Report

How does social protection contribute to social inclusion in India?

Evidence from the National Health Insurance Programme (RSBY) in Maharashtra and Uttar Pradesh

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Abstract

This study uses a social exclusion lens to analyse the effects of RSBY, a health insurance scheme for poor households in India. It tests assumptions about the role social protection can play in contributing to social inclusion and poverty reduction. The study used mixed methods and employed a quasi-experimental impact evaluation approach. The findings show that RSBY has had a positive impact on reducing out-of-pocket inpatient expenditure for RSBY smart cardholders who have used the scheme. However, the findings also show that a sub-group of beneficiaries – specifically households from marginalised social groups – continue to experience discrimination in accessing and using health services provided by RSBY.

Preface

This report is part of a wider research project that assessed the effectiveness and relevance of social protection and labour programmes in promoting social inclusion in South Asia. The research was undertaken in collaboration with partner organisations in four countries, examining BRAC's life skills education and livelihoods trainings for young women in Afghanistan, the Chars Livelihoods Programme and the Vulnerable Group Development Programme in Bangladesh, India's National Health Insurance Programme (RSBY) in Maharashtra and Uttar Pradesh and the Child Grant in the Karnali region of Nepal. Reports and briefings for each country and a paper providing cross-country analysis and drawing out lessons of relevance for regional and international policy can be found at: www.odi.org/sp-inclusion.

International policy paper, briefing and background note

- Babajanian, B., Hagen-Zanker, J., and Holmes, R. (2014) How do social protection and labour programmes contribute to social inclusion? Evidence from Afghanistan, Bangladesh, India and Nepal. ODI Report.
- Babajanian, B., Hagen-Zanker, J., and Holmes, R. (2014) Can social protection and labour programmes contribute to social inclusion? Evidence from Afghanistan, Bangladesh, India and Nepal. ODI Briefing No.85.
- Babajanian, B., and Hagen-Zanker, J. (2012) Social protection and social exclusion: an analytical framework to assess the links. ODI Background Note.

Country reports

- Adhikari, T.P., Thapa, F.B., Tamrakar, S., Magar, P.B., Hagen-Zanker, J., and Babajanian, B. (2014) How does social protection contribute to social inclusion in Nepal? Evidence from the Child Grant in the Karnali Region. ODI Report.
- Echavez, C., Babajanian, B., Hagen-Zanker, J., Akter, S., and Bagaporo, J.L. (2014) How do labour programmes contribute to social inclusion in Afghanistan? Evidence from BRAC's life skills education and livelihoods trainings for young women. ODI Report.
- Sabharwal, N.S., Mishra, V.K., Naik, A.k., Holmes, R., and Hagen-Zanker, J. (2014) How does social protection contribute to social inclusion in India? Evidence from the National Health Insurance Programme (RSBY) in Maharashtra and Uttar Pradesh. ODI Report.
- Siddiki, O.F., Holmes, R., Jahan, F., Chowdhury, F.S., and Hagen-Zanker, J. (2014) How do safety nets contribute to social inclusion in Bangladesh? Evidence from the Chars Livelihoods Programme and the Vulnerable Group Development programme. ODI Report.

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- Adhikari, T.P., Hagen-Zanker, J., and Babajanian, B. (2014) The contribution of Nepal's Child Grant to social inclusion in the Karnali region. Country briefing. ODI, London.
- Echavez, C., Babajanian, B., and Hagen-Zanker, J., (2014) The contribution of BRAC's life skills education and livelihoods trainings to social inclusion in Afghanistan. Country Briefing. ODI, London.
- Sabharwal, N.S., Mishra, V.K., Naik, A.K., Holmes, R., and Hagen-Zanker, J. (2014) The contribution of India's National Health Insurance Programme (RSBY) to social inclusion in Maharashtra and Uttar Pradesh. Country Briefing. ODI, London.
- Siddiki, O.F., Holmes, R., Jahan, F., Chowdhury, F.S., and Hagen-Zanker, J. (2014) The contribution of the Chars Livelihoods Programme and the Vulnerable Group Development programme to social inclusion in Bangladesh. Country Briefing. ODI, London.

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Abbreviations and Glossary

Abbreviations

ATT	Average Treatment Effect on the Treated
BPL	Below the Poverty Line
FGD	Focus Group Discussion
IDI	In-depth Interview
KII	Key Informant Interview
NGO	Non-governmental Organisation
OBC	Other Backward Caste
OOP	Out-of-Pocket
PDS	Public Distribution System
PSM	Propensity Score Matching
RSBY	Rashtriya Swasthya Bima Yojna
SC	Scheduled Caste
ST	Scheduled Tribe
UN	United Nations
UP	Uttar Pradesh

Glossary

Catastrophic health expenditure	High payments on health, accounting for a substantial part of or exceeding the household budget.
Empanelled hospital	Based on the qualifying criteria set by the government, public and private hospitals will be empanelled by the insurance company. The beneficiary has the option to go to any empanelled hospital.
Gram sabha	Gram sabha(s) includes all the adult citizen voters of the village (depending on the state, gram sabha meetings should be held a minimum of two times a year)
State nodal agency	An independent agency to implement the RSBY scheme in each state.
Panchayat	Gram Panchayat is a local self-government institution at the village or small town level
Sarpanch	A sarpanch is an elected head of the panchayat (local self-government institution at the village level)

Executive Summary

India's health insurance scheme, *Rashtriya Swasthya Bima Yojna* (RSBY) was initiated in 2008 to provide health insurance to poor households across India to protect them from major health shocks that push them into poverty and indebtedness. Recently, there has also been increasing interest in the potential indirect effects of social health protection programmes like RSBY which are promoted through principles of solidarity and equity, to support economic productivity, empowerment and social outcomes more broadly.

The aim of this study was to analyse the effects of RSBY on socially excluded households (focusing on Scheduled Castes and Muslims) in two states in India: Uttar Pradesh and Maharashtra. RSBY provides inpatient treatment of up to 30,000 Indian Rupees (approximately US$480) per year for five members of a household at a cost of Rs 30 (approximately US$0.48) as an annual household registration fee.

The study was guided by five key research questions to understand how RSBY has achieved its direct objectives (e.g. reducing out-of-pocket health expenditure on inpatient costs) as well as the indirect effects of RSBY on other economic and social indicators:

1. Has RSBY membership reduced socially excluded households' out-of-pocket health expenditure? What are the experiences of socially excluded households in terms of the healthcare received?
2. Has RSBY membership improved economic productivity opportunities for socially excluded households?
3. Has RSBY contributed to improved household wellbeing (e.g. food security and access to other services) for socially excluded households?
4. Does RSBY membership contribute to a change in social relations (e.g. community relations or participation in community activities)?
5. Does RSBY affect state–society relations (e.g. local government accountability or citizen perceptions of the state)?

The study used mixed methods research including a quasi-experimental impact evaluation (propensity score matching), which included a treatment group (RSBY smart card holders who have and have not used the smart card) and control group (non RSBY smart card holders). The study was conducted in two districts: in Moradabad in Uttar Pradesh and Aurangabad in Maharashtra. The sample size of the quantitative survey was 1,500 households in total: (1,050 beneficiary households (70%)); 450 non-beneficiary households (30%)). Purposive sampling was used to identify locations with high shares of socially excluded groups (Scheduled Caste and Muslim) and within these locations, households below the poverty line in rural locations were randomly selected. Qualitative interviews (focus group discussions, in-depth interviews, and key informant interviews) were also carried out.

Health and social exclusion in India

Despite witnessing a steady decline in poverty at the national level, India remains a deeply unequal country. Those from lower castes, such as Scheduled Castes and Scheduled Tribes, as well as religious minorities such as Muslims, face exclusion and discrimination in several arenas of public life, leading to disproportionately higher rates of poverty and vulnerability among these groups. Health outcomes for a range of health indicators, for example, are much poorer for socially excluded groups.

High health costs and out-of-pocket expenditure (both direct and indirect health-related costs) are a major reason that the poor forego health care. The majority of health expenditure in India is privately financed from household out-of-pocket expenditure and estimates suggest that approximately 39 million Indians were pushed into poverty as a result of out-of-pocket health expenditure in 2004-2005 (Selvaraj and Karan, 2009). Given that socially excluded households are among the poorest, they are highly vulnerable to this increase in poverty. As such, the longer-term implications of the burden of health payments for the poor are substantial.

However, it is not just financial barriers which contribute to an under-utilisation of health care and result in poorer health outcomes as well as lower productivity and diminished income. Systemic weaknesses in the health system include insufficient investments, variable quality of care, lack of accountability and social discrimination (Baru et al., 2010). For socially excluded households in particular this results in the experience of discriminatory attitudes, denial of admission and medical treatment, and inadequate/poor quality medical treatment (Sabhrawal, 2011). Such weaknesses have increased inequalities within the health system and in health outcomes.

Research findings

Health expenditure: The PSM quantitative impact analysis shows that RSBY has had a positive impact on reducing inpatient expenditure for households who have used the smart card: inpatient health expenditure is lower for treated households (by Rs 3,620 / US$58 per year) than control households. This result demonstrates that RSBY is meeting it direct objective in this regard. Moreover, looking at how health expenditure is financed, we see some small but encouraging differences, indicating that RSBY may be having a positive effect on reducing the burden of debt for beneficiary households. The PSM results show that treated households are less likely to be indebted and less likely to use borrowed money to finance inpatient treatment (although only the former is significant).

However, the impact analysis also shows that total household health expenditure of treated and control households remain similar. One of the reasons for this could be because a high proportion (40%) of RSBY smart cardholders have not used the insurance scheme to pay for inpatient treatment costs. The qualitative analysis indicates that there are a number of reasons why beneficiaries have not used their smart card to pay for inpatient treatment, including lack of awareness on how to use the smart card or about which hospitals provide health care through smart card, long distance to the hospitals, denial of treatment by empanelled hospitals, or discouragement of beneficiaries to use the smart card by service providers.

The findings also demonstrate that some beneficiary households reported incurring some out-of-pocket expenditure for inpatient costs even under the RSBY scheme. A higher percentage of beneficiaries from Scheduled Caste (SC) and Muslim households incurred out-of-pocket expenditure in comparison to beneficiaries from upper castes, and the difference is statistically significant. For instance, a significantly higher proportion of SC and Muslim survey respondents reported that they were not aware that they are eligible for transport costs under RSBY. Even those beneficiaries who are aware that they are eligible did not always get their transport cost reimbursed.

Health care experiences: the research found that the majority of RSBY beneficiaries reported positive experiences in using the scheme and in the healthcare provided. However, the research did find that some households faced difficulties accessing RSBY, despite their entitlement to it. However, only a small proportion (less than 10%) of beneficiary households reported facing challenges enrolling in the scheme. These problems included having to register multiple times or having to pay a higher registration fee than required.

Other findings do suggest that social discrimination is evident in the implementation of RSBY in our survey sites. For instance, approximately 38% of SC beneficiaries and around 31% of Muslim beneficiaries stated that they did not get treatment in their choice of hospital, compared to 14% of upper caste households. The

descriptive statistics and qualitative data also indicate that a higher proportion of marginalised households perceived discrimination in the provision of healthcare services than upper-caste beneficiaries.

Household wellbeing and livelihoods: the findings from the quantitative impact analysis show that there is no significant impact of RSBY on household wellbeing or livelihoods as measured by a number of indicators on household expenditure, consumption patterns, and income generated from livelihood activities. This is despite the theoretical assumptions which link social health protection to increased household income and improved productivity. However, remembering that the PSM analysis includes comparing treated households (those who have the RSBY smart card whether they have used it or not) and control households (non-beneficiaries), the findings here are perhaps not surprising given the high proportion of households who have not used the RSBY smart card to pay for treatment. For instance, when we looked at whether RSBY had helped to reduce the number of days that people could not work due to illness – and whether, by reducing the financial burden of health expenditure, saved income was redirected to income generating activities – the quantitative results showed no significant impacts.

The qualitative findings do, however, suggest that important changes have occurred in some beneficiary households' lives and livelihoods, with some reports of diversification in diet and more nutritious foods being consumed. Some beneficiaries reported that RSBY had saved them spending money on treatment and that timely treatment through RSBY had helped them return to work sooner after their illness. However, it is important to note that the beneficiaries reported these changes as small and that low and inconsistent income remains a significant challenge for the poor.

Community participation and social relations: Looking more broadly at the potential effects of RSBY at the community level, we examined whether RSBY membership had an effect on social relations by looking at the social interactions and social networks of beneficiaries and non-beneficiaries. Given the complex social interactions at village level in India, particularly in the context of caste and religious differences and the history of social discrimination and social exclusion, it is perhaps not surprising that a scheme like RSBY would not have any significant effect. As one beneficiary noted: "We have been facing discrimination for a long time. How can access to health care through RSBY abolish caste based discrimination against us and provide equality to us?" More positively, however, the findings do suggest that RSBY beneficiary household network support is strengthened, as we found that beneficiaries are slightly more likely to receive support from villagers and neighbours for treatment or other needs.

State-society relations: Poor households in India are entitled to numerous central government and state-level social assistance benefits (such as pensions and the food distribution system) which make it more difficult to assess the contribution of RSBY to any changes in perceptions of the government or to greater participation in accountability mechanisms including community decision-making forums. However, with these caveats in mind, the research provides some indicative findings in this area. There is very little difference between beneficiaries and non-beneficiaries in terms of their perceptions of, and interaction with, local government. Beneficiaries are no more likely than non- beneficiaries to raise issues or problems before the local government authority. However, some positive effects are apparent: almost all beneficiary households reported that the introduction of RSBY is an indication that the Government of India cares about their socioeconomic situation. Seventy percent of beneficiaries stated that introduction of RSBY has improved their perception of the Government of India. Beneficiaries reported that the fact that all households below the poverty line are entitled to RSBY, that the process of enrolment was relatively simple, and that the perceived importance of help with household health care expenses, proved to be important factors explaining these changes in perception. As one beneficiary stated: "We know central government is running many schemes for the poor. The RSBY scheme is better than some other government schemes as we get the benefits of the scheme without much problem. We do not need to go to

government offices many times at block and district level to get the benefits of the scheme; instead, we are registered in the scheme in our own village".

Policy implications

This research has found that RSBY has had a number of positive effects on poor, excluded households, particularly in terms of reducing inpatient health expenditure and reducing dependence on debt, strengthening social networks, and improving perceptions of the central government. Still, a number of important challenges remain, and this research has also shown that a proportion of beneficiaries have still paid out-of-pocket for inpatient treatment, that social discrimination in the delivery of RSBY and in the provision of healthcare is evident, and there are limited indirect effects on livelihoods and other household wellbeing indicators.

The final section of this report therefore discusses the policy implications of these findings in more detail, and suggests that attention to the following policy areas could strengthen the implementation of RSBY for socially excluded households: commitment to monitor and respond to discrimination based on caste and religion in the delivery of RSBY; provision of locally appropriate awareness raising of the scheme and its benefits, including ensuring that information reaches marginalised localities; investment in training service providers to deliver equitable and non-discriminatory services; and provision of opportunities to strengthen accountability mechanisms and forums for citizen participation to report back on experiences of the scheme.

1 Introduction

1.1 Overview of the research

This report is part of a three-year research project that assessed the effectiveness and relevance of social protection and labour programmes in tackling social exclusion and promoting social inclusion in four countries in South Asia: Afghanistan, Bangladesh, India and Nepal. Recent international literature on social protection has argued that social protection has the potential to sustain impacts beyond the economic sphere, to include empowerment, social inclusion, cohesion and state legitimacy (such as ERD, 2010; Hickey, 2010; Hickey and du Toit, 2007; McConnell, 2010; OECD, 2009; UNESCAP, 2011). However, we know very little about the pathways through which these outcomes may occur in practice, or the extent to which social protection can tackle the structural causes of poverty. As such, this research project aimed to generate evidence on a number of outcome areas of social inclusion – health, economic opportunities, household wellbeing, community participation and social relations, and state-society relations – and to interrogate the extent to which social protection programmes are able to tackle the driving forces behind high rates of poverty and exclusion.

The objective of *this* paper is to report on findings from the India study, which combined a mixed-methods quasi-experimental research approach to assess the impact of the social health insurance scheme, *Rashtriya Swasthya Bima Yojna* (RSBY), on health access and utilisation, as well as broader dimensions of poverty for socially excluded and marginalised groups. RSBY covers expenditure for *inpatient* treatment of up to 30,000 Indian Rupees (approximately US$480) per year for five members of the household at a cost of Rs 30 (approximately US$0.48) as an annual household registration fee. In particular, the research focused on the experiences of Scheduled Caste (SC) and Muslim households in two states, Maharashtra and Uttar Pradesh.

The study was guided by five key research questions to understand how RSBY has achieved its direct objectives (e.g. reducing out-of-pocket health expenditure on inpatient costs) as well as the indirect effects of RSBY on other economic and social indicators:

1. Has RSBY membership reduced socially excluded households' out-of-pocket health expenditure? What are the experiences of socially excluded households in terms of the healthcare received?
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4. Does RSBY membership contribute to a change in social relations (e.g. community relations or participation in community activities)?
5. Does RSBY affect state–society relations (e.g. local government accountability or citizen perceptions of the state)?

1.2 Rationale for the research

The Indian economy has witnessed enormous changes in the past two decades. The overall rate of poverty in the country has declined steadily and the country's Human Development Index rank of 136 places it among the group of countries with medium levels of human development. However, it remains deeply unequal. Nearly one in three (29.8% of the population) lives below the national poverty line and 53.7% of people experience

multidimensional poverty (UN, 2012; UNDP, 2013). Although the level of inequality has decreased over time, in part as a result of government policies to tackle discrimination and social exclusion – including the 1955 Protection of Civil Rights Act, the 1989 Prevention of Atrocities Act, reservations and various empowerment measures – access to services and economic opportunities are highly influenced by deep-rooted exclusion and discrimination based on caste, religion and gender. Those from lower castes, such as SCs and Scheduled Tribes (STs), as well as religious minorities such as Muslims, face exclusion and discrimination in several arenas of public life. This leads to disproportionately higher rates of poverty and vulnerability among these groups. For instance, although rural poverty declined by an average annual rate of 1.9% between 1983 and 2005 in India as a whole, this decline was smallest among STs, SCs and Muslims (Thorat, 2014).

Significant differences in access to basic services are also apparent. Households from marginalised communities face higher rates of exclusion from basic social services (Acharya, 2009), and discrimination in the provision of health services on the basis of social identity is also reported (Sabharwal, 2011). This results in poorer health outcomes for socially excluded groups (Borooah, 2010). Health shocks in particular are a serious concern – and the focus of this study. Millions of households are pushed into, or further into, poverty as a result of what is known as 'catastrophic health expenditure',[1] and SCs, STs and Muslims, often being among the poorest, are particularly vulnerable to this (Garg and Karan, 2008).

Recently, the government of India has sought to address this problem by extending social health protection in the form of a national subsidised health insurance scheme (for inpatient health costs) – RSBY – to all households below the poverty line (BPL), irrespective of social group identity, gender or religion. Initiated in 2008, RSBY currently provides coverage to almost 37 million households.[2] Social health protection programmes are increasingly seen as a vital component of a social protection approach[3] to reduce poverty, improve health status, increase economic productivity, strengthen accountability and support key values of social equity and solidarity (Hörmansdörfer, 2009; ILO, 2007).

However, to date, with only a few exceptions (see Acharya et al., 2012, Government of India[4]; GIZ, 2011), research studies have not assessed the impacts of health insurance for the poor, or examined the successes (and challenges) in the ways social health protection can contribute to these broader economic and social outcomes. The aim of this study, therefore, is to use RSBY as a case study to contribute empirical evidence on the role of social health protection schemes in reducing health expenses for socially excluded households, and, more broadly, to examine the indirect effects of the RSBY scheme on economic productivity opportunities, household wellbeing, and community and state–society relations. We use a quasi-experimental mixed-methods approach (quantitative and qualitative methodologies) to analyse the effects of RSBY membership. Specifically, we use propensity score matching (PSM) to draw out the *impacts* of the scheme using treatment (RSBY smart cardholders who have and have not used their smartcards) and control (non-beneficiary) groups. Given that there are numerous external factors which influence outcomes of a particular intervention, the PSM seeks to eliminate the observed bias by comparing each beneficiary household to a very similar non-beneficiary counterpart based on characteristics that do not influence the outcome variable. Beneficiary and non-beneficiary households are 'matched' on the basis of their propensity score and their outcomes are compared, and the difference in outcomes can then be attributed to the intervention – to the extent that there are no unobservable differences across groups.

[1] Catastrophic health expenditure is defined in the literature as high payments on health, accounting for a substantial part of or exceeding the household budget (for example, see http://www.who.int/health_financing/catastrophic/).
[2] http://www.rsby.gov.in (Accessed April 2014)
[3] Current social protection activities in India includes a wide range of programmes implemented by national and state governments to BPL households, although it is hampered by coverage and benefit level challenges (Rawat, 2012). Programmes include food transfers, public works, micro-insurance schemes, pensions, health care, child- (and girl-)focused programmes (see, for example, Rawat, 2012; Ruchismita and Churchill, 2012).
[4] http://www.rsby.gov.in/

1.3 Structure of the paper

The rest of the paper is organised as follows. Section 2 first discusses the social exclusion analytical approach and the potential role of social health protection in promoting social inclusion, and then presents the research objectives, hypothesis, research methodology and description of the sample. Section 3 looks at health issues from a social exclusion perspective in the Indian context. Section 4 presents details of the RSBY scheme. Section 5 discusses the findings from the quantitative and qualitative analysis following the research questions listed above. Section 6 concludes with a discussion of key findings and policy implications.

2 Analytical and research approach

This section first starts with an overview of the theoretical framework of social exclusion and its contribution to understanding poverty dynamics. It then discusses the potential role of social health protection in promoting social inclusion. The rest of the section presents information on the research objectives, hypothesis and methodology used in this study.

2.1 Analytical approach

2.1.1 The social exclusion framework

The term 'social exclusion' originated in European social policy literature in the 1970s and, as a framework, it offers an alternative lens for conceptualising and measuring income poverty and inequality.

The concept of social exclusion refers to the multiple forms of economic and social disadvantage caused by various factors such as gender and social, cultural and religious identity (Burchardt et al., 2002). As Silver (2007: 1) states, social exclusion is a dynamic process that 'precludes full participation in the normatively prescribed activities of a given society and denies access to information, resources, sociability, recognition, and identity, eroding self-respect and reducing capabilities to achieve personal goals'. Social exclusion affects the quality of life of individuals and the equity, cohesion and stability of society as a whole (Levitas et al., 2007, in Islam and Nath, 2012; UNRISD, 2010).

In India, social exclusion is commonly used to discuss the social relations and institutions that 'exclude, discriminate or deprive certain social groups on the basis of a broad range of group identities' (Thorat and Louis, 2003, in Skoda et al., 2013: 3). The structure of the caste system and the implications of this for employment, education and the rules of social and economic exchange are distinctive in India (World Bank, 2011) and exclusion on the basis of caste, tribe, religion and gender is increasingly receiving attention in research and policymaking (Skoda et al., 2013).

The key analytical strength of the social exclusion framework is its focus on both the *outcomes* of social exclusion, and its *processes or drivers* (de Haan, 1999; Paugam, 1996). While not all socially excluded people are poor, in many contexts there is a strong link between social exclusion and high rates of poverty. Focusing on the *outcomes* exposes the extent and type of social exclusion and poverty that people may experience. It denotes that people may be excluded from employment, productive resources and economic opportunities, but also have limited access to education and health care, public utilities and decent housing, social and cultural participation, security, political rights, voice and representation (Köhler et al., 2009; Ruggeri Laderchi et al., 2003). In addition, the focus on the *processes or drivers* of social exclusion helps us to understand the broader, structural factors that cause exclusion and which can result in higher rates of poverty. It 'drives attention away from attributing poverty to personal failings and directs attention towards societal structures' (Gore and Figueiredo, 1997: 43). Indeed, the sources of social exclusion are often structural in nature: exclusionary behaviours and practices are underpinned by social norms, values and beliefs that produce and reproduce forms of social

exclusion at different levels (e.g. intra-household, community, institutions and national levels). Such practices are translated into exclusion by formal and informal institutions and policies and upheld by, for example, ideologies and rules (Bordia Das, 2013).

2.1.2 The potential role of social health protection in promoting social inclusion

Social protection is an umbrella term for a range of policies and programmes that address risk and vulnerability among poor and near-poor households. Social protection mechanisms are viewed as tools to advance human and economic development, in particular to help break the inter-generational transmission of poverty through improving human capital development and helping people strengthen and accumulate productive assets, enhancing their future income-earning capacity (Alderman and Yemtsov, 2012; Barrientos and Scott, 2008).

Social health protection is one measure that falls under the umbrella term of social protection. It has been defined as a public or publicly organised and mandated measure against social distress and economic loss caused by the reduction of productivity, stoppage or reduction of earnings or the cost of treatment necessitated by ill health (ILO, 2007: 3). Social health protection aims to support universal access to affordable quality health care and financial protection in case of sickness and can consist of various financing and organisational options intended to provide adequate benefit packages to protect against the risk of ill health, related financial burden and catastrophe (ibid.). In other words, it involves a shift towards sharing health expenditure and reducing reliance on out-of-pocket-payments.[5] As such, social health protection helps improve health status, prevent impoverishing health care expenditures and substitute inefficient and detrimental risk coping mechanisms (Hörmansdörfer, 2009). It also has indirect benefits as it increases people's productivity and fosters investment (because individuals are more likely to take risks) (ibid.).

In addition to health and economic benefits, it is argued that social health protection can also have broader social and political benefits by promoting social stability and social cohesion, and promoting empowerment. The principles of social health protection can be used to facilitate 'values of solidarity and equity' that strengthen bonds of cooperation and reciprocity (Hörmansdörfer, 2009: 146). A better health status enhances the employability of poor people, increasing their earning capacities as well as 'providing participatory decision-making structures which strengthen the voice of poor people and may improve the responsiveness and quality of health services' (ibid.). Indeed, there is a view that social protection in general can have a 'transformative' angle, supporting equity, social justice and empowerment (see, for instance, ERD, 2010; OECD, 2009; Sabates-Wheeler and Devereux, 2004; UNESCAP, 2011).

The concept of social exclusion is thus a useful lens for researching and analysing the effects of social health protection. Its application to social protection allows for greater emphasis on the local context and the integration of detailed and multiple contextual analyses of poverty and social exclusion. The framework suggests social protection be assessed by its contribution to addressing the outcomes and drivers of social exclusion, but also as a way of understanding the limitations to social protection intervention outcomes.

2.2 Research approach

2.2.1 Research objectives and hypothesis

As discussed above, the objective of this research was to examine the impact of RSBY in terms of direct and indirect effects on health and poverty for socially excluded groups, and to identify what the key barriers or opportunities are to enhancing the effectiveness of social protection for marginalised groups.

RSBY provides *inpatient* treatment of up to Rs 30,000 (approximately US$480) per year for five members of the household at a cost of Rs 30 (approximately US$0.48) as an annual household registration fee.

[5] http://www.socialhealthprotection.org/social_protection_health.php

Five key research questions guided the research:

1. Has RSBY membership reduced socially excluded households' out of pocket (OOP) health expenditure? And what are the experiences of socially excluded households in terms of the healthcare received?
2. Has RSBY membership improved economic productivity opportunities for socially excluded households?
3. Has RSBY contributed to improved household wellbeing (food security and access to other services) for socially excluded households?
4. Does RSBY membership contribute to a change in social relations (e.g. community relations or participation in community activities)?
5. Does RSBY affect state–society relations (e.g. local government accountability or citizen perceptions of the state)?

As mentioned above, a quasi-experimental mixed-methods approach has been utilised to examine the impacts and effects of RSBY on these direct and indirect objectives. A propensity score matching (PSM) analysis approach has been used to attribute impact of certain outcomes indicators to RSBY (where observable differences can be controlled for), combined with descriptive statistics and qualitative research analysis to understand the effects of RSBY on key outcome indicators and drivers. The indicators which have been used to capture these effects are presented in Table 1 below, and include respondents' self-reported income and expenditure as well as respondents' own perceptions of community participation, social relations, and of the government. Moreover a working research hypothesis was also developed to guide the research approach and analysis, based on assumptions about the role of social health protection in improving health care utilisation and household health financing mechanisms as well as its potential indirect effects on wellbeing, economic productivity and social/political relations and participation (see Hörmansdörfer, 2009; ILO, 2009) (see Table 1).

The analysis of the impacts of RSBY pays particular attention to the two dimensions of social exclusion discussed in the framework section above, in order to answer these five questions. The first involves examining the *outcomes* of RSBY in terms of contributing to enhancing wellbeing, livelihoods and community relations/social participation. Second, the research analyses the *drivers* of exclusion to identify the extent to which the scheme tackles the structural factors that contribute to health care barriers, including discrimination of social groups on the basis of caste or gender in accessing or using health care and the catastrophic health expenditures the poor experience as a result of insufficient income. It should be noted, though, that social protection can improve social inclusion outcomes without necessarily addressing these drivers – and it cannot be expected to change all of these drivers.

As Table 1 shows, RSBY is expected to directly support poor households by reducing OOP expenditure of the poor and reducing the use of negative coping strategies to finance such health expenditure.

The indirect effects expected from improving the poor's health status and reducing catastrophic health expenses are numerous. The money saved can increase household income used for consumption and/or investment. Also, timely health treatment can reduce the number of days absent from wage labour or care responsibilities (which also have effects on those in the household who have to replace earners or carers, e.g. children).

Social health protection such as RSBY may also have important social and political benefits at the community level too. Improvements in health status and reducing health care expenses increase household income, which can in turn support community participation and strengthen social relations. Receiving government benefits may improve perceptions of the state, and interactions with government officials can help to strengthen the voice of poor people and improve the responsiveness and quality of health services.

Table 1: Research hypothesis and indicators

Direct effects of RSBY	Indirect effects of RSBY
Reduced out-of-pocket (OOP) health expenditure *Hypothesis*: Health costs covered by RSBY reduce inpatient OOP (which reduces household total OOP health expenditure) • Reduction in health expenditure • Reduction in detrimental coping strategies to finance health expenditure	**Improved economic productivity** *Hypothesis:* Better health increases productivity, saved income (real or perceived) invested in productive activities • Reduction in working days lost owing to ill health • Improved financial capacity to invest in productive inputs and/or membership in groups with economic benefits
	Improved household income and expenditure *Hypothesis:* Reduced expenditure on health increases household income and expenditure on other items • Increased household per capita expenditure on food and services (e.g. education)
	Improved social relations and participation in the community *Hypothesis:* Saved income enables household members to contribute to community activities and this enhances their participation in community activities • Increased community reciprocity • Perceptions of social relations in the community
	Improved state–society relations *Hypothesis:* Receipt of a government programme leads to positive perceptions of the government and interactions with government officials improves accountability avenues • Perceptions of government's role and commitment to addressing needs • Experience of dealing with local and central government representatives

This study therefore sought to examine the impacts of RSBY in relation to these outcomes, specifically looking at the experiences of marginalised households from SC and Muslim households. A combination of quantitative and qualitative questions and discussions were used to record self-reported outcomes and perceptions of these direct and indirect effects. The methodology is discussed in more detail below.

2.2.2 Research methodology

This research was designed as a quasi-experimental mixed-methods study, combining quantitative and qualitative research tools to undertake primary empirical research (see Table 2 for an overview). Field work was carried out between April and July 2012. More detailed information on the sampling strategy, quantitative and qualitative data collection and analysis can be found in Annex 1.

The objective of the sampling strategy was to include sampling locations with sizeable populations of SC and Muslim households, as well as high RSBY enrolment[6]. As such, the study was conducted in two districts: in Moradabad in Uttar Pradesh and Aurangabad in Maharashtra. In these two states and districts, the share of SC and Muslim population is higher than all-India average, BPL family enrolment in the RSBY scheme is higher than state average, and the RSBY scheme has been implemented for a maximum number of years (see Annex 1

[6] Total sample size is calculated at 95% confidence interval and 80% statistical and total sample taken 1500 is more than minimum sample size

for more details). The sample size of the quantitative study was 1,500 households in total[7] (1,050 beneficiary households (70%)); 450 non-beneficiary households (30%)). Purposive sampling was used to identify locations with high shares of socially excluded groups (Scheduled Caste and Muslim) and within these locations, households below the poverty line in rural locations were randomly selected. The aim of the study was to select mixed caste villages from in order to understand the challenges faced by marginalised households within mainstream society. Hence, we chose to focus on Scheduled Caste (SC) and Muslim households, as they tend to reside with upper caste households in the same village, whereas ST households normally live away from mainstream villages. As such, we chose not to study STs in this research.

Table 2: Overview of research methodology

Sampling strategy	Quantitative survey	Qualitative survey	Sampling locations
Purposive sampling of sites in rural locations with mixed social groups, but high shares of socially excluded groups (Scheduled Caste and Muslim) Beneficiary and non-beneficiary households randomly selected from RSBY and BPL list	Total households surveyed: 1,500, 750 from each district Treatment group: 1,050 (70%) Control group: 450 (30%)	Village survey 36 KIIs 25 FGDs (per state) 10 IDIs (per state)	Moradabad (Uttar Pradesh) Aurangabad (Maharashtra) 30 villages (14 in Moradabad and 16 Aurangabad)

States, districts, blocks (sub-divisions of districts) and villages that had higher than average shares of SC and Muslim households, as well as some criteria related to the implementation and coverage of RSBY were purposively selected (see Annex 1). Beneficiary and treatment households were randomly selected using the RSBY beneficiary and BPL lists (those enrolled in RSBY and those not yet enrolled).

The quantitative assessment compared treatment (RSBY beneficiary households who have used or not used the smart card) and control (non-beneficiary) households to establish the impacts of the intervention, using *ex-post* quasi-experimental methods: propensity score matching (PSM).

The household groups are defined as follows:

- **Target group:** SC, Muslim and upper caste poor households who are RSBY beneficiaries (beneficiaries who have used the smart card and those who have not)
- **Control group:** SC, Muslim and upper caste poor households who are eligible for RSBY but who are not enrolled.

In this study, we were only able to collect data after treatment has taken place, and, as we have neither baseline nor panel data, we have employed PSM, which is a well-regarded quasi-experimental research method, to measure impact. Impact in this context can be defined as the difference between specific outcome indicators on improving social inclusion, in terms of the direct and indirect outcome indicators presented in Section 2.2.1 for the treated and control groups. The non-beneficiary group (control group) is taken as a proxy for an actual counterfactual and was carefully selected to be similar to the beneficiary group (treatment group), apart from not receiving the treatment. The treatment group includes RSBY smart card holders who have and have not used the smartcard to pay for inpatient treatment. These groups were chosen to enable a comparison between those households who have received access to the programme (both those who did use the card and those who did not) and those who have not accessed the programme. An additional PSM comparison between card-holders who

[7] 750 households per state

used the card and those who did not use the card would not be possible as there are no clear 'eligibility criteria' that determine usage of the card and that could be used as the basis for pre-treatment variables. Further, characteristics that determine whether card-holders use the card are also likely to affect outcomes.

When comparing outcomes for the control and the treatment group, the results may be biased as there may be observed (i.e. 'measurable') and unobserved differences between the groups that we have not been able to control for. The PSM approach (Rosenbaum and Rubin, 1983; Rubin, 1974) seeks to eliminate the observed bias by comparing each beneficiary household to a very similar non-beneficiary counterpart based on characteristics that do not influence the outcome variable – called pre-treatment factors (resulting in a 'propensity score'). These pre-treatment variables measure the likelihood of receiving the treatment. Beneficiary and non-beneficiary households are 'matched' on the basis of their propensity score and their outcomes are compared. The difference in outcomes can then be attributed to the intervention to the extent that there are not unobservable differences across groups.

The quantitative data were also used to create descriptive statistics on the perceptions and experience of beneficiaries and differences between the groups. This was complemented by the qualitative fieldwork: focus group discussions (FGDs) and in-depth interviews (IDIs) with beneficiaries and non-beneficiaries, and key informant interviews (KIIs) (including RSBY and government officials, insurance agency officials, TPA officials, village *sarpanchs*, local leaders). By combining the quantitative and qualitative tools, we collected detailed information on the direct and indirect effects of the interventions at the household level, implementation details of the scheme and broader contextual data pertinent to our research focus on poverty and social exclusion.

2.2.3 Description of the sample

This section gives a brief overview of the socio-demographic and economic characteristics of the sample. Both the control and the treatment households were poor rural households from both marginalised and non-marginalised groups. By survey design, all respondent households were BPL. Table 3 shows that there are some significant differences in terms of social and religious composition between the beneficiary and non-beneficiary groups. A larger share of the non-beneficiary group is from a SC and a larger share of the non-beneficiary group is Muslim.

Table 3: Social and religious composition of the sample (%)

	Non-beneficiary	Beneficiary	Total
Social group *			
Share of SCs	33.11	28.38	29.8
Share of other castes	66.89	71.62	70.2
Religion *			
Share of Hindus	64.08	69.09	67.6
Share of Muslims	35.92	30.91	32.4
Total	100	100	100

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (Pearson chi2)*

Looking at the demographic composition, there are few differences between beneficiary and non-beneficiary groups, and none are statistically significant, as shown in Table 4. On average 87% of households are male-headed with a mean of 5.4 household members and 1.8 children. The labour force participation rate is around 36% across the sample. On average, 40% of the sample is illiterate.

Table 4: Demographic composition of the sample

	Non-beneficiary	Beneficiary	Total
Percentage of male-headed household	86.7	86.8	86.7
Average household size	5.5	5.4	5.4
Average number of children	1.8	1.8	1.8
Percentage of labour force population	36.5	36.3	36.3
Percentage of illiterate population	40.6	39.8	40.0

Note: Individuals are classified as within the labour force population if they are either employed or seeking work. Individuals below the age of 14 are not included.

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (t-test and Pearson chi2)*

In terms of household living conditions, there are no major differences between groups and none are statistically significant (see Table 5). On average, 28% of sample households have a *pucca* house (made of concrete, stone, clay tiles and/or metal). The average number of rooms in the household is around two, and nearly 40% of households have either a separate kitchen or bathroom or both in the household.

Table 5: Housing condition of the sample

	Non-beneficiary	Beneficiary	Total
Percentage of household with *pucca* house	27.6	28.6	28.3
Average number of rooms	1.9	1.9	1.9
Percentage of household with bathroom or *kutcha* or both	38.9	41.4	40.7

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (Pearson chi2)*

Turning to livelihoods, there is no statistically significant difference in terms of agricultural land ownership (see Table 6). Average household consumption per capita is slightly higher for the beneficiary group (Rs 533 / US$8.5) compared to the non-beneficiary group (Rs 516 / US$8) (statistically significant at 5% level).

Table 6: Ownership of land and per capita consumption expenditure

	Non-beneficiary	Beneficiary	Total
Percentage of household owned any agriculture land	41.6	41.9	41.8
Monthly per capita consumption expenditure in Rs	516	533	528

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (t-test and Pearson chi2)*

3 Links between social exclusion, health and poverty in India

It is well understood that ill health has significant social and economic impacts, given the close links between health, the labour market and income generation (ILO, 2007). Evidence suggests that, worldwide, more than 100 million people are pushed into poverty every year by the need to pay for health care (ILO, 2004, in ILO, 2007). In India, the majority of health expenditure is privately financed, primarily by households' OOP expenditure. Reports indicate that OOP in the country is 'alarmingly high' and that it is also rapidly increasing (Selvaraj and Karan, 2009: 56). A key reason for these escalating costs is the decline of public health provision and increase in private care (Ibid.).[8]

Health care costs for households are considerably higher for *inpatient* care (hospitalisation for at least one night) in comparison to *outpatient* care (admitted for treatment but not requiring overnight stay). The latest estimates from National Sample Survey Office data 60th round (2004) reported in Selvaraj and Karan (2009: 57) show that, per episode, the burden of medical expenditure on households for *outpatient* care is Rs 295 (US$5), while for *inpatient* hospitalisation it is Rs 7,116 (US$114).

In practice, what this means for households in India is that health care expenditure is one of the key drivers pushing households into poverty (Planning Commission of India, 2011). Estimates indicate that 32.5 million persons fell below the poverty line in 1999-2000 through OOP payments (Garg and Karan, 2008). A recent report suggests that over 7% of households in the poorest quintile faced catastrophic health expenditure in 2009-2010 (Selvaraj and Karan, 2012).

Indeed, OOP also pushes poor households deeper into poverty (Balarajan et al., 2011). Here, Garg and Karan (2008) argue that the increase in the poverty headcount and the deepening of poverty as a result of health care expenditure is much higher in poorer states and rural areas compared with in affluent states and urban areas (except in the case of Maharashtra). Balarajan et al., (2011) emphasise the heavy burden that falls on STs and SCs in particular, given that these households are often among the poorest. Evidence shows that in 2004, for example, OOP inpatient care expenditures per hospital admission as a share of income for low-income groups was 140%, compared with 80% for high-income groups in rural areas (cited in Balarajan et al., 2011; see also World Bank, 2011). This shows that one hospital stay can cost well over a poor households' annual income (Yip and Mahal, 2008).

The longer-term implications of the burden of health payments for the poor are substantial. Flores et al. (2008) note that nationally representative data reveal that coping strategies finance as much as three-quarters of the cost of inpatient care. Indebtedness owing to health expenditures has been reported as one of the major pathways into poverty and an important cause of remaining there (Krishna, 2004; 2006; Krishna et al., 2005; Rajeswari et al., 1999; Sen, 2003; van Damme, 2004, all cited in Flores et al., 2008). In rural areas, for instance, borrowing finances almost 34% of OOP expenditures. As Flores et al. (2008) note, 'ignoring health payments leads to

[8] Selvaraj and Karan (2009: 57) report that the share of public provisions of hospitalisation care, which used to cater to around 60% in 1987-1988, registered a steep decline to approximately 40% in 2004.

underestimate poverty by 7-8% points among hospitalized households; 80% of this adjustment is hidden poverty due to coping'.

As such, high health costs and OOP expenditure (both direct and indirect health-related costs) are a major reason for foregoing health care. This also goes some way to explaining why health outcomes for socially excluded groups are particularly poor.

For example, infant and child mortality are over 15% higher in SC and ST households, and, among these, SC Muslims have the highest proportion of underweight children (Sabharwal, 2011). Rates of malnutrition are 50% higher and rates of anaemia 10-20% higher among SC and ST children compared with other groups (see Table 7).

Table 7: Malnutrition among children across social and religious groups in rural India

Social group	Children		Women	Proportion of children underweight (below two standard deviations of the average weight for age)				
	Child mortality rate	Proportion below two standard deviations of average weight for age	Body Mass Index <18.5	Hindu	Muslim	Christian	Sikh	Other
SC	25.6	50.6	44.7	51.3	57.6	30.6	33.5	43.4
ST	38.3	56.1	48.4	56.9	36.5	44.1	NA	NA
Other Backward Caste (OBC)	18.7	45.7	39.7	45.6	46.7	27.3	19.6	NA
Other	13.3	36.3	35.8	33.7	43.5	27.7	18.8	NA
Average	21.0	45.6	40.5	46.3	44.0	37.0	24.6	44.5

Source: Sabharwal (2011) using data from National Family Health Survey 3 2005-2006 (IIPS, 2006).

However, it is not just the financial barriers which result in lower access to health care and produce poor health outcomes for marginalised groups. A number of studies demonstrate that social discrimination in healthcare institutions and schemes are evident in India. For instance, a study on primary health centres in Gujarat and Rajasthan found that discrimination was most prevalent in access to information, where SCs suffered from a lack of information which affected their health seeking and health status (Acharya, 2010). The study found that the high caste health personnel avoided visits to SC habitations and families and when they did visit, they expressed discomfort and disrespect for the clients (Ibid.). Further, most healthcare camps are held in the dominant caste habitations, which restrict the use by SCs due to constraints faced by SC on physical mobility in high caste localities (Ibid.). Similarly, a review of the maternal health scheme (Janani Suraksha Yojana) in seven states found evidence of discrimination in the provision of services (e.g. health workers not visiting SC neighbourhoods) and unequal access to services (e.g. SC women were not informed or aware of the auxiliary mid-wife timings and village and health nutrition meetings) (IIDS-PACS, 2013).

An analysis of data from the National Family Health Survey 3 2005-2006 (IIPS, 2006) also found that, even after controlling for factors such as income, education level and access to health services, malnutrition rates for SCs, STs and Muslims were consistently high, indicating that constraints to health based on social and religious group are also apparent (Sabharwal, 2011). There is also evidence of discrimination in SC children's access to a

midday meal in schools and *anganwadi* centres[9] (Jan Sahas Social Development Society, 2009; Thorat and Lee, 2009), in SC families' access to food from the Public Distribution System (PDS) and in access to primary health services (Acharya, 2009). Immunisation rates of SC children are around 20% lower than for other groups, and SC women's access to antenatal care and attended delivery are also lower (Sabharwal, 2011).

Other studies also demonstrate high inequalities in health outcomes as a result of discrimination and exclusion from services. For instance, Borooah (2010) analysed data from the Morbidity and Health Care Survey carried out in 2004 to establish whether, after controlling for non-group factors, people's social group significantly affected their health outcomes. First, taking the average age of death, after controlling for factors such as the living conditions and economic position of the household, it was found that the average age of death for Adivasis (part of the group of STs) was 4.9 years lower than the control group average (forward caste Hindus); for Dalits (part of the group of SCs) it was 7.1 years lower. For OBC Muslims, it was 8.6 years lower, compared with 6.1 years lower for non-OBC Muslims. When looking at the probability of elderly people (aged over 60) taking treatment for illnesses, after controlling for level of education, economic position of the household, degree of economic independence, living arrangements and degree of mobility, the social group was also significant: Adivasis, Dalits and non-OBC Muslims were all less likely to take treatment than the control group. Finally, controlling for level of education and economic position of the household, ST Christians, OBC Muslims and non-OBC Muslims were less likely to receive prenatal care.

Table 8: Health indicators – national level

Indicator	National average	Urban	Rural	SCs	STs	Muslims
Infant mortality (per 1,000 births)	57.0	41.5	62.2	66.4	62.1	52.4
Under-five mortality (per 1,000 live births)	74.3	51.7	82.0	88.1	95.7	70
Children aged 12-23 months with all basic vaccinations (%)	43.5	57.6	38.6	39.7	31.3	36.3
Women receiving antenatal care from health professional for most recent live birth (%)	74.2	89.4	68.8	70.8	62.1	71.7

Source: IIPS (2006).

There are also important gender dimensions of health inequity. Child mortality rates are higher for girls than for boys, and girls are less likely to be fully immunised (OECD, 2012; Planning Commission of India, 2011). Young women face a higher burden of health risk owing to early marriage and childbearing, which can lead to pregnancy-related complications, unsafe deliveries, improper antenatal and postnatal care, miscarriage and unsafe abortions. A study in rural Karnataka found women were three times more likely than men to go without treatment for long-term illnesses among both poor and non-poor households. In addition, significantly smaller sums of money are spent on the treatment of women (Iyer et al., 2007, cited in Planning Commission of India, 2011).

The tables below also demonstrate regional differences in health indicators, showing health outcomes are far worse in rural than in urban areas (Table 8) and there are significant differences across states.[10] Looking specifically at Maharashtra and Uttar Pradesh (UP), where this research study was carried out, the contrast is

[9] These centres provide basic care for children (e.g. health, nutrition information and pre-school activities).

[10] Note there is a significant urban bias to health financing, with 30% of public health expenditure allocated to urban services while rural centres receive less than 12% (Horton et al., 2011, cited in Planning Commission of India, 2011).

stark: the total infant mortality rate in UP is nearly double that in Maharashtra; the under-five mortality rate is more than double. In UP, less than half as many children aged 12-23 months than in Maharashtra have all the basic vaccinations (Table 8 and 9).

Table 9: Health indicators – state level

Indicator	National average	Maharashtra			Uttar Pradesh		
		Urban	Rural	Total	Urban	Rural	Total
Infant mortality (per 1,000 births)	57.0	22.4	50.2	37.5	64.2	78.4	72.7
Under-five mortality (per 1,000 live births)	74.3	32.3	58.7	46.7	82.4	100.0	96.4
Children aged 12-23 months with all basic vaccinations (%)	43.5	68.0	49.8	58.8	33.0	20.5	23.0
Women receiving antenatal care from health professional for most recent live birth (%)	74.2	96.6	80.8	88.1	79.0	62.4	65.9

Source: IIPS (2006).

These studies all highlight that it is not just financial barriers that contribute to an under-utilisation of health care, resulting in poorer health outcomes as well as lower productivity and diminished income; social discrimination also permeates the health system in India, as excluded households experience discriminatory attitudes, are denied admission and medical treatment and receive inadequate/poor quality medical treatment (Sabharwal, 2011). Baru et al. (2010) also argue more broadly that the Indian health system faces key systemic weaknesses, including insufficient investments in the public sector, which has led to the poor functioning and utilisation of public services; variable quality of care in both the public and private sectors; unregulated commercialisation and rising costs; the introduction of user fees; and a lack of accountability, including corruption. These all have a bearing on equitable access to health services, and have arguably increased socioeconomic and regional inequalities.

The rollout of RSBY in 2008 was designed to overcome some of these significant challenges, most specifically to extend health care coverage inclusively to all BPL households in order to reduce the burden of inpatient health expenditure at the household level. Before RSBY, only around 5% of the population had any health insurance. RSBY has provided coverage to an additional 10% of the population, and now covers approximately 37 million households[11] (Fan, 2013).

In the following section we discuss the RSBY scheme in more detail before presenting the findings from our research.

[11] http://www.rsby.gov.in (Accessed April 2014)

4 RSBY programme details

The RSBY scheme was initiated by the Ministry of Labour and Employment in 2008. Its main objective is to provide health insurance to BPL households to protect them from major health shocks that push them into poverty and indebtedness. Beneficiary households can receive inpatient treatment up to Rs 30,000 (US$480) per year for five members of the household (e.g. head of the household, spouse and a maximum of three dependants) by paying Rs 30 (US$0.48) as an annual registration fee (Prateek et al., 2012).

The scheme is funded by the central government (75%) and state government (25%) (although central government pays 90% in Jammu and Kashmir and North-Eastern States). Implementation is based on a public–private partnership model whereby central and state governments provide funds and the scheme is put in place at the district level by private health insurance companies. The state nodal agency[12] is responsible for the implementation of the scheme in the state. It selects health insurance companies through a competitive bidding process (Das and Leino, 2011). The companies provide a list of empanelled hospitals[13] to the state nodal agency. The premium to be paid to the health insurance companies in any district is decided on the basis of a competitive bidding process. Both government and private hospitals can be included in the list of empanelled hospitals that provide health care to beneficiaries enrolled in the scheme.

To identify households eligible for enrolment in the scheme, the state nodal agency provides a list of BPL households to the insurance companies. All BPL households are eligible to get a RSBY smart card. A BPL census is conducted by the government to assess household economic status for eligibility for different plans and programmes. This assigns each household a score based on its socioeconomic parameters, with a cut-off point used to identify BPL households. The government carried out a BPL census in 2002 and this list is used for RSBY registration. All households on the BPL list are informal sector worker households because households with formal workers are considered to be above the poverty line.

To facilitate enrolment in the scheme, the list of eligible beneficiaries is posted on the village noticeboard a few days before the date of enrolment. The health insurance company sets up enrolment camps in villages to enrol beneficiaries. A biometric smart card is given to each beneficiary household after they give Rs 30 (US$0.48) as an annual registration fee. Beneficiary households have to renew their smart cards every year. During enrolment, the insurance company also provides a list of empanelled hospitals to each beneficiary household. Payment for health care under this scheme is cashless, as it goes through the smart card. The cost is reimbursed to the empanelled hospital by the insurance company. Beneficiaries are provided with inpatient treatment for around 700 types of health problems. Pre-existing health conditions and pre- and post-hospitalisation expenses are also covered. Beneficiary households are also entitled to reimbursement of travel costs up to Rs 100 (US$1.60) per visit (to a maximum of Rs 1,000 / US$16 per year) to the empanelled hospitals (Rajasekhar et al., 2011).

[12] The state nodal agency is an independent agency responsible for the proper implementation of RSBY in each state. The agency is a separate legal body under the control of the state government.

[13] Based on the qualifying criteria set by the government, public and private hospitals will be empanelled by the insurance company. The beneficiary has the option to go to any empanelled hospital.

5 Findings: What are the effects of RSBY?

This section discusses findings on the direct impacts of RSBY on health expenditure as well as on the broader impacts on beneficiaries' experience of health care, livelihoods, household wellbeing, community participation and social relations, and state-society relations.

We draw on the results of the quantitative PSM impact analysis, the quantitative descriptive statistics and qualitative analysis to discuss the effects of the programme and illustrate differences between social groups and gender. The table in Annex 2 presents the full PSM results for treatment and control households using the nearest neighbour matching method and the radius matching method. The PSM findings discussed in the text here use the nearest neighbour matching method. All PSM results referred to in this section are significant at the 1% significance level, except if otherwise specified. The findings are grouped into five areas, corresponding to the five research questions and hypotheses discussed above:

- effects of RSBY on health care expenditure and health care experiences
- livelihoods and economic productivity
- household wellbeing, including food security
- community participation and social relations
- state–society relations.

5.1 Effects of RSBY on health care

The aim of RSBY is to reduce the financial burden of a health shock that requires inpatient treatment (hospitalisation); to help families avoid taking debt, selling assets or employing other negative strategies to finance health care; and to facilitate prompt health treatment when needed[14]. In this sub-section we first provide a general overview of the utilisation of health services of respondents in the research sample. We then examine whether RSBY has reduced health expenditure for poor households, both in terms of inpatient costs specifically, and outpatient and overall health expenditure in general, and examine what implications these costs have for the way that health care is financed by RSBY beneficiaries. Finally, we discuss beneficiary households' experience of the scheme in terms of enrolment and perceptions about the health care received.

5.1.1 Utilisation of health in the sample

Before analysing the effects of RSBY on health care, we give a brief picture of health utilisation in the sample. Out of our sample, 30% of households reported having an episode of illness in the last twelve months. Beneficiary and non-beneficiary households had just over 1.5 **inpatient** health interventions and just over 2.5 **outpatient** health interventions in the past 12 months (see Figure 1). There is no statistically significant difference between RSBY smart cardholders and non-beneficiaries. On average, households spent just over six days in hospital, with no significant difference between beneficiary and non-beneficiary households.

[14] http://www.rsby.gov.in/about_rsby.aspx

Importantly, Table 10 below also shows that the average number of inpatient interventions is similar for beneficiaries who have used the RSBY smart card, and for households who are RSBY beneficiaries but have *not* used the smart card.

In our sample, the number of RSBY beneficiary households who have not utilised the smart card for in-patient treatment is quite high (134 households), compared to RSBY beneficiary households who have used the smart card for in-patient treatment (203). In other words, of RSBY smart card-holders who had in-patient treatment, almost 40% did not use it. We discuss the reasons why beneficiary households may not have used the smart card for inpatient costs, and the implications this has on household health expenditure, in the next section below.

Table 10: Average number of health interventions in the past 12 months

	Non Beneficiary		Beneficiary		Total	n
	Any member of the household never hospitalized	**Any member of the household ever hospitalized**	**Beneficiary but not used RSBY**	**Beneficiary & used RSBY**		
As in-patient		1.65 (n=78)	1.85 (n=134)	1.80 (n=203)	1.79	415
Significant test ANOVA: Not significant, Between group f value is 0.60						
As out-patient	2.71 (n=361)	2.87 (n=70)	2.67 (n=772)	2.45 (n=249)	2.65	1452
Significant test ANOVA: Not significant, Between group f value is 1.76						

Source: IIDS Field Survey 2012 (descriptive statistics)

5.1.2 Health care expenditure

In this section we examine the impact of RSBY on inpatient health expenditure, given that the direct objective of RSBY is to reduce inpatient health expenditure for beneficiaries. We are also interested to know the impact of RSBY on total household health expenditure, and outpatient expenditure, given the importance of these expenditures for poor households.

Inpatient expenditure

Our research shows that RSBY **has had a positive impact on household expenditure on *inpatient* health costs for RSBY beneficiaries.** The PSM impact analysis – which compares treated households (beneficiary households who have used the smart card and those who have not) with control households (non-beneficiary households) - shows that the average annual household cost of expenditure on inpatient treatment is lower by Rs 3,620 (US$58) (for treated households and that this difference is statistically significant at 1% (see Table 11 below).

Table 11: Impacts (ATT) of RSBY on household health expenditure

	Average Treatment effect on the Treated (ATT)
Annual household expenditure as inpatient in Rs	-3620*** (US$ 58)
Annual household expenditure as outpatient in Rs	14 (US$ 0.23)
Monthly household expenditure on health in Rs	9.7 (US$ 0.16)

*Note: *** significant at 1%, ** significant at 5%, *significant at 10% (PSM impact analysis)*

FGDs and IDIs with beneficiaries and KIIs also reveal that, for a number of households, RSBY has relieved the financial burden of health care, enabling some to take timely treatment, as these two excerpts illustrate:

After getting enrolled in RSBY, poor households can get treatment in some good hospitals. Before joining RSBY many people from our village could not get treatment of their illnesses because they did not have sufficient money for treatment.
(KII-25, Sarpanch ,Aurangabad)

My wife got seriously ill in 2011. When I went to hospital with my wife the doctors said that she had an appendix problem and she would need an operation. At that time I did not have enough money for treatment. I got the treatment of my wife through smart card in the hospital and I did not have to pay anything for the treatment of my wife.
(FGD-17, Moradabad, male other caste, beneficiary)

Looking in more detail at inpatient costs, the descriptive statistics show that there is a large and statistically significant difference in expenditure on inpatient treatment between RSBY beneficiary households who *have used the smart card* when hospitalised, RSBY beneficiary households who have *not* used the smart card when hospitalised, and non-beneficiary households who have been hospitalised. Table 12 below shows that, as would be expected, average annual household expenditure on inpatient expenditure is lower for the beneficiary households *who have used* the RSBY in comparison to beneficiaries who have *not used* the smart card and non-beneficiaries of the scheme who have been hospitalised.

Interestingly, what this table also shows is that although the average number of health intervention for beneficiaries who have used RSBY and beneficiaries who have not used RSBY is almost same (1.8) (as discussed in section 5.1.1 above) **the average annual household expenditure on inpatient treatment is almost one third (Rs 4,173 / US$67) for the beneficiaries who used the RSBY smart card in comparison to beneficiaries who have not used the RSBY smart card (Rs. 12,548 / US$201).** This clearly demonstrates that RSBY has been effective in reducing the costs associated with inpatient expenditure for those who have used the smart card. However, it also raises questions as to why beneficiaries who have been hospitalised have still paid their expenses out of pocket, rather than using the smart card.

Table 12: Average annual household cost of inpatient expenditure

	Non Beneficiary		Beneficiary		Total	n
	Any member of the household never hospitalized	**Any member of the household hospitalised**	**Beneficiary (hospitalised) but not used RSBY**	**Beneficiary (hospitalised) & used RSBY**		
As in-patient in Rs.		9, 611 (US$154)	12, 548 (US$201)	4, 173 (US$67)	7,890 (US$ 126)	415

Significant test ANOVA: Significant, Between group f value is 21.95

Source: IIDS Field Survey 2012 (descriptive statistics)

Our qualitative findings reveal some of the reasons why some RSBY beneficiaries have not used the smart card when hospitalised[15]. Our analysis suggests that despite having a RSBY smart card, beneficiaries face some constraints in using RSBY such as a lack of awareness on how to use the smart card or about which hospitals

[15] In their study on RSBY in Gujarat, Devadasan et al. (2013) found that a small proportion of their sample had not used the RSBY card because they did not know about it or had forgotten to use it.

provide health care through smart card, long distance to the hospitals, denial of the treatment by empanelled hospitals, or discouragement of beneficiaries to use the smart card by service providers. The following excerpts from qualitative data illustrate these:

I wanted to take treatment for my daughter through the smart card but was told by hospital staff there was no bed available at that time in the hospital. The condition of my daughter was not very good so I got my daughter admitted in another private hospital and paid the entire cost of treatment by taking a loan (FGD - 27, Aurangabd, SC, male beneficiary)

I have renewed my smart card this year but I was not given the list of hospitals, because of this I do not know which hospital I should go for the treatment (FGD-8, Moradabad, SC, male beneficiary)

I have a RSBY smart card but could not utilize it for my treatment as RSBY hospitals are located in the city and my village is very from it. During emergency it is difficult to reach to these hospitals (FGD-17, other caste, male beneficiary)

When I went to RSBY hospital for the treatment of pneumonia of my daughter, doctors denied the treatment through smart card. Due to this I got treatment of my daughter by paying the entire cost. The economic condition of my house is not good as half of my income goes in the treatment of my ailing daughter (FGD- 13, Moradabad, SC beneficiary)

I have RSBY smart card but did not utilize it for the treatment. I know some people who went with smart card for the treatment but they were denied treatment through smart card. This discouraged me to go to RSBY hospital for the treatment. Instead I preferred to take treatment in private hospital. (FGD-36, Aurangabad, other caste male beneficiary)

The descriptive statistics also show that beneficiary households still incur inpatient costs, whether or not they have used the smart card (although as Table 12 above shows, this is significantly higher for beneficiaries who have not used the smart card). Even beneficiaries who have used the smart card still pay an average of over Rs. 4,000 (US$64) annually on inpatient care. Other studies have also shown varied results on the extent of OOP expenditure that RSBY beneficiaries continue to pay[16] (Devadasan et al., 2013; GIZ, 2012).

Our research analysis also shows that these inpatient costs include costs of treatment of small illnesses or pre-treatment before hospitalisation. For instance, more than three-quarters of RSBY beneficiaries reported incurring some OOP expenditure before reaching an RSBY hospital (for example because they first took treatment in nearby health care facilities) (see Table 13). As one beneficiary noted: 'Since the RSBY smart card does not provide health care for small illnesses, we go to private clinics in the village or the nearby market for treatment of small illnesses. We pay this amount from our own income' (FGD-33, Aurangabad, other caste male beneficiary). Many beneficiaries also reported still having to pay other costs towards inpatient treatment, such as transport, medicine or other costs (see quotes below), even though the scheme covers travel costs up to Rs 100 (US$1.6).

[16] Devadasan et al., (2013) find that only 13% of their sample of RSBY beneficiaries in Gujarat who were hospitalised *did not* have to pay any money for their hospitalisation. The remaining 87% incurred a median expense of USUS$141. Doctors admitted they had stopped seeing RSBY patients with non-surgical conditions as these were 'not remunerative'; also delays and uncertainty of payment by insurance companies were mentioned, which cause hospitals to ask for advances from patients, or even charging them the entire bill, with the promise of returning the money once the insurance company had paid. However, GIZ (2012) in their study of RSBY in select districts in Bihar, Uttarkhand and Karnataka found that 89% of enrolled and hospitalised said they spent no money at hospital for the last policy period to cover cost of medicines, diagnostic tests and consultations, more than 90% of enrolled and hospitalised respondents said no money was taken from them by the hospitals for any other costs. However, 50.8% of total respondents said no transport allowance was given to them by the empanelled hospitals.

Before I reached the RSBY hospital for treatment, I had already spent a huge amount of money. Even after discharge from the hospital I incurred post-hospitalisation expenses. Because of this I could not save anything; instead I took out a huge debt for my treatment.
(FGD -27, Aurangabad,SC male beneficiary)

I went for the treatment of my daughter in a private hospital. I was told at the registration desk to deposit Rs 10,000 (US$160) as advance money. When I said I had the smart card with me, I was told you first deposit Rs 10,000 (US$160) and this money is returned later after discharge. Later on, the hospital returned just Rs 5,000 (US$80) and said the remaining Rs 5,000 (US$80) was for medicines and injections.
(FGD-29, Aurangabad,SC female beneficiary)

Our research also finds that, among RSBY beneficiaries, a *higher percentage* of SC and Muslim beneficiaries than upper caste beneficiaries incurred OOP expenditures before reaching empanelled hospitals, and the difference is statistically significant at 5% (see Table 13 and Figure 1; see also Tables A3.1, A3.2 and A3.3 in Annex 3). The descriptive statistics also show that the *average amount* of OOP expenditure is higher for SC households, but the difference is not statistically significant (Table 13). There is no statistically significant difference in either of these indicators between male- or female-headed households (Table 13).

Table 13: Out of Pocket expenditure for beneficiary households by social group and gender

OOP and transport expenditure	**Social group**			
	SC	**Muslim**	**Other**	**Total**
Incurred OOP expenditure before reaching empanelled hospital (%)***	83.1	77.8	68.0	75.9
Average amount of out of pocket expenditure incurred before reaching empanelled hospital in Rs	1046 (US$17)	961 (US$16)	972 (US$ 16)	994 (US$16)
	Gender of household head			
	Male head	**Female head**	**Total**	
Incurred OOP expenditure before reaching empanelled hospital (%)	76.8	66.7	75.9	
Average amount of out of pocket expenditure incurred before reaching empanelled hospital in Rs	1010 (US$16)	797 (US$12)	994 (US$16)	

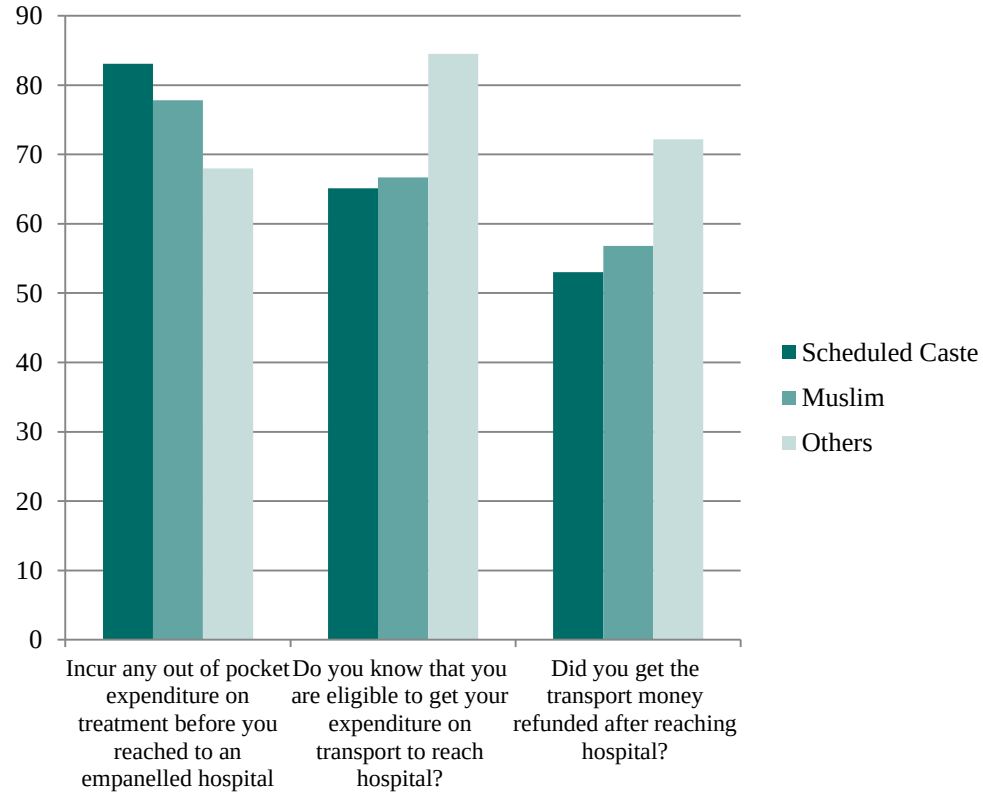
*Note: **** significant at 1%, *** significant at 5%, ** significant at 10% (Pearson chi2, one way ANOVA) (descriptive statistics)*

Although beneficiaries seeking treatment under RSBY are eligible for reimbursement of Rs 100 (US$ 1.6) for transport costs, the findings reveal that more than a quarter of the beneficiaries interviewed for this study were not aware they were eligible for this. This was higher for SC and Muslim beneficiaries than for upper caste beneficiaries and this difference was statistically significant at 1% (Figure 1). Even those beneficiaries who were aware they were eligible for reimbursement did not always have their transport costs repaid. Again, this was higher for the marginalised compared with the upper castes and this difference was statistically significant at 1% (Figure 1). The qualitative research also revealed similar findings. As these two beneficiaries noted:

I had hired a private vehicle at high cost to reach RSBY for treatment during a health emergency. I did not know that I should get Rs 100 (US$1.60) for transport so I did not ask for the transport cost. The RSBY hospital also did not give me Rs 100 (US$1.60). Thus I had paid the transport cost by taking help of from my neighbour. (FGD-39, Aurangabad, Muslim male beneficiary)

I know that I should get Rs 100 (US$1.60) from the hospital for transport, but when I asked the registration people in the hospital for it, they said that they would give it later. But they have never repaid the transport cost paid by me.
(FGD -8, Moradabad, Scheduled caste male beneficiary)

Figure 1: Out of pocket and transport expenditure of beneficiary households by social groups (% who answered "yes")



Note: Data from descriptive statistics

Outpatient expenditure

In terms of **outpatient expenditure**, the PSM impact analysis – which compared treated households (beneficiary households who have used the smart card and those who have not) with control households (non-beneficiary households) – shows that there is no statistically significant difference between treated households and control households (see Table 11 above). This is not unexpected, given that RSBY only covers inpatient health costs. The descriptive statistics in Table 14 below also shows that average annual household expenditure on outpatient treatment is much lower than expenditure on inpatient treatment (Table 12 above), and that there is no significant difference in expenditure between RSBY beneficiary households who have or have not used the smart card, and non-beneficiary households.

Table 14: Average annual household cost of outpatient expenditure

	Non Beneficiary		Beneficiary		Total	n
	Any member of the household never hospitalized	**Any member of the household hospitalised**	**Beneficiary (hospitalised) but not used RSBY**	**Beneficiary (hospitalised) & used RSBY**		
As out-patient in Rs	680 (US$11)	606 (US$10)	704 (US$11)	688 (US$11)	692 (US$11)	1452
Significant test ANOVA: Not significant, Between group f value is 0.30						

Source: IIDS Field Survey 2012 (descriptive statistics)

Total household expenditure

In terms of **total average household health expenditure**, the PSM impact analysis – which compares treated households (beneficiary households who have used the smart card and those who have not) with control households (non-beneficiary households) – shows that RSBY has not had a statistically significant difference on the average monthly household expenditure of treated households (see Table 11 above).

There may be a number of reasons for this. As mentioned in the research methodology section above, the PSM impact analysis tool can tell us that RSBY has had no impact on total health expenditure between the treatment and control groups because beneficiary and non-beneficiary households are 'matched' on their observable differences to eliminate other characteristics which might influence the outcome variable. However, it is possible that unobservable differences across groups – such as differences in health-seeking behaviour - may nevertheless bias the results.

Another explanation is that when we look in detail at the descriptive statistics from the inpatient and outpatient expenditure in tables 12 and 14 above, the picture on expenditure is more mixed, as discussed above. By looking at the total household expenditure on health between beneficiary households who have used the RSBY smart card, and those who have the RSBY smart card but not used it, we find that expenditure for this latter group is higher and the difference is statistically significant. In other words, beneficiary households who have the RSBY smart card but have not used it for hospitalisation costs have incurred a higher expenditure on inpatient costs than RSBY beneficiaries who used the smart card, and non-beneficiaries.

As such, these findings indicate that, when we examine the impact of RSBY on health expenditure of treated households as a whole (beneficiaries who have and have not used the smart card), while there is a positive impact on inpatient costs, there is no positive impact on total household expenditure. Other studies have also found that average total health expenditures may not be lower for the insured poor than for the uninsured poor. For instance, in their systematic review of health insurance schemes for the informal sector in low and middle income countries, Acharya et al. (2012) argue that this may be due to the uninsured not seeking any health care or giving up on care if it is deemed too expensive without insurance, or, among the insured, a lack of understanding of insurance or the existence of hidden charges other than those covered by insurance.

Financing health care expenditure

Looking now at how health expenditure is *financed*, we see some small but encouraging differences.

The descriptive statistics in tables 15 and 16 suggest that households in our sample finance the cost of outpatient treatment from current income and saving, and households depend on borrowing for financing inpatient treatment. However, Table 16 also indicates that fewer RSBY beneficiary households who have used their smart card for inpatient treatment depend on borrowing for financing inpatient costs (21.6% for beneficiaries who have used the smart card, nearly 48% for beneficiaries who have not used and non-beneficiaries), suggesting that RSBY may be having an important positive effect here. The difference is also statistically significant.

Table 15: Source of financing of out-patient expenditure (% of respondents)

	Non Beneficiary		Beneficiary		Total
	Any member of the household never hospitalized	Any member of the household hospitalised	Beneficiary (hospitalised) but not used RSBY	Beneficiary (hospitalised) & used RSBY	
From current income	19.1	20.0	19.5	15.3	18.8
With money from saving	64.7	62.0	59.7	64.7	61.9
From selling items	1.7	0.0	1.3	1.0	1.3
By borrowing	13.0	18.0	17.6	15.0	15.9
Others	1.5	0.0	1.9	4.0	2.1

Pearson chi2(39) = 38.8206 Pr = 0.478
Source: IIDS Field Survey 2012 (descriptive statistics, multiple responses possible)

Table 16: Source of financing of in-patient expenditure (% of respondents)

	Non Beneficiary		Beneficiary		Total
	Any member of the household never hospitalized	Any member of the household hospitalised	Beneficiary (hospitalised) but not used RSBY	Beneficiary (hospitalised) & used RSBY	
From current income		16.3	15.6	13.1	14.4
With money from saving		27.6	27.2	30.1	28.8
From selling items		4.9	5.8	1.6	3.5
By borrowing		48.0	48.7	21.6	34.6
Through RSBY		0.0	0.0	31.7	16.7
Other health insurance		0.0	0.9	1.1	0.6
Others		3.3	1.8	0.8	1.5

Pearson chi2(63) = 214.8462 Pr = 0.000
(Descriptive statistics, multiple responses possible)

Indeed, by looking at health financing of inpatient and outpatient services through taking loans, the PSM *impact analysis* does show that treated households are 6% less likely be indebted than the control group, and this is statistically significant at 10% (Table 17 below). The PSM analysis also shows that treated households are less likely to finance inpatient treatment by borrowing, but this is not statistically significant.

Table 17: Impacts (ATT) of RSBY on financing health expenditure

	Average Treatment effect on the Treated (ATT)
Any member of the household indebted as of today	-0.06*
Health expenditure as inpatient from borrowing	-0.13

*Note: *** significant at 1%, ** significant at 5%, *significant at 10% (PSM impact analysis)*

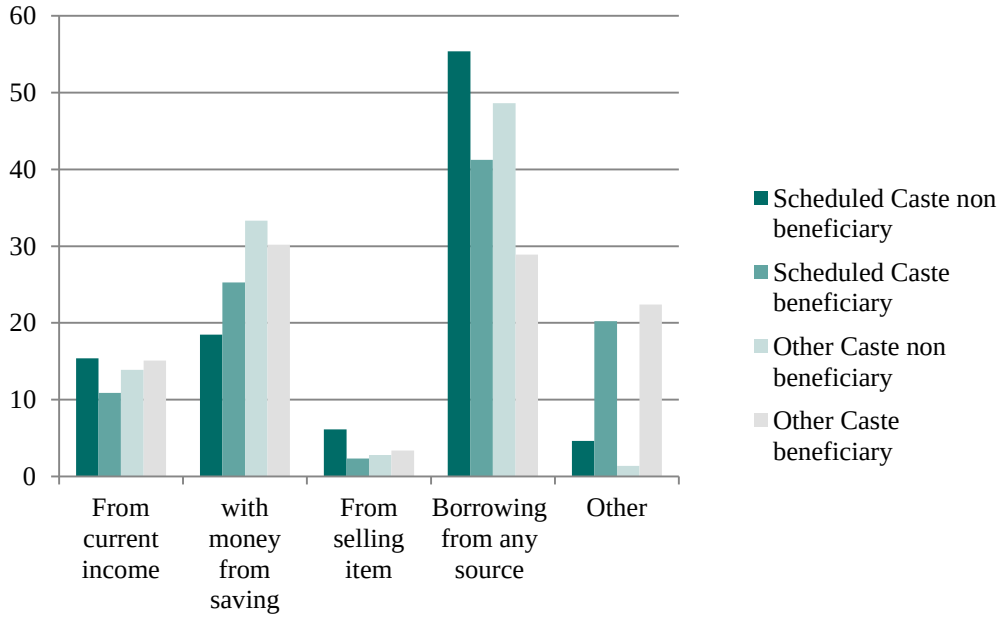
The qualitative findings also suggest that some beneficiaries are less dependent on borrowing money at very high interest rates:

> *Before joining RSBY, we had no option but to take debt for the costly treatment of serious illnesses. Access to health care through RSBY has helped me save some money and I could pay back my old debts.*
> *(FGD -19, Moradabad, other caste male beneficiary)*

> *Before I got the smart card, illness of any member of household used to have a very serious impact on us. I had to run here and there to arrange for the money needed for the treatment. My work also used to suffer a lot during the illness. Often, I had to borrow money at a high interest rate from the local money lender. I used to find it very difficult to return my debt even after working longer hours every day. This year, my condition is better as I have not taken on debt for treatment. I have utilised my income for buying food and other essential items for my family.*
> *(FGD -21, Moradabad, other caste male beneficiary)*

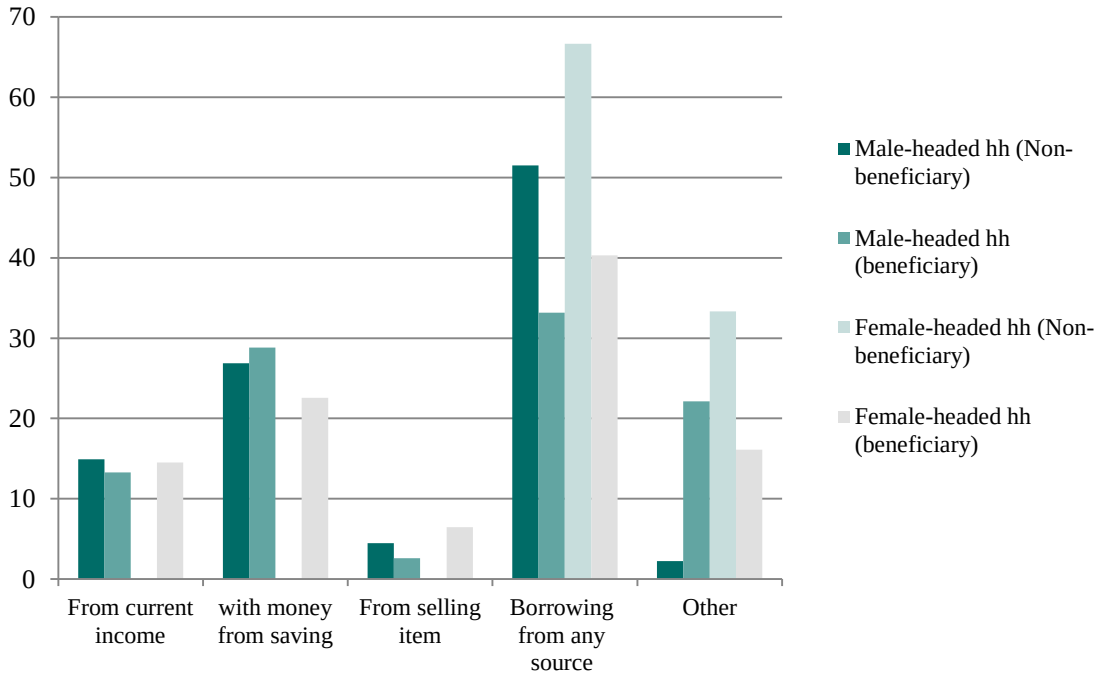
If we disaggregate these sources of financing inpatient expenditure further – by the social group and gender of the household head – the descriptive statistics reveal some important differences (Figures 2 and 3 below). Most notably, our findings suggest that a higher proportion of SC non-beneficiary households depend on borrowing for the financing of inpatient treatment in comparison to other groups, and that this difference (among social groups) is statistically significant. Similar findings are also demonstrated when looking at the difference between male and female-headed households too – a higher proportion of non-beneficiary female-headed households continue to depend more on borrowing from any source (see Tables A3.4 and A3.5 in Annex 3).

Figure 2: Source of financing of inpatient treatment by social group (% of households)



Note: Data from descriptive statistics

Figure 3: Source of financing of inpatient treatment by household head (% of households)



Note: Data from descriptive statistics

5.1.3 Implementation of RSBY and health care experiences

As discussed in Section 3 above, other studies have demonstrated that social discrimination in the provision of public health services is evident in India, and that discrimination on the basis of caste, religion and gender strongly affect access to health care services, and the type (and quality) of health care received.

In this sub-section we review beneficiaries' experiences of the RSBY scheme and the health care received through RSBY, by examining issues related to accessing RSBY (pre-enrolment), the provision of health care services through RSBY, and perceptions on the care received under RSBY.

Pre-enrolment of RSBY

Our research found some households faced difficulties accessing RSBY, despite their entitlement to it. In theory, all households below the poverty line are entitled to RSBY membership. Non-beneficiaries in our research sample (who are entitled to RSBY) reported that a number of factors influenced their application to enrol in RSBY, including lack of knowledge about the date and place of enrolment, discrimination, overcrowding due to limited period of enrolment and high number of eligible households, and some households not understanding the importance of the programme and being reluctant to apply[17]. Two non-beneficiaries explained their experiences:

> *The RSBY scheme is good but there are many implementation problems in it. Despite being eligible for the smart card, I did not get it because of technical problems in the registration machine. The registration people told me I would get registered. But they did not come again and I did not get the smart card. (FGD -2, Moradabad, Muslim, male non-beneficiary)*

> *The government should take important steps to implement the RSBY scheme properly. At present, owing to the poor attitude of the people involved in implementing the scheme, such as the registration people and hospitals, we are not getting benefits from the scheme. (FGD-6, Moradabad, Scheduled Caste, male, non-beneficiary)*

Only a small proportion of *beneficiary* households reported facing challenges when enrolling in the scheme. A total of 8.4% of beneficiary households (n=88) from our sample said they faced difficulties getting the biometric smart card. Among them, more than three-quarters said they had to make multiple requests to the service provider to receive the smart card. A total of 21% of beneficiaries said the service provider asked for money for the smart card, and the cost ranged from Rs 70-100 (US$1 – US$1.60) instead of the required Rs 30 (US$0.48). One beneficiary's statement highlights this problem:

> *The behaviour of the people who were doing registration for RBSY was not good. They have taken Rs 100 (US$1.60) from me instead of Rs 30 (US$0.48). They also did not give me a hospital booklet. When I asked for the booklet, they said 'we do not have a booklet for everybody; we are giving one booklet to the Sarpanch, you should take information from your Sarpanch (FGD -14, Moradabad, Scheduled Caste, male beneficiary)*

Our qualitative data also revealed that a number of beneficiaries from marginalised communities face specific barriers in terms of accessing RSBY during enrolment. For instance, some beneficiaries reported that announcements were not always made in SC localities. Consequently, they do not get information regarding the date and place of enrolment for RSBY. Moreover, during enrolment they sometimes have to wait a long time as their turn is taken by upper caste beneficiaries.

> *Many times we reach the enrolment centre early but our turn comes quite late because upper caste people from village get themselves enrolled first. (FGD -42, Aurangabad, SC male beneficiary)*

[17] In contrast, a recent study by GIZ (2012) found high levels of awareness (95%) of eligibility of the scheme among their research sample in districts in Bihar, Uttarkhand and Karnataka. However, they also reported that the major reasons for non-enrolment were that eligible families were out of the station at the time of enrolment; or that they were unaware. Other reasons included finding the scheme not of much use, or inability to provide all necessary documentation.

I reached the place of registration quite early but could not get registered. The registration people said you come at 4pm as it is very crowded. When I went at 4pm they said you come tomorrow as registration is closed today. I got my smart card the next day after losing two days of income. (FGD -31, Aurangabad,SC male beneficiary)

This year we were not given a smart card at the time of enrolment. Instead, the registration people gave the smart cards of all families to the sarpanch of our village. The sarpanch of our village gave us a smart card after one month. (FGD -27, Aurangabad, SC male beneficiary)

Another challenge is the issue of intra-household exclusion, which is reported as a general problem. RSBY provides annual health coverage up to Rs 30,000 (US$480) for five members of a household, but approximately 44% of beneficiaries reported some of their household members being left out of RSBY coverage. This is not only because some households have more than five members, but because some household members are not present at the time of enrolment and are left out of RSBY coverage, including children at school.

My family is big and there are more than five members. So many members are left out of RSBY. As head of household it becomes very difficult for me to decide which members of the family should be included and who should be left out. (FGD -9, Moradabad,other caste male beneficiary)

My children went to school on the day of enrolment, so they could not be covered in the insurance. (FGD -36, Aurangabad,SC female beneficiary)

I wanted to include my son on the list of five beneficiaries for my smart card but the people who were doing registration said no new name could be added – only those members enrolled in the last year's smart card. (FGD -26, Aurangabad,SC male beneficiary)

Many times, heads of households enrol themselves and do not enrol other household members, including spouses and children. Later on, in case of any health problem, they go for the treatment through the smart card, but treatment of the spouse and children is not possible as their names have not been included at the time of enrolment. (KII-32, district key officer, Aurangabad)

RSBY enrolment

The RSBY procedure states that all beneficiary households should be given a list of empanelled hospitals by the enrolment agency staff during enrolment. They should receive this list along with their smart card.

The qualitative findings suggest that many households are not given a list of empanelled hospitals, and a lack of awareness means they are forced to take treatment in only a few empanelled hospitals. Respondents suggested this often meant they were denied treatment in 'good' hospitals.

I got a smart card after paying Rs 30 (US$0.48). But I was not told which hospital I should go to for treatment. I was only told I could get treatment up to Rs 30,000 (US$480) but was not told where. (FGD -13, Moradabad, SC male beneficiary)

The place of enrolment was very crowded and we were given only the smart card but no list of hospitals. (FGD -39, Aurangabad, Muslim male beneficiary)

The registration people in my village did not give a list of hospitals to all. Only a few families got the list. When I asked for the list, they said they did not have enough to give everyone; instead I should get help from other people who had got the list. (FGD -31, Aurangabd, SC female beneficiary)

Findings from our research suggest that the hospitals made available through RSBY are different for beneficiaries from different social groups. Table 18 shows beneficiaries from marginalised groups – SCs and Muslims – report having more limited access to their choice of empanelled hospitals.

Table 18: Did you get treatment in your choice of hospital?

	SC	Muslim	Other	Total
Yes (%)***	62.0	68.8	86.3	73.2

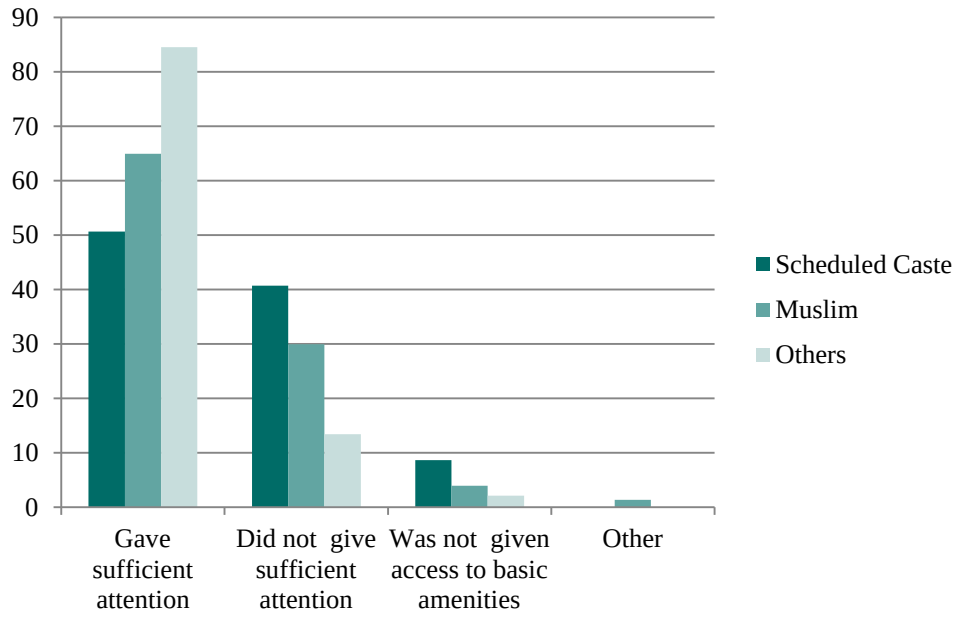
*Note: Asterisks indicate differences between groups: *** significant at 1%, ** significant at 5%, *significant at 10% (Pearson chi2) (descriptive statistics)*

Indeed, approximately 38% of SC beneficiaries and around 31% of Muslim beneficiaries stated that they *did not* get treatment in their choice of hospital. A comparatively lower percentage (14%) of beneficiaries from upper castes said they did not get treatment in their choice of empanelled hospitals, and these results show a statistically significant difference.[18]

Experiences of health services provided

The majority of households perceived that the service provider gave them sufficient attention (68% on average)[19]. However, descriptive statistics suggest that a greater proportion of SC and Muslim households felt they experienced discriminatory behaviour during their treatment (see Figure 4). The most reported difference is that only half of SC beneficiaries who had taken treatment in an RBSY hospital said the service provider gave them sufficient attention, compared with 65% of Muslim beneficiaries and 85% of upper caste beneficiaries. These findings are statistically significant. The qualitative research analysis also supports these findings.

Figure 4: Behaviour of service provider when asked for treatment through RSBY (% of households who agreed with statement)



Note: Data from descriptive statistics

[18] There is no statistically significant difference between female-headed households and male-headed households (Table A3.6 in Annex 5).

[19] A recent study by GIZ (2012) also found high levels of satisfaction of the RSBY scheme where 90 percent of the respondents reported being highly satisfied with the RSBY scheme and all enrolees (hospitalized and not hospitalized) expressed their willingness to renew the following year (research conducted in Bihar, Uttarakhand and Karnataka).

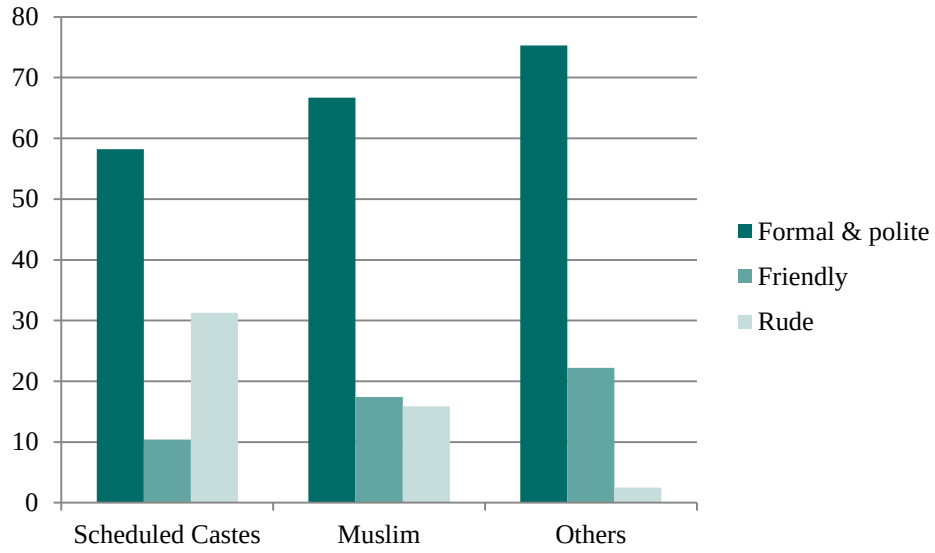
Doctors and other hospital staff give preference to those patients who pay in cash. First the doctor visits the patients who pay in cash and then the patients take treatment through the smart card.
(FGD -47, Aurangabad, Muslim male beneficiary)

Often, the behaviour of the service provider is not good with the patients seeking treatment through the smart card. Many times they have to wait a long time before they get treatment. They are not aware they can get their transport charges reimbursed by the hospital authorities. During hospitalisation, they are generally kept in the general ward, which is often over-crowded. The hygiene on the wards is very poor.
(FGD -7, Moradabad, SC, male beneficiary)

Often, the behaviour of the doctors and other staff is not good in RSBY hospitals. We have to wait for long for any kind of check-ups. We are given wards that are very crowded. Access to basic amenities such as water and toilets is also not good in these wards.
(FGD -29, Aurangabad, SC male beneficiary)

We also found fewer reports but similar trends in terms of beneficiary experiences with doctors (see Figure 5). While many beneficiaries reported that the behaviour of the doctor during hospitalisation was formal and polite, 31.3% of SC beneficiaries and around 16% of Muslim beneficiaries said the behaviour of the doctor during their hospitalisation was rude. A very low percentage (2.5%) of beneficiaries from upper castes said the behaviour of the doctor was rude. The difference between different social groups is statistically significant.

Figure 5: Behaviour of doctor during hospitalisation (% of households)



Note: Data from descriptive statistics

5.1.4 Summary of main findings on effects on health care

As discussed above, RSBY has had a positive impact on reducing the costs of inpatient health expenditure for RSBY beneficiaries who have used the smart card for treatment. However, we do also find that beneficiaries – in particular households from marginalised social groups – continue to face discrimination in accessing and using health services provided by RSBY.

In terms of health expenditure, we see a positive impact of RSBY on achieving its direct objective: that is, inpatient health expenditure is lower for treated households (by Rs 3,620 per year) than control households. However, total health expenditure of treated and control households remains similar. A key reason for this could be because a high number (40%) of RSBY smart cardholders have not used the insurance to pay for treatment costs. We also find that RSBY beneficiaries – and a higher proportion of households from SC households - who have used the smart card continue to face OOP costs before, during and after hospitalisation.

Looking at how health expenditure is financed, we see some small but encouraging differences. Treated households are less likely to be indebted and less likely to use borrowed money to finance inpatient treatment (although only the former is statistically significant).

Our qualitative research found that the majority of beneficiary households did not experience any difficulties in enrolling in the RSBY scheme. However, some households did report facing difficulties accessing RSBY. These difficulties included having to register multiple times and having to pay a higher registration fee than required. Our qualitative data also revealed that a number of beneficiaries from marginalised communities face specific barriers in terms of accessing RSBY during enrolment. Further, findings from our research suggest that social discrimination is evident in the implementation of RSBY in our survey sites. For instance, approximately 38% of SC beneficiaries and around 31% of Muslim beneficiaries stated that they did not get treatment in their choice of hospital. The descriptive statistics and qualitative data show that a higher proportion of marginalised households perceived discrimination in the health care provided than upper-caste beneficiaries.

5.2 Economic activities and livelihood opportunities

Health insurance can have important indirect effects on economic activities and livelihoods, for example by reducing the number of days people cannot work as a result of illness, or by increasing investment in productive activities (e.g. individuals are more likely to take risks because they know they will not have to pay for large health costs, or saved income can be invested in productive activities). These are particularly important for casual day wage labourers or small-scale farmers.

In our research sample, the majority of households are engaged in agricultural activities. On average, 41% of households own land, with no difference between beneficiaries and non-beneficiaries. More than half of both beneficiary and non-beneficiary households work as casual daily wage labourers. Around a quarter of both beneficiary and non-beneficiary households state that they are engaged in the sale of crops, crop products and livestock, or livestock products as main source of livelihood. Less than 10% of households have non-agricultural business and rental income (see Table A3.9 in Annex 3).

So, has RSBY had an impact on livelihood activities and economic productivity? We examined the impact of RSBY[20] on a range of indicators to answer this question.

First, we examined whether RSBY has had an impact on average work days per week. Some of the beneficiaries interviewed in FGDs and IDIs (25 beneficiaries from different villages) reported feeling that they were able to return to work sooner because the duration of their illness was comparatively short owing to treatment through RSBY. One beneficiary noted:

> *I got sick when there was a lot to do in my agricultural work. If I was sick for a long time, my crops would have suffered badly. I got treatment through the RSBY smart card and returned to my work quickly. Because of this, there was no loss.*
> *(FGD -8, Moradabad SC male beneficiary)*

[20] Remembering that treated households include RSBY beneficiaries (cardholders who have or have not used the card), and non-cardholders (non-beneficiaries (but eligible for RSBY)).

Another beneficiary explained how he was able to return to work sooner because his son recovered quickly from treatment:

> *By taking treatment for my son from an RSBY hospital I could save money. I was also absent for less time from my shop as my son recovered soon after the treatment. I had to close my shop for only a few days and I did not suffer much loss because of my son's illness.*
> *(FGD -48, Aurangabad, other caste male beneficiary)*

However, we did not find any statistically significant difference between treated and control households in the average number of days worked per week from the PSM analysis, suggesting that RSBY has not had a significant impact here (see Annex 2).

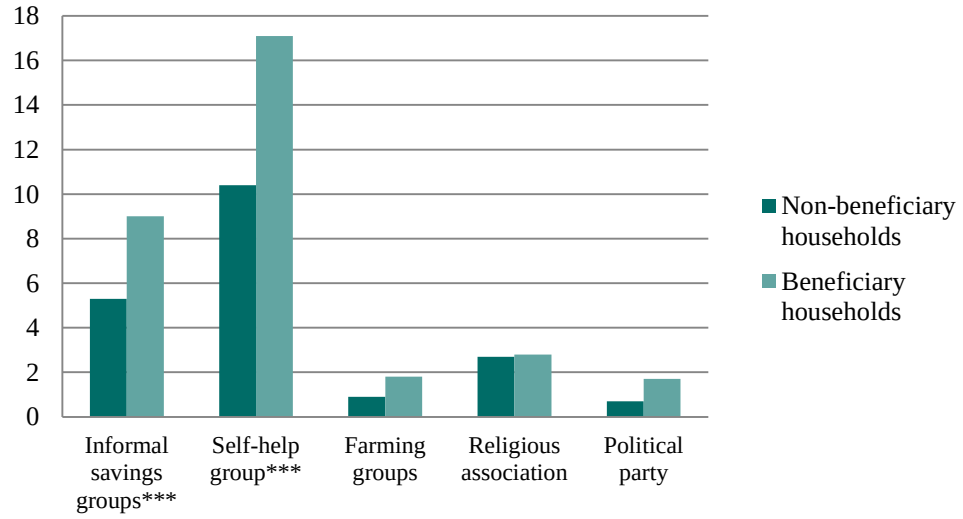
Second, we examined whether RSBY has had an impact on treated households' ability to generate farm income, ability to purchase agricultural inputs, and ability to irrigate land. Here, again, the PSM impact analysis shows no statistically significant impact on treated households (see Annex 2). However, our qualitative analysis does show that some households reported important positive effects of RSBY: money saved which would otherwise have been spent on health care has been invested in agricultural activities. For instance, one beneficiary explained, 'Treatment through RSBY has helped me save some money. I could also invest some money for purchasing fertiliser and pesticides and paying for irrigation, which increased the productivity of my crops' (FGD -31, Aurangabad, other caste male beneficiary). Another beneficiary noted:

> *I could start working after the treatment and thus I could sustain my household income. Rs 20,000 (US$320) was deducted from my smart card for my treatment. Thus I did not have to spend the above amount from my income/savings. I could purchase seeds and fertilisers for my farms. Because of this, my crop was good in the last agricultural season. I could earn some money by selling my crops (FGD-35, Aurangabad, other caste male beneficiary).*

Third, although only a small proportion of households in our sample were primarily engaged in non-agricultural activities, we assessed whether RSBY had an impact on the ability to generate non-farm income. A few households (10 beneficiaries in different villages) reported using income saved by taking treatment through RSBY to invest in small business like petty shops. As one beneficiary noted: 'I could save some money by taking treatment in an RSBY hospital. I could put some extra products in my shop by utilising my savings. This has increased my income from my shop' (FGD-36, Aurangabad, other caste male beneficiary). However, again, the PSM impact analysis showed no impact on treated households in comparison to the control group (see Annex 2).

Fourth, we examined whether RSBY has an impact on household's membership in financial or productive groups. Overall, the descriptive statistics show that a small proportion of households are members of groups (see Figure 6 and table A3.11 in Annex 3). However, as the Figure below shows, there are some statistically significant differences between beneficiary households and non-beneficiary households from these descriptive statistics, most notably in membership of self-help groups and informal savings groups. Indeed, we find a positive impact of RSBY on treated households, as the PSM analysis shows that treated households are 7% more likely than control households to be a member of a group (statistically significant at 5%).

Figure 6: Membership of groups (% of households)



Note: Self-help group and informal savings group indicators are statistically significant at 1% (from descriptive statistics)

Belonging to a group brings a number of benefits. The descriptive statistics show that over 50% of both beneficiary and non-beneficiary households said they received financial and employment support from their groups. Moral support, information and advice and pleasure and entertainment are also important benefits. Qualitative data analysis reveals participants take financial help from self-help groups and informal saving groups for household expenditure and investment in agriculture and other economic activities. Some of the participants also reported that they could start new economic activities with financial support from their groups.

> *I am a member of a small saving group in the village. Whatever little money I save out of my income, I put in the saving group. Whenever I need money for agriculture or other household requirements, I take help from the saving group.*
> *(FGD-31, Aurangabad, SC male beneficiary)*

> *Borrowing money from a local money lender is very difficult because they charge very high interest. I always take a loan from my savings group instead of taking it from a money lender or from friends and relatives.*
> *(FGD 35, Aurangabad, other caste male beneficiary)*

> *I have been saving my money in the savings group in my village for the past few years. This year, I needed money for the marriage of my daughter; I took money from the group. Other members of the group provided other types of help during the marriage.*
> *(FGD -50, Aurangabad , other caste male beneficiary)*

> *We have made a small self-help group in the village. Whenever any problem comes to any member, members of the group help each other. During meetings of the group we share information regarding agriculture and other things.*
> *(FGD -14, Moradabad , SC male beneficiary)*

With the exception of the positive findings on group membership, what explains the overall limited impact of RSBY on livelihood opportunities? One explanation for these findings is that a high proportion of RSBY beneficiaries in the treatment group have not used their smart card for inpatient costs (as we saw earlier, which also means that for the treatment group there has been no impact on reducing total household health expenditure – as such, it has not relieved the financial burden which households experience in the face of health costs – and this affects the amount of income saved to then invest in economic activities). In other words, for the treatment

group as a whole, RSBY has not affected beneficiary households' real or perceived risk, or actual household income/expenditure, so households have not changed their behaviour or ability to invest in livelihood activities.

Moreover, the types of challenges that poor households face in generating income and engaging in livelihood opportunities are deep-rooted and structural in nature. The qualitative interviews with beneficiaries and non-beneficiaries highlighted the continued difficulties poor households face in the agriculture sector owing to low and irregular income and lack of access to financial services/capital. Poor households have limited opportunities to save and limited access to formal credit, since they do not possess any durable assets such as land. Access to informal credit is also difficult as rates of interest are very high for money taken from informal money-lenders. Poor households also face discriminatory practices: marginalised communities find it difficult to invest in productive assets and start new economic activities given discriminatory practices within the dominant community.

We do not get subsidies on seeds and fertiliser on time as when we go to these shops we are told there are no seeds and fertiliser. If we want to put fertiliser on time we have to buy from the market which is very costly while big land holders from the upper caste easily gets the seeds and fertiliser (FGD -34, Aurangabad, SC male beneficiary).

During drought, agriculture suffers very much in our region. People who are dependent on agriculture as farmers and agricultural wage labourer find it difficult to sustain their livelihood during drought (KII-18, Sarpanch, Aurangabad).

Most of the time fertiliser is not available in the government shop when there is an urgent need for it. We cannot wait for long and we have to purchase it from the market. Similarly, water in the canal also does not come on time and we have to depend on the tube well for irrigation. Also, electricity supply is not very regular in the village so it becomes difficult to irrigate the crops on time (FGD-7,Moradabad, SC male beneficiary)

Access to credit is very limited as the local money-lender gives money at very high interest, which is not affordable for the community. The bank gives loans to those people who have land (FGD-15, Moradabad, SC male non beneficiary).

It is very difficult to get a loan from the bank as we have to go many times to the bank to get the loan sanctioned. Sometimes it takes a year to get a loan from the bank. Also, we have to give a large portion of money as commission. Because of this, I have never applied for any credit from the bank (FGD-38, Aurangabad, SC,male non beneficiary).

I want to start new work and where is the money for it? I cannot get a bank loan as I have no land. The bank gives loans only to government employees or those who have much land. It never gives loans to poor people like me (FGD 42,Aurangabad, male SC beneficiary).

I started a coaching centre in my village but students from the upper caste community never came to my coaching; only students from the Dalit community came to attend my coaching. I had to close my coaching as I suffered a loss owing to the low number of students (FGD-29, Aurangabad, SC male beneficiary).

5.3 Household wellbeing

Given the strong links between health and household wellbeing, we examined whether RSBY has had an impact on household expenditure on goods and services. The qualitative data and descriptive statistics show some *small* positive differences between groups, but the PSM analysis shows no significant impacts for any of the indicators.

The descriptive statistics show that beneficiary households have a marginally higher average monthly per capita expenditure on food than non-beneficiaries (by approximately Rs 10 / US$0.16), and that this difference is statistically significant at 1% (see Table A3.7 in Annex 3). However, even though this difference is statistically significant, the amount is negligible. There are some small differences between beneficiaries and non-beneficiaries in the types of food consumed. Expenditure on food items such as cereals and cereal products, pulses and pulse products, milk and milk products and edible oil, for instance, is higher for beneficiary households in comparison with non-beneficiary households (and this difference is statistically significant). Beneficiary households also reported eating eggs/fish/meat slightly more often than non-beneficiaries (however, there is no statistical significant difference here) (see Tables A3.7 and A3.8 in Annex 3).

The qualitative research also reports some small changes in household expenditure (given that low and inconsistent income remains a significant challenge for the poor in terms of meeting household expenditure needs), suggesting beneficiary households are able to spend more on nutritious food items such as milk and milk products. Some beneficiaries reported that a combination of the income saved by taking treatment from RSBY, the fact that they had not had to take out loans, and being able to return to work promptly after receiving treatment had contributed to smoothing household income. For example:

By getting treatment through RSBY I did not have to take out debt for the treatment of my wife. My economic condition is still not good and I find it difficult to meet my household expenditure. But I am satisfied that treatment of my wife through RSBY has given me some relief as I did not take debt for the treatment. I am happy that I could use my income to purchase food for my family.
(FGD 10, Moradabad, SC male beneficiary)

I took treatment through RSBY. I did not have to pay anything for my treatment. I was fully healthy after the treatment and able to work. I was able to utilise my income to meet food and other requirements for my family. I am satisfied that my children need not sleep hungry anymore.
(FGD -5,Moradabad, other caste male beneficiary)

A number of non-beneficiaries highlighted the negative implications of poor health on their children's schooling. When the primary earner or carer of the household becomes sick and is unable to work, household income reduces or domestic responsibilities increase, and children have to drop out of school and start working to support household income or chores. The following excerpts illustrate these findings:

The economic condition of my household got worst because of my prolonged illness as I am the only earning member of my family. My children had to start working in the cotton field instead of going to school.
(FGD -28, Aurangabad SC male non-beneficiary)

Whenever anybody gets sick in the family, the eldest child, particularly girls, have to stay back to take care of patients instead of going to school.
(FGD -30, Aurangabad, other caste female non-beneficiary)

Children's education badly affects when parents fall sick. Education of daughters is affected as they have to take care not only of younger sisters and brothers but also household responsibilities when mother has fallen ill.
(FGD -40, other caste male non-beneficiary)

Six months before, I was seriously ill. Owing to a lack of money I could not get proper treatment. i was ill for a long time. The economic condition of my family got worse as I was the only earning member of this family. My children started working in the field to support the livelihood of the family.
(FGD -22, Moradabad , other caste, male non-beneficiary)

In contrast, a few RSBY beneficiaries reported that health treatment through RSBY had had a positive effect on children's schooling by reducing the need for children to work as primary earners or carers: adults could return to their work sooner, reducing the drop in income and time spent away from domestic chores.

> *During my wife's hospitalisation, my daughter could not go to school for few days. After my wife was discharged from hospital, my daughter again started going to school. Treatment through RSBY has helped my wife recover soon and helped my daughter get back to school instead of taking care of the house. (FGD -13, Moradabad, SC male beneficiary)*

> *A few years back, when I got sick and could not work for long, my son had to work sometimes to meet household expenses. His education suffered in the process. Last year, I again got sick. This time I took treatment through the smart card and did not have to pay anything in the hospital. This time, my children did not have to work to get money for household expenses (FGD -41, Aurangabad, other caste male beneficiary)*

Although the descriptive statistics and the qualitative findings point to the benefits of RSBY perceived by beneficiaries, the PSM impact analysis shows that these differences cannot be attributed to RSBY (see Annex 2). The PSM results show no significant difference in monthly per capita expenditure between treatment and control households, and no significant impact on average per capita food expenditure. No impact is also found on student's attendance at school.

5.4 Social relations

The literature on social health protection notes such policies are grounded in values of solidarity and equity which can have important social and political effects at the community level. For instance, extending the coverage of social health protection programmes, such as RSBY, to excluded groups can strengthen bonds of cooperation and reciprocity (see Hörmansdörfer, 2009). As such, we sought to examine the impacts of RSBY on social dimensions of beneficiaries', paying specific attention to the experience of socially excluded households.

In particular, in this section here, we examined whether RSBY affected (1) community relations in the form of household support networks and (2) perceptions of social relations.

5.4.1 Household support networks

The household support network is very important for poor households in India. The well-connected are better placed in terms of their capability to deal with different types of adversity: indeed, rural communities in India provide help to each other when they can, particularly in difficult times. The descriptive statistics show that around 70% of all households in the research sample receive support from relatives and friends, and an average of 65% of households receive support from people in the village or neighbourhood (see table A3.10 in annex 3). Most of this support is in the form of cash.

Table 19: Impact (ATT) of RSBY on household support network

Outcome indicator	Average Treatment Effect on the Treated
Get support from friends and relatives	-0.01
Get support from villagers and neighbourhood ***	0.09
Get money for treatment from villagers*	0.07

*Note: *** significant at 1%, ** significant at 5%, * significant at 10% (PSM impact analysis)*

We examined whether being a beneficiary of RSBY is likely to strengthen existing support networks. The PSM analysis showed that treated households were slightly more likely than the control group to receive support from neighbours and to receive money for treatment from their community (villagers) (Table 19).

The qualitative data analysis also shows that both beneficiary and non-beneficiary households receive help from villagers and relatives. 12 beneficiaries from different villages reported that mutual support had strengthened as a result of RSBY as they felt their economic situation had improved and they were better able to reciprocate support.

My economic situation is somewhat better that last year. Now, when I need help from any relatives and friends, they are ready to help me as they think that I will be able to help them also.
(FGD -33, Aurangabad, other caste male beneficiary)

Though friends and relatives are very helpful in need but they can also help in only limited cases as they are also poor. Now, since I do not take help for treatment, whenever I needed help for other purposes, my friends and relatives always help me.
(FGD -7, Moradabad, SC male beneficiary)

I did not take any debt for the treatment. Sometimes, when I do not get regular work, I have to take help from friends and neighbours. They never deny helping me as they think I will be able to return the money taken from them as I am not in debt.
(FGD -48, Aurangabad, other caste male beneficiary)

5.4.2 Social relations

In addition to looking at household support networks, we also examined whether benefiting from RSBY membership had any effect on social relations at the community level.

The descriptive statistics show that more than half of the respondent households express that there are differences in the village due to caste (slightly more non-beneficiaries perceive this than beneficiaries and this difference is statistically significant – 54% compared with 52%). Almost 40% of respondents felt that there are differences due to religion (no statistically significant difference between beneficiaries and non-beneficiaries).

The descriptive statistics indicate that the majority of households interact with people of another caste in the village, but fewer people interact with those from another religion (see Table 20 below). Respondents report that helping each other and sharing information are the main types of interaction. We found no significant differences in community interaction between beneficiaries and non-beneficiaries in the descriptive statistics or in the PSM impact analysis (see Annex 2).

Table 20: Interaction with community members

	Non-beneficiary household (% of households)	Beneficiary household (% of households)	All
From other caste	94.9	96.5	96.0
From other religion	85.3	86.5	86.1

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (Pearson chi2) (descriptive statistics)*

The qualitative data highlights some of the complexities in community relationships in terms of caste and religion, and suggests that interaction is highest among the people of the same social groups. The following

excerpts illustrate the diversity of opinions of social relations in the community, and also indicate that RSBY has had no significant effect on social interaction:

> *High caste people do not take water from our hand. During marriages and other events in the village, upper caste people invite us but we are served food separately.*
> *(FGD -12, Moradabad SC, male non-beneficiary)*

> *We have been facing discrimination for a long time, how can access to health care through RSBY abolish caste-based discrimination against us and provide equality to us?*
> *(FGD -27, Aurangabad , SC male beneficiary)*

> *There is no tension between different communities in the village. Access to roads, electricity and water is equal for members of all communities. Only during the panchayat election are different castes divided in the village; afterwards, relations among the different caste people become normal (FGD -33, Aurangabad other caste male beneficiary).*

> *My village is divided on the basis of caste. The dominant caste people of the village not only take most of the benefits of the government schemes but also often misbehave with us. The main reason for this is that we are poor and do not have any other means to make a livelihood except depending on the dominant caste people in the village for employment on their agricultural land. We are discriminated against because we are poor and belong to the Dalit caste. The upper caste people in the village interact very little with the Dalits in the village (FGD -33, Aurangabad SC male non-beneficiary)*

5.5 State–society relations

In this final section, we are interested to know whether the delivery of a social health protection programme like RSBY can promote changes in state–society relations. In particular, we look at whether being a beneficiary of RSBY changes someone's perceptions of and/or interaction with the local government or the central government. These possible changes are seen as particularly important given the increasing emphasis on strengthening citizen's voice and agency to promote accountability in service provision, particularly in the health sector, as well as in the context of ongoing processes to strengthen the legitimacy of the state and empower rural households.

It should be noted here that because of the scale of coverage of social protection interventions to BPL households by the Indian government, the majority of beneficiaries reported having received other social protection measures nets in the last 36 months (for example, 89% of beneficiaries had received the public distribution system (PDS)). Hence although the questions referred to here asked specifically about perceived changes as a result of RSBY, it may have been difficult for beneficiaries to isolate this programme from other social protection programme benefits they may have received. Keeping these caveats in mind we now turn to look at whether RSBY has prompted any changes in state–society relations.

5.5.1 Perceptions of, and interaction with, the local government

Starting with perceptions of the local government, we find that the descriptive statistics show that there is very little difference between beneficiary and non-beneficiary households in how they perceive the local government. The majority of beneficiaries and non-beneficiaries alike (over 80%) have the impression that the welfare of the village is important for the local government. Moreover, the PSM impact analysis does not show any significant difference between treated and control households in this respect.

The quantitative data also do not show any differences between treatment and control households in the indicators relating to households' interaction with the local government. While the PSM impact analysis shows that treated households are 5% more likely to have dealt with individuals in public institutions (significant at

10%), they are no more likely to approach the local government if they are dissatisfied with service providers, nor appeal to the local government to solve a village or neighbourhood problem (see Annex 2).

The qualitative data also reveal similar trends, showing that marginalised communities, whether beneficiaries or non-beneficiaries of RSBY, face difficulties in interacting with the local government, and perceive inequalities in the provision of services by the *panchayat*:

> *The panchayat of the village gives the least priority to solving our problems. The condition of the road and water facilities are very bad in the Dalit locality but despite our many requests the panchayat has not taken any steps so far. (FGD -38, Aurangabad , SC male non-beneficiary)*

> *The sarpanch and other members of the panchayat provide benefits of most of government schemes to the people of their own caste and we have to request many times for work [on public works schemes]. (FGD -43, Aurangabad , SC ,male non-beneficiary)*

> *The sarpanch always favours people from his own caste during allocation for various government schemes and we are deprived of benefits from these schemes. We do not have equal access to water, sanitation and public employment programme. (FGD -16, Moradabad , Muslim male non-beneficiary)*

These challenges are further exacerbated by the low participation of poor households in community forums where decisions are made. The descriptive statistics show that 40% of beneficiaries reported participating in community decision-making while only 32% of non-beneficiaries participated (the differences are statistically significant). The PSM analysis also shows an impact of RSBY on participation: treated households are 9% *more likely* to take part in village decision-making (and this is statistically significant at 5%). However, this impact is fairly small.

Moreover, analysing participation in decision making by social group from the descriptive statistics shows that SC households have lower rates of participation: around a third of SC beneficiary households take part in decision making, while more than 40% of other caste beneficiary households do (see Table 21 below). The difference between social groups is statistically significant.

Table 21: Participation in decision-making

Response	SC non-beneficiary (%)	SC beneficiary (%)	Other caste non-beneficiary (%)	Other caste beneficiary (%)	Total (%)
Yes**	27.52	33.89	33.55	41.36	36.93

*Note: *** significant at 1%, ** significant at 5%, * significant at 10% (descriptive statistics)*

The qualitative data confirm the findings we see from the quantitative analysis. Discussions with beneficiaries and non-beneficiaries reveal that poor people from marginalised communities such as SCs and Muslims face constraints in taking part in public meetings because of limited or no information about such meetings, discriminatory practices by dominant community people during such meetings, and not being allowed to speak, among other things. Participants from marginalised communities face various constraints in attending decision-making meetings. Many participants in FGDs[21] said they were not informed about the date and place of *panchayat* meetings, which made it difficult for them to attend. One SC FGD participant said: 'We are not informed about the date and place of the *panchayat* meetings. Many people from my community want to attend

[21] In Alinagar, Dhakia Naru, Harora, Reith, Kudfatehgarh, Shyodara, Dighi, Jikthan, Jamgaon, Savkheda, Isharwadi, Thergaon, Manjari and Turkabad.

the *panchayat* meetings but, given a lack of information about such meetings, we are not able to' (FGD -14, Moradabad, SC male beneficiary).

Some people from marginalised communities said that, although they attend *panchayat* and other decision-making meetings in the village, illiteracy and unawareness mean they are unable to participate actively. Some participants in FGDs said they faced discrimination during *panchayat* meetings.[22] They also said the dominant high caste people of the village did not allow them to speak. For instance, one SC FGD participant said during the focus group discussion in Chittegaon: 'Whenever we want to put forward our suggestions in the village *panchayat* meetings, the dominant caste people of the village always ask us to keep silent and not speak' (FGD -49, Aurangabad, SC male beneficiary). Others mentioned that household members prevented them from participating: 'Although some women want to participate in the village meetings, members of our households never allow us to participate' (FGD -40, Aurangabad, other caste female non-beneficiary).

Some FGD participants from marginalised communities[23] said that they attended *gram sabha* meetings actively and their suggestions were recorded in the proceedings. However, participation in *gram sabha* meetings is more likely to be an effect of various existing factors – such as the participant's social group, economic condition and closeness to the elected representative such as the *sarpanch*. Some households from marginalised communities who support the *sarpanch* during the elections and thus are close to the *sarpanch* find it easy to participate in meetings and put their views across.

> *The sarpanch of the village always supports me and I participate in the all gram sabha meetings and suggest my views about the development of the village. I do not face difficulty in getting access to the various government schemes.*
> *(FGD -13, Moradabad , male SC, FGD participant)*

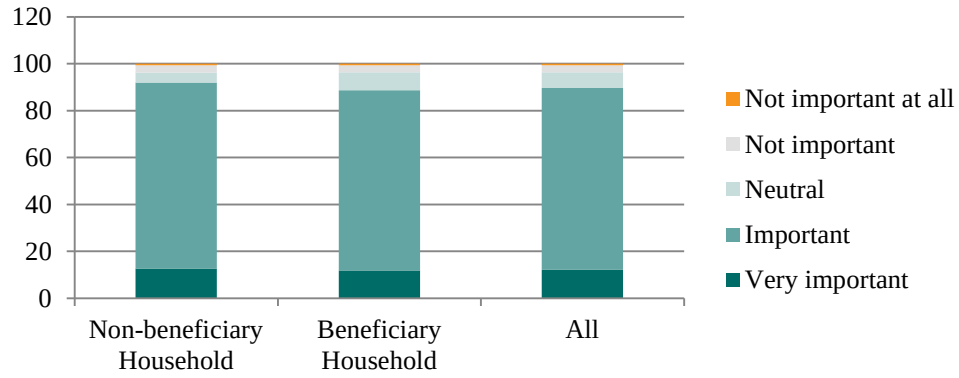
In sum, RSBY has not had an impact on perceptions of local government. Households from marginalised social groups, whether beneficiary or non-beneficiary, lack voice and are largely excluded from community decision-making processes on the basis of existing social structures.

5.5.2 Perceptions of the central government

In terms of perceptions of the central government, the descriptive statistics analysis shows little difference between beneficiary and non-beneficiary views. Most of the beneficiaries or non-beneficiaries feel that the government thinks the welfare of the village is important or very important (see Figure 7). These are similar findings to perceptions on the local government.

[22] In Lalpur, Mudiya Jain, Naroda, Solegaon, Jamgaon, Bhendala, Ghodegaon and Adool.
[23] In Naroda, Mahmoodpur, Sonakpur, Lalpur, Beerumpur, Dhoregaon, Ghodegaon and Balanagar.

Figure 7: Perceptions of the importance of the village welfare for central government (% of households)



Note: Data from descriptive statistics

Descriptive statistics listed in Table 22 also show there are no statistically significant differences in opinion between beneficiaries and non-beneficiaries when examining whether people feel that the central government has a reasonable understanding of their socioeconomic situation or has attempted to address their needs in the past three years. Indeed, around 80% of both beneficiary and non-beneficiary households felt the central government had reasonable understanding of their socioeconomic situation; but only around 55% of both beneficiary and non-beneficiary households felt central government had attempted to address their needs in the past three years.

Table 22: Perceptions of central government

	Non-beneficiary	Beneficiary	All
Do you feel central government has a reasonable understanding of your socioeconomic situation? (%)	79.8	82.6	81.7
Has the government attempted to address your needs in the past three years? (%)	55.5	57.6	57.0

*Note: Asterisks show whether differences between groups are different; *** significant at 1%, ** significant at 5%, *significant at 10% (Pearson chi2) (descriptive statistics)*

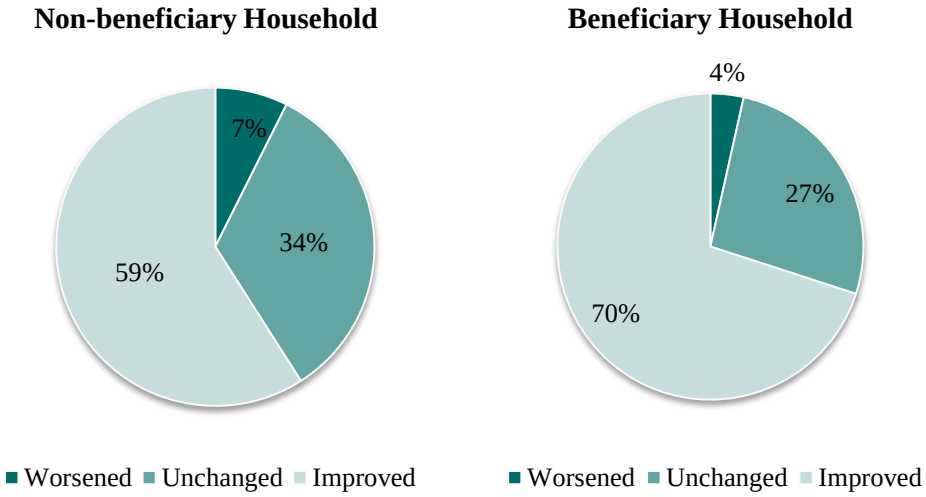
These findings are confirmed by the qualitative data analysis, which reveals that, although central government has initiated various schemes for the welfare of marginalised communities, non-beneficiaries in particular feel the benefit of these schemes does not fully reach the marginalised, because of corruption and favouritism practised by different implementing agencies such as the *panchayat* and other officials.

> *Although government is doing various schemes, the benefits of these are not reaching us. The government should also make sure these schemes reach us. (FGD -16, Moradabad, Muslim male non-beneficiary)*

Despite these problems, beneficiaries report that the introduction of RSBY is an indication that the government of India cares about their socioeconomic condition. Approximately 93% of beneficiary households think the introduction of RSBY is an indication that the government cares about their socioeconomic situation (Table A3.12 in Annex 3).

Figure 11 shows that 70% of beneficiaries said that the introduction of RSBY had improved their perception regarding the government; 59.1% of non-beneficiaries said the same. The difference between beneficiary and non-beneficiary households is statistically significant.

Table 23: How did the introduction of RSBY change your perception of the government of India?



Note: Data from descriptive statistics.

Qualitative data analysis also indicates that the positive perception of the government is partly due to beneficiaries feeling RSBY has helped them access health care and reduce debt burdens relating to prolonged illness. The fact that all BPL households are entitled to RSBY, and that the enrolment process is relatively simple, are also important factors in their positive perceptions of the government implementing the scheme:

> *Unlike other government schemes, all poor people from the village can get the benefits of RSBY. Other schemes of the government give benefits to very few selected people from the village, and panchayat people most of the time give benefit to their own people. The RSBY benefit is available to all the poor. (FGD -41, Aurangabad, other caste male beneficiary)*

> *We know central government is running many schemes for the poor. The RSBY scheme is better than some other government schemes as we get the benefits of the scheme without much problem. We do not need to go to government offices many times at block and district level to get the benefits of the scheme; instead, we are registered in the scheme in our own village and no document is required to get the benefit.*
> *(FGD -9, Moradabad , other caste male beneficiary)*

> *We used to face lots of difficulties, particularly lack of money during serious illnesses of any member of our household. Many of us could not afford to get proper treatment owing to lack of money, and used to suffer a lot. By introducing RSBY, central government has solved this problem. Our opinion about the central government has improved as we are getting benefits from the scheme.*
> *(FGD -42, Aurangabad ,SC female beneficiary)*

6 Conclusions and policy implications

OOP health expenditure in India is a key driver of poverty. Millions of households have been pushed into, or deeper into, poverty as a result of catastrophic health expenditure. This has long-term consequences, especially when poor households, with few available coping strategies, resort to selling assets or borrowing at high interest rates to meet health expenses. Health care access and outcomes are also highly unequal in India, with marginalised and socially excluded households experiencing poorer health outcomes and specific barriers to access to health care. Weaknesses in the health system, including variable quality of care in both the public and the private sectors and a lack of accountability, including corruption, are key factors with a bearing on equitable access to health services (Baru et al., 2010).

The recent government initiative, RSBY, aims to overcome some of these challenges by providing social health insurance for inpatient treatment at a subsidised rate to BPL households. RSBY currently covers almost 37 million households.

In this study, we have used mixed-methods research including a quasi-experimental approach to assess the effect of RSBY, with a particular focus on SC and Muslim households in Maharashtra and Uttar Pradesh. Using the social exclusion analytical framework, the study (1) looked at the effects of the programme in terms of reducing OOP expenditure and overcoming financial constraints to access health care for socially excluded groups, and (2) examined the effect of RSBY more widely on economic livelihoods, household wellbeing, community participation and social relations, and state-society relations.

6.1 Discussion of key findings

The study found that RSBY has had a positive impact reducing inpatient health expenditure for households who have used the RSBY smart card for inpatient costs. We also find, however, that a proportion of beneficiaries – specifically households from marginalised social groups – continue to experience discrimination in the delivery of RSBY and in accessing and using health services.

Our research finds that RSBY is meeting its objective in so far as inpatient health expenditure is lower for treated households (by Rs 3,620 / US$ 58 per year) than control households. Moreover, looking at how health expenditure is financed, we see some small but encouraging differences. Treated households are less likely to be indebted and less likely to use borrowed money to finance inpatient treatment (although only the former is significant).

However, our research also finds that total household health expenditure of treated and control households remains similar, because a high number (40%) of RSBY smart cardholders have not used the insurance to pay for treatment costs. The qualitative analysis indicates that there are a number of reasons why beneficiaries have not used their smart card to pay for hospitalisation costs, including lack of awareness on how to use the smart card or about which hospitals provide health care through smart card, long distance to the hospitals, denial of the treatment by empanelled hospitals, or discouragement of beneficiaries to use the smart card by service providers.

Our research finds that RSBY beneficiaries who have used the smart card continue to face OOP costs before, during and after hospitalisation. A higher proportion of SC and Muslim households have OOP expenditure than upper caste beneficiary households. For instance, a significantly higher proportion of SC and Muslim survey respondents reported not being aware they were eligible for reimbursement of transport costs under RSBY. Even those beneficiaries who were aware of their eligibility did not always get the money back.

Overall, our research suggests that the majority of RSBY beneficiaries reported positive experiences in using the scheme and in the healthcare provided. However, we did find that some households faced difficulties accessing RSBY, despite their entitlement to it, although only a small proportion (less than 10%) of beneficiary households reported facing challenges enrolling in the scheme. These problems included requesting for enrolment multiple times and having to pay a higher registration fee than required.

Social discrimination on the basis of caste and religion is evident in the health sector, and our findings also indicate that some forms of discrimination are also apparent in the implementation of RSBY in our survey sites. For instance, approximately 38% of SC beneficiaries and around 31% of Muslim beneficiaries stated that they did not get treatment in their choice of hospital. The descriptive statistics and qualitative data show that a higher proportion of marginalised households perceived discrimination in the healthcare services they received than upper-caste beneficiaries.

The findings from the quantitative analysis show no significant impact of RSBY on household wellbeing or livelihoods, despite the theoretical assumptions that link social health protection to increased household income and improved productivity. Remembering that the PSM analysis includes comparing treated households (those who have the RSBY smart card whether they have used it or not) and control households (non-beneficiaries), the findings here are perhaps not surprising given the high proportion of households who have not used the RSBY smart card, and that as a result, there is no statistically significant difference in total household health expenditure of the treatment group compared to the control group. However, the qualitative findings do suggest important changes have occurred in some beneficiary households' lives and livelihoods, with reports of diversification in diet (more nutritious foods being consumed by beneficiary households) and investment in productive activities. Some beneficiaries explained this in terms of a combination of income saved through taking treatment under RSBY, the fact that they had not had to take out loans and therefore pay back money with interest, and being able to return to work after receiving treatment.

However, it is important to note that beneficiaries reported these changes as being small and that low and inconsistent income remains a significant challenge for the poor in terms of household expenditure. This is reflected in the fact that only very small differences are found in our results in terms of income-generating activities. For example, we looked at whether RSBY had helped reduce the number of days people could not work because of illness and, whether, by reducing the financial burden of health expenditure, saved income was redirected to income-generating activities. The quantitative PSM results showed no significant impacts for these indicators.

Increasing attention has recently been given to the role that social protection instruments, including social health protection mechanisms, can play beyond the economic sphere, highlighting the importance of understanding and tackling the multidimensional nature of poverty. Social networks, for instance, are important aspects of well-being, in particular in the context of coping strategies and the ability to draw on social networks in times of need. This study looked at whether RSBY membership had an effect on social relations by looking at social interactions and networks of beneficiaries and non-beneficiaries. Given the complexity of social interactions at village level in India, particularly in the context of caste and religious differences and the history of social discrimination and social exclusion, it is perhaps not surprising that a scheme like RSBY would not have any significant effect. As one beneficiary noted: 'We have been facing discrimination for a long time. How can

access to health care through RSBY abolish caste-based discrimination against us and provide equality to us?' However, the findings do suggest household network support is strengthened through RSBY membership: the PSM analysis found beneficiaries were slightly more likely to receive support from villagers and neighbours and money for treatment from their community (villagers). We found no significant differences in community interaction between beneficiaries and non-beneficiaries in the descriptive statistics.

In addition to the focus on social relations, the research looked at whether RSBY facilitated any change in state–society relations. This was in response to the growing body of literature that argues that social protection can play an important role in promoting the legitimacy of the state and enhancing citizens' ability to hold the government (and service providers) to account, thereby strengthening state–citizen relations. Such changes are seen as particularly important given the increasing emphasis on strengthening citizen's voice and agency to promote accountability of service provision, particularly in the health sector, as well as in the context of ongoing processes to strengthen the legitimacy of the state and empower rural households.

Poor households in India are entitled to numerous central government and state-level social assistance benefits (such as the food distribution system for example), which make it more challenging to assess the contribution of RSBY to any changes in perceptions of the government or in participation in accountability mechanisms, including community decision-making forums. However, the research does provide some indicative findings in this area. There is very little difference between beneficiaries and non-beneficiaries in terms of their perceptions of, and interaction with, local government. Beneficiaries are no more likely than non-beneficiaries to raise issues or problems before the local government authority. Almost all beneficiary households, however, reported that the introduction of RSBY was an indication that the government of India cared about their socioeconomic situation. A total of 70% of beneficiaries said the introduction of RSBY had improved their perceptions of the government of India. The fact that all BPL households are entitled to RSBY features, the enrolment process is relatively simple, and the effect the scheme has had in terms of helping poor households' access health care and reduce their debt burden are important factors contributing to the positive perceptions of the government.

6.2 Policy implications

Our research findings point to a number of important implications for policy to ensure that marginalised households receive equitable access to the benefits of RSBY, to healthcare and treatment through RSBY, as well as the broader implications for supporting social inclusion more generally.

Our research has demonstrated there is an important positive impact of RSBY reducing inpatient costs for beneficiaries, but beneficiaries still continue to incur costs associated with hospitalisation. Mechanisms to reduce OOP expenditure for poor households need to be in place in order to have a positive effect on household healthcare expenses and healthcare behaviour. Given that marginalised households are highly represented among the poorest households, this would have specific benefits for the socially excluded.

In addition, an important finding in our research is that 40% of RSBY beneficiaries paid for inpatient expenses out of pocket, rather than using their smart card. The reasons for this include a lack of knowledge on how to use the scheme, and long distances to hospitals, and discrimination within the health care system. Indeed, this research has shown that the RSBY intervention must be seen in the context of existing unequal social and institutional structures which affect the scheme's processes and outcomes, suggesting that problems within the healthcare system as a whole need to be addressed, as well as tackling discrimination on the basis of caste and religion, which are evident throughout the different stages of the implementation of RSBY.

Recognising this context - where social exclusion and social discrimination are deep-rooted socio-cultural problems which are translated through behaviours, practices and norms into policies and institutions, including

RSBY - the policy implications of our research findings include that, on the one hand, socially excluded households need to be better informed about their entitlements to RSBY, and on the other that service providers of RSBY (from the insurers to the health care professionals) must deliver RSBY and healthcare more equitably. As such, a long-term approach needs to be taken to tackle these norms across the breadth of social and economic policies in India. However, there are also some short to medium term policy implications which could strengthen RSBY to deliver a more equitable health insurance service in the more immediate time frame.

In terms of pre-enrolment, these include paying particular attention to ensuring that enrolment facilities reach households living in marginalised communities – this could include:

- raising awareness of the scheme prior to enrolment through mechanisms which recognise the literacy challenges that the poorest households face, ensuring awareness raising is carried out in local languages and dialects and through popular community forums, increasing awareness of scheme benefits and on the process of registration through the active involvement of local government and civil society and through media channels such as radio;
- ensuring that enrolment is done in marginalised localities and having more flexible enrolment dates and times given the constraints that the poorest households face in terms of taking time out of daily wage labour and care responsibilities;
- Earmarking sufficient funds by government for RSBY publicity and awareness generation, and making it mandatory that insurance agencies spend a proportion of the budget for awareness and publicity. Success in awareness generation could be one of the parameters for renewal of the contract of insurance agencies.

Once households are enrolled, greater attention to ensuring that beneficiaries are aware of their entitlements under the scheme is needed, and ensuring that all households receive information on how to use RSBY. For illiterate households, this may mean using alternative information or providing staff available to support beneficiary households to understand how RSBY works in practice.

In the short-to medium term, ensuring that non-discriminatory delivery of health services is also important. As our research showed, some beneficiary households perceived discrimination in health care services, and marginalised households were more likely to face additional OOP expenses which they should have been reimbursed for (e.g. transport costs). Mechanisms to overcome this challenge could include:

- developing a national public awareness campaign on the cost that discrimination inflicts on the individuals from marginalised communities;
- developing a strong regulatory framework for both empanelled hospitals and insurance companies, which would check on the denial of treatment by empanelled hospitals;
- investing in the training of personnel involved in RSBY on the adverse effects of discrimination on public health outcome;
- developing a time-bound process of recovering money for empanelled hospitals, as the sometimes slow recovery of money discourages empanelled hospitals from accepting RSBY smart cards;
- developing guidelines to check on discrimination against socially marginalised communities and these should be issued to service providers, including insurance agencies, third party administrators and empanelled hospitals;
- institutionalising regular monitoring and evaluation with indicators that include data disaggregated by social group, religion and gender, and building capacity of staff to analyse and use such information to identify socially marginalised groups and individuals. Such data should also be publically accessible;
- creating opportunities to strengthen accountability mechanisms and forums for citizen participation so people can report back on experiences of the scheme. For instance, the grievance redressal system of the scheme should be made citizen-friendly and simple so that even the poor and the illiterate beneficiaries can also register complaints for their grievances. The village sarpanchs should also be made part of the grievance

redressal system of the scheme. Special grievance redressal cells could also be opened for the grievances of socially marginalised communities. This could improve implementation of the scheme and give voice to marginalised and excluded households; and

- actively involving the Panchayati Raj Institutions for enhancing the effective implementation of RSBY. This could include finalising the list of eligible beneficiaries during pre-enrolment awareness generation, during enrolment, awareness generation about utilising the scheme, and redressal of grievances.

Finally, a key policy implication is the need to continue to build on existing strategies which aim to overcome social exclusion in a broader sense, and develop a quality health care system. Poor households often face multiple layers of exclusion, which are driven as much by embedded sociocultural norms and practices as by poor institutional capacity, policy and governance. As such, social protection programmes need to be part of a broader coordinated policy response to tackle the structural causes of social exclusion.

It is important therefore to promote equity in health care access and service provision, especially given the poorer health outcomes which the socially excluded face, and the non-financial barriers which continue to prohibit the use of health care services. Moreover, ensuring quality curative and preventive healthcare is essential to promote better health among the population.

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Annex 1: Research methodology

This study was designed as a mixed-methods study, combining quantitative and qualitative research tools to undertake the primary empirical research. The research was conducted in two districts: Moradabad in Uttar Pradesh and Aurangabad in Maharashtra. The sample size of the quantitative study consisted of 1,500 households in total (1,050 beneficiary households and 450 non-beneficiary households).

The quantitative assessment used a comparison between the treatment (beneficiary) households and control (non-beneficiary) households to establish the impacts of the intervention, using quasi-experimental methods (propensity score matching – PSM). The quantitative data were also used to create description statistics on the perception and experience of RSBY beneficiaries and differences between the groups. This was complemented by qualitative fieldwork in the form of focus groups discussions (FGDs), in-depth interviews (IDIs) and key informant interviews (KIIs). Through the combination of the quantitative and qualitative tools we collected detailed information on the direct and indirect effects of the interventions at the household level, implementation details of the scheme and broader contextual data pertinent to our research focus on poverty and social exclusion.

Table A1.1 Overview of research methodology

Quantitative survey	Qualitative survey	Sampling locations
Total households surveyed: 1,500, 750 from each district. Treatment group: 1,050 (70%) Control group: 450 (30%)	Village survey 20 KIIs with RSBY and government officials, non-governmental organisations (NGOs) and civil society (per state) 25 FGDs (per state) 10 IDIs (per state)	30 villages (14 in Moradabad, Uttar Pradesh and 16 in Aurangabad, Maharashtra)

Sampling method

Purposive sampling techniques were used to select states, districts, blocks (sub-divisions of districts) and villages, and random sampling was used to select households within villages. Scheduled Castes (SC) and Muslims are the main focus groups of this study as the majority of poor households of these social excluded groups are engaged in informal sector work. The objective of the sampling strategy was to include sampling locations with sizeable populations of SC and Muslim households, as well as high RSBY enrolment.

The sampling strategy included three distinct steps:

1. Selection of states and districts
2. Selection of enumeration areas
3. Selection of households.

The criteria used to identify the study state were:

1. Share of SC and Muslim population that is higher than all-India average
2. BPL family enrolment in the RSBY scheme that is higher than state average
3. RSBY scheme has been implemented for maximum number of years.

Based on the above selection criteria Uttar Pradesh and Maharashtra were selected as the states for this study, representing different parts of India. Uttar Pradesh represents the northern part while Maharashtra represents the central part. In both states, Scheduled Caste and Muslim households were the main focus.

Districts in Maharashtra and Uttar Pradesh were selected based on the following criteria:

1. RSBY scheme has been implemented for maximum number of years
2. Share of SC and Muslim population that is higher than state average
3. BPL family enrolment in the RSBY scheme that is higher than state average
4. Presence of both government and private hospitals in the empanelled hospital list in the district.

Based on the above selection criteria of districts, two districts were selected for this study: Moradabad district in Uttar Pradesh and Aurangabad district in Maharashtra.

At the block level (district sub-division), sites were selected where blocks had proportions of SC and Muslim population equal to the district average, and villages were selected with mixed social group populations. Altogether, the study was conducted in 30 villages (14 villages in Moradabad and 16 villages in Aurangabad).

The households were randomly selected from each village based on RSBY beneficiary lists and BPL lists. The households in each location were stratified into beneficiary ('treatment') households and non-beneficiary or ('control') households. We included a control group in order to allow measurement of impact, given that this survey does not have a baseline. The groups are defined as follows:

- **Target group:** SC, Muslim and upper caste poor households who are beneficiaries of RSBY (whether they have used the smart card or not)
- **Control group:** SC, Muslim and upper caste poor households who are eligible for RSBY but who are not enrolled.

The total required sample size for this survey was 1,068. This is based on minimum sample size selection estimates that found this number to be the minimum sample for a 95% confidence level and 3% confidence interval (with the population of poor households at 55 million). The population of total poor households is taken from the latest available BPL census of 2002. This study has exceeded the required sample size: altogether, 1,500 sample households were interviewed for the quantitative survey, 750 from each study state.

Table A1.2 shows the sample distribution of the study. Out of this 1,500, 450 households (30%) were from poor non-beneficiary households and the remaining 1,050 at (70%) were from beneficiary households. From the non-beneficiary 450 sample, two-thirds (300) were taken from a marginalised social group (i.e. Scheduled Caste or Muslim) and the remaining 150 sample were taken from non-marginalised households. From the beneficiary group, again around two-thirds (600) were taken from marginalised social groups and the remaining 450 from the non-marginalised households. The distribution of the sample reflects the proportion of the socially excluded populations in the sampling locations.

Table A1.2 Distribution of Sample Households for quantitative survey

	Moradabad, Uttar Pradesh	Aurangabad, Maharashtra	Total
Control group (poor informal worker non-beneficiary from socially non excluded groups) @10%	75	75	150
Control group (poor informal worker non-beneficiary from socially marginalised group) @20%	150	150	300
Treatment group (poor informal worker beneficiary from socially non-excluded group) @30%	225	225	450
Treatment group (poor informal worker beneficiary from socially marginalised group) @40%	300	300	600
Total households	750	750	1500

Quantitative research methodology

The household survey was designed to assess whether RSBY improves informal sector workers' access to and utilisation of health services; whether improved access to and utilisation of health services maintains or improves labour market and economic opportunities; and to what extent membership of the RSBY health insurance programme contributes to changes in social relations and/or state–society relations. A pilot of the detailed household survey was carried out.

As this was neither a panel nor a randomised control study, the research design explicitly included a control group in the survey in order to enable a quasi-experimental assessment of impact.

The quantitative analysis involved two distinct stages. In the first stage, detailed descriptive statistics were produced, measuring statistical significance of differences between the control and treatment group. The results were grouped around the outcome dimensions, as described in the analytical framework above. The findings from the descriptive statistics were then used as a basis for the next stage. Those outcome variables that showed differences between the groups were included in the econometric analysis.

The objective of the econometric analysis was to discern whether RSBY has had an impact on improving social inclusion in terms of the outcome indicators outlined above. Impact in this context can be defined as the difference between specific outcome indicators for the beneficiary and non-beneficiary groups. The non-beneficiary group was taken as a proxy for an actual counterfactual and was carefully selected to be similar to the beneficiary group, apart from not receiving the treatment. As highlighted above, our design is ex-post quasi-experimental: the data were collected after treatment has taken place and we have neither baseline nor panel data. Hence we have employed Propensity Score Matching (PSM), which is a well-regarded quasi-experimental research method to measure impact.

PSM research methodology overview

The basic idea behind PSM is that when comparing outcomes for control and treatment groups, the results will still be biased as there may be observed (i.e. 'measurable') and unobserved differences between the groups that have not been controlled for. The PSM approach (Rubin, 1974; Rosenbaum and Rubin, 1983) seeks to eliminate the *observed* bias by comparing each beneficiary household to a very similar non-beneficiary counterpart based on characteristics that do not influence the outcome variable – called pre-treatment factors (resulting in a so-called propensity score). Beneficiary and non-beneficiary households are 'matched' on the basis of their

propensity score and their outcomes are compared. The difference in outcomes can then be attributed to the intervention.

Propensity scores are defined as the probability that a person would participate in the programme given a set of pre-treatment variables. The objective of the pre-treatment variable is to measure the likelihood of receiving treatment – which in this case is having a RSBY smart card. In doing so, it is important to consider what factors make control households distinct from treated units. One obvious set of factors to include in PSM estimation are explicit criteria used in determining participation in the intervention, such as a project or programme's eligibility or admission criteria (factors associated with both self-selection as well as administrative selection). There are no specific eligibility criteria for RSBY, apart from being on the BPL list (see Table A1.3). Therefore the pre-treatment variables have been designed to measure the likelihood of being on the BPL list. The pre-treatment variables used in this study include:

- Education level of household head
- Number of children in the household
- Housing assistance
- Food and employment assistance
- Household size
- Age of head of the household
- Religion (Hindu, Muslim)
- Social group (SC, upper caste)

Table A1.3 List of criteria and pre-treatment variables

BPL list criteria
Size group of operational holding of land
Type of house
Average availability of normal wear clothing
Food security (Meals per day)
Sanitation (Availability of Latrine)
Ownership of consumer durables
Literacy status
Labour force status in the household
Major source of income of the household
Education status of children (aged 5-14) in the household
Type of indebtedness
Reason for migration from the household
Availed of assistance from different government scheme in last year

It was not possible to find a pre-treatment variable for all BPL criteria. Some of these pre-treatment variables were excluded in the analysis of a particular outcome variable because they were either not different between treatment and control groups or did not affect the outcome.

The pre-treatment variables used to calculate the propensity score have to meet a number of assumptions, all of which were considered here. First, they have to satisfy the conditional independence assumption. This means that the pre-treatment variables should not affect the outcomes we were estimating. The pre-treatment variables were carefully selected in order to meet this condition. Some of these always remain fixed (e.g. religion, caste).

Second, PSM also requires so-called 'common support', which means treatment and control households have a similar distribution of propensity scores. We decided to exclude observations that were 'off' common support, thereby strengthening the analysis. In our analysis in all outcome the off-support observations is very low.

Third, we passed the 'balancing property' with our choice of pre-treatment variables, according to which households with the same propensity score must show the same distribution of pre-treatment variables. In other words, the balancing property is satisfied when the pre-treatment variables are all statistically the same between the beneficiary and non-beneficiary groups. We examined this by comparing the differences (called standardised % bias) across pre-treatment variables, before and after matching. These show that for the majority of pre-treatment variables, which were dissimilar (majority of the mean values are significantly different between the beneficiary and non-beneficiary groups) before matching but more similar after matching (mean values are statistically the same between the beneficiary and non-beneficiary groups).

As the above tests showed that the results were valid, we could then match households and calculate impact. Different matching algorithms are available to match treated and control observation with the estimated propensity scores. We employed nearest neighbour matching and kernel matching. The former selects households in the control group as matching partners for beneficiaries on the basis of the closest propensity scores (Abadie et al., 2004; Abadie and Imbens 2006). In order to ensure robust findings, we also applied radius matching as a second matching method.

Once households were matched, the average impact on the treated (ATT) was calculated. In other words, this is a measure of the impact RSBY has had on the specified outcomes for the treatment group. The results were also tested for statistical significance. The PSM results from the nearest neighbour matching method are presented in Annex 2.

Stata software was used to conduct the quantitative analysis.

Qualitative methodology

The objective of the qualitative research methodology was to collect detailed information on: whether health insurance through RSBY improved informal sector workers' access to and utilisation of health services; whether improved access to and utilisation of health services maintains or improves labour market and economic opportunities; and to what extent the RSBY contributes to changes in social relations and/or state–society relations. Importantly, the qualitative research component also sought to understand why and how the effects or changes took place.

For the collection of qualitative data, focus group discussions, indepth interviews and key informant interviews were conducted in all sample locations (see Tables A1.4, A1.5 and A1.6 below). Focus group discussions were conducted with beneficiary and non-beneficiary households. The objective of focus group discussions was to collect information on the information and perception of beneficiary and non-beneficiary regarding access to health and RSBY implementation, effect of the RSBY on health and education, living standards, the labour market, economic opportunities, social capital, social relations, and attitudes and perceptions regarding Panchayati Raj and central government.

The objective of key informant interviews was to understand the design and implementation of RSBY and the roles played by different stakeholders in this. Key informant interviews provided information on implementation dynamics. The respondents for key informant interviews were selected from government officials and others working for the implementation of RSBY, and local leaders with knowledge of community and social issues.

Table A1.4 List of Focus Group Discussions

Reference	Type	Location	Date
FGD 1	FGD	Moradabad, Uttar Pradesh	19.4.2012
FGD 2	FGD	Moradabad, , Uttar Pradesh	19.4.2012
FGD 3	FGD	Moradabad, Uttar Pradesh	22.4.2012
FGD 4	FGD	Moradabad, Uttar Pradesh	25.4.2012
FGD 5	FGD	Moradabad, Uttar Pradesh	25.4.2012
FGD 6	FGD	Moradabad, Uttar Pradesh	27.4.2012
FGD 7	FGD	Moradabad, Uttar Pradesh	28.4.2012
FGD 8	FGD	Moradabad, Uttar Pradesh	29.4.2012
FGD 9	FGD	Moradabad, Uttar Pradesh	30.4.2012
FGD 10	FGD	Moradabad, Uttar Pradesh	1.5.2012
FGD 11	FGD	Moradabad, Uttar Pradesh	2.5.2012
FGD 12	FGD	Moradabad, Uttar Pradesh	3.5.2012
FGD 13	FGD	Moradabad, Uttar Pradesh	8.5.2012
FGD 14	FGD	Moradabad, Uttar Pradesh	6.5.2012
FGD 15	FGD	Moradabad, Uttar Pradesh	6.5.2012
FGD 16	FGD	Moradabad, Uttar Pradesh	7.5.2012
FGD 17	FGD	Moradabad, Uttar Pradesh	11.5.2012
FGD 18	FGD	Moradabad, Uttar Pradesh	4.5.2012
FGD 19	FGD	Moradabad, Uttar Pradesh	10.5.2012
FGD 20	FGD	Moradabad, Uttar Pradesh	5.5.2012
FGD 21	FGD	Moradabad, Uttar Pradesh	5.5.2012
FGD 22	FGD	Moradabad, Uttar Pradesh	12.5.2012

FGD 23	FGD	Moradabad, Uttar Pradesh	11.5.2012
FGD 24	FGD	Moradabad, Uttar Pradesh	4.5.2012
FGD 25	FGD	Moradabad, Uttar Pradesh	3.5.2012
FGD 26	FGD	Aurangabad, Maharashtra	24.6.2012
FGD 27	FGD	Aurangabad, Maharashtra	26.6.2012
FGD 28	FGD	Aurangabad, Maharashtra	26.6.2012
FGD 29	FGD	Aurangabad, Maharashtra	28.6.2012
FGD 30	FGD	Aurangabad, Maharashtra	28.6.2012
FGD 31	FGD	Aurangabad, Maharashtra	29.6.2012
FGD 32	FGD	Aurangabad, Maharashtra	29.6.2012
FGD 33	FGD	Aurangabad, Maharashtra	1.7.2012
FGD 34	FGD	Aurangabad, Maharashtra	30.6.2012
FGD 35	FGD	Aurangabad, Maharashtra	30.6.2012
FGD 36	FGD	Aurangabad, Maharashtra	4.7.2012
FGD 37	FGD	Aurangabad, Maharashtra	11.7.2012
FGD 38	FGD	Aurangabad, Maharashtra	11.7.2012
FGD 39	FGD	Aurangabad, Maharashtra	10.7.2012
FGD 40	FGD	Aurangabad, Maharashtra	3.7.2012
FGD 41	FGD	Aurangabad, Maharashtra	3.7.2012
FGD 42	FGD	Aurangabad, Maharashtra	6.7.2012
FGD 43	FGD	Aurangabad, Maharashtra	6.7.2012
FGD 44	FGD	Aurangabad, Maharashtra	7.7.2012
FGD 45	FGD	Aurangabad, Maharashtra	8.7.2012
FGD 46	FGD	Aurangabad, Maharashtra	5.7.2012
FGD 47	FGD	Aurangabad, Maharashtra	5.7.2012
FGD 48	FGD	Aurangabad, Maharashtra	5.7.2012
FGD 49	FGD	Aurangabad, Maharashtra	9.7.2012

FGD 50	FGD	Aurangabad, Maharashtra	10.7.2012

Table A1.5 List of In-depth Interviews

Reference	Type	Location	Date
IDI-1	In-depth Interview	Moradabad, Uttar Pradesh	22.4.2012
IDI-2	In-depth Interview	Moradabad, Uttar Pradesh	28.4.2012
IDI-3	In-depth Interview	Moradabad, Uttar Pradesh	2.5.2012
IDI-4	In-depth Interview	Moradabad, Uttar Pradesh	5.5.2012
IDI-5	In-depth Interview	Moradabad, Uttar Pradesh	6.5.2012
IDI-6	In-depth Interview	Moradabad, Uttar Pradesh	8.5.2012
IDI-7	In-depth Interview	Moradabad, Uttar Pradesh	7.5.2012
IDI-8	In-depth Interview	Moradabad, Uttar Pradesh	10.5.2012
IDI-9	In-depth Interview	Moradabad, Uttar Pradesh	11.5.2012
IDI-10	In-depth Interview	Moradabad, Uttar Pradesh	12.5.2012
IDI-11	In-depth Interview	Aurangabad, Maharashtra	28.6.2012
IDI-12	In-depth Interview	Aurangabad, Maharashtra	25.6.2012
IDI-13	In-depth Interview	Aurangabad, Maharashtra	1.7.2012
IDI-14	In-depth Interview	Aurangabad, Maharashtra	4.7.2012
IDI-15	In-depth Interview	Aurangabad, Maharashtra	5.7.2012
IDI-16	In-depth Interview	Aurangabad, Maharashtra	6.7.2012
IDI-17	In-depth Interview	Aurangabad, Maharashtra	8.7.2012
IDI-18	In-depth Interview	Aurangabad, Maharashtra	3.7.2012
IDI-19	In-depth Interview	Aurangabad, Maharashtra	11.7.2012
IDI-20	In-depth Interview	Aurangabad, Maharashtra	10.7.2012

Table A1.6 List of Key Informant Interviews

Reference	Type	Location	Date	Designation of Participant
KII 1	KII	Moradabad, Uttar Pradesh	22.4.2012	Sarpanch
KII 2	KII	Moradabad, Uttar Pradesh	25.4.2012	Sarpanch
KII 3	KII	Moradabad, Uttar Pradesh	28.4.2012	Sarpanch
KII 4	KII	Moradabad, Uttar Pradesh	28.4.2012	Sarpanch
KII 5	KII	Moradabad, Uttar Pradesh	2.5.2012	Sarpanch
KII 6	KII	Moradabad, Uttar Pradesh	8.5.2012	Sarpanch
KII 7	KII	Moradabad, Uttar Pradesh	6.5.2012	Sarpanch
KII 8	KII	Moradabad, Uttar Pradesh	11.5.2012	Sarpanch
KII 9	KII	Moradabad, Uttar Pradesh	4.5.2012	Local leader
KII 10	KII	Moradabad, Uttar Pradesh	7.5.2012	Local Leader
KII 11	KII	Moradabad, Uttar Pradesh	1.5.2012	District Kiosk Officer, RSBY
KII 12	KII	Moradabad, Uttar Pradesh	1.5.2012	Additional District Manager, TPA
KII 13	KII	Moradabad, Uttar Pradesh	14.5.2012	In- charge, Empanelled hospital
KII 14	KII	Moradabad, Uttar Pradesh	15.5.2012	In- charge, Empanelled hospital
KII 15	KII	Moradabad, Uttar Pradesh	16.5.2012	In- charge, Empanelled hospital
KII 16	KII	Aurangabad, Maharashtra	25.6.2012	Sarpanch
KII 17	KII	Aurangabad, Maharashtra	26.6.2012	Local leader
KII 18	KII	Aurangabad, Maharashtra	28.6.2012	Sarpanch
KII 19	KII	Aurangabad, Maharashtra	29.6.2012	Sarpanch
KII 20	KII	Aurangabad, Maharashtra	1.7.2012	Local leader
KII 21	KII	Aurangabad, Maharashtra	30.6.2012	Local leader
KII 22	KII	Aurangabad, Maharashtra	4.7.2012	Sarpanch

KII 23	KII	Aurangabad, Maharashtra	11.7.2012	Sarpanch
KII 24	KII	Aurangabad, Maharashtra	10.7.2012	Local leader
KII 25	KII	Aurangabad, Maharashtra	3.7.2012	Sarpanch
KII 26	KII	Aurangabad, Maharashtra	7.7.2012	Sarpanch
KII 27	KII	Aurangabad, Maharashtra	8.7.2012	Local leader
KII 28	KII	Aurangabad, Maharashtra	5.7.2012	Sarpanch
KII 29	KII	Aurangabad, Maharashtra	13.7.2012	Local leader
KII 30	KII	Aurangabad, Maharashtra	7.7.2012	In- charge, Empanelled hospital
KII 31	KII	Aurangabad, Maharashtra	10.7.2012	In- charge, Empanelled hospital
KII 32	KII	Aurangabad, Maharashtra	11.7.2012	District Kiosk Officer
KII 33	KII	Aurangabad, Maharashtra	24.6.2012	Field Key Officer
KII 34	KII	Aurangabad, Maharashtra	6.7.2012	Field Key Officer
KII 35	KII	Aurangabad, Maharashtra	11.7.2012	RSBY in-charge, ICCI Lombard
KII 36	KII	Aurangabad, Maharashtra	12.7.2012	Additional Labour Commissioner

Annex 2: PSM results

Average treatment effect on treated (ATT)

Outcome indicators	Radius Matching				Nearest Neighbour Matching				Number of observations (treated, untreated)
	Treated	Controls	ATT	T-stat	Treated	Controls	ATT	T-stat	
Expenditure as inpatient in Rs (US$)	6366.7/ (US$ 1012)	8444.6 (US$ 135)	-2077.8 (US$ -33)	-0.87	6350.4 (US$102)	9970.0 (US$ 160)	-3619.6*** (US$ -58)	-2.44	415, 91
Average expenditure as outpatient in Rs (US$)	701 (US$ 11)	710 (US$11)	-9.3 (US$ -0.14)	-0.13	695 (US$ 11)	710 (US$ 11)	14 (US$ 0.22)	0.29	882, 387
Monthly per capita expenditure on health in Rs (US$)	74.0 (US$ 1)	66.2 (US$ 1)	7.7 (US$ 0.12)	0.52	73.1 (US$ 1)	63.4 (US$ 1)	9.7 (US$ 0.16)	0.95	1050, 450
Any member of the household indebted as of today	0.75	0.79	-0.03	-1.19	0.75	0.82	-0.06*	-1.74	1050, 450
Health exp. as inpatient from borrowing	0.61	0.66	-0.05	-0.62	0.61	0.73	-0.13	-1.59	395, 79
Average work days per week	5.00	4.91	0.09	1.07	4.99	4.95	0.04	0.39	1050, 450

Outcome indicators	Radius Matching				Nearest Neighbour Matching				Number of observations (treated, untreated)
	Treated	Controls	ATT	T-stat	Treated	Controls	ATT	T-stat	
Able to generate farm income	0.94	0.93	0.02	0.56	0.94	0.93	0.01	0.30	372, 173
Able to purchase agricultural input	0.90	0.90	0.00	-0.02	0.90	0.92	-0.02	-0.60	362, 170
Able to irrigate in the amount required	0.65	0.38	0.26	1.68	0.65	0.58	0.07	1.47*	427, 190
Able to generate non-farm income	0.16	0.13	0.03	1.42	0.16	0.13	0.03	1.18	1050, 450
Group membership	0.27	0.20	0.07***	2.66	0.28	0.21	0.07**	2.21	1050, 450
Monthly per capita expenditure in Rs (US$)	533.2 (US$ 9)	485.1 (US$ 8)	48.1 (US$ 0.8)	0.50	533.3 (US$ 9)	524.5 (US$ 8)	8.8 (US$ 0.14)	0.58	1050, 450
Average monthly per capita food expenditure in Rs/ (US$)	307.56 (US$ 5)	297.77 (US$ 5)	9.79*** (US$ 0.16)	2.66	307.25 (US$ 5)	300.63 (US$ 5)	6.62 US$ (0.11)	1.53	1050, 450
Support from friends & relatives	0.71	0.70	0.01	0.41	0.71	0.73	-0.01	-0.36	1050, 450
Support from villagers & neighbourhood	0.66	0.63	0.03	0.87	0.67	0.57	0.09***	2.47	1050, 450
Get money for treatment from villagers	0.84	0.79	0.05*	1.82	0.84	0.77	0.07*	1.77	1050, 450
Interact with people from different cast (M.10)	0.964	0.962	0.002	0.12	0.968	0.949	0.019	1.38	1050, 450
How important is the welfare of the village for local government	0.836	0.829	0.008	0.26	0.836	0.840	-0.004	-0.14	1050, 450
Have you or any household member dealt with individuals in public institutions?	0.790	0.769	0.020	0.59	0.795	0.748	0.047*	1.66	1050, 450

Outcome indicators	Radius Matching				Nearest Neighbour Matching				Number of observations (treated, untreated)
	Treated	Controls	ATT	T-stat	Treated	Controls	ATT	T-stat	
Dissatisfied with services provider – can they approach local government?	0.702	0.630	0.071*	1.84	0.707	0.662	0.053	1.44	1050, 450
Appealed to the local government to solve a village or neighbourhood problem	0.561	0.469	0.091**	2.27	0.560	0.528	0.032	0.96	1050, 450
Take part in village decision making	0.39	0.32	0.08***	2.46	0.39	0.30	0.09**	2.30	1050, 450

*Note: *** Significant at 1%, ***Significant at 5%, *Significant at 10%*

Annex 3: Descriptive statistics

Table A3.1: Average cost of expenditure

	Non-beneficiary household	Beneficiary household	All
Average cost of expenditure on health**	8519	6351	6740

*Note: ** Significant at 5 %*

Table A3.2: Per capita expenditure on inpatient treatment – social group

Social group	Expenditure as inpatient in Rs / US$
Scheduled caste non-beneficiary	6958 / 111.33
Scheduled caste beneficiary	6468 / 103.49
Other caste non-beneficiary	9745 / 155.92
Other caste beneficiary	6306 / 100.90
Total	6754 / 108.06

Table A3.3: Per capita expenditure on inpatient treatment – gender

	Expenditure as inpatient in Rs / US$
Male non-beneficiary	8554 / 136.86
Male beneficiary	6302 / 100.83
Female non-beneficiary	7000 / 112
Female beneficiary	6956 / 111.30
Total	6754 / 108.06

Table A3.4: Source of financing of inpatient treatment by social group (% of households)

	Scheduled Caste non-beneficiary	Scheduled caste beneficiary	Other caste non-beneficiary	Other caste beneficiary	Total
From current income	15.38	10.89	13.89	15.1	13.62
With money from saving	18.46	25.29	33.33	30.21	27.89
From selling item	6.15	2.33	2.78	3.39	3.21
Borrowing from any source	55.39	41.24	48.61	28.91	37.3
Other	4.62	20.24	1.39	22.39	18.25

Note: differences between groups significant at 1%

Table A3.5: Source of financing of inpatient treatment by household head (% of households)

	Male non-beneficiary	Male beneficiary	Female non-beneficiary	Female beneficiary	Total
From current income	14.93	13.3	0	14.52	13.62
With money from saving	26.87	28.84	0	22.58	27.89
From selling item	4.48	2.59	0	6.45	3.21
Borrowing from any source	51.49	33.16	66.66	40.32	37.03
Other	2.24	22.14	33.33	16.13	18.25

Note: differences between groups significant at 1%

Table A3.6: Treatment in choice of empanelled hospital by household head (% of households)

Did you get treatment in choice of hospital?	Male beneficiary	Female beneficiary	Total
Yes	73.04	75	73.23

Table A3.7: Average monthly per capita expenditure

Type of expenditure	Non-beneficiary households	Beneficiary households	Total
Cereals and cereal products ***	147.2 / 2.36	152.5 / 2.44	150.9 / 2.41
Pulses and pulse products	38.7 / 0.62	39.4 / 0.63	39.2 / 0.63
Vegetables and fruits	48.2 / 0.77	48.7 / 0.78	48.5 / 0.78
Milk and milk products	31.4 / 0.5	34.2 / 0.55	33.3 / 0.53
Edible oil, salt and spices*	32.0 / 0.51	32.5 / 0.52	32.3 / 0.52
Total food expenditure***	297.5 / 4.76	307.2 / 4.92	304.3 / 4.87
Pan, tobacco & intoxicants	23.7 / 0.38	25.3 / 0.4	24.8 / 0.4
Other consumer goods	10.1 / 0.16	10.2 / 0.16	10.1 / 0.16
Transport **	26.9 / 0.43	32.4 / 0.52	30.8 / 0.49
Education	23.3 / 0.37	24.6 / 0.39	24.2 / 0.39
Health	69.2 / 1.11	74.0 / 1.18	72.5 / 1.16
Monthly per capita expenditure	516.1 / 8.26	533.2 / 8.53	528.1 / 8.45

Source: IIDS Field Survey 2012
*Note: *** Significant at 1%, ** Significant at 5%, *Significant at 10%*

Table A3.8: Average number of times eating eggs/fish/meat

	Non-beneficiary households	Beneficiary households	Total
Number of times eating eggs/fish/meat*	2.14	2.37	2.4

Source: IIDS Field Survey 2012
*Note: *** Significant at 1%, ** Significant at 5%, *Significant at 10%*

Table A3.9: Source of income in the past four weeks (% of households)

Sources of income	Non-beneficiary households	Beneficiary households	All
Wages from regular salaried employment	7.99	8.42	8.29
Wages from daily work & subsidiary work	54.86	54.14	54.36
Sale of crops & livestock and products	25.55	26.32	26.09
Income from business & rental income	7.05	6.97	7

Sources of income	Non-beneficiary households	Beneficiary households	All
Remittance income	1.25	1.12	1.16
Money received from govt. schemes	3.29	3.03	3.1
Total	100	100	100

Table A3.10: Household support network (% of households)

Type of support	Non-beneficiary households	Beneficiary households	All
Received support from relatives & friends	68.7	71.4	70.6
Received support from village/ neighbourhood	62.9	66.9	65.7

Note: None of the difference has been found statistically significant

Table: A3.11 Membership of groups (% of households)

Type of groups	Non-beneficiary households	Beneficiary households	All
Informal savings groups***	5.3	9.0	7.9
Self-help group***	10.4	17.1	15.1
Farming groups	0.9	1.8	1.5
Religious association	2.7	2.8	2.7
Political party	0.7	1.7	1.4

*Note: *** Significant at 1%, **Significant at 5%, **Significant at 10%*

Table A3.12: Opinion about the government of India (% of households)

	Non-beneficiary households	Beneficiary households	All
Introduction of RSBY is an indication that the Government of India cares about your socioeconomic situation (Yes)***	87.8	92.8	91.3

*Note: *** Significant at 1%, ** Significant at 5%, *Significant at 10%*

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