Determinants of Choice of Health Care Provider:

A Case Study of Pakistan

MS Economics

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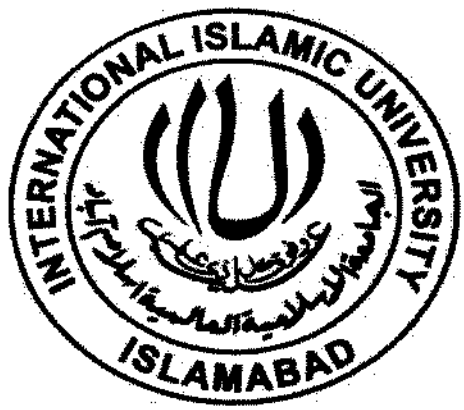

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FINAL APPROVAL

It is to certify that we have read the thesis submitted by Ms. Parveen Akhtar and it is our judgment that this research is of sufficient standard to warrant its acceptance by the International Islamic University, Islamabad for the award of M.S Degree in Economics.

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Dedicated To
My Loving Husband
Iftikhar Hussain Kham
&
My Little Fairy
Maryam Iftikhar Hussain Kham

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Abbreviations

LG	Local Government
GHCP	Government Health Care Provider
PHCP	Private Health Care Provider
TT/SC	Traditional Treatment/Self Care
LSI	Living Standard Index
UNDP	United Nation Development Programme
FATA	Federally Administered Tribal Areas
AJK	Azad Jammu Kashmir
ICT	Islamabad Capital Territory
MNL	Multinomial Logistic Regression
BHU	Basic Health Unit
RHC	Rural Health Centre
FWC	Family Welfare Centre
RA	Room Availability
UE	Unemployment
HS	House Structure
LT	Latrine Availability
NWFP	North-West Frontier Province

Abstract

Health care services are cost free in most of the developing countries at some certain point of delivery. Since provisioning of free health care services to the masses is attributed to the fact that it is a basic human right / need. The basic theme of this study is to assess those determinants which matter a lot while patient's choice of health care providers. In addition to that it also looks into the policy implication in provisioning of health care services in multiple localities' of Pakistan as well. The data for this study is collected by UNDP survey of "Social Audit of Local Government and Delivery of Public Services". The analytical study also examines those determinants which tempt to the patient's choice of health care providers with regard to territory i.e. rural and urban areas of Pakistan. Furthermore, this study draws a rational comparison of those determinants which influence the patient's choice of health care providers in the presence of local government and in the absence of local government. The models are estimated using a multinomial logistic approach applied to the sample size of 12000 households, where local government is in access and 10384 households, where lack of local government exists. This study emerges the very first approach to figure out and enumerate the impact of individual determinants on patient's choice of health care providers in Pakistan. Our findings reveal that educational erudition, pro-quality attitude, living standards, family size, distances, disease patterns, socioeconomics and demographic variables are among significant factors while choice of health care providers.

Declaration

I hereby declare that this thesis, neither as a whole nor as a part thereof, has been copied out from any source. It is further declared that I have carried out this research by myself and have completed this thesis on the basis of my personal efforts under the guidance and help of my supervisor. If any part of this thesis is proven to be copied out or earlier submitted, I shall stand by the consequences. No portion of work presented in this thesis has been submitted in support of any application for any other degree or qualification in International Islamic University or any other university or institute of learning.

Parveen Akhtar

Acknowledgment

I would like to start with the name of Almighty Allah and bow head in His supreme "the Omnipotent" the Merciful, the Beneficial Who bid honor to belong to a Muslim Community. I deliver numerous salutations upon the Holy Prophet (Sallahho Alaiah Waalaiha Wassallum) the fountain of Wisdom, Who is a live fountain for His Ummah in all aspects of self and social life. His preaching is a road map in seeking valued knowledge from cradle to grave. I endeavor to pay compliments and feel no hesitation in articulating my heartiest gratitude towards respectable supervisor Dr. Faiz-ur-Rahim, Assistant Professor, IIIE, International Islamic University, Islamabad, for his timely, valuable and comprehensive aid in accomplishment of my task. I wish to pay my esteemed compliments to the worthy co-supervisor Mr. Malik Muhammad, for his constant and courteous support in preparation and finalization of research work more than my expectations. Their logical guidance and cognitive approach not only helped me to cope with the challenge but inspire me to excel. I am lucky enough to get the golden opportunity in shape of trustworthy mentors and committed teachers. After all I am grateful to my beloved husband Mr. Iftikhar Hussain Khan who always shoulders me to tackle the troubles in connection to this Programme. In a nut shell, it is a team effort which enables me to come forward and preside

Parveen Akhtar

Chapter 1
Introduction

Pakistan is ranked at the 7th position in the list of thickly populated countries of the world and with ongoing ratio; it is being assumed that it will replace the 4th position at the list by the year of 2050 with an estimated population of 285 million. The existing population grows at 2.4% annually with the challenge of jobs, education and provision of health services (Manzoor et al, 2009). In Pakistan, there are three health care service providers; government health care providers, private health care providers as well as traditional treatment / self-medication. So in government sector health care providers deliver their services by adopting three stages; primary, secondary and tertiary. Rural health centers, basic health units, and primary health centers, dispensaries, first aid points, mother and child health centers and lady health workers (LHVs) fall under the boundary of primary level of health care. The secondary level encompasses the district and tehsil headquarter hospitals. Similarly the tertiary level care is delivered through the teaching hospitals and medical institutes (Akram and Khan, 2007)

The Private health care providers include two levels; first level consist of a new accredited hospitals while second level is composed of irregular hospitals, general practitioners, homeopaths, tralatitious healers, local bonesetters, quacks and hakims or no medication where people prefer to get treatment by traditional medication or self-medication whichever is in vogue (Shaikh and Hatcher, 2005). It is observed with great concern that the use of tralatitious healers and self-medication is in common practice in the most regions of the world. It is to be noted that these health care practices are in common in the society irrespective of the fact that free health care services are available

in government health centers. However cultural and economic resemblance between the patients and their traditional healers play a vital role in preference to get the health care services from traditional healers. Moreover, the flexible mode of payment and other incentive methodologies being practiced by traditional healers are also a dominant factor in attracting the rural communities where economic condition of the people is always remained imbalance (Tembon, 1996).

In Our study, the choice of health care service provider in Pakistan is based on these three above mentioned health care service providers. The prevailing health care setup in Pakistan compromised of; public sector funded by the government and private sector operating exclusively autonomous for profit (Settle, 2010). It is crucial to note that in spite of a sophisticated and widespread mechanism of health infrastructure in Pakistan, particularly in the public sector, the health care delivery structure could not brought enough improvement in the health status of remote populations and ultimately remained ineffective in the whole country.

However, it is pertinent to highlight that tendency of private health care service providers is getting more familiarity in developing countries in modern era. Since the delivery of health services by the public sector has always been remained a dilemma and possess low quality medical apparatus in countries under-development. Likewise, such incompetent state of public sector (health services) is found usual in rural areas of developing world. One of the main causes in adaption of private health services throughout developing countries is because of easy admittance, less wastage of time in terms of wait, trustworthy privacy, and optimum understanding with regard to the patient's expectations.

Simultaneously, public sector of health services is compound of scarce funding, meager quality and limited access to the common community members (Anwar et al, 2012).

It is more shocking that less than 1 % of national budget is being reserved for health services in Pakistan which is even worse than Bangladesh and Sri Lanka. Even though, the index of health indicators is getting positive turn like vaccination conformity and awareness about family planning. The low literacy rate in association with poverty, gender discrimination and uneven existence of resources like water/sanitation amenities remained remarkable impediments in progression of health indicators. For 66 % population which used to live in the remote areas of the country.

Moreover, some of the diseases like cardiovascular, cancers, failure of respiratory system, diabetes and psychosomatic disorder which are not being communicated well in time are dominant barriers in building a health oriented society in Pakistan (Anwar et al, 2012). It is also worth mentioning that use of tobacco and blood pressure shoot up contributed a lot in lifting the index of death toll while generating diseases like mouth cancer, blood dyscrasia and disturbance of respiratory system (Jafar et al, 2013). In addition to that cultural and social norms had also contributed enough in seeking an effective and manifold health care service (Shaikh and Hatcher, 2007).

1.1 Importance of Health Care Status of Pakistan under Millennium Development Goals: A General Review

The basic objective of Millennium Development Goals is to ascertain stipulated targets to cope with the poverty and assurance of basic human rights to the societies in shape of better education, health and social security as well (Millennium Project, 2006). Unfortunately, Pakistan is not on track to achieve most health related MDGs. While there

has been an improvement in the education sector but health sector remains on the periphery of development landscape (Afzal and Yusuf, 2013). Child and maternal health is perhaps the most significant index of social development in any country and is considered to reflect the level of nutrition, education and access to health services. Despite the fact that Pakistan has made progress during last couple of years towards achieving these health targets yet the pace has been sluggish.

Pakistan still suffers from a high infant and maternal mortality, a double burden of diseases, and inadequate health care facilities with high population growth. Mortality, morbidity and slow progress of indicators in the maternal and child health are major concerns in the progress towards achieving Millennium Development Goals (Pakistan economic Survey, 210-11). With the eighth highest new born death rate in the world (Pakistan has the 8th highest, 2010), one in every ten children born in Pakistan died before reaching the age of five and half of them die within the first month of life. Women 1 in 80 chance of dying of maternal health cause during delivery. Pakistan thus faces a daunting challenge in improving health outcomes for children and adults alike (World Bank, 2010). The average life expectancy at 67.2 years estimated for 2010 is well comparable with Bangladesh, Nepal and Thailand but the mortality rate for children under age five and infant mortality still remains high due to birth related problems (Pakistan Economic Survey, 2010-11). The empirical studies show that Pakistan has highest mortality rate for children and women in South Asia and estimates of these studies show that 38% of under-five children are under weight and 12% are severely underweight. Maternal mortality, despite being difficult to measure, is alarmingly high.

Much of this stems from low incidence of skilled birth attendance and high fertility rates (Khan, 2012).

Many others dangerous and sever diseases are at peak in Pakistan in which malaria is most prominent. It is a problem faced by the lower-class people in Pakistan. Million people have been died from malaria since Pakistan came into being till December 2012 (Ministry of Health, Pakistan, 2010). Likewise, many other diseases; Hypertension and diabetes are the two main contributors in chronic disease burden. Both the diseases are under recorded and highly under recognized in Pakistan. The epidemic of cardiovascular disease in South Asia, engulf Pakistanis rendering maladies of hypertension, diabetes and smoking (Shaikh and Hatcher, 2007). Even Pakistani children have higher blood-pressure levels, adjusted for body-mass index, than white children in the United States (Jafar et al., 2005).

1.2 Significance of Study

Good health is identified as a vital component of a good quality of life and access to good health is recognized as a basic human need and fundamental human right. A healthy population is more productive and efficient component of the society (Pakistan Economic Survey, 2010). A vast literature is available on the utilization of health care services and health seeking behavior, however there is no availability of literature at the determinants of choice of health care provider.

The health care utilization of people is depending upon their health seeking behavior which has many determinants; physical, political, socioeconomic and socio cultural (Fatmi and Avan, 2002). In literature, there are different factors affecting the utilization

of health care services. According to Canadian study, number of contacts with doctor is influenced by financial status and women in Canada are more frequent to visit health care centres as compared to men (Kazanjian et al, 2004). In contrast to the Canadian women, a woman in Pakistan is unable to travel alone to a close village and has to be accompanied by her mother in law, husband or relative in order to access a health facility which forms a barrier to their health status improvement (Manzoor et al, 2009).

In Pakistan, health system depends on government financed health delivery as well as privately financed market delivery in a mixed private and public system. But in spite of it, the health sector in Pakistan has suffered from a history of neglects, widely accepted as severely underperforming and as a whole suffers from series of ailments resulting in dangerously low level of access by the population to affordable and quality health care. Only 27% of population enjoys full health care coverage and 73% depend on out of pocket payment (Settle, 2010).Yet health is crucial to building a stable and prosperous economy and society and is there by a crucial sector for policy makers. However, the health status of population has improved a little bit over past three decades like immunization for children but over half the population living in rural areas of the country where poverty coupled with literacy, the low status of women and inadequate water and sanitation facilities have had a deep impact on health indicators. Besides limited knowledge of illness and wellness, cultural prescription, prescription of health service and provider, social barrier and cost has been major determinants which force the people to adopt low level of health service and self-medication (Shaikh and Hatcher, 2005).

Different studies have been done in Pakistan about health sector like health and schooling outcome, health and productivity especially in agriculture sector (Settle, 2010). But no

one study existed which highlights the main determinants of choice of health care provider in Pakistan. To develop rational policy to provide efficient, effective, acceptable, cost-effective, affordable and accessible services, we need to understand the main derivers and determinants of choice of health care providers of population in an increasingly pluralistic health care system. This relates both public and private sectors (Shaikh and Hatcher, 2005).

Information on the choice of health care providers is crucial for planning, organizing and evaluation of health services. The people perception of disease, their concept of health and the basis for their choice in health care has to be considered in order to responds with appropriate services and information, education and communication programs. The purpose of this study is, therefore, to assess the factors that affect patient's choice of health care service providers and to analyze the effect of each factor and to examine the policy implications for future health care provision (Habtom and Ruys, 2007).

1.3 Objectives of this Study

The major objectives of the study are as listed below:

1. To point out the major determinants in selection of health care provider in Pakistan.
2. To ascertain comparison of health care utilities in the areas where local government is in practice 2009-10 and likewise, where local government is not in practice 2011-12.
3. To figure out policy implication to provide health care facilities to poor community of the country residing in remote as well as city areas.

Here we used survey data of United Nation Development Programme (UNDP) incorporating four provinces of Pakistan to examine the above mentioned objectives. We used multinomial Logit regression method for the categorical dependent variable to estimate the major determinants in choice of health care providers. It is to be noted that little research has been done analyzing factors affecting consumer choice of health care provider in low and middle income countries but no study is being conducted on the subject related social issue in Pakistan. We believe that this study will contribute to the knowledge base and will be helpful for policy makers.

1.4 The Structure of Study

The structure of study is arranged in a following way. Chapter two elaborated the relevant literature review which warrants the empirical foundation for our research work. Chapter three explains the compilation of data techniques. Chapter four portrays the outcome of estimations, its explanation and relative importance. Chapter five concludes the study with some recommendations about the applicability of health policy and future research suggestions.

Chapter 2
Literature Review

Health care is the basic human right. So strategic policy formation in all health care system should be based on information relating to health promoting, seeking and utilization behavior and factors that determining these choices of health care providers. All such behaviors occur within some institutional structure such as family, community or health behavior may be seen in various contexts: physical, socioeconomic, cultural and political. Therefore, the utilization of health care system, public or private, formal or informal may depend upon socio-demographic factors, social structures, level of education, cultural beliefs and practices, disease pattern and health care system itself (Shaikh and Hatcher, 2005).

Some people opted public sector health facilities, some opted private sector owned health facilities while many others opted self-care and traditional treatment. The question now is what really drives the choice of health care providers (Amaghionyeodiwe, 2008). Features of the health facility and confidence in health care workers also play a major role in making decision on the choice of the health facility (Giusti et al, 1997). In following this question, (Grossman, 1972), (Acton, 1975), (Christianson, 1976), (Heller, 1982), (Gertler et al, 1987) and (Bolduc et al, 1996) showed all these studies that a emblematic problem in developing countries is that even in the absence of user fees, access to health services are not equal due to non-monetary determinants such as travel time. They said that distance is the main issue to utilize the health facility. (Dor et al, 1987) investigate the role of travel time in rationing medical care services in developing countries. Previous studies found that travel time has small effect. But in this study, travel

time is entering in utility function as a nuisance parameter in discrete choice model and price effect is independent with income. By using theoretical discrete choice model, there is natural interaction between price and income and use travel time in budget constraint as an access price in utility function. The finding of this study reveals that indirect cost like travel time plays an important role in rationing heath care utilization. The results also show that health care facilities are more travel time elastic for poorer as compare to richer individuals.

Awoyemi et al, (2011) illustrates that the health care utilization of a population is related to the availability, quality, cost of services, distance as well as to socioeconomic structure. The under-utilization of the health services in public sector has been almost a universal phenomenon in developing countries. Public and private health care facilities are sparsely provided in many regions within the country of Nigeria. Such regions with difficult terrain and physical environment are often neglected in the accessibility of health care providers. This makes the distance between the rural dwellers and the health care center far apart, given the transportation problem experience in these areas, and its attendant cost. Longer travel times and greater distances to health centers in rural areas constituted barriers to repeated visits. The study describes that distance is the most important factor that influences the utilization of health services in Nigeria.

Amaghionyeodiwe, (2008) investigate the determinants of household choice of health care provider in Nigeria. Nigeria having faced difficult time in recent years and economy is not performing well. That is why; its health sector was not speared. People opted public as well as private health facilities and self-care. But some variables are as important that they forced the people not to opt good medical care like distance and

money price etc. The author is using multinomial Logit model to reveal that both distance and money price are significant factors in discouraging households from seeking modern health care. Descriptive analysis shows that money price is the major reason why people with low income preferred self-care medication.

Gertler et al, (1987) and Dor et al, (1987) has demonstrated that economic variables such as household income and price have an influence on health care decisions. In their own studies of Heller, (1982) and Chernichovsky and Meesook, (1986) showed that price; income and distance are important factors of the choice of health care providers. Amaghionyeodiwe, (2008) among others affirmed that price, income and distance are important determinants of the choice of health care providers. Patients seek inexpensive and physically proximate health provider and poor are especially likely to seek less expensive and closer facilities.

Empirically, price is correlated with quality: more expensive facilities tend to have higher quality. Since, there are few high quality facilities, on average patients are further away from such providers and have to pay more both for travel and care. Therefore, there is tradeoff between quality and cost. The studies show that income is the barrier in the utilization of health care even when they are publically provided. The relatively well to do people spend more on and are using more heavily, the services of modern providers. With income, some other correlate effects are also included like education of household head and attitude etc.

In the study of rural India (Borah, 2006), where observed and unobserved determinants affect the choice of health care providers. In which observed factors includes distance and

price etc. while quality, taste and attitude and waiting time etc. are indicating unobserved factors. In order to address the persistent problems of access to and delivery of health care in rural India, a better understanding of the individual provider choice decision is required. This paper is an attempt in this direction as it investigates the determinants of outpatient health care provider choice in rural India in the mixed multinomial Logit (MMNL) framework.

Using data from National Sample Survey Organization of India, the study finds the following: price and distance to a health facility play significant roles in health care provider choice decision; when health status is poor, distance plays a less significant role in an adult's provider choice decision; price elasticity of demand for outpatient care varies with income, with low-income groups being more price-sensitive than high-income ones. Furthermore, outpatient care for children is more price-elastic than that for adults, which reflects the socio-economic structure of a typical household in rural India where an adult's health is more important than that of a child for the household's economic sustenance.

More specifically, (Andersen, 2008), (Kroeger, 1983), (Henderson et al., 1994), (Fosu, 1994) and (Newbold et al, 1995) categorized the factors that influence the demand for health care services into three: Predisposing factors (social and demographic characteristics), enabling factors (access for health care) and the need for care (characteristics of perceived illness).

Hamid et al, (2005) aimed to study those factors which affect the choice of health care provider. They use primary data of advance and non-advance randomly selected areas of

Bangladesh. They use structured and semi structured questionnaire and qualitative techniques. They use multinomial Logit specification for data analysis and SPSS-10 used for statistical purposes. Their results showed that people living in non-advanced areas are inclined more too informal treatments and self-medications as compared to those who lived in advance areas. Income, education and occupation of household head are found as important determinants to influence the choice of health care providers. Some factors like cheap treatment, easy access and availability whenever needed and perceived quality of care fascinated the patient to choose informal providers. Unavailability of providers in public hospitals identified as the main reason for not seeking health care from public providers.

In the study of Ghana (Dzator and Adjaye, 2004), they find in this research paper the factors that affect household choice of malaria treatment options in Ghana. The treatment options considered were choice of a public provider of health care, a private provider, purchase of drugs from a drug store, or self-medication. The results indicate that treatment and time costs are significant factors affecting the choice of health care provider. Education and household size also play an important role in the case of malaria care seeking behavior. The demand for malaria care is inelastic with respect to costs, and the magnitudes of the elasticity's suggest that malaria care is a necessity.

Shaikh and Hatcher, (2005) describes that health seeking behavior and utilization of health services are affected by many factors like socioeconomic, socio demographic, cultural, political and level of education etc. The author reveals that a variety of factors have been identified as the leading causes of poor utilization of primary health care services including poor socioeconomic status, lack of physical accessibility, cultural

beliefs, low literacy of the mothers and large family size. Tembon, (1996) describes that there are many factors that influencing the choice of health care provider but quality of care is the most important determinant which they agreed is significant in the choice of health care provider and health seeking behavior. As quality of health care increases in government health centers, their choice probability also increases. The household income is an important determinant which influences the choice of health care providers. Tembon has included other factors like household size, cost, distance and travel time spent to seek treatment.

Collaborating, the significance of quality of care, Hall and Dornan, (1988) conclude that though patient may not be perfect judges of medical care quality and competence but they could recognize training and a facility's technical capacity and they can make subjective as well as objective judgments about quality care. They evaluate the professional qualification and capabilities of clinicians based on an image of the provider that provide the societal definition and sub cultural expectations of that role as well as the conceptions formed by patient through prior experiences or from hearing about experiences of other people.

Mwabu et al, (1993) using the primary data set to find the quality of medical treatment and their choice in Kenya. They found that quality of medical care and choice of medical treatment is affected by shortage of essential drugs as well as with income level. As the income growth occur, demand curve shifted from informal health care sector to the modern health care sector with much of this demand is ending up in private clinics. Some other factors like access factors (user fees and distance) have negative effect at the demand of quality medical facilities.

Qian et al, (2010) used data from the fourth China National Health Services Survey (NHSS) that was conducted in 2008; the authors conducted a tracer illness study of urban people with acute upper respiratory tract infections (URTI) to examine the factors that affect their use of different outpatient health care providers. The findings indicate that overall private clinics are important sources of medical care for low consumption households and insured patients are less likely to use private clinics and more likely to use Community Health Services Centers (CHC). Factors that affect the choice of health care provider include city size and severity of illness was found to play a significant role in determining provider utilization.

Halasa and Nandakumar, (2009) investigate the factors in Jordan which influence the choice of health care provides. The health system in Jordan is the blend of public and private programs. To investigate it, multinomial Logit model is used at the sample size is 1031 outpatients to explain that demographic and socioeconomic factors, quality of care, family size and cost of health care have great impact on the choice of health care providers. In Jordan, people prefer the choice of private provider in the case of illnesses.

A study on the determinants of consumer satisfaction of health care in Ghana about the importance of choice of health care provider describes that there are three types of health care provider exist in Ghana. People use public health facilities, private health facilities as well as self-medication. People are satisfied with public as well as private health facilities but they are 12% more satisfied from private health facilities as compared to public health facilities. This confirms the notion in Ghana and elsewhere that private health delivery is synonymous with quality care. This implies that the public health system needs some quality adjustments to bring it at par with private health care. This

shows that as the quality of modern health care (be it private or public) improves, the demand for unorthodox health care such as traditional medicine and self-treatment will reduce in favor of modern health care (Amponsah and Hiemenz, 2009).

In contrast to the above study, Kukla conducted research in four countries (Pakistan, Gambia, Kenya and India). He shows that most of the people of Pakistan (58%) use private health care providers. But results show that quality of private provider is very low but cost is very high (There are four types of costs included in his study; total, direct medical cost, direct non-medical cost and time cost) If people use private provider, it may be the matter of information asymmetry where households lack awareness that better quality and less costly medical care is available. Descriptive analysis shows that Pakistani people are more responsive to direct non-medical cost as compared to direct and indirect medical cost. Poor people mostly use public health care providers as well as self-care. While wealthiest people, mostly prefer to consult with private health care providers. Cost has much impact at the decision of household choice of medical provider. One interesting thing is that poor people of Pakistan are more concerned to cost as compared to quality while wealthiest people has similar importance for both quality and cost (Kukla, 2012). In the study, "Utilization of health and medical services: factors influencing health care seeking behavior and unmet health needs in rural areas of Kenya", the writer found that over half the population surveyed had been sick and sought treatment, of these, between 70% to 80% used formal health care services over informal services with more preferring formal if they had the choice. There were some differences according to gender, education and literacy levels of respondents, while other factors such as the costs

associated with seeking treatment, distance and time taken to travel also affected health care service use (Prosser, 2007).

Shaikh and Hatcher, (2005) describes that health seeking behavior and utilization of health services in Pakistan are affected by many factors like socioeconomic, socio demographic, cultural, political and level of education etc. The author reveals that a variety of factors have been identified as the leading causes of poor utilization of primary health care services including poor socioeconomic status, lack of physical accessibility, cultural beliefs, low literacy of the mothers and large family size.

Mushtaq et al, (2011) conducted a study in two provinces, Nankana sahib from central Punjab and Bahawalnagar from southern Punjab, of Pakistan. In Pakistan, 65% population live in rural areas, in which almost half of population is illiterate and 23% live below the poverty line of 1.25 US$ per day. The people live in urban areas prefer to use private health care providers in the case of illness as compared to those people who live in rural areas. The study concludes that poor people were more likely to use public hospitals. Costs, distance and dissatisfaction with quality of care were main constraints in utilization behavior of the public health facilities.

Another study which has done at this concept by Manzoor et al, (2009) reveals that the health care utilization of people is dependent on their health seeking behavior which has many determinants; socio-economic status, socio-culture, accessibility, family size, disease pattern and health care system itself. The health care system in Pakistan comprises the public as well as private health care services. The results of this study shows that majority of the participants were using private sector for health care. The high

use of private health care sector is due to easy access and shorter waiting time etc. The public health sector is under-utilized due to political inferences, lack of managerial decentralization, and absence of human resource management.

Shaikh and Hatcher, (2005) describes that despite all marvelous advancement in modern medicine, traditional medicine and self-medication is always been practiced. More than 70% of developing world's people and particular in Pakistan, especially those living in rural and tribal areas use complementary and alternative medicine given their easy access, affordability and family pressure. The consequences of seeking inappropriate and delayed health care include undesirable health outcomes and medical emergencies.

A study on the willingness to pay for quality and intensity to medical care in Ghana illustrated that income, accessibility, quality of care and cost were the important factors in the selection of medical care. In the case of illness, income plays an important role in the decision to seek treatment. The availability of different health care providers is also an important determinant in the decision of medical treatment. Those people who have higher income, they did not make compromise at quality (Lavy and Quigley, 1991).

Another study on the choice of medical provider in rural china examines the factors that influence the choice has done by Yip et al, (1998). In this study, insurance coverage has a significant impact at individual's probability in seeking formal medical care and consistent with economic theory, price was an important in determining the patient's medical care seeking behavior. The study demonstrated that when making choice regarding which health care provider to visit, individual's tradeoff between price and quality, choosing those providers that provide the highest utility.

In Vietnam, it is estimated that private sector provides 60% of all the outpatient services from the whole population. Income, age and number of sick individuals within the household were the factors that influence the choice of a health care provider. Moreover, evidence suggested that disease pattern is an important factor in choosing a health care provider: those people who are in severe illness tended to use private health care providers less than public health care services. The study shows that mostly people consult with private health care providers without any difference of education, sex and place of residence. This study investigates factors such as demographic and socioeconomic factors, quality of health care provider, household size, living standard, disease pattern, travel time and cost of health care and their impact on the patient's choice of health care provider. We hope to provide a better understanding of the role, magnitude and contribution of all the public, private health care provider as well as self-care and highlight the main factors determining choice of provider. These results can help policy makers to understand patient health seeking behavior and thus provide important information for designing future health policies. The hypothesis is that the poorest, illiterates, unemployed, big family size and residents of rural areas individuals are more likely to obtain care at public health facilities than in the private health care as well as self-care.

In the reports of social audit of local governance and delivery of public services 2011-12, the author reveals that most of the people in Pakistan use private health care provider in the case of illness. When the Local Government is in circle as well as when Local Government is absent, in both cases, reports show that majority of the household's members use private clinics (61 %), followed by government health facilities (36 %).

This may be due to a lack of trust in the quality of services provided by government facilities compared to private health facilities. Another problem is also that people prefer to nearest health care providers either it is private or public or self-medication (Khalid et al, 2012). In Pakistan, the use of public facilities is even lower in rural areas compared with urban areas. Reasons could include restricted hours of operation, distant location from the population and a dearth of qualified female health providers. Lack of health education, non-availability of drugs and low literacy rates in rural areas may also be contributing factors (Anwar et al, 2012).

Self-treatment has also been found to be a common initial response to illness. Rao and Soomro, in their study on the role of the local pharmacy as well as self-medication in health-seeking behavior, quote the reasons stated by people for using the local pharmacy as the first point in their health seeking quest. These reasons included higher cost of treatment, extra fee to be paid to the doctors, long waiting time, lack of 24-h availability of doctors, common practice in society, doctors' knowledge not being up to the standard, self-confidence about knowledge of medicine, and pharmacists being a more up-to-date source of knowledge about drugs (Rao and Soomro, 2004).

According to World Health Organization (WHO) reports, two thirds and 70 to 80% of the population of developed and developing countries, respectively, used traditional medicine. Traditional medicine has been defined by WHO as: 'a sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as prevention, diagnosis, improvement or treatment of physical and mental illness (WHO, 2008). In developing countries such as Pakistan, the informal healthcare sector not only

includes traditional healers (Hakeems in local language), but also homoeopaths, spiritual and faith healers, bonesetters, traditional birth attendants (Dais in local language) and quacks. This sector accounts for more than 70% of consultations in the country (Karim and Mahmood, 1999). The literature shows that some people opted public health care providers, some opted private health care providers and some prefer to self-medication. But what are the reasons of their adoption of public, private as well as self-medication? What are the determinants hide behind their choice of different provider of health care? This is the research gap which our study contributes in literature.

Chapter 3
Data analysis and Methodology

3.1 Data

This study utilized survey information sets of United National Development Program (UNDP) in Pakistan under their project "Social Audit of Local Governance and Delivery of Public Services" 2009-10 and 2011-12. The data is household based. Both social audit surveys covered urban and rural population of the country, excluding Federally Administered Tribal Areas (FATA), Azad Jammu Kashmir (AJK) and Islamabad Capital Territory (ICT); where there is no local government system exists. A sample size of 12000 households was selected in 2009-10. And 10740 households sample size were selected in 2011-12. The survey based on structured questionnaire which has six parts. First part of the questionnaire covered the information about respondent's demographic scope like;

- Sex of household head
- Age of household head
- Education of household head
- Profession of household head
- Family size
- Structure of house

A major component of this social audits questionnaire focused on measuring access to and satisfaction with ten public services being provided by local government like education, health services, road rage, improve water services, sewerage and water sanitation, garbage disposal, public transport, agriculture extension services, electricity

and gas. From above mentioned services, I took health section and analyzed it. In health sector, I select the some exemplary following questions from structured questionnaire to analyze that which health care provider is in trend and what are the reasons behind it is;

- When any person of the house becomes ill, at which health care provider you go either govt. health care provider or private health care provider or nowhere just self-medication or traditional treatment?
- What is the means of transportation to reach the health care provider?
- How much time you take to reach the health care provider?
- How much cost you bear to get treatment?
- Most of the time, which disease is faced?
- Satisfied from doctor treatment?

Like these, many other questions have been included in the analysis.

3.2 Variable Description

The table 3.1 consisted of those dependent and independent variables which took part in the analysis;

Table 3.1:	Choice of Health Care Provider	
Population at Risk	**Variables affecting choice (Independent Variables)**	**Possible Choices (Dependent Variable)**
All members of the households in the community→ Those becoming sick or injured	Households and individual characteristics (location, sex, age, education, family size and living standard)	Public Health Care Provider
	Characteristics of perceived illness (disease pattern)	Private Health Care Provider
	Characteristics of the health services (accessibility, quality and cost of care)	Traditional Treatment/Self Care

The dependent variable "health care provider opted by health care user" is used to define in the selection of numerous health care providers. There are 11 variables in our questionnaire under the category of health care provider. They report different levels of service and different types of providers. But now they are aggregated into 3 categories: government health care provider (GHCP), private health care provider (PHCP) and traditional treatment or self-care (TT/ SC). Facilities owned by government include government basic health unit (BHU), government rural health centers (RHC), government dispensary, government family welfare center (FWC), Tehsil Headquarter Hospitals and district headquarter hospitals. Private health care includes military hospitals and private clinics and hospitals while traditional medication includes quacks,

hakim and self-medication etc. Our study identified that health care providers has been categorized into three distinct parts (government health care provider, private health care provider and traditional treatment/self-care). Table 3.2 illustrates the precise information about selected variables.

Table 3.2: Description and Distribution of Variables Selected for this Study Sample

Independent Variables	**Description**	**Percentage**
Family Size (mean 7.59)	Continuous	
Cost of Health Care (801.51[a])	Continuous	
Age of ill person (mean 28.51)	Continuous	
Gender of Family Head		
Male	1 if yes, 0 otherwise	96.9
Female	1 if yes, 0 otherwise	3.1
Location		
Rural	1 if yes, 0 otherwise	59
Urban	1 if yes, 0 otherwise	41
Educational Capacity of Family Head		
Uneducated	1 if yes, 0 otherwise	42
Under Metric	1 if yes, 0 otherwise	13
Metric	1 if yes, 0 otherwise	11.4
Intermediates	1 if yes, 0 otherwise	12.6
Graduates and Above	1 if yes, 0 otherwise	8.2
Others	1 if yes, 0 otherwise	12.9
Distance Via Travel Time		
Less than one hour	1 if yes, 0 otherwise	83.8
between one and two hours	1 if yes, 0 otherwise	13.7
Three and above	1 if yes, 0 otherwise	2.5
Disease Pattern		
Temperature	1 if yes, 0 otherwise	39.2
Pain in different body Parts	1 if yes, 0 otherwise	19.2
Breath Diseases	1 if yes, 0 otherwise	6.1
Sever and Dangerous diseases	1 if yes, 0 otherwise	13.1
Delivery	1 if yes, 0 otherwise	4.1

Others	Omitted group	18.3
Quality		
Satisfied	1 if yes, 0 otherwise	83.7
No Satisfied	1 if yes, 0 otherwise	11.6
No Response	Omitted group	4.7
Living Standard Index		
Very Poor	1 if yes, 0 otherwise	24.9
Poor	1 if yes, 0 otherwise	35.6
Non Poor	Omitted group	39.4

Note: Dependent variable= Health Care providers (Government health care providers=1, private health care provider =2, self-care =3)

[a] Pakistani Rupee

The independent variable has three groups. First is the primary group; individual and family attributes includes location of household, gender of household head, family size, age of ill person, education of household head and living standard index. Gender of household head (0 for male and 1 for female) and location (0 for rural and 1 for urban) are measured as a dummy variable. Education of household is numbered from 1 to 6 (1 to 5 refer to be illiterate and optimum degree of education consecutively and 6 other diplomas etc.). Age of ill person and family size are continuous variables. Living standard index is the foremost autonomous variable of the model.

This type of the variables has been used by many researchers like Chaudhuri et al, (2002) and Christiaensen and Boisvert, (2000) utilize proxy variable in order to evaluate the living standard index of the people and their poverty level. We shaped this variable index via principal component analysis which is also used by Filmer and Pritchett, (2001) in the analogous cases. In our study, Living Standard Index (LSI) is used as a proxy for household income. Living standard index is coded 1-3 (1 very poor to 3 non poor). The

LSI has four parts with which it is constructed; (i) room per person (ii) redundancy level (iii) roof structure of the house (iv) accessibility of toilet.

The Layout of Living Standard Index;

$$LSIi = \alpha_0 PPR + \alpha_1 EL + \alpha_2 RS + \alpha_3 SL$$

Where,

a_o, a_1, a_2 and a_3 = weights given to LSI parts

LSIi = Living Standard index of *ith* individual

PPR = Person per Room

EL = Employment Level

RS = Roof Structure of House

SL = Structure of Latrine

The PPR is a categorical variable. It is constructed by dividing number of rooms in house by the family members. The categories have values of 0 and 1. The value 0 indicates poor household, if there are four or more than four persons living in one room while the value 1 stands for non-poor household if there are less than four persons living in one room.

EL has two categories. This variable has values of 0 and 1. The value 0 represents for household head that is unemployed while the value 1 stands for household head that is in a job. RS is also a categorical variable which has values of 0 and 1. The value 0 represents for the case if the roof structure is comprised of material like wood, mud while

0 value for the situation, where the roof structure of house is made of concrete, T-iron and iron sheet etc. SL is a categorical variable which also has values of 0 and 1. The value 1 stands for the latrine system which is available indoor and 0 for poor families. Those poor families have no proper latrine system in their houses.

The second group includes the features of comprehended sickness. Andersen, (2008) considers that comprehended sickness level, in his behavioral model, depends upon the determinant of need. While Naveed Zafar Janjua et al, (2005) expressed it an anticipated level of illness. The anticipated severity of sickness can be described morbidity as disease pattern. Pakistan is a developing country which has to bear dual burden of diseases like contagious and non-contagious. The contagious diseases include malnutrition, diarrhea etc. while non-contagious diseases contain cardiovascular problems, heart diseases, diabetes and cancer etc. This is a key variable to check the health status in the country which is known as disease pattern in our analysis.

The third group discusses those variables, which are related to the features of health related services. These services can be in the shape of physical access (distance in the form of travel time to reach health center), outlay of health care services and assessment of service (in the form of satisfaction from doctor treatment). Total travel time is the sum whole corresponding phenomenon which is required for getting medicine plus waiting time etc. Whereas considering the traditional treatment / self-care, it assumed the total time in which patients used to buy medicine (time consumed in travelling or waiting to get medical care from local health care provider). Total cost of health related care contain the cost which is also known as out of pocket expenditure was measured through four variables: total direct medical out of pocket expenditure for doctor fees, receipt fee, drugs

expenditures and other medical expenditures like X-rays and laboratory tests; total cost of transportation, total medical expenditures specially for chronic disease and out of pocket expenses for health provision (all treated as continuous variables. Quality variable include the satisfaction feelings of people about health care providers. We can check the quality of health care provider via two levels. One is the number of people who are satisfied and second is the ratio of the people who are unsatisfied.

3.3 Model

The choice of health care provider is an imperative decision for a patient. The total patient group N has different characteristics, patients with n types or patient group. One patient group has been shown by the numbers of i= 1, 2. . . n. In our study, we implied that when people suffer from any disease, they choose different providers, which have different characteristics, including Government health care providers (GHCP), private health care provider (PHCP) and traditional treatment/self-care (TT/SC). We assumed that when people or their relatives become ill, they choose health provider from three types; government health care provider, private health care provider and traditional treatment/ self-care which can be arranged as follows; the set J index, by j=1,2,3 with;

J1: Government Health Care providers

J2: Private health Care providers

J3: Traditional Treatment/Self Care

The particular choice which is chosen by patient yields the maximum utility for him in comparison to the other available options. He makes choice among other available alternatives to check the highest utility in the period of illness. The highest probability

associated with each available alternative depends upon two characteristics; the first is the characteristic of health related services associated with available choices [F1, F2, and F3].The other features related to the socioeconomic status of the patient who has the right to make a choice (Amaghionyeodiwe, 2008).

Habtom and Ruys, (2005) discusses the following characteristic of providers as well as patients: two types of factors characterize a provider; health service system factors, with V= (Quality like satisfied from doctor treatment etc.) and restrictive factors, with W= (Distance like travel time, Treatment Expenses and location etc.) while there are three types of elements which exemplify a patient bunch; predisposing factors is X= (Age, Sex, Family Size, and Education), need factors is Y= (Severity of illness like cancer, delivery in which you need provider etc.) and enabling factors is Z= (Income status like living standard index etc.).

The following is the utility function for patient i from the total patient group N which is defined in the particular picture of available health care facilities. This utility function depends upon the factors that determine the finicky health facility for finicky patient. So that patient chooses only one health facility. So utility for each patient i from N;

$$u_i = (F_1, F_2, F_3/X, Y, Z, V, W) = \max \{u_{i1}, u_{i2}, u_{i3}\} \quad (3.1)$$

Where

$$u_{ij} = u_i \left(F_j/X_i, Y_i, Z_i, V_j, W_j\right) = \alpha_j X_i + \beta_j Y_i + \gamma_j Z_i + \varphi_i V_j + \Psi_i W_j \quad (3.2)$$

The parametersα_j, β_j, γ_j, φ_i and $\Psi_i$are the vector which have same dimension. So for the first element;

$$\alpha_j X_i = \sum_{k=1}^{q} \alpha_{jk} x_{ik} \quad (3.3)$$

The first three parameters elaborate the individual characteristics while the remaining two for choice specific. The last two choices have the attributes of health related services or health care deliverer. So any alteration, in the form of increase/decrease, in the variable x_{ik} of individual patient i, will create an alteration in the utility of that patient among health care services j with an aspect α_{jk}. These variables are estimated by using multinomial logistic regression analysis and with its techniques. The variables are unsystematic and a random term is added in the equation (3.2);

$$u_{ij} = u_i \left(F_j / X_i, Y_i, Z_i, V_j, W_j\right) = \alpha_j X_i + \beta_j Y_i + \gamma_j Z_i + \varphi_i V_j + \Psi_i W_j + \epsilon ij \quad (3.4)$$

A patient will prefer provider j=m only when it put forward all the available alternatives which provide the highest utility level. So if J_i is an unsystematic variable whose worth (j=1, 2, 3) presents the decision of patient i about provider J. The chances are there that patient i will select an alternative m is;

$$Pr(J_i = m) = Pr\left(u_{im} < u_{ij}\right). For\ all\ j = 1,2,3\ with\ j \neq m \quad (3.5)$$

So

$$\Pr\left(u_{im} + \varepsilon_{im} > u_{ij} + \varepsilon_{ij}\right) and \Pr\left(\varepsilon\sim_{ij} - \varepsilon_{im} < u\sim_{im} - u_{ij}\right) For\ all\ j\ 1,2,3\ with\ j \neq m \quad (3.6)$$

In 1972 Mcfadden has explained that if three error terms are autonomously included in the equation and identically disseminated following to Weibull distribution;

Than

$J(\varepsilon_{ij}) = \exp[\exp(-\varepsilon_{ij})]$, then (3.7)

$$\Pr(J_i = m) = \frac{\exp(u_{im})}{\sum_{j=1}^{3} \exp(u_{ij})} \quad (3.8)$$

So, the prospective calculation of three health services is 1. This comprehensive multinomial logistic model has to be normalized to a classification of two equations in the 3-1 anonymous probabilities.

3.4 Estimation Techniques and Prediction

The Logit Model is a well familiarized model in the analysis of quantitative choice model. When the available choices are more than two, than multinomial logistic model is adopted for analysis. In multinomial logistic regression model (MNL), total observations N on the dependent variable Ji (i= 1 . . . n) is considered as a single draw but with three outcomes. It can be explain in the form of dummy variable. In which a dummy variable has null hypotheses, ¥ij=1 if patient i from total observations N makes choice j and alternative hypotheses, ¥ij=0 otherwise, j=1. . . 3. Then likelihood function is;

$$Log\ L = \sum_{i=1}^{m} \sum_{j=1}^{3} ¥ij \Pr(J_i = j) \quad (3.9)$$

In order to get the most out of this function in light of the following parametersα_j, β_j, γ_j, φ_i and Ψ_i produce the parameter estimates $\hat{}\alpha_j$, $\hat{}\beta_j$, $\hat{}\gamma_j$, $\hat{}\varphi_i$ and $\hat{}\Psi_i$.Using these estimates, we can calculate the patient i's utility estimation;

$$\hat{}u_{ij} = \hat{}\alpha_j X_i + \hat{}\beta_j Y_i + \hat{}\gamma_j Z_i + \hat{}\varphi_i V_j + \hat{}\Psi_i W_j \quad (3.10)$$

Besides this, likelihood ratio can be calculated. The projected probability for each patient must sum equal to one across three outcomes. Using multinomial logistic regression

model, the likelihood of a patient's choice for a Government health care provider in contrast to the private health care provider option, likewise traditional treatment/self-care as compared to private health care providers is as articulated below:

$$Ln\left(\frac{\Pr(F1)}{\Pr(F2)}\right) = \theta\hat{}1 + \alpha\hat{}1Xi + \beta\hat{}1Yi + \gamma\hat{}1Zi + @\hat{}iV1 + \Psi\hat{}iW1 \quad (3.11)$$

$$Ln\left(\frac{\Pr(F3)}{\Pr(F2)}\right) = \theta\hat{}3 + \alpha\hat{}3Xi + \beta\hat{}3Yi + \gamma\hat{}3Zi + @\hat{}iV3 + \Psi\hat{}iW3 \quad (3.12)$$

Multinomial Logit model in our analysis of provider's choice is in a specific form has the Following specification;

$$\ln\{\frac{P(usep)}{P(usej)}\} = X\beta_j \quad (3.13)$$

Where j represents the 3 choices of health care service providers, Government Health Care providers, Private Health Care providers and traditional treatment/self-Care, usep is the base group; X is the vector of descriptive variables while β_j is the vector of coefficients when choosing providers by patient. The multinomial logistic regression model used for this analysis is the appropriate technique for calculating unordered, multi category and dependent variable. Some other techniques are also possible like multinomial probit is also logically feasible but impractical. For example, multinomial probit involves probability expressions that are multiple integrals of multivariate normal density. While accurate and simple approximations are available for the integral of the univariate density, comparable approximation are feasible for the multivariate integral only up to about the fourth order (Halasa and Nandakumar, 2009), (Aldrich and Nelson, 1984)

Chapter 4
Multinomial Logistic Regression Analysis and Results

The following chapter elaborates the multinomial logistic regression analysis and empirical outcomes of our study relating to fundamental factors in selection of health care contributor in Pakistan. We divide this chapter into three sections. Section one presents the descriptive analysis of the whole data set. Section two discusses the multinomial regression analysis of the final model. Section third presents the multinomial regression analysis of final model with the role of local government as well as when local government was absent.

4.1 Descriptive Analysis

Table 4.1 shows the proportion distribution of patients used to visit different health care centers during the period of sickness to get treatment.

Table 4.1: Percentage Distribution by Provider

Variables	Govt. health Care Provider	Private Health Care Providers	Self-Care/ Traditional Treatment
Location			
Rural	34.2	54.2	11.6
Urban	30.2	59.3	10.6
Family Head's Gender			
Male	32.5	56.3	11.2
Female	32.6	56.6	10.8
Schooling of Family's head			
Uneducated	30	50.9	12.1
Under metric	30.4	52.4	17.2
Metric	29.9	55	15.1
Intermediates	30.4	62.8	6.8
Graduates and above	25	63.4	11.6
Others	29.3	67.9	2.8
Travel Time			
Less than one hour	32.4	56.2	11.5
between one and two hours	33	57.5	9.5

three and above	36.3	53.8	9.9
Disease Pattern			
Temperature/Malaria	30.4	58.3	11.4
Pain in different body parts	34.6	53.8	11.6
Breath diseases	34	56	10
sever diseases	36.3	53	10.7
Delivery	36.5	59.3	7.2
Others	31.6	56.4	12
Quality			
Satisfied	29.5	58.8	11.8
no satisfied	47.7	44.2	8.1
no feelings	49.8	41.6	8.6
Living Standard			
Very Poor	41.8	48.7	9.5
Poor	33.8	54.4	11.9
Non Poor	25.5	62.8	11.6

Source: Data used by UNDP survey of "Social Audit of Governance and Delivery of Public Services 2009-10 and 2011-12"

The spread of the respondents (10382) covers the four provinces (Punjab, Khyber Pakhtunkhwa, Sindh and Baluchistan) of the Pakistan (excluding FATA, AJK and Islamabad Capital Territory) constituting a respective 54.3%, 19.1%, 21.6% and 5%. The households were inquired about their decision over choice of public, private and traditional health care provider.

The empirical results show that large number of people either belongs to countryside areas or city areas they preferred privately owned health facilities. 54.2% people from rural areas prefer private health care provider as compare to 34.2% govt. health care provider and 11.6% self-care/ traditional treatment. While in urban areas, 59.3 % visited to private health care provider and 30.2% govt. health care provider and 10.6% self-care/ traditional treatment. The Gender of household head shows that households in which male household head, 56.3% prefer private health care provider, 32.5% govt. health care provider and 11.2% self-care/traditional treatment while households with female

household head, 56.6% prefer private health care provider, 32.6% prefer govt. health care provider and 10.8% self-care/ traditional treatment.

The education level shows that most of the people (42%) are uneducated and only 8% people are graduates and above but all people prefer private health care provider without any effect of education. The results show that 50.9% people who are uneducated prefer to visit private health care provider, 30% people visited govt. health care provider as well as 12.1% self-care/ traditional treatment. If we look at education level of people, 63.4% graduates and above also prefer private health care provider. Most of the people of Pakistan suffer from fever and malaria (39%) and (13%) people suffer from HIV AIDs, cancer, kidney pain and many other sever and dangerous diseases. For all these diseases, 58.3% people prefer to utilize private health care provider, 30.4%% prefer to govt. health care provider and only 11.4% consult with self-care/ traditional treatment (SC/ TT).

One thing which we get from analysis that people prefer private health care provider most of the time is due to less distance and less travel time. This distance is measured by including the variable of distance by foot in the analysis. The people reached health care provider's centre by foot. The study indicates that 56.2% people prefer private health care provider, 32.4% prefer govt. health care provider and 11.5% prefer self-care/traditional treatment due to less than one hour is consumed to reach health care provider centre and get medicine. This shows that distance is the main determinant of choosing what kind of health care facility we should opt. This is the attractive sign for the preference decision of health care facility by health care user. If people go to government health care provider in cities to get medicine, they required much time as well as money. At government health care provider's centers, there is crowed of people and must wait many hours to consult

with doctor. The second thing is that most of the people (58.8%) are satisfied from private health care provider and 29.5% from govt. health care provider and only 11.8% are satisfied from self-care /traditional treatment. This shows that people are much satisfied from privately owned health care providers (PHCP) than govt. health care providers (GHCP) and self-care/ traditional treatment (SC/ TT).

Our findings have coherence with Mushtaq et al, (2011) which figured out that people in Pakistan mostly use private health care providers. They did not prefer government health care providers subject to the poor quality and prevailing uncertainty. Doctor did not give much attention because they motivate the people to visit their private clinics. Our results are also consistent with foreign study of Nketiah et al, (2009) who affirm that private health care providers are considered one of the reliable and qualitative sources to get medical treatment in Ghana and somewhere else.

From the total data set, 25% of people belong to very poor group living standard index and 35.6% people belong to poor living standard index. Only 39.4% people are those who enjoy non poor living standard. But it was the very interesting result of descriptive analysis that people either belong to poor status or non-poor, they prefer to visit private health care provider, when they face any type of illness, specially sever and dangerous diseases. 54.4% poor people visited to private health care provider, 33.8% govt. health care provider and 11.9% self-care/ traditional treatment as compare to non-poor people in which 62.8% people visited to private health care provider, 25.5% govt. health care provider and 11.6% self-care/ traditional treatment.

The overall results of our descriptive analysis show that 60% people from four provinces of Pakistan pursuit private health sector as compared to govt. health sector as well as self-care/ traditional treatment in both cases. This situation prevails in both cases when local government (LG) was present as well as when LG absent. It means that there is no much effect at choice of health care providers of people with Local Government. Because in both cases, mostly people prefer to use private health care provider as compare with government health care provider and self-care/ traditional treatment in the case of illness.

Our results are consistent with the report of social audit survey 2011-12 which shows that 36% of people arrive at health centre on foot than any other mean of transportation. A vast majority (80 percent) of respondents arrive at the health/medical center they use in less than an hour. The report of social audit survey 2009/10, at the national level, 36% used government health facilities, with BHUs and District Headquarters Hospitals as the popular options. Private practitioners were used by almost 60%, though the use of public units was higher in Baluchistan and NWFP. Consultation with unqualified practitioners and quacks and self-care remained negligible.

Our empirical results are consistent with Naveed Zafar Janjua et al, (2005); Naveed Zafer Janjua et al., (2006); Manzoor et al, (2009); Zwi et al, (2001) and Bhatia and Cleland, (2001) study that mostly people visited private health care provider which is made available and feasible at ordinary health care delivery points. The formation of these delivery points is encompassed of a slight and single room. This services point is equipped by checkup facility, general hygienic guidance, injection, management and intimate medicine provision. It is understood that patients generally prefer to private health care amenities regardless of the income and age. On the other hand, underuse of

medical services delivered by public health centers has been entirely suffering in most of the developing world. The private health centers are brandished universally. Since, the targeted focus of these centers exerted on prenatal care, family planning, polio vaccination, tuberculosis and malaria. The private health care services are familiar in population due to accessibility, instantaneously, timely working hours, and lenient behavior of clinicians.

4.1.1 Conclusion

From the above mentioned results, those people who reported illness of any kind like temperature, severe diseases and sought treatment from health care provider, 58.3% used private health care provider and 30.4% used govt. health care providers and only 11.4% people seek treatment by self-care and did not go anywhere. As illustrated in the table above, all people, may be male household head or female household head, live in rural areas or urban civilized, may be uneducated or educated, be positioned in low living standard or they are non-poor, all prefer private health care providers. The reason behind is that less travel time is consumed to reach the private health care providers than govt. health care providers which is cleared from above mentioned variable. 56..2% people prefers to private health care providers when travel time is less than one hour as compared to 32.4% people goes to govt. health centres. The main issue behind is that most of the govt. health centres exist in urban and city areas. The basic govt. health centres exist in rural areas; they have no staff as well as all health facilities. If any complication done at BHU, they prefer district headquarter hospitals. One another reason which is cleared is that the quality of govt. health centres is very low, 58.8% people satisfied from private health care providers as compared to govt. which is only 29.5%.

4.2 Regression Analysis (General Determinants of Choice of Health Care Providers)

Under the multinomial logistic regression analysis, we run three models to determine the factors in selection of health care providers; First model is the general model which specifies the main determinants of choice of health care providers by health care users. The second model shows the results about elements which matter in the selection of health care providers when local government (LG) is absent. The third model confirms the factors in choice of health care providers when local government (LG) was present.

Table 4.2 presents probability estimates of MNL model. It is worth to note that Private health care provider is utilized as the reference category in the model estimation.

Table 4.2: Factors Associated with Choice of Health Care Provider

Variable	GHCP	OR	SC/TT	OR
Family Size	0.018 (0.006)**	1.019	0.010 (0.008)	1.010
Cost	-0.0002 (0.000)**	0.9998	-0.00001 (0.000)	0.99999
Age	0.002 (0.001)*	1.002	-0.011 (0.002)	0.989
Rural	0.236 (0.046)	1.267	0.271 (0.067)	1.311
Male	-0.027 (0.129)*	0.973	-0.110 (0.191)	1.116
Uneducated	0.333 (0.073)**	1.396	1.808 (0.177)***	1.443
Under metric	0.172 (0.089)**	1.188	0.447 (0.244)***	1.564
Metric	0.233 (0.092)**	1.263	0.04 (0.277)	1.041
Intermediates	0.090 (0.088)**	1.095	0.034 (0.266)	1.034
Graduates and above	0.003 (0.104)**	1.003	0.636 (0.264)*	1.889
Less than one hour	-0.202 (0.143)	0.817	-0.384 (0.330)	0.681

between one and two hours	-0.297 (0.151)***	0.743	-0.547 (0.360)	0.579
Temperature	-0.131 (0.066)	0.878	-0.476 (0.186)*	0.621
Pain in body	0.133 (0.073)***	1.142	0.29 (0/183)	1.336
Breath diseases	0.043 (0.104)	1.044	-0.313 (0.314)	0.731
sever diseases	0.266 (0.080)**	1.305	0.325 (0.201)	1.384
Delivery	0.094 (0.120)	1.098	-0.223 (0.353)	0.8
Satisfied	-0.842 (0.100)**	0.431	-0.478 (0.269)***	0.62
No satisfied	-0.128 (0.115)	0.880	-0.19 (0.315)	0.827
Very Poor	0.582 (0.061)**	1.789	0.175 (0.169)	1.191
Poor	0.325 (0.054)**	1.384	0.025 (0.148)	1.025

Note: The comparison group is the private health care provider.

GHCP = government health care provider

OR = Odds ratio

B = coefficient

Standard Error (SE) in Parentheses

*P = 0.05, **P = 0.01 and ***P = 0.1

-2log likelihood = 18472.553

LR chi^2 (42) = 900.041

Prob > chi^2 = 0.0000

Using the likelihood ratio test, the overall strength of association predicted for this model across the various choices is 0.000 which is significant at 5% significant level. The chi square of this model is 900.041(42). The general model shows that demographic factor (such as place of residence like location) is not statistically significant and did not influence the selection of provider in order to get health services while socioeconomic factors (for instance being in the poorest income group, age, sex and education), travel time, cost of treatment, quality of care and disease pattern are categorically noteworthy

and influence the patient's selection of health care provider. Socio-economic and demographic determinants diversify with regard to the category of provider. Now we distinguish the individual variable's impact at the decision in selection of health care contributor by the user. The odds of male 0.973, in favour of private health care provider are greater than govt. health care provider, holding all the other variables remain constant. It is meant to say, females are more inclined than males to get medical treatment from govt. sector instead of private sector.

Our results for sex, selecting health care providers have coherent with the study of Halasa & Nandakumar, (2009). The results show that females are more eager to choose govt. level health care providers as compared to men. The odd for variable age is 1.267 in above (mentioned table). It means older people more likely to select govt. health care provider as compare to younger people who choose private health care providers. In contrast to priori expectations, the location variable has no affect at the patient's choice of providers of health care. The living standard of people matters a lot. The people who has high living standard prefer to go to visit private health care providers (PHCP) as compared to Low living standard.

In our regression analysis, the odd of very poor income group is 1.789 times in favour of govt. health care provider over private health care providers (PHCP) while holding other variables remain constant. The odd of poor income group in favour of govt. health care provider is 1.384 times over private health care provider facilities compared to the non-poor income group.

Education of household head is significant for all levels individuals seeking treatment at govt. health care provider (GHCP). The odd of uneducated individual selecting govt. health care provider rather than a private provider is 1.396 times greater than other than graduates. The odd of graduates is 1.003 times greater relative to others qualifications like, different diplomas etc. Our results have coherent with Hamid et al, (2005) indicates that income, education and occupation are the important determinants of preference decision of health care providers.

In our study, income and education is the significant determinant for govt. health care provider (GHCP). Age, sex, living standard and location coefficients are not statistically significant for traditional treatment and self-care. It is of the interest that effect of under metric and above is statistically significant for traditional treatment and self-care. Our variables also have coherent with Halasa and Nandakumar, (2009) who also used socioeconomic and demographic variables in their study in selection of health care distributor. They also utilize multinomial logistic regression model. The results show that socioeconomic and demographic variables affect the decision to choose health care provider.

Our results about the variable included in the model like self-care/ traditional treatment also have coherent relation with the study of Indonesia (Chernichovsky and Meesook, 1986). They also examined the utilization patterns of traditional and modern health services in Indonesia. By means of family's trial survey socio-economic data, they conclude that limited earning is a hurdle to get the proper medicine in the period of illness even if these health services are catered by Government. Our results are according to this study that poor people consult to government health care providers (GHCP)

mostly as compare to non-poor respondents. Our results also have consistence with the study of Mushtaq et al, (2011) that socioeconomic elements considerably derive the health hunting behaviors amid general inhabitants.

Our results have relevance to (Amaghionyeodiwe, 2008) that use of price of health care is a key determinant in choice of health care providers. As expected, out of pocket expense (proxy for cost of treatment) is a vital contributor in selection of health providers. An increase in out of pocket expenses increases likelihood of choosing government health care provider (GHCP) facilities compared to private health care provider. The treatment expenses are low in government health care provider (GHCP) as compared to private health care providers. One thing important is that any boost in consultation fee of provider will reduce the probability of that provider being selected or reduce the probability in selection of a modern or specialized.

Our results are also consistent with Awoyemi et al, (2011) that family size, travel time and total expenses of getting health care affect the usage of public and private hospitals. Total cost incurred to seek medical treatment is the most leading factor among all other elements. In our study, cost of treatment is positively associated with government health care providers (GHCP). At government health care providers (GHCP), cost of treatment is less comparatively at private health care provider (PHCP). That is why, in our study, cost of treatment has higher probability for choosing government health care provider (GHCP). Those people who choose government health care provider (GHCP), one reason is less cost of treatment, (excluding other costs like medicines etc.) behind their selection. Our results are consistent with Mushtaq et al, (2011) that cost of treatment is the hurdle in the selection of health care provider. Due to less cost in government health care providers

(GHCP), people go to government health care providers (GHCP), but indirect cost is the constraint which is distance (travel time). Due to distance, people prefer PHCP, which is the result of our study.

Disease Pattern shows that severs and dangerous disease variable is significant and has higher probability for GHCP relative to PHCP. The odd of sever and dangerous diseases in favour of govt. health care provider is 1.305 over private health care provider, holding other variable remain constant. This shows that for sever and dangerous disease are more likely than other diseases to choose govt. health care provider as compare to private health care provider. The treatment expenses for these diseases like cancer, kidney, HIV/AIDS and heart diseases etc. have a lot of expenses. Their cure is very expensive at private health centres. That is why, people prefer govt. health centres but one thing is that they sacrifice with quality and the result is mostly patients died.

Qian et al, (2010) used in his study that severity of illness matters a lot. Severity of illness plays a significant part in determining the health care provider decision. Worth variables suggest that quality of care in the form satisfaction from health care provider is negatively associated with GHCP. Our results are consistent with Mushtaq et al, (2011) study that in govt. health care provider, quality is low and people are not satisfied from govt. health care provider's treatment. That is the main reason that people do not prefer govt. health care provider and choose private provider in the case of illness. This shows that dissatisfaction with quality of govt. health care provider is the main hurdle of the usage by people in Pakistan. Most of the people prefer private health care provider due to low quality at govt. health care provider.

Travel time of more than one hour is significant. The results show that the main reason of selecting private health care provider is that travel time is much consumed to reach the govt. health care centres. Most of the government hospitals located in urban areas. Moreover, very small number is existed in rural areas but they are not having doctors or medicines. Our results are consistent with Nketiah et al, (2009) confirm that due to long travel time, waiting time and distance, people prefer to nearest health care provider which is normally private practitioner. Our results are also consistent with the Nigerian (Amaghionyeodiwe, 2008) study of provider choice.

The results show that distance is the most important determinant of choice of provider of health care. Due to long travel time and much distance, people are reluctant to visit modern health care provider. They prefer nearest provider which may be Hakeem or unqualified practitioner. Our results also have coherent with Awoyemi et al, (2011) that distance has influence at the choice of health care provider. Our results are also consistent with Mushtaq et al, (2011) that distance is the hurdle in the selection of choice of health care provider. Family size has significant impact at the health care provider choice. The odd of family size in the favour of govt. health care provider is 1.019 over private health care provider holding other variables constant. Family size is insignificant in the case of self-medication and traditional treatment. Our results have contradicted with the study of Halasa and Nandakumar, (2009) that family size is not an important variable to check its influence at the choice of health care provider. The results of their study found that family size is insignificant and has no influence at the choice of health care provider which is contradict of our study. In our study, family size has strong impact at the choice of health care provider.

4.3 Regression Analysis (Determinants Which Affect to Choose Health Care Provider Subject to Local Government)

The results of multinomial logistic regression analysis of the model when the local government is absent showed in the following table 4.3.

4.3.1 Absence of Local Government

Table 4.3: Factors Associated with Choice of Health Care Provider (Absence of LG)

Variable	GHCP B(SD)	OR	SC/TT B(SD)	OR
Family Size	0.020 (0.009)*	1.020	0.018 (0.031)	1.018
Cost	-0.0002 (0.000)**	0.9998	-0.001 (0.000)**	0.999
Age	0.001 (0.002)	1.001	0.011 (0.006)***	1.011
Rural	0.003 (0.070)	1.003	0.187 (0.237)	1.206
Male	-0.326 (0.205)	0.722	-0.823 (0.541)	0.439
Uneducated	0.244 (0.085)**	1.276	-0.188 (0.268)	0.829
Under metric	0.039 (0.276)	1.039	-0.609 (1.043)	0.544
Metric	0.058 (0.320)	1.060	-0.057 (1.050)	0.945
Intermediates	0.032 (0.099)	1.032	-0.261 (0.320)	0.77
Graduates and above	0.265 (0.164)	1.303	-0.283 (0.621)	0.753
Less than one hour	-0.044 (0.217)	1.045	-0.313 (0.745)	0.731
between one and two hours	-0.073 (0.228)	0.930	-0.525 (0.804)	0.591
Temperature	-0.044 (0.102)	0.957	-0.274 (0.345)	0.761
Pain in body	0.152 (0.110)	1.165	0.334 (0.342)	1.397
Breath diseases	0.213 (0.148)	1.237	-0.354 (0.574)	0.702

sever diseases	0.259 (0.119)*	1.296	0.27 (0.383)	1.31
Delivery	-0.064 (0.179)	0.938	0.302 (0.537)	1.353
Satisfied	-0.715 (0.150)**	0.489	0.516 (0.727)	1.675
No satisfied	0.069 (0.169)	1.071	0.723 (0.782)	2.06
Very Poor	0.785 (0.091)**	2.192	0.706 (0.307)*	2.025
Poor	0.405 (0.083)**	1.499	0.484 (0.272)***	1.623

Note: The comparison group is the private health care provider.

GHCP = Govt. health care provider

OR = Odds ratio

B = Coefficient

Standard Error (SE) in Parentheses

*P = 0.05, **P = 0.01 and ***P = 0.1

-2log likelihood = 6016.800

LR Chi ^{2} (42) = 341.972 (42)

Prob > 0.000

In the model fitting information show Chi square test is 341.972 (42) and the likelihood ratios test is at significant level of 5% which is 0.000. In the absence of LG, the model shows that demographic factor (such as place of residence like location) is not statistically significant and did not sway the choice of provider of health care. People either live in village or city, most of people prefer to choose private health care provider. While socioeconomic factor (such as age, sex and education), travel time are not statistically significant and they have no influence at the patients choice of provider of health care.

The main determinants come in the absence of LG are cost of treatment, quality of care, disease pattern and living standard index (LSI) which are statistically important and influence the selection process of health care providers. Education of household head has

no impact on the selection of health care contributor. The uneducated household head is frequently preferred to go govt. health care provider as compared to private health care provider and traditional treatment/self-care. The odd of uneducated individual selecting govt. health care provider rather than a private provider is 1.039 times greater than other than graduates. It means that in the case of absence of LG, educated people prefer to private health care provider as compared to government health care provider and traditional treatment/self-care.

The odd of very poor income group is 2.192 times inclined to opt govt. health care provider facilities over private health care provider in the absence of local government and 2.025 times as likely to choose self-care/ traditional treatment over private health care provider, while the poor income group was 1.50 times inclined to utilize govt. health care provider facilities over private health care provider facilities and 1.623 times as likely to choose SC/TT facilities over private health care provider compared to the non-poor income group while holding other variables remain constant. As expected, out of pocket expense (proxy for cost of treatment) is a major determinant of choice of health care provider. The odd for the cost of treatment is 0.0002 in the above (mentioned table). It means that with the increase in the cost of treatment, respondent is 0.0002 times less likely to select government health care provider and traditional treatment/self-care.

This shows that in the case of absent of local government, cost of treatment in government health care provider and traditional treatment is increased and people prefer to visit private health care provider in the case of illness. An out of pocket expenses have less probability with choosing govt. health care provider and traditional treatment/self-care facilities compared to private health care provider. The odd ratio of selecting govt.

health care provider is 0.9998 time and self-care/ traditional treatment is 0.999 while other variables remain constant. Disease Pattern shows that sever diseases variable is significant. The odd ratio of sever and dangerous diseases is 1.296 times more likely as compared to other diseases. This shows that in the case of absent of local government, communicable and non-communicable disease burden is faced by Pakistan. Quality variables suggest that quality of care in the form of satisfaction from health care provider has less probability with govt. health care provider.

The odd of satisfaction level with govt. health care provider is 0.489 times as compared to private health care provider. The results show that in govt. health care provider, quality is low. That is the main reason in the case of absent of local government that people do not prefer govt. health care provider and choose private health care provider mostly, in the case of illness. Family size has significant impact at the health care provider choice. Family size is insignificant in the case of self-medication and traditional treatment. This is the very interesting result of regression that due to big family size, people prefer to govt. health care provider.

4.3.2 Presence of Local Government

The results of multinomial logistic regression analysis of the model when the local government is present are described in the following table 4.4;

Table 4.4: Factors Associated with Choice of Health Care Provider (Presence of LG)

Variable	PHCP B(SD)	OR	SC/TT B(SD)	OR
Family Size	0.024 (0.007)**	1.025	0.016 (0.018)	1.016
Cost	-0.0001 (0.0000**	0.9999	0.00004 (0.000)***	1
Age	0.002 (0.001)***	1.002	-0.002 (0.004)	0.998
Rural	0.122 (0.055)*	1.13	0.069 (0.153)	1.072
Male	-0.234 (0.146)	0.791	0.049 (0.430)	1.051
Uneducated	0.308 (0.365)	1.361	0.598 (1.035)	1.818
Under metric	0.27 (0.367)	1.31	0.486 (1.040)	1.626
Metric	0.338 (0.368)	1.402	0.016 (1.050)	1.016
Intermediates	0.371 (0.376)	1.449	0.34 (1.070)	1.404
Graduates and above	0.46 (0.372)	1.584	0.748 (1.049)	2.112
Less than one hour	-0.227 (0.180)	0.797	-0.549 (0.376)	0.577
between one and two hours	-0.357 (0.190)***	0.7	-0.531 (0.412)	0.588
Temperature	-0.028 (0.077)	0.972	-0.635 (0.225)**	0.53
Pain in body	0.087 (0.089)	1.091	0.223 (0.220)	1.25
Breath diseases	0.059 (0.130)	1.061	-0.283 (0.278)	0.753

sever diseases	0.223 (0.099)*	1.25	0.372 (0.240)	1.451
Delivery	0.263 (0.152)***	1.301	-0.532 (0.490)	0.588
Satisfied	-0.75 (0.126)**	0.472	-0.77 (0.298)**	0.463
No satisfied	-0.249 (0.147)	0.78	-0.416 (0.358)	0.66
Very Poor	0.173 (0.078)*	1.189	0.005 (0.212	1.005
Poor	0.013 (0.065)	1.014	-0.17 (0.186)	0.844

Note:

Number of observation: 12000 with LG and 10384 with no LG.

The comparison group is the private health care provider.

PHCP = Public health care provider

OR = Odds ratio

Standard Error (SE) in Parentheses

*P = 0.05, **P = 0.01 and ***P = 0.1

-2log likelihood = 11805.414

LR chi ^{2} (42) = 467.572 (42)

Prob > chi ^{2} = 0.000

Using the likelihood ratio test, the overall strength of association predicted for this model across the various choices is 0.000 which is significant at 5% significant level. The chi square of this model is 467.572(42). The model in the presence of LG shows that demographic factor (such as place of residence like location) is statistically significant and have sway at the choice of provider of health care and socioeconomic factor (such as being in the very poor income group, age of ill person), travel time, cost of treatment, quality of care and disease pattern (sever diseases and delivery) are also statistically significant and influenced the patients choice of health care provider. Socioeconomic and demographic factors such as age, living standard, place of residents and other variables like cost of treatment, quality of care and disease pattern varied according to the type of

provider. One important thing is come when local government is present that people start to go govt. health care provider a little bit more as compare to private health care provider.

When local government is absent, 65% people go to private health care provider. This is the positive point of local government that they construct health units in rural areas and people start to visit govt. health care provider (51% in PHCP and 30% in GHCP and 17% in SC/TT) respectively. The odd ratio of choosing govt. health care provider is 1.13 times more likely as compared to private health care provider in the presence of local government. Age of ill person is significant to choose the govt. health care provider as compared to private health care provider. The odd ratio of choosing govt. health care provider is 1.002 times more likely as compared to private health care provider. Controlling for other variables, the very poor income group was 1.189 times as more likely to choose govt. health care provider facilities over private health care provider.

In the absence of LG, poor as well as very poor people go to govt. health care provider as compared to private health care provider. While in the presence of LG, only very poor people go to govt. health care provider as compared to non-poor people. The literature shows that as the income level of people increased they prefer to choose private health care provider for their illness. It means that LG has improved the economic condition of people. That is why, only very poor people go to govt. health care provider, and they sacrifice with quality of care.

As expected, out of pocket expense (proxy for cost of treatment) is a most important determinant of choice of provider of health care. If one unit change occurs in cost of

treatment in govt. health care provider, user starts to decrease in the usage of govt. health care provider and prefer private health care provider. The odd of cost of treatment is 0.9999 unit less for choosing govt. health care provider over private health care provider when all the other predictor are held constant in the regression analysis of the model. Due to out of pocket expenses, has less probability of choosing govt. health care provider facilities compared to private health care provider.

It means that the treatment expenses are not low in govt. health care provider as compared to private health care provider even in the presence of local government. An important reason for preferring private health care provider than govt. health care provider, govt. did not give much attention at govt. health care provider and is a very common practice by doctors is that they persuade and coerce patients to see them at their personal private clinics, whereby they charge them dearly for consultation and medicines and at times a wide range of unnecessary medical tests. Disease Pattern shows that sever diseases variable is significant. The treatment expenses for these diseases like cancer, kidney, HIV/AIDS and heart diseases etc. have a lot of expenses.

The odd ratio of selecting govt. health care provider is 1.25 more likely as compared to private health care provider. Another disease is delivery cases. The odd ratio of selecting govt. health care provider for deliveries is 1.301 time more likely as compared to private health care provider. This is the positive impact of LG, that now for sever and dangerous disease as well as for deliveries, people prefer to govt. health care provider. Quality variables suggest that quality of care in the form of satisfaction from govt. health care provider has less probability that people choose govt. health care provider. The results show that in govt. health care provider, quality is low. That is the main reason that people

do not prefer govt. Health care provider and choose private provider in the case of illness. This is the demerit of LG that there is no improvement in the quality of govt. health care provider. The literature shows that the satisfaction of government health service users is still lower than that of users of private and unqualified practitioners and household satisfaction (Cockroft et al, (2005).Travel time is significant. The odd ratio of travel time selecting govt. health care provider is 0.7 as compared to private health care provider, holding other variables remain constant. The results show that the main reason of selecting private health care provider is that less travel time is consumed to reach the health care centres. Most of the government hospitals located in urban areas.

Moreover, very small number is existed in rural areas but they are not having staff or medicines. The benefit of LG is that health centres are constructed for rural people. But despite of it, health care is an important problem in rural areas. Our results are consistent with the study of Williamson et al, (2005) which ascertain that admittance to government health care facilities remains a hitch in rural areas, with the rate of around 50% of families' deficient a health facility in their villages. The distance is reduced with the help of LG. In the presence of LG, to reach the govt. health care provider, between one and two hours are required as compared when LG is absent, time is insignificant.

But despite of improvement in travel time, there is much time required to reach govt. health care provider. Despite of improvement, people prefer private health care provider. This is demerit of LG that they did not increase the maximum ratio of govt. health care provider visits by the user. The reason behind, Williamson et al, (2005) found that many teachers and health workers are unwilling to work in remote areas, reason being, they have to travel daily to and from those remote workplaces. Besides this, there is extra cost

and time involved in travelling. They may not find suitable accommodation. In BHUs (Basic Health Units), doctors get accommodation but facilities like good schools for their children are not available. Alternatively they can earn good money if they go for private practice or stay at urban centers. In remote areas they also have little scope of supplementing their private practice which obviously can be best managed if they work at an urban station. That is why; health care access is a big problem in rural areas still.

Chapter 5
Conclusion and Policy Recommendations

5.1 Conclusion

Our first and foremost objective is to determine key factors in the selection of health care providers which are followings; socioeconomic and demographic factors have dominant contribution in striving the health pursuing behaviors of general people. It is found common practice that poor community had profound tendency to get health services from govt. health care provider instead of private health care provider. There are some recurring obstacles which had certain contribution in the minimum utilization of govt. health care provider which included high costs, unsatisfactory services, and inadequate quality.

The study highlights that anticipated worth of a health care provider, time consumed in travelling to health delivery point, patient's paid charges in terms of checkup fee, family size, disease pattern, and socio-economic and demographic variables are concrete factors which have substantial influence in choice of a health care provider. So it is worthy to note that private health sector is rendering its valuable services in line with the perceived quality of population in Pakistan, especially in Punjab. The descriptive analysis as well as the regression analysis showed that compared to govt. health care provider and traditional treatment/self-care, the possibility of utilizing the private health care provider by the poorest income group as well as non-poor is greater. There are two reasons for this; one is distance and second is quality.

The study revealed that distance (travel time) and quality (satisfaction from doctor treatment) are considerable factors in order to choose health care provider. But after

going through the research papers and taking into account the results from descriptive findings; distance is one of the most active factor in rest of the influential variables like cost, living standard index, disease pattern and others. This depicts that people's tendency in quest of health services may get high in the presence of health care centers although convenient access depends upon the nature of facility. The study also exposes that family size is also a significant variable in all three models. The respondents who have big family size prefer to visit govt. health care provider as compared to private health care. The results show that there is no role of local government in selection of health care providers.

The choices are same almost in both cases. But when local government is present, people's visit to govt. health care provider is increased a little bit and travel time is also significant as compare to when local government is absent. But overall, from three models, it is concluded that travel time and quality are the most significant determinate variables in choice of health care provider. This is our second objective of the study which is improved that local government's influence is very less in the selection of health care providers.

5.2 Policy Implication

Based on these findings, it was recommended among others that given the high travel time as shown by the findings of this study, the government should endeavor to bring govt. sector health facilities closer to the people especially in the rural areas. This can be done through the establishment of new govt. sector health care facilities. Also, government should improve on its provision of basic essential drugs in govt. sector health care facilities. Given the perception of people about the quality of care in our govt. sector

health facilities, which many believed is poor; there is the need for the government to improve on the quality of care in health facilities. Also, since households are willing to pay for improved quality of care in govt. sector hospitals and the government has not made much progress in increasing fees in govt. hospital for quality improvements, the government should identify existing deficiencies in the management of its facilities and then try to take care of these deficiencies. The results indicate that as quality increases the choice probability and demand for govt. health care provider will increase significantly. They also suggest that patients utilizing the govt. health care provider are cost-sensitive. Policymakers need to keep this in mind when developing strategies and polices aimed at increasing access to health services and reducing health inequities in Pakistan. This study provides basic understanding of patient choice of healthcare provider, but further in-depth studies are recommended to determine how the govt. health care provider will finance expansion and the effect of this on prices in both the private and public sectors. We call for policy and legislative changes and health-system interventions to target readily preventable non-communicable diseases in Pakistan.

5.3 Suggestions for Future Research

This study provides basic understanding of patient's choice of healthcare provider due to a lot of limitations of data but further in-depth studies are recommended to determine how the govt. health care provider will finance expansion and the effect of this on prices in both the private and public sectors. We have to adopt proactive approach in order to induct proper SOPs (Standard Operating Procedures), innovations subject to the technology of the day and profound legislation in the prevailing health care system. So

that remedial steps may be taken at its optimum level to target the non-communicable as well as communicable diseases in Pakistan.

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