Working Paper 02/2019

Health Insurance for Universal Health Coverage in India: A Critical Examination

Vikash R. Keshri
&
Saswata Ghosh

April, 2019

The Centre for Health Policy
Asian Development Research Institute

Health Insurance for Universal Health Coverage in India: A Critical Examination

Vikash R. Keshri[1]
&
Saswata Ghosh[2]

April, 2019

The Centre for Health Policy
Asian Development Research Institute

Suggested Citation
Keshri VR, Gosh S (2019). Health Insurance for Universal Health Coverage in India: A Critical Examination**.** Working Paper 02/2019. The Centre for Health Policy, Patna, Bihar, India.

Authors
1. **Dr. Vikash R Keshri,** Health Policy and Systems Expert, The Centre for Health Policy, ADRI, Patna, India. Email: vikash.chp@adriindia.org
2. **Dr Saswata Ghosh,** Demography and Population Health Expert, The Centre for Health Policy, ADRI, Patna, India. Email: saswata.chp@adriindia.org

Publisher
The Centre for Health Policy
Asian Development Research Institute (ADRI)
BSIDC Colony, Off Boring-Patliputra Road, Patna – 800013 (BIHAR)
Phone : 0612-2575649
Fax : 0612-2577102
Website : www.adriindia.org/chp

Printed by
Tarang Press & Publications Pvt. Ltd.
Shivpuri, Patna - 800 023

Funding Source
This work was supported by a grant from Bill and Melinda Gates Foundation.

Acknowledgement
The authors acknowledge comments and suggestion of Dr. Shaibal Gupta, Prof. Prabhat P. Ghosh and Dr. Sunita Lall of ADRI. The authors gratefully acknowledge review and comments by Prof. Prabhat P. Ghosh. The authors also acknowledge the comments and suggestion of reviewers and participants of 7th Annual Conference of Indian Health Economics and Policy Association (IHEPA), held at Trivandrum in January 2019 and the 'International Conference on Public Finance' held at Patna in December 2019. Review and comments by Dr. Nutan Shashi Tigga, Research Consultant at CHP, ADRI is appreciatively acknowledged. The efforts of Mr. Suraj Shankar in ensuring the printing of this paper is also gratefully acknowledged

Abstract

Background and Objectives

Universal Health Coverage (UHC) is one of the targets of the Sustainable Development Goals. Many low and middle-income countries (LMICs) are now aspiring to achieve UHC. Many of these countries have already introduced a tax-based health insurance scheme. In 2018, the Union Government of India (GoI) also introduced a mammoth health insurance scheme knows as 'Pradhan Mantri Jan Arogya Yozana' (PM JAY) under the umbrella of 'Ayushman Bharat'. This scheme is widely propagated as a step towards UHC. Therefore, in this study, we aim to understand the current level of coverage, distribution and predictors of health insurance in India and Bihar. Based on our analysis we also aim to critically examine the potential of PM JAY towards the goal of UHC in India.

Methodology

We analyzed unit level data from a nationally representative survey (NFHS-4) to understand the coverage, distribution and predictors of health insurance. We categorized the health insurance schemes into four categories: *Mandatory health insurance, Employer-based health insurance, Community-based health insurance, Voluntary health insurance scheme.* The descriptive and bivariate analysis was conducted to understand the coverage and distribution and logit regression analysis was carried out to understand the predictors.

Results

It is observed that mandatory health insurance is the predominant form of insurance accounting for almost three-quarters of covered households in India and nearly 95% of covered households in Bihar. This proportion is higher in other economically backward states also. There was wide inter-state variation in coverage of health insurance across the states of India. Less than 2% of households in the country have any voluntary health insurance. Household wealth was found to be directly proportional to health insurance coverage in India but not in the state of Bihar. Similarly, the education of the head of the household was found to be directly proportional to health coverage in India but not in Bihar. Also, although the urban, affluent and educated social group had higher coverage at all India level, while in Bihar the poorer section of society has a higher coverage. The coverage of voluntary and employer-based health insurance among the urban, affluent and educated group was higher at all India and in also in Bihar. Overall, there was very wide inter-state and inter-class variation in health insurance coverage, which reflect a

major void in the existing programmes. The findings clearly depict the impact of scope and reach of publicly financed health insurance schemes by the union and respective state governments.

Conclusion

While India is trying to leap towards UHC by introducing a health insurance scheme for poor and vulnerable, the country must also take definite policy direction to protect other groups of citizens from the rising cost of care.

Introduction

The movement for Universal Health Coverage (UHC) gained momentum in the year 2010 after the World Health Report was published on this theme (WHO 2010). After the release of the report, the United Nations (UN) adopted a formal resolution on UHC in 2012 (UN 2012). The UHC movement got further impetus after it was identified as one of the targets of Goal-3 of Sustainable Development Goals (SDG) adopted in 2015 (UN 2015). Nevertheless, the expedition to find the best way of financing for UHC always incited fierce debate amongst stakeholders. Many low and middle-income countries (LMICs) are now in perpetual dilemma to select an appropriate route of health financing to achieve UHC. Three broad principles of health financing are generally proposed for UHC:

1) Raising adequate revenue through compulsory sources of funding: there are three broad ways to do this; a) increase the efficiency of revenue collection, b) reprioritize government budget and c) innovative financing. Additionally, financial development assistant from external sources may be required for some countries, especially in low income group.

2) To redistribute system fragmentation and enhance redistribution capacity: the best way for the government to ensure this is by introducing pre-payment and risk pooling.

3) Strategic purchasing: to align the resources with promised health services and to promote quality of services, efficiency, equity and accountability.

The publicly financed health insurance scheme encompass part of all three principles (Mathauer et al. 2016). 'Health insurance' in a narrow sense can be defined as 'an individual or group purchasing health coverage in advance by paying a fee called premium'. In a broader sense, it can be defined as 'an arrangement that helps to defer, delay, reduce or altogether avoid payment for health care incurred by individuals or households' (WHO 2003). Finally, in this era of rush towards UHC, publicly financed health insurance seems to emerge as a principle mean of health financing method in most of the LMICs.

The history of health insurance in some of the high-income countries (HICs) dates back to the nineteenth century. Varying types of health insurance were adopted by different countries during different time in history. In Germany, which was probably the first country to introduce health insurance, the current coverage of health insurance is estimated to be around 86% (Busse and Blummel 2014). In United States of America (USA),

around 80% of the population is covered by health insurance out of which 35% are covered by government schemes and 45% are covered by voluntary health insurance schemes. Around 20% of the population in the USA is either not covered or only inadequately covered (Rice et al. 2012). Many LMICs in Africa have followed the route of health insurance in pursuit of UHC. Ghana, Kenya, Tanzania, and Nigeria are some of the notable examples, where publicly financed health insurance scheme was introduced during the last two decades. Out of these African countries, the population coverage of health insurance in Ghana is the highest. Ghana introduced the National Health Insurance Scheme (NHIS) in 2003 and the current level of coverage is estimated to be around 38% of the total population (Amu et al. 2018).

The health insurance scenario in the new and emerging group of countries in BRICS (Brazil, Russia, India, China and South Africa) forum is also very diverse. Brazil introduced many publicly financed health care reform initiatives during the last decade. Still, a large proportion of urban population avail services from the private sector mainly by availing voluntary health insurance schemes. The coverage of voluntary health insurance schemes is estimated to be around 25%. In Russia, the health care system is still predominantly public and only a small fraction of people chose private health care. Russia also introduced a mandatory health insurance scheme in 1993 which is available for all citizen except the military. It covers all out-patient and in-patient care services except tertiary and specializes care (Marten et al. 2014). China introduced health care reforms in a phased manner in the new millennium. The reform was started in 2003 with the addition of many other supplementary health insurance schemes in a phased manner. As a result of these reforms, the population coverage for health insurance increased from 29.7% in 2003 to 95.7% in 2011 (Qingyue et al. 2015). The government in South Africa has also committed to health care reform in a phased manner. During the first phase of five years, the focus was on strengthening the public sector followed by the introduction of the National Health Insurance Fund in 2017. The government has released a white paper on national health insurance and starting the implementation slowly (Marten et al. 2014).

Many Asian countries have also done quite well in establishing UHC through health insurance. Almost 100% of the population in Japan are covered by health insurance (Tatara and Okamoto 2009). Other countries in South-East Asia like Thailand and Indonesia have also implemented large social health insurance schemes during the last two decades. The success story of Thailand in achieving UHC is much lauded not only in Asia but also across

the globe. There are three main type of publicly sponsored health insurance schemes in Thailand. The coverage of these schemes in Thailand is 9%, 16%, and 75% respectively. Approximately 2.2% of people are also covered by private health insurance (WHO 2015). India's immediate neighbouring country, Nepal has also introduced a scheme on social health insurance recently (Pokharel and Silwal 2018). Thus, the overall global trend clearly indicates an inclination towards adopting health insurance as a favoured route of health financing for UHC.

Health Insurance in India and its states

India is the second most populous country and one of the fastest growing economies in the world. Since independence in 1947, the policy decision by the successive union government has shaped the current structure of health systems. The first guiding document on health policy dates back to 1948 when a report by health survey and planning committee headed by Sir Joseph Bhore was published. Subsequently, many expert committee reports and two 'National Health Policies' contributed to shaping the contour of health systems. The first national health policy was formulated in 1983 and the second policy was drafted in the year 2002. The third and the most recent National Health Policy formulated in 2017 (NHP-2017) has provided even newer dimensions to health policy direction. The NHP-2017 specifically outlines the role of aligning private sector in health towards fulfilling the public health goals by means of strategic purchasing (Govt. of India 2017). Traditionally, public expenditure on healthcare has been dismally low in India. The total expenditure on health is around 4.02% of the total Gross Domestic Products (GDP) out of which government's contribution is only around 1.15% of GDP. The contribution of the household's out of pocket expenditure is around 64.7% of the total health expenditure. The contribution of social or mandatory Health Insurance and private health insurance is estimated to be around 6% and 3.4% respectively during the year 2013-14 (NHSRC 2016).

The history of health insurance in India goes back to the year 1948 when the Employees' State Insurance Scheme (ESIS) was started. This was followed by another scheme called the Central Government Health Scheme (CGHS) in 1954. The beneficiaries of the CGHS scheme are the employee of the central government of India, while the ESIS covers the employees working in the formal sector. Both CGHS and ESIS schemes cater to only a small proportion of the overall population. As per the latest estimate, each of these schemes caters to around 4.9% of families in India (IIPS 2015-16). Additionally, experiments with Community Based Health Insurance (CBHI) was also observed in some parts of the

country but in very limited geographies area and population coverage. Some of the notable examples of CBHI are schemes run by civil society organizations like SEWA and Karuna trust (Reddy et al. 2011). In the meantime, the private sector in health mushroomed and people started availing its services by paying from their pocket. In 1986, a premium-based voluntary health insurance scheme was started by a public sector insurance provider but achieved very limited success. After the economic liberalization in 1991, the doors for the privatization of health insurance sector finally opened in 1999. The privatization of health insurance led to flourishing of the health insurance market and thus, boosting the demands especially among the affluent urban middle-class Indians. The increased health insurance coverage by voluntary health insurance could also be a significant factor for the growth of corporate private health sector in urban India. The health insurance entitlement also allowed the urban middle-class to avail services from expensive corporate hospitals (Lahariya 2018). In an unregulated environment, the cost of health services offered by corporate private sector slowly became out of reach of even upper middle-class. This probably attracted more people in middle and upper socio-economic class to enrol in voluntary health insurance. All these factors eventually led to high unmet need and higher demand for health insurance, thus influencing the political priority for health insurance in the last two decades. Higher public demands and political priority probably motivated the state governments to start a state-specific health insurance scheme during this period. The state of Karnataka started Yashaswini scheme in 2003, followed by Arogyashree scheme in Andhra Pradesh in 2007. Yashaswini scheme in Karnataka provided health coverage to around 3 million population in 2009, while Arogyashree provided coverage to around 70 million population in undivided Andhra Pradesh. The Yashaswini scheme provided coverage for secondary and tertiary in-patient care. The Arogyashree scheme provided in-patient care for tertiary care services only. None of these schemes provided primary or out-patient level care. In Karnataka, Yashaswini scheme was supplemented by Vajpayee Arogyashree scheme in 2009.

In 2008, the union government started a mega health insurance scheme known as Rashtriya Swasthya Bima Yojana (RSBY). The primary target population of RSBY was households belonging to Below Poverty Line (BPL) category. The benefits package under RSBY was hospitalization coverage of up to 30,000 INR per family. Although the depth and breadth of insurance coverage under the RSBY scheme was very limited, yet the absolute volume of population coverage under the scheme was unparallel to any other earlier scheme. Thus, the launch of RSBY can be considered as a major turning point in the history

of health insurance in India. This scheme probably paved the way for a plethora of other health insurance schemes mostly by the respective state governments (Reddy et al. 2011). Some of the states just added additional benefits to RSBY package or increased the population coverage by adding more categories of beneficiaries. Another group of states altogether started separate health insurance scheme **(Figure.1 and Table.1).**

The southern state of Kerala started a health insurance scheme in the year 2008 which is named as Comprehensive Health Insurance Scheme (CHIS). The CHIS scheme was supplementary to RSBY and extended the benefits of RSBY to those worker's families who were classified as poor by the state government but not classified as BPL as per union government. Later on, Kerala also introduced CHIS plus and increased the benefits package to 70,000 INR for treatment of heart disease, kidney disease and cancer. Subsequently, the RSBY benefit was also extended to those senior citizens in Kerala who were not covered by RSBY. The western state of Maharashtra started health scheme in the year 2010 initially known as 'Rajiv Gandhi Jeevandayee Aarogya Yozana'. Under this scheme, the BPL and other economically deprived families were provided health services for identified speciality care requiring hospitalization for surgery or other necessary therapy. Similarly, Gujarat, Tamil Nadu and Meghalaya started a health insurance scheme in 2012. The scheme in Gujarat is known as 'Mukhyamantri Amrutam' and provide insurance coverage to families with annual income up to 300,000 INR The benefit under the scheme comprises mainly tertiary care hospitalization services. In Tamil Nadu, the health insurance scheme provides hospitalized coverage of up to 500,000 INR for identified health conditions or procedure to families with an income of up to 72,000 INR per annum. The 'Megha Health Insurance Scheme' in Meghalaya covers all citizen in the state except state and central government employees. The benefits package under the scheme is hospitalization coverage of up to 500,000 INR per family per year. The high focused state of Odisha and Chhattisgarh and the Union Territories (UT) such as Dadra and Nagar Haveli (DNH) and Daman and Diu (DD) also started health insurance scheme in 2013. The health insurance scheme in Odisha cover all families holding RSBY card or Biju Krushak Kalyan card (a scheme for farmers) or Antyodaya Anna Yozana (a scheme for poor) card or any family with income less than 50,000 INR annually in the rural area and less than 60,000 INR in the urban area. Benefits package under the scheme includes hospitalization coverage of up to 500,000 INR per family per year and up to 700,000 INR for female family members. The health insurance scheme in Chhattisgarh extends the coverage of RSBY to all families in the state. The benefits package comprises of hospitalized care up to 50,000 INR per

family per year. The 'Sanjeevani Swasthya Bima Yozna' in the UT of DNH and DD provide free health insurance coverage to BPL families and at 50% subsidized premium to families with income up to 200,000 INR and with a full premium to all citizen. The benefits package under this scheme includes hospitalization coverage up to 300,000 INR along with accidental death and disability benefits. The north-eastern state of Arunachal Pradesh initiated a health insurance scheme in the year 2014. The scheme known as 'Chief Minister's Arogya Arunachal Yozana' has a provision of insurance coverage up to 500,000 INR per family per year on a family floater basis.

In 2015, Northern states of Punjab and Rajasthan and Union territory of Andaman and Nicobar Island started health insurance scheme. In Punjab, the 'Bhagat Puran Singh Health Insurance Scheme' cover around 1.5 million low-income families as per criteria defined by the state government. The entitlement under the scheme is hospitalization coverage of up to 30,000 Rs. per family per year. The 'Bhamashah Health Insurance scheme' in Rajasthan covers more than 10 million families. The families are identified either on the basis of RSBY coverage or if they are listed under the state or national list of beneficiaries of the food security act. The benefits package under the scheme is hospitalization coverage up to 30,000 INR for routine illness and up to 300,000 INR for identified severe illness per family per year. The health insurance scheme by the UT of Andaman and Nicobar Island provide coverage of up to 300,000 INR for hospitalization to all families in BPL category or those availing government pensions and permanent residents of the territory.

The health insurance scheme was introduced by as many as six other states in 2016. The state of Goa, Himachal Pradesh, Puducherry, Uttarakhand, Assam and West Bengal started health insurance scheme with different kind of benefit packages and level of population coverage. The 'Deen Dayal Swasthya Seva Yozana' in Goa covers all residents who are residing in the state for more than five years except those employed by central or state government. The benefits package consists of coverage for hospitalization up to 250,000 INR for a family of three members or up to 400,000 INR for the family of four or more members. The 'Mukhya Mantri State Health Care Scheme' in Himachal Pradesh is basically an extension of RSBY and RSBY Plus which was started in 2009. In addition to RSBY beneficiaries, this scheme covers all single women, elderly persons of more than 80 years of age, Anganwadi worker and helper, mid-day meal worker and helper, daily-wage workers and contractual employees and their families irrespective of their income. The benefits package under the scheme is equal to RSBY amount of 30,000 INR with additional

coverage of up to 175,000 INR for critical illness. The Puducherry Medical Relief Society Scheme is applicable to all families in the BPL category as per state government criteria. In Uttarakhand, the 'Mukhya Mantri Swasthya Bima Yozna' target all citizen of the state except the employees of central and state government, and those under the tax-paying category. The 'Atal Amrit Abhiyan' in Assam provides cashless hospitalized treatment up to 200,000 INR for six groups of diseases, which include; cardiovascular diseases, cancer, kidney diseases, neurological conditions, neonatal diseases and burns. All the households in BPL and low-income category residing in the state are covered under the scheme. The 'Swasthya Sathi' scheme of government of West Bengal has a provision of health insurance coverage of up to 150,000 INR for secondary and tertiary care and health assurance of up to 500,000 INR for critical illness. The target beneficiaries under the scheme are all beneficiaries of RSBY and families of self-help group members, Anganwadi workers and helpers, ASHA workers, civic defence volunteers, civic volunteer forces and certain categories of contractual workers. The total coverage of West Bengal scheme is estimated to be around 5 million households. Therefore, it is evident that by the end of 2017, the health insurance scheme was already at various level of implementation in 17 states and 4 UTs. The rush to start health insurance scheme by many state government probably led to the high political significance of such schemes. Thus, health insurance scheme gained political priority during last decade **(Figure.1 and Table.1)**.

Figure.1: The historical development of health insurance in India.

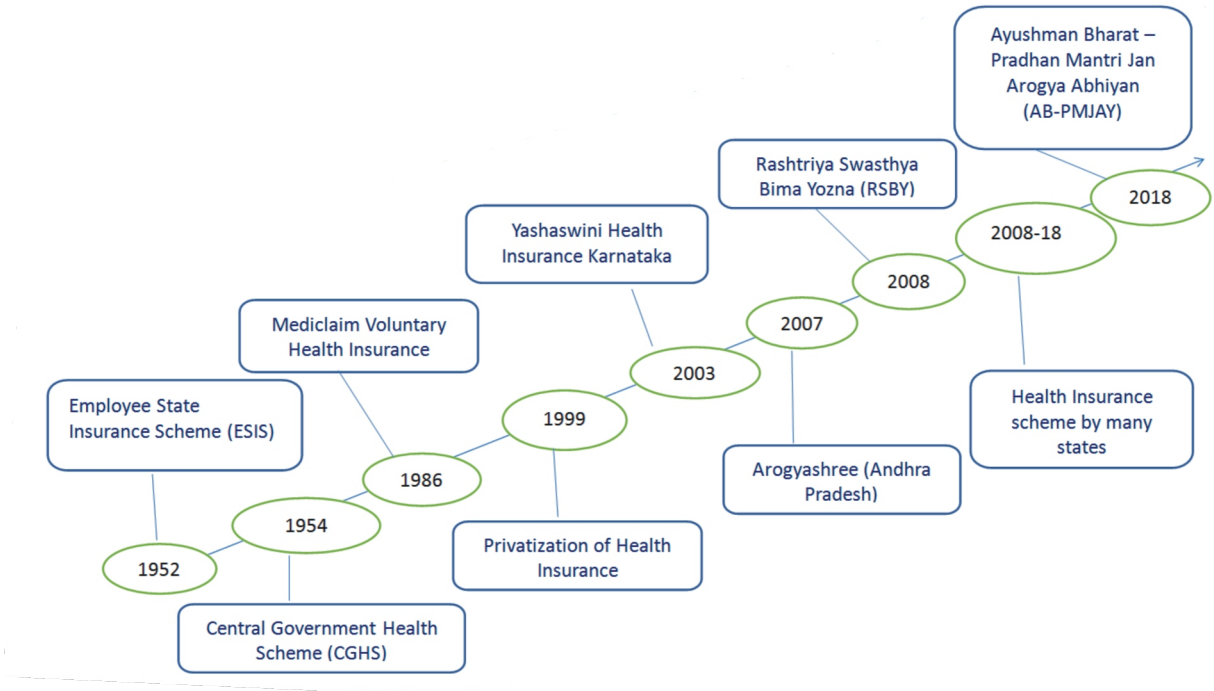


Table.1: Health Insurance Scheme in states of India

Year	State	Scheme
2003	Karnataka	Yashaswi Health Insurance Scheme and Vajpayee Arogyashree Scheme in 2009.
2007	Andhra Pradesh	Arogyashree Scheme
2008	Kerala	Comprehensive Health Insurance Scheme (CHIS) and CHIS Plus
2010	Maharashtra	Rajiv Gandhi Jeevandayee Aarogya Yojana and Mahatma Jyotiba Phule Jeevandayee Aarogya Yojana since 2017
2012	Gujarat	Mukhya Mantri Amrutam Yojana
2012	Tamil Nadu	Chief Minister Comprehensive Health Insurance Scheme and Chief Minister's Kalainagar Health Insurance Scheme since 2009.
2012	Meghalaya	Megha Health Insurance Scheme
2013	Chhattisgarh	Mukhya Mantri Swasthya Bima Yojana
2013	Odisha	Biju Swasthya Kalyan Yojana
2013	Dadra and Nagar Haveli, Daman and Diu	Sanjeevani Swasthya Bima Yojana
2014	Arunachal Pradesh	The Arunachal Pradesh Chief Minister's Universal Health Insurance Scheme
2015	Andaman and Nicobar Island	Andaman and Nicobar Island Scheme for Health Insurance
2015	Punjab	Bhagat Puran Singh Health Insurance Scheme
2015	Rajasthan	Bhamashah Health Insurance Scheme
2016	Goa	Deen Dayal Swasthya Seva Yojana
2016	Himachal Pradesh	Mukhya Mantri State Health Care Scheme and Rashtriya Swasthya Bima Yozna Plus (RSBY Plus) since 2010.
2016	Puducherry	Puducherry Medical Relief Society Scheme
2016	Uttarakhand	Mukhya Mantri Swasthya Bima Yojana
2016	Assam	Atal Amrit Abhiyan
2016	West Bengal	Swasthya Sathi

 # This is not a complete list of all health insurance schemes by the state governments in India. The source of information for all the schemes is official websites.

Ayushman Bharat – Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY)

The high political priority of health issues, especially, health insurance, accompanied with the urge to start acting towards the goal of UHC probably instigated the GoI to unveil a mammoth health insurance scheme. This health insurance scheme was one of the components of the flagship 'Ayushman Bharat' (long live India) scheme launched in 2018 (Government of India 2018). This scheme essentially has two components; a health insurance scheme for the socio-economically deprived section called Pradhan Mantri Jan Arogya Abhiyan (PMJAY), and Health and Wellness Centres (HWC) to provide holistic

primary health care. The PMJAY scheme is widely claimed to be the largest health insurance scheme in the world. It aims to cover approximately 107 million households and approximately 500 million Indians which roughly accounts for 40% of the total population. The health insurance scheme under Ayushman Bharat is widely propagated as a step towards UHC in India (Government of India 2018) **(see Box. 1).**

Box.1: The Major Highlights of PMJAY Scheme

- Approximately 107 million families and approximately 500 million individuals to be covered.
- The selection of family is based on the Socio-Economic and Caste Census (SECC), 2011.
- All deprived rural families and identified occupational categories of urban families to be included. No cap on family size and age.
- Benefit coverage of up to 500,000 INR per family per year (on a family floater basis).
- Covers secondary and tertiary care hospitalization at Public and empanelled private hospitals.
- 1,350 medical packages covering surgery, medical and daycare treatments, cost of medicines and diagnostics.
- All pre-existing diseases covered. Hospitals cannot deny treatment.
- Cashless and paperless access.
- No additional charge allowed and the scheme also covers pre and post hospitalization expenses.
- National portability: eligible beneficiaries can avail services across India

Bihar is the third most populous and one of the most resource-constrained states in India. It is also one of the least urbanized and industrialized state and the per capita income is also one of the lowest in the country (Government of Bihar 2018). The spread of both public and private health care delivery systems is very limited with a skewed distributed. Majority of people avail health services from the private sector. The proportion of out of pocket expenditure and catastrophic health expenditure is also very high (Ghosh et al. 2018). Therefore, we are taking Bihar as a case to study the role of health insurance in achieving UHC vis-à-vis India.

Against this backdrop, we aim to analyze the available dataset to understand the coverage, distribution, and predictors of health insurance in India and the state of Bihar in order to examine the feasibility of recently launched health insurance scheme (PMJAY) in realizing UHC.

Objectives

- To understand the coverage, distribution, and predictors of health insurance coverage in India and Bihar.
- To examine the potential of Pradhan Mantri Jan Arogya Abhiyan (PMJAY) scheme as a step towards universal health coverage in India.

Methodology

The National Family Health Survey (NFHS) is a large-scale, periodic survey conducted in a nationally representative sample of households across India. The survey is conducted by the International Institute of Population Studies (IIPS) on behalf of the Ministry of Health and Family Welfare (MoHFW), GoI. The fourth round of NFHS (NFHS-4) was conducted in the year 2015-16. In the household questionnaire of NFHS- 4, a question was asked to respondent about any member of the household being covered by any health insurance or scheme. In a subsequent question, information on the type of health insurance or scheme was also elicited. We have analyzed unit-level data from this component of household survey of NFHS-4 to understand the coverage, distribution, and predictors of health insurance in India and also in Bihar state (IIPS 2015-16). We categorized the health insurance schemes mentioned in the database into four major categories as per the World Health Organization (WHO) definitions (WHO 2003):

Mandatory health insurance schemes: all scheme run/provided by the government. This includes, Employee State Insurance Scheme (ESIS), Central Government Health Scheme (CGHS), State Health Insurance Scheme and Rashtriya Swasthya Bima Yozna.

Employer-based health insurance schemes: medical insurance or reimbursement provided by employers. This include, health insurance provided through the employer and medical reimbursement provided by the employer.

Community-based health insurance: health insurance scheme run by population group usually supported by civil society organizations. This includes, community health insurance programme.

Voluntary health insurance schemes: This includes privately purchased commercial health insurance and other schemes.

Descriptive and bivariate analyses were conducted to understand the coverage and distribution of health insurance. State-wise coverage for all four types of health insurance was estimated. Distribution of health insurance coverage among different socio-demographic and socio-economic categories was analysed separately for all India and Bihar. Separate logit regression analyses were carried out to understand the predictors of health insurance for India and Bihar.

Results

Health Insurance Coverage in India and its States

The overall health insurance coverage in India was around 25% out of which 22% was mandatory health insurance. **Table.2 and Figure.2** shows the coverage of health insurance scheme in all the 29 states of India. Andhra Pradesh (including Telangana) and Chhattisgarh have the highest coverage of health insurance, which stands at 74.5% and 68.4% respectively. Majority of the households in Tamil Nadu, Arunachal Pradesh, and Tripura were also covered by health insurance. More than 30% of households were covered by health insurance in Kerala, Odisha, Mizoram, Meghalaya, West Bengal, and Sikkim. In Karnataka, Himachal Pradesh, Gujarat, and Punjab at least two out of every ten households were covered by health insurance. Health insurance coverage in some of the largest states in India was very low. Two most populous states, viz., Uttar Pradesh and Maharashtra have very limited health insurance coverage of 6.1% and 15% respectively. Surprisingly, the national capital territory of Delhi also has low insurance coverage of 15.5%. Most of the states in so-called Hindi heartland[*1] and the largest north-eastern state of Assam also have low health insurance coverage (<20%). Mandatory health insurance has been the most common type of health insurance across the states. The coverage of CBHI was only 0.14% at the national level. None of the states has more than 1% coverage of CBHI. Karnataka has the highest coverage of CBHI at around 0.7%. The proportion of voluntary health insurance was highest in Maharashtra (5.8%) followed by Kerala (5.7%) and Delhi (5.5%). The coverage of voluntary health insurance was more than 4% in the other three states, namely, Gujarat, Odisha, and Haryana. Employer-based health insurance coverage was also very low (0.83%) at the national level. Only five states, viz., Tamil Nadu, Sikkim, Himachal Pradesh, Gujarat, and Goa have more than 2% coverage of employer-based health insurance **(Table.2 and Figure.2)**

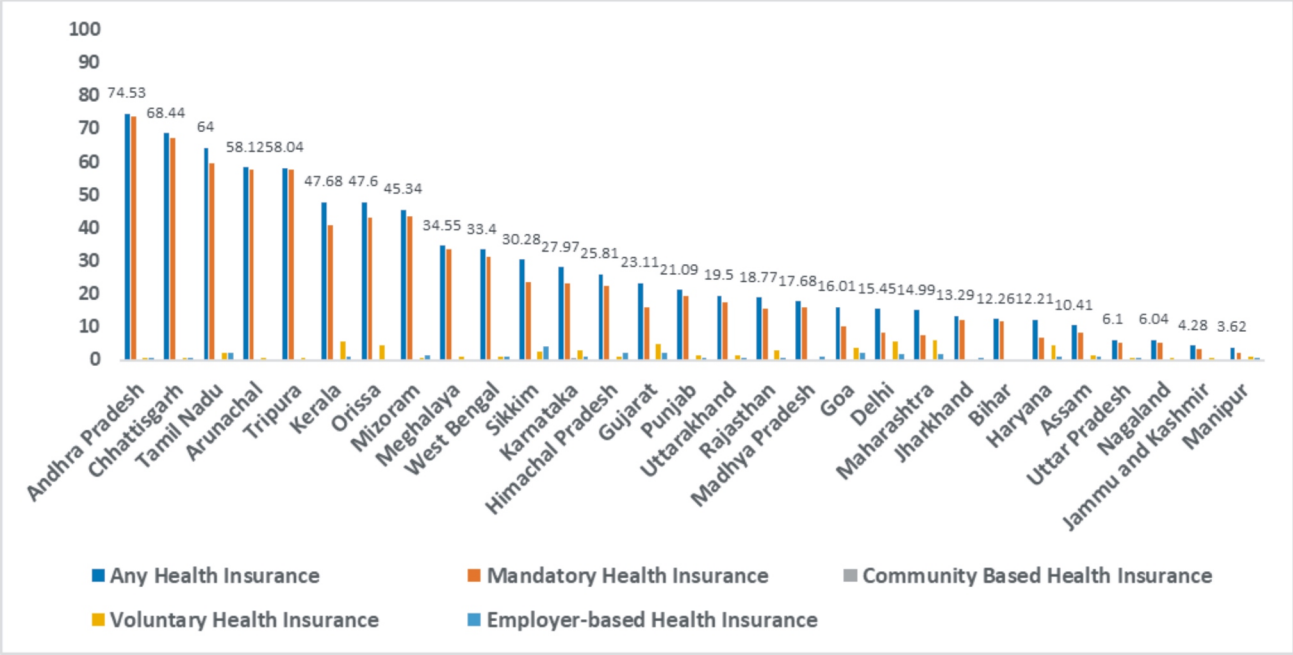
[1]Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Rajasthan, Haryana, Uttarakhand, Delhi and

In Bihar, overall health insurance coverage was 12.26% out which 11.64% was mandatory health insurance. The proportion of CBHI was very low at 0.09%. Similarly, the proportion of voluntary and employer-based health insurance coverage was 0.37% and 0.16% respectively **(Table.2)**.

Table.2: Coverage of health insurance across the States of India

	Any Health Insurance	Mandatory Health Insurance	Community Based Health Insurance	Voluntary Health Insurance	Employer-based Health Insurance
Andhra Pradesh	74.53	73.57	0.05	0.48	0.44
Chhattisgarh	68.44	67.17	0.03	0.68	0.56
Tamil Nadu	64	59.31	0.25	2.15	2.28
Arunachal	58.12	57.44	0.08	0.44	0.15
Tripura	58.04	57.52	0.03	0.4	0.09
Kerala	47.68	40.63	0.28	5.65	1.13
Orissa	47.6	43.01	0.08	4.22	0.3
Mizoram	45.34	43.34	0.01	0.67	1.32
Meghalaya	34.55	33.59	0.03	0.84	0.09
West Bengal	33.4	31.1	0.19	1.09	1.01
Sikkim	30.28	23.55	0.05	2.64	4.04
Karnataka	27.97	23.29	0.69	3.02	0.97
Himachal Pradesh	25.81	22.52	0.04	1.1	2.15
Gujarat	23.11	15.88	0.21	4.91	2.11
Punjab	21.09	19.36	0.13	1.2	0.4
Uttarakhand	19.5	17.38	0.18	1.3	0.56
Rajasthan	18.77	15.46	0.07	2.72	0.53
Madhya Pradesh	17.68	15.93	0.21	0.21	0.92
Goa	16.01	10.22	0.18	3.51	2.09
Delhi	15.45	8.05	0.03	5.52	1.85
Maharashtra	14.99	7.41	0.17	5.76	1.65
Jharkhand	13.29	12.13	0.08	0.35	0.73
Bihar	12.26	11.64	0.09	0.37	0.16
Haryana	12.21	6.86	0.12	4.23	1.01
Assam	10.41	8.1	0.23	1.19	0.88
Uttar Pradesh	6.1	5.03	0.07	0.57	0.43
Nagaland	6.04	5.19	0.15	0.56	0.13
Jammu and Kashmir	4.28	3.45	0.03	0.58	0.22
Manipur	3.62	2.14	0	0.8	0.67

Figure.2: Inter-state variation in health insurance coverage in India



Health insurance coverage among different socio-demographic categories of households

India

Table.3 reveals coverage of different types of health insurance according to socio-demographic characteristics of households. The overall health insurance coverage was highest among the households with age of head of household between 46 to 65 years. Coverage of health insurance among households with an elderly head (> 65 years) was around 25%. Education of the head of household and health insurance coverage was found to be positively associated at all India level. The coverage of any health insurance was found to be higher according to the educational attainment of the head of household. This phenomenon was also observed for voluntary and employer-based health insurance schemes. No significant difference was observed in health insurance coverage among nuclear and non-nuclear households.

Scheduled Castes (SC) and Scheduled Tribes (ST) households have higher coverage than other backward class (OBC) and other caste households probably due to higher coverage of mandatory health insurance. However, coverage of voluntary and employer-based health insurance was lower among these groups as compared to other castes. Hindu households have higher coverage than that of Muslims and other religions. Health insurance coverage was found to be higher among rural households as compared to their

urban counterparts. But, the coverage of voluntary and employer-based health insurance was higher among urban households **(Table.3)**.

Bihar

In Bihar, households with age of head of households between 26 to 65 years have higher coverage as compared to a household with a younger head. Unlike coverage at the national level, the coverage of voluntary health insurance was lower in elderly households as compared to other age groups. Non-nuclear families have better coverage than nuclear families. An inverse association has been observed between the educational attainment of the head of the household for overall health insurance coverage but in case of voluntary health insurance coverage, a direct positive association is observed. Similarly, SC and ST households have higher coverage as compared to other caste groups for overall and mandatory health insurance but not for voluntary and employer-based insurance. Hindu and rural households have higher coverage of health insurance. The rural-urban gap in health insurance coverage was observed to be higher in Bihar as compared to all India **(Table.3)**.

Table.3: Health insurance coverage among different socio-demographic categories

	Any Health Insurance		Mandatory Health Insurance		Community-Based Health Insurance		Voluntary Health Insurance		Employer-based Health Insurance	
	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar
Age of head of household (in years)										
< =25	14.65	8.1	13.22	7.66	0.08	0.05	1.00	0.33	0.34	0.07
26-45	23.81	12.5	21.27	11.93	0.13	0.07	1.67	0.38	0.73	0.12
46-65	27.24	12.96	24.07	12.25	0.16	0.13	2.04	0.38	0.97	0.12
>65	25.00	11.98	21.94	10.6	0.13	0.03	2.08	0.32	0.85	0.22
Household Type										
Nuclear	24.86	11.75	22.2	11.17	0.14	0.07	1.68	0.36	0.84	0.14
Non-nuclear	24.34	12.84	22.29	12.27	0.15	0.11	2.08	0.38	0.82	0.18
Education of head of household										
No education/ semi-literate	23.53	13.19	22.29	12.8	0.1	0.11	0.92	0.15	0.22	0.14
Primary	27.34	12.71	25.55	12.15	0.12	0.15	1.33	0.35	0.35	0.06
Secondary	24.35	11.44	21.31	10.8	0.15	0.05	1.98	0.41	0.91	0.18
Higher	28.44	8.84	19.86	6.62	0.29	0	5.05	1.74	3.23	0.47
Caste of Head of Household										
SC/ST	28.92	15.5	27.19	15.05	0.08	0.1	1.19	0.19	0.46	0.17
OBC	24.27	11.64	21.6	11.11	0.16	0.09	1.72	0.32	0.79	0.12

Others	20.47	9.93	15.64	8.78	0.2	0.07	3.14	0.78	1.49	0.3
Religion of Head of Household										
Hindu	25.92	12.48	22.77	11.85	0.15	0.09	2.09	0.38	0.91	0.17
Muslims and others	22.45	11.13	20.62	10.58	0.11	0.09	1.12	0.34	0.59	0.12
Place of Residence										
Urban	24.69	9.73	19.7	8.43	0.2	0	2.96	9.99	1.82	0.31
Rural	25.24	12.64	23.47	12.12	0.11	0.1	1.3	0.28	0.35	0.14
Overall	**25.06**	**12.26**	**22.24**	**11.64**	**0.14**	**0.09**	**1.85**	**0.37**	**0.83**	**0.16**

Health insurance coverage among different socio-economic categories of Households

India

It was noted that the households in the Below Poverty Line (BPL) category have 14% higher coverage of health insurance as compared to non-BPL households. Similarly, households with a bank account have much higher coverage of health insurance. The coverage of health insurance was almost directly associated with household wealth. Richest, richer and middle-class households have better health insurance coverage than poorer and poorest households. More households from the urban, affluent and educated group were covered by any health insurance as compared to other groups. The households generally seeking treatment from public health facilities have better health insurance coverage **(Table.4 and Figure.3)**.

Bihar

In Bihar, the BPL households have almost 11% higher coverage for any health insurance. The insurance coverage is almost four percentage-points more among households having a bank account. Although household wealth seems to be inversely associated with health insurance coverage in Bihar. The poorest and poorer families have higher coverage of health insurance as compared to rich, richer and richest families. Likewise, the urban, educated and affluent families have lower health insurance coverage as compared to other groups. The coverage of health insurance does not vary according to the preference for public or private health facility for seeking treatment **(Table.4 and Figure.4)**.

Table. 4: Health Insurance coverage among various socio-economic categories of households in India and Bihar

	Any Health Insurance		Mandatory Insurance		Community-Based Health Insurance		Voluntary Health Insurance		Employer- Sponsored Insurance	
	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar
Below Poverty Line (BPL) Status										
BPL	33.85	17.2	16.46	16.7	0.13	0.14	1.27	0.2	1.16	0.16
Non-BPL	19.94	6.08	32.16	5.31	0.17	0.02	2.19	0.59	0.26	0.16
Bank Account										
Yes	26.38	13.43	23.31	12.61	0.15	0.11	2.01	0.49	0.19	0.22
No	14.18	9.32	13.41	9.19	0.08	0.04	0.51	0.08	0.91	0.01
Wealth Quantile										
Poorest	20.82	13.03	20.01	12.71	0.05	0.06	0.69	0.17	0.07	0.08
Poorer	24.63	13.25	23.36	12.7	0.11	0.14	0.99	0.23	0.16	0.18
Middle	26.7	10.61	25	9.88	0.14	0.13	1.27	0.42	0.3	0.18
Richer	26.01	7.39	23.31	6.36	0.16	0.05	1.72	0.76	0.82	0.23
Richest	27.5	12.3	19.65	7.83	0.26	0	4.7	3.4	2.9	1.08
Social Status										
Urban, Effluent, Educated	31.33	9.52	19.98	5.27	0.13	0	6.47	3.59	4.54	0.66
Other	24.64	12.33	22.39	11.79	0.35	0.09	1.54	0.3	0.58	0.15
General Treatment Seeking Source										
Public health facilities	29.37	12.12	27.16	11.6	0.13	0.05	1.5	0.34	0.58	0.13
Non-Public Health Facilities	20.64	12.3	17.18	11.66	0.16	0.1	2.21	0.38	1.08	0.17

Figure.3: Socio-economic Status of households and Coverage of Health Insurance in India

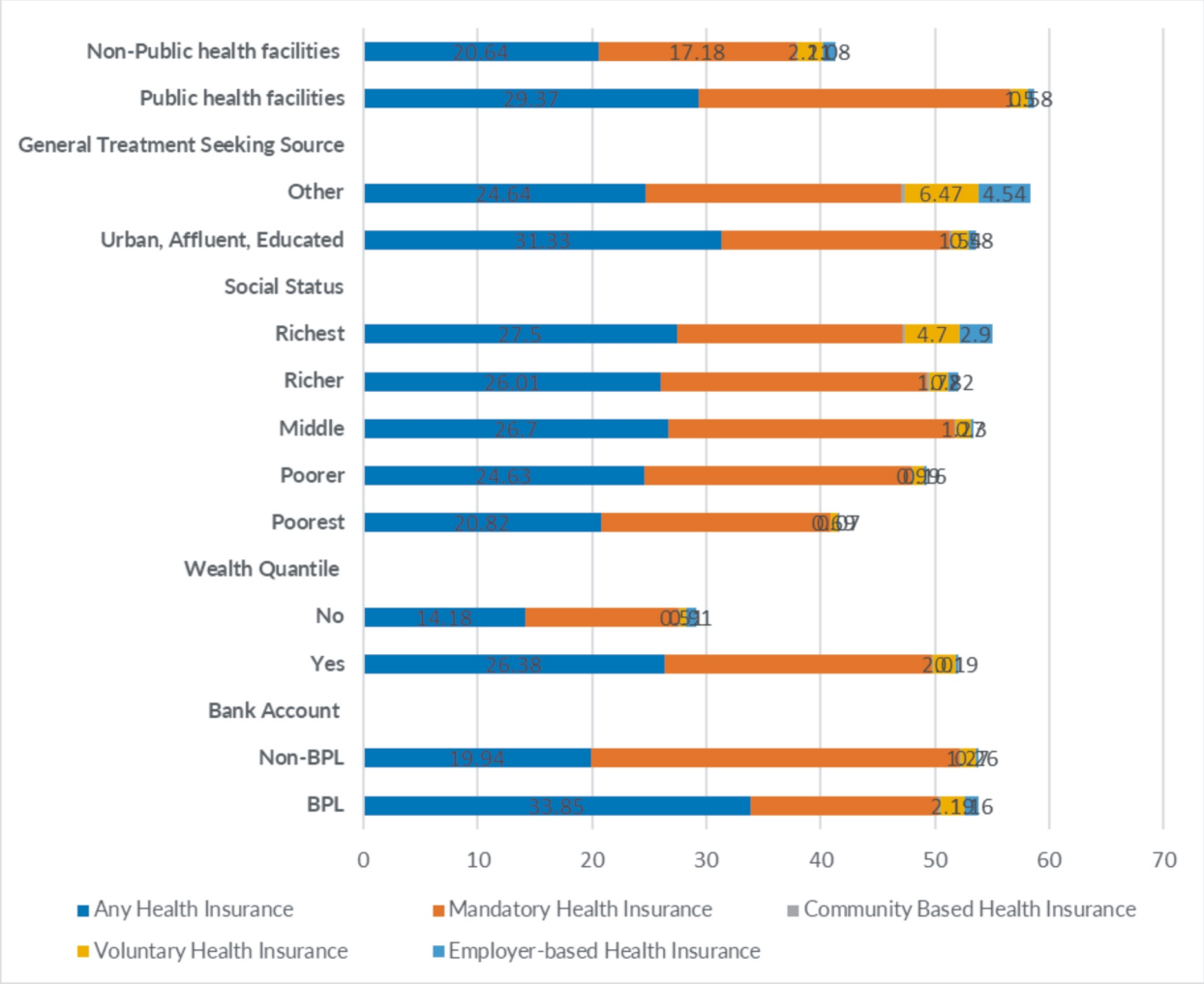
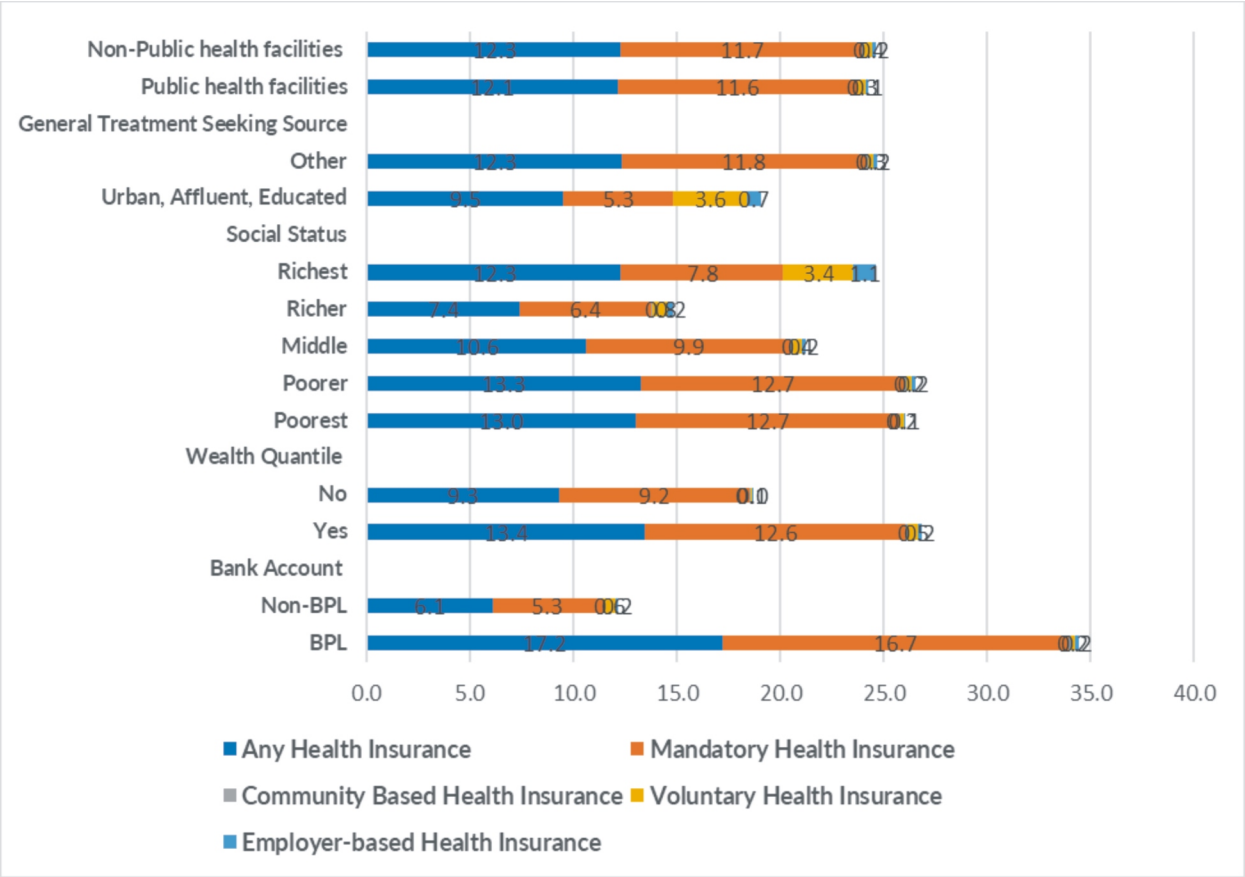


Figure.4: Socio-economic Status of households and Coverage of Health Insurance in Bihar



Predictors of health insurance coverage

India

Table.5 shows the results of logit regression analyses to understand the predictors of health insurance coverage at all India and Bihar. It was observed that the odds of being covered by any health insurance in India were significantly higher among the households where the age of head of the household was between 46 to 65 years followed by elderly (>65 years) households. Average marginal effect (AME) also suggests that the likelihood of having any health insurance was the highest among this group. Non-nuclear households have a higher likelihood of having health insurance as compared to nuclear families at the national level. The odds of having any health insurance was the highest among households, where the head of the households completed more than secondary level of education. It is also observed that having educated head of household significantly increased the odds of having any health insurance. Households belonging to the other backward caste (OBC) and other caste groups have significantly lower odds of having

health insurance as compared to SC/ST households. Similarly, households belonging to Muslim and other religions have significantly lower odds of having health insurance as compared to Hindu households. Possession of a bank account by household increased the likelihood of having health insurance by 9.2%. Odds and the likelihood of having health insurance increased significantly with increasing wealth quantile of households. Rural households also have significantly higher odds of having health insurance as compared to urban. The gap in the likelihood of having health insurance between rural and urban households was found to be 3.4% **(Table.5)**.

Bihar

The odds of having health insurance was the highest among households with age of head between 26 to 45 years followed by the age group of 46 to 65 years. The households with an elderly head (>65 years) have less likelihood of having health insurance as compared to the middle-aged group. Non-nuclear families have a significantly higher likelihood of having any health insurance. Unlike national level estimates, a linear relationship was not observed in the probability of health insurance according to the educational attainment of the head of households. The odds of having health insurance was slightly higher among households where the head was educated up to primary level. For households with secondary and higher educated head, the probability of having health insurance was significantly low in Bihar. The OBC and other caste group households have significantly lower odds of having health insurance as compared to SC/ST households. No significant difference was observed in the probability of having health insurance among Hindus and other religion families. BPL households have more than three times higher odds of having health insurance as compared to non-BPL households. In Bihar, the odds of having health insurance was significantly higher among the richest group of households. The richer, middle and poorer section of households has lower odds of having health insurance even in comparison to the poorest group. Rural households are more likely to have health insurance as compared to their urban counterparts **(Table.5)**.

Table.5: Predictors of Health Insurance Coverage in India and Bihar: Results of Logit Regression analysis

Insurance	India			Bihar		
Age of head of household (in years)	Odds Ratio (95% Confidence Interval)	Adjusted Marginal Effect (AME) (in %)	P Value	Odds Ratio (95% Confidence Interval)	Adjusted Marginal Effect (AME) (in %)	P Value
⩽ 25	1.00	17.70		1.00	9.79	
26-45	1.64 (1.62 -1.67)	24.04	0.00	1.36 (1.29 – 1.44)	12.65	0.00
46-65	1.95 (1.92-1.97)	26.53	0.00	1.34 (1.28-1.42)	12.51	0.00
> 65	1.79 (1.76 – 1.82)	25.27	0.00	1.14 (1.07-1.22)	10.95	0.00
Household Type						
Nuclear	1.00	24.62		1.00	11.84	
Non-Nuclear	1.08 (1.07-1.08)	25.66	0.00	1.09 (1.07-1.12)	12.71	0.00
Education of head of household						
Illiterate / Semi-literate	1.00	23.67		1.00	12.28	
Primary	1.10 (1.09-1.10)	24.97	0.00	1.03 (1.00-1.07)	12.61	0.05
Secondary	1.09 (1.09 - 1.10)	24.93	0.00	0.99 (0.97-1.02)	12.23	0.69
Higher	1.5 (1.50-1.53)	29.88	0.00	0.91 (0.86-0.96)	11.36	0.001
Caste of Head of Household						
SC/ST	1.00	26.29		1.00	13.98	
OBC	0.86 (0.86 – 0.87)	24.19	0.00	0.80 (0.78-0.82)	11.65	0.00
Others	0.89 (0.88 – 0.89)	24.59	0.00	0.80 (0.77 – 0.83)	11.70	0.00
Religion						
Hindu	1.00	25.35		1.00	12.25	
Muslim/Others	0.91 (0.91-0.92)	24.06	0.00	1.00 (0.98-1.04)	12.33	0.63
BPL Vs. Non-BPL						
Non BPL	1.00	20.73		1.00	6.05	
BPL	2.15 (2.14 - 2.16)	32.21	0.00	3.39 (3.30-3.48)	17.23	0.00
Bank Account						
No Bank Account	1.00	16.74		1.00	9.08	
Having Bank Account	2.04 (2.02 – 2.06)	25.98	0.00	1.62 (1.56-1.66)	13.56	0.00

Socio-Economic Status						
Poorest	1.00	22.76		1.00	12.43	
Poorer	1.08 (1.07 – 1.09)	23.84	0.00	0.99 (0.96-1.02)	12.31	0.40
Middle	1.11 (1.10 – 1.12)	24.22	0.00	0.90 (0.86-0.93)	11.37	0.00
Richer	1.15 (1.14 – 1.16)	24.69	0.00	0.76 (0.72-0.80)	9.85	0.00
Richest	1.63 (1.61-1.65)	29.92	0.00	1.78 (1.66-1.92)	19.39	0.00
Place of Residence						
Urban	1.00	22.81		1.00	11.26	
Rural	1.28 (1.26-1.28)	26.24	0.00	1.12 (1.08-1.17)	12.39	0.00

Discussions

Our analysis throws significant light on some interesting facts about health insurance coverage in India and Bihar. The results highlight the wide inter-state variation in health insurance coverage and socio-demographic and economic correlates of such variations. Similarly, the pattern of health insurance coverage and predictors are very different for national estimates and the case study state of Bihar. Overall, we found that at least one member of around one-quarter of households in India is covered by at least any one health insurance scheme. The current estimate of health insurance coverage is much higher in comparison to all previous estimates. In a similar work based on data from the third round of NFHS and District Level Household Survey (DLHS), the authors estimated that only about five per cent households were covered by any health insurance at the national level (Shijith and Shekhar 2013). A report by World Bank published in 2012 estimated the household coverage of any health insurance to be around 25% overall in India (Forgia and Nagpal 2012). We also noted a very high level of inter-state variation in health insurance coverage ranging from around 75% in Andhra Pradesh (including Telangana) to as low as 6% in Uttar Pradesh. In general, the health insurance coverage was found to be lower in Hindi-heartland states as compared to southern Indian states. In 2005-06, the inter-state variation in coverage was narrower with a range of around 10% to as low as 1% (Shijith and Shekhar 2013). It is evident that during the last decade, although the health insurance coverage increased in India but the inter-state variation in insurance coverage also widened. Similarly, as per our estimates, health insurance coverage in Bihar was found to be around 12% which is much higher than earlier estimates. As per National Sample Survey Organization (NSSO) reports, the coverage of health insurance in Bihar was found to be 0.03% in 2004 which increased up to 6.2% in 2014 (Ghosh et al. 2018). As per NFHS-3 estimates, the coverage in Bihar was the lowest among all states (Shijith and Shekhar 2013). We also observed the differences in the social and economic factors responsible for variations in the health insurance coverage in India and our case study state of Bihar. We shall discuss the probable factors resulting in these variations in the next section.

Differential Factors Affecting Health Insurance Coverage in India *and Bihar:*

It is observed that mandatory health insurance is the predominant form of insurance accounting for almost three-quarters of insured families in India and nearly 95% of insured families in Bihar. As per NFHS-4 report, out of total health insurance coverage, the RSBY contributed 33.8%, while ESIS and CGHS together contributed 4.9% each in total health

insurance coverage in India. The contribution of the health insurance scheme by state governments was around 49%. In 2005-06, the contribution of mandatory health insurance was around 47%, while CBHI contributed to 6%, employer-based health insurance contributed to 11% and contribution of voluntary health insurance was around 28% in the total health insurance coverage (Shijith and Shekhar 2013). Based on these observations, two possible explanation of our findings can be; first, the household health insurance coverage has increased considerably during last decade and second, the mandatory health insurance by the government contributed substantially in the extension of this coverage. This change can easily be attributed to the impact of instigation of national level publicly financed health insurance such as RSBY and the state-specific health insurance scheme by many state governments. We also observed a marked difference in overall coverage as well as the proportion of mandatory health insurance in Bihar and at the national level. This differential finding can be attributed to many important factors such as; the low socio-economic status of families in Bihar, lower capability to afford premium-based health insurance, the absence of any state-specific mandatory health insurance scheme, lack of awareness about health insurance and overall low prioritization of healthcare by the individual and families. Similarly, poor penetration of publicly financed health insurance such as RSBY and ESIS mainly due to administrative and implementation challenges may also result in lower coverage.

In addition, we also observed some patterns in health insurance coverage by different socio-demographic and economic categories of households. In overall India, the households headed by the middle-aged person had a higher probability of coverage as compared to those with younger or elderly households. While in Bihar, the variation in insurance coverage according to the age of head of households was not distinct. The households headed by an elderly person also have low coverage for voluntary and other types of health insurance in Bihar. Overall, the pattern of insurance coverage among families headed by different age groups is similar in India and Bihar. Education of head of the household was significantly associated with higher coverage of health insurance in India but in contrast, education of the head of the household was rather inversely proportional to insurance coverage in Bihar. The probable factors such as a lower proportion of higher educated families in Bihar, wider inclusion criteria of state-specific health insurance schemes in other states, a higher correlation between education and economic productivity in India as compared to Bihar, and low priority for health insurance in India could result in such differential observations.

The probability of having health insurance was higher among SC and ST category as compared to other caste groups in India as well as in Bihar. The higher probability among SC/ST is mainly due to almost universal inclusion of this group by prevailing mandatory health insurance schemes. At all India level, the Hindu households have higher odds of having health insurance coverage as compared to Muslims and other religions. However, in Bihar, no significant difference in coverage was observed among Hindu and Muslim families. The higher inclusion of Muslim families in Bihar can probably be due to the poor socio-economic status of Muslim families, thus making them eligible for mandatory health insurance. Other probable factors for this can be a better reach of public schemes resulting in higher inclusion of all religious group. The families belonging to BPL category have higher odds of having health insurance in India as well as in Bihar. The probability of BPL families for having health insurance is higher in Bihar mainly due to the inclusion of only BPL families in a mandatory health insurance scheme. In other states, the state-specific schemes have wider inclusion criteria which result in higher coverage among non-BPL families also. More importantly, the overall proportion of BPL families in Bihar is also much higher than in India. As per the report of planning commission of GoI, the proportion of the population in the BPL category was found to be 33.7% in Bihar and 21.9% in overall India (Govt. of India 2014). Having a bank account also resulted in a higher probability of health insurance in India as well in Bihar. Rural households also are more likely to have health insurance as compared to their urban counterparts. However, the rural-urban difference is less in Bihar as compared to all India, probably due to the much higher proportion of families residing in the rural area. As per Census 2011, the proportion of the population residing in the rural area was 72.18% and 88.71% in India and Bihar respectively (RGI 2011).

At all India level, the household's wealth was found to be directly proportional to the increasing probability of having any health insurance. On the contrary, this correlation was not linear in Bihar. The probability of having health insurance was highest among families belonging to richest wealth quantile but the poorer, middle and richer section have lower odds of having health insurance as compared to poorest quantile. The probable reasons behind these findings can be: wider social inclusion in state-specific mandatory health insurance in other states, only limited inclusion of poorest household in mandatory health scheme in Bihar, higher awareness and need for health insurance in overall India as compared to Bihar. The overall findings of predictors of health insurance coverage in Bihar are also in contrast to NFHS-3 findings where it was observed that the urban, other castes,

higher educated and richest households had higher coverage of health insurance (Shijith and Shekhar 2013).

Impact of Health Insurance in Low and Middle-Income Countries

We have argued above that the movement to provide and procure health insurance has got a great momentum during the last two decades, resulting in a tremendous improvement in overall health insurance coverage. At the same time, it is necessary to understand whether available evidence on the impact of the publicly financed health insurance programme indicates a different scenario? Many studies conducted on the impact of publicly financed health insurance scheme in LMICs have found no significant improvement in financial risk protection for poor households. Similar evidence is also available from the study on Indian health insurance schemes. (Devadasan et al. 2013; Karan et al. 2017; Prinja et al. 2017). In a study by Chatterjee et al. (2018), it was found that there is very high positive spillover effect of health insurance on utilization of health care by those, who were not insured in the locality (Chatterjee et al. 2018). Many other studies found positive impact of RSBY in improving utilization of health services but not in reducing the financial risk protection. Therefore, it can be argued that the increased utilization of health care by insured households probably led to higher public demand for health insurance; however, with limited impact on the reduction of financial risk and catastrophic health expenses (Ghosh et al. 2018). Yet, many LMICs have introduced health insurance schemes during the last decades in the spirit of UHC. India also seems to follow the same path.

The Potential of Ayushman Bharat-Pradhan Mantri Jan Arogya Yozana towards Universal Health Coverage:

The recently launched PMJAY, a health insurance scheme by GoI under the flagship programme of 'Ayushman Bharat' is widely proclaimed as a step towards UHC in India. The benefits package under this scheme is coverage of up to 500 thousand rupees per family per year for availing secondary and tertiary care services. The beneficiaries have a choice to opt for services from either public or empanelled private hospitals. A total of around 1350 medical and surgical services including day-care, diagnostics and medicines are included in the package. The poor and deprived rural, and identified occupational category of urban households are included as targeted beneficiaries in the scheme. As per the target of this scheme, nearly 40% of Indians are expected to be covered (Govt. of India 2018). The length of population coverage and depth of services covered is certainly higher than any previous pan-India health insurance schemes. In this context, based on the

findings of our study, we will now critically examine the potential of PMJAY towards UHC in India.

The PMJAY aims to increase the household health insurance coverage to more than 100 Million households thus covering around 40% population. As per our estimates, at least one member of 25% of households is already covered by any health insurance or scheme. We also found that as many as eight states already have more than 40% population covered by health insurance. In some of the states, the insurance coverage is even higher. Like all other previous mandatory health insurance scheme, the target group of PMJAY is also poor and vulnerable households. Although many states already have wider coverage, the PMJAY can increase the coverage of health insurance in states where it is currently low. But, like all other previous mandatory health insurance scheme, the target population of PMJAY leave behind the larger section of middle-class Indians. Our analysis clearly indicates that middle and even richer and richest group of households do not have significantly higher coverage of health insurance. In a state like Bihar, the poorest and poorer group have higher coverage than the middle and richer section. Further to this, some vulnerable group such as elderly households which have low health insurance coverage are also left out by PMJAY. In the economically backward states of India, where the cut-off level for wealth classification is low, the urban, affluent and educated class are also not adequately covered by health insurance. These groups are also effectively omitted from PM JAY scheme.

The second major objective of the PM JAY is to reduce out of pocket (OOP) expenditure and mitigate the financial risk arising out of catastrophic health expenditure for the poor and vulnerable population. As per available evidence, the proportion of OOP on secondary and tertiary care amounts to nearly only one-third of total OOP (NHSRC 2016). As per a study based on NSSO data, it was noted that having health insurance actually increased the OOP in Bihar (Ghosh et al. 2018). A similar national-level estimate also observed no significant effect of health insurance on OOP, the probability of catastrophic expenditure and impoverishment caused by health expenditure (Ravi 2016). The PMJAY does not have provision for primary or outpatient services. It is evident that OOP cannot be reduced even by ensuring the coverage of all secondary and tertiary care services. Although one can anticipate a reduction in the incidence of catastrophic health expenditure due to sudden hospitalization. The Health and Wellness Centre (HWC) which is the primary care component of Ayushman Bharat scheme also has its own set of challenges. There is an obvious incongruence between the allocated resources and stated

objectives of HWC. In this context and based on the overall experience of primary health care services in India, the expected outcome of HWC seems to be too ambitious. In the absence of availability of comprehensive primary health care services and robust gatekeeping mechanism, the pressure on PMJAY will keep rising over the period of time.

Historically, the policy makers in India are primarily engaged in public health systems with very little oversight of the private sector in health. The intrinsic challenges of India's health systems like: unequal distribution of human resources, largely unregulated private sector, low public spending on health, irrational use of drugs and technology, and weak governance and accountability were crucial bottlenecks in the progress of health systems. These factors not only inhibited the strengthening of public health care delivery but also resulted in very limited space for stewardship of the private sector. Unfortunately, the commitment to move towards UHC has come amidst this perennial dilemma of either continuing to strengthen the public health care delivery system as an only solitary route of health care or move towards strategically purchasing of health care from the private sector (Maurya 2017).

Therefore, the decision to introduce PMJAY health insurance scheme seems to be a step taken on an unknown path. One of the stated objectives of PMJAY is to steward and align the growth of the private sector for public health goals. More importantly, this scheme is also envisaged to facilitate the growth of private sector health infrastructure in rural, remote and underserved area. The available evidence from other LMICs suggests that introducing health insurance for only a targeted group of the population generally lead to further complicating the already complex health systems, especially in the absence of robust governance and accountability (Bishai and Sanchathep 2015). Therefore, we foresee two obvious implications of this scheme on the private sector; rapid propagation with higher utilisation and increase in the cost of health care for those not covered by any insurance or schemes. It is obvious that even after the implementation of PM JAY, approximately 60% of Indians will continue to be unprotected from the financial risk of health care. These factors can potentially defeat the basic goal of achieving UHC in India.

Conclusions and Recommendations

It is evident from this study that health insurance has become one of the main tools for providing financial risk protection to poor and vulnerable section of society in India. The recent launch of PMJAY is one of the most definitive and biggest steps in this direction. Unfortunately, none of the existing health insurance schemes by state governments as well as PMJAY provide universal coverage of health insurance to all citizen. Thus, these schemes effectively leave behind a significant proportion of the population and expose them to the risk of high out of pocket and catastrophic health expenditure. This situation is further complicated by the rising cost of care for those not insured.

Therefore, we recommend that a definite policy action must be taken to provide financial risk protection to those not covered by any health insurance. The policy should adopt a multi-pronged approach to include maximum possible beneficiaries in any health insurance scheme with all benefits package. The possible approach towards universalization should include innovative solutions, such as: encourage the citizen to enrol in health insurance schemes, an incentive for enrolling (i.e. tax benefit, bonus) or conditionally mandating enrolment in a health insurance scheme. Other options include mandating or incentivizing employer-based schemes and exploring other innovative health financing methods to expand coverage. The government should also explore options to provide a premium based health insurance to those who are currently not covered by any publicly financed health scheme. The regulation of insurance and health care providers are equally important determinants of future success for such programmes. More importantly, investments and efforts to strengthen comprehensive primary health care through the public health care delivery system should continue to be a high priority.

References:

- *World Health Organization. Health Systems Financing: Executive Summary. World Health Report 2010. Geneva.*
- *United Nations. Resolution adopted by the General Assembly on 12 December 2012. Available from: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/67/81 Accessed March 18, 2019*
- *United Nations. Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development. Available from: https://unstats.un.org/sdgs/indicators/indicators-list/. Accessed March 18, 2019*
- *Mathauer M, Dale E, Messen B. Stretegic Purchasing for Universal Health Coverage: Key Policy Issues and Questions. Health Financing Working Paper No 6. 2016. Geneva. World Health Organization.*
- *World Health Organization. Social Health Insurance: Report of Regional Expert Group Meeting. New Delhi. 13-15 March, 2003. Available from:*
- *Busse R, Blummel M. Germany: Source of Revenue and Financial Flow. European Observatory of Health Systems and Policies. 2014.*
- *Rice T, Rosenau P, Unruh LY, Barnes AJ, Saltman RB, Van Ginneken E. United States of America: health system review. Health Syst Transit. 2012;15(3):1-431.*
- *Amu H, Dickson KS, Kumi-Kyereme A, Darteh EKM (2018). Understanding variations in health insurance coverage in Ghana, Kenya, Nigeria, and Tanzania: Evidence from demographic and health surveys. PLoS ONE 13(8): e0201833. https://doi.org/10.1371/journal.pone.0201833*
- *Marten R, McIntyre D, Travassos C, Shishkin S, Longde W, Reddy S, Vega J. An assessment of progress towards universal health coverage in Brazil, Russia, India, China, and South Africa (BRICS). Lancet 2014; 384: 2164–71.*
- *Qingyue M, Hongwei Y, Wen C, Qiang S, Xiaoyun L. People's Republic of China: Health System Review. Health Syst Transit. 2015;5(7).*
- *Tatara K, Okamoto E. Japan Health System Review. Health Syst Transit. 2009;11(5):1-164.*
- *Asia Pacific Observatory on Health Systems and Policies (APOHSP). The Kingdom of Thaïland: Health System Review. Health Syst Transit. 2015; 5 (5)*
- *Pokharel, R, Silwal, PR. Social health insurance in Nepal: A health system departure toward the universal health coverage. Int J Health Plann Mgmt. 2018; 33: 573–580.*
- Government of India. *National Health Policy-2017. Ministry of Health and Family Welfare. New Delhi. 2017. Available from:* https://mohfw.gov.in/sites/default/files/9147562941489753121.pdf. Accessed April 11, 2019.
- *International Institute of Population Sciences. National Family Health Survey. National Family Health Survey – 4. http://rchiips.org/NFHS/nfhs4.shtml. Accessed December 12, 2018.*
- *National Health Systems Resource Centre (2016). National Health Accounts Estimates for India (2013-14). New Delhi: Ministry of Health and Family Welfare, Government of India.*

- *Reddy KS, Selvaraj S, et al. A Critical Assessment of the Existing Health Insurance Models in India: A Report Submitted to Planning Commission. Public Health Foundation of India. 31 January, 2011.*
- *Lahariya C. Ayushman Bharat Program and Universal Health Coverage in India. Indian Pediatr. 2018 Jun 15;55 (6):495-506.*
- *Government of India. Ayushman Bharat for a new India -2022, announced. 2018. Press Information Bureau. Available from: http://pib.nic.in/newsite/PrintRelease.aspx?relid=176049 Accessed March 19, 2019*
- *Government of India. Pradhan Mantri Jan Arogya Yozna. Available from: https://www.pmjay.gov.in/ Published 2018. Accessed March 19, 2018.*
- *Government of Bihar. Economic Survey 2017-18. Vol. I. Available from: http://finance.bih.nic.in/Reports/ Economic-Survey-2018-EN.pdf Accessed March 18, 2019*
- *Ghosh S, Guha-Khasnobis B, Hussain Z. Morbidity and Health Seeking Behaviour in Bihar, 2004-14. Working Paper 1/2018. The Centre for Health Policy, Patna, Bihar.*
- *Shijith VP, Sekhar TV. Who Gets Health Insurance Coverage in India? New Findings from Nation-Wide Surveys. XXVII IUSSP International Population Conference.Busan, Republic of Korea. 2013*
- *Forgia GL, Nagpal S. 2012. Government-Sponsored Health Insurance in India: Are You Covered? Directions in Development. Washington, DC: World Bank.*
- *Government of India. Report of the expert group to review the methodology for measurement of poverty. 2014. New Delhi. Planning Commission.*
- *Registrar General of India and Census Commissioner (2011). Results of 2011 Census. Government of India, New Delhi.*
- *Karan A, Yip W, Mahal A. Social Science & Medicine Extending health insurance to the poor in India : An impact evaluation of Rashtriya Swasthya Bima Yojana on out of pocket spending for healthcare. Soc Sci Med. 2017;181:83-92.*
- *Devadasan N, Seshadri T, Trivedi M, Criel B. Promoting universal financial protection : evidence from the Rashtriya Swasthya Bima Yojana (RSBY) in Gujarat , India. Heal Res Policy Syst. 2013;11(1):1.*
- *Prinja S, Chauhan AS, Karan A, Kaur G, Kumar R (2017) Impact of Publicly Financed Health Insurance Schemes on Healthcare Utilization and Financial Risk Protection in India: A Systematic Review. PloS ONE 12(2): e0170996.*
- *Joshi R, , Boregowda P. Government health insurance and spatial peer effects: New evidence from India. Soc Sci Med. 2018 Jan; 196:131-141*
- *Ravi, S, Ahluwalia R; Bergkvist S. Health and Morbidity in India (2004-2014). Brookings India Research Paper No. 092016. 2016*
- *Maurya D. Horses for Courses: Moving India towards Universal Health Coverage through Targeted Policy Design. Appl Health Econ Health Policy. 2017;15(6):733-744.*
- *Bishai D, Sanchathep K, The role of the private sector in health systems. Health policy and planning.* ***30*** *(2015), p. i1.*

Notes

Notes

The Centre for Health Policy (CHP) at the Asian Development Research Institute (ADRI) has been set up with support from the Bill & Melinda Gates Foundation to strengthen the health sector in Bihar with a multidimensional and multi-disciplinary approach. Its aim is to engage in rigorous analysis of the health system and inform policy makers to fine-tune interventions for even stronger outcomes.

- Research and Analytical Studies

  It constitutes the core of CHP's activities. The areas of research include health infrastructure and delivery with emphasis on equity, health outcomes such as IMR, MMR, TFR and its predictors, health financing, private-public partnerships, regulatory framework and its implementation, and other issues which might emerge.

- Informing Policymakers on Strengthening the Existing Health System

  CHP aims to be the trusted partner of the state Government in providing evidence-based inputs in making the health system stronger, resilient and equitable.

- Sustainable Health Solutions

  CHP recognizes the need for establishing a strong health system which will be self-sustaining. It means immunity to natural disasters/calamities, financial uncertainties and other unanticipated factors. These pillars may be interrelated; CHP will provide a framework of synergy among actors working on these pillars.

- Collaboration

  CHP engages in collaboration with an extensive network of academic and policy research institutions both in India and abroad in health and the broader social sciences.