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Rising Healthcare Costs and Universal Health Coverage in India:

An Analysis of National Sample Surveys, 1986-2014

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Abstract

This paper focuses on the trends in health seeking behaviour of people and the cost of treatment and key determinants of health insurance premium payments amongst BPL and APL households by examining the National Sample Survey data pertaining to four rounds of 1986-87, 1995-96, 2004 and 2014. With variation across states, it is found that treatment seeking from public providers has declined and preference for private providers increased over the period. Although overall health seeking behaviour has improved for male and female population, a significant percentage of people, more in rural than in urban areas, do not seek treatment due to lack of accessibility and a perception that illness is 'not serious enough to require treatment'. While the health care cost has increased over time, the gap between public and private costs has reduced owing perhaps to the increased cost of treatment in public health facilities following the levying of users fees and restrictions on distribution of free medicine. Since the mid-2000s, to address healthcare needs of the poor section of society, the public insurance companies introduced low-cost hospitalisation insurance schemes such as *Jan Arogya Bima* Policy and *Rashtriya Swasthya Bima Yojana*. The analysis of the insurance premium showed that a larger proportion of households who had paid premium in 2004 as well as in 2014 belonged to higher Monthly Per Capita Expenditure (MPCE) group and was economically non-poor. Further, the inter-quintile MPCE differential (between the top and bottom quintile) shows vast inter-state inequalities in terms of both percentage of households who paid a premium and percentage having health insurance coverage. The determinants of a household getting enrolled for health insurance suggest that the gaps in odds ratios of several attributes either got reduced in magnitude or disappeared mainly due to encouraging enrollment from the poor households in RSBY. At all India level, the insured BPL/APL households on average had reported higher hospitalisation expenses than the non-insured households with much higher differential for urban households, thus indicating moral hazard and insurance collusions particularly in cities of economically prosperous states of Punjab, Haryana, Gujarat, and Maharashtra. The analysis further demonstrated that the insurance has provided a very minimal financial relief to BPL households especially living in rural India.

Keywords : India, Health seeking behaviour, health care cost, health insurance, RSBY

JEL Codes : I10, I13, I18, I19

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Rising Healthcare Costs and Universal Health Coverage in India: An Analysis of National Sample Surveys, 1986-2014

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1. Introduction

Public and private sector together spend 4.02% of Gross Domestic Product of India on health (National Health Accounts, 2013-14, NHA 2013-14 hereafter) of which 1.3 percent is spent on health by central and state governments (Economic Survey 2015-16), which is well below the world average of 5.99% (cited in Economic Survey 2016-17). Health care in India is provided by both public and private sector.

According to the NHA 2013-14, out of pocket expenditure constituted 69.1% of the total health expenditure. Methodological differences apart, several scholars have shown that out of pocket health expenditure is responsible for making people vulnerable to poverty (Gumber, 2000; World Bank, 2001; van Doorslaer et al., 2006; Selvaraj et al., 2009; Berman et al., 2010). It may be noted that private health expenditure is higher than public expenditure across states.

The burden of out of pocket expenditure falls on a quarter or a third of the households with incomes below the poverty line (Deolalikar et al., 2008), which has impacts like (1) reduction in the consumption of other items including food; (2) increased indebtedness; (3) growing untreated illness; and (4) gender bias in health seeking behaviour (Sen, 2003).

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Though public health system has several drawbacks in India, it has been evident from the previous National Sample Survey Organisation (NSSO) Rounds that public health services are the preferred option, particularly, for inpatient care (Gumber 2002). Moreover, health outcomes, especially, infant mortality, respond more to public health and local clinical interventions than to hospital care (Deolalikar et al., 2008) and these may vary across states.

In this paper, we compare the health and morbidity scenarios prevalent in India at four-time points using the NSSO surveys conducted during 1986-87, 1995-96, 2004 and 2014 and try to discern the trends in the use of healthcare and treatment costs. In addition, this paper also looks at the determinants of health insurance contribution by individuals. These four Rounds cover three important periods of growth - the liberalization period of the 1980s, the period of fiscal contraction in the 1990s that saw the decline in social spending (Bhat et al. 2006, Selvaraj et al., 2009), the phase of globalization and launch of National Health Mission. We will also examine whether the states have recovered from the fiscal shock and restored their social spending on health, particularly. We have considered 17 major states of India and the all-India averages presented include all the states and union territories in India. A few bifurcations of states have taken place since November 2000; hence in order to compare between NSSO Rounds, we have added Chhattisgarh with Madhya Pradesh, Uttaranchal with Uttar Pradesh and Jharkhand with Bihar. Further, in order to compare the increase in the cost of treatment in real terms, we have deflated the cost of treatment by thewholesale price index for pharmaceutical products at 1993-94 prices.

The paper is structured in four sections, including the introduction. In Section 2, a brief health scenario of India and the expenditure on health by different states are presented. Section 3 examines the healthcare use pattern and associated cost of treatment for inpatient and outpatient care. Section 4 presents the determinants of accessing health insurance. The last section presents the conclusions.

2. Health Scenario in India

With the increasing attention towards achieving better health, India has accomplished significant health improvement in terms of higher life expectancy and lower level of mortality over the last 50 years. According to health indicators compiled by Government of India (Central Bureau of Health Intelligence,2015), the birth rate had declined from 25.8 in 2000 to 21.6 in 2012 and the crude death rate has declined from 8.5 to 7 during the same period. Other health indicators like infant mortality rate, maternal mortality rate also have declined over the period as a cumulative impact of various measures introduced in previous Five Year Plans. The infant mortality rate has decreased three-folds from 120 per 1,000 live births in the 1970s to 40 in 2013. The maternal mortality ratio is estimated to have declined from 400 maternal deaths per 100,000 live births in 1997-98 to 178 in 2010-12. In spite of these improved health outcomes, substantial inequities in the health outcomes prevail among the states (Balarajan et al., 2011).

However, India's achievement has been slow when compared to other Asian countries like China, Indonesia, Thailand, Malaysia, the Republic of Korea, and Sri Lanka. Also, the country is faced with new challenges. The main challenge is the ongoing epidemiological transition and the rapidly growing burden of disease.Though India has substantial achievements in controlling communicable diseases, still they contribute significantly to the disease burden of the country. The decline in morbidity and mortality from communicable diseases have been accompanied by a gradual shift to the prevalence of chronic non-communicable diseases (NCDS) such as cardiovascular disease, diabetes, chronic obstructive pulmonary disease, cancers, mental health disorders and injuries. According to the National Health Policy 2015, overall, communicable diseases contribute to 24.4% of the entire disease burden while maternal and neo-natal ailments contribute to 13.8%. Non-communicable diseases (39.1%) and injuries (11.8%) now constitute the bulk of the country's disease burden.

In view of the prevailing diseases, it is essential that the government health expenditure in India increases considerably. There is a clear demarcation between central and state provision and financing of various health services. Both curative health care provision and financing are

considered to be a state subject. State fully finances hospital services, primary health care facilities and Employees' State Insurance Scheme (ESIS). Medical education and family welfare programmes are fully financed by the central government. Most of the national disease control programmes are funded by the centre and states on a 50:50 sharing basis. However, in terms of total expenditure on these programmes state's contribution turns out to be about three-fourths, i.e., only basic inputs are shared equally. The state has to bear all the administrative cost including salaries of the staff. The centre and states share capital investment equally. Out of the total expenditure on medical education and research, the central government's share is little over 40%. Thus, by and large, the states fully finance all the curative care services. It implies that the economic conditions and financial and human resources at the state level have a direct bearing on the health outcomes.

Table 1: Comparative Indicators of National Health Accounts for 2004 -05 and 2013-14

Sr. No.	Indicators	NHA 2004-05	NHA 2013-14
1	GDP (Rs. Crores)	3149412	11272764
2	THE as % of GDP	4.2	4.0
3	CHE as % of THE	98.9	93.0
4	Total Govt. Health Exp. As % of THE	22.5	28.6
5	Household Health Exp. As % of THE	71.1	67.7
6	OOPE as % of THE	69.4	64.2
7	Firms as % of THE	5.7	2.4
8	Social Health Insurance (including govt. based voluntary insurance and reimbursement for government employees) expenditure as % of THE	4.2	6.0
9	Private Health Insurance as a % THE	1.6	3.4

Note: THE, CHE, and OOPE refer to Total Health Expenditure, Current Health Expenditure, Out of Pocket Expenditure, respectively.
Source: National Health Accounts, 2013-14, p.14.

The major indicators presented in the NHA 2013-14 (Table 1) bring out four facts that are important for the paper: (1) the increase in the share of total government health expenditure to 28.6%; (2) the decline

in the household health expenditure to 67.7% of total health expenditure; (3) the decline in out of pocket expenditure to 64.2% from 69.4% in 2004-05; and (4) increase in the social health insurance and private health insurance in 2013-14.

Against this broad background, we will analyse in the following section the pattern of health care use across the 17 major states.

3. Pattern of Health Care Use

The percentage of illnesses treated based on medical advice is more an indicator of the **health seeking behaviour** (HSB) of consumers than of morbidity alone. The data presented in Table 2 on the share of treated illnesses by gender brings out the inequities in the health-seeking behaviour in rural and urban areas. It reveals that at the all-India level, the share of treated illnesses for both males and females has remained almost the same for rural and urban areas in 2014 as compared to 1986-87. But within the states, there are wide variations indicating both positive and negative trends.

At all India level for both the sexes, there has been a marginal improvement in the HSB in rural and urban areas in 2014 compared to 1986-87. In both rural and urban areas a decline in HSB is observed in 2014 over 1986-87 in Assam and Bihar; rural Himachal Pradesh, Uttar Pradesh and West Bengal; decline in HSB is observed in urban areas of Jammu and Kashmir, Karnataka and Punjab.

Comparison of the changes in the decade 2000 reveals the following. HSB has increased marginally between 2004 and 2014 for both the sexes. Variation across states point out that HSB has declined in Assam, Bihar (a sharp decline) and Rajasthan and marginally in West Bengal in the rural areas. The sharp decline in HSB is observed in urban areas of Assam, Bihar, Jammu and Kashmir and Punjab. Relatively a smaller decline is observed in the urban areas of Odisha and Madhya Pradesh.

Table 2: Share of Treated Illnesses (as Percentage of All Illnesses Not Requiring Hospitalisation) by Gender, 1986-87 to 2014

Major States	Males rural				Females rural				Both sexes rural			
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014
Andhra Pradesh	63.2	76.9	79.7	82.1	56.3	71.9	73.2	87.5	59.7	74.5	76.2	84.8
Assam	77.1	56.2	76.9	65.8	76.3	55.7	81.2	80.7	76.7	56	79	74.8
Bihar	85.2	78.6	80.3	68.2	84.1	77.6	80.9	59.7	84.7	78.1	80.6	63.8
Gujarat	89.1	94.7	80.4	91.1	87.9	89.4	85	88.4	88.5	92.1	82.7	89.8
Haryana	90.3	98.7	94.6	85.6	90.7	95.4	92.5	99.3	90.5	97	93.5	93.4
Himachal Pradesh	94.8	89	93.7	96.1	98.1	86.2	95.6	93.2	96.5	87.5	94	94.2
Jammu & Kashmir	90.5	94.7	85.7	98.4	85.1	92.7	78.1	89.9	87.9	93.7	82	93.5
Karnataka	88.5	83.9	76.8	93.7	87.3	72	77.2	95.6	87.9	77.5	77	94.7
Kerala	93.4	87.9	83	94.4	91.2	88.6	86.3	96.9	92.2	88.3	87	95.8
Madhya Pradesh	74.5	85.1	85.5	90.5	71.8	82.4	89.1	90.2	80	83.7	87.4	90.4
Maharashtra	79.8	90.4	88.6	93.3	80.2	86.8	87.7	93.1	73.3	88.6	88.1	93.2
Odisha	70.7	69.3	75.7	88.6	68.8	66.1	76.4	79.1	69.7	67.7	76	83.4
Punjab	94.6	99.4	94.8	94.6	93	98.6	93.2	95.6	93.8	99	93.9	95.2
Rajasthan	84.5	86	88.6	90.7	81.7	95.1	91.7	84.7	83.2	89.8	90.2	87.1
Tamil Nadu	75.2	75.9	77.6	91.8	75.7	79.2	78.6	93.9	75.3	77.6	78.1	93.0
Uttar Pradesh	89	91.3	76.7	84.9	85.5	89.9	76	82.6	87.4	90.6	76.4	83.7
West Bengal	84.4	79.4	83.4	79.2	81.5	80.8	77.1	79.8	83	80.1	80.3	79.5
All-India	82.8	83.8	81.9	85.7	80.2	81.6	81.7	85.7	81.5	82.7	82	85.7

Major States	Males urban				Females urban				Both sexes urban			
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014
Andhra Pradesh	77.3	87.2	88.8	91.6	66.2	82.8	86.8	92.2	71.4	85	87.7	91.9
Assam	90	68.5	97.3	94.7	84.8	59.6	91.9	40.2	87.3	63.6	94.3	65.3
Bihar	92.7	84.2	87.1	55.5	91.2	84.8	88.4	64.9	91.5	84.5	87.7	59.6
Gujarat	94.3	95.8	92	96.2	95.2	97.1	93.9	95.2	94.7	96.5	92.9	95.7
Haryana	91	97.8	94.7	99.8	91	98.8	97.8	96.2	91	98.4	95	98.0
Himachal Pradesh	100	96.9	100	98.9	100	97.6	91.5	99.4	100	97.2	92	99.1
Jammu & Kashmir	98.3	96.8	93.7	96.6	98.1	98.6	94.7	75.4	98.2	97.6	94.2	84.9
Karnataka	93.4	89.6	84.8	90.0	96.7	93.2	87.1	95.2	95.1	91.4	86	93.0
Kerala	91.5	89.6	88.9	92.7	89.4	88.8	90.7	94.5	90.4	89.2	89.9	93.8
Madhya Pradesh	88.6	94.8	96.7	92.9	86.3	91.5	94.1	93.2	95.4	93.3	95.3	93.1
Maharashtra	95.2	92.2	91.3	93.2	95.5	92.4	92.6	96.4	87.4	92.3	91.9	94.8
Odisha	88.4	84.3	86.8	84.5	89.5	88.6	86.3	81.3	88.9	86.6	86.6	82.8
Punjab	97.4	96.5	96.8	85.1	95.3	96.5	96.4	87.2	96.4	96.5	96.6	86.3
Rajasthan	90	80.6	88.8	93.5	90.3	88.5	90	97.5	90.2	89.6	89.4	95.5
Tamil Nadu	89.2	90.9	89.8	93.9	88.4	92.8	83.9	92.9	88.8	92	86.5	93.3
Uttar Pradesh	87.9	94.7	87.6	87.8	87.7	92.6	88	90.0	87.8	93.5	87.8	89.1
West Bengal	90.7	91	84.8	93.3	85.2	88.8	81	89.9	87.9	89.9	82.8	91.3
All-India	90.2	91	89.6	91.3	88.1	90.3	88.7	91.9	89.1	90.7	89.1	91.7

A marginal increase in HSB is observed for males at all India level in 2014 over 1986-87 in both rural and urban areas. Across the states, relatively a steeper decline is observed in rural areas over the same period for Assam, Bihar, Haryana, Uttar Pradesh and West Bengal.

States that show significant increases in male HSB are J&K, Madhya Pradesh, Maharashtra, Odisha and Tamil Nadu particularly in rural areas. A Smaller increase in HSB is observed in rural Gujarat, Himachal Pradesh, Odisha, and Rajasthan.

As far as the males in urban areas areconcerned, a steep increase is observed in 2014 over 1986-87 in Andhra Pradesh alone from 77.3% in 1986-87 to 91.6% in 2014. Similarly, a steep decline is observed in the case of Bihar from 92.4% in 1986-87 to 55.5% in 2014. A relatively smaller increase in HSB for urban males is observed in the case of Gujarat, Haryana, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu and West Bengal. The position of UP has remained unchanged.

A relatively smaller decline in HSB is observed in Himachal Pradesh, Jammu and Kashmir, Karnataka, Maharashtra, Odisha and Punjab over the same period. But the decade of the 2000s is different than the overall period. At all India level, HSB has increased for both rural and urban males in the decade of 2000. At the state level, a notable decline in the case of Assam, Bihar, and Haryana is observed in 2014 compared to 2004.

Sharp increases in HSB have been registered by rural males in the case of Gujarat, Jammu and Kashmir, Karnataka, Kerala, Odisha, Tamil Nadu and Uttar Pradesh. In the case of urban males, Bihar has registered a steep decline from 87.1% in 2004 to 55.5% in 2014. Except for the smaller declines observed in the case of Assam, Himachal Pradesh, Madhya Pradesh and Punjab, other states have registered an increase.

At the all India level, HSB for females shows a smaller increase in 2014 over 1986-87 in both rural and urban areas. Similar to males, a steep decline in HSB for females is observed in both rural and urban areas of Bihar over the four decades. On the other extreme, Andhra Pradesh has witnessed a steep increase in HSB for females in both rural and urban areas. In the case of Assam, while HSB of rural women

has increased by about 4 percentage points from 76.3 in 1986-87 to 80.7 in 2014, there has been a steep decline in the HSB for urban females from 84.8 in 1986-87 to 40.2 in 2014. In Gujarat, while HSB for rural women has increased marginally, that for urban women has remained constant during the same period. For Himachal Pradesh, the HSB for urban females hovers above 99%. Himachal Pradesh was the only state which recorded 100% HSB for both males and females.

In the decade of 2000, there has been a sizeable increase in the HSB for females in Andhra Pradesh, Jammu and Kashmir, Karnataka, Kerala and Tamil Nadu in rural areas. States such as Gujarat, Haryana, Madhya Pradesh, Maharashtra, Odisha, Punjab and West Bengal have registered smaller increases. A smaller decline in HSB is observed in Assam, Himachal, and Rajasthan. HSB forurban women in Assam, Bihar, and Jammu and Kashmir has registered a steep decline.

Even after the diagnosis of the illness, medical help/assistance is not sought by all. This is because"respondents are known to underestimate both latent illness and chronic illness and the perception of being ill is known to be dependent on cultural factors, health awareness and access to care" (Sundarraman and Muraleedharan, 2015, p.17). The NSS surveys had sought responses on the lack of access due to: (a) no nearby medical facility; (b) lack of faith; (c) long waiting; (d) financial reasons; (e) ailment not considered serious; and (f) all other reasons. In both rural and urban India, 15.4% and 1.3% of responses respectively related to lack of medical facility as the reason for non-treatment in 2014 (Table 3). Particularly the percentage of people in rural India reporting lack of medical facility in the nearby area has increased from 2.9% in 1986-87 to 15.4% in 2014. While urban areas have also registered an increase in this count (0.1 in 1986-87 to 1.3 in 2014), the percentage is higher in rural areas and is a cause of concern. This indicates that a certain section of the population is excluded in getting access to basic primary health care.

For all the states in both rural and urban areas, a major reason for not seeking treatment for an ailment has been the respondents' perception that the ailment is not serious, in all the four time periods analysed here. This is an indicator of the rising acute and chronic morbidity scenario in the country. However, exceptions are also observed. For instance, for

urban Haryana, a variety of reasons has been bundled under 'others' category that gained prominence in urban areas in both 1995-96 and 2004.

Further, a widening of inequality in access to health care is indicated by the increase in the percentage of rural and urban respondents who cited the lack of finance as the reason for not accessing medical care. It has been observed that poor are most likely to report financial costs as reasons for foregoing care when there is an illness. This tendency has intensified over time in both rural and urban areas (Balarajan et al., 2011). An earlier study reported that nearly half of the people in the bottom expenditure quintile forego medical treatment for financial reasons (Gumber, 1997). Financial reasons was the topmost reason for not accessing treatment in the case of Bihar (1995-96), Jammu and Kashmir (1986-87) Karnataka (2004), Maharashtra (2004) Odisha (1995-96), and for West Bengal in 1995-96 and 2004. But the percentage of people citing this reason has reduced over time both in rural and urban areas.

As for other reasons, there has been a rise in the share of rural respondents who cited lack of faith in medical treatment as a reason for non-treatment. This could be caused by previous experiences of patients wherein the treatment did not yield any positive results. It may be noted that lack of availability of medical equipment is a contributing factor to a lower diagnostic aspect of care in government facilities (Narang, 2011).

At the state level, the number of respondents reporting lack of access to the medical facility has increased in rural areas of Andhra Pradesh, Bihar, Himachal Pradesh, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal in 2014. Interestingly, in the urban areas of Andhra Pradesh, Gujarat, Madhya Pradesh percentage of people reporting lack of facility has increased in 2014. Health inequalities due to financial reasons had increased in both rural and urban areas across the four time periods in Assam, Gujarat, Jammu and Kashmir, Karnataka and Tamil Nadu.

Table 3: Percentage Distribution of Untreated Ailments by Reason for Non-Treatment, 1986-87 to 2014

State	Survey Year	Rural						Urban					
		No nearby medical facility	Lack of faith/non satis-factory facility *	Long waiting	Finan-cial reasons	Ailment not considered serious	Others	No nearby medical facility	Lack of faith	Long waiting	Financial reasons	Ailment not considered serious	Others
Andhra Pradesh	1986-87	0.9	1.1	0.2	10.1	74.4	7.2	0.0	1.2	0.8	8.0	84.6	5.5
	1995-96	3.2	4.7	0.3	26.2	56.2	7.9	0.0	10.7	2.1	20.3	54.8	10.7
	2004	8.0	2.2	0.0	26.6	39.2	23.9	0.6	3.7	0.3	13.0	75.0	7.5
	2014	12.6	8.7	0.1	5.8	46.7	26.1	5.6	5.1	0.3	8.8	57.2	23.0
Assam	1986-87	0.5	1.1	1.1	5.3	87.7	4.3	0.0	0.1	5.7	3.7	82.9	7.7
	1995-96	11.5	4.5	0.9	9.2	58.0	13.0	0.2	8.7	0.3	20.5	58.0	10.9
	2004	14.7	3.9	0.0	22.2	44.4	14.7	0.0	0.0	0.0	36.1	63.9	0.0
	2014	1.0	0.3	0.0	0.0	92.4	6.2	0.0	0.0	0.7	0.0	94.7	4.6
Bihar	1986-87	1.9	1.3	0.8	18.0	74.7	3.3	0.0	0.2	0.0	9.1	86.1	4.5
	1995-96	5.3	1.5	1.9	40.4	36.8	9.6	0.0	2.9	0.8	24.9	55.4	13.0
	2004	10.6	1.6	0.1	27.2	37.6	22.7	0.0	0.2	1.5	15.5	71.5	11.3
	2014	14.4	2.8	0.6	0.0	76.1	6.0	0.0	0.6	2.0	0.1	92.7	4.6
Gujarat	1986-87	0.3	0.6	9.0	17.4	74.7	6.0	0.0	5.7	0.0	13.3	77.2	3.8
	1995-96	23.1	2.7	0.0	2.8	66.4	5.0	0.0	5.5	19.2	0.0	52.4	9.7
	2004	4.1	3.7	2.3	24.3	42.2	23.2	0.0	2.1	2.0	9.8	55.4	30.7
	2014	0.0	8.9	11.2	1.3	47.8	30.7	9.6	0.4	19.9	0.6	65.8	3.7
Haryana	1986-87	0.6	3.6	1.0	14.1	70.6	10.2	0.0	6.2	0.0	7.1	75.1	11.6
	1995-96	9.6	16.6	0.0	12.9	55.9	5.0	0.0	0.0	0.0	12.9	22.8	64.3
	2004	0.0	8.7	0.0	14.1	42.2	34.9	0.0	0.0	0.0	0.0	29.0	71.0
	2014	0.0	0.0	0.0	0.0	89.4	10.6	0.0	0.0	9.9	0.0	84.6	5.5
Himachal Pradesh	1986-87	14.1	4.1	1.1	4.3	70.9	5.5	0.0	0.0	0.0	0.0	0.0	0.0
	1995-96	2.4	7.4	0.6	0.5	52.9	32.3	0.0	0.0	0.0	0.0	63.2	35.9
	2004	6.2	0.0	0.0	21.9	4.6	67.2	0.0	0.0	64.0	36.0	0.0	0.0
	2014	7.8	2.3	0.0	0.6	73.9	15.4	0.0	0.0	58.5	0.0	41.5	0.0

State	Survey Year	Rural						Urban					
		No nearby medical facility	Lack of faith/non satis-factory facility *	Long waiting	Finan-cial reasons	Ailment not considered serious	Others	No nearby medical facility	Lack of faith	Long waiting	Financial reasons	Ailment not considered serious	Others
Jammu & Kashmir	1986-87	3.9	8.1	0.0	67.5	15.2	5.3	0.0	5.3	0.0	4.5	90.2	0.0
	1995-96	14.3	0.0	4.4	0.3	73.3	7.7	0.0	0.0	6.4	13.6	57.2	19.9
	2004	4.4	0.0	0.0	44.0	20.0	31.5	0.0	0.0	0.0	2.3	51.5	46.2
	2014	1.4	0.0	8.1	1.1	67.5	21.8	0.0	0.0	0.0	0.0	25.9	74.1
Karnataka	1986-87	5.3	3.4	0.2	14.6	67.6	8.9	0.7	1.7	0.0	11.3	81.6	4.7
	1995-96	7.5	4.8	0.0	22.0	58.4	5.4	0.0	1.6	0.0	11.6	73.7	12.9
	2004	2.9	3.9	0.0	33.9	29.1	30.2	2.5	4.9	0.0	31.7	35.4	25.5
	2014	3.8	8.8	0.9	0.0	79.3	7.2	0.4	18.2	0.0	0.3	73.9	7.3
Kerala	1986-87	0.0	1.7	0.0	14.7	81.0	2.6	0.0	0.2	0.0	4.5	88.9	6.4
	1995-96	5.7	1.2	0.0	12.9	69.8	9.1	1.1	1.3	0.0	12.4	68.6	14.4
	2004	0.2	1.0	0.3	24.3	58.4	15.8	0.0	0.3	1.2	10.6	82.4	5.4
	2014	1.8	0.0	0.9	5.4	51.4	40.4	0.0	0.7	0.0	0.4	68.4	30.5
Madhya Pradesh	1986-87	5.4	2.5	Negl	15.8	73.3	3.0	0.3	2.6	0.4	8.6	88.8	4.3
	1995-96	19.8	2.6	0.0	21.0	45.4	7.5	10.8	15.3	0.0	10.4	52.4	10.9
	2004	11.7	0.8	0.0	22.7	48.6	16.1	0.0	1.1	2.3	23.3	45.6	27.8
	2014	19.6	0.0	0.4	0.0	58.4	21.6	9.9	3.5	8.1	3.1	40.8	34.6
Maharashtra	1986-87	1.6	1.4	0.8	7.2	85.5	3.5	0.5	0.4	2.7	8.2	80.4	7.8
	1995-96	8.2	3.4	0.0	20.1	63.7	4.2	0.0	0.0	0.3	25.1	63.3	11.3
	2004	7.2	2.5	0.7	40.7	36.1	12.9	1.1	2.0	0.3	18.8	69.6	8.3
	2014	26.1	1.7	3.5	4.1	60.3	4.3	0.2	2.5	19.0	0.6	62.2	15.4
Odisha	1986-87	6.6	1.2	0.0	68.6	17.4	6.2	0.9	0.0	0.0	12.1	85.5	1.5
	1995-96	19.5	5.1	0.4	23.0	38.3	10.8	0.0	0.0	4.0	45.4	35.6	10.0
	2004	13.5	1.2	0.0	23.8	28.4	33.2	3.0	7.1	0.0	42.2	36.5	11.1
	2014	3.9	4.3	8.9	2.7	71.9	8.2	2.2	0.5	2.6	10.5	76.6	7.6

State	Survey Year	Rural						Urban					
		No nearby medical facility	Lack of faith/non satisfactory facility *	Long waiting	Financial reasons	Ailment not considered serious	Others	No nearby medical facility	Lack of faith	Long waiting	Financial reasons	Ailment not considered serious	Others
Punjab	1986-87	1.3	3.1	0.0	6.2	82.7	6.7	0.0	2.0	0.0	2.1	93.2	2.8
	1995-96	21.3	5.5	0.0	49.0	7.7	16.5	0.0	4.5	0.0	47.3	48.2	0.0
	2004	1.5	3.7	2.5	41.5	27.8	23.0	0.0	0.0	0.0	49.1	42.2	8.7
	2014	4.0	2.5	6.2	2.0	56.5	28.7	0.0	0.1	7.8	1.4	61.8	29.0
Rajasthan	1986-87	8.6	3.2	0.7	69.5	14.7	3.3	0.1	0.6	0.3	11.2	86.4	1.5
	1995-96	7.1	2.2	0.0	60.3	25.7	4.7	0.0	1.3	0.0	4.9	72.2	21.6
	2004	4.1	6.5	1.8	37.1	25.2	25.3	13.1	0.0	1.3	34.8	35.1	15.8
	2014	1.2	0.0	6.9	12.0	74.9	4.9	0.0	0.4	15.5	1.3	75.6	7.2
Tamil Nadu	1986-87	1.6	2.5	1.3	15.1	71.6	8.0	0.0	0.9	2.5	7.5	79.9	9.2
	1995-96	0.8	4.7	1.1	21.6	66.1	5.6	0.0	5.1	0.0	11.7	46.6	36.0
	2004	3.9	2.3	1.8	31.8	52.2	8.1	1.1	4.7	4.4	23.6	45.6	20.6
	2014	1.4	0.4	4.0	0.0	85.1	9.0	0.2	0.6	0.9	0.9	73.9	23.5
Uttar Pradesh	1986-87	2.9	2.6	0.1	18.6	73.8	2.0	0.4	0.8	0.9	15.1	75.7	7.2
	1995-96	10.8	4.5	0.0	22.4	51.0	9.6	0.0	11.2	1.0	22.5	64.6	0.7
	2004	21.8	5.3	0.8	31.1	31.7	9.3	0.0	0.9	3.9	31.4	51.5	12.3
	2014	17.4	3.6	8.0	0.0	60.6	10.5	1.0	3.9	11.7	2.4	69.1	11.9
West Bengal	1986-87	3.9	2.0	0.0	12.1	78.3	3.7	0.1	1.5	2.1	11.8	78.4	6.0
	1995-96	7.9	0.5	0.0	43.1	34.6	13.2	0.0	2.0	0.3	19.7	65.9	10.6
	2004	22.7	2.5	3.6	42.3	20.4	8.4	1.6	0.9	2.5	27.8	52.9	14.3
	2014	30.9	2.2	11.6	10.0	26.7	18.7	0.4	0.2	9.3	3.4	55.4	31.4
All-India	1986-87	2.9	1.9	0.3	15.3	74.6	5.0	0.1	1.8	1.1	9.6	81.1	6.3
	1995-96	8.8	3.7	0.5	24.2	51.1	9.9	0.8	5.3	1.1	19.8	59.4	12.4
	2004	13.0	4.1	0.8	28.5	35.7	17.9	1.5	3.7	2.0	24.0	50.4	18.4
	2014	15.4	3.7	6.2	3.4	57.4	14.0	1.3	2.2	5.3	2.3	68.3	20.6

Note: * Non satisfactory facility for 2014 survey.

3.1 Use of Public Health Services

Public health services play an important role in the health of poor. Unless people have an alternative, they may be compelled to pay high prices or be forced to opt out of health services altogether (Sen et al., 2002). In a country where the private health expenditure averages around 70%, it is important to understand the share of public health providers in providing inpatient and outpatient care. But, the share of private sector in health care is actively encouraged by the government through the provision of tax exemptions and land for hospitals at a subsidised rate (*ibid*).

At all India level, the share of public providers in inpatient care in rural areas continued to decline from 59.7% in 1986-87 to 41.7% in 2004, but increased to 50.3% in 2014 (Table 4). The decline in the share of public providers in rural areas is relatively less, compared to the decline witnessed in urban areas at all-India level. The share of public providers in urban areas which were 60.3% in 1986-87 declined to 35.5% in 2014. If we consider only 2004 and 2014, in contrast to the rural areas, the share of public providers declined marginally from 38.2% (in 2004) to 35.5% (in 2014).

At the state level, the scenario is more or less similar to that of all-India where an overall decline is observed between 1986-87 and 2014, while an increase in the share of public providers is seen between the period of 2004 and 2014. The following states follow this pattern: Haryana, Himachal Pradesh, Madhya Pradesh, Odisha, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh.

A few states though had a decline in the share of public providers in 1995-96 compared to 1986-87, consistently improved thereafter. Assam and Madhya Pradesh belong to this category.

Table 4: Share of Public Providers in Treated Illnesses, 1986-87 to 2014

State	Inpatient care								Outpatient care							
	Rural				Urban				Rural				Urban			
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014
Andhra Pradesh	30.8	22.2	27.4	26.7	41.7	35.4	35.8	23.7	21.6	22	22.3	15.6	22.6	19	20.4	12.2
Assam	89.8	69.2	75	91.7	82.4	63	55.2	62.6	53	29	35.6	84.3	29.6	22	29.1	44.6
Bihar	50.1	24.1	21.7	56.1	46.8	31.9	26.5	49.1	16.9	13	7.8	13.9	18	33	16.9	12.3
Gujarat	56	31.4	31.3	27.5	61.8	36.3	26.1	24.5	35.1	25	22	23.7	19.6	22	18	15.0
Haryana	54.1	30.3	20.6	39.9	56.7	37	29	23.2	16.9	13	12	10.6	21.7	11	19.9	8.5
Himachal Pradesh	88	86.5	78.1	77.3	78.9	91.3	89.7	75.5	60.7	39	68.6	43.3	47.7	48	86.1	79.4
Jammu & Kashmir	96.5	97.7	91.2	94.0	96.1	95.9	86.4	82.2	59.8	44	53.8	48.4	47.4	28	50.9	41.0
Karnataka	59.8	45	40	37.3	50	29.3	28.9	23.2	36.4	26	34.6	26.1	31.3	17	16.7	14.5
Kerala	43.6	39.5	35.6	34.4	56.3	37.3	34.6	33.0	34	28	38	36.3	34.8	28	24	31.1
Madhya Pradesh	80.4	40.4	57.2	67.4	79	54.7	48.7	48.2	27.1	23	22.7	29.5	25.9	19	24.8	24.0
Maharashtra	45.8	30.9	28.7	26.9	49.4	30.7	28	24.4	36.5	16	17.4	20.2	35.3	17	11.7	14.6
Odisha	90.7	84.2	79.1	84.2	82.2	77.9	73.1	61.4	52.7	38	56.8	75.5	47.9	34	58.3	54.4
Punjab	49.2	37.7	29.4	36.1	52	26.5	26.4	31.7	13.4	7	17.6	16.8	15.6	6	18.9	22.5
Rajasthan	81	63.3	52.1	65.6	86.5	72.1	63.7	58.0	56.1	36	45.5	44.1	57.5	41	53.9	29.1
Tamil Nadu	56.9	40.4	40.8	45.4	58.2	34.2	37.2	32.6	38.7	25	30.7	42.3	35.5	28	22.1	28.6
Uttar Pradesh	58.3	46.1	27.8	43.9	61.1	39	31.5	31.6	10.4	8	11.7	14.6	17.2	9	15.3	16.1
West Bengal	91.9	79.9	78.7	77.5	75.9	71.3	65.4	55.1	19.6	15	21.1	22.5	25.3	19	21.4	14.8
All-India	59.7	43.8	41.7	50.3	60.3	41.9	38.2	35.5	25.6	19	24.1	28.3	27.2	20	20	21.2

Andhra Pradesh, Gujarat, Karnataka, Kerala, and Maharashtra show a consistent decline in the share of public providers in inpatient care in rural areas from 1986-87, which is a concern and the share is below the all-India average in 2014.

In urban areas, similar to the all India scenario, states that show a consistent decline in the share of public providers in inpatient care are: Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Rajasthan, Maharashtra and West Bengal. Except for Rajasthan and West Bengal, for other states, the share of public providers is less than the all-India average. States that show a revival form 2004 are Assam, Bihar, and Punjab. The position of Madhya Pradesh has marginally declined in 2014, compared to 2004 while the position of Uttar Pradesh remained unchanged.

3.2 Share of Public Providers in Outpatient Care

At all India level, theshare of public providers in outpatient care shows an improvement in 2014, compared to 1986-87 in rural areas. States that follow this trend are Assam, Madhya Pradesh, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal. Only Haryana has recorded a consistent decline since 1986-87. A few other states have revived the share of public providers since 2004, like Assam, Bihar, Gujarat, Madhya Pradesh, Maharashtra, and Rajasthan.

In the urban areas, at the all-India level, share of public providers in outpatient care has declined in 2014 compared to 1986-87, though stagnancy is observed between 1995-96 and 2004. Karnataka and West Bengal have recorded consistent decline in the share of public providers since 1986-87 in the urban areas. A few states appear to have revived the share of public providers in urban areas since 2004. Assam, Kerala, Maharashtra, Punjab and Uttar Pradesh belong to this category. The share of public providers in outpatient care in urban areas of Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, and Odisha has declined since 2004. However, none of the states show an increase from 1986-87 to 2014.

3.3 Provision of Free Health Services by the Public Sector

The share of private sector agencies in the provision of free health services for both inpatient and outpatient care is negligible. Therefore, those who avail of government facility also have provision to receive free treatment. To capture this aspect, Table 5 provides information on thepercentage of patients who received free hospital beds (a proxy for free inpatient care) and free medicine (a proxy for free outpatient care).

Similar to the share of public providers in rural areas, free provision of bed in inpatient care has declined from 60.7% in 1986-87 to 37% in 2004 and then improved to 47.3% in 2014 at the all-India level. A similar trend is seen in urban areas at all-India level as well, though the percentage increase from 2004 to 2014 is only 2.6. Nevertheless as noted by Sundarraman and Muraleedharan (2015), this trend indicates the pro-poor nature of public health care use. A few states like Bihar, Haryana, Jammu and Kashmir, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal follow this trend, particularly in rural areas. None of the states show a consistently increasing trend in free bed provisions. However, while Assam and Himachal Pradesh show a consistent decline, that of Odisha has stagnated from 2004. Assam with 95.5% share in free bed provisioning in rural areas in 1986-87 has topped all other states. However, this percentage has declined to 50.6 in 2014.

In the urban areas, as mentioned earlier, a marginal revival in free provision of bed is seen in 2014 at all India level. Urban areas of Assam, Bihar, Gujarat, Haryana, Kerala, Madhya Pradesh, Maharashtra and Punjab follow this trend.

A few states have registered consistent decline from 1986-87 to 2014 in the free provisioning of bed in the urban areas. These are Andhra Pradesh, Jammu and Kashmir, Odisha, Rajasthan, Tamil Nadu and West Bengal. The percentage of free provisioning of bed in urban Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, and Punjab is less than the national average at 34.6%. Here again, none of the states shows an increasing trend in free provision of bed.

Table 5: Percentage of Patients Receiving Free Hospital Bed and Free Medicine 1986-87 to 2014

State	Free hospital bed (Inpatient care)								Free medicines (Outpatient care)							
	Rural inpatient				Urban inpatient				Rural outpatient				Urban outpatient			
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014
Andhra Pradesh	33.3	21.9	31.1	32.8	41.3	36.8	33.9	30.1	20.8	20.1	10.3	9.3	24.2	8.5	6.9	7.5
Assam	95.5	76.5	60.2	50.6	76.1	58	41.3	42.9	31	12.6	2.7	2.6	10.5	6	5.6	3.9
Bihar	47.7	20	22.4	48.2	56.5	38.9	30.4	41.8	5.2	1.5	0.2	1.1	26.6	10.4	3.7	.4
Gujarat	40	26.1	27.7	26.3	39.4	25.4	18.7	22.8	21.5	9.5	8.6	15.0	13.9	10.2	11.7	8.8
Haryana	54	29.6	11.6	32.8	53.3	16.7	20.1	22.2	8.2	3.7	1.3	.4	12.2	1.7	3.2	2.0
Himachal Pradesh	86.5	79	74.1	70.0	77.3	71	80.5	48.3	24.1	4.5	3.6	.9	8.8	6.8	9	.5
Jammu & Kashmir	93.4	96.8	83.2	91.1	91.6	88.1	78.5	75.2	20.3	5.1	3.6	.4	12.7	5.2	2.8	
Karnataka	58.8	37.8	38.2	32.9	36.6	25.3	28.2	20.8	26.5	16.3	14.6	4.9	25.4	8.2	4.8	3.4
Kerala	45.1	37.5	33.6	35.4	45.2	31.7	29.5	31.3	29.8	9.3	11.1	14.4	25.4	8.7	6.6	9.3
Madhya Pradesh	77.2	39.2	49.1	64.6	73.3	49.1	41.6	47.0	24.5	3.3	2.9	12.2	17.9	7.8	7.7	8.2
Maharashtra	42.8	28.7	22.5	25.3	39.7	28.6	20.6	23.1	17	8.6	6.3	11.4	21.9	8.8	4.5	7.0
Odisha	88.7	83.1	78.8	78.8	88	75.2	65.1	55.2	25	8	7.8	4.9	24.6	5	5.1	4.2
Punjab	46.3	26.8	11.5	30.5	46.1	18.7	10.7	16.8	6.5	0.6	1.2	1.8	7.6	2.3	1.6	4.0
Rajasthan	81.8	65.8	50.8	66.9	84.9	70.5	61.3	56.0	15.6	0.1	3.2	24.5	17.5	9.8	7.5	17.8
Tamil Nadu	59.5	42.9	42.5	52.0	57.8	38.9	37.8	36.8	37.3	27.8	25.7	35.3	34.3	25.1	20.6	24.4
Uttar Pradesh	59.1	39.8	16.8	39.8	56.1	32.6	21.8	34.7	6	1.8	2.2	3.0	10.5	4	4.5	6.7
West Bengal	90.4	79.6	71.8	72.6	69.4	64.5	51.9	48.7	15.4	3.7	4	2.6	18.5	8.2	4.9	1.5
All-India	60.7	41.6	37	47.3	55.2	38.2	32	34.6	17.5*	7.7	6.4	9.4	19.7*	9.3	6.8	9.3

Note: * denotes the All-India average based on the weighted average of 17 major states (states are weighted according to their share in the total estimated hospitalised / ill persons).

3.4 Provision of Free Medicines

Purchase of medicines is another area in health care, which makes people vulnerable to debt. Free provisioning would reduce this vulnerability. According to the NHA 2013-14, the total pharmaceutical expenditure in 2013-14 was estimated at Rs.1,66,632 crores (Rs.1338 per capita) of which government expenditure on pharmaceuticals was estimated at Rs.13,428 crores or Rs.108 per capita.

Overall, provision of free medicines has declined to 9.4% and 9.3% in rural and urban areas at all-India level. Tamil Nadu is the only state where more than 25% of patients has received free medicines from 1986-87 to 2014 in rural areas. While this percentage is lower in urban areas, Tamil Nadu and Rajasthan are the two states where the percentage of patients reporting free medicines in 2014 is high in both rural and urban areas, thanks to the drug procurement model adopted in both the states.

Percentage of patients receiving free medicines in rural areas is more than 20 percent for 10 states in 1986-87. This number reduced to two states in 1995-96. In 2004, only Tamil Nadu figures in this list and in 2014, both Tamil Nadu and Rajasthan figure in this list. In Haryana, Himachal Pradesh and Jammu and Kashmir, less than 1% of patients have reported getting free medicines. Excluding these states, in 7 other states, less than 5% of patients have reported getting free medicines.

In the urban areas also, free provisioning of medicines which was at 19.7% in 1986-87 has reduced to 9.3% in 2014 (though better than the 6.3% in 2004). All the states, including Tamil Nadu that is hailed as the model for other states to follow in provisioning of medicines (Lalitha, 2009) have recorded steep decline in the free provisioning of medicines in 2014 compared to 1986-87.

This is a huge burden on the people as is evident from the share of medicines in the inpatient and outpatient care, which is the highest as compared to other components. As analysed by Berman et al. (2010) the out-of-pocket expenditure to meet the health costs, particularly, arising from the non-availability of free medicines would impoverish the poor further. We also see that states which have shown improvement in rural

services are not the same which have improved the urban services marking the mismatch.

The National Health Accounts 2004-05 notes with concern that "among various components, highest expenditure was incurred on medicine both in public and private health care institutions and this varied within a range of 38-66 percent. In public health care institutions around 66% of the expenditure has been incurred on medicine in rural areas while it was slightly lower in the urban areas at 62% (Table 6). Non-availability of drugs in the inpatient has pushed up the expenditure on medicines in the public sector" (p.31).

Table 6: Components of Inpatient Care Expenditure in Public and Private Sector (%)

Type of Hospital	Sector	Doctor's fee	Diagnostic Test	Bed etc.	Medicine	Blood etc.	Food	Total
Private	Rural	26	9	17	40	3	5	100
	Urban	27	11	17	38	4	3	100
Public	Rural	4	12	4	66	4	9	100
	Urban	5	15	6	62	5	8	100

Source: Table 4.3, National Health Accounts, 2004-05.

3.5 Cost and Burden of Treatment

Undoubtedly, price is the most important consideration in choosing the public over the private facility, especially, for the treatment of chronic and catastrophic illnesses. According to the National Health Policy 2015, the private sector accounts for 60% of inpatient care and 80% of outpatient care. This ratio indicates the difference in the cost of private hospitals compared to private hospitals. At all-India level, the ratio of cost of treatment for an inpatient in rural areas almost tripled (1.6 to 4.5) and in urban areas, it doubled (2.4 to 4.1) between 1986-87 and 2014 (Table 7). Interestingly, the gap between the ratio of the cost of treatment between private and public providers in rural and urban areas is narrowing in inpatient care. Alternatively, it implies that the cost of treatment between private and public hospitals is narrowing in the 2000s. This could have been possible due to the following reasons:

(1) severe competition within the private sector has resulted in reduction in the cost of services in the private sector; (2) public sector has started levying user charges in several states which is increasing the cost of treatment in the public sector almost equivalent to private sector; and (3) user fees are charged for the services provided by the private sector in the scheme of public-private partnership.

User charges were introduced in different states at different points of time. Karnataka was the first to introduce user charges on hospital services in 1996, Odisha in 1997, Madhya Pradesh in 1998, Uttar Pradesh in 2000 and West Bengal and Rajasthan in 2001 (Shariff and Mondal, 2009).

It is of interest to see the trend evident in different states which shows a rising trend in all the four periods under consideration in rural areas for inpatient care. These states are Assam, Kerala, Rajasthan and Tamil Nadu. Implicitly, it indicates the widening gap between the private and public hospitals in these states, perhaps due to the better performance of public hospitals in these states.

Does any state show a declining trend in the cost of treatment? A few states have registered a decline in 1995-96 and then have recorded increasing costs in 2004 and 2014. These are for rural areas of Bihar, Gujarat, Jammu and Kashmir, Karnataka, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal.

Ratio registered by Tamil Nadu is the highest in all the years. Particularly in 2004 and 2014 only Tamil Nadu has registered a double-digit ratio indicating the huge difference between the public and private providers in both rural and urban areas.

In the cost of inpatient treatment in urban areas, except for Bihar and Haryana in 2004 for all other states, the average ratio was higher than the national average at 1. In 2014, the averages for Bihar, Haryana, Gujarat, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh are below the national average at 4.1, perhaps indicating that public hospitals are run like private hospitals.

Table 7: Ratio of Cost of Treatment between Private and Public Provider, 1986-87 to 2014

State	Inpatient								Outpatient							
	Rural				Urban				Rural				Urban			
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014
Andhra Pradesh	2.2	3.8	2.54	4.0	5.2	5.4	9.1	8.4	1.8	4.1	1.78	2.4	4.2	2.3	2.6	1.8
Assam	0.6	1	1.89	4.5	3.4	3.2	7.5	5.7	0.8	0.6	1.45	1.6	0.4	0.9	0.9	5.5
Bihar	1.3	1.2	1.58	3.6	1.6	1.6	0.9	3.5	0.6	1.2	0.65	0.4	1.7	3	0.78	0.7
Gujarat	2.3	2.2	2.83	2.1	2.9	2.2	2.6	2.9	1.6	2.3	1.63	3.1	1.5	1.7	2.7	1.5
Haryana	1.5	1.3	0.51	2.7	1.9	0.6	0.6	2.7	1.6	0.8	1.35	1.1	1.9	0.5	1.1	1.6
Himachal Pradesh	1.8	1.1	2.43	2.2	3	3.2	3.4	1.1	0.8	NE	0.69	0.9	1.3	NE	1.7	0.9
Jammu & Kashmir	2.1	1	2.27	6.2	5.5	2.6	5.5	4.3	0.8	NE	1.2	1.3	1	NE	0.6	2.5
Karnataka	2.8	2.3	3.06	5.2	3.3	2.9	6.2	6.4	1.8	2	2.1	1.4	1.4	1.4	1.8	1.5
Kerala	1.6	1.7	2.12	7.4	2.6	1.5	1.9	6.8	1.5	1.6	1.31	1.9	1.6	1.6	1.2	1.9
Madhya Pradesh	1.7	1.6	1.82	8.8	2.8	2.3	3.5	2.5	1.7	1.7	0.96	1.1	1.9	0.5	1.79	2.3
Maharashtra	2.9	2.5	3.22	6.1	5.1	3.7	3.8	7.6	1.2	2	1.3	2.9	1.3	1.6	2.7	2.5
Odisha	2	1.5	2.57	5.6	0.9	5.5	2.3	5.3	0.7	1.2	0.98	1.0	1.9	0.9	0.6	2.1
Punjab	1.3	1.7	1.42	3.4	2.1	1.1	2.2	2.5	0.8	1.2	0.77	1.1	1	0.8	0.3	0.7
Rajasthan	1.1	1.5	1.74	6.6	1.2	1.9	1.8	3.4	0.9	0.8	0.37	2.2	1	1.3	1.1	0.8
Tamil Nadu	9	5.8	13.37	24.8	12.4	6.2	10.5	17.9	5.1	7.5	3.97	4.1	4.1	5	13.6	2.4
Uttar Pradesh	1.4	1.1	1.24	4.1	1.5	1.3	2.4	2.2	0.7	0.6	2.13	1.0	0.7	0.9	1.54	0.8
West Bengal	6	2.1	4.28	3.6	5.6	5.8	4.0	5.5	1.4	0.8	1.11	1.4	1.9	1.9	1.1	1.4
All-India	1.6	2.1	1.03	4.5	2.4	2.4	1.0	4.1	0.7	1.4	1.34	1.2	0.9	1.2	1.44	1.4

The ratio of the cost difference in the outpatient care is not as wide as the inpatient care. At the all India level, the increase in cost difference between rural and urban has been slower in the time period under consideration. Interestingly, in 2014, the cost difference is higher in the rural areas compared to urban outpatient costs in Andhra Pradesh, Gujarat, Maharashtra, Punjab and Tamil Nadu. Similar to inpatient costs, in the case of outpatient costs also, Tamil Nadu is distinctly higher than others.

Though there is no clear trend emerging between the rural and urban areas for different states, we observe that for both rural and urban patients, the outpatient cost of private provider is lower than the national average in a few states. While we can say it is partly reflecting on the general health seeking behaviour of people, it can also be said that though there is user fees charged in the public hospitals in Odisha, Rajasthan and Madhya Pradesh, perhaps the private sector charges have not risen as in other states like Tamil Nadu or Karnataka. It could also be due to the better performance of the public sector in those states. "A well-functioning public health care system not only assures effective services to those at the lower end of the socio-economic hierarchy but can also set a ceiling for the prices and a norm for the quality in the private sector. It can, therefore, be a major anchor for equity overall in the health service system. Inter-state comparisons within India appear to confirm this as states with better public health services have lower prices in the private sector" (cited in Sen et al., 2002).

3.6 Cost of Inpatient Treatment

The average expenditure on treatment (such as fees, medicines, clinical and diagnostic tests, surgery, and hospital bed charges in real terms) per hospitalisation episode in 2014 was Rs.3965 for rural and Rs.7109 for urban inpatients for the country as a whole (Table 8a). As expected, the cost of treatment was higher in urban than rural patients due to cost of living and the type of care sought. The cost of treatment in real terms has increased for inpatient care at all India level for both rural and urban areas (Table 8a). This trend, particularly in rural areas, is observed in Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu and West Bengal. Thus for a few states like Kerala,

Tamil Nadu, and West Bengal the percentage of annual changes in the cost are 22, 17.3 and 11.3 (1986-2014) respectively, which is much higher than the national average (5.4) and other states.

Mention should be made of the steep increase in cost that most states in rural areas have registered in 1995-96 with the only exception of Odisha (where the decline is marginal). In all other states, a decline in treatment costs is observed either in 2004 or in 2014. Hence, the national average of the percentage of annual change stands at 2.8 during 1995- 2014, compared to 1.8 during 2004 and 2014. For five states in rural areas, namely, Andhra Pradesh, Gujarat, Kerala, Maharashtra and West Bengal, the percentage annual change in the inpatient costs have been higher than the national average during 2004-2014. Rural parts of Assam, Bihar, Haryana, Rajasthan and Uttar Pradesh, the percentage of annual change bears a negative sign, indicating the decline in the cost of treatment in real terms during 2014.

As far as the cost of urban inpatient care is concerned, similar to the all-India trend, an increase in treatment costs for inpatient care has been observed in all the four periods under consideration in 14 out of 17 states. Exceptions are Bihar, Jammu and Kashmir and Punjab. Therefore the percentages of annual changes of 10 states are higher than the all India average at 8.1 % during 1986-2014. Between 2004 and 2014, with exception of Bihar, Jammu and Kashmir and Punjab, the percentage changes are negative. Among the rest of the states where the change in cost is positive, changes in the context of Gujarat, Haryana, and Rajasthan are less than the national average at 3.9%.

3.7 Cost of Outpatient Care in Rural and Urban Areas

At all India level, the cost of outpatient care in rural areas has increased from Rs.141 (1986-87) to Rs.182 (2004) and then to Rs.176 (in 2014) (Table 8b). But for urban areas, outpatient costs have consistently increased from Rs.152 in 1986-87 to Rs.225 in 2014. At all India level, the cost of outpatient care in rural areas increased from 1986-87 to 2004 and declined in 2014 in both real terms and in percentages. This trend is reflected in the case of Andhra Pradesh, Haryana, and Karnataka. Hence, there is positive growth in treatments costs in the period 1986-2014, 1995-2014 and

decline in 2004-2014. A wave pattern is seen in some states where the cost of outpatient care has declined in 1995-96 compared to 1986-87, registered an increase in 2004 and a drop in 2014. Assam, Bihar, Gujarat and Kerala present this pattern. In such cases, the cost in 2014 in real terms has been less than the cost in 1986-87 registering a negative annual change during 1986-2014.

Only a few states like Haryana, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal have registered a higher change than the national average of 0.9% in rural areas.

Outpatient costs in urban areas at the all India level have registered an increase in all the four periods under consideration, recording an overall annual change of 1.8% during 1986-2014. The percentage change in Assam is striking because of the limited lower level of costs in 1986-87. However, only Andhra Pradesh, Assam, Odisha (very small increase in real term, though) and Tamil Nadu have registered an increase in cost in all the four periods. The annual change in outpatient costs in urban areas at 2.8% in 2004 and 2014 is higher than the annual change observed in 1986-2014 and 1995-2014 due to the steep increase seen in 2014 compared to 2004. The steep increase in cost in real terms is seen in Assam, Haryana, Himachal Pradesh, Rajasthan and Tamil Nadu.

Such increasing trends in the cost of treatment warrant that individuals have adequate insurance to cover health risks which is discussed in the section that follows.

Table 8a: Cost of Treatment for Inpatient Care, 1986-87 to 2014 (1993-94 prices)

State	Average Cost of Treatment (Rs)								Percent of annual changes					
	Rural inpatient				Urban Inpatient				Rural inpatient			Urban inpatient		
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-2014	1995-2014	2004-2014	1986-2014	1995-2014	2004-2014
Andhra Pradesh	1291	5273	3442	4092	1470	4008	5427	9228	8.0	-1.2	2.1	19.5	7.2	7.8
Assam	900	1595	2225	1674	1655	3109	6087	10219	3.2	0.3	-2.8	19.2	12.7	7.5
Bihar	2089	3166	3776	2804	1984	3055	5953	5738	1.3	-0.6	-2.9	7.0	4.9	-0.4
Gujarat	1481	2184	3236	3852	2084	2729	4718	5678	5.9	4.2	2.1	6.4	6.0	2.3
Haryana	2438	2645	5097	4941	1391	5362	7967	8836	3.8	4.8	-0.3	19.8	3.6	1.2
Himachal Pradesh	1719	2075	4705	5103	1862	2168	5223	7630	7.3	8.1	0.9	11.5	14.0	5.1
Jammu & Kashmir	1163	2090	3015	2144	1148	2963	4195	3444	3.1	0.1	-3.2	7.4	0.9	-2.0
Karnataka	1626	2458	3470	3713	2150	2947	4459	6307	4.8	2.8	0.8	7.2	6.3	4.6
Kerala	796	1881	2249	5551	843	1581	3048	5137	22.1	10.8	16.3	18.9	12.5	7.6
Madhya Pradesh	1205	1797	2706	3141	1041	2276	3760	6460	6.0	4.2	1.8	19.3	10.2	8.0
Maharashtra	1628	2534	3436	5369	2682	3279	5365	8072	8.5	6.2	6.2	7.4	8.1	5.6
Odisha	1353	1346	2460	2511	1282	3173	3545	5274	3.2	4.8	0.2	11.5	3.7	5.4
Punjab	2524	4092	7158	7356	2795	4686	11354	8296	7.1	4.4	0.3	7.3	4.3	-3.0
Rajasthan	1856	2492	4465	3417	1329	2583	4517	4575	3.1	2.1	-2.6	9.0	4.3	0.1
Tamil Nadu	845	2330	3129	4802	1246	3227	6379	8467	17.3	5.9	5.9	21.5	9.0	3.6
Uttar Pradesh	2266	3567	5211	4214	3266	4836	5285	8615	3.2	1.0	-2.1	6.1	4.3	7.0
West Bengal	757	1605	2474	3070	1914	2639	4876	6824	11.3	5.1	2.7	9.5	8.8	4.4
All-India	1605	2627	3408	3965	2227	3216	5272	7109	5.4	2.8	1.8	8.1	6.7	3.9

Table 8b: Cost of Treatment for Outpatient Care, 1986-87 to 2014 (1993-94 prices)

State	Average Cost of Treatment (Rs)								Percent of annual changes					
	Rural outpatient				Urban outpatient				Rural outpatient			Urban Outpatient		
	1986-87	1995-96	2004	2014	1986-87	1995-96	2004	2014	1986-2014	1995-2014	2004-2014	1986-2014	1995-2014	2004-2014
Andhra Pradesh	126	135	156	133	119	141	184	203	0.2	-0.1	-1.6	2.6	2.4	1.1
Assam	158	124	184	120	23	148	239	547	-0.9	-0.2	-3.9	86.1	15.0	14.4
Bihar	**297**	**175**	**239**	**226**	175	174	181	186	-0.9	1.6	-0.6	0.2	0.4	0.3
Gujarat	154	129	181	154	175	179	240	146	0.0	1.1	-1.6	-0.6	-1.0	-4.3
Haryana	136	155	240	182	134	340	140	299	1.3	1.0	-2.7	4.6	-0.7	12.6
Himachal Pradesh	**247**	**71**	**140**	**179**	**222**	**109**	**179**	**326**	-1.0	8.4	3.1	1.7	11.1	9.2
Jammu & Kashmir	**192**	**154**	**179**	**255**	154	122	245	265	1.2	3.6	4.7	2.6	6.5	0.9
Karnataka	88	100	245	152	124	141	195	206	2.7	2.9	-4.2	2.4	2.6	0.6
Kerala	115	112	195	156	96	98	110	190	1.3	2.2	-2.2	3.6	5.1	8.1
Madhya Pradesh	**141**	**127**	**110**	**217**	**220**	**308**	**190**	**241**	2.0	3.9	10.9	0.3	-1.2	3.0
Maharashtra	190	135	190	161	**192**	**152**	**183**	**245**	-0.6	1.0	-1.7	1.0	3.4	3.8
Odisha	117	121	183	184	111	112	156	213	2.1	2.9	0.1	3.4	5.1	4.1
Punjab	154	144	156	173	151	133	199	243	0.5	1.2	1.3	2.3	4.6	2.4
Rajasthan	188	157	199	168	**207**	**162**	**172**	**316**	-0.4	0.4	-1.7	2.0	5.3	9.3
Tamil Nadu	77	84	172	155	87	106	156	184	3.7	4.7	-1.1	4.2	4.1	2.0
Uttar Pradesh	169	184	156	213	**235**	**186**	**195**	**329**	1.0	0.9	4.0	1.5	4.3	7.6
West Bengal	98	107	195	150	164	112	182	180	2.0	2.2	-2.6	0.4	3.3	-0.1
All-India	141	144	182	176	152	159	180	225	0.9	1.2	-0.4	1.8	2.3	2.8

4. Health Insurance

Health insurance is a growing segment of India's economy. Health insurance pays for inpatient hospitalization and for treatment at hospitals in India. Since 2000 the Government of India has allowed private players in the insurance sector. However, according to National Health Policy 2015, 72% of all persons covered by insurance fall under government sponsored schemes. Of these, 60% were covered by public insurance companies with the remaining being covered by private insurance companies.

4.1 Health Insurance Coverage and Payments

Since the mid-2000s the central government has taken innovative initiatives to improve public health care in India. As part of this to address healthcare needs of the poor section of society, low-cost hospitalisation insurance schemes were introduced by the public insurance companies. These included *Jan Arogya Bima* Policy in mid-2000 and *Rashtriya Swasthya Bima Yojana* (RSBY) in 2008. Several state governments like Karnataka, Tamil Nadu, and Rajasthan also launched a special medical insurance scheme to protect the population from adverse financial risks arising due to catastrophic diseases. However, over time the RSBY scheme coverage and benefits package expanded (Government of India, 2015) to include informal sector workers in the non-BPL households also.

Since the NSS 52nd round (1995-96), a question has been asked about the amount of health insurance premium paid by the household during the last 365 days. Table 9 shows the percentage of households reporting payment of premium and the average amount paid for such subscription during 1995-96, 2004 and 2014. Although over time uptake level increased from 0.5% to 6.1% , the health insurance enrollment is very low even in urban areas. The premium per annum subscribed by the households worked out to be Rs.4790 (Rs 1749 for rural India and Rs.6354 for urban India) in 2014. At real prices, the average amount of premium paid per reporting household has declined from Rs.1924 in 1995-96 to Rs.1392 in 2014.

Table 9: Percentage of Households Reporting Payment of Premium and Average Amount Paid - 1995-96, 2004 and 2014

NSS Round	Uptake level (%)			Average Premium Paid (Rs)			At 1993-94 Prices
	Rural	Urban	Combined	Rural	Urban	Combined	
1995-96	0.2	1.1	0.5	2195	2697	2540	1924
2004	0.7	4.8	1.9	877	1626	1414	530
2014	3.1	12.4	6.1	1749	6354	4790	1392

During the NSS 71st round an additional question was asked to each member of the household for enrolment to the government-funded health insurance schemes including RSBY or private health insurance. We have computed household health insurance coverage as an additional variable where at least one member has been enrolled to any such schemes (irrespective of any annual premium payment). This coverage attribute is provided in Table 10.

It is interesting to know what type of households pay and subscribe to health insurance? A larger proportion of households who had paid premium in 2004 as well as in 2014 belonged to higher Monthly Per Capita Expenditure (MPCE) group and was economically non-poor (see Table 10). Further, in terms of social characteristics, these subscribing households were not belonging to a lower social group and were following a religion other than Islam. This feature was observed in both rural and urban India. In terms of health insurance coverage, one could drastically notice a significant increase in enrolment in all socio-economic groups in 2014 (17% in rural India and 22% in urban India). However, due to government subsidized health insurance schemes the enrolment has improved considerably in the lower socio-economic strata of the households, as a result the gap between BPL and APL households has narrowed down; the gap disappeared amongst SC&ST (18.2%), OBC (19.1%) and Other (18.3%) class.

However, there are considerable inter-state variations in the percentage of households paying premium and percentage of households having health insurance coverage in 2014 (see Table 11). Further, inter-quintile MPCE differential (between the top and bottom quintile) shows vast

inter-state inequalities in both percentage of households paid a premium and percentage having health insurance coverage. In terms of the percentage of households paid a premium, this was the highest (36.45) in Kerala, followed by Karnataka (13.27) whereas this was the lowest (0.56) in Bihar; the majority of states were far behind Kerala. However, in terms of percentage of households having health insurance coverage, it was the highest (65.74) in Andhra Pradesh, followed by Karnataka (47.22) whereas it was the lowest (2.61) in Madhya Pradesh. Interestingly those states reporting higher coverage have addressed equity issues well, i.e., the coverage was higher among BPL vs. APL households or in bottom vs. top MPCE quintile households (these included Andhra Pradesh, Kerala, Odisha, and Rajasthan). On the other hand, the coverage was highly inequitable in most of the low coverage states particularly Haryana, Karnataka, Maharashtra and West Bengal.

Table 10: Percentage of Households Reporting Payment of Premium by Socio-Economic Status, 2004 and 2014

Socio-Economic groups	% Paid Premium - 2004			% Paid Premium - 2014			% Coverage - 2014		
	Rural	Urban	All	Rural	Urban	All	Rural	Urban	All
MPCE quintile									
1 (Bottom)	0.37	0.94	0.53	1.16	2.03	1.26	13.10	9.26	12.68
2	0.19	2.61	0.86	2.28	3.64	2.52	14.28	12.13	13.91
3	0.31	3.61	1.23	2.23	5.45	3.03	18.53	15.70	17.83
4	0.62	5.48	1.98	4.45	8.20	5.90	22.22	19.55	21.19
5 (Top)	2.17	11.21	4.70	11.58	20.75	18.31	24.55	29.53	28.21
Poverty group									
Poor	0.29	0.84	0.40	1.62	4.00	2.26	13.75	13.24	13.61
Non-poor	0.99	5.92	2.57	4.18	16.49	8.65	19.52	26.04	21.88
Social group									
SC & ST	0.51	3.97	1.13	2.66	9.13	3.91	18.20	18.13	18.19
OBCs	0.73	2.88	1.26	2.88	9.92	5.12	17.75	21.86	19.06
Other	1.01	6.50	3.25	4.06	16.24	9.71	13.96	23.29	18.29
Religion									
Hindu	0.74	5.01	1.89	2.80	13.09	6.04	17.86	22.36	19.27
Muslim	0.32	1.15	0.61	3.17	5.38	4.00	11.27	15.38	12.82
Other	1.39	9.67	4.00	7.80	20.54	12.54	16.57	30.99	21.93
All	**0.73**	**4.77**	**1.86**	**3.08**	**12.39**	**6.11**	**17.03**	**21.84**	**18.60**

Table 11: Percentage of Households Reporting Payment of Premium and Health Insurance Coverage by Major States, 2014

Major States	2014 (% paid premium)						2014 (% Insurance Coverage)					
	Rural	Urban	All	Equity			Rural	Urban	All	Equity		
				Top MPCE Quintile	Bottom MPCE Quintile	BPL				Top MPCE Quintile	Bottom MPCE Quintile	BPL
Andhra Pradesh	1.21	7.53	3.23	8.31	5.45	2.98	72.93	50.42	65.74	49.20	54.08	59.88
Assam	0.35	7.33	1.29	4.70	0.00	0.02	2.26	12.99	3.70	9.20	2.64	3.00
Bihar*	0.55	0.65	0.56	0.66	1.25	0.83	7.15	5.41	6.97	4.71	8.86	8.49
Gujarat	4.23	18.40	10.40	25.32	0.74	3.14	13.77	18.83	15.98	25.42	15.06	10.34
Haryana	2.42	15.54	7.02	19.73	0.03	2.99	3.00	19.75	8.88	21.70	0.03	3.13
Himachal Pradesh	3.16	11.49	4.24	12.18	0.14	0.58	13.13	16.58	13.57	23.26	7.23	9.46
Jammu & Kashmir	4.40	13.91	6.54	9.84	1.02	2.52	9.04	18.24	11.11	20.67	7.57	7.03
Karnataka	9.01	19.39	13.27	33.75	4.94	6.09	9.92	20.26	14.16	34.17	6.23	6.78
Kerala	38.30	34.25	36.45	34.24	47.13	42.37	51.15	42.54	47.22	41.97	79.18	54.93
Madhya Pradesh*	0.16	7.06	1.97	11.44	0.11	0.58	0.44	8.68	2.61	13.42	0.69	1.10
Maharashtra	2.30	14.77	8.08	21.18	0.28	1.72	3.39	17.39	9.87	24.75	0.84	2.22
Odisha	1.01	8.53	2.39	14.88	0.71	0.99	23.70	13.99	21.92	19.05	30.10	25.96
Punjab	0.99	8.35	3.89	6.43	0.23	4.08	4.30	11.33	7.07	11.31	0.23	4.78
Rajasthan	1.74	5.24	2.69	9.75	0.00	0.36	24.39	29.38	25.75	34.68	39.93	31.65
Tamil Nadu	2.10	12.63	7.44	18.46	1.94	1.71	19.34	26.29	22.87	32.20	6.19	15.59
Uttar Pradesh*	0.88	4.34	1.72	8.94	0.55	0.93	4.90	8.87	5.86	16.34	4.93	5.40
West Bengal	4.93	18.34	9.19	29.39	4.25	5.73	16.46	23.01	18.54	32.71	13.87	16.24
All	3.08	12.39	6.11	18.31	1.26	2.26	17.03	21.84	18.60	28.21	12.68	13.61

Note: * As we are not making inter-state comparisons with previous NSS Rounds, in this table we have not added Chhattisgarh with Madhya Pradesh, Uttaranchal with Uttar Pradesh and Jharkhand with Bihar.

4.2 Key Determinants of Taking up Health Insurance Coverage and Payments

Multivariate analyses of the determinants of a household paying premium and getting enrolled with health insurance are presented in Table 12. The analysis suggests that the odds of a household paying premium increased with MPCE quintile (with the bottom 20% of households reporting nearly 3 times lower likelihood of paying for insurance than the top 20% of households). The odds of paying insurance premium also rose with household size. The likelihood (odds ratio) was higher for urban India (1.3), among regular wage earners (2.8) and better housing amenities in terms of those having better toilet (2.3), drainage (1.2), safe drinking water facilities and using gas, kerosene or electricity as cooking energy sources (2.4). The likelihood of paying premium was the lowest among Muslim households (0.4). Similar types of odds ratios and household behaviour/selectivity was also found with 2004 survey data (Gumber and Arora, 2006). Thus both 2004 and 2014 analyses clearly suggest that the poor and vulnerable households are least likely to pay for health insurance premium.

It would be interesting to analyse households' health insurance enrolment/coverage behaviour once the low-cost or subsidized health insurance schemes were specifically made available for the poor households (e.g. RSBY). The determinants of a household getting enrolled with health insurance (presented in the last two columns of Table 12) suggests that the gaps in odds ratios of several attributes either got reduced in magnitude or disappeared mainly due to encouraging enrollment from the poor households (i.e., odds ratio getting closer to 1). We could see clearly the gaps in odds ratios narrowed down considerably by the economic status of households (MPCE quintiles, BPL vs APL) and disappeared by social group (SC&ST or OBC). Surprisingly, the rural-urban difference in households' behaviour also disappeared. However, certain states have out-performed in extending health insurance coverage to the poor; thus Andhra Pradesh, Kerala, and Rajasthan may be labeled as 'pro-poor health insurance coverage' states. On the other spectrum, the situation was found to be miserable (i.e. enrolment in favour of better-off class) in Madhya Pradesh, Assam, Punjab and Uttar Pradesh.

Table 12: Determinants (Likelihood) of a Household for Paying Health Insurance Premium and Getting Coverage for Health Insurance, 2014

Characteristics (base category)	Paying Premium		Getting Coverage	
	Sig.	Odds Ratio	Sig.	Odds Ratio
1. MPCE Quintile (Top Q5)	0.000		0.000	
Q1	0.000	0.360	0.000	0.628
Q2	0.000	0.432	0.000	0.558
Q3	0.000	0.420	0.000	0.599
Q4	0.000	0.464	0.000	0.622
2. BPL (APL)	0.000	0.735	0.007	0.892
3. Religion (Other)	0.000		0.000	
Hindu	0.000	0.612	0.000	0.775
Muslim	0.000	0.376	0.000	0.513
4. Social Group (Other)	0.000		0.000	
Schedules Castes & Tribes	0.062	1.088	0.000	1.310
Other Backward Class	0.000	0.776	0.000	1.134
5. Household Type (Other)	0.000		0.000	
Self-employed	0.069	1.139	0.489	1.033
Regular wage/salaried	0.000	2.826	0.000	1.984
Casual	0.009	1.237	0.000	1.222
6. Toilet Facility (None)	0.000	2.311	0.013	0.924
7. Drainage Type (None)	0.000		0.000	
Open	0.001	0.846	0.000	0.754
Closed	0.006	1.159	0.287	1.038
8. Drinking Water (Other)	0.000		0.000	
Tap/bottled water	0.427	0.955	0.012	1.100
Tube-well/hand pump	0.000	0.629	0.190	0.947
9. Cooking Fuel (Other)	0.000		0.000	
Coke, coal, firewood, dung cake	0.000	2.253	0.828	0.976
Gas, kerosene, electricity	0.000	2.351	0.391	1.103
10. Household Size	0.000	1.085	0.000	1.042
11. Urban (Rural)	0.000	1.253	0.197	0.962
12. Major State (Smaller*)	0.000		0.000	

ANDHRA PRADESH	0.008	0.749	0.000	5.549
ASSAM	0.000	0.234	0.000	0.185
BIHAR	0.000	0.332	0.000	0.333
GUJARAT	0.000	1.611	0.000	0.487
HARYANA	0.263	1.129	0.000	0.323
HIMACHAL PRADESH	0.009	0.626	0.000	0.577
JAMMU & KASHMIR	0.000	1.553	0.000	0.481
KARNATAKA	0.000	3.194	0.000	0.547
KERALA	0.000	8.015	0.000	2.791
MADHYA PRADESH	0.299	0.900	0.000	0.182
MAHARASHTRA	0.000	1.263	0.000	0.318
ODISHA	0.171	1.184	0.816	1.013
PUNJAB	0.000	0.520	0.000	0.214
RAJASTHAN	0.196	0.875	0.000	1.200
TAMIL NADU	0.000	1.623	0.000	0.820
UTTAR PRADESH	0.031	0.832	0.000	0.278
WEST BENGAL	0.000	2.962	0.008	0.888
Constant	0.000	0.017	0.000	0.407

Note: The base category entered in the logistic regression for each characteristic/variable is mentioned in the parentheses.

* In this analysis we have not added Chhattisgarh with Madhya Pradesh, Uttaranchal with Uttar Pradesh and Jharkhand with Bihar; these bifurcated states are grouped with other smaller states thus included in base category.

4.3 Extent of Financial Protection Received for Hospitalisation

Table 13 provides details regarding the percentage of insured households received reimbursement of their hospitalisation expenses and the average amount received by BPL/APL status in both rural and urban area. About 23% of hospitalisation cases for urban insured households and 5% for rural insured household received reimbursement for their medical expenses. Urban insured households received an average amount of Rs.37,022 reimbursement for their expenses. As expected, the extent of such financial reimbursement was smaller for rural insured households (Rs.19340). This is also noted by Sundarraman and Muraleedharan (2015).

Overall, compared to 14.5% of cases in APL households only about 5.4% of BPL households had received reimbursement for their hospitalisation expenses and the average amount received was 266% lower than those for APL households (Rs.13203 vs. Rs.35128). The inequity could be much wider when we compare these figures between the bottom and the top MPCE quintiles.

Table 13: Percentage of Households Received Reimbursement of Hospitalisation Expenses and Average Amount Received by BPL/APL, 2014

Poverty group	Reimbursement for Hospitalisation Cases					
	% Received			Amount Received (Rs)		
	Rural	Urban	All	Rural	Urban	All
Poor	3.8	8.6	5.4	9749	16173	13203
Non-poor	5.6	27.2	14.5	22012	39033	35128
All	5.1	22.8	12.0	19340	37022	32465

Table 14 shows differentials in mean hospitalisation expenses between household having and not having health insurance coverage across MPCE quintiles and BPL/APL status. Surprisingly, at all-India level, the insured household on average had reported higher hospitalisation expenses (Rs.17261 vs. Rs.15773) than non-insured households; such differential was much higher for urban households. However, among BPL households the hospitalisation expenses were about 15% lower if they had health insurance coverage (Rs.8568 vs. Rs.9878); this proportion goes up to 20%of BPL households in rural India and to 26% if belonged to bottom MPCE quintile. This clearly reflects that health insurance has provided a marginal financial protection to BPL households and that too living in rural India.

Table 14: Mean Hospitalisation Expenses for Households with and without Health Insurance Coverage, 2014

Economic groups	Hospitalisation Cost (Rs)						Ratio of costs between Without and With insurance (%)		
	With Insurance			Without Insurance					
	Rural	Urban	All	Rural	Urban	All	Rural	Urban	All
MPCE quintile									
1 (Bottom)	6910	11621	7357	8735	10895	9020	26.41	-6.25	22.60
2	9222	9906	9353	9489	10420	9678	2.90	5.19	3.47
3	12725	11325	12353	12917	14217	13269	1.51	25.54	7.42
4	13774	17125	15121	15394	18298	16506	11.76	6.85	9.16
5 (Top)	22583	32931	29446	31613	33291	32624	39.99	1.09	10.79
Poverty group									
Poor	7369	10915	8568	8870	12082	9878	20.37	10.69	15.29
Non-poor	15206	28094	20480	16377	26997	19674	7.70	-3.90	-3.94
All	**12908**	**24070**	**17261**	**13396**	**21018**	**15773**	**3.78**	**-12.68**	**-8.62**

Inter-state analysis of hospitalisation expenses by insurance status of households as well as for BPL households is shown in Table 15. There are wide inter-state variations in these costs between with and without insured households for both rural and urban areas; therefore, to summarise results we have presented the cost ratios. Haryana, Maharashtra, Himachal Pradesh and Assam have reported very high negative cost ratios (between -48 and -58%) reflecting that insured households end-up paying almost double the hospitalisation expenses when compared with their non-insured counterparts. Several other states also reported negative cost ratios. Leaving aside Kerala (where insured households have paid just a half of the cost of the non-insured), this clearly reflects widespread prevalence of moral hazard and insurance collusion in India.

However, a scenario appears to be less miserable if we look at the poor-household. Table 15 also highlights the fact that states which had high level of insurance coverage among BPL households (Andhra Pradesh, Kerala, Odisha, and Rajasthan) have also reported relatively much lower cost of hospitalisation for the insured households. These percentages

were lower by 84.4 for Kerala, 57.7 for Odisha, 28.5 for Andhra Pradesh and 27.9 for Rajasthan. Interestingly, West Bengal had also reported lower hospitalisation cost by 41.6% for their insured BPL households (Madhya Pradesh 61.6% was based on only 8 cases of insured BPL households). The situation for Assam, Punjab, Himachal Pradesh, Maharashtra, and Haryana was much worse where the insured BPL households had reported a much higher hospitalisation expenses than their non-insured counterparts.

To sum up, targeted health insurance coverage to provide effective financial protection to the poor and thus to meet catastrophic healthcare expenses has remained limited to certain states (Andhra Pradesh, Kerala, and Rajasthan). For a majority of states (including economically prosperous states), the provision of effective health insurance coverage to the poor and vulnerable population remains a big challenge and a distant dream to achieve universal health coverage. Further, the analysis on the extent of health insurance protection showed that the insurance has provided a very minimal financial relief to BPL households especially living in rural India. There appears to be a clear indication of the prevalence of moral hazard and insurance collusions in urban India particularly in cities of economically prosperous states of Punjab, Haryana, Gujarat, and Maharashtra which need further data exploration through multivariate analyses to underpin and detect underlying reasons for both intra- and inter-state hospitalisation cost differentials.

Table 15: Mean Hospitalisation Expenses for Households with and without Health Insurance Coverage by Major States, 2014

Major States	With Insurance Coverage				Without Insurance Coverage				Ratio of costs between Without and With insurance (%)			
	Rural	Urban	All	BPL households	Rural	Urban	All	BPL households	Rural	Urban	All	BPL households
Andhra Pradesh	13866	14343	13993	7589	13481	21727	16089	9753	-2.78	51.48	14.98	28.51
Assam	6818	45886	20760	22531	6335	37152	10794	5971	-7.08	-19.03	-48.01	-73.50
Bihar*	14109	23520	14665	12197	10076	19192	11038	8907	-28.58	-18.40	-24.73	-26.97
Gujarat	14922	34620	24915	7842	11570	15558	13234	8296	-22.46	-55.06	-46.88	5.79
Haryana	25736	45565	43764	29296	17035	21342	18363	19415	-33.81	-53.16	-58.04	-33.73
Himachal Pradesh	31024	29105	30855	18154	15540	15557	15541	10816	-49.91	-46.55	-49.63	-40.42
Jammu & Kashmir	5704	16151	9151	9177	9420	12863	10060	9532	65.15	-20.36	9.93	3.87
Karnataka	15751	25826	21234	13408	12502	18826	14641	10385	-20.63	-27.10	-31.05	-22.55
Kerala	9758	13336	11128	6746	25096	18479	22301	12442	157.18	38.56	100.40	84.44
Madhya Pradesh*	11658	22181	18205	5663@	10382	19877	13061	9149	-10.95	-10.39	-28.26	61.56@
Maharashtra	28537	43195	40058	19180	18233	23095	20021	12552	-36.11	-46.53	-50.02	-34.56
Odisha	8912	21013	10418	6318	10820	18797	12391	9961	21.41	-10.55	18.94	57.66
Punjab	18359	49084	32547	32797	22363	24775	23199	15063	21.81	-49.53	-28.72	-54.07
Rajasthan	8938	16923	11543	4716	10659	12339	11063	6032	19.25	-27.09	-4.16	27.91
Tamil Nadu	20297	24754	22848	11934	12075	24151	17933	8876	-40.51	-2.44	-21.51	-25.62
Uttar Pradesh*	14465	19347	17298	10121	14371	26114	17247	10752	-0.65	34.98	-0.29	6.23
West Bengal	9029	29907	16457	6079	9887	20524	13068	8606	9.50	-31.37	-20.59	41.57
All	**12908**	**24070**	**17261**	**8568**	**13396**	**21019**	**15773**	**9878**	**3.78**	**-12.68**	**-8.62**	**15.29**

Note: * same as Table 11. Highlighted states have reported a high level of health insurance coverage for BPL households as shown in Table 11.

@ indicates that the estimate is based on a small number of sample <10.

5. Conclusions

In this paper, we have detailed the (a) trends in health seeking behaviour of people, (b) choice between government and private sources, (c) reasons for not accessing health care, (d) cost of treatment and morbidity pattern by examining four Rounds of NSS data on health care use. Our overall observation is that the public health providers played a major role in meeting health care needs in India in 1986-87. But the role is dwindling. Though several states have attempted to restore the public provision of health care by 2004, the gap seems to have widened in 2014. Provision of public health care is now restricted to 50% in rural areas and about 35% in urban areas in 2014. We observe that while a majority of men and women sought treatment for their illness, the percentage of people reporting lack of access to medical facility is more for rural than for urban populations indicating the urban-centric position of health providers and the public health care needs to fill in this gap. At the same time the percentage of people reporting illness not serious enough requiring treatment has declined over the survey periods, indicating a better health seeking behaviour of people in both rural and urban areas. It also reflects the increasing level of morbidity in the country. Better public health provision would bring down considerably the loss of number of working hours and days due to illness and thereby increase the income/livelihood opportunities and reduce vulnerability.

Over the years the government has also promoted private health providers through a variety of schemes to meet the growing demand. However, the cost of private health provision has remained high. We do observe a progressive reduction in the gap between public and private providers with respect to the cost of providing treatment indicating the rising cost of treatment in public health facility. This might be due to the provision of care to critical patients which the private sector hesitate to handle.

The disturbing trend of steep reduction in the percentage of people getting free beds and medicines need to be corrected. The limited budgets of the state governments can be effectively utilised if the state governments strictly follow an essential drug list and purchase the generic drugs through pooled procurement system. The central government's two

recent proposals- to get the prescriptions done only in generic names and to open a *janaushadhi* store in every district hospitals, if implemented would reduce the out of pocket expenditure for the consumers.

The analysis regarding health insurance here shows that targeted health insurance coverage so as to provide effective financial protection to the poor and thus to meet catastrophic healthcare expenses has remained limited to certain states (Andhra Pradesh, Kerala, and Rajasthan). For a majority of states including economically prosperous states of Punjab, Haryana, Maharashtra and Gujarat the provision and implementation of effective health insurance coverage to the poor and vulnerable population remains a huge task and a challenge to achieve universal health coverage goal.

Faster implementation of Clinical Establishment Act 2010 (CEA)uniformly in all the states would ensure that the services provided by all the hospitals are priced according to the standards set by the government. It would also ensure uniform standards and qualities are maintained in all the hospitals in both public and private sector. Already, in February 2017, the government has introduced price controls on stents which are used in heart ailments, significantly reducing the costs. Hence, if appropriate regulations are introduced through the CEA, the difference in the costs ratio between public and private sector will not continue, making health accessible for all.

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- In the area of **Natural Resource Management, Agriculture and Climate Change**, in-depth studies have been carried out relating to some of the major development interventions like Participatory Irrigation Management, Watershed Development Programmes, Joint Forest Management and Protected Area Management. The studies have focused mainly on aspects relating to economic viability, equity and institutional mechanisms. In the sphere of management of natural resources, these studies often explore the interrelationships between the community, government and civil society. Many of these studies, based on careful empirical enquiry at the micro level, have contributed to the on-going debates on sustainable environment and institutions. Issues in Common Property Land Resources and land use have also been researched extensively.

- The research in the area of **Industry, Infrastructure, Trade and Finance** focuses on the response of micro, small and medium enterprises to the changing government policies in the wake of liberalisation. The research has contributed to work on industrial clusters, flexible specialization and addresses issues involving intellectual property regimes, especially for pharmaceuticals and biotechnology. Studies dealing with issues in provisioning of and access to basic infrastructure both in the rural and urban areas, the linkages between infrastructure, trade and finance, regional growth and aspects of governance have also been carried out at the Institute.

- Studies under the theme **Employment, Migration and Urbanisation** relate to population, demographic changes, labour, nature of employment, diversification of economic activities and migration. An emerging aspect has been to study international migration to trace social, economic, cultural and political influences through remittances, social spending and norms setting. Urban services and aspects of urban economy and governance have also been an important emerging area of research at the Institute.

- The research in **Poverty and Human Resource Development** focuses on population, labour and poverty issues. The studies relate to quality of life, education, social infrastructure, diversification of economic activities and migration. The informalisation process in the labour and production systems leading to poverty and social security issues forms another important theme. The research on health and family welfare has contributed towards developing a framework for target- free approach in family planning. In the informal sector debate the research has focused on the collection of social statistics to influence policies for better labour conditions and social securityreforms.

- The enquiry in **Regional Development, Institutions and Governance** centres on application of regional planning models, data collection and analysis for regional planning exercises, impact of area development plans on growth and development of the regional economy. Studies have also focused on studying the role and participation of Non-Governmental Organisations (NGOs) in the development process, the changes in the characteristics of the NGOs and so on.

The major strength of the Institute is a thorough understanding of the micro processes and a consolidated effort to link these to macro issues. The faculty members have made considerable efforts towards developing policy-sensitive database of the Indian economy, especially relating to the informal activities, including child labour. The Institute has played a useful role in promoting empirical research in the country and the evolution of related conceptual framework and approaches. Overtime, the Institute's research agenda has broadened to cover a fairly wide range of issues pertaining to development policy both at the regional and the national levels. The results of the Institute's research are shared with policy makers, non-governmental organisations and other academicians. The faculty members at the Institute also participate in government panels, committees and working groups to influence certain policy decisions. The Institute promotes public discussion through the publication of its research findings and through seminars, conferences and consultation and undertakes collaborative research along with NGOs, international organisations, government and academic institutions.