Health Insurance, Health Access and Financial Risk Protection

SHAILENDER KUMAR HOODA

Drawing from the 60th and 68th rounds of National Sample Survey Office, this study evaluates the impact of different (social, commercial and target-oriented) health insurance schemes on access to healthcare use, and cost of care and financing of medical expenses. The results show that though these schemes promote access to healthcare, they also increase the costs manifold. The commercial insurers have not been effective at pooling financial risks and seem to be indulging in maximising individual gain. Given the intrinsic market-failure and information asymmetry between the principal and the agents and difficulties in regulating the insurance-base system, this study advocates financing healthcare through a tax-based system which can be cost-effective for achieving universal healthcare access in India.

Shailender Kumar Hooda (*skhooda.jnu@gmail.com*) is with the Institute for Studies in Industrial Development, New Delhi.

Financial constraint is a major barrier to access to healthcare in many low and middle income countries, including India. Health services remain inaccessible, particularly to the poor, simply because they cannot afford to pay at the time of seeking healthcare. When they use these services they suffer financial hardship or even impoverishment; many sell assets[1] or borrow to finance such expenses (WHO 2010). Such inequitable access to healthcare calls for the introduction of universal health coverage or at least policies that spread healthcare costs more equitably across the population and improve access to health (Mahal and Fan 2011).

Strategies to achieve universal health access are, however, not uniform across countries. Some follow either a pure tax-based health financing mechanism (the UK, Cuba, Sri Lanka), others follow a broad-based social health insurance system (Germany, France, Mexico, etc) and some others pursue a mix of both (GOI 2011a). In the recent past, policymakers from the low- and middle-income countries hoped that introducing or scaling up health insurance will improve the health and well-being of citizens. Health insurance is advocated as a means for improving healthcare utilisation, reducing the escalating healthcare cost and protecting households against impoverishment by high medical expenses.

In the recent past, the policy debate in India has been shifting from "health for all" (a tax-based system) to "health for all with financial protection" (a mix strategy). Around 2004–05, it was realised that underfunding and poor management of the public health system have rendered health services inaccessible to the poor. In order to facilitate access (both from public and private providers) and provide financial protection to poor (below poverty line, BPL) communities, the centre and many state governments have introduced a slew of target-oriented (pro-poor) government-funded health insurance (GFHI) strategies. Andhra Pradesh pioneered the Aarogyasri in 2007, followed in 2008 by the central government's national health insurance programme, Rashtriya Swasthya Bima Yojana (RSBY), Tamil Nadu's Kalaignar's Insurance Scheme for life-saving treatment (renamed as Tamil Nadu Insurance Scheme for Life Saving Treatment in 2010) in 2009 and Karnataka's Vajpayee Aarogyasri in 2009.[2] Karnataka has another government-subsidised voluntary health insurance scheme for the poor (Yashasvini introduced in 2003). The RSBY, a nationally representative scheme, was rolled out with the aim to cover all BPL families across states and to cover informal sector workers. The scheme has been launched in most states. Himachal Pradesh runs this programme by renaming it as RSBY plus (2010), while

Delhi has renamed it Aapka Swasthya Bima Yojana (ASBY, 2011–12). Both states have extended coverage under the programme (Appendix 1, p 71). Such schemes aim to enable the poor to access health services provided by both the public and private sectors.

India's tryst with health insurance schemes, however, goes back to the early 1950s, when the employer-mandated social security was launched. Civil servants and formal sector workers were enrolled into contributory but highly-subsidised health insurance schemes: the Central Government Health Scheme (CGHS in 1954) and Employees State Insurance Scheme (ESIS in 1952). The employees of the Ministries of Textiles, Railways and Defence have access to network of hospitals/dispensaries, where they do not have to pay (Forgia and Nagpal 2012). These schemes, generally known as employer-mandated social health insurance (SHI) benefits, are meant only for formal sector workers (Appendix 1). A vast majority of the population working in the informal sectors remained out of the preview of insurance protection.

The health insurance market opened up for the rest of the population in 1986 (under the Mediclaim policy). Mediclaim was the only health insurance policy sold for a long time (GOI 2011a). The insurance sector was further opened up in 1999 as a part of liberalisation, with the cap on foreign direct investment (FDI) set at 26%—this was raised to 49% in 2014. It was hoped that the private (domestic and foreign) insurance providers would rapidly develop the sector and improve insurance coverage using new products and better management. Competition, it was hoped, would not only lead to increased benefits in terms of lowered costs and increased consumer satisfaction but also improve access to healthcare and provide better services (Mavalankar and Bhat 2000). But these voluntary health insurance (VHI) schemes served only those who could afford to pay the insurance premiums. A few non-governmental organisations (NGOs), cooperative and community-based outfits have endeavoured to bring health insurance to the poor and those working in the informal sector. The reach, scalability and sustainability of such schemes are, however, limited (GOI 2011a).

The components of the current health insurance system in India are employer-mandated SHI, commercial/voluntary health insurance and target-oriented GFHI. These schemes facilitate healthcare for different sets of the population; the levels of care differ. They also vary considerably in their nature and coverage. As reported in Appendix 1, SHI comprehensively covers both inpatient as well as outpatient treatment expenses. The VHI and GFHI coverage is limited to inpatient care. The coverage amount of GFHI varies between Rs 30,000 (RSBY) and Rs 2,00,000 (Yashasvini). It is unlimited under SHI, while it depends on the amount of premium under the VHI. Note that of the different insurance schemes, SHI and VHI generally serve the better-off, while GFHI is a pro-poor financing strategy. Given the high prevalence of poverty (poverty headcount ratio at $2 a day (purchasing power parity—PPP) was around 68.8% in 2010) and the large share of the informal sector in the country's workforce (around 93%), target-oriented insurance strategies (especially the RSBY), which are committed to cover a vast majority of poor and informal communities, have a bigger role. However, with the size of the middle-income group growing in India, the role of commercial insurers cannot be undermined. In this context, it is important to assess how different health insurance interventions (serving the well-off and poor people) provide financial protection and healthcare access to different classes of people. Such an exercise will also provide evidence for policy and programme initiatives.

This study evaluates (i) whether the recently-launched target-oriented health insurance schemes have been able to promote access to healthcare and reduce medical care costs of the poorer segments of society and (ii) whether social and voluntary health insurance schemes promote healthcare use, reduce expenditure on such care and provide financial protection to communities that are entitled to such schemes. Based on its findings, this study argues that strengthening the existing government health system would be more effective than scaling up the health insurance model.

Data and Methods

The evidences on the impact of social and voluntary health insurance are drawn from unit level record of the 60th (2004–05: Morbidity and Health Care, MHC) round of the National Sample Survey Office (NSSO). The NSS 68th (2011–12: Consumption Expenditure Survey, CES) round is used to examine the impact of GFHI schemes.

The MHC is a detailed round on healthcare that has information on the behaviour of sample households seeking treatment for ailments (as outpatients) during the previous 15 days and hospitalisation (as inpatients) during the previous 365 days. It also has information on expenditure incurred on treatment for around 40 diseases (including cardiac-related ailments, asthma, cancer, sexually-transmitted diseases, diseases of the ear, nose and throat, gynaecological disorders, injuries, febrile illnesses). The expenditure incurred on treatment is also broken down into heads such as doctor/specialist fees, diagnostic tests and buying medicines. Sources of finance for healthcare expenses (income, saving, borrowing, sale of asset, etc), annual amount of insurance premium paid by household members and reimbursement received are also detailed. Information was sought to ascertain whether premium paid for VHI—be it public, private, cooperative society, community, NGOs—and SHI benefits are provided by employers through CGHS/ESIS, etc.[3] This allows us to identify the insured and uninsured persons under a particular scheme. It is worth mentioning here that in the MHC data, of the total insured persons, around 96.6% are entitled to both the (VHI and SHI) schemes. Hence, it was difficult to capture the impact of each scheme accurately. Therefore, the combined impact is presented in detail by identifying persons as insured and uninsured, while some observations are made to show their separate impact.

CES, in contrast, is a detailed round on consumption expenditure, including food and non-food items, and has information on medical expenses for institutional/hospitalisation and non-institutional/outpatient treatment during the previous 365 days and 30 days respectively of the sample households. The expenditure pattern on health items and number of households that have reported such expenses can be worked out on the basis of the

available information. But the CES does not have information on whether a household is covered under a GFHI scheme or not. The impact evaluation on the basis of this data set, therefore, is not straightforward. In order to identify and evaluate the impact of the GFHI schemes, a case-control approach (CCA) is followed.

This approach was adopted in a study by Selvaraj and Karan (2012) to evaluate the impact of the GFHI schemes on the households' out-of-pocket expenditure. They identified the number of districts across states that have been brought under the central (RSBY) and state-run health insurance schemes (called intervention districts—IDs). Districts that were not covered (called non-intervention districts—NIDs) were also identified. The impact of health insurance in IDs and NIDs on households' out-of-pocket health expenditure was examined using CES (2009–10) round data. There was both a debate on and criticism of the CCA and data used for the study (Dilip 2012a, 2012b; Vellakkal and Ebrahim 2013). The critics point out that the results of the impact of such schemes are quite sensitive to data use and methods. For instance, the CES 2009–10 data was obtained just a year after RSBY (April 2008) was launched. In this case, even if one identifies the districts as ID and NID, the data will have little to say since the impact of a scheme would be visible only after it has been in place for some time. Second, identifying districts using information on whether schemes have been rolled out or not is again problematic, as coverage/enrolment of eligible families was very low in districts where the scheme had just been introduced. Note that as per the RSBY mandates, the scheme was rolled out across all districts and states to cover all families below the poverty line (up to five members). In this case, enrolment is a prerequisite to enjoy the schemes' benefits.

First, the enrolment profile (enrolment to target ratio) of eligible families under the RSBY scheme across all districts of the country has been worked out. I found (Appendix 2, p 72) that the scheme was rolled out in most of the districts by the end of 2012, but the targeted families in around half of the Indian districts either have not been enrolled or the enrolment ratio was low (lower than national average). Information on the RSBY scheme in states like Andhra Pradesh and Tamil Nadu was not readily available but the state-run pro-poor insurance schemes worked effectively across districts in these states. Thus, following the CCA, I identified districts with high (higher than national average, including all districts of Andhra Pradesh and Tamil Nadu) enrolment ratio (called high insurance coverage districts—HICDs) and districts with low/no enrolment ratio (called low insurance coverage districts—LICDs). In all, around 301 districts were identified as HIC and rest 355 as LIC districts (Appendix 2). The impact is presented for HICD and LICD households and the latest CES 2011–12 data is explored.

In India, around 80% outpatient spending is financed through the household's own income/savings, while a high amount (40%) of inpatient spending is financed through borrowing/sale of assets. Thus, financing inpatient spending is a major challenge. Second, the social, voluntary and targeted insurance schemes provide benefit cover for inpatient/hospital expenses. Detailed results are presented for inpatient care along with some insights for outpatient care in order to facilitate a robust discussion on this subject.

Health-seeking behaviours are presented as average inpatient and outpatient rates per 1,00,000 insured and uninsured persons and HICD and LICD households separately. The mean inpatient and outpatient spending are presented across economic stratum subgroups. These are identified through monthly per capita consumption expenditure (MPCE) quintiles.[4] The two-sample t-test is employed to identify whether mean inpatient rates and spending differ significantly between insured and uninsured persons and HICD and LICD households. The impact of health insurance in promoting equity in access to healthcare across economic subgroups is identified using divergence ratio (ratio of inpatient rate of q1 to q5 population groups) and concentration curve.

To provide inputs for policy debate on strategies (tax-financing, health insurance or mix) to achieve universal health access, health-seeking behaviour for medical care of HICD and LICD households is presented by identifying districts with low- and high-levels of health infrastructure.[5] This gives an idea about the relative role of health insurance and provider networks.

The role of health insurance (especially social and voluntary) schemes in financing healthcare is identified by studying the amount of inpatient spending and borrowing financed through reimbursement. The composition of reimbursement is worked out to identify the relative role of employer insurers and insurance companies. The reimbursement made and premium received by insurers are also studied to assess their net contribution in financing healthcare. This analysis is done by using the MHC data. Analysis for financing GFHI has not been worked out because of the limitation of the CES data—doing so could have provided a better explanation.

Access to and Equity in Healthcare Use

Equity in and access to healthcare use are important indicators for better health outcomes. Social and voluntary health insurance (SVHI) schemes play a significant role in improving the healthcare utilisation across rural–urban residents and economic stratum groups of India. The t-test results indicate that the insured persons have significantly higher (19.7%) rate of reporting for inpatient care than the inpatient care rate (IPR) reporting of uninsured persons at the aggregate level (Table 1, p 66). The IPR of the poor insured is reported to be around 30.4% higher than the poor uninsured persons. The IPR of rich insured persons is also higher than the rich uninsured but the difference remained low: about 4.8%. Thus, their impact is more pronounced amongst the lowest two economic stratum groups, particularly in increasing the healthcare utilisation rate.

The GFHI schemes also improve the rate of utilisation of hospitalisation care. The hospitalisation reporting rate of HICD households is found to be around 11% higher as compared to the reporting of LICD households at the aggregate level (Table 1). Such impact is likely to be more on the near poor than the poorest households. The second poor households of HICDs have around 28.6% high rate of reporting for hospitalisation than their counterpart in LICDs, while this difference was only 6.5% in case of the poorest. The overall impact of the GFHI was seen to be high on the urban poorest and second poor households of the rural areas, as their hospitalisation reporting rate is found to be 33%–34%

Table 1: Inpatient Care Rates of Insured–Uninsured Persons and HICD–LICD Households: Two-Sample t-test Results

MPCE Quintile Groups	Impact of SVHI Schemes: 2004–05				Impact of GFHI Scheme: 2011–12			
	Mean IPR (Per 1,00,000 Population)		Diff in Mean	%age Diff	Mean IPR (Per 1,00,000 Households)		Diff in Mean	%age Diff
	Uninsured	Insured			LICD	HICD		
Rural	2,111	2,523	–412*	–19.5	13,415	14,635	–1,220*	–9.1
Poor(q1)	1,369	1,824	–455*	–33.2	9,147	9,482	–335*	–3.7
q2	1,833	2,312	–479*	–26.1	10,553	14,022	–3,469*	–32.9
Middle(q3)	2,622	2,698	–76*	–2.9	14,506	15,776	–1,270*	–8.8
q4	3,499	3,512	–13*	–0.4	22,097	23,774	–1,677*	–7.6
Rich(q5)	5,120	4,644	476*	9.3	27,556	27,755	–199*	–0.7
DR(%)	73	61	–	–	62	49	–	–
Urban	2,862	3,268	–406*	–14.2	13,784	15,913	–2,129*	–15.4
Poor(q1)	2,190	2,298	–107*	–4.9	8,296	11,136	–2,840*	–34.2
q2	2,209	2,811	–601*	27.3	11,435	12,678	–1,243*	–10.9
Middle(q3)	2,905	2,697	207*	7.2	12,608	13,867	–1,259*	–10.0
q4	3,026	3,163	–136*	–4.5	14,784	17,226	–2,442*	–16.5
Rich(q5)	3,250	3,767	–517*	–15.9	15,586	18,613	–3,027*	–19.4
DR(%)	33	39	–	–	27	32	–	–
Combined	2,292	2,743	–451*	–19.7	13,536	15,013	–1,478*	–10.9
Poor(q1)	1,420	1,852	–431*	–30.4	9,059	9,644	–585*	–6.5
q2	1,894	2,390	–495*	–26.2	10,709	13,774	–3,065*	–28.6
Middle(q3)	2,688	2,698	–9*	–0.4	13,945	15,232	–1,288*	–9.2
q4	3,311	3,355	–44*	–1.3	18,472	20,708	–2,236*	–12.1
Rich(q5)	3,793	3,975	–182*	–4.8	18,686	21,405	–2,719*	–14.6
DR(%)	63	53	–	–	43	36	–	–

* One percent level of significance; IPRs - inpatient care rates; Two-sample t-test is applied using weight in sample data; DR is divergence ratio estimated as different in inpatient rate of q1 to q5 groups; however for 2011–12 it is for q2 to q5; negative sign of diff in mean indicates inpatient rate of insured higher than the uninsured.
Source: Estimated using unit records of NSS 60th (2004–05) and 68th (2011–12) rounds.

Figure 1: Relative Role of Health Insurance and Service Provision for Health Access

Source: Estimated using NSS 68th round data.

higher than such reporting of their LICD counterparts. The poorest in rural India benefit little from the GFHI strategies.

The turning low hospitalisation reporting of the rural poorest households compared to the rural second poor and urban poorest can be interpreted as probably the enrolment of the extreme poor of rural area being low under the GFHI. If this is the case, then enrolment of eligible families becomes the prerequisite for successful pro-poor financing schemes. But at the same time, turning high reporting rate among the urban poorest reflects that accessibility—in terms of proximity to health facilities—probably plays an important role in determining the healthcare use. In order to present which phenomenon has been working for improving healthcare access, the hospitalisation reporting rate of HICD and LICD households is presented by identifying all Indian districts as low and high health infrastructure districts in Figure 1.

Interestingly, the hospitalisation reporting rate of the poorest households is recorded high in districts where availability of health facility is high compared to low availability of health services in a district, no matter whether coverage under the GFHI is high or low (Figure 1). The reporting rate of the poorest households remained high (10.7% and 9.9%) in districts where provider networks are fairly extensive and low (7.8% and 7.7%) in areas where infrastructure provision is low across high and low insurance coverage districts, respectively. This figure highlights that provisioning of health infrastructure facility is critical for healthcare access. The covering/enrolment of poorest families under the GFHI umbrella does matter little to them. This also confirms that if provider networks are uneven and low, the less the estimated effects of health insurance, particularly on poor.
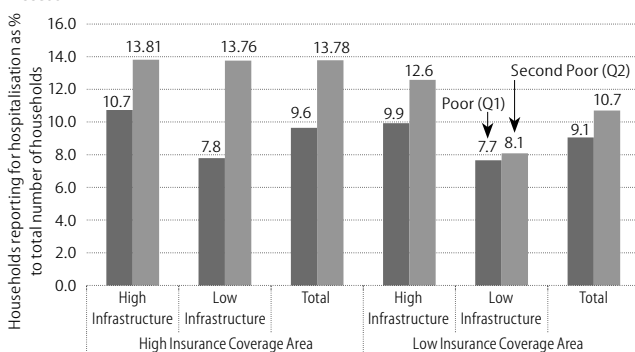
The weak service delivery system, in terms of low availability of health facilities, may diminish the likely impact of publicly-financed insurance schemes on access to healthcare use. It can be argued that the pro-poor insurance system can work well in settings where adequate public provisioning of healthcare services prevails. Thus, along with covering people under such schemes, providing adequate health service networks across districts and remote areas of India is critical.

Achieving equity in access to healthcare use is another important health policy goal. It is noticed that the poor, despite high needs, generally use health services less than the better-off. How far health insurance has promoted equity in healthcare utilisation is shown by the divergence ratio and concentration curve. The divergence ratio, derived from Table 1, shows that the inpatient rate of rich uninsured is found to be 63% higher than the poor uninsured at aggregate level, while the difference between rich–poor insured persons remained low, around 53%. Similarly, the difference in hospitalisation rate of (second) poor and rich households of LICD area was noticed around 43%, while low 36% among HICD households. This reflects both SVHI and GFHI schemes promote equity in access to healthcare use. Their likely impact in promoting equity in healthcare access remained noticeably high in rural area (Table 1).

The concentration curves (CCs) are plotted by showing the cumulative percentage of inpatient-care use status (y-axis) as against the cumulative percentage of the population, ranked by living standards from low to high quintile groups (x-axis). The CC of both insured and uninsured persons and of households living in HICDs and LICDs were below the line of equality (Figure 2, p 67). This indicates inpatient-care use is concentrated towards the rich. Of these, the CC of insured persons and HICD households is found closer to the line of equality compared to the CC of uninsured and LICD households, reflecting health insurance promotes equity in access to healthcare use. The impact of the SVHI schemes in promoting equity in access to healthcare use seems to be high. The impact of the GFHI does not seem very significant (Figure 2). This may be because of the limitation of the CES data in capturing the equity impact. A field-based study of schemes like the RSBY, Aarogyasri, Kalaignar, etc, can give better policy perspective results.

It reflects that depth and coverage of health insurance is highly significant in determining the rate of reporting for

Figure 2: Health Insurance and Equity in Access to Healthcare Use for Rural Residents
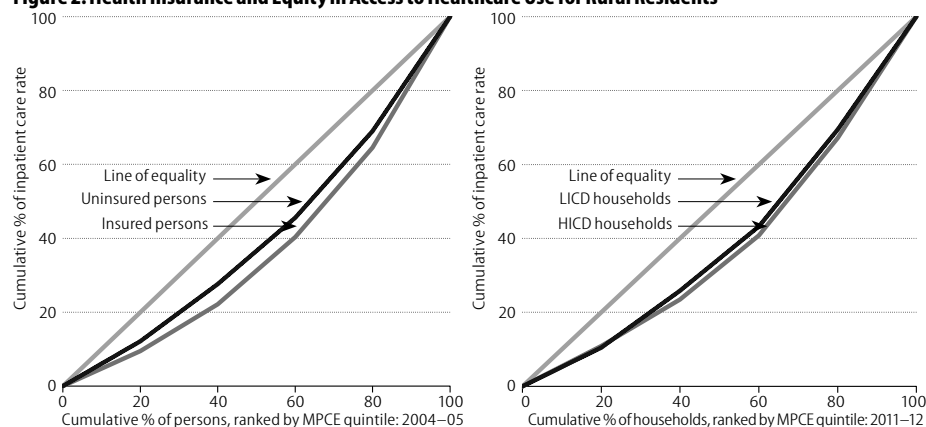
2004−05 and 2011−12 data sets are not comparable.
Source: Same as Table 1.

different kinds of care, such as inpatient care and outpatient care. SHI schemes like the CGHS/ESIS are comprehensive in nature and cover both inpatient as well as outpatient expenses. Therefore, inpatient and outpatient rates of persons having SHI turned significantly higher than the rates of uninsured persons. The VHI schemes on the other hand provide coverage for inpatient care, with low/no coverage for the outpatient. The inpatient rate of persons having VHI coverage turned higher than the uninsured, while their outpatient rate remained low (Table 2).

Table 2: Health Insurance and Treatment-seeking Behaviour: A Summary

		Rural	Urban	Poorest	Richest	Total
Inpatient rate of insured higher than uninsured (%)	Insured in any scheme	-19.5	-14.1	-30.4	-4.7	-19.6
	CGHS/ESIS, etc	-18.8	-10.7	-29.6	-1.1	-17.9
	Only CGHS & ESIS	-107.3	-71.1	−	-22.3	-108.1
	VHIS	-19.8	-14.5	-31.0	-8.7	-19.6
Outpatient rate of insured lower than uninsured (%)	Insured in any scheme	21.2	10.4	20.9	18.4	17.3
	CGHS/ESIS, etc	21.9	12.9	21.0	22.7	18.6
	Only CGHS & ESIS	-68.8	-23.0	-101.0	-5.7	-40.2
	VHIS	21.0	10.6	21.7	17.2	17.5
Percentage of insured persons	hospitalised	25.8	30.5	23.1	31.5	27.3
	did not hospitalise	22.5	27.7	18.6	30.5	23.8
Percentage of persons received service from private facility	insured	61.0	64.0	52.0	77.0	62.0
	uninsured	58.0	62.0	44.0	74.0	59.0
Percentage of persons not satisfied with govt facilities/doctors	Insured	53.8	50.2	47.9	50.3	52.4
	Uninsured	44.4	47.5	39.3	47.7	45.4
Percentage of persons saying required facility not available and long waiting in govt facility	Insured	18.7	22.5	15.3	24.4	20.1
	Uninsured	14.6	20.9	12.1	20.6	16.4

CGHS/ESIS, etc include insurance cover to civil servants, formal sector workers and Ministry of Defence, Railway and Textile employees; - negative sign indicates service utilisation rate of insured higher than uninsured.
Source: NSS 60th round.

The SVHI schemes influence the health-seeking behavioural tendency of the population. Table 2 shows that the tendency "to hospitalise" increases with the entitlement of insurance as compared to "not to hospitalise." Around 27.3% insured persons were hospitalised when they fell ill as against the 23.8% that did not report for hospitalisation. Such reporting behaviour is almost high across rural–urban residents and rich–poor stratum groups of India. Thus, these schemes increase the probability of reporting for hospitalisation and generate more healthcare

demand. It is worth mentioning here that the aim of health insurance was to enable people to access health services provided by public and private sector.

The important point that has emerged from the MHC data is that the insured persons do seek more hospitalisation care from private facilities rather than the public ones (Table 2). Probably, inadequate availability with low quality of public health facilities has motivated people to opt for a private facility as against the public one. For instance, around 52.4% insured persons are not satisfied with the medical treatment provided by government doctors/facilities (issue of quality) and 20.1% reported that there is long waiting and required services are not available in government facilities (issue of inadequacy) (Table 2).

Due to underfunding of the public health system, the human and physical infrastructure in India falls short of its required level marked as per the Indian public health standard, again showing an inadequate level of facilities. Such reporting percentages among uninsured persons, however, are low: about 45.4% and 16.4%, respectively (Table 2). The high preference for private facilities among insured persons indicates that health insurance promotes private healthcare providers in the country. Furthermore, insured persons report high hospitalisation and low outpatient treatment compared to uninsured persons (Table 2). These trends indicate that with the increase in the depth and coverage of health insurance, the demand for secondary and tertiary care services particularly that are provided under private (costly-care) setting would be preferred by the insured. This may result in an increase in the overall healthcare cost, which has been explained in the following section.

4 Cost of Care

Pro-poor insurance strategies have resulted in increasing the mean inpatient spending across rural–urban residents and at an aggregate level. The results show that the mean inpatient spending of the HICD households is significantly higher than the spending of their LICD counterparts across rural–urban residents and economic stratum subgroups, except for the second poor households (Table 3, p 68). Interestingly, as has been reported, the hospitalisation reporting rate of second poor households of the HICD areas was significantly higher. Here the GFHI schemes (Table 3) are also able to keep their hospitalisation cost down. The cost and utilisation trends reflect that the GFHI strategies have increased health utilisation rates of the second poor households and reduced their inpatient cost as well, indicating the effectiveness of the GFHI methods. This is because the second poor households may have a high enrolment under pro-poor schemes and subsequently receive more benefit. If this is the case, then enrolment under the schemes becomes important to garner its positive impact on both healthcare cost and use.

The svhi schemes, rather than reducing the cost of care, increase the cost per inpatient episode. The average inpatient-care spending of insured persons was found to be around 11.3% higher than the average spending of uninsured persons at an aggregate level and across rural–urban residents (Table 3). The mean inpatient spending of low economic stratum insured persons (across rural–urban residents) is recorded (about 16%–18%) lower than the uninsured persons. On the other hand, the mean inpatient spending of the rich insured is noticed to be significantly high (about 35%) than rich uninsured persons (Table 3). It appears that high spending of rich insured persons on diseases related to heart, hypertension, sexually-transmitted diseases, cancer, tumours, disorders, gastrointestinal, accidents, etc, have resulted in securing a high overall inpatient cost of insured persons compared to the uninsured (Appendix 3, p 72). For treating various diseases, the rich insured spend a significantly high (mean) amount particularly for paying the doctors'/specialists' fees, purchasing medicine from outside the hospital, on diagnostic tests, bed charges, etc, as compared to the uninsured rich persons. The mean inpatient spending of the poor insured persons on these diseases and treatments, however, are very low. This probably has helped in keeping their (low economic stratum) inpatient cost down.

Table 3: Mean Inpatient Care Spending of Insured–Uninsured Persons and HICD–LICD Househoulds: Two-Sample t-Test Results (in Rs)

MPCE Quintile Groups	Impact of SVHI: 2004–05					Impact of GFHI: 2011–12			
	Mean Inpatient Spending of Sample Persons	Diff in Mean (x-y)	%age Diff in Mean ((x-y)/x)	%age Diff in Mean Outpatient Spending		Mean Inpatient Spending of Sample Households	Diff in Mean (x-y)	%age Diff in Mean ((x-y)/x)
	UIP (x)	IP (y)					LICD (x)	HICD (y)		
Rural	5,552	5,861	-309*	-5.6	21.2	7,523	7,677	-153*	-2.0
Poor(q1)	4,084	3,499	585*	14.3	22.4	2,439	2,460	-21*	-0.9
q2	4,906	4,210	696*	14.2	21.9	4,151	3,793	358*	8.6
Middle(q3)	5,269	5,403	-134*	-2.5	32.0	5,778	6,197	-419*	-7.3
q4	6,881	7,114	-233*	-3.4	22.0	10,213	9,586	626*	6.1
Rich(q5)	8,186	13,749	-5,564*	-68.0	25.1	20,701	25,433	-4,732*	-22.9
Urban	8,464	9,580	-1,116*	-13.2	10.4	10,618	11,337	-719*	-6.8
Poor(q1)	3,972	2,467	1,505*	37.9	0.00	2,592	2,500	92*	3.5
q2	5,291	3,510	1,781*	33.7	15.4	3,342	4,127	-786*	-23.5
Middle(q3)	4,327	3,757	569*	13.1	15.8	4,720	5,174	-454*	-9.6
q4	8,022	6,484	1,538*	19.2	14.0	7,912	7,066	845*	10.7
Rich(q5)	12,199	14,432	-2,233*	-18.3	13.1	17,279	19,907	-2,628*	-15.2
Combined	6,421	7,150	-728*	-11.3	17.3	8,555	8,826	-271*	-3.2
Poor(q1)	4,073	3,423	650*	16.0	21.0	2,453	2,465	-11*	-0.4
q2	4,978	4,088	890*	17.9	20.9	3,998	3,850	148*	3.7
Middle(q3)	5,036	5,025	11	0.2	28.6	5,495	5,932	-437*	-8.0
q4	7,297	6,853	444*	6.1	20.1	9,300	8,605	695*	7.5
Rich(q5)	10,531	14,232	-3,701*	-35.1	18.4	18,586	22,095	-3,510*	-18.9

* One percent level of significance; - medical expenditure per hospitalisation case during stay at hospital; $- institutional medical expenditure for the last 365 days.
Source: Same as Table 1.

Thus, the svhi schemes are more cost-effective for the low economic stratum group persons since not only their utilisation status for inpatient-care found is high but cost is also found to be low. For the rich it seems that these schemes allow them to switch to costlier care which further result in increasing the overall inpatient-care costs. On the low mean inpatient spending of the poor insured for different diseases and treatments compared to the rich insured, some studies have provided a justification that it may be because of overprescription or over-utilisation, particularly amongst the rich persons, while access to insurance

is limited for the poor (GoI 2011a). However, it is difficult to clearly spell out the justification of this argument from the present exercise. The second plausible argument that can be made is that it may be because of the amount of premium paid or the level of awareness about the scheme. Data on the latter is not available while the former is discussed in the following section.

5 Financing Healthcare

Financing healthcare cost is a major challenge. In India, 40% of inpatient spending is met through borrowing (33%) and sale of assets (6%). The rest is financed through household income/saving (48%) and help from friends (12%) (Appendix 4, p 72), while a high amount (80%) of outpatient spending is financed through households' own income/saving (result not reported). The poor households are facing a high burden of borrowing. The insured and uninsured poor had to manage around 65% and 44%, respectively, of inpatient spending through borrowings. Such burden on the rich insured and uninsured households is low: around 27% and 16%, respectively (Appendix 4).

It is noticed that only a small amount of borrowing (12%), inpatient (4.0%), outpatient (4.9%) and overall healthcare spending (4.1%) is financed through insurance reimbursement in India (Table 4). The reimbursement made by the svhi provider seems to be low/inadequate in financing healthcare spending and in lowering the burden of borrowing, particularly amongst the poor and rural residents of the country. Financing burden of borrowing and healthcare cost through reimbursement is

Table 4: Role of Health Insurance in Financing Healthcare Costs

Indicators	Descriptions	Rural	Urban	Poor (q1+q2)	Richest (q4+q5)	Total
Percentage of total borrowing-B (for IP and OP) financed through reimbursement (R)	R as % to B	6.6	31.8	6.0	17.9	12.0
Percentage of inpatient (IPS), outpatient (OPS) and total health (THS=IPS+OPS) spending financed through reimbursement (R)	R as % to IPS	2.5	5.9	3.1	4.6	4.0
	R as % to OPS	2.3	10.7	1.7	7.3	4.9
	R as % to THS	2.5	6.2	2.9	4.8	4.1
Contribution of different insurers in financing THS through R (compositional share of R made by different insurers)	Govt employers	49.2	51.0	66.9	50.0	50.6
	Private employers	30.9	30.4	23.4	31.6	30.5
	Medical insur comp	5.6	14.1	1.4	13.9	12.1
	Other insur agencies	14.3	4.5	8.2	4.5	6.8
Percentage amount of premium received by insurers higher than the amount of reimbursement made*	VHIS providers	77.1	88.4	73.6	89.2	86.8
	CGHS/ESIS, etc	0.5	-11.1	-130.2	1.7	-8.2
	All schemes	40.2	57.2	-32.1	60.5	54.2
Average reimbursement (Rs per cases)	VHIS providers	818	8738	249#	9865#	4078
	CGHS/ESIS, etc	2842	9672	3897#	11554#	6023
Average annual premium (Rs per cases) $	VHIS providers	471	1156	270#	1104#	962
	CGHS/ESIS, etc	266	262	219#	318#	263

*- %age share is estimating by taking into account total premium amount (PA) collected by insurers and reimbursement amount (RA) made for inpatient and outpatient cares using formula: ((PA-RA)/PA)*100. RA is estimated for both inpatient and outpatient separately. Negative sign indicates premium received are lower than reimbursement made and otherwise; # - values for poorest(q1) and richest(q5), respectively, are presented; $ - annual premium paid amount is not necessarily per case, but could cover multiple cases/persons in a family. It is instructed (in 60th NSS, chapter5, p122) that in case a fixed amount is paid annually for insurance schemes by the household, the amount is to be apportioned equally between the members of the household who are covered by the health scheme and amount is recorded against each of them. Therefore, the average annual premium paid by per cases is presented.
Source: Estimated using NSS 60th round data.

high among the rich and urban insured. This may be because the amount of reimbursement received is related to the amount of premium paid or insurance-cover level which in both cases would be higher for the rich. For vhi, a comparative picture of average per case amount of premium paid and reimbursement received validates the above argument (Table 4). The rich insured pay a high amount of premium for accessing the vhi as well as receive a high average amount through reimbursement. Similar trends are not exhibited for the poor. The shi schemes on the other hand are comprehensive; therefore it is beneficial for both the rich and poor.

Interestingly, the vhi providers collect a high amount of premium (86.8%) than the amount of reimbursement made by them in a year. They receive a significantly high premium from insurance policy holders but reimburse less to all stakeholders including rural–urban and poor–rich insured persons. While the amount of premium received by the shi provider remained (at 8.2%) lower than the amount they reimburse in a year (Table 4), it shows that the government finds it difficult to fund its social health insurance system from the traditional sources of wage-based insurance contributions. The government has to inject additional funds from general revenues into the system.

A comparative analysis of the role of insurers in providing reimbursement varies considerably. Out of the total reimbursement made, the share of the government employer insurer is among the high (50.6%), followed by private employers (35.5%), medical (12.1%) and other (6.8%) insurance companies (Table 4). The employees generally receive high health security benefits from government employers but low and limited from private employers. Overall, employers-mandated shi schemes seem to be effective in financing healthcare for all sections of the society as compared to vhi schemes. This, in continuation with the above, reveals that the vhi providers are indulging in maximising their individual gain from the insurance business. With the central government's recent measures to increase the fdi cap in health insurance from 26% to 49%, the private health insurance market is expected to grow. But it will be a major challenge for the private insurance industry to provide financial protection particularly to the poor and rural residents.

6 Discussion

India's public health system is characterised by inadequate provision of facilities and staff, poor quality of care, lack of drugs and weak delivery services. This provides the private sector an opportunity to exploit the healthcare market. In 2004–05, the Indian health system was noticed to be one of the most privatised health sector in the world, as private expenditure constituted a high share (78%) in total health expenditure (goi 2009).

Two major initiatives since 2005 have been noteworthy in reforming the health system financing: launch of the National Rural Health Mission (nrhm) (under which a commitment was made to increase the government spending to 2% to 3% of the gdp) and the central and state government-sponsored health insurance schemes (such as rsby, Rajiv Aarogyasri, Yashasvini, Kalaignar). The nrhm largely relies on the traditional way of health financing that aims to strengthen the provisioning of

basic public health facilities across remote areas. The target-oriented health insurance approach on the other hand is a demand-side financing strategy that enables people to access health services provided under both public and private sector settings. Interestingly, the commitment to increase government health spending could not be met and the spending level recorded was very low at 1.2% of the gdp in 2012.

Thus, by default, India has undertaken a different health insurance (typically meant for the better-off as well as the poor) model to facilitate health services access in the country. I have attempted to evaluate the impact of these insurance interventions on access to healthcare use, cost of care and financing medical expenses using the nss 2004–05 and 2011–12 data. The estimates show that the recently initiated target-oriented health insurance schemes promote access to healthcare utilisation for hospitalisation. But these schemes seem to be ineffective in reducing the mean hospitalisation cost from sample households at the aggregate level. A field-based study conducted by Prayas/Oxfam in 2011 in five states of India also shows that in areas where the rsby and other state programmes were implemented, the out-of-pocket (inpatient as well as outpatient) expenses actually increased.

One interesting observation of our study is that the second/ near poor households benefited more from such schemes than the poorest. That is, not only the rate of utilisation for hospitalisation care of second poor households that are living in high enrolment ratio districts/regions is found significantly higher but their mean hospitalisation cost also was noticed to be lower than the second poor households that are living in low enrolment ratio. This reflects that enrolment under the schemes is important to garner its positive impact on both healthcare cost and use. As regards to why only the second poor households benefit more, if we visualise the existence of high discrepancy in the identification of the poor in India, one can assimilate such impact. The households with bpl cards may not be poor and many of the poor may not receive bpl cards, thus excluding them from programme (rsby and state-run schemes) benefits. It is reported that 61% of the households identified as poor by the Planning Commission standard did not possess a bpl card (Himanshu 2008). If a majority of the second poor households possess bpl card in high enrolment ratio districts, they would have been enrolled for the schemes. Probably, this may have had the expected impact on the second/ near poor households. In such a situation, besides enrolling the bpl families under scheme benefits, it has become important to resolve discrepancy in bpl identification to reap the positive impact of target-oriented government schemes.

For the poorest households, the provisioning of basic public health facilities are more critical for healthcare access than enrolling them under targeted insurance schemes. The study confirms that if provider networks are uneven and low, the less the estimated effects of health insurance, particularly on the poorest. The weak service delivery system, in terms of low availability of health facilities may diminish due to the likely impact of publicly-financed insurance schemes on access to healthcare use. Some studies, based on international experiences,

have argued that improving the existing (tax-based) public health system is far less complex than expanding health insurance. Global experience shows the difficulties in regulating an insurance-based system to keep costs down and assure quality (Gupta and Muraleedharan 2014) and it also does not mitigate inequitable access to health services in a fundamentally private healthcare delivery market (Sodhi and Rabbani 2014). Based on study evidences and international experiences, it can be argued that strengthening the publicly-provided basic healthcare network is an important means of attaining universal healthcare access in India which can be made possible by allocating more government funds in the health sector. The pro-poor insurance system can only work well in settings where services are adequate.

As far as the role of SVHI schemes is concerned, it is noticed that the depth and coverage of scheme is highly significant in determining the access to healthcare use. The SHI such as the CGHS/ESIS comprehensively covers inpatient as well as outpatient care expenses. Therefore, the rate of inpatients and outpatients entitled to such schemes was significantly higher than the rates of uninsured persons. The VHI in most cases covers only inpatient care, therefore inpatient rate of persons having VHI entitlement turned higher than uninsured, while their outpatient rate remained low.

Poor Public Facilities

Both the SVHI schemes are typically meant for the better-off population and cover at least inpatient care; therefore their combined impact was evaluated. The results show that these schemes promote access to healthcare use for inpatient care with greater equity. These schemes also influence the health-seeking behavioural tendency (whether to hospitalise or not) of the population, more particularly from private providers. Inadequate availability and poor quality of public facilities seem to be the motivated factors in influencing the choice of private facility as against the public. Health-seeking preference of insured persons leads to generate more demand for (secondary and tertiary cares) private providers market in the country.

The study estimates show that insured patients generally have a tendency to switch to tertiary care services and sidetrack preventive/primary care. The insured richest patients have high health-seeking behaviour for costlier treatments leading to increase in overall healthcare costs. For instance, their cost on medical care treatment like specialists, doctors, diagnostic tests, bed and hospital stay, and diseases related to heart, kidney/urinary system, cancer, tumour, sexually-transmitted diseases, genealogical disorder, etc, is high compared to the uninsured patients. The mean inpatient cost on these treatments and diseases of the low stratum insured persons however is found to be low. Overall, though the SVHI promotes access to healthcare use rather than reducing the healthcare cost, it has resulted in increase of the cost per inpatient episode of care in India. Evidences from some countries also show that health insurance increases the healthcare utilisation (Hadley 2003; Escobar et al 2010; Wagstaff and Serra 2007; Wagstaff et al 2009; Acharya et al 2012), but households' outpatient and inpatient expenses have gone up considerably in the post-insurance period. It was

found to be weak in reducing out-of-pocket expenses of the poorer households (Acharya et al 2012; Selvaraj and Karan 2012). So far it has been unable to sufficiently fill the financing gaps in the health system and improve access to quality healthcare for the poor in low income countries (Escobar et al 2010). Overall, health insurance rather than controlling household spending appears to have raised the risk of high healthcare payment. The consensus is that, albeit alongside pro-poor insurance, providing health access by strengthening public (tax-based) healthcare services are highly critical for India (GoI 2011b: 20–29).

The SVHI schemes taken together finance a meagre amount of inpatient and outpatient cost through insurance reimbursement. Of the total, only one-fifth contribution is made by commercial health insurers while the remaining come from employer-mandated insurance schemes. It is interesting to note that the commercial insurers provide only one-tenth of the reimbursement amount compared to what they have collected from people as premium. The employer insurers, on the other hand, reimburse even more than the premium amount that they receive from employees as contribution. This reflects inefficiency in the system. The employer (particularly the government) insurers find it difficult to provide social security from the traditional sources of wage-based insurance contributions. Government has to inject additional funds from general revenues into the system. The commercial insurers, on the other hand, have not been good at pooling financial risks and seem to be indulging in maximising individual gain.

The insurance sector is characterised by intrinsic market-failure due to supplier-induced demand and information asymmetry between the principal and the agent (Selvaraj and Karan 2012). As reported (GoI 2011a: 66), this provides an opportunity for the patients, the providers and the insurers to maximise individual gain in the healthcare market. The insured patients have the incentive to indulge in excess demand; the providers, on the other hand, have much bigger advantage over the patients given the mystification of healthcare and the associated treatment. It may lead to increasing levels of inappropriate care, unnecessary treatment, excessive laboratory tests or overcharging and results in high overall healthcare cost. In this condition, giving more opportunity to commercial insurers (as has been done by the Government of India by increasing the FDI cap in health insurance from 26% to 49%) to play a bigger role in the insurance market for providing better health service access is highly questionable. The commercial insurance market is expected to cover around 65% people under private insurance in the near further (ASSOCHAM 2013). This insurance-based system, as revealed in international experiences, may have adverse consequences if governments do not regulate and oversee the insurers and health providers strictly. As reported, the international experience shows the difficulties in regulating an insurance-based system. In order to regulate the private insurers and health providers, the Insurance Regulatory Development Authority (IRDA) of India has to play a bigger role in this direction. Furthermore, much more needs to be done to assess the cost-effectiveness of the newly launched target-oriented health insurance strategies compared with other interventions like tax-financed systems to achieve universal healthcare access in the country.

NOTES

1 In India, a high proportion of healthcare spending (around 71%) is met out from individuals' pocket. To finance such expenses, a large number of country's poor (40%–45%) borrow/sell assets (Hooda 2013).

2 Vajapayee Arogyasri currently in its pilot phase in the Gulbarga division of Karnataka covers any five member-family holding a BPL card (Selvaraj and Karan 2012).

3 The insurers generally collect a premium amount from beneficiaries to provide health insurance benefit. Some employer insurers (like, Ministry of Textile, Railway and Defence) provides health access benefits to their employees without collecting contribution (Forgia and Nagpal 2012). Similarly, benefits of insurance are also provided by some cooperative society, community, NGOs, etc, without collecting premium from beneficiaries. The value of premium against some of the members therefore is reported as zero in both the columns where information on VHI and SHI were collected in the *MHC* data. We have treated all of them (whether premium is reported in monetary terms or as zero) as insured persons and other are considered as uninsured persons in the study.

4 The MPCE is given in both the data sets which allow us to generate quintile groups. Under *CES*, the distribution of consumption expenditure is provided at Uniform Recall Period (URP) and Mixed Recall Period (MRP). We use MRP for generating quintiles.

5 The status of health infrastructure is identified by constructing an index for all districts of India. The variables, namely, number of SCs, PHCs, CHC, Sub-divisional district hospital, civil hospital, empanelled hospitals under RSBY per 1,000 population across districts are used to constructs the index. PCA method is employed for constructing the index. Districts with lower index value (lower than average) are considered low infrastructure districts and other as high infrastructure districts.

REFERENCES

Acharya A, Sukumar Villakkal, Fiona Taylor, Edoardo Masset, Ambika Satija, Margart Burke and Shah Ebrahim (2012): "Impact of National Health Insurance for the Poor and the Informal Sector in Low and Middle Income Countries," http://r4d.dfid.gov.uk/PDF/Outputs/SystematicReviews/Health-insurance-2012Acharya-report.pdf.

ASSOCHAM (2013): "Health Insurance in India: A Review," http://www.assocham.org/prels/shownews-archive.php?id=4285&month=&year=

Dilip, T R (2012a): "On Publicly-Financed Health Insurance Schemes: Is the Analysis Premature?," *Economic & Political Weekly*, Vol XLVII, No 18, 5 May.

— (2012b): "Why Use Consumer Expenditure Surveys for Analysis of the RSBY?," *Economic & Political Weekly*, Vol XLVII, No 18, 1 September.

Escobar, M, C Griffin and P Shaw (2010): "The Impact of Health Insurance in Low and Middle Income Countries," Brookings Institution Press, Washington DC, http://www.brookings.edu/~/media/press/books/2011/theimpactofhealthinsuranceonlowandmiddleincomecountries/theimpactofhealthinsurance_fulltext.pdf.

Forgia and Nagpal (2012): "Government-Sponsored Health Insurance in India: Are You Covered?," The World Bank, Washington DC, http://www-wds.worldbank.org/-external/default/WDSContentServer/WDSP/IB/2012/08/30/000356161_20120830020253/Rendered/PDF/722380PUB0EPI0080290201201B0x367926B.pdf

GOI (2009): "National Health Account 2004–05," Ministry of Health and Family Welfare, Government of India, New Delhi.

— (2011a): "A Critical Assessment of the Existing Health Insurance Models in India," A Report Submitted to Planning Commission of India, Government of India, http://planningcommission.nic.in/reports/sereport/ser/ser_heal1305.pdf

— (2011b): "High Level Expert Group Report on Universal Coverage of India," A Report of Planning Commission of India, Government of India, New Delhi, http://planning-commission.nic.in/reports/genrep/rep_uhc0812.pdf.

Gupta, M D and V M Muraleedharan (2014): "Universal Health Coverage: Reform of the Government System Better Than Quality Health Insurance," *Economic & Political Weekly*, Vol XLIX, No 35, 30 August.

Hadley, J (2003): "Sicker and Poorer: The Consequences of Being Uninsured: A Review of the Research on the Relationship between Health Insurance, Medical Care Use, Health, Work and Income," *Medical Care Research and Review* 60(2): 3–75.

Himanshu (2008): "Counting the Poor: Some Methodological Issues," *Wall Street Journal*, 24 September, retrieved from: http://www.livemint.com.

Hooda, S K (2013): "Access to and Financing of Healthcare through Health Insurance Intervention In India," Institute for Studies in Industrial Development, ISID-PHFI Collaborative Research Programme, Working Paper No 158, November.

Mahal, A and V Fan (2011): "Achieving Universal Health Coverage in India: An Assessment of the Policy Challenge," Melbourne: Monash University School of Public Health and Preventive Medicine and Harvard School of Public Health.

Mavalankar, D and R Bhat (2000): "Health Insurance In India: Opportunities, Challenges and Concerns," Indian Institute of Management, Ahmedabad, November, retrieve from: http://www.cccindia.co/corecentre/Database/Docs/DocFiles/insurance.pdf.

NSSO (2005): "Unit Level Record of *Morbidity, Health Care and Condition of the Aged,*" NSS 60th Round, January–June 2004, Ministry of Statistics and Programme Implementation, New Delhi.

— (2011–12): "Unit Level Record of *Consumer Expenditure Survey* 2011–12," Ministry of Statistics and Programme Implementation, New Delhi.

Prayas/Oxfam (2012): "Out of Pocket Expenditure in Health Care: Results of Study in Five States of Indian," at http://planningcommission.nic.in/data/ngo/csw/csw_oops.pdf

Selvaraj and Karan (2012): "Why Publicly-Financed Health Insurance Schemes Are Ineffective in Providing Financial Risk Protection," *Economic & Political Weekly,* Vol XLVII, No 11, 17 March.

Sodhi, C and A Rabbani (2014): "Health Service System in India: Is Insurance the Way Forward?," *Economic & Political Weekly*, Vol XLIX, No 35, 30 August.

Vellakkal, S and S Ebrahim (2013): "Publicly-Financed Health Insurance Schemes: Concern about Impact Assessment," *Economic & Political Weekly*, Vol XLVIII, No 1, 5 January.

Wagstaff and Serra (2007): "Europe and Central Asia's Great Post-Communist Social Health Insurance Experiment: Aggregate Impacts on Health Sector Outcomes," *Journal of Health Economics*, 28(2): 322–40.

Wagstaff, Lindelow, Jun, Ling and Juncheng (2009): "Extending Health Insurance to the Rural Population: An Impact Evaluation of China's New Cooperative Medical Scheme," *Journal of Health Economics*, 28(1): 1–19.

WHO (2010): "The World Health Report: Health System Financing: The Path to Universal Coverage," retrieved from: http://whqlibdoc.who.int/whr/2010/9789241564021_eng.pdf.

Appendix 1: Depth and Coverage of Health Insurance Schemes in India: A Summary, 2010

Scheme	Employees State Insurance Scheme (ESIS)	Central Government Health Scheme (CGHS)	Commercial Health Insurance Provided by Public and Private Owned Companies	Yashasvini Cooperative Farmers Healthcare Scheme (Karnataka)	Rajiv Aarogyasri Community Health Insurance Scheme (AP)	Rashtriya Swasthya Bima Yojana, RSBY (GOI)	Chief Minister Kalaignar's Insurance Scheme (Tamil Nadu)	Vajpayee Arogyashri Scheme (Karnataka)	RSBY Plus (Himachal Pradesh)	Aapka Swasthya Bima Yojana (Delhi)
Launch year	1952	1954	1986 & 1999	2003	2007	2008	2009	2009	2010	2011–12
Number of beneficiaries	55.4 million	3 million	55 million	3 million	20.4 million families, 70 million beneficiaries	23.4 million families, 70 million beneficiaries	13.4 million families, 36 million beneficiaries	1.5 million families, 7.5 million beneficiaries	0.24 million families, 0.8 million beneficiaries	0.65 million families (proposed) beneficiaries
Benefits package	Comprehensive (inpatient as well as outpatient)	Comprehensive (inpatient as well as outpatient)	Largely for inpatient	Inpatient, surgical secondary focus; covers more than 1,200 notified surgeries	Inpatient tertiary focus; 938 identified procedures and follow-up packages covered	Inpatient lower-cost, secondary care focus; maternity also covered.	Inpatient tertiary focus; more than 400 identified hospitalisation procedures covered	Inpatient tertiary focus; 402 packages and 50 follow-up packages covered	Inpatient tertiary focus; 326 defined procedures above RSBY covered	Inpatient tertiary focus; defined procedures over and above RSBY covered
Maximum insurance coverage	No limit	No limit	Based on premium paid	Rs 2,00,000 per person per year	Rs 1,50,000 per family per year plus buffer of Rs 50,000 per year	Rs 30,000 per family per year	Rs 1,00,000 over four years, per family	Rs 1,50,000 per family per year plus Rs 50,000 per year buffer	Rs 1,75,000 beyond the Rs 30,000 covered by RSBY	Rs 50,000 per family per year

Source: GOI (2011); Forgia and Nagpal (2012).

Appendix 2: Implementation Status of RSBY and State-Run Health Insurance in India

States	Total Targeted Families (No in 000)	Total Families Enrolled (No in 000)	Enrolled to Target Family Ratio	Total No of Districts in the State	District with >=49% RSBY Enrolment Including All Districts of AP and TN	States	Total Targeted Families (No in 000)	Total Families Enrolled (No in 000)	Enrolled to Target Family Ratio	Total No of Districts in the State	District with >=49% RSBY Enrolment Including All Districts of AP and TN
Jammu & Kashmir	66	36	53.8	22	1	West Bengal	9,222	5,374	58.3	19	14
Himachal Pradesh	555	388	69.9	12	12	Jharkhand	3,334	1,504	45.1	24	16
Punjab	454	210	46.3	22	8	Odisha	5,534	3,638	65.7	30	26
Chandigarh	10	5	50.8	1	–	Chhattisgarh	5,965	2,710	45.4	26	18
Uttarakhand	746	285	38.1	13	1	Madhya Pradesh	524	156	29.8	48	2
Haryana	1,264	457	36.2	21	4	Gujarat	4,301	1,805	42.0	26	9
Delhi	988	0	0.0	9	0	Daman & Diu	NA	NA	NA	2	–
Rajasthan	3,122	1,023	32.8	33	6	D & N Haveli	NA	NA	NA	1	–
Uttar Pradesh	11,074	4,848	43.8	75	31	Maharashtra	420	244	58.1	33	18
Bihar	13,112	7,110	54.2	38	29	Andhra Pradesh	3	2	75.5	23	23
Sikkim	NA	NA	NA	4	–	Karnataka	4,077	1,681	41.2	30	15
Arunachal Pradesh	90	40	43.9	16	4	Goa	NA	NA	NA	2	–
Nagaland	396	140	35.3	11	6	Lakshadweep	NA	NA	NA	1	–
Manipur	111	63	56.3	9	3	Kerala	3156	2323	73.6	14	13
Mizoram	222	104	46.7	8	1	Tamil Nadu	0	0	0	31	31
Tripura	787	506	64.3	7	7	Pondicherry	15	9	62.6	4	–
Meghalaya	487	194	39.9	11	0	A & N Islands	NA	NA	NA	3	–
Assam	2,347	1,080	46.0	27	3	All-India	72382	35935	49.6	656	301

Source: http://rsby.gov.in/statewise.aspx?

Appendix 3: Mean Inpatient Spending of Insured–Uninsured Persons by Type of Diseases and Treatments   (in Rs)

	Rural		Urban		Q1		Q5		Total	
	UIP	IP	UIP	IP	UIP	IP	UIP	IP	UIP	IP
Selected Diseases#										
Anaemia, tetanus, filaria, febrile illness	2,590	2,685	3,635	3,911	2,311	1,662	4,565	5,474	2,898	3,089
Gastrointestinal	3,120	3,060	4,004	3,836	2,200	2,359	4,811	6,170	3,357	3,333
TB, asthma	4,026	3,583	9,652	3,762	2,953	2,138	5,524	6,700	5,621	3,624
Respiratory, ENT, skin	3,620	3,498	4,613	5,373	3,134	1,869	5,457	7,615	3,920	4,070
Diabetes and nutrition	5,453	4,408	7,082	7,450	5,568	2,106	7,290	7,997	6,023	5,883
Other diagnosed and undiagnosed ailments	5,188	5,785	7,500	7,674	3,954	4,204	9,837	11,585	5,843	6,464
Disabilities diseases	5,885	6,319	1,0695	13,143	5,774	2,222	13,479	17,189	6,871	8,072
Accidents/Injuries	8,571	7,360	10,628	10,477	6,556	4,371	13,107	14,092	9,143	8,333
Bones, kidney, prostatic, gyna, neuro, psychiatric disorders	7,542	8,681	10,891	13,469	6,436	5,655	13,453	16,686	8,588	10,310
Cardio (heart, hypertension), STD, cancer	10,527	13,845	16,387	2,2912	7,267	6,142	18,970	36,503	12,799	18,112
Selected Treatments										
Dr/staff fee	1,163	847	1,735	1,659	997	412	2,317	2,607	1,323	1,120
Specialist fee	1,122	804	1,526	1,402	948	451	2,342	2,525	1,233	1,005
Medicine from outside hospital	1,921	1,740	2,081	2,200	1,730	1,417	2,600	3,009	1,965	1,902
Diagnostic test	716	674	890	775	497	313	1,175	1,621	767	710
Bed charges	874	486	1,088	966	675	317	1,346	1,444	939	652
Ambulance	370	556	456	387	333	134	656	592	396	498

information given in item-18 (schedule 25.0) of NSS 60th round are estimated; IP-insured persons; UIP-uninsured persons.
Source: NSS 60th round.

Appendix 4: Contribution of Different Sources to Finance Inpatient Spending   (Composition in %)

	Insured					Uninsured					Grand Total
Sources	Rural	Urban	Poor (q1)	Rich (q5)	Total	Rural	Urban	Poor (q1)	Rich (q5)	Total	
Income/saving	38.19	57.97	20.46	59.32	45.27	41.18	57.60	32.72	62.37	49.20	48.48
Borrowing	38.35	21.24	65.01	27.38	32.23	44.56	26.28	43.89	15.89	35.64	33.03
Friends' help	17.32	16.61	7.76	9.15	17.07	9.06	10.25	14.78	18.13	9.64	12.49
Sale of assets	6.13	4.19	6.78	4.11	5.44	5.20	5.88	8.62	3.58	5.53	5.99
Total	100	100	100	100	100	100	100	100	100	100	100

The information on different sources of finance is available at household level. Compositional share is estimated by taking into account mean (per household) source of finance.
Source: NSS 60th round.