CHAPTER 3: RESEARCH QUESTIONS, MODEL FRAMEWORK & HYPOTHESES

FORMULATION

3.1 Research Questions

Literature survey shows that in the earlier studies concerning utilization of healthcare services, (eg. Lahana et al., 2011; Jatrana & Crampton, 2009, Hendryx, 2002) the focus has been on the determinants of healthcare services utilization. However, there are limited studies in the existing literature that focus on the choice of a particular type of service provider by an individual. In Indian context as well, the literature indicate (e.g. Ghosh, 2004; Thind, 2004; Majumder, 2006) a similar trend. The utilization patterns of healthcare services in India show (NSS, 60th round, 2004) that private healthcare services are preferred by the majority of Indians. This is in spite of the fact that public health care services are more widely distributed and are more economical. There is a dearth of literature addressing this issue, consequently providing a scope to investigate the reasons that lead to the choice between public or private health care services provider by an individual in India. Hence the first research question here would address this issue:

RQ1: What are the key determinants that make an individual to opt between a public and a private health care services provider in India?

The residential surroundings (urban vs. rural) of an individual influence him/her in the healthcare services utilized (Cummins et al., 2007; Dummer, 2008). There is a clear demarcation between rural and urban areas of India in terms of utilization of health care services for private and public health care services providers (NSS, 60th Round, 2004). Consequently, the reasons for the choice of a health care services provider may be different for the residents of rural and urban areas. The next research question would try to investigate this issue.
RQ2: How do the determinants for making the choice of health care provider by individuals diverge for those who reside in rural/urban areas?

3.2 Model Framework

Based on the aforementioned research questions a conceptual framework for the study (Refer to Figure 4) has been developed. It has been formulated on the basis of most widely used models in the area of health services utilization (Suchman, 1965; Andersen & Newman, 1973; Rosenstock, 1966; Young, 1981; Kroeger, 1983). Additionally, the inputs from the models used in India specific studies done in the past (Thind, 2004; Majumder, 2006) have been incorporated in the proposed model. The framework consists of variables capturing individual, family as well as community level data/information. The variables: age, gender, education, income, religion, caste, occupation and employment status represent the demographic characteristics of an individual. The social environment of an individual is represented by the variables marital status, exposure to mass media, and accessibility. The cost of treatment, health insurance coverage and residential surroundings are the other key variables of interest in understanding the health care choice made by an individual.
Figure 4: Individual Health Services Utilization Conceptual Framework
3.3 Hypotheses Formulation

National sample survey (60th Round, 2004) report shows the existing differences between rural and urban areas of India in terms of health care services utilization. This is true for both the private and the public health care services providers. Data also indicate that the availability of healthcare services in India is skewed heavily towards urban settings whereas majority of population lives in the rural areas (Pricewater House Coopers, 2007). Under these circumstances the residential surroundings become vital in understanding the pattern of choice of healthcare services provider made by an individual. Therefore, this study aims to test the proposed hypotheses for both the rural and the urban setting.

Studies on health care services utilization in India (Majumder, 2006, Ager & Pepper 2005; Soman, 2002) have reported the coexistence of public, modern private and Indian medicine providers (homeopathic, ayurvedic as well as traditional healers) in India. A study on Indian healthcare services would therefore remain incomplete if the Indian medicine providers are not taken into consideration. These providers have wide presence across India. They are a part of society and have been known to coexist as an alternate healthcare system. They generally have the advantage of a positive word of mouth, easy accessibility and low cost of treatment (Soman, 2002). Thus, the Indian medicines providers can be an important factor in the choice of health care services. Consequently, there is a need to conduct a comparative study that entails all the three types of service providers’ i.e. public, modern private and Indian medicine providers’. The present study strives to address this need and incorporates it in hypotheses formulation.

Since, a clear demarcation of public & non public healthcare services in terms of modern allopathic and Indian medicine providers is not made available in NFHS-3 database, the nature
of non public healthcare service provider, the database is referring to, cannot be ascertained. Consequently, in study 1 of the present dissertation we are treating non public healthcare service providers as modern private healthcare services (henceforth referred as private healthcare service providers) who provide allopathic medicinal treatment.

Hypotheses 1 to 8 are relevant for both the studies whereas Hypotheses 9 – 12 are relevant for study 2 only.

Age

The importance of age in affecting health care utilization of an individual is well researched and documented for developed countries (Lahana, Pappa & Niakas, 2011; Brown et al. 2009; Jatrana and Crampton, 2009; Asada and Kephart, 2007; Forbes & Janzen, 2004; Hendryx et al., 2002; Field et al., 2001; Birch, Eyles & Newbold, 1993) as well as developing countries (Pourreza et al. 2011; Cevallos & Chi, 2010; Amin, Shah & Becker, 2010; Chen & Li, 2009; Majumder, 2006; Chakraborty et al., 2003; Vissandjee, Barlow & Fraser, 1997; Subedi, 1989). In the context of choice of healthcare service provider, the focus is on finding out whether age plays a part in selection of health care service provider. Eisenberg et al. (1998), for a study done in United States reported that with age, the tendency to use traditional or folk healers increase. Good & Kimani (1980) in their study conducted in Nairobi (urban) found that aged people were likely to prefer traditional health care services over modern ones. More recently, Aikins (2005) did a study in Ghana for rural as well as urban areas, and reported similar findings for aged people.

A critical consequence of increasing age for adult population is the reduction in mobility due to declining physical prowess. This reduced mobility may affect the ability to access health care services and cause an individual to seek healthcare services in close proximity to their residence.
As public healthcare services have a wider presence, as compared to private healthcare services, the likelihood of utilization of public healthcare services should increase with an increase in age of an individual. Therefore we propose that

H1A: With an increase in age individuals are more likely to utilize public healthcare services as compared to private healthcare services.

When one considers the Indian medicine providers, it is realized that like traditional healthcare systems in many developing and poor countries, Indian medicine providers are also more widely available than public healthcare services. As a result, with an increase in age of an individual, their likelihood of using services of Indian medicine providers is more as compared to public healthcare services. This is true for both rural as well as urban areas.

H1B: With an increase in age individuals are more likely to utilize Indian medicine providers’ healthcare services as compared to public healthcare services

**Gender**

Gender’s role in utilization of health care services by an individual is being accorded greater importance particularly in the context of developing and poor countries where gender inequality is a phenomenon that permeates all strata of society. The role of gender in making a choice for a health care service provider therefore needs investigation for a developing nation like India where household responsibilities coupled with societal prejudices associated with females, impact their choice of health care facilities (Vissandjee, Barlow & Fraser, 1997).

In India government agencies (under Ministry of Health) run various schemes for attracting females to utilize modern (allopath based) forms of maternal and child healthcare programs at
the public healthcare facilities. These schemes may make females more likely to utilize public healthcare services as compared to private and Indian medicine providers’ services. This is true for both rural as well as urban areas of India. Therefore, the following hypotheses are proposed:

H2A: Females are more likely to utilize public healthcare services as compared to private healthcare services

H2B: Females are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services

Education

Policy makers and scholars in social sciences have identified literacy as a cornerstone of all human developments and therefore the role of education in utilizing health care services have been investigated across the globe in developed countries (Lahana, Pappa & Niakas, 2011; Asada and Kephart, 2007; Hendryx et al., 2002) as well as developing countries (Majumder, 2006; Ghosh, 2004; Chakraborty et al. 2003; Buor, 2003). These studies irrespective of geographical context have found that with increase in education the likelihood of utilization of healthcare services also increases.

Due to the increased knowledge levels acquired as a result of higher education, individuals are in a better position to understand the nature and severity of their illness. Additionally education empowers them to evaluate service providers on the level of expertise needed to treat such illness. As mentioned earlier (in the introduction section), there is a general perception that private healthcare services in India, when compared to public healthcare services, provide a wider range of services as well as superior expertise for various illnesses. Consequently, higher
educated individuals are more likely to choose private healthcare services over public healthcare services. Therefore it can be proposed that:

H3A: With an increase in education individuals are more likely to utilize private healthcare services as compared to public healthcare services.

When it comes to the choice between Indian medicine providers and public healthcare providers, the higher educated individuals are likely to prefer public healthcare service providers. This is due to the fact that public healthcare systems rely on modern allopathic system of medicinal treatment and increased education levels make an individual aware about the benefits of modern medicinal treatment. This may be true for urban as well as rural residents of India. Therefore, we propose that:

H3B: With an increase in education individuals are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services

**Income**

Income of an individual acts as a major determinant when it comes to decision regarding utilization of health care service. This is evident from the vast body of literature that underscores the importance of income as a significant variable in explaining the utilization of health care services (Lahana, Pappa & Niakas, 2011; Pourezza et al. 2011; Amin et al. 2010; Regidor, 2008; Birch, Eyles & Newbold, 1993; Asada & Kephart, 2007; Arcury, 2005; Thind, 2004; Forbes & Janzen, 2004; Vissandjee, Barlow & Fraser, 1997). The findings from these studies illustrate that with increasing income the affordability of an individual to utilize healthcare services increase.
When it comes to the choice of health care services provider, for a country like India, wherein there is a cost difference between public and private health care service providers, income may play a crucial role. It has been observed that private healthcare services are perceived to be better in quality even though compared to public healthcare services they are costlier and are difficult to access (Pinto & Udwadia, 2010; Dilip & Duggal, 2004). Therefore, individuals belonging to the higher income group are more likely to opt for the private healthcare services. Whereas those having lower income are more likely to utilize public health care services since they are subsidized. Consequently, in urban as well as rural areas of India, people belonging to lower income strata are more likely to utilize public health care services as compared to private healthcare services. Therefore, we posit that:

H4A: With an increase in income individuals are more likely to utilize private healthcare services as compared to public healthcare services.

When we consider the case of Indian medicine providers, empirical findings have shown that they are perceived to be culturally close to the Indian societies (Soman, 2002). It is also perceived that usage of Indian medicine providers does not lead to any side effects post treatment (Yadav, Pandey & Singh, 2007) and in general, they cost less than the public healthcare service providers. A noteworthy feature of Indian medicine providers is that they do not rely on modern medicinal system and therefore are considered inferior by various healthcare experts. Thus, it can be argued that people with low incomes would have a preference for Indian medicine providers as compared to public healthcare services. Hence it is proposed that:

H4B: With an increase in income individuals are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services.
Caste

In India, social discrimination based on the caste of an individual is still prevalent in certain parts. Thus, caste of an individual becomes a social barrier in accessing certain basic requirements of life, for instance education; access to water and access to places of worship (National Commission to Review the Working of the Constitution, 2011). Navaneetham & Dharmalingam (2002) reported that in Andhra Pradesh, India, individuals belonging to the scheduled caste or scheduled tribes are less likely to utilize maternal health care services. They argue these individuals are marked as social outcast by the society. Thind (2004) reported that children belonging to scheduled caste families in rural Bihar, India, are less likely to utilize health care services.

To overcome discriminations prevailing in utilization of healthcare services, the government agencies in India are carrying out health schemes under Special Component Plan (SCP) & Tribal Sub-Plan (TSP) since the last four decades (National Advisory Council, Govt. of India, 2012). The aim of such programs is to improve utilization of public healthcare facilities by people belonging to the scheduled caste and scheduled tribe categories with the help of the state agencies as per the guidelines provided by the Planning Commission of India (2006). Due to this focused emphasis, the individuals belonging to scheduled caste or scheduled tribes are more likely to use public health care services as compared to private health care services or Indian medicine providers. Therefore, we propose that:

H5A: Individuals belonging to scheduled caste/tribe community are more likely to utilize public healthcare services as compare to private healthcare services
H5B: Individuals belonging to scheduled caste/tribe community are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services

**Marital Status**

The government agencies announce different promotional plans for married couples from time to time to improve the utilization of various government sponsored health care schemes. These schemes are related to the use of contraception, family planning as well as maternal healthcare services that are made available at the public healthcare facilities for married (both male as well as female) individuals. This is true for rural as well as urban areas. Therefore it can be hypothesized that:

H6A: Married individuals are more likely to utilize public healthcare services as compared to private healthcare services

H6B: Married individuals are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services

**Accessibility**

Accessibility is understood in terms of a healthcare seeking individual’s physical access to a service provider. Earlier studies have found that accessibility has a positive influence in utilization of healthcare services (Fan & Habibov, 2009; Kirby & Kaneda, 2005; Ager & Pepper, 2005). Nielsen et al. (2001) reported that having access to a health sub centre in the village improved the likelihood of utilization of maternal healthcare services in Tamilnadu, India. Other studies have also reported the significance of accessibility (availability of facilities, Ager & Pepper, 2005; distance travelled, Ganatra & Hirve, 1994) on healthcare service utilization.
The above discussion points to the importance of accessibility in choice of a service provider. This point is true for comparison between public and private healthcare service providers as well as between public and Indian medicine providers. Hence, it is hypothesized that:

**H7A:** Individuals having greater access to public healthcare services as compared to private healthcare services are more likely to utilize public healthcare services.

**H7B:** Individuals having greater access to Indian medicine provider’s healthcare services as compared to public healthcare services are more likely to utilize Indian medicine provider’s services.

**Exposure to mass media**

Amin et al. (2010) have reported mass media exposure as an important factor in utilization of maternal and child healthcare services. The underlying assumption is that individuals having an exposure to mass media are more likely to be aware of the health care services options available to them. In Indian context too, those having exposure to mass media (Ghosh, 2004; Stephenson & Tsui, 2002) are reported to have a higher likelihood of utilization of maternal and child health care services.

Many public agencies (at both state and central level) in India have used mass media to inform and educate common people about different health conditions and various schemes run by the government (public sector) organizations (Ghosh, 2006). This is true for both urban as well as rural areas. It is believed that this exposure will lead to awareness and subsequent greater utilization of services offered by the public health care institutions. Hence, it can be hypothesized that:
H8A: Individuals with exposure to mass media are more likely to utilize public healthcare services as compared to private healthcare services

H8B: Individuals with exposure to mass media are more likely to utilize public healthcare services as compared to Indian medicine providers’ healthcare services. Consequently, we propose that:

**Religion**

Religion may play a significant role in guiding an individual to opt for health care services. Individuals who believe in tradition and rules and follow them (Good & Kirmani, 1980) are more susceptible to this influence. Thind (2005) reported that Muslims were less likely to utilize modern healthcare services related to contraception in Bihar, India. The author linked this behavioral aspect with their religious beliefs. Similarly Ram & Singh (2006) reported that Muslims were less likely to utilize modern maternal healthcare services in a study done in rural Uttar Pradesh, India. Since, public hospitals are mostly linked with allopathic form of treatment, people with orthodox views and more traditional mindset may not be naturally inclined towards utilization of public healthcare services. It can be therefore inferred that Muslims are more likely to utilize Indian medicine providers as compared to public healthcare services. The effect may be seen in both urban as well as rural areas.

H9A: Muslims are more likely to utilize Indian medicine providers as compared to public healthcare services

Since, private as well as public healthcare service providers rely on allopathic form of medicinal treatment, for a Muslim individual who follows a conservative mindset related to modern treatment methods, he/she would be indifferent towards both these providers. However, when
one compares certain service elements (for example facility set-up, language of communication, and dress-code of employees) one finds that private healthcare service providers are more modern and westernized. Therefore, people who are conservative and have orthodox mindsets may be more inclined towards public healthcare services as compared to private healthcare services. Hence, the following hypothesis is proposed.

H9B: Muslims are more likely to utilize public healthcare service providers as compared to private healthcare service providers.

**Cost of Treatment**

Empirical findings (Balarajan, Selvaraj & Subramanian, 2011) have shown that the cost of treatment plays an important part in healthcare services utilization in India. This is a major cause of concern for the governmental health agencies in India as reports have emerged that owing to high cost of treatment; families are being forced to forego medical treatment or are pushed towards abject poverty (Duggal, 2007; Dollar, 2005).

Cost of treatment of public healthcare services is generally perceived to be lower as compared to private healthcare services (Singh et al., 2012). Hence it can be an important determinant for choosing public health care service provider over private healthcare services in India. Hence, we propose that:

H10A: With an increase in cost of treatment an individual’s likelihood of utilization of public healthcare services increases as compared to private healthcare services increases.

Studies have found that one of the factors for popularity of Indian medicine providers is that the cost of treatment under Indian medicine providers is low when compared to private healthcare
services providers (Soman, 2002). Public healthcare services generally rely on allopathic form of treatment where cost of medication/treatment is higher as compared to alternative systems of medicine (Mahal, 2000). As a result, there is a higher likelihood of usage of Indian medicine providers as compared to public healthcare services when cost is taken into consideration. This may be true for rural as well as urban areas of residence. Thus, it is proposed that:

H10B: With an increase in cost of treatment, an individual’s likelihood of utilization of Indian medicine provider’s services as compared to public healthcare services increases.

**Health Insurance**

Studies on health care services utilization have reported that health insurance favorably influences health care services utilization (Pourezza et al., 2011, Kirby & Kaneda, 2005; Arcury, 2005; Kushel et al., 2002). Chandrashekar, Sreeramareddy, Sathyanarayana & Kumar (2012) in a study done on a national cross sectional survey of households across India reported that those having health insurance are more likely to utilize healthcare services for their children. Price Waterhouse Coopers (2007) report draws attention to the low penetration levels of health insurance coverage across India and cite it as one of the reasons for high out of pocket expenditures made on health treatment by Indians.

Health insurance can have a major impact on the utilization as well as the choice of healthcare services (irrespective of area of residence). Depending on the coverage offered by the insurer, an individual may choose which type of provider should be approached for treatment. Since in Indian context private healthcare services though costlier are perceived to be of superior quality as compared to public health care services, the health insurance is expected to serve the purpose of increasing the affordability of private healthcare services. Therefore, it is hypothesized that
H11A: Individuals who have health insurance are more likely to utilize private healthcare insurance as compared to public health care services

Over the years various government sponsored insurance schemes have been launched specifically targeting the underprivileged population of India. Having access to these insurance schemes this population has now the option to get modern medicinal treatment for various types of illnesses for which they have sought the services of Indian medicine providers earlier. As a result there should be a greater preference for public healthcare services (that rely on allopathic treatment) vis–a–vis Indian medicine providers. Hence, we posit that:

H11B: Individuals who have health insurance are more likely to utilize public health care services as compared to the services of Indian medicine providers

**Perceived Service Quality**

Perceived service quality plays an important role in healthcare services utilization (Kim et al. 2012; Sharma & Narang, 2011; Narang, 2010; Lindelow, 2004; Mariko, 2003; Andaleeb, 2001; Haddad, Fournier, & Potvin, 1998; Mwabu et al. 1993; Babakus & Mangold, 1992). In India, the private healthcare service providers are perceived to be providing higher quality of healthcare services as compared to the public healthcare services (Pinto & Udwadia, 2010; Dilip & Duggal, 2004). Thus it can be proposed that

H12A: With an increase in perceived service quality of private healthcare services, an individual’s likelihood to utilize private healthcare services as compared to public healthcare services increases.
Evidence from studies done in India suggests that modern medicinal treatment that involves the use of allopath is generally perceived to be better in quality when compared to traditional forms of medicine (Soman, 2002). Therefore, it can be inferred that public healthcare services, which rely on allopathic treatment are perceived to be of higher quality when compared to the services offered by the Indian medicine providers. Based on this argument, it is proposed that:

H12B: With an increase in perceived service quality of public healthcare services, an individual’s likelihood to utilize public healthcare services as compared to Indian medicine providers’ healthcare services increases.