

Original Research Article

Health insurance coverage and healthcare expenditure pattern in rural Mandya, Karnataka

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ABSTRACT

Background: Poverty and ill-health go hand in hand. In developing countries, high out of pocket payment, absence of risk pooling mechanism in health financing systems, and high level of poverty are said to result in catastrophic health expenditure. Health insurance (HI) is the need of the hour in the absence of Universal Health Coverage. Hence this study was undertaken to assess the health insurance coverage among people of rural field practice area of Mandya Institute of Medical Sciences, Mandya and to describe the health care expenditure pattern in the study population.

Methods: Study design was based on community based cross sectional study. Study area was at rural field practice area of Mandya Institute of Medical Sciences, which comprises of 11 villages. Study population: Permanent residents of villages in the study area. Study period was on 4 months (August 2016–November 2016). Sample size: 264 households. Sampling method: Multistage sampling. Method of data collection: Personal interview of patients/head of the family of patients admitted to a hospital during study period using semi structured questionnaire.

Results: 58.0% of the households in study area had some form of health insurance coverage. Among the covered households only 40.50% were having whole family coverage. Individual level HI coverage was 48.8%. Out of pocket (OOP) expenditure for inpatient care contributed to 83.81% of the health care expenditure.

Conclusions: HI coverage is higher than national average. But health care expenditure is largely borne out of pocket.

Keywords: Out of pocket expenditure, Health insurance, Rural households

INTRODUCTION

In the absence of Universal health coverage (UHC) all people and communities cannot use the promotive, preventive, curative, rehabilitative and palliative health services they need and use of these services expose the user to financial hardship. Protecting the families from the financial consequences of paying for health services out of their pocket reduces the risk of them being pushed into poverty because unexpected illness requires them to use up their savings, sell assets or borrow from others destroying their livelihood and often those of their children.

Around 28 crore individuals have some form of health insurance in India as on 2014-15 which is 22% of total population of India, of which 73% were under public insurance companies. Over 60% of the health care expenditure was on medicines both in rural and urban India in 2011-12.¹ Average of INR 5636 was spent on hospitalization in public hospitals while INR 21726 was spent in private hospitals.² Various types of health insurances that are available in India include Central Government HI, Social HI, Community Based HI and Private HI. Health Insurance coverage in coastal Karnataka was 57%.³ Recently Karnataka government approved a universal health coverage scheme in a effort to increase the health insurance coverage.⁴ Study conducted in neighboring district (Mysore) shows a

health insurance coverage of 41%.⁵ No published literature could be found regarding HI coverage and health expenditure in the study area. Hence this study was undertaken to assess the health insurance coverage among people of rural field practice area of Mandya Institute of Medical Sciences, Mandya and to describe the healthcare expenditure pattern in the study population.

METHODS

Study design and area

Cross-sectional community-based study carried out in Keragodu PHC area, which is the rural field practice area of Department of Community Medicine, Mandya Institute of Medical Sciences, Mandya.

Study population

Permanent residents of 11 villages in the study area who are residing in 2124 households.

Inclusion criteria

Inclusion criteria were household selected by defined sampling method in the study that provides informed consent; household who are either covered or not covered by a health insurance scheme.

Exclusion criteria

Exclusion criteria were household who are not permanent residents of Mandya.

Sample size

Sample size was calculated using prevalence of 41% from the study conducted in the neighboring district (Mysore), which came out to be 264 households with 10% allowable error.⁵ Households were selected as sampling units as most of the insurance schemes are family floaters and expenditure is done and calculated on household basis.

Sampling method: multistage sampling

Rural field practice area (Keragodu) comprises of 11 villages.

Stage 1: Total number of households to be covered from each village was determined by Population Proportional to size method.

Stage 2: In each village stratified random sampling was done to select the required number of household.

Data collection

Data collection was done during August 2016–November 2016. Details regarding socio-demographic characteristics, HI coverage, hospitalization episodes in

previous one year (November 2015 – November 2016) and health care expenditure for those events were collected by interviewing responsible adult male respondent, in the presence of other family members to gather maximum and accurate information using a pretested, semi-structured proforma. Insurance claim forms and hospital bills were referred wherever available.

Statistical analysis

Data collected were entered in MS-Excel and analyzed using Epi-info software. Descriptive statistical measures like percentage, mean, and standard deviations were calculated. Inferential statistical measures like Chi square, Mann–Whitney's test were applied. Differences were interpreted to be statistically significant at α error of 5%.

RESULTS

Among 264 households covered in the present study, 153 (58.0% with 95% CI 48.2, 67.2) households had some form of health insurance and 111 (42.0%) had no health insurance. 540 (48.8% with 95% CI 42.7, 54.8) individuals out of 1107 individuals in the 264 households had coverage with some form of health insurance.

As seen in Table 1, most of the head of the families had no formal education and were involved in semiskilled occupation i.e agriculture. Majority of the households had below poverty line (BPL) cards and most of them belonged to class V socioeconomic status according to Modified B.G. Prasad classification.

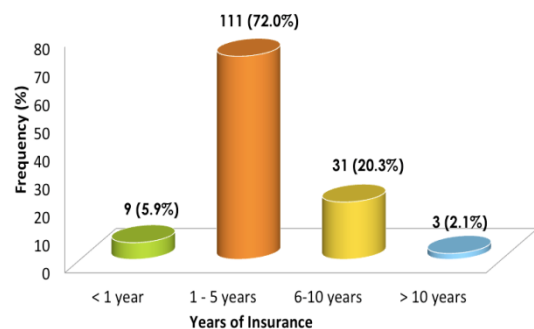


Figure 1: Distribution of households according to duration of health insurance coverage (n=153).

Most of the families were insured in last 1-5 years. (Figure 1). Most enrolled Health Insurance was Community based (Yeshashwini Scheme) followed by Social HI (Rashtriya Swasthya Bima Yojna) (RSBY). Although 218 families who had BPL cards were eligible for RSBY only 25.2% were enrolled (Figure 2).

Median premium paid was INR 890 with a range from 30 to 3900. Among the study population, 46 households had hospitalizations of one of their members in the last one year. Among them 31 had health insurance and 15 had no

health insurance. Majority of them (83.9% among insured and 66.7% among uninsured) were hospitalized for surgical conditions. Total expenditure among study population was INR 27,54,080. Among insured total expenditure was INR 14,80,580, amount claimed from

insurance was INR 3,83,580 and they have spent an INR 10,97,000 (74.1%) as Out of Pocket expenditure. Among uninsured total expenditure was INR 1273500. Overall out of pocket expenditure among the study population was 83.81%.

Table 1: Sociodemographic details and health insurance coverage status of the study participants.

Factor	Frequency	Percentage (%)
Educational status of head of the family (n=264)		
No formal education	76	29.0
Primary school	75	28.0
High school	58	22.0
PUC and above	55	21.0
Occupation of head of the family (n=264)		
Professional	7	3.0
Skilled	18	7.0
Semiskilled	199	75.0
Unskilled	28	11.0
Homemaker	12	4.0
Households having below poverty line (BPL) ration card (n=264)		
Yes	218	82.6
No	46	17.4
Socioeconomic status of the households studied (n=264) modified B G Prasad scale		
Class I	4	1.5
Class II	13	4.9
Class III	30	11.4
Class IV	46	17.4
Class V	171	64.8
Health insurance status of households (n=264)		
Insured	153	58.0
Not insured	111	42.0
Extent of HI coverage of households (individuals) (n=264)		
None	111	42.0
<25%	6	2.3
26-50%	9	3.4
51-75%	20	7.6
76-99%	7	2.7
100%	111	42.0

Table 2: Health care expenditure details of hospitalized study participants.

Category	Insured (cost in INR)		Not insured (cost in INR)	
	Total (n=31)	Median (Range)	Total (n=15)	Median (Range)
Direct health expenditure	10,97,000	15,000 (500-300000)	12,73,500	30,000 (1500-300000)
Travel (admitted patient)	1,14,410	200	9,845	500
Travel (caregivers)	25,320	550 (0-5000)	26,600	1,000 (0-2000)
Food (admitted patient)	69,100	500 (30-100000)	14,000	200 (0-10000)
Food (care givers)	36,400	1,000 (0-5000)	23,300	800 (0-6000)

In indirect costs, median costs for travel was INR 750 among insured and INR 1500 among uninsured. For food, median costs occurred was INR 1500 among insured and INR 1000 among uninsured (Table 2).

Among hospitalized, no debts were created among insured households and total debts created among

uninsured households was INR 7,38,500 and major source of debt was by private financier (82.0%). Reasons for not having health insurance were, lack of awareness 63 (57.0%), 25 (22.0%) were uncertain about its utilization and 23 (21%) were unaffordable.

Association between HI coverage and socio economic class was not statistically significant ($p=0.285$ as tested by Chi-square test – 5.022)

The difference in Out of pocket expenditure among insured and uninsured was not statistically significant as tested by Mann-Whitney U Test ($p=0.436$).

As seen in Table 3, most of the hospitalizations were due to surgical reasons in both insured and uninsured and median cost of hospitalizations was higher among uninsured when they had admitted for surgical reasons and it was more among insured when they were admitted for medical reasons. No debts were created among insured households.

Table 3: Direct health expenditure pattern.

Purpose	Insured		Not insured	
	Number of hospitalizations	Median cost in INR (Range)	Number of hospitalizations	Median cost in INR (Range)
Medical	5	15000 (1500-300000)	5	12000 (1500-100000)
Surgical	26	12500 (500-250000)	10	30000 (5000-300000)
Total	31	12500 (500-300000)	15	30000 (1500-300000)

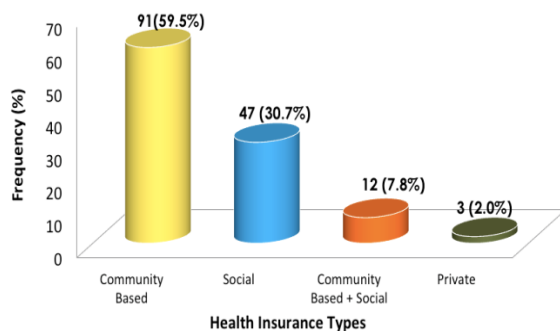


Figure 2: Types of health insurance among the insured households (n=153).

DISCUSSION

HI play a major role in financial decisions during health crisis. Present study has observed family level and individual level HI coverage of 58.0% and 48.8% respectively.

Individual level HI coverage of 48.8%, which is above the national average of 25% in the year 2011, which is because of increasing awareness over the time and activities of co-operative societies.⁷ The coverage was maximum by (a) community-based insurance scheme (Yeshaswini) which has the local enrolling unit, which easily convinces the members of the cooperative societies. Many (72.0%) had insured in last 5 years showing increasing awareness in recent times.

Household level health insurance coverage was 58% which is higher compared study conducted in 2012 by Hugara et al in Mysore (41%).⁵ Higher coverage may be due time gap between the two studies and majority of the people are involved in agricultural activities so does their involvement in cooperative societies.

Some families had insurance in previous years and lack of utilization demotivated them to renew again. In some

villages, details and photograph of the family were taken but identity cards were not distributed even after 6 months. Coverage of RSBY (31%) in our study is similar to observations by Rao who observed that only 27% of the poor families were covered under RSBY in 2011.⁸

Private sector expenditure was 70%, and most (90%) of it was OOP expenditure and remaining by HIs in India in 2010.⁹ In the present study also, OOP was predominant (83.8%). Comparatively higher OOP is because not all surgical procedures were covered under the HIs and only few patients were admitted to government hospitals in the study area during study period.

Median cost was more among insured when they were admitted for medical reasons which is due to the fact that community based HI i.e. Yeshaswini Scheme which majority had covered mainly surgical procedures.

Delay in government formalities in providing ID cards (RSBY), less number of network hospitals, and unwelcoming behavior of the hospital staff for government insurance holders are discouraging people from insuring their families. Payment of premium was considered waste of money because of uncertainty of utilization, especially for private insurance schemes.

43.0% of the study population was aware of the HI which is less compared to a study by Reshmi et al reporting 64% awareness.⁶ Reshmi reports the coverage in urban population of south Karnataka whereas our study reports rural population coverage level.

Awareness regarding available HI schemes should be increased in the rural areas to reduce OOP and prevent them from going for catastrophic health expenditure.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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