts to funnel development resources towards villages with large SC populations, especially through the “Ambedkar Village Scheme”.²⁶ This accounts for increasing awareness among the SCs in UP. Such and several other measures have resulted in an improved socio-economic situation of SCs in UP, though a lot more still needs to be done.

Further, the people belonging to the richest wealth quintile in rural areas are less protected under government health schemes than people of urban areas. As education, among a host of other socio-economic factors, plays a very important role in the health insurance coverage, the people of rural areas seem to have been left behind in UP. Various scholars have analyzed why publicly financed health insurance schemes are ineffective in providing financial risk protection and suggested that universal health insurance coverage of the population needs thrust and there is a need to move away from the current trend of fragmented approach.^{16,27,28}

5. Conclusion

Reducing high out-of-pocket expenditure through health insurance coverage is a major concern, and therefore, health

insurance is considered as an alternative for reducing the financial burden of the people. With insurance being promoted heavily in India, this paper serves as an important reminder that health insurance schemes are failing²⁹ in their mission to make healthcare more affordable and accessible to the population of UP. If the insurance coverage is not enhanced, growing number of people will keep falling into poverty in the future, particularly in the current scenario where government investment in improving existing public healthcare facilities is declining. The study highlights the need to enhance public health spending on healthcare. Given that the focus of government spending on healthcare has been towards insurance, the government, in order to maximize financial protection, needs to enhance awareness especially among marginalized sections of the society and to encourage the civil society sector to work to participate in this collaborative effort in enhancing knowledge among people regarding schemes initiated for their benefit.

Conflicts of interest

The authors have none to declare.

REFERENCES

1. Berman P, Ahuja R, Bhandari L. The impoverishing effect of healthcare payments in India: new methodology and findings. *Econ Polit Wkly*. 2010;14:65–71.
2. Ladusingh L, Pandey A. Health expenditure and impoverishment in India. *J Health Manag*. 2013;15:57–74.
3. Government of India. Report of the expert group to review the methodology for measurement of poverty. Planning Commission; 2014. Retrieved from: http://planningcommission.nic.in/reports/genrep/pov_rep0707.pdf Accessed 10.02.16.

4. Government of India. *Family Welfare Statistics in India* 2011. Statistics Division, Ministry of health and family welfare; 2011. Retrieved from: <http://mohfw.nic.in/WriteReadData/l892s/3503492088FW%20Statistics%202011%20Revised%2031%2010%2011.pdf> Accessed 22.02.16.
5. Hooda SK. Health insurance, health access and financial risk protection. *Econ Polit Wkly*. 2015;50:63–72.
6. Misra S, Awasthi S, Singh JV, Agarwal M, Kumar V. Assessing the magnitude distribution and determinants of catastrophic health expenditure in urban Lucknow, North India. *Clin Epidemiol Global Health*. 2013;3:10–16.
7. Bhat R, Babu SK. Health insurance and third party administrators: issues and challenges. *Econ Polit Wkly*. 2004;39:3149–3159.
8. Ellis RP, Alam M, Gupta I. Health insurance in India: prognosis and prospectus. *Econ Polit Wkly*. 2000;35:207–217.
9. Vishwanathan R. Health insurance and medical services. *Indian J Soc Work*. 1996;12:70–73.
10. Government of India. A Critical Assessment of the Existing Health Insurance Models in India. In: *A Report Submitted to Planning Commission of India, Government of India*. 2011. Retrieved from: http://planningcommission.nic.in/reports/sereport/ser/ser_heal1305.pdf Accessed 10.12.15.
11. Census of India. Registrar General of India. 2011 In: http://censusindia.gov.in/2011census/censusinfodashboard/stock/profies/en/IND009_Uttar%20Pradesh.pdf. Accessed 10.09.14.
12. Kumar V, Mishra AJ. Quality of health care in primary health care system: a reflection from Indian state. *Int J Health Syst Disaster Manag*. 2015;3:136–140.
13. Rashtriya Swasthya Bima Yojna. Ministry of Labour & Employment, Government of India; 2016. Retrieved from: http://www.rsby.gov.in/about_rsby.aspx Accessed 05.02.16.
14. Jain N, Kumar A, Nandraj S, Furtado K. NSSO 71st round: same data, multiple interpretations. *Econ Polit Wkly*. 2015;50:46–47.
15. NSSO. *Key Indicators of Social Consumption of Health*. NSS 71st Round (January–June 2014). New Delhi: National Sample Survey Organization, Ministry of Statistics and Programme Implementation, Government of India; 2015.
16. Selvaraj S, Karan AK. Why publicly-financed health insurance schemes are ineffective in providing financial risk protection. *Econ Polit Wkly*. 2012;47:61–68.
17. Anderson M, Dobkin C, Gross T. The effect of health insurance coverage on the use of medical services. *Am Econ J Econ Policy*. 2012;4:1–27.
18. Wagstaff A, Lindelow M. Can insurance increase financial risk?: the curious case of health insurance in China. *J Health Econ*. 2008;27:990–1005.
19. Wagstaff A, Lindelow M, Jun G, Ling X, Juncheng Q. Extending health insurance to the rural population: an impact evaluation of China's new cooperative medical scheme. *J Health Econ*. 2009;28:1–19.
20. Bhat R, Jain N. Analysis of public and private healthcare expenditures. *Econ Polit Wkly*. 2006;41:57–68.
21. De Costa A, Johannson E. By 'default or design'? The expansion of the private health care sector in Madhya Pradesh, India. *Health Policy*. 2011;103:283–289.
22. Acharya SS. Universal health care: pathways from access to utilization among vulnerable populations. *Indian J Public Health*. 2013;57:242–247.
23. Shahrawat R, Rao KD. Insured yet vulnerable: out-of-pocket payments and India's poor. *Health Policy Plan*. 2012;27:213–221.
24. Desai S. Keeping the health in health insurance. *Econ Polit Wkly*. 2009;38:18–21.
25. Gupta D. Social stratification. In: Das V, ed. In: *Handbook of Indian Sociology*. New York: New York Publisher; 2004: 120–141.
26. Jeffrey C. Introduction: democratisation in Uttar Pradesh. In: Jeffrey R, ed. et al. In: *Development Failure and Identity Politics in Uttar Pradesh*. New Delhi: Sage; 2014:1–17.
27. Bhat R, Saha S. Health insurance: not a panacea. *Econ Polit Wkly*. 2004;33:3667–3670.
28. Reddy S, Mary I. Rajiv Aarogyasri Community Health Insurance Scheme in Andhra Pradesh, India: a comprehensive analytic view of private public partnership model. *Indian J Public Health*. 2013;57:254–259.
29. Sodhi C, Rabbani A. Health service system in India. Is insurance the way forward. *Econ Polit Wkly*. 2014;49:26–28.