

# Willingness to pay for health insurance in mangalbare village development committee of ilam district

## Abstract

**Background:** Health financing in Nepal mainly relies on out-of-pocket system, which gradually is pushing people in vicious circle of poverty. In such situation, health insurance is widely recognized substitute mechanisms for alternative financing. The main purpose of this study was to study the willingness to pay for health insurance scheme among the peoples of Mangalbare Village Development Committee of Ilam District.

**Materials and methods:** A cross-sectional descriptive study using quantitative method was carried out in Mangalbare Village Development Committee of Ilam District. Sample size was determined by using decision analyst Statistics and Data (STATSM 2.0) and proportionate ward wise random sampling technique was used to select the respondents. Data was collected from 136 respondents through face-to-face interview. The collected data was analyzed by using Statistical Package for the Social Sciences (SPSS) 16. Frequency tables and cross-tabulations were generated with a statistically significant p-value pre-determined at less than 0.05.

**Results:** Among 136 respondents, 97(71.3%) were willing to pay for National Health Insurance Scheme. The median amount that respondents were willing to pay was Rs 500 (Q3-Q1=200) per annum per household. Level of education ( $p=0.002$ ) and people with sufficient household income ( $p=0.002$ ) were found to be willing to pay with statistical significance.

**Conclusion:** Majority of the respondents were willing to pay for National Health Insurance Scheme. However, people with low economic status and low education level were less willing to pay. Therefore, government needs to consider such groups and establish special incentive program (e.g. government and/or donor subsidies) targeting poor and vulnerable groups.

**Keywords:** health insurance, ilam, mangalbare, willingness to pay

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**Abbreviations:** IOM, institute of medicine; VCTS, valley college of technical sciences; VDC, village development committee; NHI, national health insurance; NHIS, national health insurance scheme; CBHI, community based health insurance scheme; STATA, statistics and data; NHRC, nepal health research council; SPSS, statistical package for the social sciences; WTP, willingness to pay

## Introduction

Basic health care is considered as a fundamental right of the citizen. In recent years government is trying best to improve people's access to health care services in Nepal. The government's commitment to health is reflected by the increased allocated health budget in 2013/14.<sup>1</sup> Health financing in Nepal relies mainly on out-of-pocket model of individual patient, which was 54.8%<sup>2</sup> which gradually pushing people in vicious circle of poverty. Moreover, direct payments for health services in Nepal are unregulated and often high-priced by the individual health care facility. As, about 30% people in the country are below the poverty line,<sup>3</sup> implicating that they are unable to bear the high cost incurred for utilizing health services. In such a situation National Health Insurance (NHI) is a widely recognized and preferable mechanism to finance the health care expenditure of the individuals and to ensure the universal health coverage, National

Health Insurance Scheme (NHIS) is needed in Nepal. A NHIS may have the potential to capture the unregulated out-of-pocket spending which mainly takes place in private sector in Nepal where government is passive and weak to control unfair pricing system. There are four models of health insurance are practices in Nepal:

- Private Health Insurance offering by commercial insurers for middle and high income group,
- Micro-Health insurance to low income group by private sector,
- Community Based Health Insurance (CBHI) by Government in Limited cluster and
- Social Health Insurance available to government and corporate employees<sup>4</sup>
- National Health Insurance Scheme which is going to implement in Nepal.

Even though the CBHI schemes cover a limited population at community level, there appears a direct need of social health insurance scheme with wider coverage. Also the past reality of different challenges faced by Government run CBHI programme, such as lack of support from upper level, financial efficiency, pro-poor challenges, sustainability and limited coverage,<sup>4</sup> warrant the need of social health

insurance schemes. In such situation the best solution would be Government run National Health Insurance Programme where there is both government and individual contribution for health care financing. So, before implementing the National Health Insurance Scheme, it is necessary to know whether the people are willing to pay what government wants them to pay. The main purpose of this study was to study the willingness to pay for National Health Insurance Scheme among the peoples of Mangalbare Village Development Committee (VDC) of Illam District.

## Materials and methods

A community based cross-sectional descriptive study using quantitative methods was conducted in Mangalbare VDC of Illam District. The study population was the head of the household of study area who were above 18 to 75years old and permanent residence of Mangalbare VDC. Whereas, those present at the time of interview but, physically (sick, can't speak) and mentally challenged were excluded from the study. In case, the head of household was not available at the time of interview, any family member that is >18years and permanent resident were interviewed. Sample size was calculated via decision analyst STATSTM 2.0.

### Sample size calculation

Proportionate ward wise random sampling technique was used to select the respondents. At first stage Illam district was selected purposively which is among the three districts selected for pilot project for National Health Insurance Scheme and Mangalbare VDC was also selected purposively. In the second stage proportionate numbers of households from all nine wards were selected systematic random sampling using the list of household accessed from VDC office. The head of the household or adult aged 18years or above was then interviewed. Data were collected using pre-tested semi-structured questionnaire in simple Nepali language. The questionnaires were pre-tested in Dhuseni VDC of Illam District; about eight km away from the Mangalbare VDC for ensuring its content and accuracy of information. The standard questionnaire of "Household Questionnaire: Feasibility of Community-Based Health Insurance, Nigeria WTP survey" was taken as a guideline to develop the questionnaire.<sup>5</sup> Ethical approval was taken from Ethical Review Board of the Nepal Health Research Council (NHRC) as per National Health research policy. Verbal consent of participant was taken before commencing the interview and confidentiality and anonymity was maintained. Collected data were edited on the same day. Edited data were entered in Epi Data 3.1 and analysis was done by using SPSS 16. Frequency tables and cross-tabulations were generated. Chi-square test was used to determine statistical significance of observed differences in cross tabulated variables. A p-value less than 0.05 was considered significant at 95% level of confidence.

## Results and discussion

A total of one hundred thirty six respondents were interviewed. The age distribution of the respondents ranged from 18 to 75years. The mean age of the respondent was 45.39years with standard deviation of 12.13years. Regarding the sex wise distribution, 112(82%) were male and 24(18%) were female (Table 1). Out of 136 respondents, 97(71%) were willing to pay for health insurance and 39(29%) were not willing to pay for health insurance (Table 2). Similarly, among the respondents who were not willing to pay, majority 25(64%) reported lack of money to pay for such scheme as the main barrier (Table 2).

This study shows that the majority of the respondents (71%) were willing to pay for National health Insurance scheme. The result reported from WTP survey done in health insurance in some other developing countries like Malawi and Nigeria shows similar result.<sup>6,7</sup> Those unwilling to pay for this scheme felt that it is the government's responsibility to finance the health insurance programme. Many of the unwilling respondent also revealed that they lacked money to enroll in this scheme as well as some of the respondent do not believe the government programme because of past reality of not implementing the programme and people thought government only make policy but they don't implement them. Similar finding was reported by Willingness to pay survey in rural Cameroon.<sup>8</sup> Among those who expressed willingness to pay (WTP), the median amount was Rs500 (Q3-Q1=200) per annum per household. The median WTP per household per annum was Rs500 (Qsub>3-Q1=200) in the study area Mangalbare VDC as this is the study to assess the WTP of household, rather than WTP of individual. Similar to this study, age was an important factor in other studies.<sup>7-10</sup> However, before mentioned studies revealed statistically significant association of age with Willingness to Pay (WTP) but in this study no statistically significant association was observed. This disparity may be because this study was done to assess the WTP of household, not of individual. Sufficiency of household income was another important factor that affected WTP. Those who have sufficient income for 6 to 12months were more willing to pay for health insurance which was statistically significant ( $p=0.002$ ) with WTP.

**Table 1** Sample size calculation

Universal size (total household of study area)	=1506
Maximum acceptable percentage point of error	=8%
Estimated percentage level	=50%
Desired confidence level	=95% and result is 136
Therefore, estimated required sample size	=136

A study carried out by Usman et al.,<sup>10</sup> in Nigeria also found out that richer household are more willing to pay than the poorest household which supports the findings of this study. Among the independent variables, level of education ( $p=0.002$ ) and people with sufficient income ( $p=0.002$ ) were found to be willing to pay with statistical significance (Table 3). Level of education was found to be another factor associated to willingness to pay as there was a statistically significant association between level of education and WTP for health insurance ( $p=0.002$ ). One of the justifications for the association may be that people with higher education may be more confident in adjusting and trusting, a new system.<sup>11</sup> This finding is supported by the WTP survey carried out in a rural Vietnam.<sup>11</sup> A study carried out in Nigeria by Obinna et al.,<sup>12</sup> also reported that people with higher educational status expressed higher WTP than those with lower educational status. Other health status indicators such as health expenditure, general health status, distance travelled and the cost spend for health cares do not affect the WTP. The limitations of this study includes, the WTP was assessed in categories of amount but not as the increasing scale starting from lower value, which is the usual method for assessing WTP and including higher level of maximum acceptable percentage point of error (8%), as it is the part of thesis we have limited time constrain and do not have any funding agent,

so, that we have compromised the maximum error level, which has minimized the sample size (Table 4).

**Table 2** Socio demographic and socio economic status (n=136)

Variables	n (%)
<b>Age</b>	
≤24	1(0.7)
25-44	62(45.6)
45-64	62(45.6)
≥65	11(8.1)
Mean age±SD	45.39±12.13years
<b>Sex</b>	
Male	112(82.4)
Female	24(17.6)
<b>Education</b>	
Illiterate	10(7.4)
Literate	26(19.1)
Primary	17(12.5)
Secondary	33(24.3)
Higher secondary and above	50(36.8)
<b>Main source of income</b>	
Agriculture	32(23.5)
Business	51(37.5)
Job	53(39.0)

**Table 3** Willingness to pay for health insurance in mangalbare V.D.C (n=136) and reason for not willing to pay

Willingness to pay	n(%)
Willingness to pay for health insurance	97(71.3)
Not willing to pay for health insurance	39(28.7)
Reason for not willing to pay(n=39)	
Lack of money	25(64.1)
It was the responsibility of Government to finance the Programme	22(56.4)
Do not have belief on Government Programme	8(20.5)

**Table 4** Willingness to Pay and associated variables

Variables	Willing to pay (%)	Not willing to pay (%)	P-Value
<b>Level of Education</b>			
Illiterate	4(40)	6(60)	0.002
Literate	16(61.5)	10(38.5)	
Primary	12(70.6)	5(29.4)	
Secondary	20(60.6)	13(39.4)	
Higher secondary and above	45(90.0)	5(10.0)	
<b>Sufficient Household Income</b>			
Below 6months	26(53.1)	23(46.9)	0.002
6-12months	64(82.1)	14(17.9)	
More than 12months	7(77.8)	2(22.2)	

## Conclusion

Although National Health Insurance scheme is a very new concept to people, majority of the respondents (71%) were willing to pay for National Health Insurance. The median WTP was found out to be Rs. 500 in the study area. Economic status and level of educational are the important factors that influence people's willingness to pay for health insurance. Poor peoples and people with low level of education were less willing to pay for National Health Insurance Scheme. However, people with higher education and affluent people were more willing to pay for NHIS. The findings of this study will be useful to policy makers to decide about including Mangalbare VDC in the NHI scheme and also on determining the premium amount. However, special packages with subsidies must be considered for economically marginalized people.

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## Conflict of interest

The author declares no conflict of interest.

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