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Demand for Public and private Health Care Services in Addis Ababa

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Abstract

The study is intended to investigate the factors that influence the demand for private and public health services in Addis Ababa. It is undertaken with the view of adding to the existing meager research in the area. It used the Welfare Monitoring Data 2004 collected by The Central Statistical Authority of Ethiopia. It adopted the multinomial logistic regression to measure the significance of the different individual, household and structural and supplier variables in the demand for health services. Both the descriptive and the econometric analysis revealed different individual, household and structural variables do affect the demand for health services from both types of providers. One profound result of the study is that still the majority of the residents of Addis Ababa cannot pay for health care and hence the cost recovery scheme in the case of public health provision should be revisited. Further the importance individuals attach to quality in all types of providers should urge the government as well as private providers to give sufficient attention to quality considerations.

The incumbent that assumed power following the demise of the Derg regime has designed a policy and a strategy that lasts for twenty years. The current health sector policy represents a major digression from the past for it admitted the inefficiency and inability of the government to provide for all health needs of the people and is committed to reinvigorate the role of the private sector in the provision of medical care. This direction is reduced to a binding document in the form of a health policy and strategic papers (Transitional Government Of Ethiopia,1995).

To strike a balance between the need for redressing the health needs of the majority with the limited resources available, the government has emphasized the importance of health promotion and delivery of primary health care. With respect to the financing of health care, which is the primary objective of any study of demand, three alternative strategies are incorporated viz improving the efficiency of allocation and utilization of public resources, expanding the role of the private sector, and encouraging the development of risk sharing mechanisms. For the realization of the objectives of the policy and strategy two health sector programs were designed and are under execution. This overall process represents a move from piecemeal project planning towards a real sector planning process that included not only attention for issues related to service delivery but also attention for required inputs, governance and management of that system.

1.2 Statement of the Problem

The evaluation of the health sector programs revealed that though the potential health service coverage by the government health facilities have increased and the size of

the large private health sector may drive away the manpower from the public sector there by undermining the quality of the public providers. In other words the private sector is not catering for unmet health care demand rather it is taking away clients from the public health facilities.

Despite the presence of a large number of health care providers (as indicated by the potential health coverage which according to the FMoH is 155.4 percent in Addis), the utilization of both inpatient and outpatient health services is very Low. This may be due to the introduction of user fees and the referral system in the case of public facilities, and high prices in the case of private providers of health. The impact of user fee may be significant in the face of the abject poverty in Addis and the user fee includes bearing the full cost of medicine and not only paying for visiting card. And hence though user fees may seem cheap from the perspective of visiting cards, its inclusion of bearing the full cost of medicine multiplies its expensiveness. Regarding the referral system the lowest units in the hierarchy of the referral system are the health posts, or clinics or health centers whose perceived and actual quality is very low, and this may compel users to avoid using it. People who needs treatment but cannot buy the services or deem them inferior in terms of quality may be compelled to self treat themselves or go to the traditional healers.

1.3 Significance of the Study

In Addis there are a variety of public and private health providers along with a dominant traditional health sector. The public providers of health care include health posts, clinics, health centers, and hospitals whereas the private sector includes clinics of different types

and hospitals. The Private sector includes both non-profit and for profit health providers. All these different types of health providers cater for the health needs of different individuals. Conversely different individual and socio-economic characteristics, quality of providers, distance, and payment modality affect the level and type of utilization of providers. Undertaking a demand analysis for health care helps to tune types and where about of investments. The demand analysis is particularly relevant in the case of public provision because in the case of the latter the market is inadequate to guide investment decisions for profit maximization is not the objective for government intervention in the provision of health care. Hence demand analysis ensures that investments reach the target population and wastage is minimized. Any analysis of demand is very relevant when there exists a big demand, which is not met because different institutional and structural inadequacies have effectively shunned away the potential users of the services. Therefore public provision can be improved to provide for the health needs of the poor and marginalized by helping to remove the barriers. Further when the private and public providers coexist providing for overlapping services, a demand analyses will be very crucial to direct public provision for those areas where private sector is not adequate. In the context of the foregoing the study will be beneficial to the government for it avail results on the impact of increased user charges and the referral system on utilization of public health facilities. The study all shows which cross section of the society is adversely affected by the existing service delivery system. It helps both policy makers and private investors on the incentive regime that should be accorded to investors and which areas of practice are lucrative for the investors.

1.4 Purpose of the Study

The overall objective of the study is to examine the impact of individual, socioeconomic, structural factors on demand for health care and the choice and use of providers. More specifically, the paper will investigate,

1. The factors that influence the decision to seek outside medical care and the choice of the particular type of provider or alternatively to identify which individual, household and structural variables affect the demand for health care in an event of illness and to identify the cross section of the society that is under served by the current system of health care
2. To make policy recommendations based on the empirical results.

1.5 Scope and Limitation of the Study

This study focuses on the City of Addis Ababa. The reasons for choosing Addis Ababa are the presence of a sizable number of public and private providers of health care, and a large population size with differing individual and socio economic characteristics. Addis Ababa being the largest city in the country with many and varied health related problems, the results of the study can be used to the other urban centers in the country, which share one or many of the problems of Addis.

1.6 Source of Data

The study uses the Welfare Monitoring Survey (WMS) result of year 2004. The Household Income and Expenditure Survey of year 2004 is not ready and not used in the study. Though direct income and expenditure data are not used for the purpose of this

study ,we believe the wealth data as included in the WMS will be right proxies for income and expenditure and the validity of the results of the study will not be compromised.

Chapter two

2. Health Care System in Addis Ababa

2.1 General Overview

The provision of modern medical services is a recent introduction in Ethiopia. It was during the reign of Emperor Menlick that modern medical care provision was introduced in Ethiopia. At the initial period, Italians provided the service until it was disrupted by Italo-Ethiopian war and replaced by the Russian Red Cross mission, which is still one of the currently operating large hospitals in Addis Ababa (Richard Pankurst,1965).

Despite this humble beginning the modern health care system has grown a lot in terms of both physical coverage and quality. Yet the unprecedented and unchecked population growth in Ethiopia and the rural-urban migration that characterizes the growth of population in Addis, ensuring access to health care still remains an arduous task. The following tables show the number of facilities and human resources that are available in Ethiopia and in Addis Ababa. The tables also show the mix of private and public providers of health care as well as the human resource composition in the private and public sectors in Addis Ababa.

Table 3. Number of Public and Private Facilities In Addis Ababa

	Private	Public
Hospitals	15	9
Clinics	319	-
Health Centers, and health stations and Health posts	-	241
Pharmacies	104	16

From The above Table one can easily infer the presence of a significant private sector in Addis Ababa that even outnumbers the public sector.

Table 4. Human Resource Distribution In Addis Ababa between the public and private sector

	Public	Private
Specialist	76	181
Physician	219	363
Health officers	2	17
Pharmacists	2	18
Nurses	811	348
Pharmacy Technician	54	25
Radiographer	32	45
Health Assistants	335	368

The national health budget has also risen steadily over the period. However the per capita health expenditure is still low even by Sub-Saharan African standards. The national per capita is mere 12 where as the percapita health expenditure in Addis Ababa is 38 birr.

Despite the increase in the size of government owned health facilities, outpatient utilization of Government health facilities are on the average limited to 0.47 % of visits per person per year. On average over 60 percent of those reported to have been ill stated that they did not seek any form of medical treatment. The figure is only around 38 percent in urban areas where as it is about 62 percent in rural Ethiopia with males typically seeking more treatment than females. The largest proportion of those who seek treatment did so in publicly owned facilities (19 percent), 13 percent visited private facility and 7 percent went to traditional healers.

Concerning the burden of disease about 80 percent ill episode visit is attributed to diseases like prenatal/maternal conditions, ARI, malaria, nutritional deficiency, diarrhea, Aids, Tuberculosis, and measles. And the national burden of diseases in terms of discounted years are about 350 DLYs (Discounted Life years) per 1000 population which is much higher than other countries such as Kenya.

2.2 Organization of the Health Care System

Prior to the shift in the structure of government was introduced following the coming in to power of the EPRDF, and the attendant introduction of the federal structure of government., the Ministry of Health was the regulator as well as the provider of health care. The introduction of the federal system with first fourteen and later nine regional

states and two self governing cities has devolved the power of regulation and provision to the regions and the self administrative cities. Accordingly the confines of the power of the Federal Ministry Of Health is limited to overall planning and managing the referral hospitals whereas the responsibility of regulation and provision of health care rests with the regions. The National Health policy has adopted a referral system for health care utilization where the federal referral hospitals are on the first tier and the health centers and rural hospitals on the third and second tiers. However health posts and health stations are still looming large. Hence the Health Sector development programs are not successful in wrapping down the six-tier system to a three-tier system (Yigremachew,2004). The role of the private sector is also rising especially in urban areas currently covering 9.19% of the total potential health coverage.

When compared to the regions, the health sector in Addis Ababa exhibits superiority in terms of hygiene and environmental health, distribution of health infrastructure, and human resource. However in terms of utilization it is not yet adequate.

Further the utilization of both the recurrent and capital health expenditure is unsatisfactory reaffirming the systemic problem inherent in the system. In general the management of the public health provision is characterized by inefficiency, failure to create alignment with the private sector, shortage of drugs and equipment and excessive reliance on external loans and grants.

Chapter Three

3. Literature review

Michael Grossman's contribution to the analysis of health care demand cannot be exaggerated. Grossman developed the concepts of human capital and household production to a formal model of demand for health and health care (Grossman,1972). He challenged the human capital formulation of health for health capital differs from other forms of human capital in such a way that where as human capital affects his market and non market activities, health capital affects the total amount of time the individual can devote to produce monetary earnings and commodities. However Grossman's framework for the demand for health and health care were deterministic and failed to capture for uncertainties that are typical in the demand for health and health care. For him heath care is purchased not to alleviate sickness but to invest in health and to add to a flow of illness free days in a man's life. The inadequacy of the Grossman model was also manifested in its neglect of the impact of suppliers on the demand for health care. To fill such gaps, new dimensions in the field of economic research came to the front providing for uncertainties and supplier induced demand. The growth of the expanse of health economics continues to expand to incorporate the roles of the government and institutional setups on the demand for health care (Adam Wagstaff,1989).

Grossman emphasized that individuals demand not health care but health. The demand for health care is ancillary to the demand for health. And according to him health is demanded for it has both consumptive and investment benefits. By adopting healthy life

style, by eating well, and by consumption of health care, a man can satisfy his demand for health.

As the demand for health care comes in to the picture as a tool of satisfying the demand for health, it is a derived demand. In his analysis Grossman identified the factors that affect the demand for health, hence the demand for health care. Accordingly age, education and income are found to be the main determinants of health care demand. According to him to maintain a level of health stock that would other wise deteriorate with age, an individual demand for health care rises with age. Education on the other hand makes individuals adopt healthy life styles and there fore the demand for health care declines with the level of education. Regarding the impact of income, his analysis revealed income operates in two directions one enhancing the demand for health care for with rising income, the opportunity cost of sick time raises and therefore the demand for health care increases. On the other hand as consumption of health care has also time cost such as waiting time and travel time, increasing income or wage increases the time cost of seeking and using health care, and therefore may reduce the demand for medical care. The effect of income is therefore net of the two effects (Income and substitution effects) of income that moves in opposite directions.

As alluded in the forgoing the Grossman model despite its path-breaking role is tainted with deficiencies. Its failure to provide for uncertainty which is typical in illness episodes of individuals and its erroneous assumption of consumers' sovereignty in their consumption decisions have invited a series of researches in the field of health insurance and supplier induced demand. The demand for health care is mostly triggered by illness

episodes, which cannot be foreseen in advance and therefore will be met by surprise by the person who may not be financially ready to meet the expenses to restore the health stock in the words of Grossman. This calls for health insurance or government financed health care provision. Researches in the field of health insurance unveiled the two common problems in the microeconomics of insurance or risk management viz-moral hazard and adverse selection. The problem of adverse selection is faced by providers of health insurance due to the presence of high-risk individuals who may fail to divulge the actual state of their health along with a good cross section of low risk individuals. The problem of moral hazard complicates the setting of premiums. The latter is true because to capture for the former insurers are compelled to set high premiums which will shy away low risk individuals and others who would other wise will buy policies to provide for exigencies or conversely setting low premiums will put the insurer in a financial problem to meet its obligations for the premium set in this manner will operate to increase demand by high risk individuals.

Though according to Grossman the decision to purchase health care is entirely left to the individual who under the assumptions of classical economic theory maximizes his utility by consuming health goods or other composite goods, the intrinsic value of health (the merit good nature of health and equity), led to the belief that health should be provided regardless of the ability to pay of the individual, and this has compelled governments to intervene in the provision of health care. Also true is that the externalities associated with health (the public good nature of health) particularly in some types of illnesses have made the market inadequate in the provision of healthcare and the interference of the government indispensable (Phelps,1985).

Furthermore the human capital theory unleashed the role of good health in enhancing productivity, and underscored the need for alleviating the health status of individuals in the ceaseless effort to extricate the public from the state of backwardness and poverty for individual labor productivity contributes to economic growth. And the governments of developing countries are investing to improve the health status of their people(Shultz,1999).

However despite the need for health care along with the indispensability of the role of the government in the provision of health care, the associated resource constraint has made investigations in to the factors, which influence demand for health care, a requisite for learned decisions in investment in health. Unless the supply of health care is at par with the demand for the same wastage of scarce resources that would otherwise be invested in other more productive investments follows. And many researches are undertaken to unveil the factors that influence the demand for care. Researches pertaining to the demand for health care are not peculiar to the developing countries but true in all countries across the globe.

In a nutshell the researches indicate various individual and household characteristics, socioeconomic, and institutional factors influence the demand for health care. Individual income, price, sex, employment status, educational level, quality of provider, type and severity of illness, nature of provider i.e. whether the provider is private or public, the presence of insurance or not, payment modalities and others affect the demand for health care. Demand for health care should be understood to mean utilization of health care facilities. The outputs of the researches pertaining to the impact of each of these variables

are not uniform but varied depending on the peculiarities of the place of the research and the methodology adopted.

Herein below is the synopsis of the various researches conducted in various countries developing and developed.

3.1 Related Literature on Ethiopia

The first related research is on ***the utilization of maternal health care services in Ethiopia*** (Yared & Asnakecth Mekonnen,2002). The study used the data that come from the 2000Ethiopia Demographic and Health Survey. And a logistic regression was used for the multivariate analysis. The study divides the type of services as antenatal, delivery, and post natal care and run a multivariate regression for each separately having the type of services as dependent variables and having place of residence, age at birth, current marital status, education, work status, religion, number of children, number of births as independent variables. The study revealed that place of residence (living in urban areas) is an important determinant of antenatal care utilization. It also disclosed education is an important determinant of antenatal care where women having at least secondary education are more likely to use antenatal care in urban areas. Also are marital status, year of birth of a child and parity as significant and independent determinant of utilization of antenatal care in urban centers. For the rural areas, marital status, maternal education and religion are important and significant determinants of antenatal care utilization where married, educated or Moslem women use antenatal care more than their unmarried, uneducated or orthodox counterparts. Regarding delivery care, place of residence, women education, parity, and number of children are significant and

independent predictors of utilization. The impact of place of residence however is very striking for women residing in Addis are about 40 percent more likely to receive assistance than rural women. Number of children and education are very important determinant of delivery utilization in rural Ethiopia. When it comes to postnatal care, residence (urban residence) and education are the only factors that influence its use in Ethiopia.

Hence it can be said demand for health care varies across urban and rural areas, and the type of care sought and other individual,andhousehold characteristics.

The second research is on ***Traditional Insurance Mechanisms And The Choice Of Health Care Providers In Ethiopia*** (Damen Hailemariam,1997). The study deals with the relationship between the choice of providers, the attributes of maladies and the attributes of providers with particular emphasis on the impact of financing on provider choice. The study challenges the neo classical assumption of economic theory that limits an individual budget constraint to his income in traditional social systems where extended family support offers risk-sharing mechanisms in dealing with disease and other catastrophic conditions. And the study is aimed at investigating the role of family support in laxing the budget constraint and whether the family support acts as a credit or insurance scheme. The study capitalizing on the Grossman and Anderson models included extended family support as an enabling factor. The study uses multinomial logit model, the dependent variables being the different types of health providers and the independent variables being the various enabling, predisposing and need factors. The study concluded severity of illness is an important determinant for seeking outside

medical help and statistically significant for the choice of government hospitals because these are appropriate units for severe and life threatening conditions. Age is also found to affect people's behavior in seeking medical care as well as in the type of health care provider choice where older people visit distant and higher level facilities where as young stay at home or visit local health station. Household size and gender didn't appear to have significant effect on either the decision to seek care or the type of provider. Religion seemed to have an effect on choice of health care provider. Education does not appear to have any significant effect on the amount of outside medical help sought but it does correlate strongly with the choice of service provider where educated individuals tend to visit mission and private service providers. Regarding enabling factors, travel time has significant and negative impact on the decision to seek care; the effect of family income was never statistically significant on health seeking behavior or the choice of provider.

Regarding support from relatives it is found to be positive and significant both in the decision to seek out side medical care and in the choice of all levels of higher level providers over local health station. And the support is considered as insurance than credit. Hence for most individuals lack of income or wealth or prices of medical care donot prohibit them from seeking out side medical care because such income or price related constraints can easily be surmounted by support from relatives. It is worth investigating to know whether family support serves the same purpose of overcoming income constraint in Addis Ababa.

The other related research done in the context of Ethiopia is on ***"Quality Vs Density inHealth Care provision :using Households Data to Make Budgetary Choices in Ethiopia (*** Paul Collier, and et al,2002)

The article reiterates that usage of health facilities is low in Ethiopia even by Sub Saharan African standards and the way out considered by Ethiopian Authorities to ameliorate such state of affairs is to increase physical coverage of the facilities, and expansion in an environment of resource scarcity has the undesirable consequence of squeezing the recurrent expenditures with the existing facilities ultimately worsening the qualities o f the same. And the study ventured on the budgetary choice between government expenditures on new facilities (capital expenditures) versus on improving quality of the existing facilities (recurrent expenditures). Since the rationale of expanding coverage is the belief that usage of health care facilities is affected by distance and as the argument for increasing quality is that usage is affected by quality, both distance and quality are entered in to the demand function for health care. Institutional factors have impact on increasing both quality and quantity of health care first because the quality aspect of health care provision is within the ambit of regional governments whereas the quantity aspect is the domain of the federal government. Second donors are precluded from funding the recurrent expenditures. The study used data collected by a survey conducted between 1994 and 1997and covers information on 1450 households and 9000individuals on health and a large number of individual and household characteristics. Besides data on facility characteristics are included. To capture for quality the presence of refrigerator, a qualified staff and supply of drugs are included. The simple probit, the probit random effects model, were estimated. The results using both models found that primary

education of the main female adult increases health usage, distance to a public facility reduces effect, but the effect to a private facility is insignificant, the public facility quality index is significantly different from zero while not significantly different from the private quality effects. Since health institutions are not placed randomly by planners but following some determinants of usage and demand for health care, fixed effect regression was run and it revealed a positive correlation between usage and quality and the marginal effect of increasing the index of quality from zero to one is 15-21 percent where as the effect of reducing distance by one kilometer increases usage by1.2-1.7 percent. There fore quality should be taken into account in expenditure decisions by the government.

Another related literature done in the context of Ethiopia is on "***How poverty affects the health status and health care demand behavior of households? The case of rural Ethiopia*** "(Asfaw A,2003)The research intended to investigate the determinants of health status of Individuals, what factors influence the decision to seek medical care in the case of illness and the impact of poverty on both health status and demand for health care. It used the data collected by the Center for development research (ZEF) at the University of Bonn in rural areas of Ethiopia. A probit model is used to analyze the impact of different household and individual characteristics on health care demand, and the results show gender and age are not significant determinants of health care demand whereas literacy of the head and the wife are positively related with seeking medical care and is significant. Having an educated mother (completed primary education) is likely to increase the probability of seeking treatment by 25 %. It also revealed that rich households though they report less illness, they are more likely to get medical help.

To analyze the overall impact on poverty a nested multinomial logit model is used where the different types of providers are considered as dependent variables and different individual, access and household variables are considered as independent variables. The providers are categorized into three as modern health care, traditional and self. The results of the regression surfaces that user fees especially have negative and significant impacts on the demand for medical care compared to other variables. Specifically, the results show that a one birr increase in the user fees of public clinics has eight times more negative impact than hospitals and four times than private clinics in shifting individuals out of the modern health care alternatives to traditional and self care options. Income has a significant role in neutralizing the negative impact of user fees on the choice of providers reinforcing the negative impact of poverty on the poor' demand for modern public health utilization. Distance appears to have a negative and significant impact on the utilization of hospital but not on other choices.

To properly capture for the impact of user fees, price elasticities are calculated for the different income groups and it is found that the poorest segment of the population is extremely sensitive for price changes of almost all providers. However the impact is very large when it comes to hospitals for a one percent increase of fees reduce demand for hospital care by 9.18%. Even with respect clinics a 10 % increase in clinic user fee decreases demand by 2.2 %, which rises to 6.9 percent when it comes to the chronically poor. If user fees are raised by 10 % in all alternatives, 30% of the poorest of the poor will be driven out of the health care market compared to 6% for the whole sample. Generally increase in user fees negatively affects the utilization of public health facilities more than the increase in prices by private providers. One possible explanation for such

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sensitivity to prices in the case of public providers of health care is the presumed poor qualities of public health providers and the attendant willingness to pay higher prices for better quality which is presumably available with private providers.

3.2 Literatures on Developing Countries

The first related literature that is pertinent to this research for it is done in a developing country urban context is entitled the ***Demand For Medical Care In Urban China(H Noci Mocan,2004)*** done with the view of investigating the determinants of health care in China. The research adopted the Grossman utility maximization function. And the demand for health is assumed to be the function of health stock, price of medical services, price of food, opportunity cost of time, state of health, environment and others. The two part (selection) model is used for estimation, also used is discrete factor model to show the difference between them. The data used is based on a cross sectional survey of urban families in the People's Republic Of China and include information on the demographic characteristics of members of the household, their income, food consumption and prices, as well as medical expenditures and type of health insurance held by members.

The results of the two models are distinct, and education has no significant impact, occupational affiliation is a significant determinant for medical care negatively affecting its consumption, employees of state owned or publicly owned enterprises have more demand, households with its own tap water has reduced demand, the price elasticity of demand is negative implying the price increases followed revenue increases by individuals showing the overall growth of the country. Though the overall price elasticity

is not negative, separate consideration of price elasticities for different groups of the population showed price elasticity is higher for the poor indicating non-discriminatory increase in user fees may have a detrimental impact on health care utilization of the poor. The income elasticities are significant and postive indicating medical care is a necessity in urban china.

The other related literature done in a developing country context is on ***"Demand For Curative Care In Rural India: Choosing Between Private, Public And No Care"(Indrani Gupta,2002).*** The research is premised on the theoretical assumption that though the different attributes of health provision such as public good nature of health and the externalities associated with health care provision may undermine the market's role as an efficient mechanism for allocation, it does not mean public care provision is the second best alternative. And this is true with respect to curative care, which does not exhibit properties of public good or externalities. And hence demand for curative care should be treated a normal good which can be provided by the market. A nested multinomial logit model is used and the result of the regression reveals both income and price affect the choice of provider and there is diminishing marginal utility of consumption. Age is positive and significant in all of the provider choices indicating that utilization of medical care increases as people grow older. Education is again postive and significant for the entire four providers, indicating that it is an important determinant of provider choice, and those individuals with less education are likely to demand more care, compared to those with more education. The sign on the gender variable indicates that females are in general more prone to seek health care than male.

Another related literature done on a developing country context is ***On "The Demand For Primary Health Care Services In The Bicol Region Of Philippines"(Akin,1986).*** Philippines is a middle-income developing country where health coverage is typically well. The data used is the result of a multi purpose survey conducted in 1978 and a sample of 1903 households were covered. A multiple regression was run where the dependent variables were the types of treatment along with the type of provider and the independent variables were the various individual, and supplier characteristics. The most important finding from the out patient model where multinomial regression was run, was that the lack of statistical significance for economic variables viz severity of illness, age, cash cost of visit, transportation time and insurance coverage on usage. Conversely pecuniary and non pecuniary costs of medical care are not important predictors of the choice of practitioners. However for delivery services, price, transport time, place of residence, mothers' education are important determinants of using a modern health facility.

Regarding prenatal and postnatal care demographic variables such as place of residence, mothers' education and age have significant impacts. The overall suggestion of the study is that consumers of health care can be made to bear the full or partial cost of health care provision in the form of user fee except in the case of natal cares.

As Ghana is mentioned as a case in point regarding the success of user fees for generating additional wealth by being able to recoup 17 % of its health expenditure, glancing at another study conducted in Ghana specifically to investigate the impact of user fees is worthwhile. The study is entitled "***A Price To Pay: The Impact Of User Fees In***

Ashanti-Akim District ,Ghana "(Waddington C,1989) The purpose of the study was to investigate the impact of the significant increase in user fee on absolute utilization level, and the data used was obtained from monthly outpatient returns and from the registration books kept by the public ,mission, and private health care providers. Information on the type of illness, age and occupation is available from the data. To fill the gaps in the data from the registration books, focused group discussion were held. The discussions showed that increase in cost has compelled individuals to divert their demand to the drug stores where they can buy drugs only without consultation fee. Also true is the impact of quality, and accessibility on the pattern of utilization. The results indicate there is a massive decline in the use of government owned health facilities following the significant increase in user charges which cannot be recovered later due to the shift of demand to mission owned hospitals whose utilization has tremendously increased. However utilization by the most vulnerable groups of individuals under the age of five has not declined whereas the number of females has declined. And occupation did not seem to have a separate effect on utilization. Regarding the impact of distance, after the increase in charges, people started to by pass the nearest government health facility in favor of a distant mission hospital. Hence the imposition of user fees has welfare-reducing effects and may lead to underutilization of public health facilities that are both unintended and undesirable.

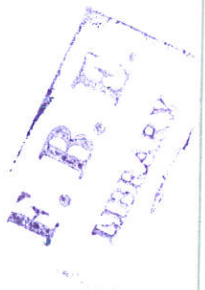
As arguments in favor of increasing user charges are forwarded in such a way that the demand diversionary effect of user charges can be countervailed by using the revenue so generated for enhancing qualities for people are more responsive to quality than price, studies done on the impact of quality on user fees are equally pertinent. *Hence " Health*

care quality and the choice of care providers: Cameroon II" is dealt with (Sylvester,2003). The study is premised on the assumption that individuals by pass the nearest and cheaper health facilities in search for better quality and therefore distance, price and income are not important determinants of provider choice. The study used data collected on a survey of 800 households in a southern province of Cameroon. The data includes information on socio economic factors, access to care, illness episodes, use of health care facilities and reasons for choosing a particular facility and costs of care. The government owned health clinics are cheaper whereas mission and government hospitals are more expensive. Cost includes consultation fee, cost of drugs and travel cost. The reasons include severity of illness, proximity, quality, and low cost. The descriptive part of the study showed that more people including the poor do visit more expensive, more distant health facilities. Even those who cannot afford for the expensive facilities choose self-treatment than going to cheaper but poor quality facilities. Multivariate regression using a multinomial logit model was used to estimate the effect of the subjective reasons on the choice of a provider from the array of providers such as government clinic, mission clinic, government hospital, mission hospital and self-treatment. The results show quality and severity of illness are significant determinants of health care providers. As to the separate effects of each of the reasons, the results indicate increasing the cost of travel to government hospital increases the probability of utilizing government health clinic.As as the cost of travel to mission clinic declines, the probability of using the mission increases. An increase in the medically evaluated severity of illness raises the probability of visiting government owned hospital. Age increases the probability of choosing a government hospital. And quality is given as a reason for choosing the

government hospital in all cases. On the other hand sex, education and other demographic variables have no significant relation with a choice of health care provider. Since quality is given as the major reason for choosing a particular health provider for all types of providers, a second multinomial regression is undertaken to isolate the objective reason for choosing a particular health provider. In doing so the reasons given by the respondents are regressed as dependent variables against responsiveness to medical effort, disease responsiveness to medical skill, responsiveness to patient effort, age, family and price as independent variables. The estimates show that closeness is cited as a reason when the sickness is not responsive to treatment, or when the patient is younger or from a poor family. Quality is cited, when the ailment is responsive to medical skill that is available at the hospital. Inexpensiveness is cited as a reason if the sickness is not responsive to medical skill. Generally the over all results are concomitant to the findings of earlier studies which state quality becomes important when it is related to sickness that is objectively serious and requires skills.

The other related literature is on" ***Private Health Care Provision In Developing Countries: A Preliminary Analysis Of Levels And Composition*** ", (Harvan 2004). The article is premised on the fact that despite the neglect of the private sector from both public policy and research, the role of the private sector in the provision of health care is very significant. The Article was intended to identify the determinants of private provision and the relationship between public and private sectors. For the purpose of the article, private provider include all providers of health care that fall outside the direct control of the government hence includes health care facilities owned by individuals for profit, and those operated by religious missions and NGOs. Regarding the variables that

influence the expanse of the private sectors, a regression is estimated. Urbanization and secondary school enrollment were found to have significant and positive effect on the number of private physicians. This may be due to a high concentration of high-income individuals in urban centers and the presence of social or private insurance in the same. Education is positively related to the demand for high services in general, and may increase the demand for higher quality private health services. Longer life expectancy is associated with a larger number of private physicians and of private hospital beds; indicating age is positively associated with the use of private care. Increased public expenditure for health is associated with increased private but non-profit beds. Income affects positively and significantly the supply of private for profit beds. Population density affects private supply positively. Health needs captured by infant mortality and life expectancy are uncorrelated with private sector share variables. There is a strong correlation between mode of financing and the supply of private care that is that the higher the share of private out of pocket expenses or insurance sources, the larger will be the private sector provision of health care. To test whether the public and private sectors are complements or substitutes a regression was run and they are found to be substitutes because a high presence of public sector is attended by a low presence of private sector and the vice versa.



Therefore any health policy should take in to account the positive role the private sector can play in meeting health care demand and the government should confine itself to address those needs that cannot be meet by the private sector. This will reduce the financial burden on the government and enable it to invest the portion of its budget for the provision of health care where the need lies most. And the expansion of the private

sector is within the interest of the government, and hence policies that make the private sector grow such as compulsory insurance for some high-income groups should be adopted.

Another study very relevant for developing countries is done on the impact of user fees and is entitled "***User Charges for Health Care: a Review of Recent Experience***" (Akin, 1991). Following the dictates of the Britton Woods institutions for structural Adjustment Programmes, many developing countries have introduced user fees with the double objectives of first generating revenues for health provision and second to fend off artificial demand. The foregoing well-known article by Akin corroborates these objectives by asserting the impact of user fees on the demand for health care is insignificant and the imposition of user fees affords has only the added advantage of revenue generation without any demand diversionary effect. However this latter study revealed that as the resource generated by the imposition of user fees is insignificant plus the public sector of the developing countries is characterized by wastage of huge resources, and it is better to enhance the managerial efficiency of the public sector. The gains that may accrue from enhanced efficiency by far outstrip the gains unleashed by the imposition of user fees. He argued further when the cost of collecting user fees is taken in to account the net revenue gains are nominal. Analysis of cross-country data revealed that the impact of user fees on utilization is immense for huge demand is diverted especially by the poor and high-risk individuals.

3.3 Literatures on Developed Countries

The other related literature is on "***Health care provider choice in the case of patient initiated contacts. An extended version of discrete choice model***"(Jaume Puig ,1998). It

is a study in a developed country context which investigated the provider choice that patients make from a nested set of alternative providers.

A nested multinomial logit model is used to analyze the elements that influence individual's choice between GP (public or private), emergency visits (clinic or hospital) and specialist. It used data obtained from the results of the Spanish National Health survey; the survey includes a wide range of information on health conditions and healthcare utilization as well as socioeconomic data on non-institutionalized Spanish people. The independent variables include age, sex, smoking habits, physical exercise, place of residence, family size, education, perceived health status, and chronic disorders, travel time, waiting time. Income was unobservable variable, the survey only included social status proxies by employment status and level of education, and income was proxied by computing disposable income at each social status from the Spanish family expenditure survey. The research found income and monetary and non-monetary costs are important determinant of provider choice in the demand for medical care. General practitioner demand is insensitive to travel and waiting time. The demand for emergency service is more elastic than the demand for specialist and general practitioner's services. Demand is much more sensitive to price for the lowest income group of patients than the higher income group. Demand by low income group for emergency services is highly sensitive to travel and waiting time The great differences in the time elasticities between income groups not only reflect different individual responses to the opportunity cost of time. It also reflects differences in the perceived quality or effectiveness of service because high income patients prefer to spend more time in accessing hospital services due to the perceived higher quality than spending less time in accessing less effective

general practitioner services. As waiting and travel time decreases, demand will increase for these income groups. On the other hand the demand for emergency services is sensitive to time. Health status plays an important determinant of individual decisions, both in terms of seeking formal care and the type of provider chosen. Individuals with worse health status are more likely to contact general practitioners under public financing and less so private insurance and direct payment providers. Then the probability of using hospital emergency is greater for those individuals with regular or good perceived health status than for those with poor perceived health status with chronic disorders. The probability of making use of formal care is significantly lower for females than males. Age plays a minor role in determining the decision of which type of provider to choose. Regarding the effect of place of residence, in big cities expected effectiveness or quality of emergency service is given a greater weight by individuals. Health related characteristics such as being a smoker or doing little physical exercise do not increase the probability of seeking formal care but reduce it.

As taking measures to reduce the financial burden of the government in the provision of health care is not unique to the developing world but is common in both developing and developed countries, Britain has put forward stringent requirements for eligibility for the National Health Service. Different studies were undertaken to analyze the impact of such measures. One Obvious impact of such measures is to increase private provision of health care and increased private provision undermines the equity aspect of health care. Increased private provision of heath care compromises the quality of public health provision by taking away human resource from the public sector and reduces the willing ness of the public to pay tax. A study in this regard is entitled ***The Demand For Private***

Health Care In The UK (Propper Carol, 2002) and the findings of the study are, women are more likely to demand care in each sector than men. educational attainment is positively associated with use of both sectors, though the magnitude of the estimated marginal effects is larger for private alternative. Private users are less likely to live in social rented houses, and NHS users are more likely to do so. Being employed is negatively associated with the use of public care. Income is more heavily associated with use of private care than use of NHS. There appears to be no clear association between the length of either waiting lists under a year or over a year and use of any of the alternative. The estimates of inpatient and dental use indicate demographic differences between users and non-users of these services. There are also clear socioeconomic differences between the users of private and NHS care for these two services. NHS inpatient users are less likely to be employed and are more likely to live in socially rented houses than either non users or private users. NHS dental users are poorer and less likely to be employed, reflecting the eligibility requirement for free dental check-ups. The results also indicate a strong association between lagged and current use. NHS only use is associated with use last year of either service whereas private use is negatively associated with use of last year NHS, and positively associated with lagged use of private services.

Another related literature done in a developed country setting is on "***Financial, Organizational, And Professional Factors Affecting Health Care Utilization***"(Dutton,1991). The paper explored the effects of provider specific and system features on health care utilization i.e. it examines the role of potential barrier to access, financial, time, and organizational factors on utilization. Fees, travel and waiting time, physician practice pattern are considered as system attributes where as the professional training and

personal characteristics of physicians are considered as physician characteristics. The sum total of patient characteristics and these system attributes and physician characteristics determine the degree of utilization. A multiple regression analysis using the Ordinary Least square was used where the different types of patient controlled uses and physician controlled uses are considered as dependent variables whereas the various system, patient and physician attributes are considered as independent variables. Data collected by a household survey on households' usual providers was used. The locale of the survey was a district in Washington where the majority of the families were black. The estimation results for system features revealed that high prices were negatively associated with lower rates of all types of uses among the poor and non-poor though the impact is more serious for the poor. Distance like charges has greater deterrent effect on the poor than the more affluent. Long waiting office time is also an access barrier for adults. With respect to income, the estimation results showed that patients in the low income quartile had lower use rates for all measures but medication. Regarding the effect of physician attributes, the estimation results reveal children seeing female and black physicians had significantly more frequent check ups and are less likely to initiate initial visits. Patients of more specialized physicians tended to have higher rates of preventive as well as initial illness visits.

Given the rising share of the private sector in provision of health care, any policy designed to enhance the efficiency of public expenditure for public health provision should take in to account the factors that influence the utilization of the alternative providers of health care. And review of literatures on the demand for health care inclusive of both types of providers is highly commendable. It is from this perspective

that an article ***On " Public Vs Private Health Care Services Demand In Italy "***is reviewed (Fabbari,2002) The study premised on the increased utilization of private providers of health Vs public providers and has intended to find the factors that contribute for the diversion of demand from public to private providers. Data from the Italian Survey on health, age and wealth was used. As specialist services can be accessed from both public and private providers, the study attempted to evaluate the determinants of individual utilization of specialist services from both classes of providers. The determinants of concern are income, education, private insurance, and supply characteristics. A hurdle model is used for the purpose of regressing estimates. The dependent variable is the number of visits to a specialist physician, and the independent or explanatory variables are family income, education, employment status, sex, age, health status, smoking habits, alcohol consumption and place of residence, availability of hospitals, physician density. The results of the hurdle model estimate are higher family income corresponds to higher probability of contacting a private specialist, more educated individuals tend to have higher probability of contacting a public physician. Age has a negative despite decreasing impact on the propensity to contact a specialist. Health status tend to play a major role in the contact decision and for public specialist . Living in bigger towns reduces the probability contacting public specialist. Holding private insurance does not affect the contact decision though it positively affects frequency for private visits.

The foregoing review of related literatures indicates that despite the very short existence of Health care economics, the relevance and interest in the discipline is growing. The studies on health care demand and utilization unveil that the demand for health care is

influenced by various individual demographic and socioeconomic characteristics, household characteristics, and supplier attributes. Conversely demand for health care is the net effect of the interaction between the various enabling, predisposing and access variables. And the impact of the different variables varies across countries. The review also disclosed there are various econometric tools that can be used in assessing the impacts of the variables on the demand and pattern of utilization of health care. And different econometric models may give differing results. Also true is the nature of the data used dictates the model to be adopted and thereby influence the regression results. What must be underscored is that the size of variables that influence health care utilization is increasing calling for more and more sophisticated econometric tools and soft wares.

Chapter Four

4. Analytical Framework

The Modern health care demand analysis is heavily based on the neoclassical paradigm of rational consumer and constrained utility maximization theories. The basic idea in health care demand analysis is that an individual that faces different health care providers is assumed to maximize utility from health (H) and from the consumption of a composite good (C) subject to income and health production constraints. This implies that in an event of illness or injury individuals or households must decide whether to seek medical care and from which provider based on price and non-price factors and the perceived quality of the provider. Then individuals will choose from an array of providers the alternative that gives them the maximum utility. If we assume the provider J yields the maximum utility to individual I, then the probability that the j^{th} alternative is chosen is the demand function for the individual I, Algebraically a sick individual I who faces J+1/treatment options, the $J+1^{th}$ alternative being self care (no outside medical care) in a given period , is assumed to maximize a utility function conditional on obtaining treatment from provider (U_{ij}) given by

$$\text{Max:} U_{ij}=U(H_{ij}, C_{ij})+e_{ij} \quad \ldots\ldots\ldots\ldots\ldots 1$$

Subject to

$$Y= TP_{ij} + P_cC_{ij} \quad \text{(Budget constraint)}\ldots\ldots\ldots 2$$

$$H_{ij}= H_0 + Q_j (X, Z)\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Where

H_{ij} is the post – treatment health status of the individual who gets treatment from provider J

C_{ij} is the consumption level after provider J is chosen and P_c the price which is normalized to one for identification purposes

Y is total income of the individual or the household.

TP_{ij} is the direct cash payment, transport cost and opportunity cost of time to get treatment from Provider j

H_o is the initial health status of the individual

Q_j is the health improvement after treatment by provider J and it is a function of individual characteristics that affect health outcomes and a vector of provider characteristics.

Then the problem of the Individual is to maximize the unconditional utility function

$U^* = Max\ (U_{i1}, U_{i2}, U_{i3}\ldots\ldots, U_{ij+1})\ldots\ldots\ldots\ldots\ldots 4$

Where U_{ij} is the utility function from provider j=1, 2, 3…j+1

The solution to 4 gives the health care alternative that is chosen. Note that provider J is chosen if and only if $U_{ij}>U_{ik}$ for all K= 1,….,j+1 ,K≠J. Then the conditional utility function of provider J can be computed by solving from Cj from 2

$Cij = Y_i - TPij / Pc \ldots\ldots\ldots\ldots 5$

By normalizing Pc to one for identification purposes gives

$Cij = Yi - Tpij \ldots\ldots\ldots\ldots\ldots 6$

Substitutions of 3 and 6 in to 1 gives

$Uij = U\ (Ho + Qij(X,Z)\ ,\ (Y - TPij) + eij$

$Uij = U\ (Ho + Q_{ij}(X,Z)\ ,\ (Y - P_{ij} - TT_{ij} - WT_{ij}) + e_{ij}$

As long as the conditional utility function, Uij in the above equation is quasi – concave in H_{ij} and C_{ij} ,and H_{ij} and C_{ij} are greater than zero ,there exists a conditional indirect utility function with all of its property of quasi convexity , and decreasing in prices and increasing in income given by

$$Vij = V (P_{ij}, W, TT_{ij}, WT_{ij}, H_o, Q_{ij}(X,Z), Y, e_{ij})$$

4.1 Econometric Model

One important criterion for selecting an econometric technique is the nature of the endogenous variable in the model. In this study the endogenous variables of concern are the attributes of health care services as manifested by the existence of different types of health care providers. It is important to understand first whether the availability of these attributes can be characterized as being continuous or discrete in nature. If the health care market offered a continuous availability of each of the attributes of health care, each consumer could select the utility maximizing attributes and then go to the provider that offered the particular bundle. If such is the case methods such as the ordinary least square can be applied. But in health care system of a developing country, the assumption of continuous bundles is not realistic, because the quality of attributes come only in discrete bundles, and hence a discrete choice model is appropriate to estimate the demand for various health care delivery models.

Applied economics literature on the discrete nature of the decision to utilize a medical service has employed various model specifications. Specifications use dichotomous dependent variables, negative binomial distributed hurdle model, the probit model, the multinomial logit model, the nested multinomial logit model, the multinomial probit

model and others. For the purpose of this paper a Multinomial Logit Model is used to analyze the impact of different need, access and enabling factors on the choice of a particular health care provider. The Multinomial Logit Model is preferred first because it is the most common model used in health care demand analysis, and second because of its computational ease. Furthermore though the main shortcoming of the multinomial logit model that is its assumption of Independence of Irrelevant Assumption (or the non-correlation of error terms of the indirect utility function or the correlation of the error terms being equal to zero) may be theoretically important, the estimates of the multinomial logit model and other models that incorporate correlation of error terms are similar. Hence the multinomial logit model can give sound results.

A multinomial logistic regression analysis is used to estimate the likelihood of choosing a peculiar type of health care provider for a set of individual and socio economic characteristics and provider attributes.

As an extension of the binary logit model, the MNLM is used when the dependent variable can be categorized into more than two groups. This model therefore provides a better method of analysis in determining why a patient chooses a particular health care provider as opposed to the binary logit model, which would simply provide a yes or no analysis. The parameters in a binary logit model are usually interpreted as ordinary regression coefficients where positive values indicate that the independent variable or their interactions raise the log odds of the dependent variable while the negative coefficients show lower log odds. An odds ratio is the ratio of being in one category to not being in that category. It is interpreted, as the chance that an individual randomly

selected will be observed to fall in the category. In the binary logistic regression one directly estimates the probability of an event occurring such that:

Probability of an event = $e^{\beta 0+\beta 1}/ 1 +e^{\beta 0}+^{\beta b1x}$ or

$1/1+ e^{-\beta 0+\beta b1x\beta}$

Where β_0, β_1, β_2...βn are coefficients estimated from the data, x is the vector of independent variables and e is the base of the natural logarithms .For more than one independent variables the model can be rewritten as

Prob(event) $=e^z/(1+ e^z)$ or $1/(1+e^{-z})$

Where $z= \beta_0+\beta_1X_1 +\beta_2X_2+...\beta nXn$

Probability estimates always lie between 0 and 1

It involves nominal response variables with more than two categories. Multinomial regression models are multi- equation models. A response variable with K categories will generate K-1 equations. Each of these K-1 equations is a binary logistic regression comparing a group with reference group. Multinomial logistic regression simultaneously estimates the K- 1 logits.

Further it is also the case that the model tests all possible combinations among the K groups although it only displays coefficients for all the K- 1 comparisons.

Say that we had a response variable with three levels ,the probabilities for each of the levels could be obtained as follows,

P(y=1) = exp. (β1* x)/(exp(β1*X) + exp(β2*X) + ep.(β3*X)

P(y=2) = exp (β2* x)/(exp(β1*X) + exp(β2*X) + exp(β3*X)

P(y=3) = exp (β3* x)/(exp(β1*X) + exp(β2*X) + exp(β3*X)

This system of equation is unidentified, that is there is more than one solution to the coefficients that lead to the same probabilities. To make the system identifiable, one of the coefficients is set to 0.It does not matter which one since they each yield the same probabilities. We will set the probability for B1 to 0, yielding

$$P(y=1) = 1/(\exp(\beta 1*X) + \exp(\beta 2*X) + \exp(\beta 3*X)$$

$$P(y=2) = \exp(\beta 2* x)/(\exp(\beta 1*X) + \exp(\beta 2*X) + \exp(\beta 3*X)$$

$$P(y=3) = \exp(\beta 3* x)/(\exp(\beta 1*X) + \exp(\beta 2*X) + \exp(\beta 3*X)$$

This, in turn, leads to the following probabilities relative to reference group, in this case group 1.

$$P(y=2)\ P(y=1) = \exp(\beta 2*X)$$

$$P(y=3)\ P(y=1) = \exp(\beta 3*X)$$

Thus, the two coefficients, β2 and β3 represent the log odds of being in the target group relative to the reference group.

Most scholars apply the multinomial logit model, usually referred to as categorical and limited dependent variables (Long 1997) when analyzing relationship involving several choices to be made by respondent.

4.2 The MNLM as an Odds Model

The MNLM can also be expressed in terms of the odds, as is the binary logit model. Probability is the chance something will occur while odds is the ratio of the probability something is true divided by the probability that it is not. There fore the odds ratio is the ratio of two odds and is a summary measure of the relationship (effect size) between the

two variables. In this light therefore, the odds outcome m versus outcome n given x indicated by Ωm/n (x) equal

$$\Omega m/n(x) = Pr(yi = m/xi)/ pr(yi = n/xi)$$

$$= \exp(xi\,\beta m) / \exp(xi\,\beta n)$$

Combining exponents leads to the odds equation

$$\Omega m/n(x) = \exp(xi\{\beta_m - \beta_n\}$$

Taking logs shows that MNLM is linear in the logit

$$\ln\Omega m/n(x) = (xi\{\beta_m - \beta_n\} = \beta_m X_i$$

Therefore given identifying constraint that $\beta_1 = 0$, β_k is the effect of X on the logit of the outcome 1. That is ,for a unit change in X_k the logit of the outcome m versus outcome 1 is expected to change by $\beta_k m$ units holding all other variables constant(Elisabeth,2003)

4.3 Variables used in the Study

The model used for the purpose of this study is the multinomial logit model. The dependent variable v is the individual choice given that he / she is ill. As we have used the data from the welfare monitoring survey 2004,the health care providers mentioned in he data are traditional healer, hospital(Govt) health center health(Govt) clinic(Govtt) private health institution, mission, private health personnel and others study but for the purpose of this study I have lumped together the government owned health providers as public health providers, we have considered the private health institutions as the second endogenous variable and traditional healers and others as the third endogenous variable

.We have ignored private health personnel, and mission health facilities because they were visited by quite insignificant number of individuals (less than three percent).

As there are individuals who have been ill but visited no heath facilities both traditional and modern (29 %), we have considered these individuals as users of self care which is considered as the fourth endogenous variable. We have ignored pharmacies as providers of health care because for the number of individuals who were sick and visited pharmacies are quite insignificant with a mere 23 individuals visiting pharmacies merely constituting 0.1 percent.

The explanatory or independent variables are categorized into three as individual variables, household variables and structural variables. The individual variables include the age, sex, marital status, educational level, employment status, the nature of employment type of sickness of the respondent. The other attribute which were considered were the severity of illness. I considered those diseases that are mentioned by the respondents from the list of diseases mentioned in the questionnaire as serious and those falling within the generic term others as non serious. The household variables include the sex of the house hold head house hold income, the relationship of the respondent with the household head, the sex of the household head, the educational level of the house hold head, the assets owned by the head of the household, employment status of the household head. For the purpose of this paper we have considered the ownership of car as proxy of wealth owned by the household. The structural variables include the attributes of the providers which include the availability of drugs, the health professionals, availability of laboratory and others. The structural attributes are not

directly observed and hence is inferred from the perception of patients as to the qualities of the choice of their preference. In the welfare monitoring survey individuals who visited the modern or traditional health care providers were asked as to the problems which they have encountered with the respective health care providers and the questions they were asked for included information about the hygiene of the health care provider, the availability of health professionals, availability of drugs, the lack of laboratory and shortage of medical equipment, and cooperation of the staff. Those who have opted for self care were also questioned as to the reasons for not seeking outside medical care. And the responses include inadequate facilities, no staff / equipment poor service, distance, and expensive of the responses we have sifted out the quality parameters and included perceived quality as structural variable.

Table 5. Summary of variables used in the study

Variable	definition	Measurement		Expected sign		
Individual characterstics			Private	Public	Traditional	Self care
Sex Male Female	1 female, 0 otherwise	Dummy Variable	+	+ve	-/+	-/+
Age	The age of the respondent	Continuos Variable	+	+ve	-	-
Educational level Illiterate	1 literate, 0 other wise	Dummy Variable	-	+ve	+	+
Primary	1 primary, 0 otherwise	Dummy Variable	-	+ve	+	+
Secondary	1 secondary 0 otherwise	Dummy Variable Dummy Variable	-	+ve	+	+

Tertiary	1 tertiary, 0 otherwise	Dummy Variable	+ve	-ve		-
Type of sickness	0 serious 1non serious	Dummy Variable Dummy Variable	+ve	+/- +ve/ -ve	-	-
Occupational status Employed	1 employed , 0 otherwise	Dummy Variable	+ve	+ve		-
Self employed) (Formal	1self_ employed, 0 otherwise	Dummy Variable	+ve	+ve	-	-
Self employed (informal sector)	1 self employed 0 otherwise	Dummy Variable	-	+	-	-
Government Employee	1 govt employee 0 otherwise	Dummy variable	+	+	-	-
Public employment	1 public employee 0 otherwise	Dummy Variable	+	+	-	-
Household characterstics Sex of head Female Male	1 male 0 female	Dummy Variable	-ve	+ve/ -ve	+/-	-
Age of the house hold head		Continuos Variable	+ve	+ve/ -ve	-	-
Education of the head Illiterate	Illiterate 1, 0 otherwise	Dummy Variable	-ve	+ve	+	+
Primary	Primary 1 0 otherwise	Dummy Variable	-ve	-ve	+	+
Secondary	Sec1,0 otherwise	Dummy Variable	+ve	+ve	-	-
Tertiary	Tertiary 1 zero otherwise	Dummy variable	+ve	-ve	-	-

employment status of the house hold head Employed	Employed 1, zero otherwise	Dummy Variable	+ve	+	-	
Self employed) (Formal	Self employed 1 zero otherwise	Dummy Variable	+ve	+ve/-ve	-	-
Self employed (informal sector)	Self employed1. zero other wise	Dummy Variable	-ve	+ve /-ve	-	-
Government Employee	Govt employee 1, 0 otherwise	Dummy Variable	+ve	+ve	-	-
Public employment	Public employee 1, zero otherwise	Dummy Variable	+ve	+ve	-	-
Private employment (formal)	Private employment 1, 0 otherwise	Dummy Variable	+	+-ve	-	-
Private employment Informal	Private employment 1,0 otherwise	Dummy Variable	+ve	-	-	-
Relation ship with the head Husband and wife	1 if yes, 0 otherwise	Dummy Variable	+ve	+	-	-
Parent – son/ daughter	1 if yes ,0 otherwise	Dummy Variable	+	+ve	-	-
Relative/ Non relative	1 if yes ,0 otherwise	Dummy Variable	-	+	+	+
Household size		Continious variable	-	+ve	+/-	+/-
Asset ownership of the household Own house	1 if own ,0 otherwise	Dummy Variable	+	-/+	-	-
Own car	1 if own car, 0 otherwise	Dummy Variable	+	-	-	-

Chapter Five

5. Discussion on the Findings of the Study

5.1 Descriptive statistics

The total number of individuals covered by the survey 2458 ,of whom 14.3 %have stated to have faced health problems during the last two months preceding the survey. Of these, 40.2 % have visited government health providers, where as 26.9 % have visited private health institutions and 3.8 % have visited traditional healers and others. The balance which constitute 29.1 % have not sought treatment. But since an individual who gets sick will inevitably try to improve his ailment, such individuals are considered as opting for self-care which is considered as a provider for the purpose of this study.

This is tenable when we look at the reasons forwarded by the respondents as to the reason why they did not seek outside medical help. Most have stated financial incapability, expensiveness, poor quality, distance, not believing in medical treatment, and no need to consult. 54% of those who were ill but not have visited out side medical help have said the reason for their not seeking out side medical help is financial incapability. Therefore it can be inferred that they have opted for self-care because they believe it is cheaper. Since 36% of the patients who do not seek out side medical treatment for reasons of need were afflicted with serious ailments such as malaria diarrhea and other serious types of sicknesses, it can be said that the individuals have not visited out side medical care not because they do not need care but because they believe self care will be good enough to improve the health condition.

When we come to the economic status of members of this group in terms of their ownership of asset especially car, we found out that only 0.02 % of those individuals who were sick but not sought care owned car when compared with the over all 4.8 %. This means most of the individual who belong to the self-care category belong to the lower income quartile.

Though there are 319 private clinics(small, medium higher and special) and 15 private hospitals in Addis Ababa in contrast to five government owned zonal hospitals,27 health centers,136,health stations and 78 health posts ,still 40.2 % of the patients used public health care providers in contrast to a mere 26.9 % who visited private health care providers. This indicates despite a large concentration of private health care providers in Addis; still the government is the largest provider of health care.

When the respondents were asked about the different quality problems they have faced with the different health care providers, most have serious complaints on public providers of care in terms of hygiene, shortage of health facilities, lack of equipment, unavailability of medicine and staff being uncooperative. Public health providers are least complained about for expensiveness whereas most private health care providers are complained for being expensive. This indicates that what forced individuals to prefer public health facilities is low price of the public health providers.

The other thing that is worth mentioning is the role of Missions or NGOs as providers of health care. Though there are hospitals, and health centers, and stations owned by missions, merely one percent of the respondents have visited such NGO or Mission owned health care providers. From the responses of the respondents as to the problems

faced by users, the mission owned facilities are the least complained about. Hence it can be implied that mission facilities are catering for the interests of members of their denominations or the public do not know about their existence.

Below we will consider the descriptive analysis of the impacts of the different access, individual and household variables on the demand for health care.

Table 6. Descriptive Statistics of the observations

	N	Minimum	Maximum	Mean	Std. Deviation
Marital status of the individual	2458	.00	1.00	.6843	.46489
Education status of the individual	2458	.00	3.00	.9162	.98187
Perceived quality	2458	1.00	2.00	1.7832	.41218
Employment status of head	2458	.00	1.00	.5903	.49188
Marital status of the head	2458	.00	1.00	.6176	.48608
Sex of the head	2458	1.00	2.00	1.3832	.48627
Household size	2458	1.00	20.00	5.8116	2.90872
Sex	2458	1	2	1.59	.492
Valid N (list wise)	2458				

5.1.1. Individual Variables

When we consider the age distribution of patients, 29 % of them were under the age of 15 whereas 22 % were fifty years old and more. This implies that most of the patients cannot afford to pay for their medical expenditure and have to depend on the support of others. The young age and the old age constituting the nearly 50% of the patients indicate age is closely associated with vulnerability to sickness. That is as properly depicted by Grossman as young people have low stock of health they need to consume more health care to build up their stock of health and old individuals also have to visit health care providers more frequently because with age their stock depreciates at faster rate hence

they need to consume health care to maintain the health stock which would otherwise depreciate with age.

When we look at the sex distribution of patients, we can observe the female patients formed 58.% whereas the male formed 41.1 % of the patients. This may be concomitant with the theory that states the physiology of the female sex exposes them to vulnerability of sickness.

Though the survey is carried out in Addis Ababa, 45 % of the patients are illiterate, this is consistent with the theory which states more educated individuals have better health status because they adopt healthy life style and conversely less educated individuals are prone to illness because their life style exposes them to sickness. This is further compounded by the fact that in Addis, the over all literacy rates is 91 % implying the size of the illiterate in the patients exceeds their share in the general population.

Concerning the educational background of the users of the different health care providers, out of the total number of users of the public health facilities, 67. 3% are literate whereas in the case of private provision of health care 73.6 % are literate .At least at face value it indicates the literate ones do prefer private health provision for reasons of better quality and short waiting time. If we consider the number of those with tertiary education, while only sixty one individuals with tertiary education have visited public providers of health care, sixty seven have visited private health providers. When we consider the education level of the house hold head merely 10 % of the household heads whose house hold member have visited public health institutions have tertiary whereas 20 % of the house holds heads of those household members who visited private health care providers have

tertiary education. This is indicative of the fact that the more educated are the individuals or the heads of the respective households, the more likely it is for them to visit a private health care provider. This is indicative of the value educated individuals give to the quality of providers which private providers are presumably deem to have .

When we consider the impact of employment status 71 % of those individuals who have been sick, and have sought treatment are unemployed. This indicates unemployment and the associated poverty may contribute to illness because such individuals may lack food and other amenities that are vital to good health. As to the choice of health care providers, 67 % of those who have opted for private health care providers are unemployed whereas 74 % of those who have visited public health providers are unemployed. This in turn shows the association of income to the choice of providers for those who have income may be inclined to private health care provision. Of the 710 individuals who have been sick but not have sought outside medical care, 77 % are unemployed showing that unemployment compounded by lack of income compelled people to resort to self-care.

There is variation across the type of facility used depending on the type of employment where the probability of visiting private health care provider increases with the individual being an employer or being in the formal sector or being a government employee.

As the 31 %of the individuals who have been sick are below the age of fifteen and unemployed, the decision to seek out side medical care and from which type of provider is decided by their parents because their medical expenses are borne by their parents it is desirable to consider the relation ship of the individual to the household head and the

employment status of the house hold head. The same also applies when the spouse of the head is unemployed for all the decisions are made by the male house hold head.

If the individual who has experienced sick ness is closely related to the head by being the spouse of the head the probability of visiting out side medical Care is very high followed by being the son or daughter of the head. The probability will increase if the head is employed.

When we refer to those individuals who have opted for traditional healers 62.5 % are unemployed indicating the relative prices of traditional health care facilities are cheaper and these facilities are catering for the needs of the unemployed.

In the survey the respondents were asked about the nature of their sickness .In the questionnaire the patients were asked to choose among a list of types of sickness which include malaria, diarrhea, Injury, dental ophthalmic skin disease ENT, tuberculosis and others. One astounding fact about the data is the mentioned diseases or type pf sicknesses account for 37.3 percent of the sicknesses reported by the patients whereas others account for 67 percent. This makes the analysis for what type of sicknesses patients seek out side medical care and the type of providers they choose a difficult one. Hence CSA should make the questionnaire an open one allowing the respondents to specify the specific type of disease or sickness for the purpose of purpose of analysis which the data is intended to cater for.

Of the individuals who reported to be afflicted with sicknesses, which are identified by name, only 72.8% have sought outside medical care while the rest opted for self-care.

5.1.2. Access Variables

Regarding the impact of distance, the descriptive analysis, shows distance is not a significant determinant of choice of health care provider. Though the data do not clearly show the distance from a particular household to the nearest health care provider, it shows the time it takes for a particular household member to reach the nearest health care provider which can be health post, clinic, and hospital and health center. Though health post is the nearest health care provider in terms of the time it takes to arrive at the nearest health post, merely4.6 %of the households use health post. Conversely though the hospital is the furthest in terms of the time it takes to arrive at, nearly 20.5 %t of the households use hospitals. The same is true regarding health centers and clinics, though clinics are as near as health posts in terms of time it takes to reach there merely 33 % of the households use clinics Similarly in 77 % of the cases, it takes less than 30 minutes to reach health centers merely 33 %of the households uses usually or often the health centers. Further less number of households have attributed being distant as the reason of not using a particular health facility. On the top of these ,of those individuals who have been sick but have not visited health facilities merely 10 or 0.1 % have forwarded being far away as the reason for not visiting a particular health care provider. This indicates quality of health care providers is a major determinant of health care demand more than distance indicating the policy direction of the government should be towards improving quality instead of increasing density. Furthermore it may be indicative of the fact that there are adequate number of health care providers in terms of proximity in Addis Ababa.

Regarding the wealth status of individuals, we have tried to create proxies for wealth by associating wealth with having a particular type of asset. As houses are the most

expensive properties in the metropolis and are a source of income as well, we have proxied having a privately owned house as a measure of wealth. On the assumption that those having wealth will go to the private health institutions for the relative superiority of the latter in terms of quality though expensive, we have tried to look in to the nexus between the two. However we have found no relation ship between the two for a good cross section of individuals who own private dwelling house still go to government health institutions.

Since out of the total number of households, 41 % of them(a total of 668 individual) own a private dwelling house ,ownership of house may not be the right proxy for wealth and we go on to car ownership as a proxy for wealth as only 4.8 percent of the respondents claim to own a car. The descriptive statistics show that out of the total of 100 individuals who allege to own car, 67 visited private health care providers whereas 1 went to a traditional healer and 27 of them went to government health care providers. Hence it can be said though wealth is not the sole determinant of demand for private health provision for there are a large number of individuals who are absolutely poor that still visit private health institutions, the wealthy tend to use private health institutions. The reasons may be short waiting time and quality. This may be true for out of the one hundred car owning patients who have visited private health care only few have complained about either quality or waiting time where as users of the other health care providers have complained about quality and long waiting time.

5.2 Multinomial Logit Regression results

By using the multinomial regression model, an attempt is made to evaluate the impact or the explanatory power of each of the individual, household, access and structural attributes or variables in determining the choice of a health care provider. Though some allege that the nested multinomial logit model is more appropriate for studying health care demand, we opted for multinomial logit model for the assumption of independence of irrelevant alternative holds because individuals make decisions to choose among the various health care providers including self care not on multilevel basis but choose among the providers independently. In the discourse of the analysis, self-care is used as reference group. The outcomes of the regression unveil important features, which may not be concomitant with the theories of health care demand analysis or earlier empirical findings as enunciated in the literature review part of this paper.

Table 7. Estimation result of the multinomial logit model

	Government Health Institution			Private Health Institution			Traditional Healers and Related Actions	
	B	Sig.		B	Sig.		B	Sig.
Intercept	0.566	0.650	Intercept	-1.528	0.229	Intercept	-1.177	0.693
hhsize1	0.019	0.346	hhsize1	0.042	0.050	hhsize1	0.004	0.932
age1	-0.003	0.549	age1	-0.004	0.378	age1	-0.006	0.565
agehed1	0.001	0.870	agehed1	0.005	0.306	agehed1	-0.001	0.904
[sex1=.00]	0(b)	.	[sex1=.00]	0(b)	.	[sex1=.00]	0(b)	.
[distanc1=.00]	-0.158	0.300	[distanc1=.00]	-0.021	0.899	[distanc1=.00]	-0.066	0.838
[distanc1=1.00]	0(b)	.	[distanc1=1.00]	0(b)	.	[distanc1=1.00]	0(b)	.
[ownhouse=.00]	-0.219	0.046	[ownhouse=.00]	-0.047	0.689	[ownhouse=.00]	-0.36	0.141
[ownhouse=1.00]	0(b)	.	[ownhouse=1.00]	0(b)	.	[ownhouse=1.00]	0(b)	.
[owncar=.00]	0.191	0.564	[owncar=.00]	1.12	-	[owncar=.00]	1.406	0.008
[owncar=1.00]	0(b)	.	[owncar=1.00]	0(b)	.	[owncar=1.00]	0(b)	.
[disease1=.00]	-0.415	-	[disease1=.00]	-0.44	-	[disease1=.00]	-0.303	0.203
[disease1=1.00]	0(b)	.	[disease1=1.00]	0(b)	.	[disease1=1.00]	0(b)	.
[sexhed1=1.00]	-0.102	0.410	[sexhed1=1.00]	-0.155	0.253	[sexhed1=1.00]	-0.457	0.08
[sexhed1=2.00]	0(b)	.	[sexhed1=2.00]	0(b)	.	[sexhed1=2.00]	0(b)	.
[quality1=1.00]	1.771	.	[quality1=1.00]	0.979	-	[quality1=1.00]	0.947	0.002
[quality1=2.00]	0(b)	.	[quality1=2.00]	0(b)	.	[quality1=2.00]	0(b)	.
[employer=.00]	0.494	0.193	[employer=.00]	0.093	0.800	[employer=.00]	0.147	0.854
[employer=1.00]	0(b)	.	[employer=1.00]	0(b)	.	[employer=1.00]	0(b)	.

	Government Health Institution			Private Health Institution			Traditional Healers and Related Actions	
[slfempfr=.00]	0.023	0.901	[slfempfr=.00]	-0.335	0.081	[slfempfr=.00]	-0.136	0.733
[slfempfr=1.00]	0(b)	.	[slfempfr=1.00]	0(b)	.	[slfempfr=1.00]	0(b)	.
[slfempif=.00]	0.099	0.523	[slfempif=.00]	0.154	0.375	[slfempif=.00]	-0.337	0.269
[slfempif=1.00]	0(b)	.	[slfempif=1.00]	0(b)	.	[slfempif=1.00]	0(b)	.
[prvempfr=.00]	0.028	0.891	[prvempfr=.00]	-0.126	0.560	[prvempfr=.00]	-0.07	0.879
[prvempfr=1.00]	0(b)	.	[prvempfr=1.00]	0(b)	.	[prvempfr=1.00]	0(b)	.
[prvempif=.00]	0.047	0.866	[prvempif=.00]	0.198	0.551	[prvempif=.00]	1.179	0.259
[prvempif=1.00]	0(b)	.	[prvempif=1.00]	0(b)	.	[prvempif=1.00]	0(b)	.
[empblic=.00]	-0.196	0.382	[empblic=.00]	0.092	0.713	[empblic=.00]	0.509	0.426
[empblic=1.00]	0(b)	.	[empblic=1.00]	0(b)	.	[empblic=1.00]	0(b)	.
[empgov=.00]	-0.706	0.002	[empgov=.00]	-0.35	0.150	[empgov=.00]	-0.63	0.162
[empgov=1.00]	0(b)	.	[empgov=1.00]	0(b)	.	[empgov=1.00]	0(b)	.
[iliterate=.00]	-0.228	0.268	[iliterate=.00]	-1.036	-	[iliterate=.00]	0.18	0.718
[iliterate=1.00]	0(b)	.	[iliterate=1.00]	0(b)	.	[iliterate=1.00]	0(b)	.
[primary=.00]	-0.359	0.082	[primary=.00]	0.52	0.011	[primary=.00]	-0.886	0.065
[primary=1.00]	0(b)	.	[primary=1.00]	0(b)	.	[primary=1.00]	0(b)	.
[secondary=.00]	-0.113	0.575	[secondary=.00]	0.551	0.005	[secondary=.00]	-0.188	0.698
[secondary=1.00]	0(b)	.	[secondary=1.00]	0(b)	.	[secondary=1.00]	0(b)	.
[tertiary=.00]	0(b)	.	[tertiary=.00]	0(b)	.	[tertiary=.00]	0(b)	.
[tertiary=1.00]	0(b)	.	[tertiary=1.00]	0(b)	.	[tertiary=1.00]	0(b)	.
[headspos=.00]	-0.076	0.869	[headspos=.00]	0.131	0.770	[headspos=.00]	-0.58	0.599
[headspos=1.00]	0(b)	.	[headspos=1.00]	0(b)	.	[headspos=1.00]	0(b)	.
[sondugt=.00]	0.221	0.626	[sondugt=.00]	0.744	0.094	[sondugt=.00]	-0.053	0.961

	Government Health Institution			Private Health Institution			Traditional Healers and Related Actions	
[sondugt=1.00]	0(b)	.	[sondugt=1.00]	0(b)	.	[sondugt=1.00]	0(b)	.
[relative=.00]	0.373	0.421	[relative=.00]	0.656	0.148	[relative=.00]	0.122	0.912
[relative=1.00]	0(b)	.	[relative=1.00]	0(b)	.	[relative=1.00]	0(b)	.
[nonrelt=.00]	0(b)	.	[nonrelt=.00]	0(b)	.	[nonrelt=.00]	0(b)	.
[nonrelt=1.00]	0(b)	.	[nonrelt=1.00]	0(b)	.	[nonrelt=1.00]	0(b)	.

a The reference category is: self treated or no action.

b This parameter is set to zero because it is redundant.

5.2.1. Individual and Household Variables*

1. Wealth

The other variable that is significantly associated with the demand for government provision of health care is ownership of important assets like house. As alluded in the descriptive section of this paper, a good cross-section of the households in Addis Ababa own houses including those who cannot seek out side medical care for reasons of financial incapability. The regression results indicate the ownership of houses is negatively related with the use of government health facilities. And this is significant at 5 percent. This may be interpreted as house is still a measure of wealth and those who are wealthy are less inclined to use government health providers. The other related variable which is the measure of household wealth is the ownership of a car, and the result of the multinomial regression shows though ownership of a car by the household has no significant impact on the demand for government health provision, however it has a significant and positive impact on the decision to choose private health providers.

*Age is an important individual variable that positively and significantly affect the demand for health care both theoretically and empirically. The results of the regression indicated age has no relationship with the demand for health care for all types of providers. This may not be taken as the denial of the impact of age on the demand for health care because it is within the natural process of things that the health status of individuals deteriorates with age adding to increased demand for health care with age. Rather it is indicative of the over all low level of health status of the general population due to the abject poverty that prevails in the city of Addis Ababa thereby undermining the separate effect of age on health care demand. The impact of age in determining the demand for health care will be uniquely important in those scenarios where the over all well being of the society is qualitatively good and individuals are endowed with those social amenities that are essential for good health. In Addis the majority of the people are devoid of the bare minimum of necessities denying them the good health that are associated with young age. And hence old age has no special impact on the demand for health care.

2. Sex

The other significant determinant of the demand for traditional health care facilities is the sex of the house hold head. If the head is male the probability of visiting traditional healers reduces and conversely if the head is female it increases. The result is in conformity with the culture of the Ethiopian society where the inclination of visiting traditional healers for physical sickness or other social and economic problems is greater for the female sex. Sex has no significant relationship with the demand for other types of providers.

3. Type of Employment

The other Household variable associated with demand for public provision of health care is the type of employment of the household head. Accordingly if the head is a government employee, it is less likely that the individual will visit public health providers and the impact of government employment is negative and significant. Government employment is significant such that if the household head is government employee, the individual is less likely to visit government provider of health car (70 percent decrease).

4. Household size

Household size is not a significant determinant of demand for public health provision. However it is significant (0.05 percent significance level) and positive determinant for private health care demand. This is contrary to the expectation that increase in household size will put pressure on the wealth of the household thereby compelling such households

to resort to cheaper providers of health care. How ever the result may imply that family planning is in full swing in the metropolis and hence increased family size is associated with increased wealth and puts no additional burden on the household income.

5. Education

The other household attributes that are significant and positive determinants for private health care demand are the completion of primary and secondary education by the household head. These are significant determinants at five and ten percent significance level. And the likelihood of visiting a private health care provider increases nearly by fifty percent if the household head has completed primary or secondary education. This may be indicative of the impact of education in prioritizing quality instead of price in provider choices. This is augmented by the negative and significant impact of illiteracy on the demand for private health care where the probability of seeking medical care significantly declines when the head of the household is illiterate. Completion of primary education by the household head reduces the probability of visiting traditional healers. The other household variable that is significant at 10 percent significance level is whether the household head has completed primary school. And if the household head has completed primary education the likelihood of visiting government provider of health care will decline

6. Relationship with the Head

The other important attribute that is very important in the demand for private health care provision is the relationship of the household head with the individual. And it is found

out that if the individual who was sick is the son or daughter of the house hold head the probability of visiting private health care institution increases positively and significantly. This shows the insurance role family relationships play in the health care market.

7. Type of Illness

In welfare monitoring survey individuals who have experienced illness were asked about the type of illness they have been afflicted with from the list of sicknesses mentioned before hand. The type of sicknesses were malaria, tuberculosis, dysentery, injury, dental ophthalmic skin diseases, ENT and others. For the purpose of this study I have categorized the first eight types of sickness as serious and the others as non serious. And disease type was included in the regression as an exogenous variable. The identified types of sicknesses are taken as serious for they are the major causes of morbidity and mortality in Ethiopia and hence mentioned by name in the survey. The regression results indicated that serous ailments as defined has negative and significant impact for seeking outside medical care both public and private. This finding may be construed as first these types of sicknesses may be leading causes of morbidity and mortality at the national level and this may not be the case in the metropolis. This may be true because out of the total of 2458 individuals who have reported to have experienced sickness during the recall period, merely 26 % have mentioned the types of diseases categorized as serious as the sources of their ailment. The other reason that might be logical is that both private and public health providers are equally catering for the types of sicknesses for 52 percent of the individuals went to private health institutions where as 57 percent went to government owned facilities. This is an important finding because one of the reasons for the provision

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of health care by the government is the public good nature of health care provision especially with respect to public health problems. Though the diseases that are categorized as serious such as malaria, tuberculosis, dysentery are public health problems which were presumed to be effectively dealt by government provision of health care, the results indicate they can also be dealt by private providers thereby putting the government provision of health care even in those types of sicknesses with public health nature in to perspective.

5.2.2. Provider Attributes

1. Quality

The other important finding of the study is that perceived quality is a positive and significant determinant of choice for both public and private providers of health care. Quality of treatment is an important determinant of the success of a treatment. Quality of treatment and hence that of the provider depends on the qualification of the personnel, the availability of drugs, the availability of different technologies and etc. This means that quality is a very important determinant of demand of health care from both types of providers. And individuals take in to account quality parameters in their choice of government health providers. It is not only price and distance that induce individuals to prefer public health institutions. And the importance of quality should be underscored in an environment where both public and private providers co exist such that the equity goals of public health provision will be realized. This is because unless and otherwise the public health provision takes in to account quality considerations, individuals may opt to private care at increased price or use self care. Both have welfare reducing effects

because visiting private providers is costly for the poor and self-care is not effective in curing maladies. One other finding is that individuals still take in to account quality measures in selecting traditional healers

Chapter Six

6. Conclusion and Recommendation

6.1. Conclusion

The study is embarked with the aim of investigating the impact of different individual, household and provider attributes on the demand for health care. It used the data from the Welfare Monitoring Survey 2004 collected by The Central Statistical Authority. We opted for this data instead of collecting a primary data for the study is a demand study where information on those individuals who have been sick but not have visited health care providers is crucial and this can not be easily acquired by making visits to providers to get information from patients However important information is lacking from the data which would have superlatively improved the contribution of the paper in the area of health care research like on the exact type of sickness and the type of treatment given I.e whether it is out patient or inpatient.. The other data that is missing from the study is data on income and expenditure due to the non readiness of the 2004 HICE survey. However the gap was easily filled for the data used has adequate information on the wealth and employment status of the respondents, which can be adequate proxies for income and expenditure, for income and expenditure are closely related to employment and wealth status.

Though Addis Ababa is a large urban center where the demand for outside medical care should be large, the share of self-care is large even when compared to rural Ethiopia. Those who were sick but not sought out side medical treatment are not doing so for reasons of financial incapability and are unemployed implies that cost is an important

deterrent and the costs of public health providers is still high for the majority of the dwellers of the city.

The female sex constituting the larger portion of individual who has experienced sickness indicates the low material wellbeing of women and gender considerations should be taken in to account in any health policy planning decisions.

As most patient individuals are illiterate, the health promotion activities should embark upon literacy programs such that they can bring fruits.

Most of the individuals who have experienced sickness are unemployed and without any meaningful wealth and even those who were sick but have not sought outside medical care have attributed financial incapability for opting for self care, and hence without a parallel effort to alleviate poverty by adopting policies that can generate employment any effort to improve the health status of the population can not make an impact. Further more adopting cost sharing mechanisms or user fees should be revisited to take in to account the poverty situation of the population. The fact that distance is not a significant determinant of health care provider choice implies health care providers be public or private are geographically accessible and there is no need to increase density to increase utilization in the Addis Ababa. Besides the reasons forwarded by those visiting any particular type of provider have imputed quality for choosing or not of a particular health care provider ,quality considerations should be given sufficient attention both by policy makers in the case of government and investors in the case of private providers.

The household variables are significant determinants of provider choice and hence mechanisms should be put in place to take in to account household variables in

determining eligibility to free public health care or designing waiver policies. The relative insignificance of individual variables in the demand and utilization of health care put to question the utility maximization theories of health care demand where individual variables are principal determinant of health care demand.

6.2 Policy Recommendations

From the foregoing the following recommendations are worthy of considerations to put in to place an efficient and effective health care delivery system. Since a desirable health care system should base itself on accurate or near accurate information as to the different variables that affect health care demand and utilization, the data collection strategies and systems must be qualitatively and quantitatively improved to include all the relevant data with a desirable level of precision.

Though upon the introduction of the system of user fees Addis Ababa was considered as the appropriate locus because of the presumption that its residents are financially and economically well off, the results indicate there are a sizable number of residents who cannot bear the cost of health care. This in turn has lead to the under utilization of the existing public health facilities and the attendant wastage of resources. This is amply reflected by the fact that merely fifteen percent of the individuals who have been sick have visited government hospitals though the latter get the heavy chunk of the health budget. Though the small number of visits in the government hospitals may be partly due to financial reasons, the referral system may be the other reason. Hence to revamp the public health care system it is important to reconsider and further refine both the referral system and the cost recovery mechanisms. If the scope of exemptions from medical costs

are extended, those who opt for self care may become users of public health care facilities. The welfare gains that accrue from increased outside medical treatment will by far outstrip the cost recovery gains that result from increased user fee.

The research unveils a striking fact that the users of both public and private health care providers are similar in many cases. This is not concomitant with the *raison d' etre* of letting both types of providers' co exist. The expectation that the financially better off uses the private and financially destitute will use the subsidized public health care is challenged. One of the reason for this may be the perceived and actual quality of the public health providers, which has compelled the relatively poor to opt for the private care. Hence the government should work towards improving the quality of its providers, and upgrade health posts and clinics to health centers and hospitals. Because their quality do not meet the quality demands of the public and their contribution is less when compared to the financial burden it puts on the government. Further a clear system of identifying the users of the subsidized public health care should be adopted.

Despite the large number of private health care providers, which are large in terms of number even, when compared with the number of public health care providers the number of user is less. This indicates there is also underutilization in the case of private care that may be due partly to the high cost involved with visiting private care providers. The introduction of compulsory insurance for those individuals who can easily bear the cost of paying for premiums may surmount the financial constraint that may arise in visiting private care due to the uncertainties associated with sickness. This may increase

the demand for private providers which will lead to reduction of prices because of the reduced marginal cost.

List of Appendices

A-1 Sex * actions taken for the illness

Count

		actions taken for the illness				Total
		government health institution	private health institution	self treated or no action	traditional healers and related actions	
Sex	Male	394	278	300	38	1010
	Female	595	382	415	56	1448
Total		989	660	715	94	2458

A-2 Age * actions taken for the illness

Count

		actions taken for the illness				Total
		government health institution	private health institution	self treated or no action	traditional healers and related actions	
Age	0	31	13	14	1	59
	1	47	19	40	4	110
	2	29	17	35	1	82
	3	21	11	36	1	69
	4	24	16	34	1	75
	5	13	10	9	1	33
	6	19	15	7	1	42
	7	12	9	6	0	27
	8	11	10	10	0	31
	9	13	10	5	1	29
	10	12	10	5	1	28
	11	4	6	5	2	17
	12	14	5	6	1	26
	13	11	7	11	1	30
	14	3	6	11	1	21
	15	16	11	5	3	35
	16	14	4	7	2	27
	17	13	1	9	2	25
	18	17	14	17	0	48
	19	19	11	11	3	44
	20	18	12	15	2	47
	21	15	9	7	4	35

22	18	17	14	3	52
23	16	13	19	2	50
24	16	20	12	1	49
25	31	13	12	5	61
26	17	16	5	0	38
27	15	11	16	2	44
28	24	16	6	2	48
29	14	5	8	0	27
30	24	19	22	5	70
31	9	5	2	0	16
32	17	9	7	3	36
33	7	5	4	0	16
34	10	7	3	3	23
35	38	13	13	3	67
36	9	7	1	1	18
37	11	8	9	1	29
38	11	9	8	0	28
39	4	10	4	2	20
40	27	19	11	2	59
41	6	4	2	1	13
42	13	12	11	1	37
43	6	7	4	1	18
44	8	5	7	0	20
45	20	8	13	3	44
46	5	7	6	0	18
47	9	6	2	2	19
48	7	7	7	1	22
49	9	8	5	0	22
50	31	18	21	4	74
51	6	1	5	0	12
52	10	4	4	1	19
53	3	2	2	1	8
54	5	6	4	1	16
55	17	11	8	0	36
56	4	5	6	0	15
57	6	1	6	0	13
58	9	3	5	0	17
59	5	3	3	0	11
60	21	19	18	1	59
61	4	4	3	1	12
62	5	5	5	1	16
63	7	5	8	1	21
64	1	3	1	0	5
65	11	9	10	2	32
66	1	1	2	1	5
67	9	4	3	1	17
68	9	5	2	1	17

69	3	0	3	0	6
70	15	12	20	1	48
71	1	3	2	0	6
72	7	0	4	0	11
73	3	4	0	0	7
74	1	1	3	0	5
75	6	7	6	0	19
76	1	0	1	0	2
77	1	0	1	0	2
78	1	1	1	0	3
79	1	2	2	0	5
80	3	3	5	0	11
82	0	0	2	0	2
84	2	0	0	0	2
85	2	2	3	0	7
87	0	1	2	0	3
89	0	0	1	0	1
90	0	2	1	0	3
91	1	0	1	0	2
92	0	0	1	0	1
93	0	1	0	0	1
95	0	0	1	0	1
97	0	0	1	0	1
Total	989	660	715	94	2458

A-3 Able to Read & Write? * Actions taken for the illness

Count

		actions taken for the illness				
		government health institution	private health institution	self treated or no action	traditional healers and related actions	Total
Able to Read & Write?	Yes	562	422	311	57	1352
	No	273	162	245	29	709
Total		835	584	556	86	2061

A-4 Employment Status * actions taken for the illness

Count

		actions taken for the illness				Total
		government health institution	private health institution	self treated or no action	traditional healers and related actions	
Employement Status	0	727	444	555	63	1789
	Employer	6	5	5	0	16
	Self employed (Formal Sector)	35	48	24	2	109
	Self employed (Informal Sector)	69	50	53	9	181
	Employed Private Woker (Formal Sector)	37	38	27	4	106
	Employed Private (Informal Sector)	17	8	9	2	36
	Employed public	34	15	7	6	62
	Employed Government Worker	40	31	12	5	88
	Employed NGO worker	3	5	2	0	10
	Employed domestic	10	10	11	1	32
	Unpaid family worker	8	3	9	0	20
	Other	3	3	1	2	9
Total		989	660	715	94	2458

A-5 Disease condition * actions taken for the illness

Count

		actions taken for the illness				Total
		government health institution	private health institution	self treated or no action	traditional healers and related actions	
disease condition	not specified	591	404	486	60	1541
	major illness	398	256	229	34	917
Total		989	660	715	94	2458

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Declaration

I the undersigned declare that this thesis is my own work and has never been presented in any other university. All source of materials used for this thesis have been duly acknowledged.

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Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university, and that all source of materials used for the thesis have been duly acknowledged.

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