

Abstract

Health is an essential constituent of human resource development. Good health is the real wealth of society. Health insurance is a method to finance healthcare. Our study examined the change health insurance/scheme coverage by NFHS-3 to NFHS-4 by background characteristics also determine the partial distribution and autocorrelation of health insurance coverage across districts in India by NFHS-4. In this study, univariate, bivariate, and multivariate analyses(binary logistic regression) have been carried out. Maps have been prepared using Geoda to show the district wise coverage and spatial autocorrelation. The health insurance coverage has increased from NFHS-3 (4.9) to NFHS-4 (28.7). The highest change coverage of health insurance according to NFHS-3 to NFHS-4 Andhra Pradesh (3.6 to 74.6), Chhattisgarh (3.3 to 68.5) and lowest Manipur (6.7 to 3.6) and Jammu Kashmir (5.2 to 4.2). However, The coverage has increased in health insurance in the rural area (2.23 to 28.92) is greater than the urban area (10.41 to 28.21). Moran's I Indicates the high degree of spatial autocorrelation of health insurance.

Introduction

Health is an essential constituent of human resource development. Good health is the real wealth of society. Health insurance is a method to finance healthcare. The reduction or elimination of the uncertain risk of loss for the individual or household by combining a small or large number of similarly exposed individuals or households who are included in a common fund that makes functional the loss caused to anyone member (ILO-1996). The increase in health insurance is possibly due to some state and central government-funded health insurance schemes initiated in the last decade (Selvaraj and Karan 2012). These health insurance are designed in such a manner that they can reduce out-of-pocket expenditure and over the burden of health risk. The probability of catastrophic OOP expenditure reduces by 10 percent if the household head has medical insurance (Rama 2008). The utilization of hospitalization is slightly higher in that group with health insurance, and The insured were less likely to incur out-of-pocket (OOP) expenditure. Who has insurance they have a higher probability of going private health sector? An insured person was less likely to incur OOP expenditure than the uninsured (Nandi et al. 2017) 3 out of 4 impact evaluation studies done in various Indian states show no reduction in catastrophic health expenditures among insured (Rao et al. 2014; aiyar et al. 2013; Selvaraj and Karan 2012). Health insurance is designed to reduce financial hardship. In literature, it has not been clearly found that health insurance helps reduce financial hardship during hospitalization and choose a health care provider. Health insurance is a method to finance healthcare. Our study examined the change health insurance/scheme coverage by NFHS-3 to NFHS-4 by background characteristics also determine the partial distribution and autocorrelation of health insurance coverage across districts in India by NFHS-4.

Methods and Materials

NFHS is a large scale, a multi-round survey conducted in a representative sample of household throughout India. Data for NFHS round 4 was collected in the year 2015-16 in all the 29 states and seven union territories of India. Dependent variable is health insurance, which was binary. In independent variable age, sex, place of residence, region, wealth index, religion, caste. Bivariate analysis was also used for understanding the socio-economic as well as demographic differentials in the coverage of health insurance. Bivariate analysis was also used for understanding the socio-economic as well as demographic differentials in the coverage of health insurance. Multivariate analysis in the form of binary logistic regression has been carried out to determine the effect of various predictors on health insurance. The results are presented in the form of Odds Ratio (OR) . The calculations were adjusted by using appropriate weights wherever required. Moran's i is a measure of spatial autocorrelation. Spatial autocorrelation indicates the degree to which data points are similar or dissimilar to their spatial neighbours.

Results

The health insurance coverage has increased from NFHS-3 (4.9) to NFHS-4 (28.7). The coverage has increased in health insurance in the rural area (2.23 to 28.92) is greater than the urban area (10.41 to 28.21). In religion, Increase of health insurance highest in Christian (7.27 to 44.58) and the decrease in JAIN (23.69 to 22.65).In caste, in every caste health insurance have increased maximum increase in Scheduled caste (3.35 to 31.08) and scheduled tribe (2.63 to 30.8). Coverage of health insurance In male and female both have increased but compare to male(5.2 to 28.79) female(2.9 to 28) more increased. Result from logistic regression based on NFHS-4 shown that place of residence, caste, age and region are important determinants of health insurance. The highest change coverage of health insurance according to NFHS-3 to NFHS-4 Andhra Pradesh (3.6 to 74.6), Chhattisgarh (3.3 to 68.5) and lowest Manipur (6.7 to 3.6) and Jammu Kashmir (5.2 to 4.2). The value of univariate Moran's I is 0.61463 a measure of spatial autocorrelation. Moran's I Indicates the high degree of spatial autocorrelation of health insurance.

Table 3.1 Percentage of households in which at least one usual member is covered by a health scheme or health insurance in NFHS-3 and NFHS-4

| Covariate | NFHS 3 | | NFHS 4 | |
|------------------------|--|----------------------|--|----------------------|
| | Percentage of household coverage by health insurance | Number of households | percentage of household coverage by health insurance | Number of households |
| Residence*** | | | | |
| Urban | 10.4 | 3704 | 28.2 | 59193 |
| Rural | 2.2 | 1639 | 28.9 | 113290 |
| Religion*** | | | | |
| Hindu | 5.1 | 4566 | 29.8 | 146164 |
| Muslim | 2.1 | 286 | 20.0 | 15129 |
| Christian | 7.2 | 214 | 44.5 | 7244 |
| Sikh | 6.5 | 111 | 20.8 | 2058 |
| Buddhist | 6.5 | 61 | 17.8 | 1026 |
| Jain | 23.6 | 87 | 22.6 | 285 |
| Other | 3.2 | 14 | 17.4 | 563 |
| Caste*** | | | | |
| SC | 3.3 | 702 | 31.1 | 38486 |
| ST | 2.6 | 241 | 30.8 | 17072 |
| OBC | 3.7 | 1637 | 30.4 | 77416 |
| Other | 8 | 2920 | 23.7 | 33447 |
| Don't know | 10.9 | 53 | 20.02 | 913 |
| Wealth Index*** | | | | |
| Poorest | 0.1 | 31 | 21.3 | 26310 |
| Poorer | 0.6 | 140 | 28.4 | 33695 |
| Middle | 2.2 | 485 | 32.3 | 38554 |
| Richer | 5.0 | 1083 | 30.6 | 36996 |
| Richest | 16.4 | 3602 | 30.5 | 36917 |
| Region*** | | | | |
| North | 6.4 | 1165 | 17.2 | 13591 |
| Central | 5.7 | 1050 | 15.7 | 20720 |
| East | 6.3 | 60 | 26.2 | 34443 |
| North-East | 6.1 | 1476 | 18.3 | 3870 |
| West | 2.1 | 664 | 17.6 | 15613 |
| South | 5.8 | 924 | 56.5 | 84223 |
| Sex*** | | | | |
| Male | 5.2 | 4895 | 28.8 | 147828 |
| Female | 2.9 | 448 | 28.0 | 24645 |
| India | 4.9 | 5342 | 28.7 | 172473 |

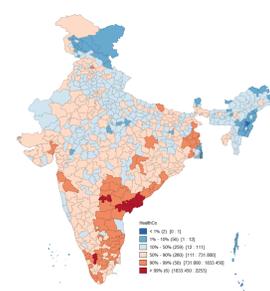


Fig 1- Percentile map of coverage of health insurance 2016

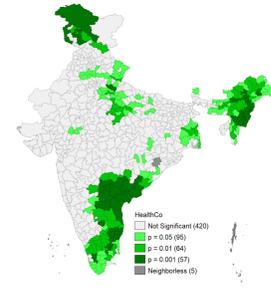


Fig 2- Significance map of Lisa

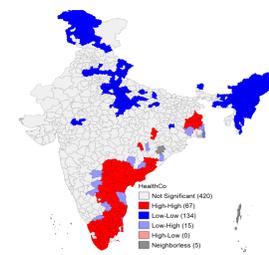


Fig 3- Lisa cluster map of health insurance of India

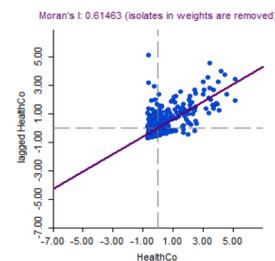
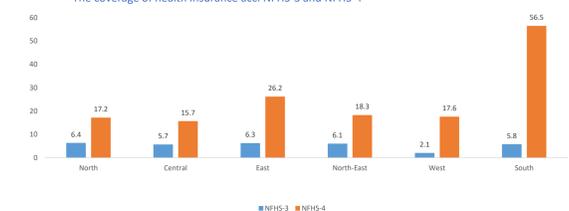


Fig 4- Univariate Local Moran's I

Discussion

The health insurance have increased in significant manner in several states as Andhra Pradesh, Chhattisgarh and decreased in some states as Manipur and Jammu Kashmir. Our study shown that place of residence, caste, age and region are determinants which support other studies. In the wealth quantile, the poorest category has more increase coverage of health insurance. Further, we examined and found that all other health insurance had decreased because there was the implementation of RSBY and State health insurance scheme. Which was for poorer and poorest group of population because of these health insurance increased the coverage in lower quantile group. Further, The study has found that rural population has more health insurance than the urban population.

The coverage of health insurance acc. NFHS-3 and NFHS-4



Conclusions

Health insurance increase in the southern state is mainly due to State health insurance and other some state due to the implementation of RSBY. In the northern state, especially Uttar Pradesh, Bihar and north-eastern state have low coverage of health insurance that affects their OOP. While we examined different health insurance scheme than we found that all other health insurance had been reduced (except RSBY and SHI) because there was the implementation of RSBY and State health insurance scheme. The government should focus on deprived group of people as old age, poorer section of populations. The policy come out with some strategy which will help to reduce OOP and distress financing in middle group of populations.

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