Supplementary file

Contents

1) Search Strategy

(("Health Insurance"[Title/Abstract] OR "Community health insurance"[Title/Abstract] OR

"Social health insurance"[Title/Abstract] OR "Group health insurance"[Title/Abstract] OR

"Karunya health scheme"[Title/Abstract] OR Yeshasvini[Title/Abstract] OR "Ayushman Bharat"

[Title/Abstract] OR "Universal health insurance scheme"[Title/Abstract] OR

"Rashtriya swasthya bima yojana"[Title/Abstract] OR "Medical Insurance"[Title/Abstract] OR

"Public health insurance" [Title/Abstract] OR "Universal health care"[Title/Abstract] OR

PMJAY[Title/Abstract] OR MSBY[Title/Abstract] OR RSBY[Title/Abstract]

OR Aarogyasri[Title/Abstract] OR "Vajpayee Arogyashree"[Title/Abstract] OR "Kalaignar State

Health Insurance Scheme"[Title/Abstract] OR ESIS[Title/Abstract] OR

Mediclaim[Title/Abstract] OR CGHS[Title/Abstract] OR BKKY[Title/Abstract]) AND ("Health

care utilisation"[Title/Abstract] OR "Healthcare utilization"[Title/Abstract] OR

"Healthcare utilisation"[Title/Abstract] OR "Health status"[Title/Abstract] OR "Better

Health"[Title/Abstract] OR "Willingness to pay"[Title/Abstract] OR WTP[Title/Abstract] OR

"Readiness to pay"[Title/Abstract] OR "Financial protection"[Title/Abstract] OR "Medical

service utilization"[Title/Abstract] OR enrolment[Title/Abstract] OR impact[Title/Abstract]))

AND (India OR "South Asia" OR LMIC OR Indian OR "Indian states") 124 filter humans

2) **Table of characteristics of included studies**

Study ID	Objective	Location	Population (n, Age, Gender, Contextual factors)	Name and type of insurance and year	Intervention/Exposure Details of insurance Incentives/benefits Time duration of insurance, Comparator	Outcomes	Study design
Azam, 2017	To evaluate the impact of Rastriya Swasthya Bima Yojana (RSBY)-on-RSBY beneficiary	National	Data from 2011-12: n= 29755 HHs (21489 rural and 8257 urban) from 260 RSBY districts in India.	RSBY Scheme	-Intervention group consists of HHs that were enrolled in RSBY and had an RSBY smart card. The beneficiary HHs were entitled to a hospital coverage of Indian National Rupees (INR) 30000 per annum	Average treatment impact on treated (ATT), utilization of health services, per capita out-of-pocket expenditure (OOPE), and per patient OOPE on major morbidities	Impact evaluation (secondary data) from two waves of India Human Development survey conducted in 2011-12 and 2004–05 and Human

	households (HHs)		Three states viz. Andhra Pradesh, Karnataka and Tamil Nadu were not included		-Control group were the HHs in the same district but not enrolled in RSBY or not having the RSBY cards		Development Profile of India conducted in 1993-94
Barnes et al., 2017	To estimate the impact of social health insurance (HI) on financial risk by utilizing data from a	Sample villages from Shimoga, Da vengere and Chitradurga d istricts of Southern Karnataka.	272 villages from the northern part of Karnataka and 300 villages from the southern	Vajpayee Arogya Shree (VAS)	Intervention: Households that had access to the VAS schemes Control: HHs south of the eligibility border that did not have access to the VAS scheme	Catastrophic health expenditure (CHE) and OOPE	Cross-sectional household survey

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	natural experiment created by the phased roll-out of a social HI program for the poor in India	Villages from Uttar Kannada, Haveri and Bellari districts of northern part of Karnataka were included	part of Karnataka Total sample was 6964 HHs with BPL cards				
Dror and Vellakkal, 2012	To find if RSBY is India's flagship platform for the	National	Adults and children	RSBY	RSBY scheme	1. Coverage, enrolment and cost for providing RSBY to the beneficiaries 2. Access to hospitalizations/	Secondary data analysis from RSBY data available on website, 2011

	introduction of Universal Hospital Insurance.					health care for the poor people	
Fan, Karan and Mahal, 2012	To assess the impact of Arogyashree on household OOPE	Andhra Pradesh, India	Households in all the districts of the state	Arogyashree scheme	Intervention group: people living in the districts under Phase 1 (2007-2008) and Phase 2 (only 2008) of the NSSO survey Control group: People living in the districts that are not covered by with Phase 1 or Phase 2 of the NSSO survey	1.Per capita OOPE 2. CHE 3. Impoverishment	Impact evaluation- Analysis of NSSO and consumer health expenditure data

					Treatment groups (Andhra Pradesh) Phase 1: Activities started in April 2007 and renewal in April 2008. Phase I districts were Ananthapur, Mahabu bnagar, and Srikakulam. n: 2004-05=1702 and 2007-08 =448 Phase 2: Activities started in December 2007 and renewed in December 2008. Phase II districts were East Godavari, West Godavari,		

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				Nalgonda, Rangareddy, and Chittoor n: 2004-05 = 2057 and 2007-08= 863 **Control Group (Andhra Pradesh)** that were not covered by Phases 1 and 2. 2004-2005 (n)= 5269 2007-2008 (n)= 2172 **Control Groups (All India)** n= 2004-05: 116,136 and 2007-08: 46,814		
Garg, Beb arta &	To find out the effect of enrolment	Chhattisgarh, India	NSS survey in 2004 and 2014 and	Pradha Mantri Jan Arogya	Beneficiaries of PMJAY scheme	Enrolment, utilization of hospital-care in	Impact evaluation from NSSO data and

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Tripathi, 2020	under Prime Minister Jan Arogya Yojana (PMJAY) in improving utilization of hospital services and financial protection in Chhattisgarh		primary household survey in 2019 (for comparison) NSS in 2004: 6375 individuals NSS in 2014= 7651 individuals Primary survey in 2019= 15361 individuals covered	Yojana (PMJAY) Mukhyamantri Swasthya Bima Yojana (MSBY) for non-poor in Chhattisgarh		OOPE and incidence of CHE	primary survey in 2019

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Garg, Chowdhury & Sundararaman, 2019	To evaluate the PFHI in three states (Andhra Pradesh, Karnataka and Tamil Nadu) in improving utilization of hospital services and financial protection against expenses of	Andhra Pradesh, Karnataka and Tamil Nadu	Below Poverty Line (BPL) HHs	PFHI	Enrolment PFHI schemes	-CHE and OOPE -Hospitalization rate	Secondary data analysis of the two rounds of NSSO cross-sectional survey, 60th round: 2004 and 71st round: 2014.

	hospitalization.						
Ghosh & Gupta, 2017	To assess the impact of the scheme on access to healthcare and financial protection by utilizing the latest NSSO data on morbidity and healthcare	National States that did not have any PFHI schemes other than RSBY Andhra Pradesh, Tamil Nadu, Maharashtra, Goa, Karnataka, Andaman and	18 states, covering 35,748 HHs. Out of these 4112 HHs i.e., 11.5% were treated and 31636 HHs i.e., 88.5% of HHs were control.	RSBY	Enrolment in RSBY scheme	1) Utilization of health care 2) Financial risk protection	An impact evaluation from NSSO data

		Nicobar Islands, Daman and Diu Dadar and Nagar Haveli were excluded. Arunachal Pradesh, Puducherry, Delhi and Jammu Kash mir were not selected				

| Johnson & Krishnaswamy, 2012 | To estimate the impact of RSBY on hospitalization and OOP health spending using data from the NSSO from 2004-05 and 2009-10 | All India except Andhra Pradesh, Karnataka and Tamil Nadu | n= 297 control and 204 treatment districts with a total of 186,065 HHs. | RSBY | Out of the total 186,065 HHs, 102,810 were from the Pre-intervention round and 83,255 from the post round

Out of the 83,255 HHs in the post round observations, 25,548 HHs were surveyed two months after RSBY was introduced (this was fixed as the minimum duration to be considered as treated) and hence treated. Out of these, 12,995 were predicted to be | 1. Impact of RSBY (in INR per capita per month)
-OP expenditure
-IP expenditure
-Total medical expenditure
- IP drug + tests
- IP fees
-IP hosp. fees.
- Was hospitalized
- Has OP visit
- IP > Rs. 5000 (INR)
- IP > Rs. 10,000 (INR) | Secondary data analysis of NSSO data
Used NSSO round 61 (conducted in 2004-05) and round 66 (conducted in 2009-10), as the pre and post surveys for measuring the potential impact of RSBY. |

| | | | | | a BPL card holder and hence in effect the treated sub-sample RSBY in reducing OOP | -Ratio IP/ HHD Exp > 10% -Ratio IP/ HHD Exp > 20% - Ratio IP/ HHD Exp > 40% Small decrease in out-of-pocket household outpatient expenditure and subsequently total medical expenditure | |

Karan, Yip, Mahal, 2017	To assess, at the national level, the impact of RSBY on financial risk protection of HHs using data from 3 waves of cross-sectional HH surveys of the NSSO and district level enrolment	National	The study used data from three waves of HH CES: 1999 to 2000 (T1 pre-intervention), 2004-05 (T2: pre-intervention) and 2011-12 (post-intervention), conducted by the NSSO.	RSBY implementation began in 2008-09.	**Treatment group**: Poor HHs in RSBY implementing districts. Further divided into districts, which began participating in RSBY on or before March 2010 and between April 2010 & March 2012. **Control**: Poor in non-RSBY districts. Poor: belonging to the two poorest expenditure quintiles as a proxy for BPL HHs	OOPE: in terms of inpatient, outpatient & total OOP. Each of these three further includes Probability of any OOP, OOP Level (INR), OOP Share and probability of catastrophic Outcome measured for the time periods 2000, 2005 and 2012	Impact evaluation using repeated measures cross sectional surveys- Analysis of NSSO data

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	information from RSBY records		Sample sizes in each of the three rounds was between 100,000 and 125,000 households.				
Katyal et al., 2015	To assess changes in accessibility, affordability and perceptions of efficiency of private health care IP	Andhra Pradesh and Maharashtra	Used two rounds of NSSO data: 2004 and 2012. Total HHs surveyed (urban): Andhra	RSBY in Maharashtra and Rajiv Arogya Shree (RAS) in Andhra Pradesh.	Intervention 1: RAS in Andhra Pradesh Intervention 2: RSBY in Maharashtra	-Access to IP care [Hospitalization rate: no. of people hospitalized during the previous year per 1000 population] -Expenditure on hospitalization	A retrospective, longitudinal, controlled quasi-experimental Study (Two large surveys)

treatment across the states of Maharashtra and Andhra Pradesh from 2004–05 to 2012.		Pradesh = 2004: 1824, 2012: 3715; Maharashtra= 2004: 2664, 2012: 5038. Total HHs surveyed (rural): Andhra Pradesh = 2004: 3235, 2012: 4908; Maharashtra= 2004: 2650, 2012: 5035			[average OOPE for IP care per individual within 1 year of the survey] - Expenditure on high-cost treatments [average OOPE for IP care within 1 year of the survey for both public and private hospitals per episode of cardiac & nephrology treatments, which were used as	

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						proxies for high-cost treatments.] -Efficiency: duration of hospital stay in days	
Khetrapal and Acharya, 2019	To examine the scheme design and the incentive structure under RSBY and its implications for delivering health services	Patiala and Yamunan agar districts in the states of Punjab and Haryana	**Quantitative:** Total sample participants n=751 selected from RSBY empaneled hospitals	RSBY Introduced in 2008 by the Ministry of Labour and Employment, Government of India; to provide HI coverage	Enrolment in health insurance via RSBY scheme	A) Gaps in the scheme categorized by: 1. Allocation of roles and responsibilities 2. Enrolment of beneficiaries 3. Empanelment of facilities	Mixed method study Quantitative (Exit interviews) Qualitative (in depth interviews of stakeholders) Secondary data analysis

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| to the intended beneficiaries. | | -RSBY participants=3 87 -Non RSBY participants= 364 **Qualitative**: 20 Key stakeholders' interviews of RSBY i.e., policy makers, representative s from insurance | to people living BPL. | | 4. Monitoring and supervision, 5. Package rates. B) OOPE of RSBY and non-RSBY participants | |

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			companies, state representatives, public and private providers				
Mahapatro, Singh and Singh, 2018	To understand the impact of HI schemes on tackling the economic burden of OOPE and its effectiveness in reducing economic	National	NSSO 2014 data	Government HI schemes	Enrolment in PFHI scheme	Healthcare utilization and OOPE	NSSO data, 71st round in 2014, secondary data analysis

	inequalities in healthcare spending						
Nandi, Schneider & Dixit, 2017	To examine enrolment, utilization (public and private) and OOPE for the insured and uninsured, in Chhattisgarh	Chhattisgarh, India	Included 1205 HHs and 6026 individuals (HH members), HHs as the second-stage units.	Government Health insurance schemes	Enrolment in RSBY scheme	-Determinants of enrolment -Healthcare utilization -OOPE -Increased hospitalization rate	Secondary analysis of 25th Schedule of the71st round of the cross-sectional Indian NSSO data between January and June 2014.
Philip, Kannan & Sharma, 2016	1. To compare the sociodemograp	Trivandrum district of Kerala	n= 149 insured and 147 uninsured BPL HHs	CHIS	Enrolment in CHIS	1. Coverage of CHIS 2. Healthcare utilization,	Cross-sectional survey in 2011

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hic & health utilization pattern (OP and IP services) of BPL HHs insured in comprehensive health insurance scheme (CHIS). 2. To find the correlates of insurance status and IP		with 667 and 578 members, respectively. Age: 33.0 ± 18.2 years; HH size was 4.2 ± 1.8 members			3. OOPE associated with IP service 4. Factors: Socio-demographics, understanding regarding insurance, type of insurance aware of, information on RSBY	

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	service utilization. 3. To examine the OOPE for IP services					
Ranjan et al., 2018	To discuss a) the coverage & effectiveness of both governments purchasing through insurance and government provision of tax-funded	National	A total of 65,932 HHs (rural: 36480, urban: 29452) were surveyed for the entire Indian Union, which included a total of 333,104	PFHI	PFHI schemes	1. OOPE, CHE 2. Choice of provider. 3. HI coverage, type. 3. Equity in PFHI coverage 4. Impoverishment effect of OOPE on hospitalization	Unit records of the "Social Consumption: Health" survey (71st round) conducted by the NSSO in January to June 2014

| | free or subsidized care as strategies of financial protection; b) the contribution that PFHI makes to the reduction in CHE due to hospitalization; and c) the equity dimensions of | | individuals (rural: 189573, urban: 143531; male: 168697 females: 164407). | | | | 5. Factors: Socio-economic 6. Increased hospitalization rates | |

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	both financial protection strategies.						
Rao et al., 2014	To compare the effects of health innovations over time on access to and OOPE on IP care in Andhra Pradesh & Maharashtra and to assess whether the Andhra	Andhra Pradesh and Maharashtra	Survey of 18 696 HHs across 2 states and 1871	i. RAS Health Insurance Scheme of Andhra Pradesh ii. RSBY in Maharashtra	Enrolment in RAS or RSBY Effect of i. RAS HI Scheme of Andhra Pradesh launched in 2007 to provide treatment for serious and life threatening illnesses. Families with BPL card are automatically enrolled. Enrollees make no contribution, the annual benefit is a maximum of (INR 200	1. Average IP expenditure per HH per year, 2. Large OOP IP expenditure, 3. Large borrowing 4. Hospitalization rate 5. Factors: Setting, socio-economic	Secondary data analysis: Repeated measures survey (Pre-post) using difference-in-difference (DID). Baseline: NSSO 60th decennial round HH survey undertaken in 2004. Follow up survey: in 2012

Pradesh initiatives had larger or smaller beneficial effects than those found in Maharashtra.				000) per family per year and there is no limit on the size of the family. ii. RSBY in Maharashtra launched in 2008 (enrolment began in 2009) and provides access to free IP hospital care up to (INR 30 000) per family per year. HHs pay contribution of INR 30 for registration and annual renewal. Up to five family members are covered.		

| Ravi & Bergkvist, 2014 | To analyze the impact of PFHI viz. RSBY and different state-sponsored health insurance schemes | National | Districts where the PFHI schemes were implemented For RSBY impact: The districts were divided into two samples (1) where the scheme was implemented before July 2010 (end of | Different PFHI schemes including RSBY and state level schemes | Different PFHI schemes | Financial protection 1) Overall impoverishment -hospitalization -OOPE -Outpatient -Drugs 2) CHE-40% 3) Poverty gap index | Secondary data Analysis of a cross-sectional survey (NSSO) |

		NSSO survey) and (2) where the scheme was implemented before July 2009 (beginning of NSSO survey)				
Raza, van de Poel, Panda, 2016	1. To analyze HH level determinants of RSBY enrolment using HH level	Kanpur Dehat & Pratapgarh districts in Uttar Pradesh and Vaishali in Bihar	Self-help group (SHG) members or head of the HHs. Baseline survey: March	RSBY	Enrolment in RSBY	1. Determinants of enrolment in health insurance 2. Determinants of re-enrolment in HI	Secondary data analysis of the data collected in 2012-2013 as a part of an evaluation of CBHI schemes

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panel data collected in 2012 & 2013 2. To investigate the determinants of dropping out of the scheme. 3. To investigate whether RSBY membership is associated with increased use of hospital		and May 2010 (3,686 HHs) and follow-up survey: March and April in 2012 (3,318 HHs) and 2013 (3307 HHs).			3. Hospital care and financial protection	

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	care and financial protection.						
Sabharwal et al., 2014	To analyze the effects of RSBY on socially excluded HHs (focusing on Scheduled Castes (SC), Muslims and upper caste poor) in two states in India: Uttar Pradesh	Uttar Pradesh and Maharashtra	Sample size was 1500,750 from each state	RSBY	**Target group**: SC, Muslim and upper caste poor HHs who were beneficiaries of RSBY (whether they have used the smart card or not) **Control group**: SC, Muslim and upper caste poor HHs who were eligible for RSBY but not enrolled.	OOPE	Quasi experimental mixed methods study, April to July 2012

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	and Maharashtra					
Selvaraj, Karan, 2012	To capture the impact, if any, of the PFHI programmes on financial risk protection in India.	National	NSSO data of 2003-04 as pre-intervention and 2009-10 as post intervention. HHs in 2004-05 were 1,24,644 (79,298 rural and 45,346 urban)	RSBY and state health insurance schemes	RSBY and other state insurances implemented in gradually from 2007 to 2009. **RSBY**: 247 districts; **State insurance**: 74 districts (Andhra Pradesh n=23, Karnataka n=22 and Tamil Nadu n=29); and **control**: 291 districts	-OOP spending (IP, OP, total OOP and drug expenditure), its trends and patters. -Change in OOP expenditure due to HI -Trends in catastrophic payments Recall period: non institutional	Pre (2003-04)-post (2009-10) study and Case-control approach based on secondary data analysis of NSSO data

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| | | | and 1,00,855 HHs (59,119 rural and 41,736 urban) during 2009-10. | | | medical expenses: 30 day. Institutional health spending: 365 days recall. Total OOP: summation of IP and OP expenses. Catastrophic headcount: No. of HHs making OOPE greater than 10% of total HH expenditure | |

| Sinha, 2018 | To assess whether RSBY had improved care- seeking and reduced incidences of CHE and health expenditure- induced poverty among the insured population. To explore whether the | Jharkhand | A matched controlled cross- sectional study was conducted in two purposively selected administrative blocks, namely Silli and Bundu of Ranchi district in Jharkhand | RSBY | Enrolment in RSBY Total 1643 HHs 873 RSBY, 770 Non-RSBY | Healthcare utilization and CHE | A matched controlled cross-sectional study |

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	benefits were equitable.		between April to June 2014				
Sood & Wagner, 2016	To evaluate the effects of a government insurance programme covering tertiary care for the poor in Karnataka, India—VAS—on treatment seeking and postoperative outcomes.	Karnataka, India	572 villages in Karnataka, India	A government insurance program: VAS	31 476 HHs (22796 BPL and 8680 above poverty line (APL) in 300 villages where the scheme was implemented and 28 633 HHs (21767 BPL and 6866 APL) in 272 neighboring matched villages ineligible for the scheme.	1) Treatment seeking behavior 2) Post-operative wellbeing 3) Post-operative infections and re-admissions	A quasi- experimental design February 2010 to August 2012.

Sood et al., 2014	To evaluate the effects of a government insurance program covering tertiary care for people BPL in Karnataka, India, on OOPE, hospital use, and mortality.	Karnataka, India	572 villages in Karnataka, India	A government insurance program: VAS	31 476 HHs (22 796 BPL and 8680 APL) in 300 villages where the scheme was implemented and 28 633 HHs (21 767 BPL and 6866 APL) in 272 neighboring matched villages ineligible for the scheme.	OOPE, hospital use, and mortality.	Quasi- randomized trial February 2010 to August 2012.

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| Sriram & Khan, 2020 | To estimate the effect of public HI programs for the poor on hospitalizations and OOP IP care costs. | National | NSS 71st round data was used

n= 64270 poor individuals.

-9.55% were enrolled in any PFHI

- 41.3% of the poor were illiterate

- 80.6% belonged to Hindu; | PFHI such as RSBY, ESIS, CGHS, and other state insurances | Treatment=enrolled HHs

Control=non-enrolled HHs | Incidence of hospitalizations, length of hospitalization, and OOP payments for IP care | Cross sectional study

(NSSO data 2014) |

			-85.1% were from the disadvantaged classes; -64.2% belonged to medium sized HHs (5 to 8 members) -2.5% suffering from chronic diseases			

			- mean age of the poor population was 25.3 years.				
Vellakkal, Juyal and Mehdi, 2012	To assess the overall satisfaction of beneficiaries with the schemes based on self - reported patient satisfaction, willingness to	Twelve cities=Bhuba neshwar, Thiruvananth apuram, Ahm edabad, Chandigarh, Meerut, Patna, Jabalpur, Lucknow,	n= 1,204 principal beneficiaries of CGHS and 640 of ECHS, 100 empanele d private healthcare providers and 100 CGHS-ECHS	CGHS and Ex-service men Contributory Health Scheme (ECHS)	Enrolment in RSBY	1.Self-reported patient satisfaction - Accessibility -Environment -Behavior of doctors -Behavior of other staff 2. WTP for better quality healthcare	Cross-sectional survey

pay (WTP) for better healthcare services and measuring the comprehensiveness of the schemes in terms of its ability to reduce the financial burden of healthcare expenditure on beneficiaries	Hyderabad, Kolkata, Mumbai and Delhi	officials consisting of city and dispensary level heads of CGHS and ECHS across the 12 cities			3.Ability of the scheme to reduce financial burden of healthcare expenditure 4. Factors affecting level of satisfaction, and WTP	

APL: Above Poverty Line; ATT: Average Treatment impact of Treatment on Treated; BPL: Below Poverty Line; CHE: Catastrophic Health Expenditure; CHIS: Comprehensive Health Insurance Scheme; CGHS: Central Government Health Scheme; DID: Difference-in-difference; ESIS: Employee State Insurance Scheme; HHs: Households; HI: Health Insurance; INR: Indian National Rupees; IP: Inpatient; NA: Not Applicable; NSSO: National Sample Survey Office; OOP: Out-of-Pocket; OOPE: Out-of-Pocket expenditure; OP: Out Patient; PFHI: Public Funded Health Insurance; PMJAY: Prime Minister Jan Arogya Yojana; RSBY: Rasthriya Swasthy Bima Yojana; RAS: Rajiv Arogya Shree; SHG: Self-Help Group; SPEC: Social, Political, Economic and Cultural; SC: Scheduled Caste; ST: Schedule Tribe; VAS: Vajpayee Arogya Shree; WTP: Willingness to Pay

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3) Detailed synthesis of findings

Table 1: Impact of government funded health insurance on access and utilization of healthcare, financial risk protection and willingness to pay

Study author & year	Study design and analysis	Data source and methods	Details of health insurances	Results
Access and utilization of healthcare				
Azam, 2017	Three large- scaled household (HH) surveys: Matching difference-in-difference analysis (MDID) of longitudinal data	Two waves of India Human Development Survey (2011-12) and (2004-2005) and Human Development Profile of India (HDPI) collected in 1993-94. Data from three states I.e. Andhra Pradesh, Karnataka and Tamil Nadu was not considered.	PFHI covered: RSBY The households having RSBY cards were considered as treatment groups and household not having RSBY cards were control groups in an RSBY implemented district	**Rural India** A) RSBY HHs were 3.2% points (p<0.05; SE=0.014) more likely to report any morbidity. The ATT estimates for percentage change for pre RSBY averages on RSBY household for this variable was reported as 4.84. B) The difference in reporting of morbidity was more defined for long term illnesses as RSBY HHs were 5% points more likely to report any long- term morbidity (p<0.01; SE=0.015). ATT as % change of RSBY HHs was 17.70.

				C) RSBY HHs were 3.1% points (p<0.05; SE=0.015) more likely to seek treatment for illnesses. ATT as % change of RSBY HHs was 4.93. D) RSBY HHs were 5.0% points (p<0.05; SE=0.0013) more likely to seek treatment for long term illness than for short term morbidity I.e. 2.3% points (p>0.05; SE=0.013) E) RSBY HHs were 0.7% points (p>0.05; SE 0.007) more likely to report hospitalization in case of long-term morbidity. **Urban India:** **A)** RSBY HHs were 2.4% points (p>0.05; SE=0.026) more likely to report an illness. ATT as % change for RSBY HHs was 0.033. B) RSBY HHs were 2.3% points (p>0.05; SE=0.0028) more likely to report a long-term illness. ATT as % change for RSBY HHs was 7.86.

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				C) RSBY HHs were 2.3% points (p>0.05; SE=0.026) more likely to report any treatment. ATT as % change for RSBY HHs was 3.93. D) RSBY HHs were 1.5% points (p.0.05; SE= 5.13) more likely to report treatment for long-term morbidity. ATT as %change for RSBY HHs was 5.13) E) RSBY HHs were 1.6% points (p>0.05; SE=0.014) more likely to report hospitalization for a long-term morbidity. ATT as % change for RSBY HHs was 35.80)
Dror & Vellakka l, 2012	Analysis of the cross sectional RSBY 2011 data	Main data sources were RSBY website and the planning commission of India official documents	PFHI covered: RSBY RSBY health insurance Comparison with the 2004 utilization indicators	Hospitalization rate for the lowest income group in the country was 1.24 percent in 2004 (according to the NSSO survey), this was juxtaposed with the utilization rate of 2.09 % for RSBY beneficiaries in 2011. On comparison it was a growth rate of 69% was observed, which suggests beneficial results of the RSBY scheme.

| Garg, Chowdhury & Sundararaman, 2019 | Secondary data analysis of the two rounds of NSS cross- sectional survey | The 60th round of NSSO (2004) and 71st round of NSSO (2014) in three states of Andhra Pradesh, Karnataka and Tamil Nadu. Instrument Variable (IV) method was used in the multivariate analysis. Two-step least square (2sls) for OOPE and Two-step IV Probit model for utilization and CHE | PFHI covered: The three Public Funded Health Insurance (PFHI) Schemes operational in Andhra Pradesh (Rajiv Arogya Shree or the NTR Vaidya Seva); Karnataka (Vajpayee Arogya Shree); Tamil Nadu (Tamil Nadu Chief Minister's Comprehensive Health Insurance Scheme) The pre PFHI in 2004 and post PFHI (2014) comparisons were made | **A) Proportion of people being hospitalized increased from 2004 to 2014, among both enrolled and non-enrolled members, in all the three states:** **Proportion (%) of individuals who utilized hospital care:** **Andhra Pradesh** 2004: All the people 2.29 (95% CI=2.09–2.49) 2014: All the people 5.58 (95% CI=5.14–6.01); non-insured individuals 5.86 (95%CI=5.18–6.53); PFHI enrolled individuals 5.41 (95%CI=4.84–5.99) **Karnataka** 2004: All the people 2.23 (95%CI=2.01–2.46) 2014: All the people 4.93 (95%CI=4.58–5.28); non-insured individuals 4.88 (95%CI=4.53–5.24); PFHI enrolled individuals 5.76 (95%CI=4.08–7.43) **Tamil Nadu** 2004: All the people 3.58 (95%CI=3.33–3.83) |

				2014: All the people 5.68 (95% CI=5.32–6.04); non-insured individuals 5.55 (95% CI=5.16–5.94); PFHI enrolled individuals 6.27 (95%CI=5.38–7.17) **B) Proportion (%) of hospitalization episodes in private hospitals** **Andhra Pradesh** 2004**:** PFHI enrolled (NA); not enrolled 70 (95% CI=68-72) 2014: PFHI enrolled 71 (95%CI=68–73); not enrolled 80 (95%CI=77–82) **Karnataka** 2004**:** PFHI enrolled (NA); not enrolled 65 (95%CI=62–67) 2014: PFHI enrolled 70 (95%CI=63–76); not enrolled 68 (95%CI=66–70) **Tamil Nadu** 2004: PFHI enrolled (NA); not enrolled 61 (95% CI=59–63)

				2014: PFHI enrolled 67 (95%CI=63–70); not enrolled 61 (95% CI=59–62)
				C) Association of PFHI enrolment and increase in hospitalization (utilization) using IV Probit regression
				Andhra Pradesh: coef. -0.085 (SE= 0.526; 95%CI= -1.116 to 0.947)
				Karnataka: coef. 1.378 (SE= 1.336; 95%CI= -1.242 to 3.997)
				Tamil Nadu: coef. -0.130(SE= 1.398; 95%CI= -2.871 to 2.611)
				Enrolment under PFHI was not associated with increase in utilization in any of the three states
				D) Association between PFHI enrolment and hospitalization or utilization using naive Probit model
				Andhra Pradesh= −0.025 (p>0.05)
				Karnataka: 0.191 (p<0.001)

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			Tamil Nadu: −0.022 (p>0.05) Significant association between PFHI enrolment and hospitalizations seen only in Karnataka
Garg 2020	Impact evaluation using NSS survey 2004 when there was no PFHI, and 2014 data (for older PFHI scheme) and primary household survey in 2019 (for data related to the effect of first year of implementing PMJAY) in the state of Chhattisgarh, India	NSS survey data Multivariate analysis to see the effect of PMJAY on utilization CHE and OOPE OLS model for continuous outcome available and Probit model for binary outcome variable. Compared with ATT under Propensity Score Matching or PSM Multivariate analysis was repeated for OOPE and CHE using IV approach. For OOPE 2sls was applied	PFHI covered: PMJAY scheme introduced in the year 2018. The study also mentions other PFHI schemes like MSBY and RSBY operational in Chhattisgarh	The utilization of hospital care did not increase with enrolment under PMJAY or other PFHI schemes in Chhattisgarh. **Proportion (%) of individuals in Chhattisgarh who utilized hospital care** In 2019, PFHI-enrolled= 6.0 (95% CI 5.6–6.5) and PFHI not enrolled 5.7 (95% CI 5.1–6.4) In 2014, PFHI-enrolled 3.3 (95% CI 2.6–4.0) and PFHI not enrolled 2.9 (95%CI 2.3–3.4)

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		as IV model, and for CHE two step IV Probit was applied		
Ghosh & Gupta, 2017	Impact evaluation: Coarsened exact matching and, linear and logit regression.	National Sample Survey data: 18 states, which do not have additional state funded insurance (round not reported). States having specific PFHIs, union territories not exposed to RSBY and states not having functional RSBY in the year 2014-15 were excluded	PFHI covered: RSBY Treated group: Household having at least one person enrolled in RSBY. Control: households with no RSBY	1) The effect of the RSBY on **number of outpatient (OP) care** was statistically insignificant i.e. sample average treatment effect for the treated (SATT)= -0.012 (p= 0.852). 2) Impact of RSBY on **number of inpatient (IP) care** utilization was significant i.e., SATT= 0.109 (p= 0.023). This was approximated as 59% increase when compared to mean inpatient utilization by the uninsured families I.e. (0.186) 3) No significant impact of RSBY on l**ength of stay at hospitals** (in days) i.e., SATT=0.071 (p=0.952)

Katyal et al., 2015	A retrospective, longitudinal, controlled quasi-experimental Study (Two large surveys): Difference-in-differences	Pre-post intervention effect: Pre-intervention NSSO 2004 survey and post intervention NSSO 2012 survey.	PFHI covered: RAS and RSBY No. Of HHs: **Intervention 1**: RAS of AP in 2004: 0559 and 2012: 8623. **Intervention 2**: RSBY of MH in 2004: 5314 & in 2012: 10073	**1) Access to IP care** (DID mean (95% CI), p) RAS of AP compared to RSBY of MH**:** **In Private hospitals:** a) **Overall**: [Mean DID: 0.076 (-0.012:0.14) p=0.02] AP as compared to MH. Utilization of private hospitals has increased in AP [0.065 (0.018:0.11)] and decreased in MH [-0.011(-0.032:0.053)] b) **Place of residence**: Urban: The likelihood of admission to a private hospital was significant for hospitalizations among urban households [0.21 (0.095:0.31) p=0.0002] in AP as compared to MH. Rural: DID=-0.0019 (-0.080:0.076) p=0.96 AP compared to MH. **In Public hospitals**:

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				a) The overall utilization of public facilities has reduced in both the states and more so in AP [-0.075 (-0.14:0.0125), p= 0.019]
				b) **Place of residence**:
				Urban: There was an increase in utilization of public facilities in MH [0.067 (-0.062:0.12)] and a reduction in AP [-0.14 (-0.23:-0.047)] for urban HHs and the DID of AP to that of MH is [-0.2 (-0.31:-0.095) p=0.0002].
				Rural: DID: 0.0019 (-0.076:0.08) p=0.96] AP compared to MH.
				2) Duration (days) of hospital stay:
				In Private hospitals:
				DID analysis: an average reduction of 3.2 (-5.4, -1.2) days in AP compared to MH
				Place of residence: rural HHs [-3.7 (-6.3 :-1) p=0.007]and urban: -1.8 (-4.4:0.8) p=0.17
				In Public hospitals:

				Overall: DID: -2 (-5.1:1.1) p=0.2 AP compared to MH
				Rural: average of reduction of 4.2 days [(-9:0.6) p=0.09] in AP compared to MH.
				Urban: 0.7 (-1.8:3.2) p=0.59 in AP compared to MH.
Mahapatro, Singh & Singh, 2018	Analysis of the 71st round of cross- sectional household NSS 2014 survey Bivariate and multivariate analysis was done	-71 st round National Sample Survey, 2014, 'Social Consumption: Health' Schedule 25.0 -To examine the impact of health insurance on OOP payment, two-part model was used (part 1 logit and part 2 linear)	PFHI covered: Any PFHI scheme Information of hospitalization during 365 days was used for the analysis. For association comparisons were made between insured and uninsured	**1) Inpatient rate by type of health insurance** Government health insurance: lowest economic class: 4% and High economic class 9% Other health insurance: lowest economic class: 4.4% and High economic class 6.4% No health insurance: lowest economic class: 3.8% and High economic class 6.2%

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| Nandi, Schneider & Dixit, 2017 | Secondary data, multi variate logistic regression | NSSO, the Chhattisgarh State data used in this study were extracted from the 25th schedule of the 71st round of the cross-sectional Indian National Sample Survey, conducted between January and June 2014 The Chhattisgarh sample included 1205 house- holds and 6026 individuals (household members) | PFHI covered: Government funded health insurance schemes in Chhattisgarh viz. RSBY, MSBY, ESIS, CGHS | **Hospitalization**: AOR (95%CI), N= 5977 -A person with insurance was significantly more likely to be hospitalized compared to a person with no insurance (AOR 1.388; 95% CI: 1.190–1.620). -Women (AOR1.80;95%CI:1.252.58), Scheduled Tribes and the poorest(Q1) were significantly more likely to be hospitalized in the public sector than men, other social groups and other UMPCE groups respectively. -Taking infection as the reference group, conditions like cancer (AOR0.11;95%CI:0.01–0.94) and respiratory conditions (AOR0.30;95%CI:0.09–0.97) were significantly less likely causes of admission in the public sector, |

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				obstetric and childbirth-related conditions were significantly more likely in the public sector (AOR1.63;95%CI:1.03–2.57). -Enrolment in government insurance was associated with hospitalization in the public sector at 90% Confidence Levels (AOR1.32;90%CI:1.01–1.72)
Philip, Kannan, Sarma, 2017	A comparative cross-sectional survey The demographic and socioeconomic characteristics and health care utilization of insured and uninsured households were compared using Pearson's χ2 test. Multivariate logistic regression analysis was	Using generalized estimating equations, the correlates of inpatient service utilization of individuals were estimated. The models were built by the method of iterative backward elimination and forward selection because the study did not use any conceptual framework, and it aimed at exploration. The	PFHI covered: CHIS of Kerala A total of 149 insured and 147 uninsured households, with 667 and 578 members, respectively, were included in the study conducted in Trivandrum district of Kerala.	-Overall Outpatient service utilization: 29.1% and -Overall Inpatient service utilization: 38.5%. -The utilization of outpatient services among insured (31.5%) and uninsured (26.5%) households; *P* = 0.342, statistically not significant at 95% CI. -The inpatient service utilization (insured, 44.3%; uninsured, 32.7%) with a *P* value of .04, statistically significant difference at 95% CI. -Inpatient service utilization among insured participants compared to noninsured (OR = 1.57; 95% CI = 1.05-2.34)

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used to derive the predictors of insurance status.	Mann-Whitney *U* test was used to compare the expenditure associated with inpatient care between the 2 groups		-Insurance status was found to be a significant correlate for inpatient service utilization after adjusting for age, sex, and chronic diseases
			 -Generalized estimating equations for inpatient services (95% CI)
			     o Age (0-5 reference category):
			     o 6-15 y: OR 4.0 (0.5-30.4), p=0.176
			     o 16-45 y: OR: 2.0 (1.0-4.2), p=0.060
			     o >45 y: OR: 1.9 (1.3-3.0), p=.002
			     o Gender (Male/female): OR 1.5 (0.9-2.4) p=0.084
			     o Preexisting chronic disease: OR (0.5 0.3-0.7), p= <.001

Ranjan et. al., 2018	Analysis of a cross-sectional survey	-Data from the 71st round of NSSO survey I.e. 'Social Consumption: Health' survey	PFHI covered: Public Funded Health Insurance (PFHI) schemes e.g. RSBY	**1) Percentage of total hospitalization cases according to insurance coverage** A) Rural With government insurance

		-Propensity score matching (PSM) for the effectiveness of PFHIs and multiple logistic regression for association		All=49.8%; Poorest= 79.0%; Poor= 62.7%; Middle= 56.8%; Rich= 40.2%; Richest= 34.3% Without government insurance All= 50.8%; Poorest= 67.7%; Poor= 61.7%; Middle= 52.6%; Rich= 47.4%; Richest= 29.1% B) Urban With government insurance All= 40.4%; Poorest= 57.6%; Poor= 47.8%; Middle= 38.6%; Rich= 35.5%; Richest= 24.4% Without government insurance All= 36.1%; Poorest= 51.6%; Poor= 42.0%; Middle= 33.6%; Rich= 23.3%; Richest= 16.2% **2) Hospitalization rate per 100 population** For government insurance= 5.4%; No insurance=4.2% **3) Factors effecting likelihood of hospitalization**

			Insurance (irrespective of the type of insurance) OR= 1.06 (95% CI= 0.98 to 1.14)
Rao et al., 2014	A difference-in-differences (DID) using repeated cross-sectional surveys with parallel control.	NSSO 2004 survey, A total of 5314 and 5059 households from Maharashtra (MH) and Andhra Pradesh (AP) were surveyed by the NSSO in 2004 and Survey in 2012 included 10073 (MH) and 8623 (AP) households.	PFHI covered: RSBY and Arogyashree Two cross-sectional surveys: as a baseline, the data from the NSSO 2004 survey collected before the Aarogyasri and RSBY schemes were launched; and as post-intervention, a survey using the same methodology conducted in 2012. A survey of 18 696 HHs across 2 states and 1871 locations	**Hospitalization rates** (inpatient care): (number of individuals hospitalized during the previous year, per 1000 population): DID mean (95% CI) for both the states, Adjusted for co-variates 0.7 (-8.6 to 10.2), p value: 0.8685. 1.Gender: Hospitalization rates increased for both genders but statistically significant for female headed HHs (DID mean=27.6, 95% CI 1.1 to 54.1, p=0.0415) 2.Social class: Schedule tribe: DID mean: −19.8 (95% CI: −37.3 to −2.3) p=0.0272, for other social groups (SC, other excluded groups and all groups) it was not significant 3.Quintile: Poorest: DID mean: −14.4 (95% CI: −28 to −0.31) p=0.0451, for other quintiles it was not significant.

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Raza, van de Poel, Panda, 2016	Two cross sectional surveys among SHG members themselves or the head of the (households) HHs	Primary study: Baseline survey: March and May 2010 (3,686 HHs) and follow-up survey: March and April in 2012 (3,318 HHs) and 2013 (3307 HHs). Location: Kanpur Dehat and Pratapgarh districts in Uttar Pradesh and Vaishali in Bihar	PFHI covered: RSBY	**Probability of hospitalizations**: RSBY membership is not significantly associated with the likelihood of hospitalization [**Pooled:** 0.000 (SE:0.010) n=10,125, **UP:** -0.010 (0.013), n= 6359; **Bihar:** 0.015 (0.017), n=3766] or the likelihood of positive spending within a HH, the latter most likely related to high likelihood of having expenses at baseline. **Sensitivity analysis** by restricting the sample to households in the bottom two asset tertiles: Not significant for polled, UP and Bihar.
Sood and Wagner et al, 2016	Quasi experimental design

Logistic regression | 3478 households in 300 villages where VAS was implemented and 3486 households in 272 neighboring matched villages ineligible for VAS.

Total 572 villages | PFHI covered: VAS A government insurance programme that provided free tertiary care to households below the poverty line in half of villages in Karnataka from February 2010 to August | 1) Treatment-seeking behavior: Households eligible for VAS were 4.4 percentage points (95% CI 0.7 to 8.2; 6.76% increase; p=0.022) more likely to seek treatment for their symptoms For symptoms associated with cardiac conditions, the increase in treatment seeking was more pronounced and more statistically significant at 4.38 percentage points (95% CI 0.1 to 8.7; 7.04% increase; |

| | | | | 2012. VAS eligible villages and VAS non-eligible villages | p=0.046); non-cardiac symptoms at 3.92 percentage points (6.4%, p=0.085). A) Any symptoms/ Symptoms-cardiac conditions/Symptoms of non-cardiac condition - VAS eligible HHs, n=2250, 69.73% /62.32/ 58.2 - VAS non-eligible HHs n=2209, 65.31%/ 66.71/ 62.16 - Difference: 4.42 (0.7 to 8.2), P < 0.01/ 4.37** (0.1 to 8.7) / 3.92* (−0.6 to 8.4) - Adjusted difference: 4.96 (1.0 to 8.9), P < 0.01/ 5.41** (0.9 to 9.9)/ 3.87* (−0.6 to 8.4) 2) Post operation well-being: Respondents from VAS-eligible villages reported greater improvements in well-being after the hospitalization in all categories which were statistically significant in three of the six categories |

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				No controls (N=173)/ Controls for illness composition (N=173)/ Controls for illness composition/ demographic characteristics†(N=173)
				- Walking ability 0.765*** (0.248)0.700*** (0.261)0.605** (0.273) - Pain 0.778*** (0.228)0.660*** (0.244)0.559** (0.246) - Anxiety0.464* (0.242)0.451* (0.261)0.387 (0.272
Sood et al, 2014	Quasi experimental design Multi variate models were used for analysis	All households in sampled villages of Karnataka were asked to participate in a door-to-door survey, and 81% of them completed the survey.	PFHI covered= VAS 31 476 households (22 796 below poverty line and 8680 above poverty line) in 300 villages where the scheme was implemented and 28 633 households (21 767 below poverty line and 6866 above poverty line) in	**Utilization of healthcare** **1. Households using tertiary care facility for potentially covered conditions** A) All facilities Unadjusted= −4.3% (p=0.52) Adjusted= −5.4% (p=0.64) B) All tertiary care facilities Unadjusted= 12.3% (p=0.46) Adjusted= 19.9% (p=0.26)

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			272 neighboring matched villages ineligible for the scheme. A government insurance program (Vajpayee Arogyashree scheme) that provided free tertiary care to households BPL in about half of villages in Karnataka from February 2010 to August 2012.	C) Excluding emergency department admissions and stays of 4 ≤days Unadjusted= 44.2% (p=0.06) Adjusted= 42.7% (p=0.08) **Households reporting forgone need for care for VAS condition** Reported forgone need Unadjusted= −35.5% (p=0.07) Adjusted=−33.4% (p=0.09)
Sriram & Khan, 2020	Survey among poor individuals: Propensity score matching, logistic regression and Tobit regression.	NSSO survey 2014. N=64270 poor individuals	PFHI covered: Any PFHI scheme PFHI (n= 5917) were matched with control group (n=5917).	**Effect of PFHI on hospitalization (Multivariate analysis):** People enrolled in PFHI program have 1.23 (1.06-1.44) higher odds of incidence of hospitalization compared to poor people without HI.

				Average Treatment on Treated (ATT)	-Individuals with **chronic illnesses** have 3.55 (2.87–4.45) higher probability of hospitalization compared to individuals without any chronic conditions.
				Propensity Score Testing of Two Groups: Treated=0.1407, Control= 0.1191, Difference= 0.0216, T statistic= 2.89, SE: 0.0074. Matched with age, individual consumption expenditure, HH size, location and education.	-All the **age groups** show higher probability of hospitalization compared to the reference age group of less than 18 years. [19-40: 1.06 (0.82–1.36), 41 to 60 years 2.44 (1.89–3.15), 61 to 80 years 2.99 (2.14–4.17), Older than 80 years 4.85 (1.71–13.69)] -Individuals belonging to the medium i.e. 5-8 [0.77 (0.66–0.89)] and large I.e. more than 8 [0.47 (0.39–0.58)] **HHs size** had lower probability of incidence of hospitalization compared to individuals from small HHs. -Social group, religion, urban/rural location, household type, marital status, education, number of hospital beds in the state were not significant in explaining variability in the incidence of hospitalizations.

				- state of residence of the individual using fixed effects had no significant effects. **Effect of PFHI on the duration or length of hospitalization (Tobit model):** Being enrolled in PFHI had no significant effect [0.44 (−0.47 - 1.35)] on the duration of hospitalization. -People who had **chronic illnesses** [3.15 (1.96–4.33)] had significantly higher duration of hospitalization compared to people with no chronic illnesses. -Other covariates such as HH type, religion, age, urban/ rural location, HH size, marital status, education, and number of hospital beds had no significant effect on the duration of hospitalization - Rajasthan, Uttar Pradesh, and Gujarat were the only three state showing significant results in fixed effects for the state of residence

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| Sabharwal et.al, 2014 | Quasi experimental mixed methods study design | 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). | PFHI covered: RSBY 1.Target group: SC, Muslim and upper caste poor households who are beneficiaries of RSBY (whether they have used the smart card or not) 2.Control group: SC, Muslim and upper caste poor households who are eligible for RSBY but who are not enrolled. | **Health care utilization:** In-patient care: Non-beneficiary: Any member of the household ever hospitalized, 1.65 (n=78), Beneficiary but not used RSBY, 1.85 (n=134) and beneficiary but used RSBY, 1.80(n=203) Between group F value: 0.60, not significant Outpatient care: Non-beneficiary: Any member of the household never hospitalized, 2.71(n=361) Any member of the household ever hospitalized, 2.87(n=70), Beneficiary but not used RSBY, 2.67(n=772) and beneficiary but used RSBY, 2.45(n=249) Between group F value: 1.76, not significant |

		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		
Financial risk protection				

Azam, 2017	Three large scaled household surveys Matching difference-in-difference analysis (MDID) of longitudinal data	Two waves of India Human Development Survey (2011-12) and (2004-2005) and Human Development Profile of India (HDPI) collected in 1993-94. Data from three states I.e. Andhra Pradesh, Karnataka and Tamil Nadu was not considered.	PFHI covered: RSBY The households having RSBY cards were considered as treatment groups and household not having RSBY cards were control groups in an RSBY implemented district	**OOPE** **Rural India:** **A)** RSBY HHs were 1.1% points (p>0.05; SE=0.013) more likely to report OOPE expenditure. ATT as % change for RSBY HHs was 1.56. B) Per capita in-patient expenditure (in INR) for RSBY HHs was –11.567 (SE=12.897). ATT as % change for RSBY HHs was –19.46. C) Per capita out-patient expenditure (in INR) for RSBY HHs was 11.257 (SE=11.200). ATT as % change for RSBY HHs was –11.89 D) Per capita total OOP in INR for RSBY HHs was -22.717 (SE=20.156). ATT as % change for RSBY HHs was -14.76. E) RSBY HHs were –0.5% points (p>0.05; SE=0.014) more likely to incur Catastrophic medical expenditure (10% of consumption exp)

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				F) RSBY HHS were 1.1% points (p>0.05; SE=0.010) more likely to incur Catastrophic medical expenditure (25% of consumption exp.) G) RSBY HHs were 0.8% points (p>0.05; SE=0.008) more likely to take loan for meeting medical expenses. H) Per capita expenditure on long-term morbidity, for RSBY HHs, was –13.450 (p>0.05; SE=12.531) I) Per capita expenditure on medicines, for RSBY households was -21. 782 (p<0.05; SE=9.492) (This means reduction by 22 INR) **Urban India:** A) RSBY HHs were –3.7% points (p<0.1; SE=0.020) more likely to incur OOPE. ATT as % change for RSBY HHs was –5.56. B) For RSBY HHs, per capita inpatient expenditure in INR was - 3.786 (p>0.05; SE=38.906).

				C) For RSBY HHs, per capita outpatient expenditure in INR was -10.574 (p>0.05; SE=11.390)
				D) Per capita total OOP in INR was - 14.540 (p>0.05; SE=35.198)
				E) RSBY HHs were –3.3% points (p>0.05; SE= 0.022) more likely to incur catastrophic medical expenditure (10% of consumption exp.)
				F) RSBY HHs were –2.2% points (p>0.05; SE= 0.014) more likely to incur catastrophic medical expenditure (25% of consumption exp.)
				G) RSBY HHs were 3.0% points (p<0.05; SE=0.013) more likely to take loan for meeting medical expenses
				H) Per capita expenditure on long-term morbidity, for RSBY HHs, was 40.978 (p>0.05; SE=31.105)
				I) Per capita expenditure on medicines, for RSBY households was 28.763 (p>0.05; SE=31.492)

| Barnes et al., 2017 | Cross sectional household Survey (nature experiment)

Models used for analysis:

Empirical model

Stylized utility model | Survey was carried out in total of 572 village

272 villages from the northern part of Karnataka and 300 villages from the southern part of Karnataka

Total sample was 6964 HHs with BPL cards | PFHI covered: Vajpayee Arogya Shree Scheme

Intervention group:

northern district village that had access to VAS: 272 Villages

Control group: Southern district villages that did not have an access to VAS:

300 Villages | **1) Money borrowed for health reasons in past one year**

VAS households= 20.7%

Non-VAS households= 24.2%

Difference= -3.5% (p<0.01)

2) Catastrophic health care expenditures

Percentage of non-food expenditure limit

A) Percentage reaching catastrophic limit:

a. 40% of non- food expenditure limit

VAS= 2.70%

Non-VAS= 3.41 %

Difference= -0.71% (p<0.1)

b. 50% of non- food expenditure limit

VAS= 2.22%

Non-VAS= 2.6 1%

Difference= −0.39% (non-significant)

c.60% of non- food expenditure limit

VAS= 1.68% |

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				Non-VAS= 2.08%
				Difference= −0.40% (not significant)
				d. 70% of non- food expenditure limit
				VAS= 1.34%
				Non-VAS= 1.80%
				Difference= −0.46 % (non-significant)
				e.80% of non- food expenditure limit
				VAS= 0.91%
				Non-VAS= 1.54%
				Difference= −0.6 3% (p<0.05)
				B) Mean amount over catastrophic limit (INR)
				a. 40% of non- food expenditure limit
				VAS= 36 ,822.19
				Non-VAS= 56 ,700.92
				Difference= −19,878.73 (p<0.05)
				b. 50% of non- food expenditure limit
				VAS= 36,862.71
				Non-VAS= 66,307.45

				Difference= −29,444.75 (p<0.05)
				c.60% of non- food expenditure limit
				VAS= 40,356.36
				Non-VAS= 75, 415.93
				Difference= −35, 05 9.58 (p<0.05)
				d. 70% of non- food expenditure limit
				VAS= 43,215.88
				Non-VAS= 80,362.84
				Difference= −37,146.96 (p<0.05)
				e.80% of non- food expenditure limit
				VAS= 56,292.79
				Non-VAS= 86,913.19
				Difference= −30,620.40 (non-significant)
				Percentage of total expenditure limit
				A) Percentage reaching catastrophic limit:
				a. 10% of total expenditure limit
				VAS= 10.03%
				Non-VAS= 10.09%

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				Difference= −0.05 % (non-significant)
				b. 20% of total expenditure limit
				VAS= 5 .92%
				Non-VAS= 6.38%
				Difference= −0.46 % (non-significant)
				c. 30% of total expenditure limit
				VAS= 3.89%
				Non-VAS= 4.49%
				Difference= −0.60% (non-significant)
				d. 40% of total expenditure limit
				VAS= 2.58%
				Non-VAS= 3.34%
				Difference= −0.76 % (p<0.1)
				e. 50% of total expenditure limit
				VAS= 2.09%
				Non-VAS= 2.55 %
				Difference= −0.45 % (non-significant)
				B) Mean amount over catastrophic limit (INR)

				a. 10% of total expenditure limit
				VAS= 21,313.18
				Non-VAS= 31,983.49
				Difference= −10,670.31 (p<0.01)
				b. 20% of total expenditure limit
				VAS= 26,232.83
				Non-VAS= 40,554.01
				Difference= −14,321.17 (p<0.05)
				c. 30% of total expenditure limit
				VAS= 30,760.43
				Non-VAS= 48,536.53
				Difference= −17,776.10 (p<0.05)
				d. 40% of total expenditure limit
				VAS= 37,489.47
				Non-VAS= 56,974.87
				Difference= −19,485.41 (p<0.05)
				e. 50% of total expenditure limit
				VAS= 37,6 90.21

				Non-VAS= 66,712.53
				Difference= −29,022.32 (p<0.05)
				3) Distributional effects of access to insurance on out-of-pocket spending
				Using conditional quantile regression and censored quantile regression
				Conditional VAS Estimates Using Koenker & Basset Estimator
				5th Quantile: VAS estimate= −529.99 (SE=215.56, p<0.05)
				10th Quantile: VAS estimate= −711.76 (SE=243.99, p<0.01)
				15th Quantile: VAS estimate= −876 .6 2 (SE=343.74, p<0.05)
				25th Quantile: VAS estimate= −1,485.29 (SE=459.92, p<0.01)
				40th Quantile: VAS estimate= −2,197.19 (SE=495.55, p<0.01)

				50th Quantile: VAS estimate= −2,878.92 (SE=706.33, p<0.01)
				60th Quantile: VAS estimate= −2,589.79 (SE=1,242.94, p<0.05)
				75th Quantile: VAS estimate= −4,484.71 (SE=1,340.32, p<0.01)
				85th Quantile: VAS estimate= −6,408.61 (SE=3,600.68, p<0.1)
				90th Quantile: VAS estimate= −4,941.37 (SE=5,196.11, p>0.1)
				95th Quantile: VAS estimate= −23,548.1 (SE=8,199.09, p<0.01)
				Unconditional VAS Estimates Using Chernozhukov & Hong Estimator
				For unconditional distribution effect on OOPE was not seen for initial lower quantiles
				85th Quantile: VAS estimate= 802.20 (SE=365.61, p<0.05)

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				90th Quantile: VAS estimate= −1,026.96 (SE=705.06, p>0.1)
				95th Quantile: VAS estimate= −3,906.08 (SE=1,748.25, p<0.05)
Fan, Karan and Mahal, 2012	Secondary data analysis Difference in difference (DID) method; regression	Data from Consumer Expenditure Surveys for 1999-2000, 2004-2005, 2007-2008 i.e., The 55th, 61st and 64th round of the NSSO surveys	PFHI covered: Arogyashree in AP **Treatment groups (Andhra Pradesh)** Phase 1: Activities started in April 2007 and renewal in April 2008. Phase I districts were Ananthapur, Mahabubnagar, and Srikakulam. n: 2004-05=1702 and 2007-08 =448	**The impact of Aarogyasri on per capita monthly OOP spending**: (Only statistically significant DID results are extracted here, **p<0.01, *p<0.05) **A. Andhra Pradesh sample** *1.Inpatient expenditure*: a. Region and state fixed effects: Phase 1: −12.177 (SE: 0.352)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effects Phase 1: −11.822 (SE: 0.425)**, Phase 2: Not significant result *2.Inpatient drug expenditure*

| | | | | Phase 2: Activities started in December 2007 and renewed in December 2008. Phase II districts were East Godavari, West Godavari, Nalgonda, Rangareddy, and Chittoor n: 2004-05 = 2057 and 2007-08= 863 **Control Group (Andhra Pradesh)** that were not covered by Phases 1 and 2. 2004-2005 (n)= 5269 2007-2008 (n)= 2172 | a. Region and state fixed effects: Phase 1: −5.325 (SE: 1.017)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effect: Phase 1: −5.111 (SE: 0.926)**, Phase 2: Not significant result *1.Outpatient, outpatient drug and total expenditure* result was not significant for both, Phase 1 and 2 **B) South India sample** *1.Inpatient expenditure*: a. Region and state fixed effects: Phase 1: −14.350 (SE: 4.005)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effect: |

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				Control Groups (All India) n= 2004-05: 116,136 and 2007-08: 46,814	Phase 1: −13.430 (SE: 3.791)**, Phase 2: Not significant result
					1.Inpatient drug expenditure a. Region and state fixed effects:: Phase 1: −4.617 (SE: 1.143)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effect Phase 1: −4.310 (SE: 1.067)**, Phase 2: Not significant result *1.Outpatient drug expenditure* a. Region and state fixed effect: Phase 2: −7.120 (SE: 3.055)*, Phase 1: Not significant result b. With HH covariates in addition to region and state fixed effect: Phase 2: −7.211(SE: 3.201)*, Phase 1: Not significant result

				1.Outpatient and total expenditure: Result was not significant for both phases **C) All India sample** *1.Inpatient expenditure*: a. Region and state fixed effects: Phase 1: −11.304 (SE: 1.717)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effects Phase 1: −10.606 (SE: 1.787)**, Phase 2: Not significant result *1.Inpatient drug expenditure* a. Region and state fixed effects: Phase 1: −3.669 (SE: 0.664)**, Phase 2: Not significant result b. With HH covariates in addition to region and state fixed effects

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				Phase 1: −3.517 (SE: 0.606)**, Phase 2: Not significant result
				1.Outpatient drug expenditure
				a. Region and state fixed effects: Phase 2: −6.417 (SE: 2.747)*, Phase 1: Not significant result
				b. With HH covariates in addition to region and state fixed effects Phase 2: −6.973 (SE: 2.837)*, Phase 1: Not significant result
				1.Outpatient and total expenditure: Result was not significant for both phases
				Effect of Aarogyasri on impoverishment and CHE over 2004–2008
				A. **Impoverishment:** Results of intervention, South India and All India locations for both Phases (1 &2) were statistically not significant, irrespective of using region and state fixed

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				effects or using HH covariates in addition to region and state fixed effect models.
				B. Impoverishment from OOPE:
				Results of intervention, South India and All India locations for both Phases (1 &2) were statistically not significant, irrespective of using region and state fixed effects or using HH covariates in addition to region and state fixed effect models.
				A. Total health expenditure ≥ 15% of total household expenditure:
				Phase 2 using region and state fixed effect model, DID for all India sample was: −0.041 (SE: 0.020)*. Results of intervention and South India for both Phases (1 &2) were statistically not significant, irrespective of using region and state fixed effects or using HH covariates in addition to region and state fixed effect models. Result was not significant for phase 1 of All India locations using both models and

for phase 2 using HH covariates in addition to region and state fixed effect model.

B. Total health expend. ≥25% of non-food household expenditure

Phase 2 using region and state fixed effect model, DID for all India sample was: −0.043 (SE: 0.020)*and using HH covariates in addition to region and state fixed effect model was −0.042 (SE: 0.020)*. Results of intervention and South India for both Phases (1 &2) were statistically not significant, irrespective of using region and state fixed effects or using HH covariates in addition to region and state fixed effect models.

C. Total health expend. ≥ 15% of total expend. and inpatient expend. ≥ 7.5%

a. Andhra Pradesh sample

Phase 1: region and state fixed effect model: −0.025 (SE: 0.010)* and using HH covariates in addition to

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				region and state fixed effect models −0.025 (SE: 0.010)*. For Phase 2 it was not significant.
				b. **South India sample**
				Phase 1: region and state fixed effect model: −0.029 (SE: 0.013)* and using HH covariates in addition to region and state fixed effect models −0.027 (SE: 0.018)*. For Phase 2 it was not significant.
				c. **All India sample**
				Phase 1: region and state fixed effect model: −0.030 (SE: 0.012)* and using HH covariates in addition to region and state fixed effect models −0.029 (SE: 0.011)*.
				Phase 2: region and state fixed effect model: −0.014 (SE: 0.005)* and using HH covariates in addition to region and state fixed effect models −0.014 (SE: 0.000)*.
				Effect of Aarogyasri on prevalence of any health expenditure in household over 2004–2008

				A. Any health expenditure a. **Andhra Pradesh sample** Phase 1: region and state fixed effect model: −0.180 (SE: 0.021)** and using HH covariates in addition to region and state fixed effect models −0.164 (SE: 0.020)*. For Phase 2 it was not significant. b. **South India sample** Phase 1: region and state fixed effect model: −0.163 (SE: 0.068)* and using HH covariates in addition to region and state fixed effect models −0.150 (SE: 0.066)*. For Phase 2 it was not significant. c. **All India sample** Phase 1: region and state fixed effect model: −0.176 (SE: 0.060)* and using HH covariates in addition to region and state fixed effect models −0.167 (SE: 0.057)*. For Phase 2 it was not significant.

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				B. **Any inpatient expenditure**
				a. **Andhra Pradesh sample**
				For both Phases and using both model the result was not significant.
				b. **South India sample**
				Phase 1: region and state fixed effect model: −0.061 (SE: 0.022)* and using HH covariates in addition to region and state fixed effect models −0.059 (SE: 0.023)*. For Phase 2 it was not significant.
				c. **All India sample**
				Phase 1: region and state fixed effect model: −0.065 (SE: 0.020)* and using HH covariates in addition to region and state fixed effect models −0.063 (SE: 0.020)*. For Phase 2 it was not significant.
				C. **Any outpatient expenditure**
				a. **Andhra Pradesh sample**

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| | | | | Phase 1: region and state fixed effect model: −0.132 (SE: 0.017)** and using HH covariates in addition to region and state fixed effect models −0.116 (SE: 0.013)*. For Phase 2 it was not significant.

    b. **South India sample**

Phase 1: region and state fixed effect model: −0.138 (SE: 0.063)* and using HH covariates in addition to region and state fixed effect models −0.125 (SE: 0.061)*. For Phase 2 it was not significant.

    c. **All India sample**

Phase 1: region and state fixed effect model: −0.149 (SE: 0.059)* and using HH covariates in addition to region and state fixed effect models −0.140 (SE: 0.056)*. For Phase 2 it was not significant.

    D. **Any inpatient drug expenditure**

    a. **Andhra Pradesh and South India sample** |

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				The result for both phases and using both models, was not statistically significant
				b. **All India sample**
				Phase 1: region and state fixed effect model: −0.048 (SE: 0.021)* and using HH covariates in addition to region and state fixed effect models −0.046 (SE: 0.021)*. For Phase 2 it was not significant.
				E. **Any outpatient drug expenditure**
				a. Andhra Pradesh sample
				Phase 1: region and state fixed effect model: −0.100 (SE: 0.029)** and using HH covariates in addition to region and state fixed effect models −0.084 (SE: 0.026)*. For Phase 2 it was not significant.
				b. South India sample
				Result for both phases and both models was not significant.
				c. **All India sample**

				Phase 1: region and state fixed effect model: −0.125 (SE: 0.056)* and using HH covariates in addition to region and state fixed effect models −0.116 (SE: 0.053)*. For Phase 2 it was not significant.
Ghosh & Gupta, 2017	Impact evaluation: Coarsened exact matching and, linear and logit regression	National Sample Survey data: 18 states, which do not have additional state funded insurance (round not reported). States having specific PFHIs, union territories not exposed to RSBY and states not having functional RSBY in the year 2014-15 were excluded	PFHI covered: RSBY **Treated group**: Household having at least one person enrolled in RSBY. **Control**: no RSBY	1) **OOPs on all OP visits:** no statistically significant difference between RSBY insured & uninsured households in terms of OOP expenditure on OP visits i.e. SATT=-1014.12 (p=0.097) 2) Incidence of **catastrophic expenditure for OP care**: OR= 0.64 (p=0.23) 3) **OOPs on all IP visits**: no statistically significant difference between RSBY insured & uninsured households in terms of OOP expenditure on inpatient visits I.e. SATT=-6122.37 (p=0.063) 4) the probability of **incurring zero OOP expenditure on IP care** is not statistically different

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			between the RSBY-insured and uninsured families i.e. OR= 1.75 (p=0.127) 5) Incidence of **catastrophic expenditure for IP care:** OR= 0.86 (p=0.5). 6) **Impoverishment due to OOP on IP car**e: SATT= 0.83 (p=0.663) 7) **Total OOP spendin**g: SATT= -550.47 (p=0.067) 8) Incidence of catastrophic expenditure: OR= 0.76 (p=0.130) 9) **Impoverishment**: SATT= 0.96 (p=0.896)
Garg, 2020	Impact evaluation using NSS survey 2004 when there was no PFHI, and 2014 data (for older PFHI scheme) and primary household survey in 2019 (for data related to the effect of	NSS survey data Multivariate analysis to see the effect of PMJAY on CHE and OOPE OLS model for continuous outcome available	PFHI covered: PMJAY scheme introduced in the year 2018. The study also mentions other PFHI schemes like MSBY and RSBY operational in Chhattisgarh	**1) OOPE and financial protection** A) Mean OOPE for Hospitalization Episodes (in INR) Public= 3078 (95% CI1928–4228) Private= 19,375 (95% CI11305–27,447) B) Median OOPE for Hospitalization Episodes (in INR) Public= 530 (95% CI 379–758) Private= 7299 (95% CI 3788–9032)

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| first year of implementing PMJAY) in the state of Chhattisgarh, India | and Probit model for binary outcome variable.

Compared with ATT under Propensity Score Matching or PSM

Multivariate analysis was repeated for OOPE and CHE using IV approach. For OOPE 2sls was applied as IV model, and for CHE two step IV Probit was applied | | C) Proportion of incurred CHE25 for Hospitalization Episode (%)
Public= 7.6 (95% CI 4.5–11.0)
Private= 43.6 (95% CI 36.3–51.4)
2) Effect of enrolment in PMJAY and other PFHI on OOPE and CHE
A) OLS model (for continuous outcome variable)
OOPE (PMJAY)= coeff − 4287 (p=0.09)
OOPE (PFHI)= coeff. −87 (p=0.97)
Log of OOPE (PMJAY)= coeff. −0.45 (p< 0.01)
Log of OOPE (PFHI)= coeff. −0.34 (p < 0.01)
B) Probit Model (for binary outcome variable)
CHE 10 (PMJAY)= coeff. 0.08 (p=0.35)
CHE10 (PFHI)= coeff. −0.07 (p=0.29)
CHE25 (PMJAY) =coeff. 0.22 (p= 0.01)
CHE25 (PFHI)= coeff. 0.04 (p= 0.56)
CHE40 (PMJAY)= coeff. 0.26 (p=0.01)
CHE40 (PFHI)= coeff. 0.05 (p=0.55) |

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				C) PSM model (ATT)
				OOPE (PMJAY)= coeff. -4614 (p=0.20)
				OOPE (PFHI)= coeff. -1066 (p=0.73)
				Log of OOPE (PMJAY)= coeff. -0.37 (p< 0.01)
				Log of OOPE (PFHI)= coeff. -0.50 (p< 0.01)
				CHE10 (PMJAY)= coeff. 0.02 (p=0.52)
				CHE10 (PFHI)= coeff. 0.003 (p=0.90)
				CHE25 (PMJAY)= coeff. 0.05 (p=0.08)
				CHE25 (PFHI)= coeff. 0.02 (p=0.33)
				CHE40 (PMJAY)= coeff. 0.04 (p=0.14)
				CHE40 (PFHI)= coeff. 0.01 (p=0.36)
				D) IV model
				OOPE (PMJAY)= coeff. 48,734 (p=0.59)
				OOPE (PFHI)= coeff. 17,315 (p=0.72)
				Log of OOPE (PMJAY)= coeff. -0.48 (p=0.86)
				Log of OOPE (PFHI)= coeff. 1.01 (p=0.53)
				CHE10 (PMJAY)= coeff. -4.39 (p=0.28)
				CHE10 (PFHI)= coeff. -2.23 (p=0.23)

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				CHE25 (PMJAY)= coeff. −2.03 (p=0.54) CHE25 (PFHI)= coeff. −1.28 (p=0.48) CHE40 (PMJAY)= coeff. −0.67 (p=0.85) CHE40 (PFHI)= coeff. −0.68 (p=0.74)
Garg, Chowdhury & Sundararaman, 2019	Secondary data analysis of the two rounds of NSS cross- sectional survey	The 60th round of NSSO (2004) and 71st round of NSSO (2014) in three states of Andhra Pradesh, Karnataka and Tamil Nadu. Instrument Variable (IV) method was used in the multivariate analysis Two-step least square (2sls) for OOPE and Two-step IV Probit model for Utilization and CHE	PFHI covered: The three Public Funded Health Insurance (PFHI) Schemes operational in Andhra Pradesh (Rajiv Arogyashree or the NTR Vaidya Seva); Karnataka (Vajpayee Arogya Shree); Tamil Nadu (Tamil Nadu Chief Minister's Comprehensive Health Insurance Scheme)	A) **Mean OOPE for hospitalization episodes (in INR)** **Andhra Pradesh** 2004: Public Hospital 5042 (95% CI=4110–5976); Private hospital 19,657 (95% CI=17302–22,013) 2014: PFHI enrolled: Public hospital 2864 (95%CI=1725–4004); Private hospital 15,827 (95%CI=14570–17,084) Non enrolled: Public hospital 2355 (95% CI=1714–2998); Private hospital 17,934 (15676–20,194) **Karnataka:** 2004: Public hospital 4511 (95% CI=3794–5229); Private hospital 18,085 (95%CI=16111–20,058)

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				The pre PFHI in 2004 and post PFHI (2014) comparisons were made	2014: PFHI enrolled: Public hospital 2888 (95%CI=1551–4226); Private hospital 16,121 (95%CI=12482–19,760) Non enrolled: Public hospital 3556 (95%CI=3030–4082); Private hospital 17,873 (95%CI=16489–19,258) **Tamil Nadu** 2004: Public hospital 3291 (95% CI=1873–4710); private hospital 24,637 (95% CI=20752–28,522) 2014: PFHI enrolled: Public hospital 802 (95%CI=611–993); Private hospital 23,966 (95%CI=21060–26,872) Non enrolled: Public hospital 954 (95%CI=788–1120); private hospital 26,425 (95%CI=24140–28,711) **B) Median OOPE for hospitalization episode (in INR)**

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				Andhra Pradesh
				2004: Public Hospital 1660 (95%CI=1461–1853); Private hospital 9900 (95%CI=9020–10,719) 2014: PFHI enrolled: Public Hospital 600 (95%CI=500–850); Private hospital 10,493 (95%CI=9894–11,303) Non enrolled: Public hospital 925 (95%CI=600–1140); Private hospital 12,130 (95%CI=10990–13,500) **Karnataka** 2004: Public hospital 2027 (95%CI=1667–2437; private hospital 8800 (95%CI=7700–9612) 2014 PFHI enrolled: Public hospital 1140 (95%CI=817–1914); private hospital 8800 (95%CI=7239–10,835) Non-enrolled: Public Hospital 1975 (95%CI=1700–2250; private hospital 10,625 (95%CI=10000–11,400)

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				Tamil Nadu
				2004: Public Hospital 535 (95%CI=466–629); private hospital 10,718 (95%CI=9602–11,271)
				2014
				PFHI enrolled: Public hospital 370 (95%CI=300–500); private hospital 15,450 (95%CI=13900–17,584)
				Non-enrolled: Public hospital 350 (95%CI=300–400); private hospital 15,095 (95%CI=14000–15,771)
				C) Proportion of individuals incurred CHE25 (Catastrophic Health expenditure 25% of annual household consumption expenditure) for Hospitalization Episode (%)
				Andhra Pradesh
				2004: Public 6.4 (95%CI=4.6–8.2); private 24.7 (95%CI=22.6–26.8)
				2014:
				For PFHI enrolled: Public 2.7 (95% CI=1.1–4.4); Private 17.7 (95%CI=15.3–20.1)

				Non enrolled: Public 1.7 (95% CI=0–3.5); private 17.1 (95% CI=14.5–19.8)
				Karnataka
				2004: public 5.1 (95%CI=3.2–7.0); private 23.9 (95% CI=21.2–26.6)
				2014
				For PFHI enrolled: Public 2.2 (95%CI=0–5.8); private 20.0 (95%CI=13.1–26.9)
				Non enrolled: Public 3.1 (95%CI=1.9–4.4); 22.6 (95%CI=20.6–24.5)
				Tamil Nadu
				2004: Public 2.4 (95% CI=1.5–3.4); private 27.4 (95% CI=25.2–29.7)
				2014
				For PFHI enrolled: Public 0 (95%CI=0–0); private 27.2 (95%CI=23.1–31.4)
				Non-enrolled: Public 0.3 (95%CI=0–0.6); private 29.3 (95%CI=27.2–31.5)

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				D) Proportion of individuals incurred CHE40 for hospitalization episode (%)
				Andhra Pradesh
				2004: Public 3 (95%CI=1.7–4.2; private 13.7 (95%CI=12.0–15.4)
				2014
				For PFHI enrolled: Public 0.2 (95%CI=0–0.7); private 9.4 (95%CI=7.6–11.3)
				Non-enrolled: Public 0 (95%CI=0–0); private 8.7 (95%CI=6.7–10.7)
				Karnataka
				2004: Public 2.6 (95%CI=1.2–4.0); private 12.5 (95%CI=10.3–14.6)
				2014:
				For PFHI enrolled: Public 0.8 (95%CI=0–3); private 11.3 (95%CI=5.8–16.8)
				Non-enrolled: Public 1.7 (95%CI=0.8–2.6); private 11.8 (95%CI=10.3–13.3)

				Tamil Nadu
				2004: Public 1.5 (95%CI=0.7–2.2); private 17 (95%CI=15.1–18.9)
				2014
				For PFHI enrolled: Public 0 (95%CI=0–0); private 14.7 (95%CI=11.4–18.0)
				Non-enrolled: Public 0 (95%CI=0–0); 14.4 (95% CI=12.7–16.0)
				E) Proportion of individuals incurred CHE10 for hospitalization episode (%)
				Andhra Pradesh
				2004: Public 17.9 (95%CI=15.1-20.7); private 53.6 (95%CI=51.2 – 56.1)
				2014
				For PFHI enrolled: Public 8.7 (95% CI=5.8-11.6); private 51 (95%CI=47.8-54.2)
				Non-enrolled: Public 7.3 (95%CI=3.5-11.2); private 50.9 (95%CI=47.4-54.4)

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				Karnataka 2004: Public 20.3 (95%CI=16.8-23.8); private 49.6 (95%CI=46.5-52.8) 2014 For PFHI enrolled: Public 8 (95%CI=1.4-14.5); private 43.1 (95%CI=34.5-51.7) Non-enrolled: Public 11.5 (95%CI=9.3-13.9); private 53.2 (95%CI=50.9-55.5) **Tamil Nadu** 2004: Public 8 (95%CI=6.3-9.7); private 50 (95%CI=47.4-52.5) 2014 For PFHI enrolled: Public 0.7 (95%CI=0-1.9); Private 59.3 (95%CI=54.7-63.9) Non enrolled: Public 1.2 (95%CI=0.6-1.8); private 58.3 (95%CI=55.9-60.6) **F) 2sls regression for size of OOPE for hospitalization**

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				PFHI enrolment was not associated with the size of OOPE in any of the three states Andhra Pradesh Government insurance(yes)= coeff 2944.541 (SE= 35372.290, 95%CI= -66383.880 to 72272.960) Karnataka Government insurance (yes)= coeff 45744.550 (SE= 34789.840; 95%CI= -22442.280 to 113931.400) Tamil Nadu Government insurance (yes)= coef 63942.380(SE= 49332.880; 95%CI= - 32748.280 to 160633.000) **G) Association between government insurance and CHE25** Enrolment in PFHI schemes was not significantly associated with incidence of CH25 Andhra Pradesh: coef 1.407(SE= 0.881; 95%CI= -0.319 TO 3.134)

				Karnataka: coef 2.463 (SE= 2.279; 95%CI= -2.003 to 6.929)
				Tamil Nadu: coef 1.58(SE= 1.859; 95%CI= -2.063 to 5.223)
				H) Association between government insurance and CHE40
				Enrolment in PFHI schemes was not significantly associated with incidence of CHE40 in all the three states
				Andhra Pradesh: coef -1.788 (SE= 1.171; 95%CI= -4.084 to 0.508)
				Karnataka: coef. 0.788 (SE= 2.668; 95%CI= -4.440 to 6.016)
				Tamil Nadu: coef. 1.653 (SE= 2.099; 95%CI= -2.462 to 5.768)
				I) Association between government insurance and CHE10

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| | | | | Enrolment in PFHI schemes was not significantly associated with incidence of CHE10 in all the three states

Andhra Pradesh: coef. -1.35178 (SE= 0.8440585; 95%CI= -3.006104 to 0.3025442)

Karnataka= coef. 3.546654 (SE= 6.232684; 95%CI= -8.669182 to 15.76249)

Tamil Nadu: coef. 1.039547(SE= 1.048903; 95%CI= -1.016266 to 3.09536)

J) Association between PFHI enrolment and OOPE

Andhra Pradesh: coef. $-$ 5374 (p<0.001)

Karnataka: coef. -4064 (p<0.05)

Tamil Nadu: coef. 2665 (p>0.05)

K) Association between PFHI enrolment and CHE 10

Andhra Pradesh: $-$0.235 (p<0.001)

Karnataka: $-$0.153 (p>0.05) |

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				Tamil Nadu: −0.085 (p>0.05) **L) Association between PFHI enrolment and CHE 25** Andhra Pradesh: −0.210 (p<0.001) Karnataka: −0.083 (p>0.05) Tamil Nadu: −0.031 (p>0.05) **M) Association between PFHI enrolment and CHE 40** Andhra Pradesh: −0.255 (p<0.001) Karnataka: −0.118 (p>0.05) Tamil Nadu: 0.090 (p>0.05)
Johnson, & Krishnaswamy, 2012	Secondary data analysis of the two rounds of NSSO data	NSSO round 61 (conducted in 2004-05) and round 66 (conducted in 2009-10) as pre and post surveys Excluding Andhra Pradesh, Karnataka and Tamil Nadu	PFHI covered: RSBY **Treatment group**= RSBY treated districts *A household is deemed treated if the policy start	**1) Impact of RSBY (without household matching)** A) OP expenditure (in Rs) Triple diff= - 4.478 (p<0.05) DID= -4.716(p<0.01) B) IP expenditure (in Rs) Triple diff.= -8.938 (p>0.1 i.e. 0.104) DID= 1.106 (P>0.1 I.e. p=0.461)

		-Difference in differences analysis -Triple difference analysis (non BPL households as a second control) -Coarsened exact matching approach	date in that district was two month prior to the date of the interview in order to give the household sufficient time to undergo a procedure **Control 1=** those districts where RSBY was planned (and an insurer identified), but not launched at the time of the survey **Control 2=** districts where RSBY was not planned at the time.	C) Total Medical Exp. (in Rs.) Triple diff.= -13.42 (p<0.05 i.e. p= 0.046) DID= -3.610 (P<0.05 I.e. p= 0.025) D) Was hospitalized Triple diff.= 0.0249 (p<0.05 i.e. p= (0.018) DID= 0.0157 (P>0.1 I.e. p= 0.473) **2) For duration of treatment model (without household matching)** **A)** OP expenditure (in Rs) Triple diff.= -0.230 (p>0.1 i.e. p= 0.357) DID= -0.280 (P<0.05 I.e. p= 0.033) B) IP expenditure (in Rs) Triple diff.= -0.811 (p<0.1 i.e. 0.066) DID= - 0.00277 (P>0.1 I.e. p= (0.984) C) Total Medical Exp. (in Rs.) Triple diff.= - 1.041 (p<0.1 i.e. p= (0.075) DID= -0.282 (P<0.1 I.e. p= 0.076) D) Was hospitalized

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				297 control and 204 treatment districts with a total of 186,065 households. Out of these, 102,810 are from the PRE intervention round and 83,255 from the POST round	Triple diff.= 0.00299 (p<0.01 i.e. p= 0.006) DID= 0.000672 (P>0.1 I.e. p= 0.720) **3) Impact of RSBY (for matched districts and households)** A) OP expenditure (in Rs) Triple diff.= -3.767 (p<0.1 i.e. p= 0.071) DID= - 4.934 (P<0.01 I.e. p= 0.001) B) IP expenditure (in Rs) Triple diff.= -7.683 (p>0.1 i.e. 0.143) DID= 1.183 (P>0.1 I.e. p= 0.413) C) Total Medical Exp. (in Rs.) Triple diff.= -11.45 (p<0.1 i.e. p= 0.053) DID= -3.751 (P<0.05 I.e. p= 0.015) D) Was hospitalized Triple diff.= 0.0259 (p<0.05 i.e. p= 0.019) DID= 0.0171 (P>0.1 I.e. p= 0.437) **4) For duration of treatment model (matched districts and households)**

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				A) OP expenditure (in Rs) Triple diff.= -0.136 (p>0.05 i.e. p= (0.511)) DID= - 0.312 (P<0.05 I.e. p= 0.025) B) IP expenditure (in Rs) Triple diff.= -0.677 (p>0.1 i.e. p= 0.117) DID= - 0.00457 (P>0.1 I.e. p= 0.972) C) Total Medical Exp. (in Rs.) Triple diff.= -0.813 (p>0.1 i.e. p= 0.109) DID= - 0.316 (P<0.05 I.e. p= 0.041) D) Was hospitalized Triple diff.= 0.00311 (p<0.01 i.e. p= 0.005) DID= 0.000715 (P>0.1 I.e. p= 0.706) **5) Impact of RSBY (matched districts and households) – No Uttar Pradesh and Haryana** **A)** OP expenditure (in Rs) Triple diff.= -3.650 (p>0.05 i.e. p= (0.511)) DID= - 2.878 (P<0.01 I.e. p= 0.010) B) IP expenditure (in Rs)

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				Triple diff.= -10.52 (p>0.1 i.e. p= 0.153)
				DID= 1.734 (p>0.1 I.e. p= 0.346)
				C) Total Medical Exp. (in Rs.)
				Triple diff.= -14.17 (p>0.1 i.e. p= 0.096)
				DID= -1.144 (P>0.1 I.e. p= 0.403)
				D) Was hospitalized
				Triple diff.= 0.0269 (p<0.05 i.e. p= 0.042)
				DID= 0.0543 (P<0.1 I.e. p= 0.005)
				6) For duration of treatment model (Matched districts and households) (No Uttar Pradesh and Haryana)
				A) OP expenditure (in Rs)
				Triple diff.= -0.186 (p>0.1 i.e. p= 0.496)
				DID= -0.122 (P>0.1 I.e. p= 0.314)
				B) IP expenditure (in Rs)
				Triple diff.= -0.679 (p>0.1 i.e. p= 0.292)
				DID= 0.0322 (p>0.1 I.e. p= 0.834)
				C) Total Medical Exp. (in Rs.)

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				Triple diff.= -0.865 (p>0.1 i.e. p= 0.241)
				DID= -0.0895 (P>0.1 I.e. p= 0.560)
				D) Was hospitalized
				Triple diff.= 0.00419 (p<0.01 i.e. p= 0.000)
				DID= 0.00349 (P<0.1 I.e. p= 0.076)
				Note: OP exp, IP Exp and Total exp. are per capita per month
Karan, Yip, Mahal, 2017	-Three repeated cross section HH Surveys -Difference-in-differences (DID) methods were used to evaluate the causal impacts of RSBY -'intention to treat' (ITT) effect -propensity-score matching, to create	Three waves of HH 'Consumer Expenditure Surveys' (CES): 1999-2000 (pre-intervention= T1), 2004-5 (T2) & 2011-2 (post-intervention= T3), conducted by the NSSO. Sample size in three rounds ranged from: 100,000 and 125,000 HHs.	PFHI covered: RSBY implementation began in 2008-09. **Treatment group**: Poor HHs in RSBY implementing districts. **Control**: Poor in non-RSBY districts. Poor: belonging to the two poorest expenditure	**Districts which began participating in RSBY on or before March 2010 (treat 1)** **1) IP OOP:** Pre-intervention DID coefficient estimates are not statistically significant for all outcomes of interest. A) RSBY increased statistically insignificant likelihood of incurring any inpatient OOP in the treatment group 'treat1' by 22% relative to Controls (OR: 1.223, SE: 0.2777). B) Conditional on having positive IP OOP, the HH OOP spending per person remained unchanged for the

	comparable treatment and control districts using pooled data from the two pre-intervention years (2000 and 2005).		quintiles as a proxy for BPL HHs.	treatment compared to controls (Difference in pre-post: 0.005, SE: 0.212). C) No effect of the scheme on the share of IP OOP spending in total HH expenditures for the 'treat1' group (DID coefficients: -0.007, SE: 0.0079). D) RSBY lowers the likelihood of experiencing catastrophic IP OOP spending by 26%, the effect is not statistically significant (OR: 0.743, SE: 0.2272). 2) **OP OOP:** A) RSBY increased the likelihood of incurring OP OOP in treatment HHs by 23% (OR: 1.226, SE: 0.1806); B) Per person OP OOP (conditional on reporting any OP OOP) declined by 5% in 2012 and these impacts were statistically significant (Difference: -0.049, SE: 0.0580). C) RSBY did not affect the share of OP OOP in total spending (DID coefficient: - 0.004, SE: 0.0028).

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D) The probability of catastrophic OP OOP among treat1 HHs was lower by 11% (OR: 0.891, SE: 0.1425) but remained statistically insignificant.

3) Total OOP:

Total OOP spending showed mostly statistically insignificant differences in the changes in all the four OOP indicators between treatment and control groups, excepting 30% (OR: 1.298, SE: 0.2013) increase in probability of any OOP payments in treat1

4) Nonmedical expenditure of households: RSBY increased nonmedical expenditure of HHs in the treat1 group by 5%

5) Drug and non-drug expenditure: RSBY did not affect the likelihood of incurring both drug and non-drug IP OOP. However, conditional on positive non-drug OOP, the level of OOP was 27% higher among treat1 households after RSBY was introduced, and this difference was statistically significant.

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				Districts which began participating between April 2010 and March 2012 (treat 2)
				1) IP OOP:
				A) RSBY increased the probability of incurring any IP OOP by 28% (OR: 1.281, SE: 0.3201) and
				B) lowered per member OOP IP expenditure (conditional on reporting any IP OOP) by 16% (Difference: - 0.164, SE: 0.2175), but were statistically insignificant.
				C) No impact of RSBY on IP OOP as a share of total HH spending in 'treat2' HHs (DID coefficient: -0.008, SE: 0.0081).
				D) RSBY lowered the probability of incurring any catastrophic inpatient OOP by almost 9% (OR: 0.911, SE: 0.3162) in 'treat2' HHs, but this was statistically insignificant.
				2) OP OOP:

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| | | | | No statistically significant effect of the scheme in the treat2 households (Probability of any OOP OR: 1.093, SE: 0.1737; OOP Share DID –0.004, SE: 0.0033; Probability of Catastrophic OR 1.003, SE 0.1972), except for per person monthly OP OOP spending, which declined by 19% (Difference: -0.151, SE: 0.0735).

 3) **Total OOP:**
 Insignificant result in all OOP indicators except 11% (OR: -0.113, SE: 0.0738) decline in OOP level

 4) Nonmedical expenditure of households: No difference.

 5) Drug and non-drug expenditure: mostly small and Insignificant

 Subgroup analysis using only data for treated districts with "high enrolment rates," defined as enrolment exceeding 50% of eligible families: Did not find evidence of larger effects in |

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				high-enrolment districts. The direction of change of all the outcome indicators remained largely similar to the findings for the broader set of intervention districts
Katyal et al., 2015	A retrospective, longitudinal, controlled quasi-experimental Study (Two large surveys): Difference-in-differences	Pre-post intervention effect: Pre-intervention NSSO 2004 survey and post intervention NSSO 2012 survey.	PFHI covered:RAS and RSBY No. Of HHs: **Intervention 1**: RAS of AP in 2004: 0559 and 2012: 8623. **Intervention 2**: RSBY of MH in 2004: 5314 & in 2012: 10073	1) **Changes in average IP expenditure—public vs private** (the real terms change (deflated to 2004 prices) in these outcomes at follow-up and the DID estimate comparing AP with MH) **Private:** The overall expenditure on IP care per episode in private facilities has increased in both states and the DID is -2076.5 (-3996:-157) p=0.04 INR in AP compared to MH. **Public:** The average expenditure on public facilities has also increased in both states, and DID is -1605.3 (-2628.6:-582.1) p=0.002 INR in AP compared to MH
Khetrapal &	Cross sectional survey (bivariate analysis and Student's t test)	Districts of Patiala, Punjab & Yamunanagar, Haryana in 2011-13. Participants	PFHI covered: RSBY RSBY had completed at least two years of	RSBY beneficiaries had incurred OOP expenditure of mean: ₹5748 (±9211) though it was lesser than for

Acharya, 2019		chosen from 12 empaneled hospitals (3 public and 3 private each from both the districts)	implementation in these districts at the time of data collection. Participants who were enrolled in RSBY (n=751) and non RSBY (n=364)	non-RSBY (mean: ₹10667 ±16990.9) and less at public facilities when compared to private
Mahapatro, Singh & Singh, 2018	Analysis of the 71st round of cross- sectional household NSS 2014 survey Bi variate and multivariate analysis was done	-71 st round National Sample Survey, 2014, 'Social Consumption: Health' Schedule 25.0 -To examine the impact of health insurance on OOP payment, two-part model was used (part 1 logit and part 2 linear)	PFHI covered: Government funded health insurance schemes like RSBY, Arogyashree, CGHS, ESIS Information of hospitalization during 365 days was used for the analysis. For association comparisons were made	**1) Average OOP Expenditure per hospitalization** For government funded health insurance (RSBY, Arogyasri, CGHS, ESIS): Public provider Mean= Rs 3987 (47%); Private provider Mean= Rs 19737 (53%); Total Mean= 12408 (100%) For other HI: Public provider Mean= 7934 (18%); private provider Mean= 20764 (72%); Total Mean= 18510 (100 %) Not Health insured: Public provider Mean= 5437 (46%); Private provider Mean= 24341 (54%); Total= 15647 (100 %)

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			between insured and uninsured	**2) Extent of OOP expenditure (Monthly) by insurance status** For Government health insurance=Rs 1034 For Private (other) HI= Rs 1542 For non-insured= Rs 1304 Therefore, OOP expenditure was lower for government insurance holder than those not having any of government Insurance schemes **3) Association of OOPE with health insurance** For PFHI insurance= - 2.47 (p<0.01) (part 1 Logit model) For PFHI insurance= -0.34 (p<0.01) (part 2 Linear model)
Nandi, Schneider & Dixit, 2017	Secondary data, multi variate logistic regression	NSSO, the Chhattisgarh State data used in this study were extracted from the 25th schedule of the 71st round of the cross-sectional	PFHI covered: Government funded health insurance schemes in Chhattisgarh viz. RSBY, MSBY, ESIS, CGHS	**Out of pocket expenditure:** -Government insurance coverage (AOR 0.265; 95% CI: 0.174–0.405) and childbirth conditions (AOR 0.516; 95% CI: 0.290–0.918) were significantly less

		Indian National Sample Survey, conducted between January and June 2014 The Chhattisgarh sample included 1205 house- holds and 6026 individuals (household members) Out of pocket expenditure on hospitalization was calculated per episode as medical expenditure minus reimbursements. Weighted medians of OOP expenditure were calculated		likely to entail OOP expenditure than no insurance and other ailments respectively -Women (AOR 1.700; 95% CI: 1.012–2.858) more likely to incur OOP expenditure than men and hospitalization in private hospital had a significantly higher possibility of incurring OOP expenditure than any other type of facility.
Philip, Kannan and	A comparative cross-sectional survey of 149 insured and 147	Using generalized estimating equations, the correlates of inpatient	PFHI covered: CHIS of Kerala	OOPE: The mean OOP expenses for inpatient services among insured participants (INR 448.95) was

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Sarma, 2016	uninsured BPL households was conducted in Trivandrum district of Kerala. Pearson's $\chi 2$ test comparison. Multivariate logistic regression analysis was used to derive the predictors of insurance status.	service utilization of individuals were estimated. The models were built by the method of iterative backward elimination and forward selection because the study did not use any conceptual framework, and it aimed at exploration. The Mann-Whitney *U* test was used to compare the expenditure associated with inpatient care between the 2 group	A total of 149 insured and 147 uninsured households, with 667 and 578 members, respectively, were included in the study	significantly higher than that of the uninsured households (INR 159.93); p = .003 at 95% CI.
Ranjan et. al 2018	Analysis of a cross-sectional study	-Data from the 71st round of NSSO survey I.e. 'Social Consumption: Health' survey	PFHI covered: Public Funded Health Insurance (PFHI) schemes e.g. RSBY	**1) Average OOPE (the median) with PFHI coverage and no insurance** A) Rural

		-Propensity score matching (PSM) for the effectiveness of PFHIs and multiple logistic regression for association		People having government insurance: Average OOPE in public= Rs 2848; Average OOPE in private= Rs. 17,493

People with no insurance: Average OOPE in public =Rs 3994; Average OOPE in private= Rs 20,445

B) Urban

People having government insurance: Average OOPE in public= Rs 2738; Average OOPE in private= Rs. 19,111

People with no insurance: Average OOPE in public =Rs 6322; Average OOPE in private= Rs 27,102

2) Impact Assessment of PFHI on CHE at 10% and 25% threshold using Propensity Score Matching (PSM)

For 10%CHE

Public insurance v/s no insurance (unmatched)= -0.05 (SE=0.01)

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				Public insurance v/s no insurance (ATT)= −0.13 (SE=0.02; 95%CI= −0.16, −0.10) For 25%CHE Public insurance v/s no insurance (unmatched)= −0.02 (SE=0.01) Public insurance v/s no insurance (ATT)= −0.06 (SE= 0.01; 95%CI= −0.09, − 0.04) **3) Impact Assessment of PFHI on CHE at 10% and 25% threshold using Propensity Score Matching (PSM) for below three quintiles** For 10%CHE Public v/s no insurance (unmatched)= −0.02 (SE= 0.009) Public insurance v/s no insurance (ATT)= −0.004 (SE=0.03; 95%CI=−0.04 to − 0.001) For 25%CHE Public v/s no insurance (unmatched)= −0.008(SE= 0.007)

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				Public insurance vs no insurance (ATT)= −0.01(SE= 0.027; 95%CI= −0.022 to 0.005)
				4) Impoverishment effect of OOPE on hospitalization
				For Government funded HI schemes
				a) Percentage of household below poverty line pre-payment= 21.85
				B) Percentage of household below poverty line post-payment= 33.51
				For Employer supported scheme
				A) Percentage of household below poverty line pre-payment= 11.04
				B) Percentage of household below poverty line post-payment= 17.33
				For Arranged by household
				A) Percentage of household below poverty line pre-payment= 3.53

				B) Percentage of household below poverty line post-payment= 10.33
				Not covered
				A) Percentage of household below poverty line pre-payment= 28.83
				B) Percentage of household below poverty line post-payment= 42.01
				5) Financial protection and PFHI
				A) Private provider without any insurance
				Mean OOPE per hospitalization= Rs 22,604
				Median OOPE per hospitalization= Rs 11,300
				Incidence of CHE-10= 62.4
				Incidence of CHE-25 30.0
				Impoverishment= 19.1
				B) Private provider with PFHI
				Mean OOPE per hospitalization= Rs 17,741
				Median OOPE per hospitalization= Rs 10,120
				Incidence of CHE-10= 60.0

				Incidence of CHE-25= 29.2
				Impoverishment= 18.2
				C) Public provider without any insurance
				Mean OOPE per hospitalization= Rs 4919
				Median OOPE per hospitalization= Rs 1451
				Incidence of CHE-10= 16.1
				Incidence of CHE-25= 6.0
				Impoverishment= 6.8
				D) Public provider with PFHI
				Mean OOPE per hospitalization= Rs 3204
				Median OOPE per hospitalization= Rs 950
				Incidence of CHE-10= 14.8
				Incidence of CHE-25= 5.6
				Impoverishment= 4.6

| Rao et al., 2014 | A difference-in-differences (DID) study using repeated cross-sectional surveys with parallel control. | NSSO 2004 survey, A total of 5314 and 5059 households from MH and AP were surveyed by the NSSO in 2004 and Survey in 2012 included 10 073 (MH) and 8623 (AP) households. | PFHI covered: Arogyashree Two cross-sectional surveys: as a baseline, the data from the NSSO 2004 survey collected before the Aarogyasri and RSBY schemes were launched; and as postintervention, a survey using the same methodology conducted in 2012. A survey of 18 696 households across 2 states and 1871 locations | 1) **Inpatient OOPE** (In INR) 2012 compared to 2004: 1 year prior to survey after deducting reimbursement from total expenditure, if any. Both the states: unadjusted DID=−498.2, 95% CI −792.9 to −203.5, p=0.0009 and adjusted: −565.8 (862.9 to −268.6) 0.0002 **Subgroup analysis based on HH head characteristics:** a) Gender Male: Mean DID: −513.7 (−843.9 to −183.4) p=0.0023, female it was not significant. b) Social group: SC: Mean DID −708.7 (−1234.3 to −183.2) p=0.0082 All other groups: Mean DID −1110.46 (−1868 to −352.9) p=0.0041 For ST and other excluded groups, it was not significant. c) Location |

| | | | | | Rural: Mean DID −504 (−801.9 to −206.0) p=0.0009, for Urban it was not significant |

Rural: Mean DID −504 (−801.9 to −206.0) p=0.0009, for Urban it was not significant

d) Quintile

Poorest: Mean DID −1001.3 (−1751 to −251.7) p=0.0089

Middle: Mean DID −798.1 (−1362.9 to −233.3) p= 0.0056

For second, fourth and fifth quintile it was not significant.

2) **Large inpatient OOPE** (A HH with OOPE for inpatient care was equal to or greater than INR 23,000 (USD419)).

Adjusted for both states, Mean DID=−1.8, 95% CI −3 to −0.7, p=0.0009

Subgroup analysis based on HH head characteristics:

Quintile: Poorest: Mean DID −0.2 (−3.8 to −0.19) p=0.0307

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				For other quintile variables, gender, social groups, location it was not significant.
				3) **Large borrowing** (if the borrowing was equal to or exceeded the BPL threshold set by the Government of AP: INR 70 000 for urban families and 65000 for rural HHs)
				In both states: Unadjusted Mean DID: −3.7 (−6.4 to −0.908) p=0.0100 and adjusted DID=−4, 95% CI −6.6 to −1.4, p=0.0032
				Subgroup analysis based on HH head characteristics:
				a) Gender
				Male: Mean DID −3.6 (−6.6 to −0.62) p=0.0187
				Female: Mean DID −4.7 (−8.3 to −1) p=0.0137
				b) Social group
				ST: Mean DID −5.5 (−9.3 to −1.8) p=0.0048
				All other groups: Mean DID −4.1 (−7.9 to −0.4.0) p=0.0302

				For SC and Other excluded groups, it was not significant.
				c) Location
				Rural: Mean DID −4.7 (−7.3 to −2.1) p=0.0007, for urban it was not significant
				d) Quintile
				Poorest: Mean DID −9 (−14 to −4.4) p=0.0002
				For others quintile groups it was not significant.

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| **Ravi & Bergkvist, 2014** | Analysis of a cross sectional survey | NSSO data for consumption expenditure Difference-in-differences method and regression analysis | PFHI covered: Different PFHI schemes Pre and post analysis of the effects of different schemes | **1) Means of outcome: Impoverishment** **For overall sample** A) Overall impoverishment Treatment: Pre: 0.281 (–0.003); Post: 0.207 (–0.004); Diff: –0.074 (–0.005) Control: Pre: 0.357(–0.003); Post: 0.276(–0.004); Diff: –0.081(–0.005) Difference: Pre: –0.076(–0.004); Post: –0.069(–0.006); Diff: 0.007(–0.007) B) OOP impoverishment Treatment: Pre: 0.321(–0.003); Post: 0.24 (–0.004); Diff: –0.081 (–0.005) Control: Pre: 0.401 (–0.003); Post: 0.312 (–0.004); Diff: –0.089 (–0.005) Difference: Pre: –0.08 (–0.004); Post: –0.072 (–0.006); Diff: 0.008 (–0.007) **For long term sample** |

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				A) Overall impoverishment
				Treatment: Pre: 0.273 (–0.004); Post: 0.169 (–0.005); Diff: –0.104 (–0.007)
				Control: Pre: 0.335 (–0.002); Post: 0.266 (–0.003); Diff: –0.069 (–0.004)
				Difference: Pre: –0.062 (–0.005); Post: –0.097 (–0.006); Diff: –0.035 (–0.008)
				B) OOP impoverishment
				Treatment: Pre: 0.306 (–0.004); Post: 0.193 (–0.006); Diff: –0.113 (–0.007)
				Control: Pre: 0.38 (–0.002); Post: 0.303 (–0.003); Diff: –0.077 (–0.004)
				Difference: Pre: –0.074 (–0.005); Post: –0.11 (–0.007); Diff: –0.036 (–0.008)
				2) Means of Outcomes, Catastrophic Headcount Threshold—40% of Non-food Expenditure
				For overall sample:
				A) OOP

				Treatment: Pre: 0.0466 (–0.0013); Post: 0.0448 (–0.0018); Diff: –0.0018 (–0.0022)
				Control: Pre: 0.0453 (–0.0013); Post: 0.036 (–0.0017); Diff: –0.0093 (–0.0021)
				Difference: Pre: 0.0013 (–0.0018); Post: 0.0088 (–0.0025); Diff: 0.0075 (–0.0031)
				B) Outpatient
				Treatment: Pre: 0.0397 (–0.0012); Post: 0.0309 (–0.0016); Diff: –0.0089 (–0.002)
				Control: Pre: 0.0439 (–0.0013); Post: 0.0254 (–0.0015); Diff: –0.0185 (–0.002)
				Difference: Pre: –0.0042 (–0.0018); Post: 0.0054 (–0.0022); Diff: 0.0096 (–0.0028)
				C) Drugs
				Treatment: Pre: 0.0179 (–0.0008); Post: 0.0167 (–0.0011); Diff: –0.0012 (–0.0014)
				Control: Pre: 0.0231 (–0.0009); Post: 0.0151 (–0.0012); Diff: –0.008 (–0.0015)

				Difference: Pre: –0.0052 (–0.0012); Post: 0.0016 (–0.0016); Diff: 0.0068 (–0.002) **Long term sample** A) OOP Treatment: Pre: 0.0389 (–0.0018); Post: 0.0367 (–0.0026); Diff: –0.0022 (–0.0032) Control: Pre: 0.0479 (–0.001); Post: 0.0411 (–0.0014); Diff: –0.0067 (–0.0018) Difference: Pre: —0.009 (–0.0021); Post: –0.0044 (–0.003); Diff: 0.0046 (–0.0037) B) Outpatient Treatment: Pre: 0.0332 (–0.0017); Post: 0.0282 (–0.0025); Diff: –0.005 (–0.003) Control: Pre: 0.0444 (–0.001); Post: 0.0279 (–0.0012); Diff: –0.0165 (–0.0016) Difference: Pre: –0.0112 (–0.002); Post: 0.0003 (–0.0027); Diff: 0.0115 (–0.0034) C) Drugs

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| | | | | Treatment: Pre: 0.011 (–0.001); Post: 0.0095 (–0.0013); Diff: –0.0015 (–0.0016)

Control: Pre: 0.0234 (–0.0007); Post: 0.0176 (–0.001); Diff: –0.0058 (–0.0012)

Difference: Pre: –0.0124 (–0.0012); Post: –0.0082 (–0.0016); Diff: 0.0042 (—0.002)

3) Changes in poverty gap index overtime

For overall sample

A) Overall PGI

Treatment: Pre: 0.059 (–0.0009); Post: 0.04 (–0.001); Diff: –0.019 (–0.0013)

:Control: Pre: 0.079 (–0.0008); Post: 0.056 (–0.0011); Diff: –0.023 (–0.0013)

Difference: Pre: –0.02 (–0.001); Post: –0.016 (–0.001); Diff: 0.004 (–0.002)

B) OOP PGI

Treatment: Pre: 0.07(–0.0009); Post: 0.048 (–0.001); Diff: –0.022 (—0.0014) |
|---|---|---|---|---|

				Control: Pre: 0.091 (–0.0009); Post: 0.066 (–0.0011); Diff: –0.025 (–0.0014) Difference: Pre: –0.021(–0.001); Post: –0.018 (–0.002); Diff: 0.003 (–0.002) For Long term sample A) Overall PGI Treatment: Pre: 0.058 (–0.0014); Post: 0.032 (–0.0013); Diff: –0.026 (–0.0019) Control: Pre: 0.073 (–0.0007); Post: 0.053 (–0.0008); Diff: –0.02 (–0.0011) Difference: Pre: –0.015(–0.002); Post: –0.021 (–0.002); Diff: –0.006 (–0.002) B) OOP PGI Treatment: Pre: 0.065 (–0.0014); Post: 0.038 (–0.0014); Diff: –0.027 (–0.002) Control: Pre: 0.086 (–0.0007); Post: 0.063 (–0.0009); Diff: –0.023 (–0.0012)

				Difference: Pre: –0.021(–0.002); Post: –0.025 (–0.002); Diff: –0.004 (–0.002) **After regression analysis with fixed state effects** **Short term impact** **1) Impoverishment Effects in Overall Sample** A) Overall impoverishment: Treatment*Post: 0.0082(–0.0065; p>0.1) B) Impoverishment net of OOP: Treatment*Post: 0.0089(–0.0067; p>0.1) C) Impoverishment net of hospitalization: Treatment *Post: 0.0063 (–0.0065; p>0.1) D) Impoverishment net of outpatient: Treatment *Post: 0.0107 (–0.0067; p>0.1) E) Impoverishment net of drugs: Treatment *Post: 0.0094 (–0.0067; p>0.1) **2) Catastrophic Headcount, Overall sample— Threshold 40% of Non-food Expenditure**

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				A) Due to OOP: Treatment *Post: 0.0075 (–0.003; $p<0.05$)
				B) Due to hospitalization: Treatment *Post: 0.0004(–0.0014; $p>0.1$)
				C) Due to outpatient: Treatment *Post: 0.0096 (–0.0028; $p<0.01$)
				D) Due to drugs: Treatment *Post: 0.0069(–0.002; $p<0.01$)
				3) Poverty Gap Index, Overall Sample
				A) Poverty gap index: Treatment *Post: 0.0037(–0.0018; $p<0.05$)
				B) PGI net of OOP: Treatment *Post: 0.0047(–0.0019; $p<0.05$)
				C) PGI net of hospitalization: Treatment *Post: 0.0036(–0.0018; $p<0.05$)
				D) PGI net of outpatient: Treatment *Post: 0.0049(–0.0019; $p<0.01$)

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				E) PGI net of drugs: Treatment *Post: 0.0048(–0.0019; p<0.05) **Long term impact of PFHIS** **1) Impoverishment, Long-term Sample** A) Overall impoverishment: Treatment *Post: –0.0308 (–0.0077; p<0.01) B) Impoverishment net of OOP: Treatment *Post: –0.0316(–0.008; p<0.01) C) Impoverishment net of hospitalization: Treatment *Post: –0.0313(–0.0077; p<0.01) D) Impoverishment net of outpatient: Treatment *Post: –0.0293(–0.0079; p<0.01) E) Impoverishment net of drugs: Treatment *Post: –0.0275(–0.0079; p<0.01) **2) Catastrophic Headcount, Long-term Sample— Threshold 40% of Non-food Expenditure** A) Due to OOP: Treatment *Post: 0.0048(–0.0036; p>0.1)

				B) Due to hospitalization: Treatment *Post: –0.0006(–0.0017; p>0.1)
				C) Due to outpatient: Treatment *Post: 0.0120(–0.0033; p<0.01)
				D) Due to drugs: Treatment *Post: 0.0045(–0.002; p<0.05)
				3) Poverty Gap Index, Long-term Sample
				A) Poverty gap index: Treatment *Post: –0.0047(–0.0021; p<0.05)
				B) PGI net of OOP: Treatment *Post: –0.0035(–0.0022; p>0.1)
				C) PGI net of hospitalization: Treatment *Post: –0.0047(–0.0021; p<0.05)
				D) PGI net of outpatient: Treatment *Post: –0.0035(–0.0022; p>0.1)
				E) PGI net of drugs: Treatment *Post: –0.0032(–0.0022; p>0.1)

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Raza, van de Poel & Panda, 2016	Two cross sectional surveys among SHG members themselves or the head of the (households) HHs: Regression	Primary study: Baseline survey: March and May 2010 (3,686 HHs) and follow-up survey: March and April in 2012 (3,318 HHs) and 2013 (3307 HHs). Location: Kanpur Dehat and Pratapgarh districts in Uttar Pradesh and Vaishali in Bihar	PFHI covered: RSBY membership	**1)) OOP Spending (Log of healthcare expenses conditional on spending (INR)**: RSBY membership to be associated with a reduction in OOP spending in Bihar (36%) [-0.361* (0.190), n=577]. Pooled: -0.056 (0.170), n=1361 and UP: 0.224 (0.296), n=804 are not significant. **Sensitivity analysis** by restricting the sample to HHs in the bottom two asset tertiles: Bihar it is significant -0.675 (0.234), n=403, while pooled and UP it is not. **2) Log of the amount of debt conditional on borrowing (INR)**: RSBY HHs in Bihar concurrently experience a 55% [-0.547 (0.232), n=457] reduction in the amount of debt incurred in dealing with the cost of hospitalization. Pooled: -0.078 (0.206), n=1100 and UP: 0.251 (0.353), n=643 are not significant. **Sensitivity analysis** by restricting the sample to HHs in the bottom two asset tertiles: Bihar it is significant -

				0.611 (0.277), n=355, however not for pooled and UP. 3) **Probability of having healthcare expenses conditional on use:** not significant irrespective of sensitivity analysis 4) **Probability of debt conditional on use were not significant:** not significant sensitivity analysis
Sabharwal et al., 2014	Quasi experimental mixe d methods study design	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	PFHI covered: RSBY • 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	Expenditure as inpatient in Treated INR (US$) 6366.7/ (US$ 1012) and in controls INR 8444.6/ (US$ 135) and average treatment effect (ATT) -2077.8 (US$ -33) and T Stat, -0.87 amongst the total observations of 451- Radius matching Expenditure as inpatient in Treated 6350.4 (/US$10 2) and in controls 9970.0 (US$ 160) and average treatment effect of - 3619.6*** (US$ -58) and T stat, -2.44 amongst the total observations of 91- nearest neighborhood matching

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| | | 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 | eligible for RSBY but who are not enrolled. | Average expenditure as outpatient in INR (US$) of total observations 882, Expenditure as inpatient in Treated 701 (US$ 11) in controls 710 (US$ 11) and ATT -9.3 and a T stat -0.13- Radius matching Average expenditure as outpatient in INR (US$) of total observations 385 observations, Expenditure as inpatient in Treated 695 (US$ 11) in controls 710 (US$ 11) and ATT of 14 with a T stat of 0.29- nearest neighborhood matching Monthly per capita expenditure accounts to 74.0 (US$ 1) in treated and 66.2 (US$ 1) in controls and ATT of 7.7 (US$ 0.12) with a T stat of 0.52- Radius matching Monthly per capita expenditure accounts to 73.1 (US$ 1) in treated and 63.4 (US$ 1) in controls and ATT of 9.7 (US$ 0.16) with a T stat of 0.95- nearest neighborhood matching |

		order to allow measurement of impact, given that this survey does not have a baseline.		
Selvaraj & Karan, 2012	Two cross sectional surveys (Authors considered as case control approach and Pre-post approach): difference in difference	Secondary data based on two rounds of NSSO data 2003-04 Pre-intervention and 2009-10 as post intervention.	PFHI covered: RSBY and state insurances implemented in 2007-09. **RSBY**: 247 districts; **State insurance**: 74 districts (Andhra Pradesh n=23, Karnataka n=22 and Tamil Nadu n=29); and **control**: 291 districts	**Changes in average real per capita OOP expenditure of HHs in pre- (2004-05) and post-insurance (2009-10) years** **A) Case control findings**: **1) 2004-05 (pre-insurance period) (Rs)** *a. Non-intervention districts (NID)=* OOP total expenditure: 34.01, IP expenditure: 8.05, OP expenditure: 25.96, Medicine expenditure: 24.53 *b. Intervention districts (ID)=* Expenditure in terms of OOP: 45.56, IP: 12.70, OP: 32.86 and Medicine: 32.27

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				c. Difference between ID and NID= Total: 11.55, IP: 4.65, OP: 6.90, Medicine: 7.74. **2) 2009-10 (post-insurance period) (Rs)** *a. NID=* Expenditure in terms of OOP: 39.70, IP: 13.48, OP: 26.22 & Medicine: 26.90 *b. ID=* Expenditure in terms of OOP: 48.97, IP: 15.81, OP: 33.16 and Medicine: 33.56. *c. Difference between ID and NID=*Total: 9.27, IP: 2.33, OP: 6.94, Medicine: 6.63. **B) Difference between pre- and post-insurance period (Rs)** *a. NID=*Total: 5.69, IP: 5.43, OP: 0.26, Medicine: 2.37. *b. ID=*Total: 3.41, IP: 3.11, OP: 0.30, Medicine: 1.26. *c. Difference between ID and NID=* Total: -2.28, IP: -2.32, OP: 0.04, Medicine: -1.11

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				Percentage Share of OOP Expenditure in Overall Household Expenditure
				A) Case control findings:
				1) 2004-05 (pre-insurance period)
				a. Non-intervention districts (NID)= OOP total expenditure: 4.88, IP expenditure: 1.16, OP expenditure: 3.73, Medicine expenditure: 3.52
				b. Intervention districts (ID)= Expenditure in terms of OOP: 6.33, IP: 1.76, OP: 4.57 and Medicine: 4.48
				c. Difference between ID and NID= Total: 1.45, IP: 0.61, OP: 0.84, Medicine: 0.96.
				2) 2009-10 (post-insurance period)
				a. NID= Expenditure in terms of OOP: 5.21, IP: 1.77, OP: 3.44 & Medicine: 3.53
				b. ID= Expenditure in terms of OOP: 5.96, IP: 1.92, OP: 4.04 and Medicine: 4.08.

				*c. Difference between ID and NID=*Total: 0.75, IP: 0.16, OP: 0.60, Medicine: 0.55. **B) Difference between pre- and post-insurance period** *a. NID=* Total: 0.33, IP: 0.61, OP: -0.29, Medicine: 0.01. *b. ID=* Total: -0.37, IP: 0.16, OP: -0.53, Medicine: -0.40. *c. Difference between ID and NID=* Total: -0.70, IP: -0.45, OP: -0.24, Medicine: -0.41 **Catastrophic Headcount of OOP Expenditure (% of HHs)** **A) Case control findings**: **1) 2004-05 (pre-insurance period)**

				a. Non-intervention districts (NID)= OOP total expenditure: 11.65, IP expenditure: 2.37, OP expenditure: 9.71, Medicine expenditure: 8.45 *b. Intervention districts (ID)=* Expenditure in terms of OOP: 15.89, IP: 3.53, OP: 13.23 and Medicine: 11.06. *c. Difference between ID and NID=* Total: 4.24, IP: 1.16, OP: 3.52, Medicine: 2.61. **2) 2009-10 (post-insurance period)** *a. NID=* Expenditure in terms of OOP: 11.01, IP: 2.76, OP: 7.99 & Medicine: 6.75 *b. ID=* Expenditure in terms of OOP: 14.90, IP: 4.06, OP: 10.84 and Medicine: 09.26. *c. Difference between ID and NID=* Total: 3.90, IP: 1.30, OP: 2.86, Medicine: 2.51. **B) Difference between pre- and post-insurance period** *a. NID=* Total: -0.65, IP: 0.39, OP: -1.72 Medicine: -1.70.

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				b. ID= Total: -0.99, IP: 0.53, OP: -2.38, Medicine: -1.81.
				c. Difference between ID and NID= Total: -0.34, IP: 0.14, OP: -0.66, Medicine: -0.10
				Catastrophic Headcount (%) due to of Hospitalization Expenditure
				1) Pre-insurance years (2004-05)
				a. Poorest: NID= 0.88, ID= 0.72, difference (Diff)= -0.16
				b. Second poorest: NID= 1.42, ID= 1.96, Diff= 0.53
				c. Middle: NID=2.14, ID= 2.61, Diff= 0.47
				d. Second richest: NID= 2.74, ID= 3.87, Diff= 1.13
				e. Richest: NID=5.15, ID= 8.14, Diff= 2.99
				2) Post-insurance years (2009-10)
				a. Poorest: NID= 0.87, ID= 1.20, Diff= 0.33
				b. Second poorest: NID= 1.20, ID= 2.36, Diff= 1.16
				c. Middle: NID=2.20, ID= 3.03, Diff= 0.83
				d. Second richest: NID= 3.54, ID= 4.93, Diff= 1.39

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				e. Richest: NID=7.05, ID= 8.27, Diff= 1.22.
				3) Difference between pre- and post-insurance years
				a. Poorest: NID= -0.01, ID= 0.48, Diff= 0.50
				b. Second poorest: NID= -0.22, ID= 0.40, Diff= 0.62
				c. Middle: NID=0.06, ID= 0.42, Diff= 0.36
				d. Second richest: NID= 0.80, ID= 1.06, Diff= 0.26
				e. Richest: NID=1.90, ID= 0.13, Diff= -1.77.
Sinha, 2018	A matched controlled cross-sectional study	In order to see whether different characteristics of enrolled and non-enrolled households were matching, *z*-test was performed comparing the proportion of the characteristics of two sets of households.	PFHI covered: RSBY a sample size of 425 households was estimated with 80 per cent power to detect the change in CHE between insured and non-insured households' arm for each block Duration of 3 months	1.The determinant of incidence of Catastrophic Health Expenditure (CHE) Among the Studied Households, households enrolled in RSBY co-efficient–0.077, SE 0.181 and odds ratio of 0.925 2. The Determinant of Incidence of Health Expenditure-Induced Poverty Among the Studied Households Which Are at Risk of Becoming Poor, households enrolled in RSBY co-efficient—0.422, SE 0.195, Odds ratio of 1.524

		two purposively selected administrative blocks, namely Silli and Bundu of Ranchi district in Jharkhand between April to June 2014		3. The Determinants of Hospitalization Among the Studied Households; households enrolled in RSBY, co-efficient 0.884, SE 0.571, Odds ratio of 2.421
Sood et al, 2014	Quasi experimental design Multi variate models were used for analysis	All households in sampled villages were asked to participate in a door to door survey, and 81% of them completed the survey.	PFHI covered: VAS 31 476 households (22 796 below poverty line and 8680 above poverty line) in 300 villages where the scheme was implemented and 28 633 households (21 767 below poverty line and 6866 above poverty line) in 272 neighboring matched villages ineligible for the scheme.	Eligible households had significantly reduced OOPE for admissions to hospitals with tertiary care facilities likely to be covered by the scheme (64% reduction, 35% to 97%; P<0.001).

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			A government insurance program (Vajpayee Arogyashree scheme) that provided free tertiary care to households below the poverty line in about half of villages in Karnataka from February 2010 to August 2012.	
Sriram & Khan, 2020	Survey among poor individuals: Propensity score matching, logistic regression and Tobit regression.	NSSO survey 2014. N=64270 poor individuals	PFHI covered: any PFHI scheme PFHI (n= 5917) were matched with control group (n=5917). Average Treatment on Treated (ATT) Propensity Score Testing of Two	**Effect of PFHI on inpatient out-of-pocket health expenditures (Tobit regression coefficient and 95% CI)** Enrolment did not have any effect on inpatient OOP health expenditures [−950.36 (− 2501.5 – 600.8)]. -Duration of stay in hospital [521.40 (435.3–607.5)], -Graduate level education [7634.86 (2798.5– 12,471.3)],

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| | | | | Groups: Treated=0.1407, Control= 0.1191, Difference= 0.0216, T statistic= 2.89, SE: 0.0074. Matched with age, individual consumption expenditure, HH size, location and education. | -Age groups of 19 to 60 years [19 to 40 years 1857.13 (−68.3, - 3782.6) and 41 to 60 years 2231.96 (234.3–4229.6)],

-Using a private hospital for treatment [3772.82 (1004.0–6541.6)],

-Admission in paying ward [Paying General 9095.49 (6978.9–11,212.1), and Paying Special 13,642.31 (9856.4–17,428.3)], and

-Having ailments and injuries (significant)

-Utilization of AYUSH type of treatment had significant negative effect [− 9020.48 (−16,224.0 - - 1817.0)] on OOP health expenditures compared to individuals using allopathic treatment.

-Factors such as location, social group, HH type, HH size, and number of hospital beds in states had no statistically significant effect on OOP health expenditures. |

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				-Gujarat and Kerala states show significantly lower OOP expenses, keeping all other factors contact, than other states of India in the state fixed effects model.
Willingness to pay				
Vellakkal, Juyal, & Mehedi, 2014	Cross sectional study; contingent valuation method, applied a bidding game method	n=1846, Mean Age: 54.55 (12.23) Proportion of CGHS beneficiary in the sample: 65% and remaining were ECHS beneficiary additional monthly financial contribution towards the scheme beneficiaries was willing to pay for better quality of healthcare services" WTP Version 1: WTP base amount is INR 100 and the	PFHI covered: CGHS and ECHS schemes	-WTP for better quality healthcare under the schemes -Among willing people: how much per month would pay in addition to their current contribution -About 71% of CGHS beneficiaries, 28% of ECHS beneficiaries were willing to pay additionally every month for health insurance schemes. -The amount of WTP by CGHS beneficiaries was 64% higher than their current contribution

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		bid amount was INR 10 (10% of the base amount). WTP Version 2: WTP base amount was INR 150 and the bid amount was INR 15 (10% of the base amount). WTP Version 3: WTP base amount is INR 200 and the bid amount was INR 20 (10% of the base amount).		

AOR: Adjusted Odds Ratio; AP: Andhra Pradesh; ATT: Average Treatment on Treated; BPL: Below Poverty Line; CGHS; Central Government Health Scheme; CHE: Catastrophic Health Expenditure; CHIS: Comprehensive Health Insurance Scheme; CI: Confidence Interval; DID; Difference-in-Differences; ECHS: Ex-serviceman Contributary Health Scheme; ESIS: Employee State Insurance Scheme; HHs: Households; INR: Indian National Rupee; IP: In-Patient; IV: Instrumental Variable; MSBY: Mukhyamantri Swasthya Bima Yojana; NA: Not Applicable; NSSO: National Sample Survey Office; OLS: Ordinary Least Square; OOP: Out of pocket payment; OOPE: Out Of Pocket Expenditure; OR: Odds Ratio; PMJAY: Pradhan Mantri Jan Arogya Yojana; PSM: Propensity Score Matching; RAS: Rajiv Arogya Shree; RSBY: Rashtriya Swasthya Bima Yojana; SC: Scheduled Castes; SE: Standard Error; SHG: Self Help Groups; UMPCE: Usual Monthly Per Capita Expenditure; VAS: Vajpayee Arogya Shree; WTP: Willingness to Pay