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EVALUATION OF RSBY'S KEY PERFORMANCE INDICATORS
A BIENNIAL STUDY

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Any errors are ours alone.

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EXECUTIVE SUMMARY

Rashtriya Swasthya Bima Yojna (RSBY) is a programme that needs no introduction. Launched in 2008 to provide secondary care to below poverty line (BPL[1]) households,[2] the scheme has expanded rapidly. Today, it covers nearly 38 million households and is present in 512 districts[3] (out of a total 640) across all 28 states and union territories. This paper analyses key performance indicators (KPIs) for the programme, so as to identify ways of improving the scheme's performance.

The study focuses on three KPIs:

- Enrolment ratio,[4] measuring the percentage of eligible households enrolled, so as to estimate outreach;
- Hospitalization ratio,[5] to estimate utilisation;
- Claims ratio[6] – one of the key metrics that determines whether the scheme is profitable for the insurers.

RECOMMENDATIONS

RSBY has improved systematically since its inception. Many of the challenges faced by the programme are outside its direct area of influence. In order to continue building on this success, the authors consider that RSBY needs to focus on four key areas:

1. Improve quality of the BPL lists and other data sources being used for enrolment, especially in states experiencing stagnant enrolment ratios;
2. Promote greater public sector hospital autonomy and incentives to enable public sector hospitals to effectively compete with private sector hospitals;
3. Achieve greater state ownership of the scheme in areas such as the enrolment process, improvement of the BPL list and other monitoring mechanisms;

1 The Government of India's Below Poverty Line (BPL) is a threshold to identify poor households that need government aid. The present assessment is based on a survey taken in 2002. It uses 13 socio-economic parameters such as food security, literacy and sanitation and uses different criteria for rural and urban geographies to identify BPL households. It is considered a weak targeting tool, as it is believed that corruption has allowed many non-poor households to obtain BPL cards.

2 A BPL household enrolled in RSBY can comprise a maximum of five members, i.e. the household head, spouse and any three dependents.

3 A district is an administrative unit in India with a population ranging from 16,000 to 11 million.

4 An enrolment ratio is defined as the number of RSBY enrolment cards issued as a percentage of eligible BPL households.

5 A hospitalization ratio is defined as the number of enrolled people hospitalized as a percentage of total enrolled people.

6 A claims ratio is defined as total claims paid as a percentage of total premium paid less expenses (service tax paid plus smart card cost).

4. Develop a scientific methodology (a logical framework) to determine the health-care provider payment package[7] rates, with scope for timely revisions

AN INTRODUCTION TO RSBY

Rashtriya Swasthya Bima Yojana (RSBY) was launched by the Ministry of Labour and Employment (MoLE) of the Government of India in 2008, with the primary objective of shielding low-income households from the burden of major health expenses. As of December 2013, the scheme covered 512 districts (out of 640) in 28 states across the country. It covers hospitalization expenses of up to 30,000 rupees (INR) (US$500) per household for most procedures at any of the national network of 12,123 private and public empanelled hospitals. As of 31st December 2013, a total of 37.6 million BPL households, comprising 188 million individuals, were enrolled and 6.3 million hospitalization cases had been covered by the scheme since its launch. The annual premium per household ranges from INR323 ($5) to INR1,100 ($18), with the beneficiary paying a nominal fee of INR30 ($0.5).

SALIENT FEATURES OF RSBY

Although other government-run public health insurance schemes already existed in India, RSBY was a pioneering scheme in many respects. Its key design features include:

1. Public-Private Partnership (PPP): Public and private medical facilities, third party administrators (TPA) and insurers partner with the State Nodal Agencies (SNAs). SNAs set guidelines, quality standards and monitor programme implementation.

2. Central-state government collaborative model: While the programme was designed by a department of central government, implementation and management is undertaken together with respective state governments. Premium subsidies are co-financed by central government and the states to a ratio of 75 per cent and 25 per cent respectively,[8] thereby ensuring mutual ownership and control.

3. Leveraging technology: Since the scheme targeted Below Poverty Line1 (BPL) households with low literacy levels, paperwork was minimized by using biometric identification that enabled instant enrolment and facilitated control over fraud.

4. Demand-side financing: The scheme offers financial empowerment to patients by providing them with a value-loaded smart card, which offers cashless access to medical facilities, covering almost all procedures. The smart card can be used at any empanelled hospital in the national network, allowing the convenience of flexibility to the country's considerable migratory population.

5. Premium subsidy: The premium is 100 per cent subsidized by government funds, with just a nominal enrolment cost payable by the beneficiary.

6. Competition: RSBY is unique in encouraging and leveraging competition at two levels – among hospitals and among insurers – to improve the quality of outcomes.

7. Collection, storage and maintenance of data: Data collected from the administration of the scheme is stored and maintained by the respective central or state government, facilitating future actuarial calculations and market development.

METHODOLOGY AND DATA

SECTION 1

The Ministry of Labour and Employment (MOLE) shared data at district level for 351 districts that had completed at least one year of operations with RSBY as of June 2013. Of these, 62, 180, 86 and 23 had completed 1, 2, 3 and 4 years with RSBY respectively. Since the authors wanted to model previous year enrolment and hospitalization as explanatory factors for enrolment, they chose to work with districts that have completed 2, 3 or 4 years and their data for year 2, 3 and 4, as in those cases they would have lag variables available. See Table 1 below. Figures in bold indicate the selected data points. They organized the data in such a way that they could regress the Year 4 enrolment ratio on Year 3 enrolment and hospitalization, Year 3 enrolment ratio on Year 2 enrolment and hospitalization, and finally, Year 3 enrolment ratio on Year 2 enrolment and hospitalization. This meant that the total number of observations for the regression analysis differed from the number of districts under consideration.

7 RSBY uses fixed package rates that are reimbursed to hospitals that provide treatment to beneficiaries. The package rates cover all expenses related to treatment, such as medicine, tests, bed charges, other materials, food etc.
8 Central government finances a higher share of 90 per cent for north-eastern region states and Jammu and Kashmir.

RSBY IN THE CONTEXT OF ACHIEVING UNIVERSAL HEALTH CARE (UHC)

Kimball et al. (2013) present an interesting cross-country analysis of the role played by health microinsurance in progress towards UHC. They compliment RSBY for the progress it has made and argue that RSBY's experience makes a case for leveraging the public-private partnership design to be used in other countries.

The World Health Report 2010 defined a three-dimensional conceptual framework to measure progress towards the provision of UHC. The table below highlights RSBY features in terms of these three dimensions.

WHO 2010 framework for UHC	RSBY at launch in 2008
Population: who is covered?	Below Poverty Line households
Services: which services are covered?	Hospitalization treatments up to INR30,000 (US$500) for a household of five members Outpatient treatments are free of charge in public hospitals for BPL households
Direct costs: what proportion of costs is covered?	100% cashless hospitalization

RSBY has seen a systematic increase in its scope for all three dimensions and has contributed to moving India along the path towards achieving Universal Health Care. Below are some examples of how the scheme has been expanded.

Expansion in *population* covered:

Initially, RSBY only covered BPL households. The central government provided funding for an approved BPL list of beneficiaries who were enrolled by the insurance company. Subsequently, coverage has been expanded to include additional categories of poor households, such as building and construction workers, rural employment guarantee scheme workers, street vendors, domestic workers, railway porters, mine workers, sanitation workers and auto rickshaw and taxi drivers, in a partially or fully subsidized programme. In addition, given the challenges posed by the central government lists of RSBY eligible households, state governments have expanded coverage to include households that were poor and may have been excluded. Coverage for these households has been exclusively financed from state government budgets.

Expansion of *services* to cover tertiary care and experimental pilots to cover primary care:

RSBY is focused on providing inpatient hospitalization treatment up to INR30,000 (US$500). However, state governments have the flexibility to provide top-ups to this basic package and include primary or tertiary care. State governments that have followed this approach include Kerala, whose CHIS Plus covers tertiary care up to INR70,000/$1,121) for cardiology, oncology and nephrology patients (RSBY Connect, March 2012) and Meghalaya, where the scheme has been universalized to cover the above poverty line (APL) population, as well as the BPL population. This state has also introduced additional secondary care to a value of INR30,000 and critical care cover to a value of INR100,000/$1,601 (RSBY Connect, December 2012). Himachal Pradesh was among the first states to introduce a critical care top-up for RSBY, amounting to INR175,000 ($2,802) per BPL household (RSBY connect, November 2012) and has implemented tertiary care packages for RSBY beneficiaries. In addition, several experiments have been launched to provide primary care within the RSBY system. Learning from these pilot experiments in primary care may provide the basis for possible future expansion of the scheme. It is also believed that inclusion of primary care provision within RSBY might lead to reduction of hospitalization rates and claims for hospitalized treatment.

Low direct costs:

RSBY is an entirely cashless scheme, with no payment required to obtain hospitalized treatment. Households have to make a single nominal payment of INR30 ($0.50) on enrolment. As well as hospitalization costs, other expenses were added after RSBY was launched in 2008. These include food expenses while a beneficiary is hospitalized and transport costs (up to INR1,000/$16) for one day, prior to and five days following hospitalization.

Table 1

Selection of districts for regression analysis

Total # of years of RSBY in district	Year of operation				# of observations for regression
	1	2	3	4	
1	62				0
2	180	180			180
3	86	86	86		172
4	23	23	23	23	69
Grand total					421

SECTION 2 & 3

The authors compared RSBY hospitalization rates and the National Sample Survey Organisation's (NSSO) measured hospitalization rates. The choice was motivated by a belief that NSSO 60th round survey data is the best available baseline information against which to benchmark the impact of mass health-care insurance schemes, such as RSBY. However, it should be noted that there are several caveats to this comparison. These are:

1. NSSO 60th Round data is for the year 2004, while RSBY started in 2008.
2. RSBY data relates to certain districts where it has been launched, while NSSO data is based on a sample survey.
3. RSBY beneficiaries are primarily BPL households, while NSSO data relates to the general population.

The authors were not able to address point 1. However, in order to make their comparison more scientific, they applied the state-wise BPL line[9] as of 2004 to the NSSO data. They compared hospitalization rates at national and state level, and, so as to ensure more like with like comparisons, they also compared rates at district level. District level comparison were expected to give a more accurate picture, given that national and state level results might be skewed by the fact that not all districts in a given state were implementing RSBY. In addition, the authors selected districts from NSSO data where the sample of BPL household observations numbered at least 30.

To calculate state-wise or district-wise aggregate values for hospitalization ratios or other metrics, they used "A" weights, as provided in the NSSO data sets.

SECTION 4

To understand best practices used by some states that could drive scheme performance, the authors reached out to SNAs and insurance companies. Prior to speaking to the SNAs or insurance company representatives, they researched other sources of secondary information. These included monthly RSBY newsletters, presentations made at national conferences and data provided by MOLE. The aim was to understand experiences in several main areas:

- Experience of working with different insurance companies (when speaking to SNAs);
- Experience of working with different SNAs (when speaking to insurance company);
- Experience of working with hospitals;
- Experience with technology;
- Operation of grievance redressal mechanism;
- Monitoring process and fraud control.

SECTION 1: ENROLMENT RATIO

HYPOTHESIS

The enrolment ratio is the only KPI where it can be unambiguously stated that a higher score is preferable. For the BPL list identified, a higher enrolment ratio would mean that a greater number of low-income households had access to health-care financing. P. Panda et al. (2013)[10] discuss factors that could potentially impact enrolment in voluntary health insurance programmes in low and middle-income countries. Among issues discussed are supply-side factors, household characteristics, scheme-related factors, social capital, institutional factors and demand-side factors. In the light of the data shared by the Ministry of Labour and Employment, the authors chose to focus on the scheme-related factors. They

9 BPL line identifies poor households based on MPCE (monthly per capita expenditure) being lower than certain state-wise urban and rural threshold levels. This is different from the methodology used to identify BPL households in the BPL survey carried out in 2002.

10 Panda, P. et al. 2013. *What factors affect take-up of voluntary and community based health insurance programmes in low income countries*, EPPI-Centre Social Science Research Unit, Institute of Education, University of London. Available at: http://eppi.ioe.ac.uk/cms/LinkClick.aspx?fileticket=mlD5N28OmEs%3D&tabid=3174

also tested some of these factors in their previous study (Krishnaswamy and Ruchismita, 2011).[11]

1. Previous year enrolment: Given that the scheme had been in operation in many districts for multiple years, the authors worked on the hypothesis that previous year enrolment would be a benchmark for following year enrolment. They anticipated that districts would consistently improve on the previous year enrolment ratio, with the expected result that additional BPL households would obtain access to health insurance.

2. Previous year hospitalization ratio: The authors worked on the theory that the higher the hospitalization ratio in the previous year, the greater the enrolment ratio would be in the following year and vice versa. This would indicate positive impact of awareness created by word-of-mouth information flow. Non-enrolled households would gain information from households or individuals who had benefited from the scheme and, if eligible, would seek to enrol in the programme. Given that RSBY has now dealt with nearly 6.5 million hospitalization cases,[12] each of these individuals sharing their experience through informal channels, or as part of formal awareness campaigns, would help to drive higher rates of enrolment.

3. Changes in insurance companies operating in the district: inherent in the design of RSBY is the annual bidding process for insurance companies. This causes an annual change (some states have experimented with longer assured tenure of 3 years) in a critical stakeholder involved in implementation of the programme.

   The authors hypothesized that such yearly changes in the insurer would have an adverse impact on enrolment levels. An insurance company (or its third-party agency engaged in enrolment) that is new to implementing RSBY in a particular district would have to start afresh each year, in terms of understanding the local environment and establishing processes to drive enrolment.

4. State-level programme implementation: The authors hypothesized that state-level variations in implementation of the programme would impact enrolment. Previous studies on RSBY[13] found large inter-state and inter-district variations in enrolment patterns of the scheme. The study by Sun C. (2010) found state-wise enrolments varying between 14 and 83 per cent, with an overall enrolment rate of 46 per cent. Ruchismita et al. found that state-wise enrolments varied between 11 and 87 per cent, with an overall enrolment rate of 51 per cent. Some of these variations seen across states may be due to:

   a. incentive structures for insurance companies and field staff;

   b. strong engagement of multiple government departments in implementation of the scheme;

   c. engagement of local health workers;

   d. state initiatives taken to universalize the scheme;

   e. implementing department of the state, e.g. Labour vs. Health vs. Rural Development.

5. Year of operation of scheme in the district: The authors hypothesized that enrolment levels may increase in relation to the number of years the scheme has been implemented in the same district. For example, they would expect the enrolment ratio to be higher in a district that is in its fourth consecutive year of RSBY implementation than in a district in its first year of RSBY. This increase may be driven by the experiential learning of state and district-level stakeholders, as well as by improved client awareness.

6. Pioneer districts (implementing RSBY after its launch in 2008) vs. later districts: The authors expected that districts which started implementing RSBY in later years would have higher enrolment levels, since the RSBY processes would have stabilized (learning from experience in the districts that launched RSBY at an earlier stage). For example, they expected a higher enrolment ratio in the first year for a district that launched RSBY in 2012 than for a district that launched RSBY in 2008.

11 Krishnaswamy, K.; Ruchismita, R. 2011. *RSBY performance trends and policy recommendations: An evaluation of the mass health insurance scheme of Government of India*, RSBY working paper.

12 Quoted from information available on RSBY website. Available at: http://www.rsby.gov.in/ [16th Jan. 2014].

13 Sun, C. 2010. *An analysis of RSBY enrolment patterns: Preliminary evidence and lessons from the early experience*, RSBY working paper, World Bank.

7. Hospital density per 1,000 eligible low-income households: Considering that India has 0.9 beds per 1,000 members of the population,[14] – a figure that is lower for BPL households because of their inability to access hospital beds due to factors such as affordability and distance – the authors expected that higher hospital density in a district would help to increase the enrolment ratio. Beneficiaries would see the value of enrolling in a programme, given the potential benefits of reduced out-of-pocket (OOP) expenses when their local hospitals were empanelled into the RSBY programme. In addition, a greater density of hospitals may also play a role in reducing the travel-associated expenses[15] of beneficiaries to take up hospital treatment.

FINDINGS

The authors found that the enrolment ratio was positively correlated with previous year enrolment ratios (Figure 2). This finding reconfirms results in their previous report (Krishnaswamy and Ruchismita, 2011). The correlation coefficient between them was 0.56, which would classify as a moderate correlation. However, contrary to their hypothesis, the authors did not find a trend of enrolment ratios increasing year on year. In 47 per cent of districts, the enrolment ratio decreased over that of the previous year. It was observed that while previous year enrolment acts as a key benchmark, the enrolment achieved the following year may be either higher or lower.

The authors were disappointed to observe that at national level, the enrolment ratio for RSBY has been stagnant at around 54 per cent for districts that have implemented the scheme for 2 or 3 years. Experience with similar state-supported universal health coverage programmes in other developing countries has been mixed, with enrolment achieved in Tanzania[16] and Ghana[17] only reaching 17 per cent and 36 per cent respectively, while Thailand[18] achieved 96 per cent.

Ito and Kono (2009)[19] state that low take-up (enrolment) rates, high claim rates and low renewal rates are common problems of microinsurance schemes (including health insurance schemes). Contrary to the experience of districts completing 2 or 3 years, districts that have implemented the scheme for 4 years showed a trend of increasing enrolment levels, rising from 49 per cent in year 1 to 69 per cent in year 4. The authors consider this tendency to be unrepresentative of the national trend, since the majority of districts that have completed 4 years are from the state of Kerala. Kerala is unique among states, with high enrolment levels, indicating successful implementation of RSBY.

Figure 1

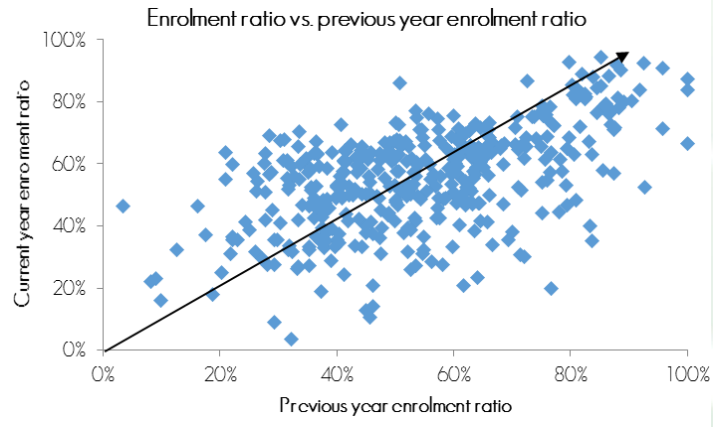


Table 2 shows enrolment rates for completed districts as of June 2013. Concealed within this aggregate national enrolment data is a wide variation across states. States such as Chhattisgarh, Himachal Pradesh and Kerala have given a remarkable performance in terms of enrolment. By contrast, states in North India with poor developmental indicators – Uttar Pradesh (U.P.) (Table 3) and Haryana (Table 4) – have not been able to drive growth in enrolment ratios. See combined state-wise enrolment rates in Appendix Table A.

14 WHO publication - World Health Statistics 2010.

15 Transportation charges are covered under RSBY with INR100 paid for every hospitalization, subject to a maximum of INR1,000.

16 Kamuzora, P.; Gilson, L. 2007. *Factors influencing implementation of the Community Health Fund in Tanzania,* Health Policy and Planning, 22:95-102.

17 Annual Report of Ghana's National Health Insurance Authority. Available at: http://www.nhis.gov.gh/files/annualreport2011.pdf.

18 Oxfam Paper. Available at: http://www.oxfam.org/sites/www.oxfam.org/files/bp176-universal-health-coverage-091013-en_.pdf [October 2013].

19 Ito, S.; Kono, H. 2009. *Why is take-up of microinsurance so low? Evidence from a health insurance scheme in India,* Institute of Developing Economies (IDE-JETRO).

Table 2
Enrolment ratio by year of operation

Enrolment ratio/year	# Districts	1	2	3	4
Districts with 2 years	180	58%	52%		
Districts with 3 years	86	53%	54%	54%	
Districts with 4 years	23	49%	56%	62%	69%

Table 3
Enrolment ratio by year of operation for Uttar Pradesh

Enrolment ratio/year	# Districts	1	2	3
Districts with 2 years	53	57%	41%	
Districts with 3 years	15	42%	33%	32%

Table 4
Enrolment ratio by year of operation for Haryana

Enrolment ratio/year	# Districts	1	2	3	4
Districts with 3 years	13	67%	54%	43%	
Districts with 4 years	7	52%	42%	43%	43%

In common with previous year enrolment ratios, a positive correlation was found between previous year hospitalization rates with enrolment levels the following year (see Figure 2). This finding is also in line with the authors' previous work (Krishnaswamy and Ruchismita, 2011). However, with a correlation coefficient of 0.13, this relationship would only qualify as a weak degree of correlation. That means that as a factor explaining enrolment ratio, previous year enrolment ratio is a better predictor than previous year hospitalization rates, due to the influence of word of mouth. This has important implications for policy-makers, as they look for levers of influence to drive greater programme enrolment.

Interviews with State Nodal Agencies (SNAs) and insurance companies indicate that a factor driving this pattern could be the poor quality of the BPL lists used for enrolment. States that have consistently increased enrolment ratios (Table 5) shared examples of a systematic effort that has been made to improve the quality of pre-enrolment data. In other states, the authors believe that the positive effect of greater awareness generated by word of mouth risks being outweighed by limitations of the underlying data used for enrolment.

Figure 2

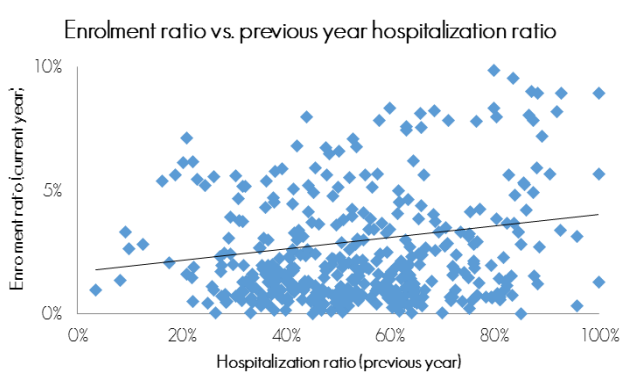


Table 5
Enrolment ratio by year of operation for Chhattisgarh and Kerala

Name of state/year	# Districts	1	2	3	4
Chhattisgarh	15	55%	68%	77%	
Kerala	14	50%	65%	77%	89%

While no clear difference was found between private sector and public sector insurers in terms of enrolment, changes in insurance company from private to public sector emerged in the analysis as a significant negative variable, reducing enrolment levels by 8 per cent. Uttar Pradesh, where 57 out of the 81 instances occurred, revealed a 15 per cent fall in enrolment ratio, declining from an average of 51 per cent to 36 per cent in cases where such changes in insurance companies were seen. The tendency to change insurance companies witnessed in Uttar Pradesh may have been driven by a shift in the tendering process. The new system divided the state into nine clusters, with no single insurance company allowed to service all clusters. While the change in the bidding process helped to explain changes in insurance companies, it was not possible to identify any systemic factors that may be driving a decline in enrolment rates.

INTEGRATION OF PDS AND RSBY IN CHHATTISGARH

The Chhattisgarh State Government has taken the initiative to use the innovative RSBY technological platform (RSBY biometric smart cards) for PDS. Roll-out in the state of the new 64 KB cards (upgraded from the earlier 32 KB version) enabled a technical modification that facilitated storage of details, such as the ration card number on the RSBY card. The ration card was a paper-based method of beneficiary identification, historically used as part of PDS.

Integration of the two government-run schemes is helping to check leakages in the PDS, through leverage of RSBY's biometric system of beneficiary identification. The move has a positive impact for RSBY because reliance on the outdated BPL lists is eliminated, now that all PDS cardholders have become RSBY beneficiaries. Discussions with stakeholders revealed that this has greatly helped to improve enrolment levels in the state. In addition, the state government saves the cost of issuing new PDS cards. Likewise, beneficiaries are spared the requirement of carrying multiple cards for different government schemes.

The Chhattisgarh government undertook integration of PDS with RSBY throughout the state after witnessing the success of several pilot schemes in selected locations. A similar approach is now being followed by the Kerala government.

Source: Presentation by Vijendra Katre at the 5th RSBY National Workshop, held from 8th-11th April 2013 at Trivandrum, Kerala and a recent newspaper report.

See link:

http://articles.economictimes.indiatimes.com/2013-01-22/news/36484590_1_rsby-pds-beneficiaries-public-distribution-system

In common with the authors' previous study, several state-level effects were found to be significant. The enrolment ratio for a district from Uttar Pradesh or Bihar[20] was 9 per cent lower than average, while a district from Chhattisgarh, Kerala or Himachal Pradesh had enrolment ratios that were 19 per cent, 21 per cent and 14 per cent higher respectively. As discussed earlier, the authors believe that some factors that are unique to these states, and which may be driving these results, include incentive structures for field staff, engagement of local health workers and government departments and state initiatives to universalize the scheme or integrate other government schemes to the RSBY platform, e.g. the Public Distribution System (PDS)[21] in Chhattisgarh.

While the year of RSBY operation in the district was not found to be significant, the authors found that pioneering districts (districts that launched RSBY in 2008) vs. later district classification to be statistically significant. This could indicate that year-on-year learning is occurring within the RSBY system, but it is more in terms of new districts benefiting from the experience of districts that launched the scheme earlier, than from learning within the same district. Districts that pioneered the scheme were found to have an 8 per cent lower enrolment ratio than districts that have completed one or two years in RSBY. Districts that joined in the second year had an average 3 per cent lower enrolment ratio.

Contrary to expectations, hospital density, measured as hospitals per 1,000 eligible beneficiaries, was not a significant variable. At 95 per cent level of confidence, the probability that its coefficient is zero was 74 per cent. This may indicate that in the case of secondary care, beneficiaries are less concerned about local availability of hospital facilities, and more concerned about their quality or other factors. An alternative hypothesis is that the hospitals per 1,000 eligible beneficiaries may not be the appropriate variable with which to correlate enrolment ratios. Available beds per 1,000 eligible beneficiaries might predict enrolment ratios better than a variable based purely on hospital density. However, due to lack of availability of such data, it was impossible to explore this further.

20 Uttar Pradesh and Bihar are part of the list of so-called BIMARU states in India. This acronym was coined by economists to describe states with poor economic and development indicators. Other states in this category include Madhya Pradesh and Rajasthan.

21 PDS in India aims to provide food and several non-food items to India's poor population segments at highly subsidized rates.

The regression results obtained are given in detail in the Appendix. The R-square and adjusted R-square were 76 per cent and 57 per cent respectively. This means that only a proportion of the variation in the enrolment ratio could be explained by the factors identified.

SECTION 2: HOSPITALIZATION RATIO

HYPOTHESIS

1. Private vs. public hospital utilization: the authors hypothesized that there would be an increase in the use of private sector health-care providers, given the availability of health-care financing to BPL households. This is in line with research highlighting the growing importance of private sector provision of health-care services. A review of literature by Forsberg et. al[22] (2011) discusses a number of studies from low and middle-income countries. Another study by Aggarwal (2010)[23] showed a 20 per cent increase in use of private sector providers, when they were included in community health insurance products.

2. Hospitalization rate: in an earlier paper, the authors saw that hospitalization rates initially increased for districts where data was available for both years 1 and year 2. They had theorized that utilization rates of a new pro-poor scheme would rise annually during the initial years, as awareness of the scheme increased, programme implementation improved and, possibly, some of the stakeholders induced overuse or committed fraud. Since they have now had access to data for districts completing more than 2 years, they expected to see some degree of stabilization of hospitalization rates, at levels lower than the initial years of the scheme. This hypothesis, as mentioned in the previous paper, is based on the concept of pent-up demand leading to high utilization in the initial years of the scheme, after which rates tend to stabilize.

   Comparing RSBY hospitalization rates with previous national level survey data available, the authors expected higher hospitalization rates for RSBY across the board (at national, state and district level). This would be in line with work in health economics,[24] which shows that the removal of demand-side constraints via health insurance would lead to an increase in demand for health services.

3. Supplier-induced demand (SID).[25] SID refers to the notion that doctors can influence their patients to create additional demand for health services. This is distinct from outright fraud and may be in the form of doctors prescribing additional diagnostic tests or conversion of outpatient services to inpatient services in order to claim under RSBY. Given the potential for SID, the authors theorized that the increase in incidence rates would not only be higher across the board, but also that a large proportion of districts would witness RSBY incidence rates that were significantly[26] greater than figures from the previous national level survey data available.

FINDINGS

A key feature of RSBY is that it gives the power of choice to beneficiaries, who can also use facilities in private hospitals. According to data presented in the RSBY monthly newsletter, 75 per cent of claims events occurred in private sector hospitals, even though these only constitute 63 per cent of the hospitals empanelled in the RSBY system. Figures show state-level variations, with Himachal Pradesh and Rajasthan recording 11 per cent and 100 per cent of claims from private hospitals respectively. The authors attempted to compare these percentages with private vs. public hospital utilization seen in NSSO survey data.

According to NSSO survey data on the total number of hospitalization events, in 59 per cent of cases, patients or their households preferred to go to private hospitals. This number dropped to 47 per cent when the non-BPL population was removed from the survey sample, using poverty line benchmarks available for

22 Forsberg, B. C.; Montagu, D.; Sundewall, J. 2011. *Moving towards in-depth knowledge on the private health sector in low- and middle-income countries Health Policy Plan*, 2011, 26: i1-i3.

23 Aggarwal, A. 2010. *Impact evaluation of India's 'Yeshasvini' community-based health insurance programme.* Health Econ., 19: 5-35. doi: 10.1002/hec.1605.

24 Aron-Dine et al. 2013. *The RAND Health Insurance Experiment, Three Decades Later.*

25 Richardson, J. 2001. *Supply and Demand for Medical Care: Or, Is the Health Care Market Perverse?* Australian Economic Review, 34: 336-352. doi: 10.1111/1467-8462.00203.

26 We chose to judge significance as RSBY average hospitalization rates being greater than the Upper Limit of the 95% confidence interval of hospitalization rates in NSSO sample data.

the year 2004. This finding was in keeping with expectations that, given financial constraints, BPL households would be less likely to go to private sector for hospitalization than to the public sector. However, 47 per cent still represents a large proportion choosing private hospitals, despite the fact that in many states, public sector facilities are free or subsidized. In addition, as in the case of RSBY, a significant variation was observed in these numbers, according to the states surveyed (see Table 6). Bihar reported 87 per cent of its poor choosing to go to private hospitals, while in the case of West Bengal, the figure was just 10 per cent.

Table 6

Distribution of public vs. private sector utilization by BPL households: NSSO 60th round data

State name	Private % (NSSO data)	Private[27] % (RSBY)
Bihar	87%	100%
Haryana	77%	98%
Uttar Pradesh	65%	98%
Punjab	63%	55%
Andhra Pradesh	52%	Not available
Gujarat	59%	92%
Karnataka	55%	Not available
Tamil Nadu	47%	Not available
Kerala	51%	29%
Maharashtra	58%	Not available
Chhattisgarh	50%	62%
Rajasthan	42%	100%
Jharkhand	50%	98%
Uttarakhand	45%	62%
Madhya Pradesh	35%	100%
Assam	30%	29%
Orissa	19%	Not available
Himachal Pradesh	11%	11%
West Bengal	10%	99%
All India	47%	75%

It can be concluded that RSBY has given the BPL population the power of choice, with the percentage share of use of private hospitals rising from 47 to 75 per cent. As well as the removal of cost constraints, it may be assumed that migration to private hospitals could be driven by factors such as people seeking continued availability of providers, or high-quality services, compared with public hospitals.[28] Alternatively, migration may have been driven by the increase in volume and availability of private sector hospitals, compared with public sector hospitals. Another programme-related factor that may be contributing to this trend could be the balance of private vs. public sector hospitals empanelled in the scheme. For example, in West Bengal 92 per cent of empanelled hospitals were in the private sector, a factor that helps to explain the increase from 10 to 99 per cent of hospitalization cases treated in private hospitals. However, in the case of Madhya Pradesh and Rajasthan, the percentage of private sector empanelled hospitals was 65 and 25 per cent respectively, yet the percentage of RSBY beneficiaries going to private hospitals was 100 per cent. By contrast, according to NSSO data, the percentage of BPL households choosing to use a private hospital in Madhya Pradesh and Rajasthan was 35 per cent and 42 per cent respectively.

One state that seems to have reversed this trend is Kerala. RSBY implementation in Kerala was undertaken in parallel with efforts to improve the public provision of health-care services. As part of this effort, not only was incremental funding provided to upgrade hospital facilities, but a degree of autonomy was given to public hospital managements over revenue generated from RSBY. These efforts seem to have resulted in a reversal of the trend of migration to the private sector in Kerala. According to figures from the study conducted by Arora and Nanada (2011),[29] only about 41 per cent of hospitalizations under RSBY were in private sector hospitals, compared with a figure of 51 per cent in private sector hospitals, according to NSSO estimates. Estimates available from RSBY indicate that only 29 per cent of beneficiaries in Kerala went to private hospitals.

27 Data from RSBY Connect newsletter, September 2013.

28 Chaudhury, Nazmul, et al. 2006. *Missing in action: teacher and health worker absence in developing countries.* The Journal of Economic Perspectives, 20.1: 91-116.

29 Arora, D.; Lipika, N. 2011. "Towards Alternative Health Financing: The Experience of RSBY in Kerala", in R. Palacios, J. Das and C. Sun (eds): *India's Health Insurance Scheme for the Poor: Evidence from the Early Experience of the Rashtriya Swasthya Bima Yojana*, (New Delhi, India: Centre for Policy Research), pp. 189-214.

THE KERALA EXPERIENCE

Kerala is an example of RSBY being extended to reach even more beneficiaries. In addition to applying the scheme to BPL households covered by central government, the state government has extended it to include state-recognized BPL households and even above poverty line (APL) households, through the Comprehensive Health Insurance Scheme (CHIS). While the government pays the entire premium for BPL households, APL households pay their own premium, as well as the registration fee. The state government has also included tertiary care for cancer and heart diseases in the scheme, by introducing additional treatment benefit up to a value of INR70,000. Revenue generated by the public hospitals/institutes working with the scheme is used to improve the quality of services provided by the Public Health System. A specialized body called the Comprehensive Health Insurance Agency of Kerala (CHIAK) was formed to implement the scheme. In addition, the scheme has been set up in all government medical colleges, institutes of child health, dental colleges, regional institutes of ophthalmology, general hospitals, district hospitals and specialty hospitals. Incentives have been offered to all staff members in the empanelled government hospitals and institutes. Driven by strong hospital management committees, government hospitals have been able to treat more patients, and at the same time, they have been able to generate more revenue than the private hospitals in Kerala. This is gradually making the government hospitals self-sustainable and is leading to improvements in the state's public health-care system.

Source: Presentation by Mr P. Sukumar at the 5th RSBY National Workshop held from 8-11 April 2013 at Trivandrum, Kerala; Arora and Nanada (2011); interview calls with SNA members.

Financing supply-side provision and demand-side expenditure means increasing the costs for provision of health care, especially in cases where the demand-side intervention results in migration to private sector facilities. Therefore, experience acquired in RSBY presents a strategic choice to policy-makers of the country. Implementing RSBY without effective reform or increased autonomy of public sector health-care facilities may potentially contribute to the migration of beneficiaries to the private sector. RSBY is one of the few programmes in the country to experiment with public sector hospitals obtaining funding through demand-side financing strategies, as opposed to using the supply-side financing approach. However, given the migration from the public to the private sector seen under the programme, the authors feel that health-care practitioners need greater autonomy and incentive alignment if the public sector is to be able to compete effectively for RSBY beneficiaries.

Overall trends show hospitalization rates rose in Year 2 before starting to stabilize in Year 3 or Year 4 (see Table 7).

Table 7

Hospitalization rates by year of operation in RSBY

Hospitalization ratio/year	# Districts	1	2	3	4
Districts with 2 years	180	1.8%	1.8%		
Districts with 3 years	86	3.1%	3.7%	2.6%	
Districts with 4 years	23	3.8%	4.9%	5.9%	3.1%

The authors examined state-wise breakdown for districts that completed 2 and 3 years to check if these trends hold across states or present significant state-level variations. In the case of districts that completed 2 years (see Table 8), only in 4 out of the 16 states was the hospitalization ratio in year 2 lower than, or equal to, that in year 1 (highlighted in grey). For the majority of the states (12 out of 16) the hospitalization rate in year 2 was greater than in year 1.

Table 8

State-wise hospitalization rates for districts that completed 2 years

Name of state	# District	Year 1	Year 2
Uttar Pradesh	54	3.1%	1.4%
Bihar	28	1.5%	1.5%
Maharashtra	22	1.5%	1.7%
Gujarat	16	1.0%	2.3%
Jharkhand	14	1.0%	0.8%
HP	10	2.9%	5.5%
West Bengal	9	1.0%	1.3%
Uttarakhand	6	0.6%	1.0%
Mizoram	5	1.0%	5.6%
Punjab	5	1.0%	1.6%
Meghalaya	3	1.1%	2.1%
Orissa	3	0.4%	1.4%

Nagaland	2	0.2%	2.5%
Chandigarh	1	0.1%	0.7%
Chhattisgarh	1	0.2%	0.8%
Manipur	1	2.6%	1.1%
Total	180	1.8%	1.8%

In districts that completed 3 years (see Table 9), overall hospitalization rates decreased from 3.7 per cent in year 2 to 2.6 per cent in year 3, but state-wise trends were mixed. Between year 1 and year 2, eight out of 12 states showed higher hospitalization rates, which is similar to results obtained for districts that completed 2 years. However, between year 3 and year 2, only six out of 12 states had higher hospitalization rates. In addition, hospitalization rates declined sharply in some large states, such as Punjab and Uttar Pradesh, a factor that may have reduced the overall rates. In Uttar Pradesh, the fall in hospitalization rates was quite steep, declining from 9.9 per cent to just 2.7 per cent between year 2 and year 3. While this reduction may have been driven by a variety of factors, the authors believe that it can be partly explained by the state's focus on greater monitoring of hospitalization transactions. A stricter monitoring of transactions in Uttar Pradesh led to de-empanelment of 110 private sector hospitals by March 2012.

Table 9

State-wise hospitalization rates for districts that completed 3 years

Name of state	# District	Year 1	Year 2	Year 3
Chhattisgarh	15	1.0%	2.0%	2.8%
Uttar Pradesh	15	5.6%	9.9%	2.7%
Punjab	14	2.2%	2.5%	2.1%
Haryana	13	3.6%	2.9%	2.9%
Gujarat	10	5.1%	2.2%	3.9%
Maharashtra	6	3.1%	3.0%	1.7%
Jharkhand	3	0.6%	1.7%	1.4%
Nagaland	3	3.1%	0.8%	1.0%
HP	2	0.4%	3.2%	5.9%
Uttarakhand	2	1.2%	3.1%	2.2%
West Bengal	2	1.2%	1.3%	1.9%
Meghalaya	1	0.6%	1.3%	1.4%
Grand total	86	3.1%	3.7%	2.6%

The authors found that the RSBY hospitalization rate of 2.8 per cent was higher than the corresponding 1.8 per cent seen in NSSO for the BPL population. Therefore, they may conclude that RSBY is contributing to higher health-care seeking behaviour and usage among BPL households. These findings were similar to those of Freeman et al. (2008),[30] who conducted a review of empirical studies and concluded that health insurance increases utilization. However, when this current study drilled down to state and district-level comparison, the picture changed. A variation in hospitalization rates was observed between RSBY and NSSO and, contrary to the hypothesis, the introduction of RSBY did not lead to an across-the-board increase in incidence rates. It was found that while for 12 of the 18 the states, average RSBY hospitalization rates were higher than those of NSSO, there were six states with lower incidence rates. Evaluating rates at district level, the study found that in 57 per cent of the 271 districts examined, RSBY had higher rates of incidence. However, for a sizeable 43 per cent of districts, RSBY hospitalization rates were lower than those of NSSO. These statistics indicate that while on average, RSBY has led to greater hospitalization rates among the BPL population, data does not confirm the expectation that a reduction in demand-side constraints would lead to across-the-board higher incidence rates. See Table 10 below, showing state-wise and national-level comparison for hospitalization rates.

They authors were keen to explore any evidence of the Supplier Induced Demand (SID) hypothesis, seeing that several reports provided anecdotal evidence on misuse of the scheme. However, given that a simple comparison of incidence rates showed that in 43 per cent of districts, the RSBY incidence was lower than that of NSSO, they were sceptical of finding any convincing evidence of SID. Only 65 or 24 per cent of districts were found to have average RSBY hospitalization rates that were significantly[31] higher than NSSO sample incidence rates. These districts, together with the incidence rates, are shown in Table E in the Appendix. Some 88 per cent of these districts are concentrated in five states: Uttar Pradesh (54 per cent), Bihar (18 per cent), Chhattisgarh (8 per cent), Gujarat (6 per cent) and Jharkhand (6 per cent). Given that there were several reported incidents of malpractices in some of the districts on the list, the authors feel there is even less evidence of SID. For example, "The Dangs"[32] district in Gujarat was cited

30 Freeman, J.D.; Kadiyala, S.; Bell, J.F.; Martin, D.P. 2008. *The causal effect of health insurance on utilization and outcomes in adults: a systematic review of US studies*, Medical care, Vol. 46 issue10, pp-1023.

31 The authors chose to judge significance as RSBY average hospitalization rates being greater than the Upper Limit of the 95% confidence interval of hospitalization rates in NSSO sample data.

32 Cited by Robert Palacios in paper titled *A new approach to providing health insurance to the poor in India.*

Table 10

Name of state/RSBY Year	Year 1	Year 2	Year 3	Year 4	NSSO hospitalization for BPL households	Average RSBY > NSSO	Average RSBY Significantly > NSSO
Assam	5.2%				1.2%	Yes	Yes
Bihar	1.4%	1.5%			0.8%	Yes	Yes
Chhattisgarh	1.0%	2.0%	2.8%		1.2%	Yes	Yes
Delhi	3.6%	5.4%	2.6%	1.3%	1.6%	Yes	Yes
Gujarat	2.6%	2.3%	3.9%		2.4%	Yes	No
Haryana	2.8%	2.5%	2.5%	2.2%	1.8%	Yes	No
HP	2.5%	5.2%	5.9%		2.9%	Yes	Yes
Jharkhand	0.9%	1.0%	1.4%		0.9%	Yes	No
Punjab	1.8%	2.2%	2.0%	1.4%	1.2%	Yes	No
Tamil Nadu	3.1%				2.9%	Yes	No
U.P.	3.6%	3.3%	2.7%		0.9%	Yes	Yes
Uttarakhand	1.1%	1.6%	2.2%		1.4%	Yes	No
Goa	0.1%				2.9%	No	No
Karnataka	1.0%				1.5%	No	No
Kerala	5.3%	6.6%	8.5%	3.7%	9.6%	No	No
Maharashtra	1.8%	2.0%	1.7%		2.7%	No	No
Orissa	0.6%	1.4%			1.9%	No	No
West Bengal	0.9%	1.3%	1.9%		2.1%	No	No
All India	2.3%	2.6%	3.4%	3.1%	1.8%	Yes	No

for outright fraud committed by private sector hospitals under the RSBY scheme. Similarly, experience in Uttar Pradesh, which dominates the list of districts, seems to have experienced incidences of fraud by private sector hospitals. An article[33] in a leading national newspaper dated 24th October 2012 reports anecdotal incidences of fake claims being made under the scheme. According to the RSBY monthly newsletter of April 2012, Uttar Pradesh had the largest share of hospitals that were dis-empanelled from RSBY. This leads the authors to believe that the challenge facing the scheme was not related to SID, but rather to the issue of fraud control at private hospitals.

In contrast to districts with higher incidence rates, 22 or 8 per cent of districts had average RSBY hospitalization rates that were significantly lower than NSSO sample incidence rates. These were mainly in Kerala, Maharashtra and West Bengal. A complete list of these districts is available in Table F of the Appendix. One factor that may be driving lower incidence rates is non-issuance of RSBY smart cards at the time of enrolment. While RSBY mandates that smart cards should be issued at the same time as the enrolment process and handed over to the household representatives, practical difficulties may exist at ground level that prevent total compliance with this requirement. Examples shared with the authors related to a shortage of cards due to a higher turnout than expected and erratic power supply, which made it easier to print all the cards at the same time. One study conducted in the initial years of the launch of RSBY in Karnataka[34] provided evidence that a large proportion of households did not receive their cards at the same time as enrolment.

SECTION 3: CLAIMS RATIO AND PREMIUM TRENDS

HYPOTHESIS

1. RSBY vs. health insurance industry claims ratio: It was expected that the claims ratio seen under RSBY would be lower than health insurance industry averages. Private voluntary insurance policies are known to have higher incidence rates and often include tertiary care that may lead to a greater number of high value claims. Despite the fact that the comparison may not be like for like, the authors wanted to juxtapose the overall industry claims ratio with RSBY, so as

33 http://articles.economictimes.indiatimes.com/2012-10-24/news/34708046_1_rsby-private-hospitals-labour-ministry

34 Rajasekshar, D.; Berg, E.; Ghatak, M.; Manjula, R.; Roy, S. 2011. *Implementing health insurance: the rollout of Rashtriya Swasthya Bima Yojana in Karnataka, Econ Polit Weekly*, 46:1-26.

to form a view on the range of claims ratio under which industry players are operating.

2. Private vs. public sector insurers: It was expected that the claims ratio experienced by public sector players would be higher than that of private sector insurers. The authors hypothesized that, since RSBY is a state-driven programme, the government would have greater leverage over public sector insurers[35] to make claims payments.

3. Irrational premium pricing: In discussions with insurance companies, some representatives expressed the opinion that in the absence of any competitive differentiators – given standardization of the product features and little discretion in hospital selection – the only metric for competing for RSBY business was premium quotations. They felt that such exclusive competition based on price might lead to extremely low quotes by companies, in an effort to win business. Having won the bid with a low premium quote, there was a risk that the insurance company would then compromise on service delivery, so as to reduce costs (insurers are involved in: settlement of claims, empanelment of efficient providers and their accreditation, outreach and marketing of the programme, monitoring, customer service, training and capacity building[36]). This might impact the quality of services received by the beneficiaries of RSBY, and could trigger an increase in claims denials.

4. Claims amounts of RSBY vs. NSSO: Given that nearly 75 per cent of the claims were incurred in private sector hospitals, the authors surmised that claim amounts under RSBY would be higher than those under NSSO. This is because health-care services in the public sector are subsidized by the government. Even without the migration to private hospitals, it was expected that claims amounts would be higher in RSBY, simply due to inflation. RSBY claims amounts would correspond to 2008-2013 vs. NSSO data of 2004.

FINDINGS

In line with the authors' hypothesis, at 87 per cent, the overall claims ratio for insurance companies across all districts under RSBY compared favourably with the health insurance industry average of 113 per cent. This gave reassurance that RBSY is operating within the health insurance industry averages. Given that the observed trend of claims ratios rising in year 2 and then declining in year 3 and year 4, the programme's financial sustainability does not seem to be an immediate concern. See Table 11 in the next page for detailed results.

A closer look at the comparison between the private and public sectors indicates that public insurers have higher claims ratios. This trend is consistent across RSBY and industry claims ratio figures. Therefore, the higher claims ratios of public insurers seen within RSBY are not unique to RSBY, but are an industry phenomenon. Within RSBY, New India Assurance (India's largest general insurance company), with the highest claims ratio at 143 per cent, may present cause for concern. A closer look at New India's portfolio indicates that this high claims ratio is explained by the fact that a large proportion of the portfolio within RSBY comes from Himachal Pradesh (26 out 70 districts). Himachal Pradesh has consistently witnessed a high incidence rate under the RSBY scheme. Looking at the premiums charged by prominent private and public insurers (Table G in the Appendix), both sectors show a downward trend over the years (in general, with the exception of United India Insurance (UII), whose results are driven by its presence in Kerala). Also, no major difference is observed between the premiums charged by public and private insurers for each year, with the exception of UII. The premium amounts for UII are driven by the Kerala experience, where the company charged very high premiums in year 3 and year 4 of operations (even greater than the amount prescribed by RSBY), due to losses faced in initial years.[37]

Table 12 shows claims ratio and premium trends across the years. It can be seen that the claims ratio rose in year 2 for all districts and declined thereafter (for districts completing 3 years or more). The fall in claims ratio was substantial for districts completing 4 years, dropping to just 63 per cent in year 4. However, the majority of these districts are in Kerala and Haryana and are therefore not representative of the entire country. Districts completing 2 years showed a relatively lower claim ratio in both year 1 and year 2, compared with other districts that completed 3 or 4 years.

35 Based on the authors' conversations with public insurers and state nodal agency representatives.

36 Swarup, A.; Jain, N. 2010. *Rashtriya Swasthya Bima Yojna: A Scheme with a difference*, RSBY working paper.

37 Based on discussions with stakeholders.

Table 11
Claims ratio comparison RSBY vs. health insurance industry

Segment	Insurance company	# of districts in RSBY across years (2008-2013)	Average Claims Ratio	
			RSBY	IRDA statistics on health insurance[a]
Private	ICICI Lombard	190	85%	97%
	Chola MS	64	78%	79%
	Apollo Munich	29	52%	Not available
	Star Health	22	53%	Not available
	Tata AIG	21	46%	77%
	Royal Sundaram	11	64%	Not available
	Reliance	9	71%	192%
	IFFCO Tokio	8	96%	122%
	HDFC Ergo	1	29%	79%
Private overall		355	76%	92%
Public	United India Insurance	123	96%	133%
	Oriental Insurance Company	119	74%	125%
	National Insurance	105	92%	115%
	New India Assurance	70	143%	125%
Public overall		417	96%	123%
	All insurance companies	772	87%	113%

a IRDA handbook of Indian Insurance Statistics (Table 48 on Page 172). Claims ratio calculated as a simple average of incurred claims ratio from 2006-2011. Available at: http://www.irda.gov.in/ADMINCMS/cms/Uploadedfiles/IRDA_Handbook_2010-11_Full_Report.pdf

Table 12
Claims ratio and premium per household trends

Claims ratio/Year	# Districts	1	2	3	4
Districts with 2 years	180	62%	94%		
Districts with 3 years	86	78%	123%	112%	
Districts with 4 years	23*	79%	135%	88%	63%
Premium/year	**# Districts**	**1**	**2**	**3**	**4**
Districts with 2 years	180	555	449		
Districts with 3 years	86	604	510	478	
Districts with 4 years	23*	563	481	714	841

*Reflect Kerala (14 districts) and Haryana (7 districts)

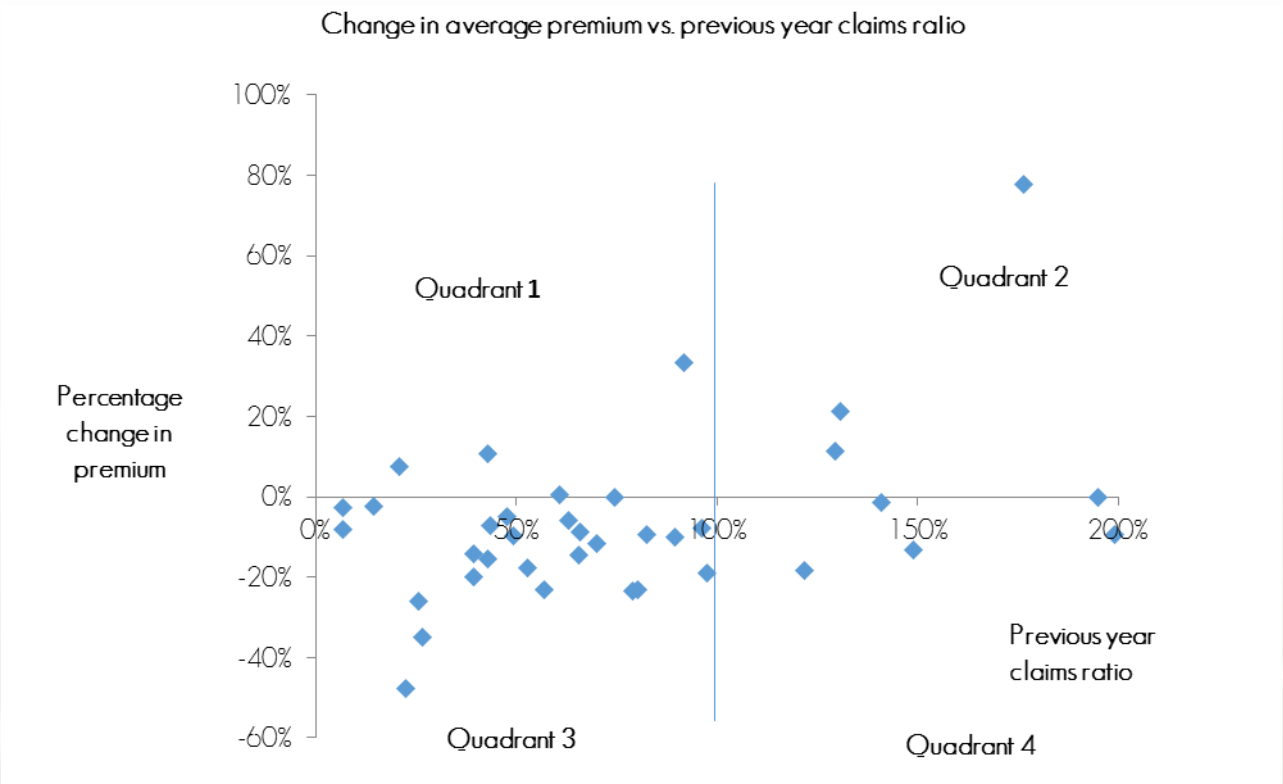
Premium trends show a continuous decline for both categories of districts that have completed 2 or 3 years. Recent tenders issued also indicate a further reduction in premium values. The authors feel this trend is being driven by factors such as the competitive nature of bidding processes, a reduction of upfront costs due to a stabilization of technology and processes and the social sector obligations of iinsurance companies.

RURAL AND SOCIAL SECTOR OBLIGATIONS

The Insurance and Regulatory Development Authority of India (IRDA) issued the Rural and Social Sector Obligations notification for all insurers in 2002. The obligations require life insurers to originate 7 per cent of the total lives insured from the rural sector, increasing annually to 16 per cent by the fifth year. For general insurers, the rural obligations start from a target of 2 per cent of their insured premium in the first year, rising to 7 per cent in the tenth year. Social sector targets for all insurers begin with 5,000 lives insured in the first year, rising progressively to 55,000 lives in the tenth year of operation (IRDA, 2008). According to former IRDA Chairman Rao, this "forced familiarity" with rural business will encourage insurers to discover profitable business models to serve this market segment, and in subsequent years they will voluntarily increase their investment and expand outreach to low-income households. Although some insurers see their obligations as a cost of doing business, others have validated this argument by regularly exceeding their rural and social targets.

Source: Extract from: Ruchismita, R.; Churchill, C. 2012. "State and Market synergies: Insights from India's microinsurance success", in C. Churchill and M. Matul (eds): *Microinsurance Compendium* Volume II, Chapter 20, pp. 457-458.

Figure 3



To investigate claims that premium quotations were "irrationally" on a downward trend, the authors plotted the change in premium with the previous year's claims ratio in the state. It was decided to do this at state level, since the tendering process is done at state level.[38]

Each dot in Figure 3 above represents a state. In the light of discussions with insurance company and state nodal agency representatives, the authors expected to see a great many instances where despite the claims ratio being greater than 100 per cent, premiums would be falling i.e. Quadrant 4. However, they observed only five such cases, in Himachal Pradesh, Gujarat, Manipur, Nagaland and Delhi. In the case of Himachal Pradesh, there was no change in the premium. This may be due to a multi-year contract with the insurance company, as it was observed that the New India Assurance Company was engaged for all 3 years of operation with RSBY. For Gujarat, the change was just a 1 per cent reduction in premium. Even for Manipur, Nagaland and Delhi, premium reduction was for a maximum of 18 per cent over the previous year. In addition, the majority of cases could be seen in Quadrant 3, which shows instances of falls in premium, when the previous year claims ratio was less than 100 per cent. The authors also observed some cases of increases in premiums, following claims ratios of more than 100 per cent in previous years. This led to the conclusion that there is evidence of a degree of rational pricing in RSBY.

According to NSSO, average claim amounts were higher in private hospitals than in public ones. They were also higher in urban areas than in rural areas. Figures for NSSO claim amounts (Table 13) may not be directly comparable to those of RSBY, given that the NSSO survey was undertaken in 2004 and covered the overall population, rather than just BPL household. However, the authors chose to juxtapose them to RSBY claim amounts, in order to understand if they are in the same range.

Table 13

NSSO 2004 data[39]	Rural	Urban
Private	7,408	11,553
Public	3,238	3,877

RSBY average claim amounts are INR5,257 ($85) and it is noteworthy that this figure is higher than the average expenses associated with public sector hospitals, which range between INR3,200 and INR3,900. However, RSBY claim amounts are lower than the corresponding private sector average

38 Most state governments seem to tender for a single premium for the entire state, except in the case of large states such as Uttar Pradesh. As per recent tender documents reviewed by the authors for Uttar Pradesh, the state is divided into 9 clusters, with separate premium quotations accepted for each cluster.

39 Average hospitalization expense in Indian rupees.

hospitalization expenses in NSSO, for both rural and urban areas. Given that inflation would have increased the cost of the hospitals from 2004 onwards, the authors believe that the fact that RSBY claim amounts were lower than private hospitals' average expenses in 2004 indicates that, to some extent, RSBY package rates are working to reduce treatment costs for BPL populations. However, since most SNAs use standard national level health-care package rates, this may be an ongoing area of concern. Anecdotal evidence exists of private players[40] refusing treatment under RSBY. Presentations made at national conferences organized by RSBY reported hospitals requesting higher package rates in certain categories of treatments, or distinguishing themselves as referral hospitals, which provided treatment in more complicated cases. In addition, if there is no differentiation between package rates in rural and urban locations, serving RSBY patients might be more profitable for private players in rural areas than in urban areas. This might affect scheme performance and satisfaction levels in urban areas, where popular private hospitals with a large existing clientele may refuse to join the programme. Alternatively, hospitals may push for higher package rates, leading to medical inflation and overtime, and an increase in premiums.

SECTION 4: STATE-LEVEL PROGRAMME IMPLEMENTATION FACTORS

Based on discussions, the authors identified the following actions taken by the states and considered key to effective implementation of RSBY.

GETTING THE DENOMINATOR RIGHT

All state governments started the scheme using the BPL lists of 2002, provided by central government. However, states that have achieved higher enrolment ratios have made concerted efforts to overcome the challenges presented by use of a data source that is not wholly reliable.[41] This was true for both Chhattisgarh and Kerala, although each state seems to have taken a different approach to resolving the problem. While Kerala chose to collect primary data to improve data quality, in Chhattisgarh, efforts to increase data quality as part of an improved targeting strategy under the Public Distribution System (PDS) appear to have produced good results in assisting RSBY implementation. The rationale behind taking these seemingly differing paths would seem to lie in the very different conditions in each of the two states. Kerala SNA had the infrastructure of *Akshaya Centres,*[42] which exist within a radius of 2 kilometres from any household to collect primary data on beneficiaries. In Chhattisgarh, as part of the launch of the targeted PDS called *Mukyamantri Khadyann Sahayata Yojana* (MKSY) in April 2007, BPL lists for 1991, 1997 and 2002 were compared and adjusted, to reduce the risk of the wrong people receiving benefits from the PDS.[43] As well as improving the data, Chhattisgarh also conducted drives to identify and cancel fake ration cards[44] and ghost beneficiaries. Even in the case of Himachal Pradesh, there was comprehensive reform of the PDS system. A study by Ritika Khera (2011)[45] ranked Himachal Pradesh the best state in terms of reform of the PDS system. An evaluation study of RSBY in Shimla and Kangra districts of Himachal Pradesh showed that RSBY has been a significant success (in terms of enrolment, utilization, client satisfaction and awareness about the scheme, based on the evaluation study available on the RSBY website) in the state. Those who have experienced the benefits have not only expressed a wish to renew their subscription, but have also shown themselves keen to recommend the scheme to others.[46]

ESTABLISHING EFFECTIVE GRIEVANCE REDRESSAL MECHANISM

One innovative solution to solving problems encountered in the scheme was development of a grievance redressal mechanism. This was set up in response to the challenge of ensuring timely conflict resolution. The system enables all stakeholders, including beneficiaries, to raise concerns related to the scheme.

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40 http://www.thehindu.com/todays-paper/tp-national/setback-to-chhattisgarh-health-care-services/article4563156.ece

41 Based on consumption expenditure, 61 per cent of poor households were excluded from the list, while 25 per cent of households belonging to the non-poor category were included in BPL lists. Source: N.C. Saxena committee report, 2009.

42 http://www.rediff.com/business/column/guest-how-kerala-is-improving-healthcare-for-the-poor/20101109.htm

43 Puri, R. 2012. *Reforming the Public Distribution System: Lessons from Chhattisgarh*, Economic and Political Weekly, 4 Feb.

44 Identification document used for targeting PDS subsidies to households.

45 Khera, R. 2011. *Revival of the Public Distribution System: Evidence and Explanations*, Economic & Political Weekly, Vol.46, 44-45.

46 Evaluation study conducted by Amicus Advisory Private Limited. Available on RSBY website: http://www.rsby.gov.in/Documents.aspx?ID=14

However, interviews with insurance company representatives revealed examples of delays in premium payments by SNAs, resulting in regulatory violation or withdrawal of service. The SNA representatives shared cases of some hospital claims that had been pending for more than a year. Both the SNA and the insurance companies accepted that inter-company and inter-district claims were a challenge that they are working to resolve. This was despite the grievance redressal mechanism being in place. As a result, the authors believe that while the guidelines of RSBY's grievance redressal mechanism are clear, the challenge lies in implementing it effectively. While every SNA interviewed confirmed that the mechanism was in place, the authors believe that there is a difference in implementation of the grievance redressal mechanism between the best and the worse performing states.

The quality of the redressal mechanism need not be determined by the number of meetings or their regularity. This may be the most tangible way of measuring the system, but its effectiveness may also be gauged by its ability to create trust among various stakeholders and to provide a forum for an effective reconciliation of differences. However, resolving issues through the grievance redressal mechanism may become a time consuming process. Issues are first raised at district level. If they still remain unresolved, the grievance is taken to state and then to national level. Should such a case relate to non-payment of a hospital claim, resolution would several months. This may lead to hospital staff losing faith in the scheme's ability to make timely payments for services provided to RSBY beneficiaries, resulting in unwillingness to participate in the scheme.

INNOVATION AT GRASS-ROOTS AND STATE-LEVEL OWNERSHIP

RSBY has been a journey of learning by doing. The scheme and its leadership have encouraged open dialogue on all aspects and implementation has benefited from entrepreneurial leadership at grass-roots level, resulting in ideas and innovative solutions to problems faced. The national, state and district-level training initiatives and workshop presentations reviewed by the authors showcased representatives of different stakeholders, sharing challenges and seeking remedial actions from leadership.

However, the authors feel that this innovation at grass-roots level is more evident in states with a strong commitment to the scheme, i.e. in states where SNA-led initiatives (see Table 14 for examples) have helped to improve enrolment and utilization rates. Interviews conducted for this study revealed that, in states where staff are focused on making the scheme a success, they effectively own the enrolment process, monitoring activities such as health camps, thinking of ways to improve data quality, expanding the scope of RSBY with state-level top-up schemes and a host of other initiatives.

GRIEVANCE REDRESSAL MECHANISM IN RSBY

Since RSBY is a multi-stakeholder scheme, grievances can arise at different levels. The Ministry of Labour and Employment (MoLE) designed an innovative grievance redressal system in order to track and address problems that stakeholders may face. Known as the Central Grievance Redressal Management System (CGRMS), the mechanism collects and tracks grievances using an online complaint portal. Any stakeholder (including beneficiaries) can register a complaint on the central RSBY website. Complaints received through other sources e.g. by fax, email or telephone, must also be registered on the website. The complaints are then sorted by category and forwarded to the appropriate authority, which has an obligation to provide a comment within 15 days. If no comment is given within this period, complaints are forwarded to the District Grievance Redressal Committee, which must take action within 30 days. If complainants find the resolution provided unsatisfactory, they can appeal to a higher level.

A detailed explanation of the grievance redressal mechanism is available here:

http://rsby.gov.in/tempsites/cgrs/Website/Howitworks.aspx?GPL=Hwok.

INNOVATIONS AT GRASS-ROOTS AND STATE-LEVEL OWNERSHIP

States have introduced various innovations in order to improve the performance of the scheme. Such innovations may also be driving high enrolment rates in some states. This table outlines some of the innovations and provides examples of states that have used them.

Table 14

Innovation	Examples from implementing states
Involvement of Poorest Area Civil Society (PACS)	SNAs of West Bengal, Jharkhand, Bihar, Orissa, Madhya Pradesh and Uttar Pradesh have engaged PACS in order to reach out to the target RSBY beneficiaries in a more effective manner. PACS helps RSBY to overcome challenges on the ground in these states, with the help of community and civil society organizations.
Incentives given to Field Key Officers (FKO)	SNAs of states such as Kerala (INR2 per enrolment) and Assam (INR3 per enrolment) provide monetary incentives to FKOs in order to encourage them to work more efficiently. Since FKO biometric authentication is necessary for any enrolment, provision of monetary incentives would help SNAs to curb activities such as FKO absenteeism or non-performance and would help to increase enrolment rates.
Involvement of local health workers	Some states, such as Chhattisgarh, Kerala, Jharkhand, Meghalaya, Punjab and Uttarakhand, have involved local health workers (ASHA and Aanganwadi workers) in the enrolment/awareness generation process. Some have also incentivized these workers and involved them as FKOs. The community health workers act as health educators and promoters, helping to achieve higher enrolment rates and spreading awareness about the scheme. The trust of the community in these workers helps RSBY gain the confidence of beneficiaries.
SNA-led initiatives	The SNAs of some states, such as Chhattisgarh, Himachal Pradesh and Kerala (CHIAK), are deeply involved in the scheme's implementation procedure. They have introduced innovative ways of improving enrolment levels in their states, including: • universalization of the scheme to BPL and APL population; • introduction of top-up schemes, such as critical care packages, with higher cover; • integration of the scheme with PDS, MNREGA and other such government schemes; • efforts to improve data on BPL population by involvement of agencies (such as Akshaya Centres in Kerala) in fresh data collection before each enrolment process; • proper structuring of the SNA, with adequate and qualified staff members (such as nodal officers, finance managers, district programme managers); • development of a dedicated RSBY portal; • incentives, such as awards given to SNA members for good performance etc. The involvement of the SNA as a watchdog for the scheme has helped states such as those listed above to achieve high enrolment rates.

Sources: Monthly newsletter, RSBY Connect, various issues, http://www.pacsindia.org/key-themes/right-to-basic-services/health-nutrition/rsby;

In other states, RSBY is one of many government schemes being implemented. Possibly due to political considerations, some states that had formerly participated in RSBY have even launched their own state-level schemes to replace it.[47] Examples are Maharashtra[48] and Punjab.[49] In such cases, RSBY may be seen as a central government scheme, as opposed to a state initiative. Rather than replacing RSBY, state governments may opt to expand its scope to include tertiary care or increase coverage to poor households

47 Based on the authors' discussions with insurers and SNAs.

48 Maharashtra state government health scheme website : http://www.jeevandayee.gov.in/

49 http://www.thehindubusinessline.com/news/states/punjab-launches-free-health-care-scheme-for-bpl-households/article5339417.ece

excluded from current BPL lists.[50] Such initiatives would build on the scheme's achievements so far. State governments such as Chhattisgarh, Himachal Pradesh, Kerala and Meghalaya have already introduced some of these measures.

CONCLUSIONS AND FUTURE AREAS OF STUDY

India's health sector is characterized by historically low expenditure as a proportion of GDP. According to data from WHO world health statistics, India spends about 4 per cent on health, compared with high-income countries, which spend an average 12.4 per cent of GDP on this sector. In this respect, India even compares unfavourably with Africa, which spends 6.2 per cent of GDP on health. This historical underinvestment in the health sector may be a key factor in explaining the low per capita availability of health-care professionals in the country. With just 6.5 physicians and 10 nurses or midwives per 10,000 members of the population, India ranks below other similar low and middle-income countries, which have 7.8 physicians and 13.4 nurses or midwives per 10,000 members of the population.

As well as the low expenditure and paucity of health-care personnel, another significant factor is that the government's share of India's health-care expenditure is just 28 per cent. A large proportion of health expenses are out-of-pocket and health insurance penetration is less than 15 per cent. Due to government underinvestment, the private sector has grown and nearly 80 per cent of people choose to see a private doctor, rather than visit a government facility for primary care.

Given this background, RSBY's efforts to serve vulnerable members of society are highly commendable. Within the space of just 5 years, the scheme has brought a health-care financing product to 188 million poor and vulnerable individuals, using biometric identification technology and offering the option to visit private hospitals and flexibility to use hospitalization facilities across the country.

The authors believe that the challenges faced by RSBY are in areas outside the scheme's direct influence. The key challenges faced by the programme, as identified by this study, are:

- A stagnant enrolment ratio in some states: Initiatives to increase enrolment rates need to revolve around improving the quality of the BPL or other lists used for enrolment and promoting greater state-level ownership. Further research should be done at client level to measure the percentage of BPL households renewing RSBY enrolment year on year. This analysis could be followed up by interviews with households that did not enrol in subsequent years, so as to understand the reason for non-enrolment and identify areas of improvement for the scheme from the perspective of beneficiaries.
- Migration of beneficiaries to private hospitals: The migration to private hospitals is not a negative development per se, as RSBY aimed to give the power of choice to BPL households. However, given that India has a robust supply-side provision of health care, it is important to address this trend due to financial (increase in costs) and potential political economic considerations (e.g. budgetary allocations for government sponsored health care being questioned in the light of migration). Given that RSBY was introduced as a demand-side intervention, there should be a move towards greater public hospital autonomy, so as to strengthen public hospitals' ability to compete effectively with private hospitals.

Other interesting study findings include the variation in hospitalization rates across states and the fact that the claims ratio is lower than health insurance industry averages. These factors have prompted the authors to suggest the following as potential areas for future research:

- Evaluate usage patterns to identify the concentration of claims by hospital or geographical area. Such analysis would be useful to programme managers in understanding usage patterns and planning hospital enrolment policies.
- State specific analysis (based on primary data and/or case study analysis) for a few districts with RSBY hospitalization rates significantly greater or lower than those reported in the NSSO survey, so as to understand potential drivers of hospitalization rates.
- Compare RBSY payment package rates with prices charged by private hospitals (categorized further into private for-profit, private not-for-profit and corporate hospitals) in tier 1 and tier 2 cities, in order to see how the rates paid by RSBY compare with market rates for the same package, and explore whether (or how often) they need to be revised..

50 Given the well documented challenges of excluding the poor and including the non-poor on BPL lists.

APPENDIX

Table A

Name of state	# of districts	Total # years of RSBY in district	1	2	3	4
Assam	5	1	43%			
Bihar	10	1	64%			
	56	2	56%	54%		
Chandigarh	2	2	68%	51%		
Chhattisgarh	1	1		30%		
	4	2	11%	50%	44%	
	45	3	55%	68%	77%	
Delhi	4	4	14%	46%	16%	10%
Goa	2	1	51%			
Gujarat	32	2	67%	52%		
	30	3	57%	62%	52%	
Haryana	2	2			53%	46%
	39	3	67%	54%	43%	
	28	4	52%	42%	43%	43%
HP	20	2	82%	82%		
	6	3	82%	78%	77%	
Jharkhand	8	1	60%		50%	
	30	2	54%	45%		
	9	3	45%	56%	73%	
Karnataka	5	1	53%			
Kerala	56	4	50%	65%	77%	89%
Maharashtra	3	1	54%			
	44	2	50%	50%		
	18	3	48%	50%	58%	
Manipur	3	1	59%			
	2	2	66%	69%		
Meghalaya	1	1	57%			
	6	2	53%	42%		
	3	3	54%	60%	44%	
Mizoram	3	1	66%			
	10	2	28%	61%		
Nagaland	5	1	87%			
	4	2	93%	91%		
	9	3	81%	77%	79%	
Orissa	3	1	57%			
	6	2	60%	46%		
Punjab	10	2	35%	63%		
	42	3	41%	47%	47%	
	4	4	46%	35%	38%	38%
Tamil Nadu	2	1	33%			

Tripura	4	1	85%		
U.P.	4	1	64%	45%	
	106	2	57%	41%	
	45	3	42%	33%	32%
Uttarakhand	5	1	68%		
	12	2	63%	61%	
	6	3	44%	41%	55%
West Bengal	5	1	66%		
	18	2	66%	69%	
	6	3	65%	76%	76%

Insurance company-wise enrolment ratio

Insurance company-wise analysis (Table 4) shows no clear trend in terms of private sector vs. public sector players. The insurance company with the highest enrolment ratio was a public insurer, New India Assurance. The lowest average enrolment ratios were seen for Star Health & Allied Insurance and the Reliance General Insurance Company. However, a deeper analysis suggests that the insurance company-wise enrolment ratio appears to be driven more by state-level factors than by the
insurance company itself. For example, the fact that New India Assurance seems to be giving the highest performance in terms of enrolment may be driven not just by efforts made by the company itself, but also by the districts it is serving within RSBY. A large proportion of districts being served by New India Assurance are in Himachal Pradesh, which scored high enrolment rates of around 80%.

Table B

Name of insurance company	Insurance segment	Average enrolment ratio
New India Assurance	Public	66.5%
Apollo Munich	Private	63.4%
Royal Sundaram	Private	60.3%
IFFCO Tokio	Private	57.1%
Chola MS	Private	57.1%
United India Insurance	Public	56.8%
National Insurance	Public	54.2%
ICICI Lombard	Private	52.4%
HDFC Ergo	Private	52.4%
Tata AIG	Private	52.2%
Oriental Insurance Company	Public	52.1%
Star Health	Private	51.6%
Reliance	Private	46.3%

Results of the regression analysis

Table C

Regression statistics	
Multiple R	76%
R square	58%
Adjusted R square	57%
Standard error	12%
Observations	421

Regression Independent Variables	*Coefficients*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	30%	11.2	0%	25%	35%
Enrolment ratio prev year	44%	10.8	0%	36%	52%
Hospitalization ratio prev year	81%	3.9	0%	40%	122%
Kerala	21%	6.3	0%	15%	28%
H.P.	14%	3.8	0%	7%	21%
U.P. or Bihar	-9%	(4.9)	0%	-13%	-5%
Chhatisgarh	19%	7.5	0%	14%	24%
Private to public	-8%	(4.5)	0%	-12%	-5%
Pioneer districts	-8%	(3.0)	0%	-14%	-3%
Districts that joined in Year 2	-3%	(2.0)	4%	-6%	0%

Notes on regression analysis

- Regression results shared are based on Ordinary Least Squares regression.
- Data was organized at district level.
- Dummy variables were used to create variables such a state in which the district was located, year, changes in the insurance company, etc.
- We checked for correlation between the independent variables selected to reduce the impact of multi-collinearity in the regression.
- Given that we were using a lagged variable in terms of enrolment ratio in previous year and hospitalization ratio in previous year, we checked for auto-correlation using the D-W statistic.

Hospitalization rates by insurance company

The authors also looked at insurance company-wise trends. On average, public sector companies seem to be facing higher hospitalization ratios than private sector ones. However, the difference does not appear to be very great. In addition, direct comparison of hospitalization rates between insurance companies would not be a like-for-like comparison, given that the underlying districts are different.

Table D

Hospitalization rates by insurance company and year of operation

		Year of operation in district			
Insurance segment	Name of insurance company	1	2	3	4
Private	ICICI Lombard	3.0%	3.3%	3.3%	2.4%
	Tata AIG	0.7%	2.6%	1.2%	
	Apollo Munich	0.7%	2.3%	1.7%	
	Chola MS	1.4%	1.8%	2.4%	
	IFFCO Tokio		1.8%	2.3%	
	Star Health	0.6%	1.3%		
	Royal Sundaram	1.2%	1.1%		
	HDFC Ergo		0.9%		
	Reliance	0.9%	0.7%		
Private total		2.2%	2.5%	2.6%	2.4%
Public	New India Assurance	2.4%	3.7%	2.7%	1.6%
	United India Insurance	3.1%	3.3%	5.2%	3.7%
	National Insurance	3.0%	3.0%	2.5%	
	Oriental Insurance Company	1.6%	1.9%	3.0%	1.3%
Public total		2.5%	2.8%	3.6%	3.2%

Table E

Districts with RSBY incidence rates higher than the upper limit of 95% CI of NSSO sample

State	District	NSSO hospitalization rate	Upper limit of 95% confidence interval for NSSO sample	Average RSBY hospitalization rate	Difference
U.P.	SR Nagar	0.2	1.1	18.8	18.6
U.P.	Kanpur Nagar	1.8	3.1	15.4	13.6
U.P.	Varanasi	1.9	3.2	14.2	12.4
Gujarat	The Dangs	1.1	2.5	8.9	7.8
U.P.	Fatehpur	1.3	2.7	8.4	7.1
U.P.	Jaunpur	1.1	2.3	7.5	6.3
Haryana	Mahendragarh	1.2	3.4	7.4	6.2
U.P.	Gorakhpur	0.6	1.2	6.6	6.0
U.P.	Kanpur Dehat	0.7	1.6	6.4	5.7
U.P.	Chandauli	1.6	3.1	6.0	4.4
Kerala	Kasaragod	2.9	5.0	7.2	4.4
Assam	Kamrup	0.5	1.3	4.8	4.3
U.P.	S. Kabir Nagar	0.2	0.9	4.3	4.1
U.P.	Deoria	0.8	1.6	4.9	4.0
Punjab	Amritsar	1.2	2.4	5.2	4.0
U.P.	Banda	0.8	1.7	4.4	3.7
U.P.	Allahabad	1.3	2.2	4.9	3.6

Himachal Pradesh	Solan	0.8	2.2	4.1	3.3
U.P.	Ambedkar Nagar	0.3	0.9	3.6	3.2
Chhattisgarh	Dhamtari	1.1	2.3	4.2	3.1
U.P.	Jalaun	0.8	1.9	3.8	3.1
U.P.	Azamgarh	1.0	1.9	3.9	3.0
U.P.	Bijnor	0.4	1.4	3.3	2.9
U.P.	Sonbhadra	0.6	1.7	3.5	2.9
Gujarat	Narmada	1.1	3.8	3.8	2.8
Chhattisgarh	Durg	1.4	2.2	4.1	2.8
Bihar	Nalanda	0.9	2.3	3.6	2.7
Gujarat	Rajkot	0.4	1.9	3.0	2.6
U.P.	Kaushambi	0.7	1.8	3.3	2.5
U.P.	Unnao	0.4	1.5	2.9	2.4
U.P.	Mau	0.9	2.3	3.2	2.4
Gujarat	Bharuch	1.6	3.6	3.8	2.2
Maharashra	Pune	2.3	4.0	4.3	2.0
Bihar	Jamui	0.2	0.8	2.1	1.9
U.P.	Ghazipur	0.6	1.5	2.4	1.8
U.P.	Ballia	0.5	1.1	2.2	1.8
Maharashra	Sangli	0.7	2.1	2.4	1.7
Haryana	Faridabad	0.5	1.3	2.2	1.7
Jharkhand	Bokaro	0.3	1.4	2.0	1.7
U.P.	Lucknow	1.8	2.8	3.4	1.6
Jharkhand	Dhanbad	0.5	1.3	2.1	1.6
U.P.	Siddharthnagar	0.3	0.9	1.8	1.6
Bihar	Begusarai	0.5	1.2	2.0	1.5
U.P.	Sultanpur	0.3	0.9	1.9	1.5
Jharkhand	Lohardaga	0.1	0.7	1.6	1.5
U.P.	Balarampur	0.8	1.9	2.3	1.5
U.P.	Barabanki	0.8	1.6	2.1	1.3
Chhattisgarh	Kawardha	0.3	1.2	1.6	1.3
Bihar	Khagaria	0.1	0.8	1.4	1.3
Chhattisgarh	Janjgir-Champa	0.0	0.3	1.3	1.2
Bihar	Bhagalpur	0.5	1.4	1.7	1.2
Bihar	Patna	1.2	2.0	2.3	1.2
Jharkhand	Singhbhum(W)	0.4	1.1	1.6	1.2
Bihar	Kishanganj	0.4	1.5	1.5	1.1
U.P.	Basti	0.7	1.5	1.8	1.1
U.P.	Maharjganj	0.4	1.1	1.5	1.1
U.P.	Moradabad	0.8	1.6	1.8	1.0
Bihar	Purnia	0.1	0.7	1.1	1.0
Bihar	Saran	0.8	1.4	1.8	1.0
U.P.	Kushinagar	0.3	0.8	1.3	1.0
Bihar	Banka	0.3	1.1	1.3	1.0
Bihar	Samastipur	0.7	1.4	1.6	1.0

U.P.	Pratapgarh	0.7	1.4	1.7	1.0
Bihar	Jehanabad	0.6	1.6	1.6	1.0
Chhattisgarh	Bilaspur	0.5	1.1	1.3	0.8

Table F

Districts with RSBY incidence rates lower than the lower limit of 95% CI of NSSO sample

State	District	NSSO hospitalization rate	Lower limit of 95% confidence interval for NSSO sample	Average RSBY hospitalization rate	Difference
Kerala	Pathanamthitta	14.1	5.8	3.5	-10.6
Kerala	Kottayam	15.6	7.8	6.4	-9.2
Kerala	Thrissur	15.0	10.5	6.9	-8.2
Gujarat	Ahmedabad	8.0	2.2	0.4	-7.6
Maharashtra	Thane	7.1	4.4	0.2	-6.9
Kerala	Wayanad	10.2	4.8	3.7	-6.6
Kerala	Alappuzha	10.5	6.1	4.8	-5.7
Maharashtra	Parbhani	5.4	1.2	0.4	-5.0
Kerala	Kollam	11.7	7.5	6.9	-4.7
Maharashtra	Solapur	4.7	1.9	0.5	-4.3
Assam	Jorhat	3.6	0.9	0.2	-3.4
Gujarat	Dohad	3.6	1.1	0.9	-2.7
Orissa	Kalahandi	3.1	1.1	0.5	-2.5
West Bengal	North 24 Parganas	3.0	1.5	0.5	-2.5
West Bengal	Bankura	4.3	2.3	1.9	-2.5
U.P.	Mirzapur	2.2	0.1	0.0	-2.1
West Bengal	Jalpaiguri	2.1	1.0	0.1	-2.0
West Bengal	Malda	2.7	1.1	0.8	-1.9
Maharashtra	Yavatmal	2.4	0.6	0.6	-1.8
Maharashtra	Ahmadnagar	2.6	1.3	0.9	-1.7
West Bengal	Purulia	2.0	0.8	0.6	-1.4
West Bengal	North Dinajpur	1.4	0.2	0.1	-1.3

Table G

Average premium (per household) with service tax (INR)		Year			
Name of insurance company	Insurance segment	1	2	3	4
Apollo Munich	Private	496	446	423	
Chola MS	Private	578	472	518	
ICICI Lombard	Private	600	518	504	472
Tata AIG		549	419	401	
Private total		556	464	461	472
National Insurance	Public	571	465	560	

New India Assurance	Public	539	410	473	365
Oriental Insurance Company	Public	584	500	440	491
Public total (Without UII)		565	459	491	428
United India Insurance (UII)	Public	470	451	642	1100
Public total (with UII)		541	457	529	652

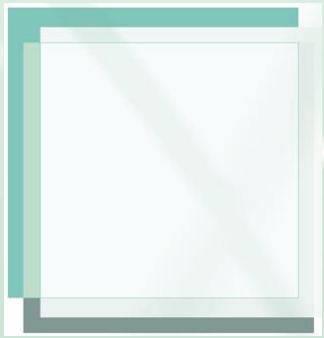
List of questions shared with SNA prior to conference calls

- How many people are seconded to the SNA? Are you under the Department for Labour or the Department for Health or is the SNA operating autonomously?
- What are the activities undertaken in the SNA as part of financial management and planning? Would you say that the scheme is adequately funded or are there delays in obtaining premium payments from other state or central departments?
- Experience of working with insurance companies
    - Are insurance companies conducting adequate Information, Educational and Communication (IEC) activities to drive enrolment rates? What are the best practices by insurers or TPAs?
    - What is the role played by the SNA in helping to increase enrolment rates? Do you collaborate with other departments such as NRHM, State Health, Panchayati Raj and Rural Development departments to drive enrolment and other IEC activities?
    - How do you identify candidates for FKOs and DKM roles? What is the incentive structure for FKOs and other staff involved in the system?
    - Do you have any say in the drafting of the contracts with insurance companies? Any suggestions to improve the contracts from your perspective?
    - Have there been any contractual disputes with the insurance companies in the past? How have such issues been resolved?
    - Are insurance companies honouring the claims of hospitals within timelines set by RSBY? If not why? What processes have you put in place to streamline the process?
    - Is the present bidding and tendering process working smoothly? Do you see active participation by insurance companies?
- Experience of working with hospitals
    - Is there any formal monitoring process by the SNA to prevent fraud and monitor RSBY usage in hospitals?
    - How are you deciding on the package rates being offered to hospitals? What is the general perception on the rates among hospitals?
    - Do you feel that there is any evidence of cherry picking by hospitals to focus on providing more "profitable" treatments, given the package rates?
- Implementation of technology
    - What have been the state-level challenges regarding implementation of RSBY technologies?
    - Has the state developed any systems in addition to standard requirements of RSBY, especially for monitoring and evaluation?
- What training and capacity-building activities are being undertaken by the SNA?
- How have ASHA workers/ANMs been involved in the scheme? Has it been helpful?
- Has your state extended the RSBY benefits to include critical care as a top-up scheme? If yes, can you outline your experiences with this?
- What is your experience in extending the scheme to NREGA workers, street vendors, etc.?
- Grievance redressal mechanisms
    - Have you set up the district-level and state-level grievance redressal mechanism? What is the nature of complaints you are receiving?

- Are you uploading all the complaints received to the central grievance redressal online system?

List of questions shared with insurance companies prior to conference calls

- Experience of working with SNAs and government
    - Are you getting premiums on time? Is there a difference in Centre vs. State payments? Which states are paying on time? Where premiums delays are seen, what are the key reasons?
    - Is the grievance redressal mechanism at district level, state level and national level working in line with your expectations?
    - Is the SNA in states adequately staffed? Do you get support from District Key Managers (DKMs) and FKOs for areas such as enrolment, where the responsibility is shared with SNA?
- Experience of working with TPAs
    - Are you working with different TPAs for enrolment vs. claims management?
    - What are the programme induced challenges that constrain your ability to pay claims on time?
    - Are TPAs issuing on spot cards in every state? What are the challenges? Are they related to costs or to other factors such as FKO availability?
    - How much are you paying TPAs for enrolment per household? Is there any variation across states?
    - Are TPAs efficiently running the marketing and training functions to help drive enrolment rates?
- Experience of working with hospitals
    - Are RSBY criteria on hospitals realistic? Do you experience variations across states in terms of your ability to empanel?
    - Are there any challenges in terms of technology and infrastructure for claims management?
    - Do you see any evidence of hospitals cherry picking to provide certain treatments under RSBY?
    - Are you able to service the hospital claims in the timelines set under RSBY?
- What is your rationale for bidding for specific states and districts?
    - Are you looking at data such as historical morbidity/hospitalization data available?
    - Are you evaluating past RSBY claims and hospitalization data?
    - Are you bidding based on geographical ease of access? Previous experience in certain states and districts?
    - Is the presence of existing TPAs influencing your bidding in any way?
    - Do you have in-house TPAs or outsource? Does that influence your bidding choices?
    - Do you evaluate existing health infrastructure? The presence or absence of other government programmes running in the state?
    - The presence of previous card issuance infrastructure? Banking correspondent network providers e.g. FINO and its network, other card issuance providers?
- What are the criteria behind the premium quotations?
    - Do you evaluate past data from secondary sources, as well as RSBY claims and hospitalization data to arrive at premium quotes in tenders?



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