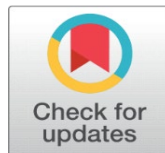
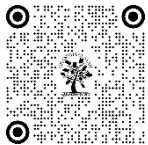


COVERAGE OF HEALTH INSURANCE: A STUDY ON NORTH-EASTERN STATES OF INDIA WITH SPECIAL REFERENCE TO ASSAM

Monikankana Sabhapandit ¹✉, Dr. Khirod Kumar Phukan ²

¹Research Scholar, Department of Economics, Madhabdev University, Narayanpur, North Lakhimpur, Assam, India

²Assistant Professor, Department of Economics, Madhabdev University, Narayanpur, North Lakhimpur, Assam, India



Corresponding Author

Monikankana Sabhapandit,
monikankana11@gmail.com

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ABSTRACT

Health insurance becomes an effective measure to reduce poverty, which is the core constraint of sustainable development. Though various types of social health insurance schemes are introduced in India, most of the nation, particularly the northeastern states with special reference to Assam, have very limited coverage under the health insurance schemes. The study aims to analyse health insurance coverage in the rural and urban sectors of northeastern states and Assam and to find the association between various household types covered under different types of health insurance schemes. In addition, regional variations in coverage of health insurance are examined in the study. The study will be based on secondary data only. Data is being collected basically from the unit-level record of the 75th round (2017-18) of the National Sample Survey published by the Government of India, Ministry of Statistics and Program Implementation. Independent sample t-test, Phi, and Cramer's V test are used to analyse the objectives. The coverage of health insurance is not adequate in Rural and Urban Assam. The occupation of the household is associated with the coverage of the health insurance programme.

Keywords: Health Insurance, Regional Variation, National Sample Survey, Government Funded Health Insurance, CGHS, ESIS

1. INTRODUCTION

Health is a basic means to attain the United Nations Sustainable Development Goal (SDG) to ensure healthy lives and well-being for all. However, inequalities in healthcare access are a fundamental problem in many parts of the world. To overcome the problem of poor health, the World Health Organization (WHO) initiated the target of universal health coverage to ensure equitable access to health services without facing any financial hardship. Health insurance is an effective way to attain the goal of a good and healthy life for people. The lack of universal coverage poses a conundrum in the standard economic model. Health insurance offers more than just financial security as it can also enhance health and save lives by increasing access to effective care.

Health is related to every aspect of life directly or indirectly. Good health is an indication of the mental, physical, and social well-being of a person. Economically good health makes the country more productive and efficient. Healthy people

mean a healthy nation. Healthy people utilize the resources effectively and contribute efficiently to the economic development of the nation. To eradicate poverty and ensure good health and well-being, health insurance is an urgent need (WHO 2000). The country for instance China achieved universal health insurance in 2011. On the other hand, in India, more than 80% of people are not covered under any health insurance plan (NSSO 2014). As a part of the nation, particularly the northeastern states are far away from universal health coverage. According to the study (Meitei et.al 2021) found that the coverage of health insurance is highest in Arunachal Pradesh (59%) followed by Tripura (58%), Mizoram (47%) surpassing the all-India level of 27%, whereas the lowest was in Manipur (4%) followed by Nagaland (6%) and Assam (10%).

Assam, where 42% of the population has a BPL card, is regarded as the poorest state in the Northeast. Increasing Out-of-Pocket (OOP) healthcare costs is one of the crippling elements driving households in the state into poverty. When it comes to health shocks, households without security mechanisms like medical insurance—particularly those in lower income brackets—suffer the most (Basumatary et al.2022). The current study looks at health insurance coverage in Assam and the association between various household types covered under different types of health insurance schemes. In addition, regional variations in coverage of health insurance are also analyzed in the study.

2. REVIEW OF LITERATURE

In India Particularly in Assam, we have found few studies that have analyzed the coverage of health insurance for different socio-economic groups. Most of the studies have documented factors influencing in purchase of health insurance and the challenges the system faces in terms of accessibility, equality, and efficiency of health care delivery.

Studies considering the factors affecting health insurance have found that morbidity is a determining factor in purchasing health insurance. Individuals with higher levels of morbidity have more health insurance (Goud et.al 2014). Income is another determining factor affecting health insurance purchase decisions. Another factor affecting health insurance include educational level, sex, age, and household size (Adebayo et.al 2015). (Wang et.al 2023) determine that air pollution is a very important factor in the purchase of health insurance. The study reveals that the higher the air pollution level makes policyholders prioritize obtaining insurance for their children. Another study (Sharma et.al 2023) analysed the inequalities and disparities in the purchase of health insurance. The study reveals wide variations and inequalities in enrolment of health insurance at intra-state, interstate, and socioeconomic levels. People belonging to higher economic quintiles, scheduled tribes, and urban areas earning regular wages and salaries are mostly enrolled in health insurance.

(Mavalankar et.al 2000) have been focusing on the opportunities, challenges, and concerns raised in the context of the health insurance sector. The study highlights challenges including increasing health care costs, high financial burden on the poor eroding incomes, increasing burden of new diseases and health risks, and neglect of preventive and primary care and public health functions due to underfunding of the government health care. Moreover, the study compares American private insurance companies and the German cooperative insurance sector and found that if health insurance is left to the private market, it will only cover those which have substantial ability to pay leaving out the poor and making them more vulnerable.

Growing expenditure particularly the out-of-pocket expenditure on health is a major concern in many countries including India (Kastor et.al2018, Grag et.al 2009). Health insurance can help to reduce expensive out-of-pocket expenditures, providing risk protection and mobilizing the resources to a high-yielding productive process. Though the country India has been experimenting with a variety of social health insurance schemes combining both private and public financing schemes, they are not adequate (Lagomorison et.al 2012). Selvaraj et.al

(2012) find there is a rise in household per capita OOP expenditure particularly on hospitalization. Before the beginning of the insurance schemes (2004-05), households' OOP expenses on inpatient, outpatient, and drugs, were reportedly higher in India. This disparity continued to exist in the post-insurance years as well. Similarly, headcount in the catastrophic nature of hospitalization has increased marginally in the post-insurance years.

In India, Health insurance programmes are categorized as community health insurance (CHI) which works under the principle of social capital, social health insurance (SHI) and other private insurance (PHI) which operates on the ability to pay principle (Meitei et. al,2020). Government-sponsored Health Schemes and Employee State Insurance Schemes are generally called social health insurance (SHI) schemes. These schemes work for organized workers. Government-funded health Insurance schemes have been floated by the central and state governments for over a decade. The majority of these schemes are pro-poor in nature (Hooda 2020). The move toward health-related financial risk protection began with the use of SHIS to safeguard organized workers. With the introduction of GFHIS, the protection was extended to encompass those who are economically challenged and work in the unorganized sector. However, basic care has been neglected by all programs, which have mostly focused on secondary and tertiary-level services (Dubey et al., 2023)

The literature on factors, issues, and challenges in the field of health insurance provides some insights into this area. These studies have been done to provide the reasons for the unsatisfactory demand for health insurance (Goud et.al 2014, Adebayo et.al 2015, Sharma et.al 2023). As far as researcher knowledge goes, no studies till now have analyzed the coverage of health insurance particularly in the northeastern state of Assam. The study will provide an insight into the current status of health insurance coverage in Assam. Moreover, coverage of various occupational groups covered under different health insurance schemes is discussed in the study.

3. DATA AND METHODS

3.1. DATA SOURCE

The study is based on secondary data only. Data has been collected basically from the unit-level record of the 75th round (2017-18) of the National Sample Survey published by the Government of India Ministry of Statistics and Program Implementation. Data has been collected from other sources such as the National Health Profile 2021, and World Health Report 2000.

NSS 75th round covered the whole of the Indian Union except Andaman and Nicobar. NSSO collected data from 1,13,823 households spread over every district of the country. The rural household belong to 8077 randomly selected villages and the urban households to 6,181 randomly selected urban blocks. The present study covers only the Indian state of Assam.

3.2. STATISTICAL TOOLS

Descriptive statistics are used to analyze the regional variations in coverage of health insurance. A statistical t-test was carried out to access the coverage of health insurance in rural and urban sectors in the northeastern states and Assam. Additionally, Phi and Cramer's V test is used to see the association between various household types covered under different types of health insurance schemes.

4. RESULTS

Table1 Coverage of Health Insurance in Northeastern States

Table1. Coverage of health insurance in northeastern states		
States	Percentage covered	
	Rural	Urban
Assam	4.2	12.3
Manipur	1.1	2.3
Meghalaya	55.3	47.5
Mizoram	80.8	24.3

Nagaland	4.2	9.5
Sikkim	3.3	1.2
Tripura	17.5	6
National Sample Survey		

Source: National sample survey

Health insurance protects people from unforeseen health expenditures providing financial support to their needs. Hence health insurance is an integral part of any health system. Higher coverage of health insurance means better health for people which reduces the state of poverty.

Table 1 shows all the seven northeastern states of India and health insurance coverage of the states. The coverage is less than 20 percent in all the northeastern states except Meghalaya and Mizoram. In Assam, the coverage is 4.2 percent in rural regions and 12.3 percent in urban regions.

Table2 Percentage of People Covered in Various Schemes

Type of Insurance	Assam		All India	
	Rural	Urban	Rural	Urban
Govt. sponsored insurance scheme	2.9	2.2	12.9	8.9
CGHS	0.2	3.3	0.6	3.3
Employer supported health insurance	1	0.3	0.3	2.9
Insurance with health companies	0	6.4	0.2	3.8
Other	0	0	0.1	0.2
Not covered	95.8	87.7	85.9	80.9

Source: National sample survey

Table 3 Independent Sample t Test

Table 3-Independent sample t test			
		<i>Rural</i>	<i>Urban</i>
Mean		19.4	19.54
Variance		1824.22	1458.54
t-Test: Two-Sample Assuming Unequal Variances			
	<i>Rural</i>	<i>Urban</i>	
Mean	23.7143	14.7143	
Variance	1002.57	274.905	
Observations	7	7	
Hypothesized Mean Difference	0		
df	9		
t Stat	0.66622		
P(T<=t) one-tail	0.26099		
t Critical one-tail	1.83311		
P(T<=t) two-tail	0.52198		
t Critical two-tail	2.26216		
Observations			
Hypothesized Mean Difference	0		
df	8		
t Stat	-0.0055		

P(T<=t) one-tail	0.49789		
t Critical one-tail	1.85955		
P(T<=t) two-tail	0.99577		
t Critical two-tail	2.306		

Table 2 shows various health insurance programmes and their coverage. Only 2.9 percent of the population lives in rural regions and 2.2 percent in urban areas are covered by government- sponsored insurance schemes. This is approximately six times lower than the national average (8.9 percent) in urban areas and 10 times lower than the national average (12.9 percent) in rural areas. The coverage of other health insurance programmes, such as Employer Supported Insurance Scheme (ESIS), Central Government Health Insurance Scheme (CHIS) and Private Companies' Health Insurance Schemes (PHIS) are extremely limited in Assam's rural and urban areas. Coverage of the central government health scheme is only 3 percent in urban Assam which is similar to the national average.

Table 3 shows the t-value of Table 2. An independent sample t-test is applied for table 2 to see the coverage of health insurance in Assam. The p-value is found non-significant as p (0.995774)

> 0.05. This suggests that a significant portion of the population has not covered under health insurance schemes in Assam.

Table 4 shows the coverage of health insurance for different household types based on their occupation in agricultural and non-agricultural sectors in rural Assam. NSS 75th round categorized rural household as self-employed, regular wage earners, casual labours and others. More than 80percent of households in Assam are not covered in any type of health insurance scheme.

Table 4 Household Type Covered by Health Insurance in Rural Assam

Household type	Government- sponsored insurance schemes	CGHS	ESIS	Private Insurance companies	others	Not covered
Self-employed in non-agriculture	2.9	0	0	0	0	97.1
Regular wage salary: agriculture	1.4	0.2	0.2	0	0	98.2
Regular wage salary: on-agriculture	0	0.1	14.6	0	0.2	85.1
Casual labour: agriculture	1.2	0	0	0	0	98.8
Casual labour: non-agriculture	7.5	0	0	0	0	92.5
Others	5.6	2.4	0.2	0.8	0.1	90.8

National Sample Survey

Table 5 shows the NSSO categorization of urban occupational groups and their coverage under health insurance schemes. In urban areas, occupational groups are categorized as self- employed, regular wage and salary earner, casual labor, and others. More than 80 percent of households engaged in different occupations are not covered under any type of health insurance scheme.

Table 5 Household type Covered by Health Insurance in Urban Assam

Household Type	Government- sponsored insurance schemes	CGHS	ESIS	Insurance companies	others	Not covered
Self-employed	1.9	0.1	0	12.2	0	85.7
Regular wage/salary	1.2	9	0.8	2	0.1	86.9

Casual labour	6	0	0	0	0	94
Others	4	0.8	0.1	0	0	95.1

National Sample Survey

We calculated “Phi and Cramer’s V test” weighted by percentage to see the association of different household types covered under different health insurance schemes. The study found the p-value is less than 0.05 (.031), thus it is significant as shown in Table 6. Phi and Cramers V test resulted that there is an association exist between various household types covered under different types of health insurance schemes in rural areas of Assam. It indicates that type of household is significantly associated with the likelihood of enrolling in a particular health insurance scheme.

Table 6 Phi and Cramer’s test for Rural Assam

			house_type						Total
			SENagri	RWSagri	RWSNagri	CLagri	CLNagri	others	
type_ins	Govts	Count	3	1	0	1	8	6	19
		Expected Count	1.5	.5	7.7	.5	4.1	4.6	19.0
	CGHS	Count	0	0	0	0	0	2	2
		Expected Count	.2	.1	.8	.1	.4	.5	2.0
	EHI	Count	0	0	15	0	0	0	15
		Expected Count	1.2	.4	6.1	.4	3.2	3.6	15.0
	IHC	Count	0	0	0	0	0	1	1
		Expected Count	.1	.0	.4	.0	.2	.2	1.0
	Others	Count	0	0	0	0	0	0	0
		Expected Count	.0	.0	.0	.0	.0	.0	.0
Total		Count	3	1	15	1	8	9	37
		Expected Count	3.0	1.0	15.0	1.0	8.0	9.0	37.0

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	1.108	.001
	Cramer's V	.554	.001
N of Valid Cases		37	

Abbreviation: SENagri-self-employed in non-agriculture, RWSagri-regular wage salary in agriculture,RWSNagri-Regular wage salary in non agriculture,CLNagri-Casual labour in agriculture,CLNagri-Casual labour in non- agriculture

Table 7 shows that the value of p is less than 0.05 (.000) thus it is significant. There is an association exist between various Occupational groups covered by health insurance in urban Assam. Household occupation is a determining factor for overall health insurance coverage.

Table 7 Phi and Cramer’s test for Urban Assam

			5					Total
			GSch	CGHS	ESIS	Icom	others	
4	SE	Count	0	2	0	12	0	14
		Expected Count	4.1	4.4	.4	5.2	.0	14.0
	RW	Count	1	9	1	2	0	13
		Expected Count	3.8	4.1	.3	4.8	.0	13.0
	CL	Count	6	0	0	0	0	6
		Expected Count	1.7	1.9	.2	2.2	.0	6.0
	OTHERS	Count	4	1	0	0	0	5
		Expected Count	1.4	1.6	.1	1.8	.0	5.0
Total		Count	11	12	1	14	0	38
		Expected Count	11.0	12.0	1.0	14.0	.0	38.0

Symmetric Measures

	Value	Approx. Sig.
Nominal by Nominal Phi	1.112	.000
Cramer's V	.642	.000
N of Valid Cases	38	

Abbreviation: GSch-Government-sponsored health insurance scheme, CGHS-Central government health scheme, ESIS-Employee State Insurance Scheme, Icom-Insurance companies

5. DISCUSSION

Expanding coverage would improve health, lengthen lives, reduce disability, help control communicable diseases, and raise productivity (Bovbjerg et.al 2007). Health insurance coverage is not adequate in Assam. It would minimize productivity by increasing the unhealthy population in the State. For example, Government Sponsored Health Insurance Schemes aim to provide financial assistance to economically weaker sections of society. The minimum coverage of such schemes suggests that poor people are not using health insurance programs as often as they should. Employer Supported Health Insurance Scheme covers employees and their dependence. Lesser coverage of the health of employees causes higher out-of-pocket expenditure on health care. That might reduce expenses on minimum nutrition which would eventually impact the state's output. Inadequate coverage of health insurance in Assam may be due to lack of awareness and issues of affordability of the people. In a doctoral study (Adhikary et al. 2018) found that the largest segment of the enrolled families from rural areas lacks a basic understanding of several aspects of their health schemes, like policy-related terms, and knowledge of doctors, hospitals, and services covered under health insurance policies. They are also unaware of how to avail the benefits and the grievance redressal procedure for their respective policies. Most families even failed to differentiate between the costs covered by the schemes and the additional payments made out of their pockets. On the other hand Per Capita Net the Domestic Product of Assam is much less than the national average (Dhar 2014).It indicates reduced household income making it difficult for individuals to afford health insurance premiums.

Occupation is associated with the coverage of health insurance. The percentage of workers without health insurance varies depending on their occupation (Boal et.al,2018). Occupation may influence the income of a household affecting the ability to afford health insurance. Moreover, Certain occupations increase the risk of injury, and such occupations may require special insurance coverage. For example, agricultural work is riskier due to a combination of physical and chemical exposure and environmental hazards. People of the non-agricultural sector take risk of workplace accidents, injuries, illness, and other lifestyle and infectious diseases. Therefore, occupation-specific health insurance schemes might help to improve the coverage of the state.

Furthermore, no significant difference was found between the regional variations in rural and urban Assam in coverage of health insurance indicating health insurance coverage is not sufficient in both rural and urban areas of Assam. The study highly recommends increasing the awareness of health insurance in both rural and urban areas addressing the specific needs of the regions. To maximize the overall coverage of health insurance, need to educate people about

health insurance benefits and availability in rural areas and expansion of network hospitals, especially in urban areas of Assam.

Source of Support: Nil

6. CONCLUSIONS

Health insurance coverage is insufficient in Assam. Coverage is low in both the rural and urban areas of Assam. Despite implementing public and private health insurance programs, the state's health insurance penetration remains

alarmingly low. A multi-faceted approach involving government and private sector participation, and awareness campaigns can help bridge the gap. By prioritizing health insurance expansion, Assam can improve Healthcare access reduce financial burdens and enhance overall well-being.

CONFLICT OF INTERESTS

None.

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