Willingness to Purchase Health Insurance in Pakistan

Ajmal Jahangeer

Rizwan ul Haq

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS

Willingness to Purchase Health Insurance in Pakistan

Ajmal Jahangeer
Pakistan Institute of Development Economics, Islamabad

and

Rizwan ul Haq
Pakistan Institute of Development Economics, Islamabad

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD
2015

C O N T E N T S

List of Tables

BACKGROUND

Paying for health-services expenditures that are higher than a household's income has an adverse effect on its financial position. The term used for such an event in literature is 'Financial Catastrophe'. What happens in such a situation is that the affected household meets this extra burden by cutting down on other basic necessities like clothing, food and education. Around 20 percent people of the world have to make catastrophic expenditures on health as a result of which around 100 million people are rendered poor annually [Ke X, *et al.* (2005)].

Catastrophic payments are caused by expensive health care services, inadequate financial position of the households to cushion the impact of such health expenditures, and non-availability or limited existence of risk pooling mechanisms, whether public or private. Such mechanisms protect households against financial risk of ill health by providing the required health services at a lower cost [Ke X. *et al.* (2005)].

The people with a higher risk of catastrophic expenditures are those with greater need for health services and who lack financial stability. Such households include those with elderly, handicapped and chronically ill members. Catastrophic expenditures make such households more prone to ill-health and financial instability [Ke X. *et al.* (2005)].

Pakistan has relatively poor health indicators compared to other countries in the region. Pakistan's progress has also been dismal in achieving most of the health related Millennium Development Goals (MDGs) as the country is not expected to achieve most of the health related MDGs by 2015. Currently, Pakistan has a higher prevalence of malnutrition, mortality rates and tuberculosis compared to the regional average. According to a burden of disease report, around 64 percent of the years of life are lost due to communicable diseases, 26 percent to non-communicable diseases, and 9 percent to injuries in Pakistan [World Health Statistics Report (2012)]. Further, under 5 and infant mortality rates are 89 and 74 per 1,000 live births, respectively; 20 percent children are not fully immunised; maternal mortality ratio is 276 per 100,000 live births and a mere 52 percent births are attended by skilled birth attendants [Pakistan MDG Report (2013)]. The lack of progress towards achievement of MDGs can be linked insufficient to resources being invested in the health sector. In fiscal year 2013-14, health expenditure accounted for 0.40 percent of gross domestic product [Pakistan Economic Survey (2013-14)].

Health care costs and poverty are significant barriers to access health care services. In the absence of health insurance, health care costs paid out of pocket place a huge burden on the household resources, especially for poor households that already have very limited resources available. The latest available statistics reveal that out of total health expenditures, almost two-third (62 percent) is funded through the private sector. Out of private health expenditures, 88 percent are households' out-of-pocket (OOP) health expenditures. The annual per capita health expenditures in Pakistan are US$34.7 compared to US$60 in India and US$27 in Bangladesh [National Health Accounts (2011-12)]. Further, health care expenditure on long-term or chronic illnesses could be catastrophic-absorbing a considerable share of the household budget, and subsequently affecting the allocation towards other essential heads of expenditure.

An analysis of Pakistan Social and Living Standard Measurement (PSLM) 2010-11 survey finds that 3.2 percent households in Punjab and Sindh incurred catastrophic health care spending[1]. Rural households have a slightly higher catastrophic health care expenditure than urban (3.8 percent vs. 2.0 percent). Amongst the household expenditure quintiles, the poorest have the largest proportion (3.5 percent) of households, whereas the richest have the smallest proportion (2.7 percent) that incurred catastrophic expenditure. Though, the proportion of households incurring catastrophic spending has reduced since 2005-06, yet there is need for some health protection for the poor and the vulnerable as such expenditures often lead to impoverishment of the household.

In Pakistan, although the overall percentage of the elderly population is around 7 percent, the size of this segment of the population is larger than the total population size of many developing nations [Ul Haq (2012)]. Further, around 2.71 million population or 1.7 percent individuals in Pakistan were living with some kind of disability in 2009.[2]

Government and formal sector employees are protected against health care costs, but the majority of the population remains uncovered and bear the risk of catastrophic health care spending. With the huge size of the vulnerable groups who have no prepayment mechanisms for risk pooling, whether in the public or private sector,, the establishment of some health insurance mechanism in Pakistan becomes an urgent national need. The very high share of out-of-pocket (OOP) expenditure in total and private health expenditure, high morbidity, disability and poverty, low access to health care, make a valid ground for provision of some health insurance scheme for the general public.

Health insurance plays an important role in reducing the high costs of health care on the general public. Health insurance turns unpredictable health expenditures into predictable insurance payments. It is generally

---

[1]In progress. Health care expenditure are ≥ 10 pere% of total household expenditure.

[2]In progress analysis of socioeconomic inequalities in disability prevalence in Pakistan using the census data of Benazir Income Support Programme (BISP).

accepted that insurance against large and unpredictable health expenditures is a key component of social protection [Asgary, *et al.* (2004)]. The present government is keen to introduce national health insurance for the poor. Currently, a pilot health insurance programme is functioning in district Faisalabad for Waseela-e-Sehat (WS) beneficiaries of the Benazir Income Support Programme (BISP). However, as the focus of WS programme is only on the poor, it is important to assess the willingness to purchase health insurance of various economic groups who may not have any health insurance/protection and may not be eligible under the national health insurance programme exclusively planned for the poor. The absence of any insurance scheme for the non-poor, particularly for those who are just above the poverty threshhold, may lead to adverse implications for the wellbeing the general households. Such households may not be poor by national poverty standard or any other threshold, but are vulnerable to fall below the poverty line in the event of any chronic illness.

RESEARCH AIMS AND OBJECTIVES

The aim of this research is to assess the willingness to purchase health insurance in Pakistan and assist the policy makers in formulating a national health insurance programme that meets the needs of the potential beneficiaries (households). The specific objectives of the study are as follows:

(i) Investigate the willingness to purchase health insurance and its linkages with health status, health care costs, and other socioeconomic and demographic characteristics.

(ii) Assess the amount of coverage and premium uninsured households are willing to obtain and pay, and other features of the insurance package that are desired by the uninsured households.

(iii) Assist the policy makers in formulating a national health insurance programme that fulfills the needs of the potential beneficiaries (households).

The present study also tests the following hypotheses.

Ho1: There is no significant relationship between education level of heads of households and their willingness to purchase health insurance.

Ho2: There is no significant association between illness profile of households and their willingness to purchase health insurance.

Ho3: There is no significant relationship between economic status of households and their willingness to purchase health insurance.

Ho4: There is no significant difference between the place of residence and willingness to purchase health insurance.

LITERATURE REVIEW

The results of regression analysis on households' willingness to pay (WTP) in Iran show that age, education level, health care facilities of rural areas and access to medical care services, and households' medical needs have statistically significant impact on the households' WTP [Asgary, *et al.* (2004)].

In developing countries, where there does not exist any policy on mandatory health insurance, the perceptions of the people regarding health insurance play a vital role. According to Costa and Garcia (2003) perceptions regarding private and public health care quality and income in relation to insurance premium are among the determinants of demand for private health insurance. Further, while applying a pseudo-structural model, the authors found that the difference between private and public health care quality is the main driver for the demand for private health insurance.

In another study in Australia, Cameron, *et al.* (1987) have also found that income plays an important role in the health insurance choice.

In a study for helath insurance and its demand for health care while perfomring a randomised experiment, Manning, *et al.* (1987) found that health status was a strong predictor of health expenditure, but did not find any difference in health insurance coverage among the healthy and the sick.

In a study in Vietnam, Lofgren, *et al.* (2008) found willingness to pay for health care services was positively related to the level of income, education, family size and the number of diseases in a household. It also concluded that the demand for private health insurance is on the rise in the rural areas of the country because awareness about health is increasing.

In a study in Nigeria, aged farmers and households with higher frequency of sickness were found to have a lower probability of subscribing to the insurance scheme, possibly because of lower education, motivation, financial backing and fear of non-workability of the scheme [Abayomi (2012)].

In a study to find out community prepayment of health care and willingness to pay of rural households in Cameroon, the major determinants appear to be morbidity rate, community organisation's experience, household's perception of the medical staff attitude, permanent availability of essential drugs at the health centre provider, household income, education and gender [Joachim, *et al.* (2007)].

A study in Nigeria examined rural households' willingness to participate in Community Based Health Insurance (CHBI) scheme. The significant determinants of rural households' willingness to participate in the insurance scheme include household size, membership of town association or union, income, medical expenses incurred and credit [Oriakhi, *et al.* (2012)].

Another study on willingness to pay (ETP) correlates positively with income but the relative WTP (expressed as percent of HH income) correlates negatively. The correlation between WTP and education is secondary to that of

WTP with HH income. Household composition did not affect WTP. However, in HHs that experienced a high-cost health event male respondents reported slightly higher WTP [Dror, *et al.* (2006)].

Further, another study in Nigeria on willingness to pay for community health insurance found that income, household size, age, sex, past health expenditure of household heads, and educational attainment affect willingness to pay [Babatunde, *et al.* (2012)].

While examining the out-of-pocket spending, the authors concluded that institutions which pool funding from large groups of people and manage health care spending on their behalf appear to be a necessary condition for both improving the efficiency and equity of health care coverage. The countries where institutions for pooling health spending and limiting out-of-pocket health expenditures exist are less likely to be impoverished by health care costs particularly in certain Latin American countries and countries in transition [Xu, *et al.* (2007)].

Summing up, it is quite clear from the reviewed literature that willingness to purchase health insurance depends mostly on the income, demographic and other socioeconomic factors. In Pakistan, there is still a dearth of research on the associates of health insurance demand.

DEMAND FOR HEALTH INSURANCE—THEORETICAL FRAMEWORK

Besley (1989) provides a theoretical framework, based on the work of several authors, including seminal work of Grossman (1972). According to Besley, the demand for health services is derived from demand for health and demand for health insurance is derived from demand for health services. In Besley's framework, demand for health, health services and health insurance all build on the conventional economic theory of demand. Health is a contributing good to utility which individuals intend to maximise within budget constraint. Better health can be achieved by investing in goods that improve health such as health care, healthy life styles, healthy diets etc. Improvement in health leads to consumption gain as well as investment gain. Consumption gain is a healthy person's enjoyment of his/her health and the good feeling it yields allowing one to achieve a range of activities. Investment gain leads to longer life, more time available for work, earn wages and generate income. Hence, people's demand for health services is their demand for health. The demand for health services is influenced by age, education, level of income, health status, aversion to receiving health care and the availability of health-related information.

The utility theory explains the decision to purchase health insurance. Individuals evaluate the benefits of insurance with health care expenditures when they do not have insurance, given their risk preference. If the benefits of insurance are greater than the cost, the household will purchase health insurance. Therefore, when health care costs are high and individuals' expectation of

illness is high, they are more likely to purchase health insurance [Asgary, *et. al.* (2004)].

Further, individuals/consumers prefer certainty to risk, and are thus motivated to purchase insurance by their risk aversion. The consumer desires to smooth out consumption (or wealth) across time by sacrificing a little amount in the form of premium when healthy to be compensated in the event of injury or illness. So by purchasing insurance, the consumer avoids the risk of a potentially large and perhaps unaffordable health care bill in the future [Eisenhauer (2006)].

Considering the relationship between risk-aversion, income and insurance demand, it is expected that the illness profile of households, out-of-pocket health care costs, economic status, level of education and place of residence will be the key factors influencing the willingness to purchase health insurance.

METHODS OF ANALYSIS

Data Source

This study uses household survey data of 984 households. The data was collected by students of health economics course enrolled at Pakistan Institute of Development Economics (PIDE) and Quaid-i-Azam University (QAU), in October 2013. Students were imparted adequate training on collecting the data from their native towns/villages. Prior oral consent was sought before conducting the interview.

The convenience random sampling method was used to collect information. In this sampling method, people/units are selected because of the ease of their volunteering or availability or easy access. This sampling method is useful for quick collection of data. However, there is risk of lack of representation of the population as a whole. Further, surveyed households from urban and rural areas are expected to have diverse socioeconomic backgrounds.

The survey questionnaire covers five sections: (a) information on household characteristics, (b) individual socioeconomic and demographic characteristics, (c) health service utilisation by ill and health care costs incurred in past 12 months, (d) awareness of health insurance, utilisation and satisfaction by insured households, and (e) demand for health insurance by uninsured households. The section on demand for health insurance seeks information on the households' willingness to purchase health insurance, the amount of coverage (treatment), the amount of premium the household intends to pay, the illnesses and health care services (in patient, out-patient, medicines etc) to be covered, the proportion of coverage households are willing to share (coinsurance rate) if insurance policy does not cover the full cost of treatment, preference for providers (public/private) to get the treatment, the mode of financing for insurance premium and the reason if a household is not willing to purchase/obtain insurance.

Methodology

      This analysis uses a dichotomous dependant variable which is a discrete choice of two options representing either the households' willing to purchase health insurance or not. This study investigates the association of several household characteristics (independent variables) such as the economic status of households, the number of children and the elderly in the household, the gender of the head of the household, the education level of the head of the household and spouse, the level of morbidity in the household, the health care costs incurred by households during the past 12 months, household size, and place of residence with willingness to purchase health insurance. The households are classified into quintiles based on per capita monthly food expenditure. The unit of the analysis is the household and as the dependant variable is discrete, a nonlinear probability model is employed in this study.

      The study employs logistic regression to investigate the influence of predictive variables that determine the dependent variable that is thewillingness to purchase health insurance. The logistic regression uses cumulative standard logistic distribution. The coefficients of the logistic regression model are estimated by maximum likelihood. The logistic fits maximum likelihood models with dichotomous dependent variables coded as 0 and 1.

      A general form of the model can be described as

$$Logit\ [P(y = 1)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots \beta_k X_k.$$

where y is a limited dependent/binary variable, β_0 is constant, X_k is vector of independent variables, and β_k represents parameter estimate for the kth independent variables.

RESULTS

      The survey covered 984 households across different districts in Pakistan. Of the 984, 154 (15.7 percent) households already had health insurance/ protection, whereas 830 (84.3 percent) did not have health insurance/protection. This analysis is on those 830 households without insurance/health protection. These households are potential purchasers of health insurance. Though, information on the amount of insurance coverage and premium, satisfaction with insurance policy, and other characteristics already been collected from the insured households, but since the focus of this study was to assess the willingness to purchase health insurance by uninsured households, the former households were excluded from this analysis.

      Of the 830 households, 103 (12.4 percent) households indicated willingness to purchase health insurance, whereas 727 (87.6 percent) households were not willing (see Table 1).

Table 1

Households' Demographic and Socioeconomic Characteristics and Willingness to Purchase Health Insurance

	Number of Surveyed Households	%	Number of Households Willing to Purchase Health Insurance	%
Gender of Head of Household				
Male	797	*96.0*	100	*12.5*
Female	33	*4.0*	3	*9.1*
All	**830**	***100.0***	**103**	***12.4***
Demographic Composition				
Number of Children (age 5 and below) in a Household				
No child	596	*73.1*	73	*12.2*
One child	148	*18.2*	16	*10.8*
Two and more children	71	*8.7*	13	*18.3*
No elderly	687	*84.3*	80	*11.6*
One elderly member	88	*10.8*	15	*17.0*
Two and more elderly members	40	*4.9*	7	*17.5*
Education Level of Head of Household				
Uneducated	42	*5.1*	7	*16.7*
Primary	38	*4.6*	2	*5.3*
Middle	36	*4.3*	8	*22.2*
Matric	154	*18.6*	15	*9.7*
Intermediate	107	*12.9*	13	*12.0*
Graduation	250	*30.1*	29	*11.6*
Master/MPhil/PhD	203	*24.5*	29	*14.4*
Awareness on Health Insurance				
Aware	350	*42.2*	59	*16.9*
Unaware	480	*57.8*	44	*9.2*
Illness in Household during Past two Weeks				
Household has an Ill Member				
Yes	504	*60.7*	71	*14.1*
NO	326	*39.3*	32	*9.8*
Head of Household is Ill				
Yes	170	*20.5*	24	*14.1*
No	660	*79.5*	79	*12.0*
Household has an Ill Child				
Yes	56	*6.7*	4	*7.1*
NO	774	*93.3*	99	*12.8*
Household has an Ill Elderly Member				
Yes	64	*7.7*	11	*17.2*
No	766	*92.3*	92	*12.0*
Number of Ill Household Members				
None	326	*39.3*	32	*9.8*
One	300	*36.1*	43	*14.3*
Two	126	*15.2*	18	*14.3*
Three and more	78	*9.4*	10	*12.8*
Type of Illness in a Household				
No illness	326	*39.3*	32	*9.8*
Acute	219	*26.4*	23	*10.5*

Table 1—(*Continued*)

Chronic	193	*23.3*	32	*16.6*
Both acute and chronic	92	*11.1*	16	*17.4*
Household Economic Status (Quintiles)				
Poorest	218	*26.3*	25	*11.5*
Poor	140	*16.9*	12	*8.6*
Middle	199	*24.0*	28	*14.1*
Rich	128	*15.4*	11	*8.6*
Richest	145	*17.5*	27	*18.6*
Household Total Health Expenditure (Quintiles)				
Lowest	79	*9.5*	9	*11.4*
Lower	83	*10.0*	10	*12.0*
Middle	82	*9.9*	9	*11.0*
Higher	80	*9.6*	13	*16.3*
Highest	72	*8.7*	16	*22.2*
Household Size				
1-2	57	*6.9*	8	*14.0*
3-4	308	*37.1*	33	*10.7*
5-6	290	*34.9*	34	*11.7*
7 and more	175	*21.1*	28	*16.0*
Area of Residence				
Urban	619	*74.6*	76	*12.3*
Rural	211	*25.4*	27	*12.8*
Provincial Residence				
Punjab	416	*50.1*	48	*11.5*
Sindh	36	*4.3*	4	*11.1*
Khyber-Pakhtunkhwa	76	*9.2*	4	*5.3*
Balochistan	37	*4.5*	10	*27.0*
AJK	29	*3.5*	10	*34.5*
Gilgit-Baltistan	45	5.4	12	*26.7*
FATA	10	*1.2*	0	*0.0*
Islamabad	181	*21.8*	15	*8.3*

Demographic Composition

The data reveals that of the 830 households, 797 (96 percent) were headed by males and were more willing to obtain health insurance compared to female headed households (12.5 percent vs. 9.1 percent). The composition of the family was also expected to influence the decision to obtain health insurance. The households having a child and an elderly member was likely to have higher morbidity, more health care expenditure and hence in more need of health protection. Of the 815 households, 73 percent had no child (age 5 and below), 18.2 percent had one child and 8.7 percent households had two and more children. Further, 84 percent households had no elderly member (age 60 and above), 10.8 percent had one elderly and 4.9 percent had two and more elderly members. Unlike in the case of the elderly, data showed a mixed picture in case of children. The willingness to obtain health insurance was expressed most (18.3 percent) by those households with the highest number of children. Clearly, there was a trend in case of the elderly having greater willingness to obtain insurance which increased with the rise in the number of the elderly in a household.

Education and Awareness on Health Insurance

Education plays an important role in improving the health status. Education produces awareness on health improvement and health maintenance. Education/awareness can identify the means to promote and protect health. Health insurance is one of the important options to protect health and mitigate the effects of rising costs of health care.

The data indicates that of the 830 households, the heads of 42 (5.1 percent) households had no education, 38 (4.6 percent) had completed up to primary education, 36 (4.3 percent) had middle, 154 (18.6 percent) secondary, 107 (12.9 percent) higher secondary, 250 (30.1 percent) graduates and 203 (24.5) were post-graduates. The analysis on purchasing health insurance by education level of head of household did not reveal any trend. The households headed by middle level education had indicated the highest willingness (22.2 percent) to obtain health insurance, followed by uneducated (16.7 percent) and post-graduate (14.4 percent). The households having a post-graduate spouse indicated the highest willingness (20.4 percent) to obtain health insurance followed by higher secondary (15 percent), secondary and primary (13.1 percent) completed spouse.

Awareness about health insurance may influence the demand for health insurance. Of the 830 households, 350 (42 percent) had awareness of health insurance compared to 480 (58 percent) unaware households. The aware households are almost two times more willing to obtain health insurance compared to the unaware ones (16.9 percent vs. 9.2 percent).

Illness Profile of Household

Illness in a household affects the need for health care and hence may influence the demand for health insurance. Of the 830 households, 326 (39 percent) had no ill member compared to 504 (61 percent) having an ill member during the two weeks prior to the survey. Further, of the 830 households, 56 (6.7 percent) households reported at least one ill child, 64 (7.7 percent) had an ill elderly member and 170 (20.5 percent) households' heads were found to be ill during the two weeks prior to the survey. The willingness to obtain health insurance is significantly higher in ill households than in those not ill (14.1 percent vs. 9.8 percent). Further, illness of an elderly member and the head of the household encourages the household to obtain health insurance. The proportion of households willing to obtain health insurance is higher if a household has an ill elderly member or head of household is ill unlike an ill child.

Further, of the 830, 300 (36 percent) have one, 126 (15 percent) have two, whereas 78 (9.5 percent) have three and more ill members. The willingness to obtain health insurance increases with the rise in the number of ill members, and then decreases in case of households having three and more ill members.

In addition, the nature or severity of illness may also affect the decision to seek health care and the need for health insurance. Of the 830, 39.3 percent households reported no illness in the household, around one-fourth (26.4 percent) reported a member suffering from any acute illness[3], 23.3 percent reported any chronic illness[4] in the household whereas 11.1 per cent households reported members having both acute and chronic illnesses. The proportion of households willing to obtain health insurance was highest (17.4) in case of households suffering from both acute and chronic illnesses followed by only chronic (16.6 percent) and acute (10.5 percent) illnesses.

Household Economic Status

The economic status of the household plays a significant role not only in producing health but also in improving health in case of an illness. The households with higher economic status are expected to have better health status, and more ability and capacity to meet the cost of health care during illness. Lack of ability to pay for health care and absence of any health protection may make the household vulnerable.

The data did not reveal any gradient in willingness to obtain health insurance by the households economic status.[5] The highest quintile (richest) had the largest proportion of households (18.6 percent) willing to obtain health insurance followed by middle (14.1 percent) and the poorest (11.5 percent).

Household Health Expenditure

The households were also categorised on the basis of total household health expenditure incurred on ill household members during the past twelve months preceding the interview. Unlike the households' economic status, there was some gradient[6] as the proportion of households willing to obtain health insurance increased with an escalation in health expenditure. The households that incurred the highest health expenditure demonstrated the largest (22.2 percent) willingness to obtain health insurance followed by higher (16.3 percent) and lower (12.0 percent) expenditure households[7]. There is a positive relationship between health care expenditure and willingness to obtain health insurance as displayed in the Table 1.

---

[3]Acute illnesses include cough, flu, diarrhea, phenomena, malaria etc.

[4]Chronic illnesses include cancer, heart diseases, hepatitis, diabetes, asthma, kidney failure etc.

[5]Households' categorisation is based on per capita monthly food expenditure.

[6] Except in middle households.

[7] Of 504 households who have an ill member, information on health expenditure is available on 396 households. Of remaining 108 households, 81 did not consult any health care provider, and health expenditure information is not available for remaining 27 households.

Household Size

Household size may also influence the need for health care and health insurance. Of the 830 households, 57 (6.9 percent) had 1-2 members, 308 (37.1 percent) 3-4, 290 (34.9 percent) had 5-6 and the remaining 175 (21.1 percent) had 7 and more household members. The largest households (7 and more members) had the highest (16 percent) proportion of households that reported willingness to obtain health insurance compared to the lowest (10.7 percent) by 3-4 members' households.

Place of Residence

The overwhelming majority of surveyed households- 619 (75 percent) were located in urban areas in contrast to 211 (25 percent) in rural. The inter-provincial/regional distribution of the surveyed households indicated that half of the households-416 (50 percent) were located in Punjab, 181 (22 percent) in Islamabad, 36 (4.3 percent) in Sindh, 76 (9.2 percent) in Khyber-Pakhtunkhwa, 37 (4.5 percent) in Balochistan, whereas 29 (3.5 percent), 45 (5.4 percent) and 10 (1.2 percent) were located in AJK, Gilgit-Baltistan and FATA respectively. The intra-province distribution of the surveyed households revealed that of the 416 households in Punjab, 224 (54 percent) were located in Rawalpindi; 16 of the 36 households in Sindh were located in Larkana; 35 of the 76 households in Khyber-Pakhtunkhwa were located in Abbotabad, whereas 28 of 37 households in Balochistan were located in Quetta.

The data suggests absence of any difference between urban and rural households in willingness to obtain health insurance (12.5 percent vs. 12.2 percent). The province level examination revealed that the proportion of households willing to obtain health insurance was highest (34.5 percent) in AJK, followed by 27 percent in Balochistan and 26.7 percent in Gilgit-Baltistan, whereas none of the households in FATA reported willingness.

Insurance Coverage and Premium

Of the 103 households willing to purchase health insurance, 84 (81.6 percent) intended to obtain family health insurance (see Table 2). Around two-third (66 percent) households intended to have unlimited insurance coverage, 16.5 percent wanted insurance coverage up to Rs 100,000, 10.7 percent desired coverage up to Rs 300,000 and 6.8 percent wanted coverage up to Rs 600,000. Around one-third of the households were willing to pay upto Rs 5000 per annum as a premium, one-fourth were interested to pay up to Rs 10,000 per annum, one-third intended to pay up to Rs 40,000, whereas the remaining one-tenth households were willing to pay more than Rs 40,000 as premium for the desired insurance coverage.

Table 2

Amount of Insurance Coverage, Premium, Coinsurance Rate and other
Features of Health Insurance Desired by Willing Households

	Number of Households Willing to Purchase Health Insurance	%		Number of Households Willing to Purchase Health Insurance	%
Type of Insurance Coverage			*Amount of Deductible (Rs)*		
Individual	19	18.4	Up to 500	42	40.8
Family	84	81.6	Up to 2,000	25	24.3
All	103	100.0	Up to 5,000	17	16.5
Amount of Insurance Coverage (Rs)			Between 10,000-18,000	14	13.6
Unlimited	68	66.0	*Type of Illnesses for which Insurance Coverage Desired*		
Limited	25	34.0	Acute	11	10.7
Amount of Limited Insurance Coverage			Chronic	31	30.1
Up to 100,000	17	16.5	Both acute and chronic	61	59.2
Up to 300,000	11	10.7	*Preferred type of Health Care Provider/Facility*		
Up to 600,000	7	6.8	Public provider/facility	10	9.7
Amount of Premium per Annum (Rs)			Private provider/facility	53	51.5
Up to 5,000	33	32.0	Both public and private provide provider/facility	40	38.8
Up to 10,000	24	23.3	*Type of Health Care Services for which Insurance Coverage Desired*		
Up to 40,000	33	32.0	Out-patient/consultation fee/admission fee/parchi fee	10	9.7
Between 50,000-20,0000	11	10.7	In-patient/hospitalisation	12	11.7
Premium as Proportion of Insurance Coverage (%)			Medicines/supplies	1	1.0
10	26	26.0	Diagnostic tests (X-rays, lab testes etc)	2	1.9
50	8	8.0	All services	75	72.8
For Unlimited Coverage			*Financing of Cost of Insurance Premium*		
5000	17	25.0	Household income	40	38.8
10000	20	30.0	Household savings	46	44.7
40000	24	36.0	Sale of assets	2	1.9
180000	6	9.0	Loan	8	7.8
Payment of Premium			Other	4	3.9
Instalments	65	63.0			
Lumpsum	38	37.0			
Coinsurance Rate (%)					
0	6	5.8			
10	20	19.4			
20	29	28.1			
50	45	43.7			
80	3	2.9			

The examination of premium as proportion of desired insurance coverage revealed that approximately 26 percent households were willing to pay up to 10 percent of insurance coverage, 8 percent were willing to contribute up to 50 percent of insurance coverage as premium. Of the households that intended to have unlimited insurance coverage, 25 percent

were willing to pay up to Rs 5,000 as premium, 30 percent were willing to contribute up to Rs 10,000, 36 percent intended to pay up to Rs 40,000 whereas the remaining 9 percent were willing to pay up to Rs 180,000 as premium per annum. The vast majority of households (63 percent) intended to pay premium in instalments. It was encouraging to see that all households were willing to pay the premium that could be pooled for health insurance coverage- unlimited or limited.

Illness Profile of Households, Insurance Coverage and Premium

The investigation of health status of households and insurance coverage reveals that of households that wished unlimited coverage, 31 percent had no ill member, 25 percent had acute and 28 percent had chronic illness cases whereas 16 percent had both chronic and acute illnesses. Of households willing to pay up to Rs 1000 as premium, 20 percent had no illness and neither had both acute and chronic illnesses, whereas 30 percent had both acute and/or chronic illnesses. Of those willing to pay up to Rs 5000 premium, 40 percent had no illness, 26 percent each had acute, chronic and 9 percent had both acute and chronic illnesses. Those who wished to pay up to Rs 10,000, one-third had no illness, one-fifth each had acute and chronic illnesses and one-fourth had both acute and chronic illnesses. Households that were willing to contribute more than Rs 10, 000 as premium, of them 30 percent had no illness, 18 percent had acute illness, 39 percent had chronic and 14 percent had both acute and chronic illnesses. As households without an ill member or member with an acute illnesss were willing to contribute premium and were assumed as less risky by the insurer, the case for initiating a national insurance programme for all segments of population is not only valid but strong.

Coinsurance and Deductible

Further, around 6 per cent households did not intend to share the cost (coinsurance) in case the insurance policy did not cover the full cost of treatment. Moreover, 19 percent were willing to share up to 10 percent of the health care cost, 28 percent up to 20 percent, 44 percent up to 50 percent while 3 percent households were willing to share up to 80 percent of the cost of health care. In addition, 41 percent of 103 households were willing to pay up to Rs. 500 as a deductible (amount irrespective of coinsurance/copayment) for cost of health care, 24 percent wanted to pay up to Rs 2,000, 17 percent intended to pay up to Rs 5,000 and the remaining 14 percent were willing to pay between Rs 5,000 and Rs 18,000 as a deductible payment. Both coinsurance and the deductible serve as cost-containing measures for the insurer. Considering the expressed amounts of coinsurance and deductible, the concerns of insurers regarding high health care costs may be addressed.

Type of Illness and Health Care Services and Health Care Providers

The overwhelming majority of the households (59 percent) desired coverage for both acute and chronic illnesses. Regarding health care services to be included in the insurance coverage, 73 percent desired coverage on all health care services such as in-hospitalisation, outpatient services, medicines/supplies, diagnostic tests etc. Around half of the 103 households preferred to receive health care at private health facilities/providers, 10 percent at public while 39 percent favoured both public and private providers/facilities.

Financing of Insurance Premium

Regarding financing of cost of insurance premium, the vast majority of households (86 percent) reported household income and savings to finance the cost of premium. Of 727 households who were unwilling to purchase health insurance, information on lack of willingness to purchase insurance was available for 659 households.

Reasons for Lack of Willingness

Of unwilling households, 40 percent reported no need, 26 percent did not consider it because of lack of funds needed or because it was very expensive, 11 percent considered it non-beneficial, 18.5 percent rejected it because of complicated procedure and the remaining 3.5 percent cited religious and other reasons.

Insurance Coverage and Premium by Household Characteristics

Insurance Coverage

This sub-section investigates important characteristics of households who were willing to purchase health insurance. Unlike uneducated heads, the vast majority of educated heads (having any level of education) desired unlimited insurance coverage. Of the educated heads, graduate heads had the highest proportion (79 percent) desiring unlimited coverage whereas majority (57 percent) of uneducated heads desired insurance coverage up to Rs 300,000 (see Table 3).

In case of illness in a household, no significant difference was found in the desired amount of insurance coverage between households having an ill or healthy member. Interestingly, households with acute illnesses had the highest proportion (74 percent) interested in unlimited coverage unlike 59 percent of households with chronic illnesses. Illness of a child and an elderly member also exhibited mixed trends. Apart from two-third households who had an elderly ill member and wanted unlimited coverage, around two-fifth wanted insurance coverage up to Rs 300,000 and another one-tenth interested in insurance coverage up to Rs 600,000.

Table 3

Amount of Desired Insurance Coverage and Annual Premium by Demographic and Socioeconomic Characteristics of Households Willing to Purchase Health Insurance

	Desired Amount of Insurance Coverage					Amount of Insurance Premium Per Annum			
	Unlimited	Up to Rs 100,000	Up to Rs 300,000	Up to Rs 600,000	All	Up to Rs 5,000	Up to Rs 10,000	Up to Rs 40,000	More than Rs 40,000
Education Level of Head of Household									
Uneducated	2	1	4	0	7	3	2	2	0
	28.6	*14.3*	*57.1*	*0.0*	*100.0*	*42.9*	*28.6*	*28.6*	*0.0*
Primary	2	0	0	0	2	1	0	1	0
	100.0	*0.0*	*0.0*	*0.0*	*100.0*	*50.0*	*0.0*	*50.0*	*0.0*
Middle	5	1	1	1	8	4	1	3	0
	62.5	*12.5*	*12.5*	*12.5*	*100.0*	*50.0*	*12.5*	*37.5*	*0.0*
Metric	8	5	0	2	15	5	4	5	1
	53.3	*33.3*	*0.0*	*13.3*	*100.0*	*33.3*	*26.7*	*33.3*	*6.7*
Intermediate	9	1	2	1	13	3	3	5	2
	69.2	*7.7*	*15.4*	*7.7*	*100.0*	*23.1*	*23.1*	*38.5*	*15.4*
Graduation	23	4	1	1	29	9	7	10	2
	79.3	*13.8*	*3.4*	*3.4*	*100.0*	*32.1*	*25.0*	*35.7*	*7.1*
Master/MPhil/PhD	19	5	3	2	29	8	7	7	6
	65.5	*17.2*	*10.3*	*6.9*	*100.0*	*28.6*	*25.0*	*25.0*	*21.4*
All	**68**	**17**	**11**	**7**	**103**	**33**	**24**	**33**	**11**
	66.0	***16.5***	***10.7***	***6.8***	***100.0***	***32.7***	***23.8***	***32.7***	***10.9***
Illness in a Household									
No	21	6	3	2	32	11	8	8	5
	65.6	*18.8*	*9.4*	*6.3*	*100.0*	*34.4*	*25.0*	*25.0*	*15.6*
Yes	47	11	8	5	71	22	16	25	6
	66.2	*15.5*	*11.3*	*7.0*	*100.0*	*31.9*	*23.2*	*36.2*	*8.7*
Type of Illness in a Household									
No Illness	21	6	3	2	32	11	8	8	5
	65.6	*18.8*	*9.4*	*6.3*	*100.0*	*34.4*	*25.0*	*25.0*	*15.6*
Acute	17	4	0	2	23	9	5	5	3
	73.9	*17.4*	*0.0*	*8.7*	*100.0*	*40.9*	*22.7*	*22.7*	*13.6*
Chronic	19	4	7	2	32	9	5	15	2
	59.4	*12.5*	*21.9*	*6.3*	*100.0*	*29.0*	*16.1*	*48.4*	*6.5*
Both acute and chronic	11	3	1	1	16	4	6	5	1
	68.8	*18.8*	*6.3*	*6.3*	*100.0*	*25.0*	*37.5*	*31.3*	*6.3*
Illness of a Child in a Household									
No	66	15	11	7	99	30	24	32	11
	66.7	*15.2*	*11.1*	*7.1*	*100.0*	*30.9*	*24.7*	*33.0*	*11.3*
Yes	2	2	0	0	4	3	0	1	0
	50.0	*50.0*	*0.0*	*0.0*	*100.0*	*75.0*	*0.0*	*25.0*	*0.0*
Illness of an Elderly in a Household									
No	61	16	9	6	92	28	21	31	10
	66.3	*17.4*	*9.8*	*6.5*	*100.0*	*31.1*	*23.3*	*34.4*	*11.1*
Yes	7	1	2	1	11	5	3	2	1
	63.6	*9.1*	*18.2*	*9.1*	*100.0*	*45.5*	*27.3*	*18.2*	*9.1*
Household Economic Status (Quintiles)									
Poorest	13	7	5	0	25	8	8	8	1
	52.0	*28.0*	*20.0*	*0.0*	*100.0*	*32.0*	*32.0*	*32.0*	*4.0*
Poor	9	1	1	1	12	3	3	4	1
	75.0	*8.3*	*8.3*	*8.3*	*100.0*	*27.3*	*27.3*	*36.4*	*9.1*
Middle	18	6	2	2	28	12	3	9	3
	64.3	*21.4*	*7.1*	*7.1*	*100.0*	*44.4*	*11.1*	*33.3*	*11.1*
Rich	9	0	1	1	11	5	2	3	1
	81.8	*0.0*	*9.1*	*9.1*	*100.0*	*45.5*	*18.2*	*27.3*	*9.1*
Richest	19	3	2	3	27	5	8	9	5
	70.4	*11.1*	*7.4*	*11.1*	*100.0*	*18.5*	*29.6*	*33.3*	*18.5*
Household Size									
1-2	5	1	1	1	8	2	1	3	2
	62.5	*12.5*	*12.5*	*12.5*	*100*	*25.0*	*12.5*	*37.5*	*25.0*
3-4	24	6	3	0	33	14	7	12	0
	72.7	*18.2*	*9.1*	*0.0*	*100.0*	*42.4*	*21.2*	*36.4*	*0.0*
5-6	22	8	1	3	34	11	9	8	5
	64.7	*23.5*	*2.9*	*8.8*	*100.0*	*33.3*	*27.3*	*24.2*	*15.2*
7 and more	17	2	6	3	28	6	7	10	4
	60.7	*7.1*	*21.4*	*10.7*	*100.0*	*22.2*	*25.9*	*37.0*	*14.8*
Area of Residence									
Urban	52	11	6	7	76	21	14	29	10
	68.4	*14.5*	*7.9*	*9.2*	*100.0*	*28.4*	*18.9*	*39.2*	*13.5*
Rural	16	6	5	0	27	12	10	4	1
	59.3	*22.2*	*18.5*	*0.0*	*100.0*	*44.4*	*37.0*	*14.8*	*3.7*

The role of household economic status is very crucial in demand for health insurance. Individuals purchase health insurance to protect their income/wealth against mishaps (illness/injury/accident). Individuals would like to have insurance coverage to compensate for the loss of income/wealth during bad events and maintain the same level of utility whether they were ill or not. The analysis indicates that unlike the poorest, the overwhelming majority of other economic groups were willing to have unlimited coverage. However, a considerable proportion of the poorest households were also interested in limited insurance coverage (Rs 100,000 to Rs 600,000). In case of household size, households comprised of 3-4 members had the highest proportion (72.7 percent) interested in unlimited coverage, whereas for limited insurance coverage, one-fourth of 5-6 member households were willing to purchase coverage of up to Rs 100,000. Further, urban households had higher demand for unlimited coverage, whereas in case of limited insurance coverage, rural households were more interested in insurance coverage of up to Rs 100,000.

Regarding annual insurance premium, we did not find any specific trend towards the amount of insurance premium by the level of education of the heads of households. Around 43 percent of households headed by uneducated heads intended to pay insurance premium up to Rs 5,000 per annum, whereas a considerable proportion of households (over 50 percent) having educated heads was willing to pay up to Rs 10,000 per annum.

Further, a slightly higher proportion of households with no ill member was willing to pay premium up to Rs 10,000, whereas there was significant difference between the two groups for annual premiums of up to Rs 40,000 and more. The willingness to pay insurance premium by healthy (not ill) households was a positive indicator for the potential insurers (government or private health insurers) as the risk of future health care expenditure was lower for households that did not have any ill member. The lower risk group (healthy) are preferred by insurers as it contributes (premiums-source of revenue) more than the pay outs (health care costs).

Further, examination of insurance premium by type of illness in a household finds that the highest proportions of households with no illness and acute illness, 34 and 41 percent respectively, were willing to pay up to Rs 5,000 as annual premium, whereas 48 percent of households with a chronic illness intended to pay up to Rs 40,000. The reported amounts of premiums were in line with households'profile of illness as households with lower burden of illness (no or acute illness) were willing to contribute lower amounts of premiums compared to higher burden groups (chronic illness).

Moreover, a higher proportion of households having an ill child, and an elderly member were willing to pay premium up to Rs 5,000 compared to no ill child or elderly member households. However, households with no no ill child or elderly member were more willing to contribute higher premiums (Rs 40,000 and more), probably due to perceived risk of illness of both children and the elderly.

The role of a household's economic status is very important in payment of insurance premium. The higher economic status households would be at ease to pay insurance premiums, provided they are willing to obtain health insurance. The findings show mixed trend. Around one-third of the poorest households apiece had reported willingness to pay insurance premiums of Rs 5,000, 10,000 and 40,000. The highest proportions of the poor and the richest households were willing to pay Rs 40,000 premium, whereas most of the middle and rich households were willing to contribute up to Rs 5,000 per annum. Unlike the poorest, the middle and rich households had shown less premium contribution relative to their desire for unlimited insurance coverage. Around half or more of all economic groups were willing to contribute inurance premium up to Rs 10,000, particularly the poorest and the rich households (64 percent and 63 percent respectively). Nonetheless, premiums can be fixed according to insurance coverage-higher premiums for higher insurance coverage and vice versa.

The household size is another important factor of future health care expenditure, as large households are expected to have more morbidity and consequently higher health care costs. Of 1-2 and 7 and more member households, around 37 percent each intended to pay upto Rs 40,000 annual premium, while the highest proportion of 3-4 and 5-6 member households, 42 and 33 percent respectively, were willing to contribute up to Rs. 5,000 per annum.

In terms of place of residence, compared to urban households, proportionately more rural households were willing to pay premiums up to Rs 10,000, whereas the reverse was true for annual premiums of up to Rs 40,000 and more.

REGRESSION RESULTS

The regression results indicated no significant difference between male and female headed households in willingness to purchase health insurance. Further, the education level of the head of the households also did not reveal any significant association with obtaining health insurance. However, awareness has a positive and significant association with willingness to purchase health insurance. In case of illness of household members, results did not indicate any significant association of illness of a child, an elderly or head of household with willingness to purchase health insurance. Compared to no illness in the household, households having a member with chronic illness were significantly more likely to purchase health insurance.

The household's economic status revealed a significant association with willingness to obtain health insurance. The poorest, poor and rich households were significantly less likely to obtain health insurance compared to the richest. Household size and residence in urban or rural area did not display any significant influence on willingness to obtain health insurance. The households located in Balochistan, AJK, and GB awere significantly more likely to obtain health insurance.

Table 4

Logistic Regression Estimates of Willingness to Purchase Health Insurance

Characteristics	Coefficient	Standard Error
Gender of Head of Household (Reference: Female)		
Male	−0.404	0.600
Education level of Head of Household (Reference: Uneducated)		
Primary	−0.894	0.892
Middle	0.839	0.656
Secondary	−0.075	0.566
Higher Secondary	0.106	0.601
Graduation	0.068	0.558
Post-graduation	0.099	0.559
Awareness on Health Insurance (Reference: Unaware)		
Aware	0.837*	0.247
Illness in the Household (Reference: not ill)		
Head is ill	−0.127	0.323
Child is ill	−0.643	0.587
Elderly member is ill	−0.080	0.408
Type of Illness in the Household (Reference: no illness)		
Acute illness	0.225	0.332
Chronic illness	0.543***	0.314
Acute and chronic illness	0.708	0.440
Household Economic Status (Reference: Richest)		
Poorest	−0.835**	0.386
Poor	−0.971**	0.410
Middle	−0.338	0.327
Rich	−1.090*	0.411
Household Size (Reference: 1-2 members)		
3-4	−0.239	0.456
5-6	−0.351	0.471
7 and more	−0.025	0.513
Place of Residence (Reference: Rural, Islamabad)		
Urban	0.204	0.322
Punjab	0.539	0.329
Sindh	0.703	0.628
Khyber Pakhtunkhwa	−0.706	0.606
Balochistan	1.701*	0.523
AJK	2.396*	0.538
Gilgit-Baltistan	1.801*	0.531
Constant	−2.256*	0.919

N= 830;

*significant at 0.01, ** significant at 0.05, and

*** significant at 0.10.

CONCLUSIONS AND POLICY IMPLICATIONS

This study provides some important insights into characteristics of households willing to purchase health insurance and contribute towards cost of insurance package. This study bridges the knowledge gap in assessing the willingness of households for health insurance, amount of premium, and cost of health care households. The results reveal that considerable proportion of uninsured households—12.4 percent are willing to purchase health insurance. Households' economic status, awareness, nature of illness and place of residence appear as significant factors in households'willingness to purchase health insurance. These results are in conformity to studies reviewed in the previous section. However, gender and education level of head of household, household size do not turn up significant determinants of willingness to purchase health insurance unlike in the reviewed studies.

Yet, the findings of this study support the argument for national health insurance for all segments of population as households are willing to share the cost of health care and contribute considerable amount in the form of premium, copayment and deductibe towards the costs of health insurance. Considering the willingness to contribute towards the cost of health insurance, a national health insurance programme can be initiated covering all segments of population, not alone the poor. The non-poor, particularly those at the fringe of poverty line, also face severe challenges in meeting the cost of health care. The provision of health protection to all segments of population will improve the health status of individuals and the poor health indicators of the country.

The insurance premium contributions, considering the risk of illness, may be pooled. Health care costs can be met from this resource pool by transferring the resources from lower to higher risks groups. To minimise the risk of moral hazard- higher utilisation of health care services due to health insurance, a limited amount of coverage may be offered at the outset, with some coinsurance as it would reduce the unwarranted demand for health care services, and burden on the health care resources.

Further, ensuring the provision of improved quality of care would be a challenging task as households may not be attracted to insurance programmes and subscribe if the quality of care was perceived to be low. A considerable proportion of households who were willing to purchase health insurance, preferred to receive health care from private providers, perhaps due to their higher (perceived) quality of care.

The findings of this study may assist the government to formulate the national health insurance programme in line with the requirements/aspirations of households who are willing to contribute towards the cost of health care. As households are willing to pay premium and share the cost of health care (copayments), government may structure the national insurance programme accordingly, and thus save on the cost of providing health care. The current WS

programme for BISP beneficiaries is being financed from multilateral donor support and public funding, without any contribution from the beneficiaries (poor families).

The households (poor and non-poor) would be protected in the restructured national insurance programme by paying a little and certain amount of premium against the uncertain cost of health care. Health insurance would protect the wealth/income of enrolees and maintain their utility.

Potential Limitations

The major limitation of this study is that its findings might not be generalised as the surveyed population does not represent the entire population. However, information collected is still very useful to assess the willingness to purchase health insurance as interviewed households come from distinct backgrounds and located across the country. Moreover, this study also faces reporting and recall bias problems related to health care and other expenditure data.

REFERENCES

Abayomi Samuel Oyekale (2012) Factors Influencing Huseholds'willingness to Pay for National Health Insurance Scheme (NHIS) in Osun State, Nigeria. *Ethno Med* 6:3, 167–172.

Asgary, A., K. Willis, A. A. Taghvaei, and M. Rafeian (2004) Estimating Rural Households' Willingness to Pay for Health Insurance. *Europian Journal of Health Economic* 5, 209–215.

Babatunde, O. A., *et al*. (2012) Willingness to Pay for Community Health Insurance and its Determinants among Household Heads in Rural Communities in North-Central Nigeria. *International Review of Social Sciences and Humanities* 2L:2.

Besley, T. (1989) The Demand for Health Care and Health Insurance. *Oxford Review of Economic Policy* 5:1, 21–33.

Cameron, A. C., P. K. Trivedi, Frank Milne, and J. Piggott (1988) A Micro-econometric Model of the Demand for Health Care and Health Insurance in Australia. *Review of Economic Studies* 55:1, 85–106.

Costa, J. and J. Garcia (2003) Demand for Private Health Insurance: How Important is the Quality Gap? *Journal of Helath Economics* 12:7.

David Mark Dror, *et al. (*2006) Willingness to Pay for Health Insurance among Rural and Poor Persons: Field Evidence from Seven Micro Health Insurance Units in India. *Health Policy* .

Ebenezer Owusu-Sekyere, and Anthony Chiaraah (2014) Demand for Health Insurance in Ghana: What Factors Influence Enrollment? *American Journal of Public Health Research* 2: 1, 27–35.

Eisenhauer, Joseph G. (2006) The Theory of Demand for Health Insurance: A Review Essay. *Journal of Insurance Issues* 29, 1.

Ke X, B. E, C. David Guy and M. A. Ana (2005) Designing Health Financing Systems to Reduce Catastrophic Health Expenditure.

Lofgren, C., N. X. Thanh, N. T. Chuc, A. Emmelin, and L. Lindholm (2008) People's Willingness to Pay for Health Insurance in Rural Vietnam. *Cost Effectiveness and Resource Allocation* 6:16.

Nyemeck, Joachim, *et al.* (2007) Community Pre-payment of Health Care and Estimation of the Willingness to Pay in Cameroon: Evidence of Rural Households in the Centre Region. Paper presented at the Twelfth African Econometric Society Conference, Southern Cap Sun, Cap Town, South Africa, July, 2007.

Oriakhi, H. O. and E. A. Onemolease (2012) Determinants of Rural Household's Willingness to Participate in Community Based Health Insurance Scheme in Edo State, Nigeria. *Ethno Med* 6:2, 95–102.

Pakistan, Government of (2014) *Health and Nutrition, Pakistan Economic Survey 2013-14*. Islamabad: Ministry of Finance, Government of Pakistan.

Pakistan, Government of (2014) *Pakistan Millennium Development Goals Report 2013*. Islamabad: Ministry of Planning, Development and Reform, Government of Pakistan.

Pakistan, Government of (2014) *Pakistan National Health Accounts 2011-12*. Islamabad: Statistics Division, Pakistan Bureau of Statistics.

Ul Haq, Rizwan (2012) Life Satisfaction and Basic Need among Elderly People in Pakistan: Evidence from the PSES Data. *The Pakistan Development Review* 51:4, 519–541.

Willard G. Manning, Joseph P. Newhouse, Naihua Duan, Emmett Keeler, Bernadette Benjamin, Arleen Leibowitz, M. Susan Marquis, and Jack Zwanziger (1987) Health Insurance and the Demand for Medical Care: Evidence from a Randomised Experiment, RAND Helath Insurnce Experiment Series.

Xu, K., D. B. Evans, G. Carrin, A. M. Aguilar-Rivera, P. Musgrove, and T. Evans (2007) Out-of-pocket Spending: Protecting Households from Catastrophic Health Spending. *Health Affairs* 26, 4972–983.