

Willingness to Pay and Expected Benefits for Social Health Insurance: A Cross-sectional Study at Pokhara Metropolitan City

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ABSTARCT

INTRODUCTION: The government supported SHI is the largest health insurance schemes ever launched in the country since 2016 by Health Insurance Board. Prior to UHI program, small scale community health insurance programs are running in fragmented structure. The paper aims to examine the association between the potential policyholder's paying willingness for the social health insurance their characteristics, and tries to predict the willingness to pay for social health insurance schemes and their expected benefits from the SHI run by Government of Nepal. **MATERIALS AND METHODS:** The study was carried out during Jan-July 2018 in Pokhara Metropolitan city 29, Kaski District, Nepal. **RESULTS:** Among the 5,000 households residing in the study area 360 households who have not purchased social health insurance schemes till the survey period but interested to buy within one year were selected for the study. Respondents were selected with purposive sampling method. The association between respondents' characteristics and their willingness to pay for SHI and expected benefits from SHI has been explored using the chi square test and found that association is significant with the family size and education. The predictor variables are identified using the hierarchical regression model. The study reveals that among seven demographic characteristics of respondents (gender, age group, household head, family size, ethnicity, qualification, and occupation), family size and profession are good predictors for willingness to pay SHI and family size and family head are the good predictors for the expected benefits. **CONCLUSIONS:** The study concludes family size is most influential factors while deciding the premium and sum assured for social health insurance, however, family head influences expected benefits while profession influences amount of premium.

Keywords: Expected benefit, premium, social health insurance, willingness to pay

INTRODUCTION

Universal Declaration of Human Rights provisioned basic health care as fundamental rights of the humankind (article 25). Constitution of Nepal, 2015 (clause 35) also agreed on this statement however a large number of the population still has no access over the basic health facilities. Nepal is a developing country situated in South Asia surrounded by two giant economies China and India. The population is almost 9.2 million and \$1,040 per capita income [1]. Government health expenditure on GDP is 1.11%, general health expenditure on GDP is 6.15%, per capita, health expenditure by government is \$8.05 (2015), total health expenditure is \$44.42 (2016), and out of pocket expenditure (OOPE) is 60.41% [2]. Globally, more than 3 million people had a burden of expenditure on health larger than 10% and due to the OOPE, 1.67% of the population was pushed below the poverty line [3]. The OOPE of low-

income countries gradually in declining trend due to the increase in the public expenditure as well initiation of SHI by 13 new countries during 2000-2017 [2].

The government supported SHI is the largest health insurance schemes ever launched in the country since 2016 by Health Insurance Board [4]. Prior to

UHI program, small scale community health insurance programs are running in fragmented structure since four decades, commercial health insurance service has been offered by nonlife insurance companies since the 1980s, and health insurance facilities have been offered by government-owned Employees Provident Fund to its depositors since 2018. Almost 800,000 households of 56 districts have been covered by the universal health coverage till April 2020 [5-7]. Premium and benefits of SHI both have been

increased by mid-July 2019 as a household having member up to 5 is Nrs. 3,500 (initially it was only Nrs. 2,500) and an additional premium for each member is Nrs. 700 (initially it was Nrs. 425). A household gets the medical benefits equivalent to Nrs. 100,000 (initially it was Nrs. 50,000) and additional benefits of Nrs. 20,000 (initially it was Nrs. 10,000) per member and maximum benefits is Nrs. 200,000 (initially it was Nrs. 100,000). The scheme offers 530 sorts of listed medicines and 27 types of healthcare facilities. Principally, economically poor and elderly citizen age above 75 entitled to get 100% subsidies on premium but only elderly are getting subsidies till study period.

Kaski district was covered by SHI in the second phase at the end of January 2018. The population of Kaski is 492,098 and household is 126,000 [1]. After one year of the initiation of the SHI total 65,000 members of 12,695 households got membership. Policyholders have the option to join nearest health service providers out of 10 service centres viz. Western Regional Hospital, Manipal Hospital, Gandaki Medical College, Himalaya Eye Hospital, Shishuwa Hospital, Matrishishu Miteri Hospital and Thumsikot Primary Health Centre. Many promotional activities have been carried out to increase the awareness and enrol on health insurance locally and national level. The attempt to increase the enrollment of the public towards the SHI does not seem effective since the average enrollment rate found below 20%. It is a matter of concern to the researchers to dig out the reasons behind the lesser enrollment in Kaski district (i.e. almost 13%). Various factors affect on enrollment of SHI towards the government health insurance schemes viz lack of awareness on health and health insurance among the potential policyholders, sharing the negative experiences by existing enrolled policyholders about the SHI, a limited number of service providers, difficulties to visit the first service points in case of emergency, lack of the trust towards the government services, unaffordable premium, less amount of the sum assured etc.

The study tries to obtain an amount of premium ready to pay for a government health insurance scheme and the expected benefits by the potential customers. Further, it explores the perception and belief of respondents towards the social health insurance and examines the association and

relationship among the various variables. The paper has been divided into five sections. The second section of the paper discusses some relevant studies on social health insurance followed by methods applied for the study in third and results and discussion in the fourth section. The final section concludes the paper.

MATERIALS AND METHODS

Study design and setting

This study adopted descriptive and quantitative cross-sectional research design. The study was conducted at Pokhara Metropolis Wada no. 29 (an administrative unit out of 33 units) of Kaski district, Nepal from January to July 2018. The residents of Pokhara Metropolis, Ward no. 29, who have not purchased social health insurance policy till study period but they are interested to purchase within a year are considered the population of the study. The household is considered a unit of the study. According to the Annual Report (HIB, 2017), only 13% population in Kaski enrolled in SHI, so approximately 87 percent have not purchased health insurance. It has been assumed that 50% of total HH (i.e. 2,500 HH) was interested to purchase the policy out of total household (i.e. 5,000) in the study area.

Sample size and sampling

The sample size was determined 360 through the "Raosoft sample size calculator (Raosoft.com) assuming a 5% margin of error, 95% confidence level and 50% response distribution. The study follows the purposive sampling method while selecting the representation out of population in the study area. First of all, potential households were identified with the help of the Enrollment Assistant working for Health Insurance Board and field researchers informed about the health insurance schemes, its benefits, to head or member(s) of the households about the SHI. If the household head or member exhibited interest to buy the SHI within a year, then the households have been considered as the sample of the study.

Data collection

Primary data have been generated by administering the structured questionnaire. The survey questionnaire was first prepared in English language, then translated in the Nepali language.

The reliability of the questionnaire was first tested through a pilot study carried out with 40 respondents in Ward no. 30 of Pokhara metropolis. The face and content validity of the questionnaire was tested with the help of experts. Prior to collecting the information from respondents, researchers delivered basic information about the social health insurance schemes to the respondents. The respondents were selected based on their keen interest in buying health insurance in future. Prior consent of the respondents has been taken from the

family having 5 members or below was Rs. 2500, and Rs. 425 for additional member. The total benefits for a family having family members up to 5 was Rs. 50,000 and Rs. 10000 for additional member and the maximum benefit did not exceeds Rs. 100,000. Currently, the premium increased to Rs. 3,500 per family and Rs. 700 for the additional member more than 5. Similarly, additional benefits also increased by Rs. 20,000 per person and

Table 1 | Study Variables and scale of measurement

Variables	Description	Remarks
Independent Variables		
Gender	male=1, female=0	Model 1-5
Age group	up to 25 year=1, otherwise=0, 26-35 year=1, otherwise =0, etc.	
Number of family members	Less than 5 =1, otherwise=0, 5-7 member=1, otherwise=0	Model 2 -5
Family head	Respondent is family head=1, otherwise=0	
Ethnicity	Janajati=1, otherwise =0; Brahmin/chhetri=1, otherwise=0 etc.	Model 3-5
Education	Literate=1, otherwise=0; +2 = 1, otherwise=0, etc.	Model 4-5
Occupation	Farmer=1, otherwise=0, businessman=1, otherwise=0	Model 5
Dependent Variables		
Premium willingness to pay (WTP);		
Expected health insurance benefit (EB) or sum assured (SA)		

participants. Both province office of Health Insurance Board and the local office of the Municipality were formally informed before conducting the survey

Study variables and its measurement

The study included gender, family head, number of family member, ethnicity, education, occupation of respondents as independent variables. The premium and benefits are considered as dependent variables for this study (Table 1). During the study period the annual premium (cost of insurance) for a

maximum limit is Rs. 200,000. Open ended questions were asked to respondents "how much health insurance benefits are you expecting from the program" and "how much amount are you ready to pay for the benefit".

Equation and hypotheses: The study develops following ten equations to predict the amount that ready to pay for the social health insurance plan (i.e. premium) expected to get the benefits from the SHI (i.e. sum assured).

a. Willingness to pay premium

WTP Premium ₁ = β ₀ + β ₁ Gender +β ₂ AG	Eq.1
WTP Premium ₂ = β ₀ + β ₁ Gender +β ₂ AG+β ₃ FM+β ₄ HL	Eq.2
WTP Premium ₃ = β ₀ + β ₁ Gender +β ₂ AG+β ₃ FM+β ₄ HL +β ₅ Eth	Eq.3
WTP Premium ₄ = β ₀ + β ₁ Gender +β ₂ AG+β ₃ FM+β ₄ HL +β ₅ Eth+β ₆ Edu	Eq.4
WTP Premium ₅ = β ₀ + β ₁ Gender +β ₂ AG+β ₃ FM+β ₄ HL +β ₅ Eth+β ₆ Edu +β ₇ Prof	Eq.5

b. Expected benefits

Expected Benefit ₁ = $\beta_0 + \beta_1 \text{Gender} + \beta_2 \text{AG}$	Eq.6
Expected Benefit ₂ = $\beta_0 + \beta_1 \text{Gender} + \beta_2 \text{AG} + \beta_3 \text{FM} + \beta_4 \text{HL}$	Eq.7
Expected Benefit ₃ = $\beta_0 + \beta_1 \text{Gender} + \beta_2 \text{AG} + \beta_3 \text{FM} + \beta_4 \text{HL} + \beta_5 \text{Eth}$	Eq.8
Expected Benefit ₄ = $\beta_0 + \beta_1 \text{Gender} + \beta_2 \text{AG} + \beta_3 \text{FM} + \beta_4 \text{HL} + \beta_5 \text{Eth} + \beta_6 \text{Edu}$	Eq.9
Expected Benefit ₅ = $\beta_0 + \beta_1 \text{Gender} + \beta_2 \text{AG} + \beta_3 \text{FM} + \beta_4 \text{HL} + \beta_5 \text{Eth} + \beta_6 \text{Edu} + \beta_7 \text{Prof}$	Eq.10

The study proceeds with formulating the following hypotheses:

H01: Sex, Age group, family head, family size, ethnicity, qualification and occupation are the predictors of the amount of premium willing to pay for social health insurance

H02: Sex, Age group, family head, family size, ethnicity, qualification and occupation are the predictors of expected benefits for social health insurance

Statistical considerations

Chi square test was used to examine the association between dependent and independent variables and hierarchical linear regression model was used to find the predictors of willingness to pay for premium and expected benefits from the social health insurance services. The p-value <0.05 was considered to be statistically significant. All data were analyzed by using Statistical Package for Social Science (SPSS version 21 for Windows).

RESULTS

Premium that willingness to pay for SHI and Expected Benefit

The association between demographic characteristics of respondents (viz. sex, age, ethnicity, qualification and occupation) with WTP and EB have been demonstrated in Table 2. Table 2 reveals that the ratio of male and female respondents is almost equal, the highest number of respondents i.e. 36% falls under the age group between 26-35, 74% family has up to 5 members, more than half (56%) family belongs to Brahmin and Chhetri, education of almost one-third respondents just literate (32%), and more than one third (36%) occupied in the job. The respondents are divided into two categories based on the median value of premium that WTP for SHI (M_d = Nrs. 3,000) and expected benefits (EB) (M_d = Nrs. 100,000) from the SHI. The association between willingness to pay a premium for SHI with age group ($p=0.002$), family size ($p=0.03$), and

occupation ($p=0.004$) have been found significant. Expected benefits are significantly associated with qualification ($p=0.007$) but not associated with occupation ($p=0.236$). It has been found that elder is ready to pay more premium than younger, small family size ready to pay more premium than large family, businessmen and retirees prefer to pay a higher premium. Similarly, the amount of premium willing to pay for SHI varies across the different age, family size, and occupation, but do not vary with ethnicity and qualification of the respondents. The variation on expected benefits is significant as per the qualification of the respondents but not significant as per the sex, age group, ethnicity and occupation. The study concludes that occupation matters on the premium while qualification matters on expected benefits from the SHI.

Predictors of premium that willingness to pay for SHI

Hierarchical regression is a popular method used to analyze the effect of a predictor variable after controlling for other confounding variables [8]. The first objective of the study is to identify the predictors of the premium amount that respondents are ready to pay for social health insurance schemes using the hierarchical regression models. Seven variables are categorized in five blocks and constructed five models adding new variables in existing block. In first model only two variables are included, in second model, another two new variables are included on first model, in third model addition one variable is included in second model and each one new variable was included in fourth and fifth model. The hierarchical regression model 1 to model 5, beta coefficient and variance inflation factor (VIF) of each variable are presented in Table 3. The models assumed premium as dependent variable and seven variables mentioned in Table 3 are independent variable. Each variable has different attributes and measured assigning value 1 for yes and 0 for no. First of all, gender and age group of respondents are considered in the first block, second model is constructed adding family members and home leader in first model.

Again, third model is constructed adding ethnicity while fourth and fifth models are built up adding education and profession respectively. Among the five models, R square ranges from the lowest 0.4% in first model to the highest 13.8% in fifth model. Based on the value of R it can be said that none of the models have described the variance better way. Out of seven variable, two predictors i.e. family size less than 5 members (VIF=8.20, F=2.7, p<0.05, variance explain by 13.8%) and agriculture profession (VIF=1.72, F=2.7, p<0.05, variance explain by 13.8%) determines the premium amount more precisely. Other three models viz. 2 (VIF=7.89, F=4.59, p<0.05) explained variance by 8.4%, model 3 (VIF=7.93, F=3.16, p<0.05) explained variance by 9.1%, and model 4 (VIF=7.97, F=2.51, p<0.05) explained variance by 10.6% also has a predictor i.e. size of the family which less explained the variance than the model 5 (10.6%). The study concludes that profession and family size are the determinants of the premium that they are willing to pay for social health insurance in Nepal. Family having less than 5

Table 2 | Association of demographic characteristics with WTP and EB of chi-square test

Demographic Variables	Frequency n=360, (%)	p value χ^2	
		WTP	EB
Sex			
Male	179 (50)	0.602	0.091
Female	181(50)		
Age Group			
Up to 25 Years	53(15)	0.002	0.092
26 to 35 years	128(36)		
36 to 45 years	96(27)		
> 45 years	83(23)		
Family Size			
Up to 5 member	269(74)	0.03	0.052
6 to 7 member	78(22)		
8 and above	13(4)		
Ethnic Groups			
Brahmin and Chhetri	203(56)	0.142	0.344
Janajati	103(29)		
Dalit	47(13)		
Others**	7(2)		
Qualification			
Illiterate	5(1)	0.842	0.007
Literate	114(32)		
S L C level	98(27)		
Plus two or PCL	87(24)		
Bachelors level	40(11)		
Master and above	16(4)		
Profession			
Job	129(36)	0.004	0.236
Business	105(29)		
Agriculture	84(23)		
Retired	17(5)		
Other	25(7)		

**Those who do not like to say themselves that they belongs to above three groups of people choose "others"
SLC: School leaving certificate (10 class passed), PCL: Proficiency Certificates level (12 class passed),
EB: Expected benefit.

members and people who engage in agriculture profession are good prognosticators of premium.

Predictors of expected benefits from SHI

Second objective of the study is to identify the predictors of the benefits (sum assured) expecting by the respondents for social health insurance schemes using the hierarchical regression model. The five models and results (beta coefficient, VIF, value of R square and F) statistics) have been presented in Table-4.

Table 4 exhibits that first model has no predictor while in second and third models, the family size (less than 5 members) is a good predictor since the beta coefficient is positive and VIF also less than 10, the r square is only 5% in second and 6.1% in third model which indicate that the variance is poorly explained by both of the models. Fourth and fifth

models have additional predictor i.e. family head as a respondents. Both models have R square less than 10 (i.e. 6.8% and 7% respectively) which is not satisfactory. Out of various variables only two variables have a capacity to predict the benefits amount from SHI by the potential policyholders.

Table 3 | Hierarchical linear regression on willingness to pay for social health insurance (n=360)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	VIF	B	VIF	B	VIF	B	VIF	B	VIF
Gender	-37.76	1.04	-89.30	1.05	-97.94	1.06	-64.85	1.13	-74.27	1.16
Age group up to 25	-11.28	1.20	24.51	1.34	57.96	1.38	33.33	1.47	126.40	1.52
Age group 36-45	-73.11	1.29	34.21	1.37	27.24	1.38	42.68	1.41	43.63	1.42
Age group above 45	95.58	1.32	252.89	1.57	246.52	1.59	271.17	1.75	211.64	1.83
Less than 5 members			790.42*	7.89	813.43*	7.93	819.45*	7.97	797.37*	8.20
5 to 7 members			217.44	7.54	239.40	7.58	240.14	7.65	252.69	7.81
No family head			26.65	1.46	-2.25	1.57	-65.62	1.75	-33.41	1.77
Janajati					-118.99	11.92	-148.52	12.17	23.18	12.76
Dalit					-299.97	6.33	-317.36	6.46	-195.18	6.73
Brahmin					-83.89	26.03	-152.07	27.00	16.00	28.16
Other					436.75	10.89	715.06	11.33	185.14	11.79
SLC							-23.60	1.55	65.69	1.66
PCL							29.72	1.69	123.40	1.84
Bachelor							188.74	1.78	388.66	1.92
Master							581.85*	1.28	660.68	1.31
Illiterate							-47.53	1.12	-138.66	1.13
Agriculture									358.70*	1.72
Job									-35.75	1.57
Retired									390.21	1.23
Other profession									-417.53	1.52
R Square (%)	0.4		8.4*		9.1		10.6		13.8*	
F value	0.367		4.589*		3.164*		2.518*		2.703*	

Table 4 | Hierarchical linear regression on expected benefits from social health insurance (n=360)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	VIF	B	VIF	B	VIF	B	VIF	B	VIF
Gender	-5544.66	1.04	-6370.33	1.05	-7022.05	1.07	-7938.17	1.14	-8042.12	1.17
Age group up to 25	2392.72	1.20	-427.96	1.33	533.52	1.37	-475.90	1.48	-731.48	1.52
Age group 36-45	-634.08	1.29	3780.38	1.39	4637.22	1.40	4077.20	1.43	4150.98	1.44
Age group above 45	-102.73	1.33	7623.90	1.59	8637.94	1.61	8421.40	1.78	9092.05	1.86
Less than 5 members			31740.65*	7.81	32269.64*	7.86	31214.71*	7.90	31163.27*	8.13
5 to 7 members			17794.43	7.46	17881.67	7.50	16968.65	7.57	16788.80	7.72
No family head			9604.03	1.47	11389.04	1.58	11079.21*	1.77	11285.73*	1.79
Janajati					-210.54	11.82	-826.37	12.06	328.20	12.69
Dalit					-5359.23	6.32	-7142.29	6.46	-6166.24	6.74
Brahmin					-8255.57	25.93	-8691.44	26.88	-7932.21	28.09
Other					39636.49	10.90	39052.85	11.34	36862.76	11.81
SLC							3978.01	1.53	3628.19	1.64
PCL							-3247.59	1.69	-3814.05	1.84
Bachelor							4574.12	1.80	4295.86	1.96
Master							-2963.61	1.28	-4108.44	1.31
Illiterate							9774.14	1.12	10351.21	1.13
Agriculture									-1070.50	1.73
Job									2267.15	1.56
Retired									-2936.20	1.22
Other profession									-1346.81	1.52
R Square	0.6		5		6.1		6.8		7	
F value	0.54		2.61*		2.03*		.537		1.25	

DISCUSSION

There are various approaches of measuring the willingness to pay (WTP) however, Breidert, Hahsler, and Reutterer mentioned seven different approaches viz. Laboratory Experiments, Field Experiments, Auctions, Expert Judgment, Customer Surveys, Conjoint Analysis and Direct Choice Analysis. Selecting the appropriate method depends on the availability of resources, time and types of products [9]. Dror, Rademacher, and Koren concluded that about two-thirds of the sample agreed to pay the premium at least 1%; about half of sample was willing to pay at least 1.35%; 30% was willing to pay about 2% of annual HH income but not affect the HH expenditure. The correlation between WTP and education is secondary to that of WTP with HH income. HHs that experienced a high-cost health event and male respondents reported slightly higher WTP [10]. Damschroder, Ubel, and Dylan conducted a study over the internet to test four WTP formats: 1) WTP in dollars; 2) WTP as a percentage of financial

resources; 3) WTP in terms of monthly payments, and 4) WTP as a single lump-sum amount [11].

The study concluded that WTP as a percentage of financial resources generated fewer questionable values, had better distribution properties, greater sensitivity to severity of health states, and was not associated with income. WTP elicited on a monthly basis also showed promise. Open-ended methods that elicit willingness-to-pay in terms of absolute dollars often result in high rates of questionable and highly skewed responses, insensitivity to changes in health state, and raise an ethical issue related to its association with personal income. Roth, Michael and Liber stated that micro health insurance schemes over the world are found in large numbers but their membership is limited in numbers and growth of membership is slow [12]. Community-based health insurance schemes are promising alternatives for a cost-sharing health care system which hopefully also leads to better utilization of health care services, reduce illness-related income

shocks and eventually lead to a sustainable and fully functioning universal health care system [13]. Donfouet and Makaudgze, Mahieu, and Malin conducted a study on the economic value of the willingness to pay for a community-based prepayment scheme in rural Cameroon. The study considered respondent's age, religion, usual means of seeking treatment when the rural populations get sick, profession, knowledge of the basic concept of community health insurance, the income and the involvement of the rural households in association or any health policy are key determinants of WTP [14]. A study was undertaken by Kathiravan, Thirunavukk and Selvam in southern peninsular state of India, the Tamil Nadu State, to assess the farmers' 'willingness to pay' for improving the quality of livestock services delivery, in terms of geographical proximity, waiting time, drug availability and attitude of staffs found that farmers in livestock underdeveloped districts were willing to pay a mean sum of INrs. 6.00, while livestock underdeveloped districts' farmers were ready to pay only INrs. 4.41 for this purpose. Overall, the respondents in the study area were willing to pay INrs. 5.20 for improving the attitude of public veterinary centres' staff. Tobit regression analyses on the improvements of all above attributes indicated that the farmers who were at disadvantaged levels of each attribute were willing to pay more compared to those at an advantaged level[15].

Aizuddinet *et al.* conclude based on the studies between 1990 to 2011 that important factors that influence an individual's WTP for health services are the marginal cost (the incremental price and level of utility) of a particular service or good and access to health services provided. Interestingly, the price level does not influence WTP for health care [16]. Binnendijk, Dror, Gerelle, and Koren estimated WTP as a percentage of average food expenditure in the target communities. The level of WTP for community-based health insurance (CBHI) was approximately 4.5% of food expenditure [17]. Adams *et al.* found that age, income, and having some form of health insurance were significantly associated with a willingness to participate in the plan. The study concluded that higher socioeconomic status was the principal determinant factor for the willingness to participate [18]. Ahmed *et al.* concluded that informal workers in urban areas are willing to pay for CBHI and

socioeconomic differences explain the magnitude of WTP [19]. In the Nepalese context, a study by Khatiwada *et al.* concluded that 71.3% willing to pay for the National Health Insurance Scheme. The median amount that respondents willing to pay is Nrs. 500 per annum per household, people with low economic status and low education level were less willing to pay for National Health insurance Schemes [20]. Nguyen *et al.* found that the WTP for SHI is influenced by knowledge of SHI at all copayment levels. The more knowledge about SHI individuals has, the higher the WTP amount. Chronic disease was related to WTP only at a copayment level of 20% [21]. Grima, *et al.* analysed expenditure across six Mediterranean countries that adopt the National Health System and concluded that Mediterranean countries spend less on total healthcare expenditure than the European Union average, both as a proportion of GDP, as well as in per capita term [22]. Based on various literature, the study predicted some independent variables which determine premium that they are willing to pay and benefits they are expected from government run social health insurance plan.

CONCLUSIONS

The study aims to explore the willingness to pay towards the social health insurance and examined the association between premium and expected benefit amount to buy the SHI with various demographic variables using. The study concludes that elder is ready to pay more premium than younger, small family size ready to pay more premium than large family, businessmen and retirees prefer to pay a higher premium. Similarly, the amount of premium willing to pay for SHI varies across the different age, family size, and occupation, but do not vary with ethnicity and qualification of the respondents. The variation on expected benefits is significant as per the qualification of the respondents but not significant as per the sex, age group, ethnicity and occupation. Similarly, the result shows that occupation matters on the premium while qualification matters on expected benefits from the SHI. Furthermore, regression result argues that among the seven demographic characteristics of respondents, family size and profession are good predictors for willingness to pay SHI and family size and family head are the good predictors for the expected benefits. In other words, it is also can be said that

family size is most influential factors while deciding the premium and sum assured for social health insurance, however, family head influences expected benefits while profession influences the amount of premium. The association among the variables is found quite different than the influencing variables over the premium and benefits. The study suggests that current benefits package (Nrs. 100,000) is equal to the suggestion of

the study but premium (Nrs. 3,500) is Nrs. 1500 higher than discounted and Nrs. 500 higher than the non-discounted premium that respondents' median premium. Health Insurance Board has been suggested to reduce the premium amount, increase the information flow to the potential customers and increase the local level volunteers so that a large number of customers could get the enrolment opportunity on time

ADDITIONAL INFORMATION AND DECLARATIONS

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Author Contributions: Concept and design: RG and SW; statistical analysis: RG; writing of the manuscript, RG and SW; revision and editing the manuscript: RG and SW. Both authors contributed to all-analysis, interpretation of results, literature review, and revision of the manuscript.

Data Availability: Data will be available upon request to corresponding authors after valid reason.

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