# A perspective on health care infrastructure and financing in India

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1. India is a low income and largely rural country that happens to be very large

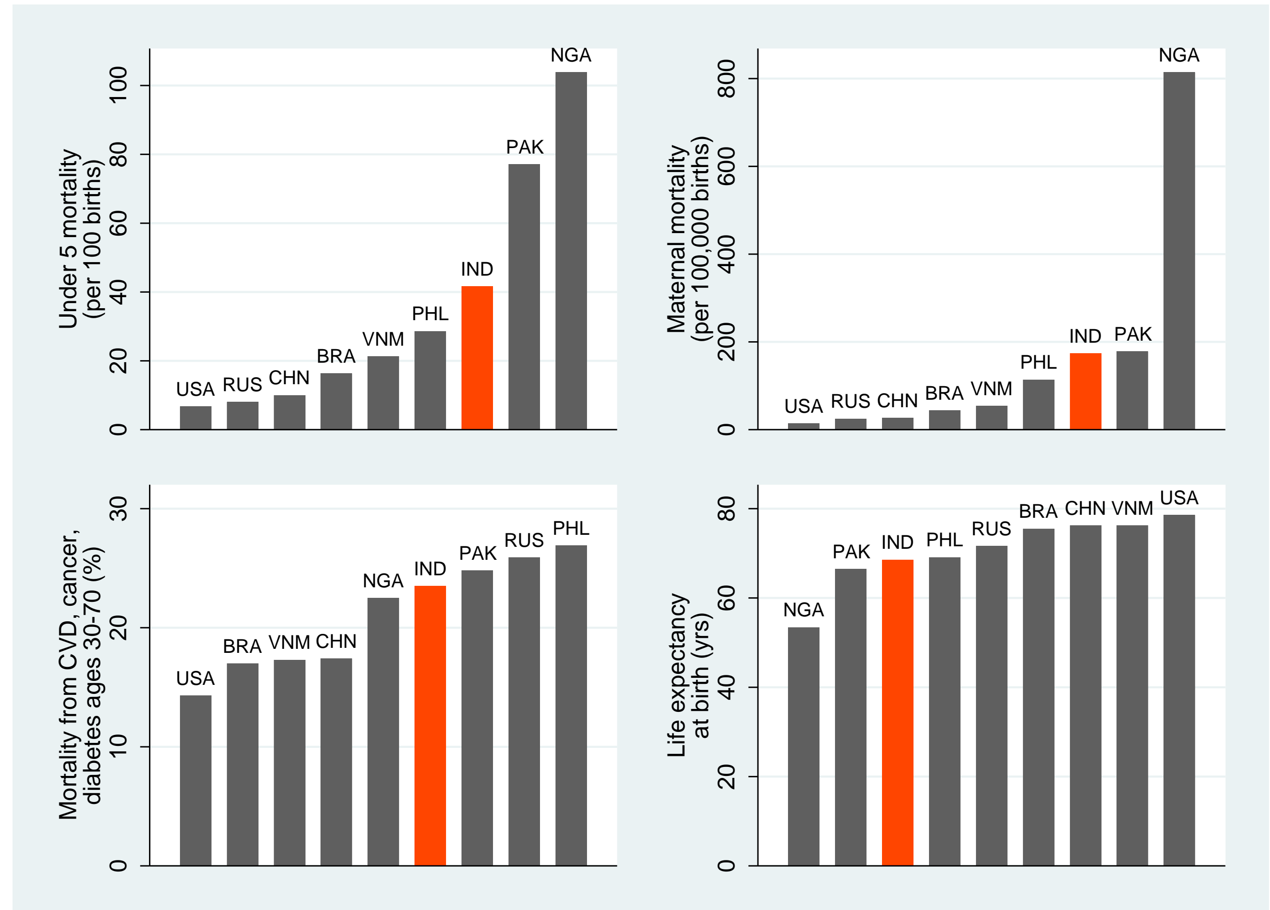
# Commonly cited statistics

- India spends too little on healthcare. India spends only 4% of GDP on health. Das & Jha (2019).
- India has limited supply. E.g., 43-47% of children do live in villages without health care facilities; 10% fewer hospitals, 50% fewer clinics than needed (Datar, Mukherji, Sood 2007).
- Many go without care. 25% of untreated ailments are due to financial constraints (NSS Report 2004).
- Many who get care are left impoverished.
  - 75% of expenses are out-of-pocket (Berman et al. 2010).
  - 150m ppl pushed into poverty worldwide because of health care costs; 1/3 live in India (Shahrawat & Rao, 2012). 63m ppl pushed below poverty line each year due to health care costs (Berman et al. 2010).
- This is a function of India being a low income country that happens to be very large. India is not out of line with other lower income countries.

# Measures of demand

- Vietnam out-performs peers.
- Nigeria lags.
- BRICS have higher income.

<u>GDP pc ranking</u>:
Pakistan
Nigeria
Vietnam
India (66% rural)
Philippines
...
Brazil
China
Russia




Source: World Bank, Data Bank, Health Nutrition and Population Statistics, 2009-2016 (latest year available).

# Measures of supply

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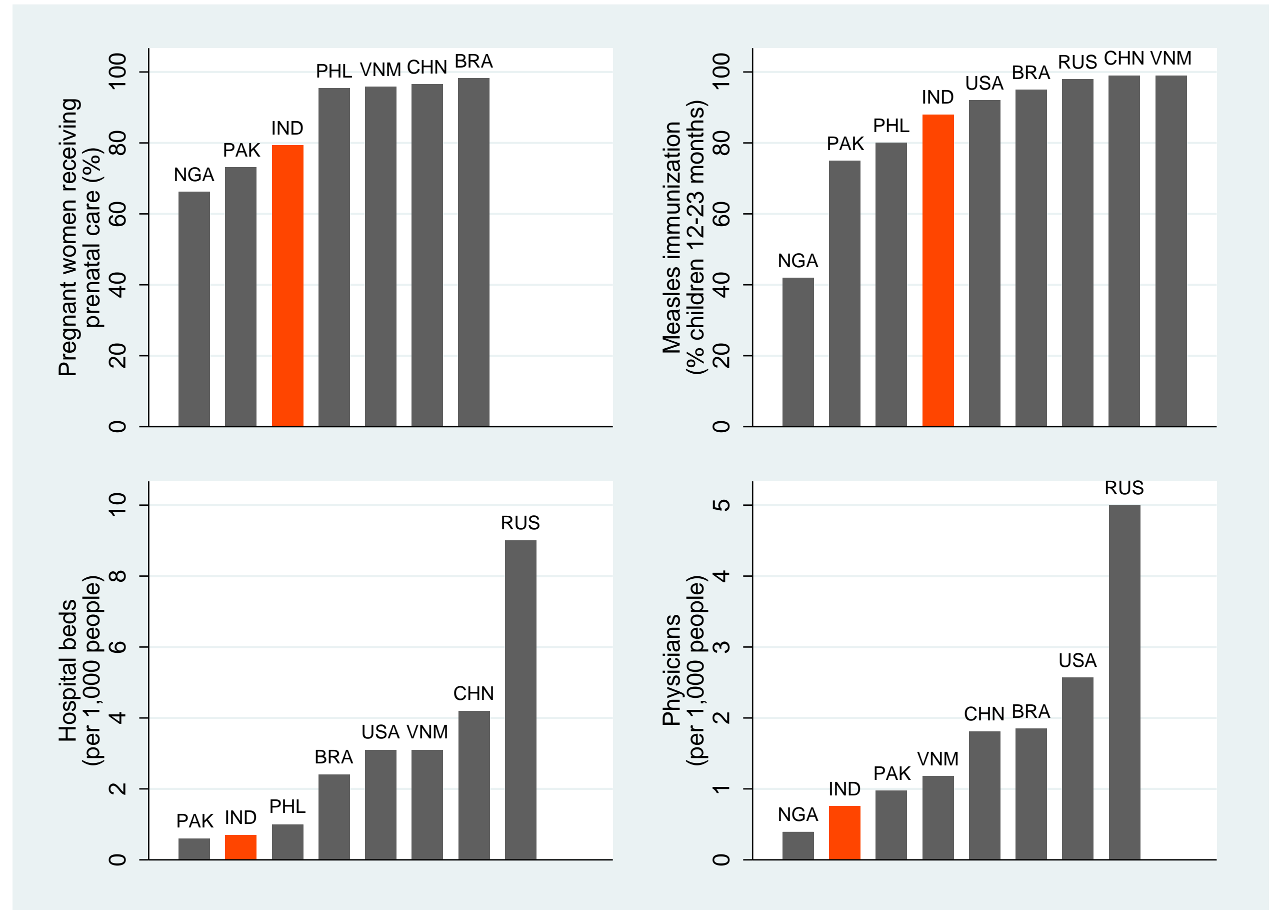


Source: World Bank, Data Bank, Health Nutrition and Population Statistics, 2009-2016 (latest year available).

# Measures of financing

- Vietnam out-performs peers.
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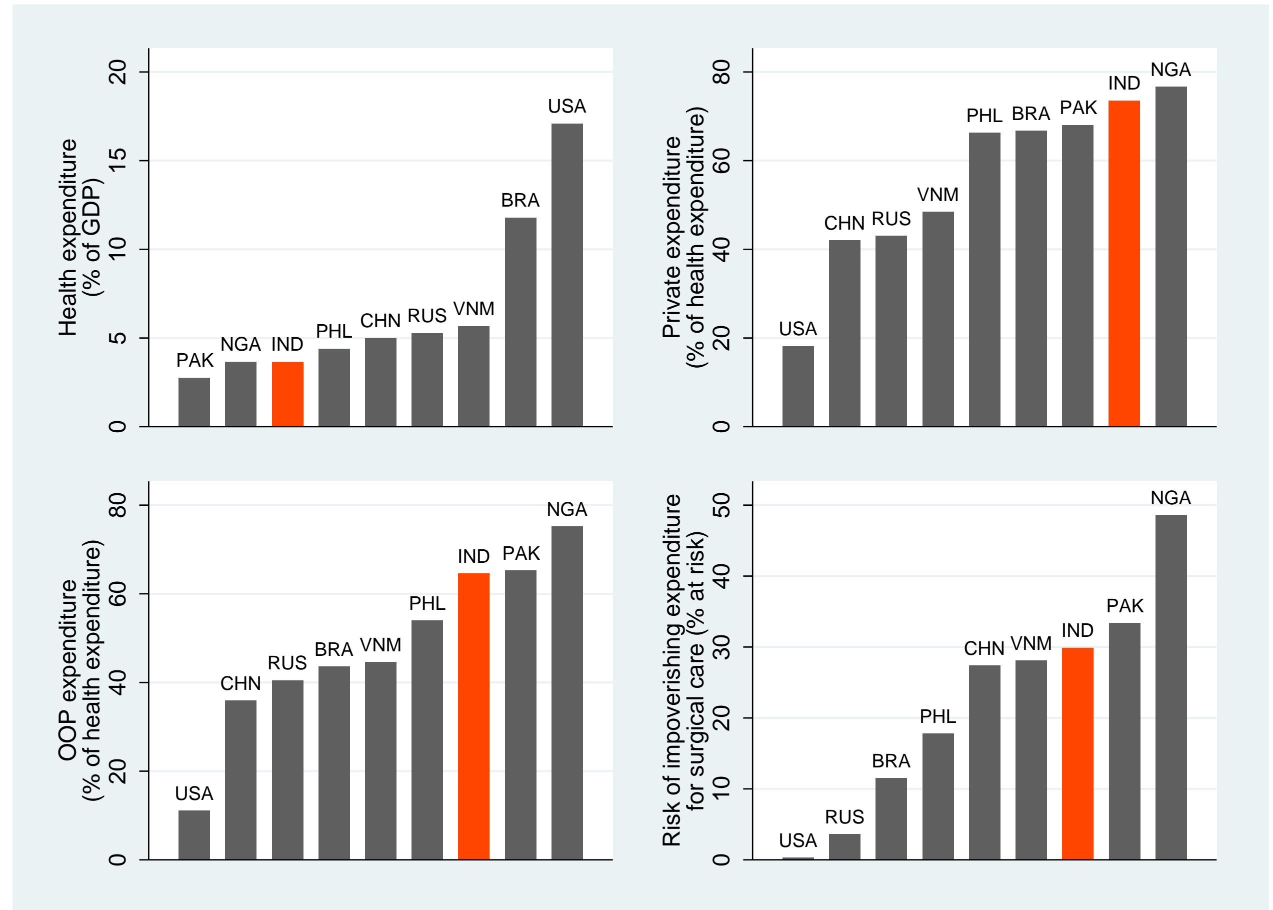



Source: World Bank, Data Bank, Health Nutrition and Population Statistics, 2009-2016 (latest year available).

# 2. A brief history of India’s policy on health care infrastructure and financing

# Historically, India had a supply-side focus

- Through the 1980s, the government built hospitals, trained physicians and conducted disease specific campaigns (Bhore Committee Report 1946; Rural Health Scheme in 1977; National Health Policy of 1983).
- Private sector expanded in 1990s (Selvaraj and Karan 2009). Either because international donors focused on privatization (Qadeer 2000) or public sector couldn't keep up with demand.
- Despite National Rural Health Mission (2005) to shore up PHC, CHCs, India saw a shift towards demand-side in 2002.

# Now balanced with demand-side schemes

- Started at state level, but spread to national level.
  - State schemes: e.g., Yeshasvini for cooperatives, Vajpayee Arogayshri for tertiary hospitals).
  - Central schemes: e.g., Rashtriya Swasthya Bima Yojana (RSBY) (2008) for secondary hospital care (RSBY), Pradhan Mantri Jan Arogya Yojana (PMJAY) (2018) for secondary and tertiary care.
- But still a small fraction of spending. Ayushman Bharat budget is Rs. 6400 crore in 2019. MOH budget is ~Rs. 60,000 crore. Total public health spending is Rs. 180,000 crore.

# 3. What are the returns to public health insurance?

# RSBY (2008) is like Medicaid

- Provides hospital insurance to roughly 170m ppl
- Eligibility: Below poverty line households (bottom quartile)
- Coverage: Rs. 30 for smart card.
  - Secondary care at empaneled hospitals.
  - Rs. 30,000 (US$460) cap/hhds. Covers roughly 10 MRIs, 4 c-sections per year.
  - No deductible, co-pay.
  - Hospital prices determined set by government charge-list.
- Administration: Cashless through biometric ‘Smart Card’. MOLE coordinated, until recently. State-run.
- Financed like Medicaid: roughly 75% central, 25% states

# Ayushman Bharat-PMJAY (AB/Modicare) (2018)

Eligibility: Socio-Economic Caste Census (SECC) vulnerable population + RSBY eligible population not covered by SECC criteria (537m lives). Auto-enrollment.

Coverage: Rs. 30 for e-card.

- Secondary, tertiary care at empaneled (network) public and private hospitals.
- Rs. 5 lakh cap/hhd. No deductible, co-pay.
- No cap on hhds size. No pre-existing condition exclusions.
- Portable.

Administration: Cashless e-card. State run. Coordinated by NHA, CEO is Cabinet Secretary rank (equivalent to Health Secretary). State-run.

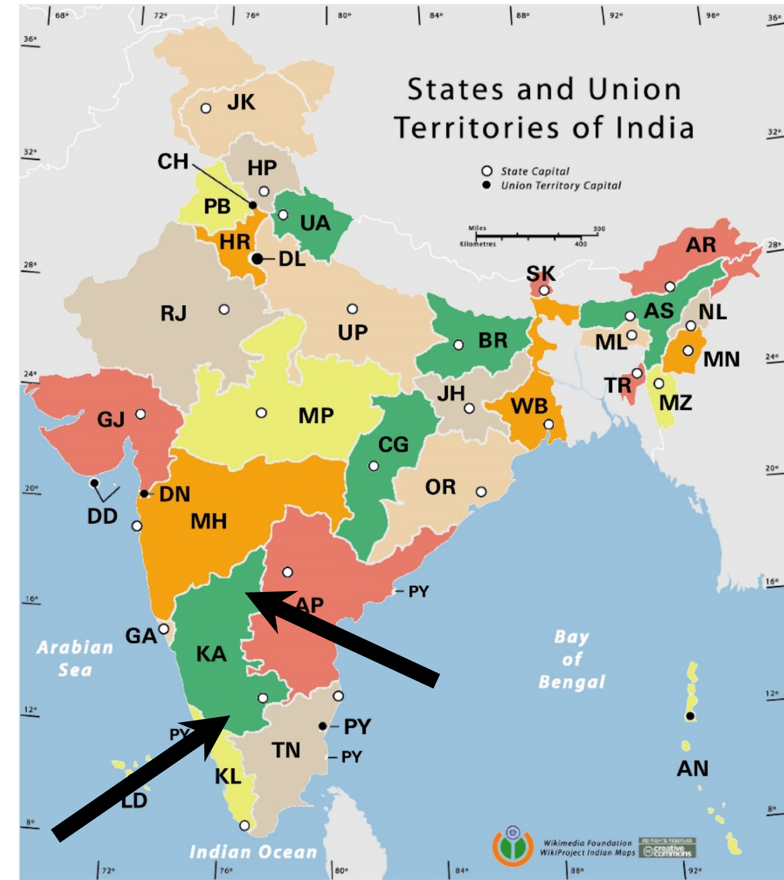
Financing: 60% central, 40% state for required populations. States can expand with own-financed coverage.

# What will be the impact of Modicare?

- Modicare expands RSBY in two ways: eligibility (from 280m to 500m) and coverage (secondary to also tertiary).
- We conducted a large scale RCT (Indian Health Insurance Experiment, 2013) to look at impact of expanding eligibility.
- We asked:
    1. Does public insurance increase utilization of insurance? Of care?
    2. Does care purchased due to insurance improve health?
    3. Does insurance improve the financial security of households?

# The study took place in S. and C. India

- Location: 424 villages in Gulbarga & Mysore Districts in Karnataka State, India
- Subjects: We enroll ~11,000 non-BPL households (~5 ppl/hhd). Must live < 25km from empaneled hospitals and not have hospital insurance already.
- Powered to detect 25% change in hospitalization rate across arms, assuming 10% attrition
- Outcomes: Uptake into insurance, hospitalization, financial profile, self-reported health, and anthropometric and cognitive measures

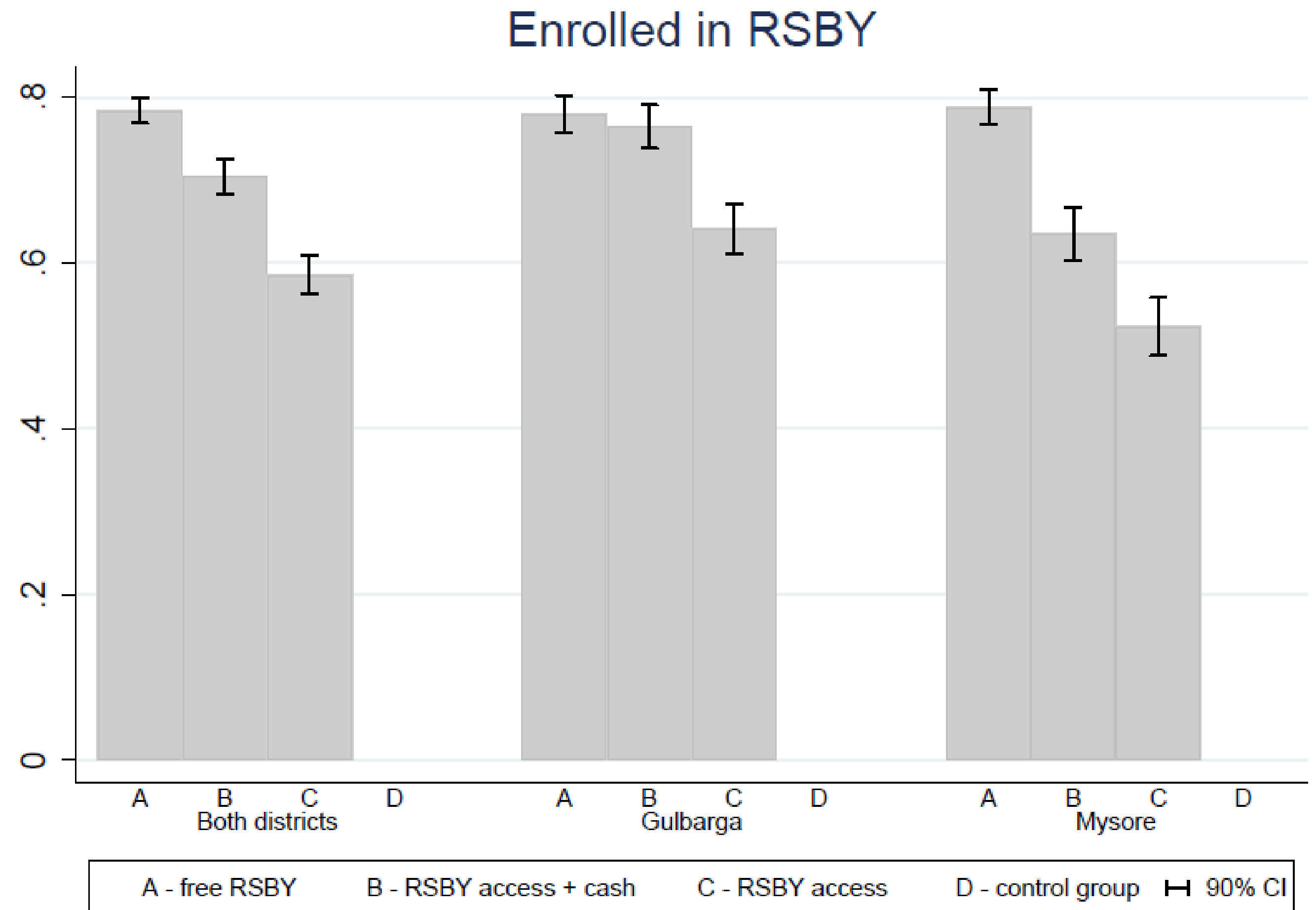


# We study multiple policy options & spillovers

- Treatment arms: We examine policy-relevant 4 conditions.
  - A: Free RSBY insurance (no R. 30 registration fee) (Target 4500 hhds)
  - B: Unconditional cash transfer (premium) + RSBY option (2250 hhds)
  - C: RSBY option (2250 hhds)
  - D: No intervention (2250 hhds)
- Assignment: We employ 2 step randomization
  - We randomize villages to different proportional allocations across arms to measure spillovers. Villages are matched before randomization.
  - We randomize hhds in villages to arms. Households are matched before randomization.

# High take-up of insurance among APL

- ~80% who had access to free insurance
- ~70% who got a subsidy
- ~60% who had to buy insurance



# Significant increase in utilization

- 7% increase over a base of 3% with access to insurance.
- 6.6% off a base of 3.8% with insurance.
- Much of effect is driven by spillovers.
- Larger effects in rural areas (3 ppt more).

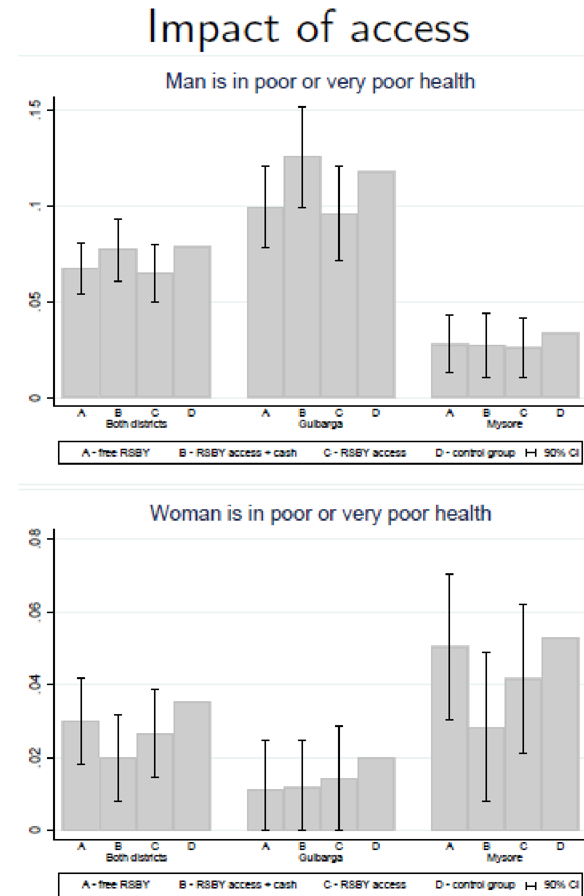
Table 6: Successful use ITT. Variable *rsbyusesucc_1* in *ITT_data_setup.do*

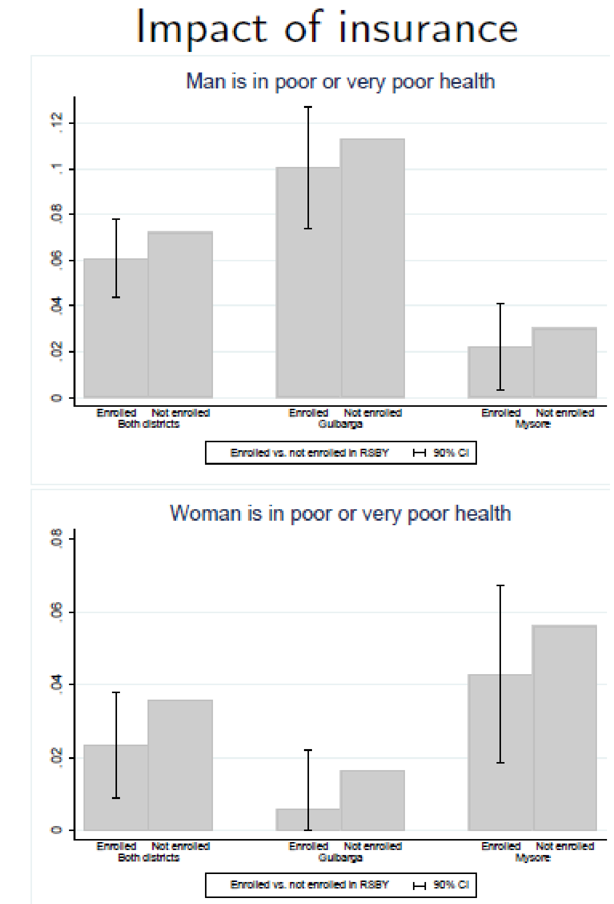
| | ITT:Successful use | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| ABC | .0408* | .0411* | .0478* | -.00657 | .0544 |
| | (.0242) | (.0241) | (.0279) | (.0493) | (.0566) |
| Share in ABC | .0791*** | .0791*** | .0724** | .00544 | .0669 |
| | (.0289) | (.0289) | (.0296) | (.0461) | (.0548) |
| ABC× Share ABC | -.0461 | -.0465 | -.0549 | .0319 | -.0869 |
| | (.0344) | (.0344) | (.0391) | (.0596) | (.0713) |
| Total effect | .0738*** | .0737*** | .0653*** | .0308 | .0345 |
| | (.0233) | (.0233) | (.0244) | (.0383) | (.0454) |
| Mean of DV in D | .0386 | .0386 | .0381 | .0151 | |
| SD of DV in D | .193 | .193 | .192 | .122 | |
| N | 9960 | 9960 | 9275 | 9275 | |
| Urban (dist to town = 0) | Pooled | Pooled | Rural | Urban | Difference |
| HTE Mean | 12.6 | 12.6 | 14.1 | 0 | 14.1*** |
| HTE Count | | | 8243 | 1032 | |
| Baseline controls | No | Yes | No | No | No |
| Alloc FE | Yes | Yes | Yes | Yes | Yes |

Note: All models estimated with OLS. Standard errors, clustered at the village level, are in parentheses. Significance levels: * 10% ** 5% *** 1%. Village allocation FE indicated at the bottom.Back.

# No significant health benefits

- Mild increase in self-assessed health.
- No systemic changes in self-reported disease, objective outcomes.
- Consistent with findings in literature.
  - No effect on utilization or health, but reduction in OOP, debt. King et al. (2010), Levine et al. (2016), Thornton et al. (2010).
  - No effect on utilization, health, finances. Haushofer et al. (2018).



# And limited financial benefits

- No impact on OOP, debt.
- Except for (relatively) wealthy in our sample.
  - Saw reduction in debt, increase in business risk-taking (business starts, income).
  - Likely driven by high urban health costs.

Table 38: Total debt (levels, winsorized) ITT. Variable *DBTtotw1* in *ITT_data_setup.do*

| | ITT:Total debt (levels, winsorized) | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| ABC | -36913 | -33403 | -66235 | -25456 | -40779 |
| | (25959) | (25651) | (42922) | (31465) | (52188) |
| Share in ABC | -61773 | -60079 | -129808** | -5654 | -124154** |
| | (43991) | (42936) | (63661) | (40400) | (60595) |
| ABC× Share ABC | 53258 | 47714 | 94325* | 36925 | 57400 |
| | (34183) | (33780) | (55562) | (41339) | (67380) |
| Total effect | -45429 | -45767 | -101718* | 5815 | -107534** |
| | (38688) | (37670) | (54924) | (33250) | (48305) |
| Mean of DV in D | 92269 | 92269 | 113768 | 68807 | |
| SD of DV in D | 199550 | 199550 | 232662 | 159587 | |
| N | 9871 | 9871 | 9311 | 9311 | |
| Baseline wealth | Pooled | Pooled | > median | < median | Difference |
| HTE Mean | .00291 | .00291 | .29 | -.283 | .573*** |
| HTE Count | | | 4716 | 4595 | |
| Baseline controls | No | Yes | No | No | No |
| Alloc FE | Yes | Yes | Yes | Yes | Yes |

Note: All models estimated with OLS. Standard errors, clustered at the village level, are in parentheses. Significance levels: * 10% ** 5% *** 1%. Village allocation FE indicated at the bottom.Back.

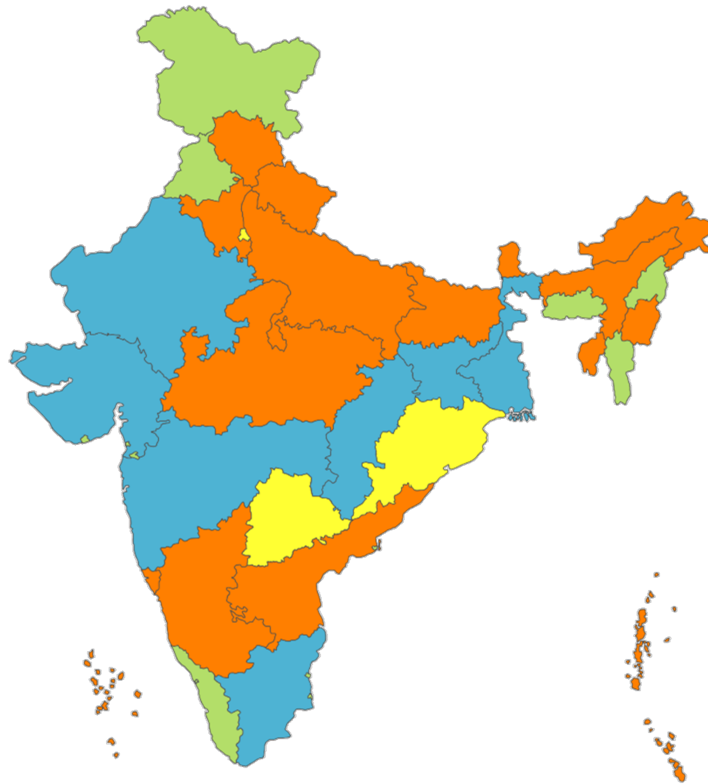
# Interpreting these results

- India has a safety net: public hospitals. There are also informal credit markets and insurance.
  - Limits health, financial effects of formal insurance.
- But is this a bad program or badly implemented program?
  - APL had high uptake and utilization, but RSBY (focused on BPL) had low uptake (60%) and utilization (2%).
  - Our surveys suggest many beneficiaries do not know about how RSBY works (see right).
  - Hospital participation lower in urban areas.

| Reason for failure | Mean |
|---|---|
| Forgot the card or the papers at home | 0.149 |
| Have not yet received the card or the papers | 0.032 |
| Did not know the card can be used for this sort of purpose | 0.140 |
| Person who tried to use the card is not on this card | 0.023 |
| I have already used up all of the service provided by the card | 0.023 |
| Did not want to use this card for this treatment | 0.113 |
| Hospital or the doctor did not accept the card | 0.484 |
| Card machine did not work at the hospital or the doctor | 0.018 |
| Card cannot be used for this treatment | 0.104 |
| Hospital that accepts the card is too far | 0.059 |
| Did not know that card would reduce my own money payments or make treatment free | 0.077 |

# 4. Progress of and suggestions for Ayushman Bharat

# 33 states have signed on in 8 months



| | |
|---|---|
| **17** | Trust Mode |
| **09** | Insurance Mode |
| **07** | Mixed Mode |
| **03** | MoU yet to be signed |

- States: But Rajasthan lagging, W. Begal withdrawing.
- Enrollment: Auto-enrollment, but
  - 2.63m claims (Rs. 3528 crore)
  - 34.5 million e-cards issued (91% via Aadhar)
- Network: 15,524 hospitals empaneled (50% private)
- Claims:
  - 85% unique hhds
  - 65% of claims in private hospitals
  - 77% claims by rs. in tertiary hospitals.
  - Majority claims by # in secondary hospitals.
  - 14,000 portable claims

# Implementation challenges

- Out of date eligibility data. SECC (2011) used in 2019.
- Low package (payment) rates discourage empanelment.
  - Payment rates created by Directorate General of Health Services and Niti Aayog, without consulting industry.
  - Secondary rates in AB > in RSBY. But tertiary rates in AB < AV.
  - Some states (e.g., Bihar) have a late payment problem.
  - Metro hospitals, aspirational districts, teaching hospitals, accredited hospitals get 10-15% more payment. All additive. But crude adjustment.
- Fraud.
  - Claim to premium ratio shot up to 180% because fraud in Rajasthan.
  - Main obstacle to OPD coverage.
  - AB partnered with 5 leading companies to track fraud. POC only, results TBD.

# Implementation non-challenges

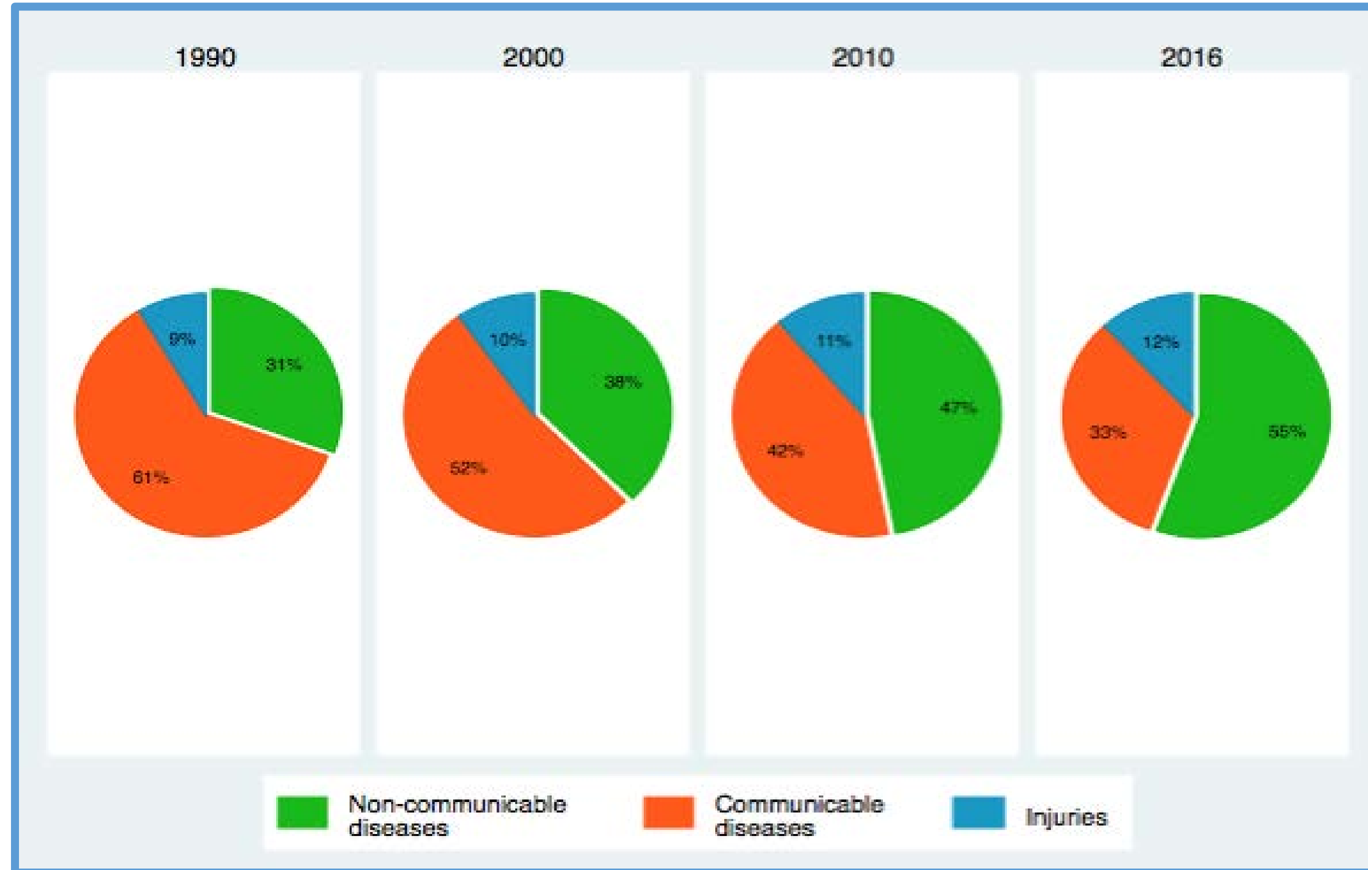
- Politics. NHA separate because MOHFW not strongest implementation agency, supportive. NHA CEO is cabinet secretary – same level of health secretary. So not subordinate.
- Financing. Just Rs. 6500 crores in interim budget.
  - Strong political support suggests budget will increase if required. Modi talks about this a lot. So finance not a problem for next 5 yrs.
  - Small percent of total MOH budget.

# Policy recommendations

1. Government is new to running public health insurance. Need to build state capacity. NHA trains master trainers. But need capable state administrators. NGO's like Gates, Access helping.
2. Information campaigns. There are hundreds of programs. While there is auto-enrollment, getting an e-card requires marketing. Plus, need to know where empaneled hospitals are, what is covered.
3. Supply limits value of insurance. People live far from hospitals. Need to track local supply; fill gaps with public facilities.
4. Politics. Need to ensure political commitment past 5 yrs if AB proves valuable. No program dies, but may be neglected.
5. Address overutilization in long run. Need infrastructure to permit co-insurance.
6. Make it sustainable in long run. Should transition to private insurance and/or means testing.

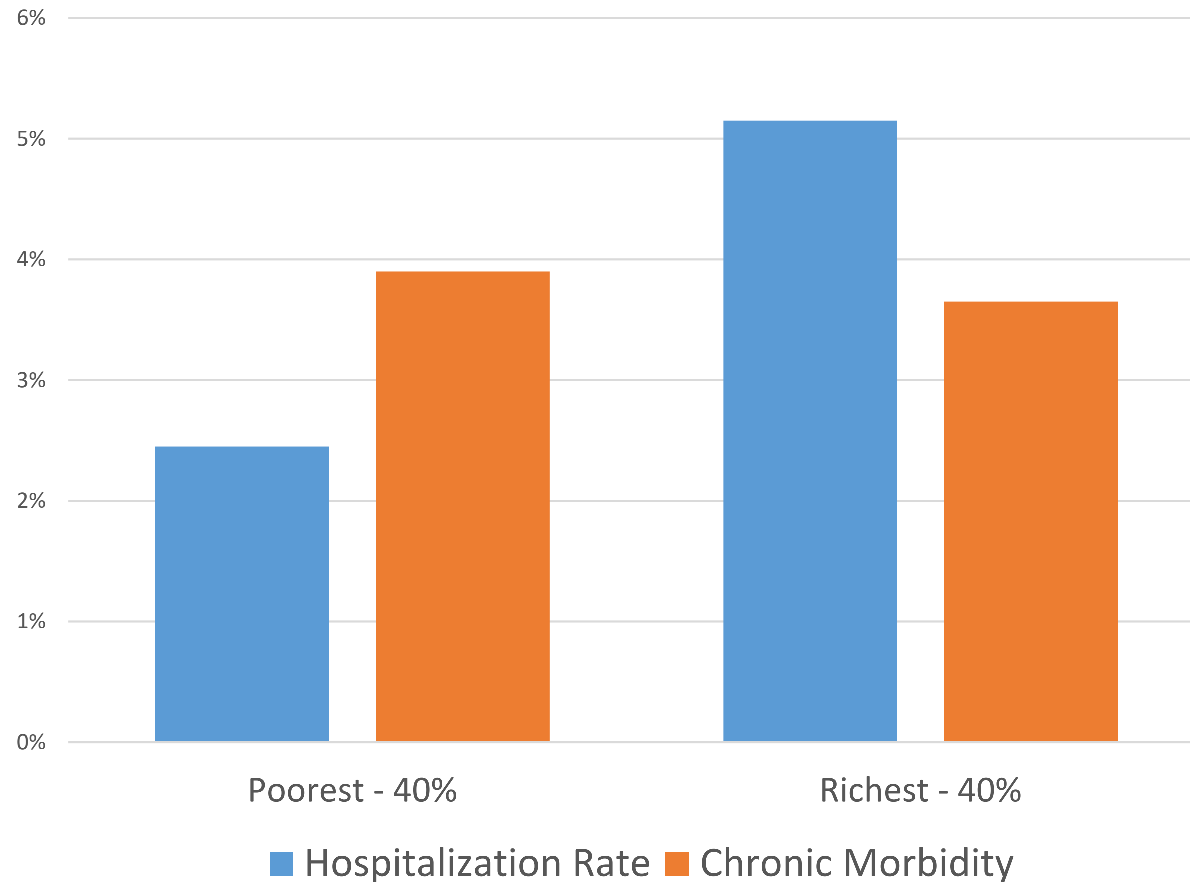
# Appendix

# 55% of disease burden is non-communicable




Source: National Health Profile 2018

# Underutilization is problem among poor




Source: Chronic morbidity: IHDS 2011-2012; Hospitalization Rate: NSSO 71st (excludes childbirth)