Chapter 2- Literature review
2.1 Introduction

Health sector is one of the crucial sectors in any economy and has remained in focus for many researchers. There are various studies which were conducted on the different aspects of Health Services and related areas. The present study examines the health insurance market in India with specific focus on the insurers, hospitals (hereafter called as “providers”) and their interlinkages. This chapter reviews the literature of such important studies in order to identify the gaps that exist in literature.

This review covers literature pertaining to two broad areas of immediate relevance i.e., (a) literature on health insurance; (b) literature on healthcare provider. The literature on health insurance would help identify the existing work done and gaps in the area of health insurance, insurer and provider relationship, the impact of risk covered on the cost and its components. The literature on healthcare providers would help identify research undertaken and existing gaps in the area of healthcare services, effect of good health, healthcare financing, provider behavior and learning’s from managed healthcare models. In both the sections the literature review of studies specific to India had been presented separately. A schematic diagram of the literature reviewed is given in Figure 2.1.

Figure 2.1: Literature review diagram

R- Regulator
The research literature was studied based on themes and is presented in chronological order for better understanding. The themes are primarily created for simplicity and are not mutually exclusive. However, there are instances where the chronology is not strictly followed due to overlapping and dynamic nature of studies undertaken to explain the same phenomenon. Here, some industry literature had also been discussed that throws some insight on the dialogues and discussion taking place at different forums and platforms across the insurance and healthcare industry.

2.2 Literature on Health Insurance

Health insurance is a mechanism by which a person protects himself from financial loss caused due to accident and or disability. Though disability is not fixed, precise and immutable state affected as it is by numerous influences, both objective and subjective, its significance to society is that condition of ill health arising from disease or injury that prevents the individual from pursuing his normal routine of living. The universality of the hazard of disability is everywhere recognized; just as “uncertainty is one of the fundamental facts of life” (Knight 1921). It is may be because of this reason why the earlier society looked into health insurance as a mechanism to reduce the uncertainty attached to disability.

In no line of human endeavor does the interdependence of men manifest itself more clearly than in insurance. Although the insurance principle is centuries old, planned achievement of security through transfer or sharing of risk has developed only with modern society. When man lived alone or in primitive family groups, insurance in a formal sense was unnecessary. Each family cared for its own as best it could. When community living became more complex, men recognized the need for a system by which they could help each other in times of adversity. From this need to have the assurance of help in the event of misfortune grew the earliest insurance plans (Kelly 1951).

The possible way to fund the financial loss due to ill health could be either through out of pocket payment, by paying premium to the insurance company or by contribution from the state or central government. The natural solution is to insure against the possibility of medical illness by poling risk with others in population. In the case of insurance, the benefit is that the annual consumption of the family would be reduced only by the premium, the average cost of care. By paying a fixed amount each term consumers will be able to protect...
themselves from large medical cost in future. This argument for instance is based on the expected utility theory and the premise that people generally prefer certainty to risk (Neumann and Morgenstern 1944). According to this theory, if consumers are sufficiently averse to financial risk, firms selling insurance can charge premium that cover the expected coverage losses plus a loading fee, and still sell insurance.

The life and the earning ability of the breadwinner is the biggest asset of the average family. Viewing the home and the family as man’s primary business, without insurance against loss or impairment of that life value, the family is vulnerable to, what is often, a catastrophic blow. The two hazards to which every income producer is subject are premature natural death and economic death due to disability (Faulkner 1960). Life insurance is the instrument that provides protection against premature death or superannuation whereas health insurance finds its function in continuing the income of the insured during the time when, by reason of injury or disease, he or she is unable to work and to help him pay the medical expenses incurred towards getting cured.

Health insurance also becomes important because of the unpredictable nature of spending on healthcare. While individuals have some idea about their need for future medical services, the exact amount they spend on healthcare remains uncertain to them to a great extent. There is an argument that the shorter the time period, the greater is the percentage disparity in healthcare spending among individuals and as time period becomes longer the disparity decreases a little. In this case, looking over several years, the skewness of healthcare expenditure is quite high (Eichner 1998). The spending on healthcare also remains much skewed. In the U.S., the top 1 percent of medical care users consume an average of nearly $50,000, each, in a year (in 1987 dollars), and account for 30 percent of medical spending. The top ten percent of users account for nearly three quarters of total medical spending (Berk and Monheit 2001). Therefore, in such a situation, health insurance is one important method which helps significantly to spread the risk.

One possible way to improve the healthcare provisions is by designing health insurance benefit packages in a way that it meets the requirement of the given population. In any insurance arrangement aggregating risks through pooling is the key. However, not every risk can be pooled. The following pre-conditions need to be met in order for the risk to be
insurable and transferable into insurance solution (Brown and Churchil 1999; Vate and Dror 2002).

a. *Randomness*: The occurrence of loss or damage must be unpredictable. Otherwise, systematic saving is a better alternative because risk pooling would not result in lower premiums.

b. *Low probability of occurrence*: If the majority of members are likely to incur a loss or damage, premiums will be similar to the cost of individual provision. It is because of this reason that normally “hospitalization” is covered in the health insurance policy and OPD (Outpatient Department) cover is avoided.

c. *Interdependence of risk*: collectively, the insured risk of individuals has to be interdependent with regard to their occurrence in order not to threaten the long-term stability of the insurance. This precondition is taken care in the health insurance policy by having exclusions stating that diseases, illness, accident or injuries, directly or indirectly caused by or arising from or attributable to war, invasion, act of foreign enemy and war like operations will not be covered under the policy.

d. *Uncontrollability of loss or damage*: The policyholder should not be able to cause the occurrence of loss or damage.

e. *Unequivocal*: The insurer must be able to verify the occurrence and the scope of loss.

In cashless cases wherein the patient does not have to pay out-of-pocket the insurer has a direct control over authorization of cashless. In case of reimbursement the insurance company has the right to carry out investigations to verify the occurrence and scope of loss.

f. *Existence of insurable interest*: for the individual to be interested in an insurance solution, the loss must have adverse financial consequences. The potential losses should be high in relation to the cost of premium payment.

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8 In most of the health insurance policy “hospitalization” means admission in a Hospital/Nursing Home upon the advice of a Medical Practitioner for a minimum period of 24 hours except in case of Specified Treatment, where the minimum period of Hospitalization may be less than 24 hours. For the purpose of this definition, the term “Specified Treatment” means any treatment involving Dialysis, Chemotherapy, Radiotherapy, Eye Surgery, Dental Surgery, Lithotripsy (Kidney stone removal), Tonsillectomy, D & C taken in the Hospital/Nursing Home.
Insurance has a number of advantages. Other than being more equitable, it is one of the significant drivers of improvement in the healthcare provision by encouraging investment and innovation. This mechanism also helps in improving the quality and efficiency of public health care system by continually benchmarking it (Ahuja 2005). Insurable risk should have a low probability of occurrence, yet string adverse consequences if the loss does occur. This is where risk-pooling mechanism comes into play. Since part of the individual risk is born by the entire group of policyholders, the individual risk premium can be relatively low in relation to the size of a potential loss. The more frequent the occurrence of loss, the more difficult it becomes to insurer.

2.2.1 Studies related to Services of Health Insurance

In health insurance there are three main parties – the insurer, the insured and the provider. It is impossible to appreciate fully the contribution of health insurance without taking cognizance of the social aspect of business. An institution whose function is to protect the financial cornerstone of the family is one of great public significance. Before describing the services performed by health insurance, it should be recognized that it is neither desirable nor practical for the insurer to attempt to absorb, on behalf of the insured, the entire impact of wage-loss or medical care cost. Insurers acknowledge this in their underwriting practice through the use of the cost-sharing or deductible principle (Faulkner 1960). Cost-sharing, also called co-insurance, as used in health insurance, is effected by the contract provision that requires the insured to bear some part of every element of loss. For example, if there is a health insurance policy wherein there is a clause of twenty percent coinsurance, suppose there is a loss of Rs 100 then at the time of claim payment the insured need to pay Rs. 20 (i.e. twenty percent of the total cost). The deductible principle requires the insured to bear a specific first amount of each loss. Applying this principle of health insurance requires that benefit for wage loss shall cover the major portion of a loss but not the entire loss.

It is interesting to note that once the risk is transferred from the insured to the insurer, there is a possible change in the insured behavior in terms of consumption of healthcare services. This brings with itself a host of issue which will be discussed under a separate heading on issues in health insurance.
A very interesting experiment conducted by researchers\(^9\) during 1970s. The study was called “The Health Insurance Experiment (HIE)”\(^9\). It studied the cost-sharing and its effect on service use, quality of care and health. It was a randomized experiment conducted between 1971 and 1982. It covered some 2,750 families encompassing more than 7,700 individuals chosen from six sites across the United States to provide a regional and urban/rural balance. Participants were randomly assigned to one of five types of health insurance plans with varying degree of cost sharing. This experiment measured the quality of care by constructing process measures of the quality of ambulatory and dental care. The results showed that cost sharing reduced the use of nearly all health services. Specifically,

(a) Averaged across all levels of co-insurance, participants (both adults and children) with cost sharing made one to two physicians’ visits annually and had 20 percent fewer hospitalizations than those with free care.

(b) Consumers in the Health Maintenance Organization (HMO) style co-operative had 39 percent fewer hospital admissions than consumers with free care in the fee-for-service system

(c) Participants in cost sharing plans spent less on healthcare; this savings came from using fewer services rather than finding lower prices.

(d) Reduced use of services resulted primarily from participants deciding not to initiate care. Once patients entered the hospitals, cost sharing only modestly affected the intensity or cost of an episode of care.

In terms of effect on appropriateness and quality of care two major findings emerged: First, cost sharing did not significantly affect the quality of care received by participants. Second, the overall level of quality for process measures was surprisingly low for all participants: criteria for quality were met only sixty two percent of the times. Even after more than twenty years the quality criteria were met only fifty five percent of times\(^10\). In general, the reduction in services induced by cost sharing had no adverse effect on participants’ health.


2.2.2 Issues in Health Insurance

Health insurance, like other forms of insurance is not immune from problems. Here, the issues are quite peculiar due to the complex nature of health insurance and the involvement of multiple parties. The major problems related to health insurance are adverse selection, moral hazard and the abuse of health insurance.

Table 2.1 depicts the information matrix that shows the issues which are created due to imperfect information. The imbalance and asymmetry in information is also commonly known as the “lemon problem”\(^{11}\). The result of informed decision by both the insurer and the insured leads to successful underwriting and is the ideal state but once there is asymmetry there are issues like miss-selling (the insurer being informed and the insured not being informed), moral hazard and adverse selection.

### Table 2.1: The Information matrix (Insured and the Insurer)

<table>
<thead>
<tr>
<th>INSURED</th>
<th>INSURER</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed</td>
<td>Informed</td>
<td>Successful</td>
<td>Moral Hazard &amp; Adverse Selection</td>
</tr>
<tr>
<td>Informed</td>
<td>Non-informed</td>
<td>Miss-selling</td>
<td>Un-successful Underwriting</td>
</tr>
<tr>
<td>Non-informed</td>
<td></td>
<td></td>
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Adverse selection can be defined as strategic behavior by the more informed partner in a contract, against the interest of the less informed partner(s). In the health insurance market it is relevant because each individual chooses among the set of contracts offered by the

\(^{11}\) Named after 2001 Nobel Laureate George Akerlof’s 1970 paper “The Market for Lemons”. His original example had to do with used cars. Why does the seller want to get rid of the car? It might be a lemon. The buyer and seller have asymmetric information. Hence, the buyer will demand a deep discount on the car because of the possibility it is a lemon.
insurance companies according to his or her expected probability of using health services. In brief, those who foresee a medical problem in the near future for self and dependents will tend to choose more generous plan than those who do not. In the extreme, for each premium and degree of coverage, those who will decide to purchase that particular health insurance contract are those who expect to have health expenditure greater or equal to the premium paid. Then, whatever the premium, the insurance company may end up with a loss on each customer.

Table 2.2: literature on issues in Health Insurance

<table>
<thead>
<tr>
<th>Category</th>
<th>Literature</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of Adverse selection on health insurance</td>
<td>Rothschild and Stiglitz (1976)</td>
<td>Analytical model to investigate the problem of adverse selection in the insurance market</td>
</tr>
<tr>
<td></td>
<td>Grossman (1979)</td>
<td>Hypothesis testing of “dissembling” behavior by high-risk individuals.</td>
</tr>
<tr>
<td></td>
<td>Cutler (1996)</td>
<td>Case study approach to study the federal employee health benefits program.</td>
</tr>
<tr>
<td></td>
<td>Belli (2001)</td>
<td>To isolate the effects of adverse selection from the confounding factors they considered a benchmark situation with no moral hazard and perfectly competitive market.</td>
</tr>
<tr>
<td></td>
<td>Wang et al. (2006)</td>
<td>Longitudinal data set Logistic regression was employed for the data analysis.</td>
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</tbody>
</table>

Overutilization of health insurance benefit and Moral Hazard

<table>
<thead>
<tr>
<th>Literature</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dickerson (1962)</td>
<td>Secondary data analysis. Primarily argumentative</td>
</tr>
<tr>
<td>Pickrell (1963)</td>
<td>Interview as the primary method</td>
</tr>
<tr>
<td>Pauly (1974)</td>
<td>Secondary data analysis</td>
</tr>
<tr>
<td>Newhouse (1993)</td>
<td>Controlled experiment in the United States</td>
</tr>
<tr>
<td>Cameron, Trivedi, Milne and Piggot (1998)</td>
<td>Regression Analysis to establish relationship</td>
</tr>
<tr>
<td>Riordan et al. (2001)</td>
<td>Model testing</td>
</tr>
<tr>
<td>Sapelli and Viral (2003)</td>
<td>Not specified. Study undertaken in Chile</td>
</tr>
</tbody>
</table>

Moral hazard occurs when a party insulated from risk may behave differently than it would behave if it were fully exposed to the risk. Moral hazard is a special case of information asymmetry in a situation in which one party in a transaction has more information than another. The party that is insulated from risk generally has more information about its actions and intentions than the party paying for the negative consequences of the risk. More broadly, moral hazard occurs when the party with more information about its actions or intentions has a tendency or incentive to behave inappropriately from the perspective of the
party with less information. In insurance there is one other form of moral hazard that occurs without conscious or malicious action and is called *moral hazard*.

The representative literature for the above stated issues is given in Table 2.2, which is followed by a summary of each of them.

2.2.2.1 Effect of Adverse selection on health insurance

The first article to analytically investigate the problem of adverse selection in the insurance market is that by Rothschild and Stiglitz (1976). They assumed that individuals are risk averse and that there is no moral hazard. The amounts of the loss, as well as the probability are not influenced by the presence of insurance coverage. They also assumed that individuals can buy at most one insurance contract, thus recognizing that insurance companies are able to ration the degree of insurance coverage offered to individual. In their results the single price equilibrium of conventional competitive analysis was shown to be no longer viable; market equilibrium, when it existed, consisted of contracts which specified both price and quantities; the high-risk individuals exerted a dissipative externality on the low risk individuals. Their model show that in a situation of information asymmetry, insurance companies can limit the amount of insurance guaranteed (also called sum-insured) in order to improve available information on customer’s risk.

Grossman (1979) contributed to the above literature and tested the hypothesis of “dissembling” behavior by high-risk individuals. According to Grossman, all potential health insurance customers know that in equilibrium any loss making contract will be withdrawn from the market. Therefore, when high-risk individual submit their application for insurance they self-restrain their choice between the set of contracts chosen by low-risk and those which would not entail losses even if chosen only by high-risk individuals. By anticipating insurers’ strategy high-risk individuals realize that any other strategy would ultimately lead them to be completely excluded from the market.

Cutler (1996, p.230) writes: “Almost all health insurance systems where individuals are allowed choice of insurance have experienced adverse selection. Medicare enrollees who
choose managed care\textsuperscript{12} are healthier than those who do not. The federal employee health benefits program has adverse selection between more and less generous policies. The spread in premiums between more and less generous policies is sixty eight percent greater than benefits alone would dictate and almost every large firm that has encouraged employees choice has found the cost of most generous policies increases sufficiently rapidly than these policies are no longer viable”. This last phenomenon is named in the literature as “price death spiral” and refers to the increase in the price of more generous insurance plans vis-à-vis moderate plans.

Belli (2001) discussed the consequences of adverse selection on the functioning of insurance market. To isolate the effects of adverse selection from the confounding factors they considered a benchmark situation with no moral hazard and perfectly competitive market. They suggested that the government can intervene in the health insurance market in two ways: by directly providing subsidizing insurance or by regulation. They also suggested that regulation of the private insurance market by imposition of a standard contract or by restricting premium rates, on the other hand, can exacerbate the problem of adverse selection and lead to chronic market instability. In general, their analysis has shown that there may be a price to pay in terms of inefficient coverage by enhancing competition among health insurers as a means to achieve greater patient’s choice and better control over providers.

Wang et al. (2006) examined adverse selection in a subsidized voluntary health insurance scheme, the Rural Mutual Health Care (RMHC) scheme, in a poor rural area of China. The study was made possible by a unique longitudinal data set: the total sample includes 3492 rural residents from 1020 households. Logistic regression was employed for the data analysis. The results show that although the subsidized scheme achieved a considerable high enrollment rate of 71 percent of rural residents, adverse selection still existed. In general, individuals with worse health status are more likely to enroll in RMHC than individuals with better health status. Although the household is set as the enrollment unit for the RMHC for the purpose of reducing adverse selection, nearly one third of enrolled households are actually only partially enrolled. Furthermore, they found that adverse selection mainly occurs in partially enrolled households. The non-enrolled individuals in partially enrolled

\textsuperscript{12} Managed care plans impose stricter controls and restrictions over use of health services than traditional indemnity plans.
households have the best health status, while the enrolled individuals in partially enrolled households have the worst health status.

2.2.2.2 Overutilization of health insurance benefit and Moral Hazard

Dickerson (1963) in his book “Health Insurance” (p.270-271) writes about insurance and overutilization. The interesting argument and explanation of their research study is replicated as under:

“In recent years there has been a growing concern with the rising cost of medical care and the rising premium cost of health insurance. Total costs have gone up, not only because of increases in unit cost, but because of increased utilization of health services. These increases seem to be associated with increased ability to pay and with the growth of health insurance……..some of the increase in cost seems to be attributable to unnecessary and undesirable overutilization of health services. In this sense overutilization is something of a euphemism for moral hazard”

Probably more important is the unnecessary use of services, the use of services which are more expensive than required, and the casual hospital stay of an extra day or so when it is free. Overutilization can takes two forms: increased frequency and duration of use and higher charges than otherwise would be imposed. Excessive cost may rise from unnecessary admission, and unnecessary use of diagnostic and treatment aids, unnecessary long period of stay, and unnecessary high charges for services rendered. Excessive charges may arise from the practice of caring for charity patients at less-than-average cost and adding the losses so incurred to the bills of paying patients, especially those with insurance. These abuses may arise from actions of patients, physician, and the hospital or insurers.

In most of the health policies in the Indian context there is a pre-requisite to get hospitalized for at least 24 hours failing which the policy does not pay the hospitalization benefit. This clause was probably included to ensure that not all hospitalization get paid but only those which are more severe and require more than 24 hours of in-patient care and treatment under the supervision and guidance of a qualified medical practitioner. But one can argue that the physician may order hospital admission for 24 hours even when the condition might well be treated in an OPD. There is also a clause in most of the Indian health insurance policies as per which alcoholism or mental disease are not covered. Here, the physician might hide the
indication of alcoholism and may devise some diagnosis such as “exhaustion, malnutrition, avitaminosis” so that his patient (insured) can get the claim paid and in return would be able to pay the physician even if he is charging more. In this situation there is a win-win situation for both the physician and the insured. For the insurer it’s not easy to break this chain but it can weaken this either by building strong relationship with the physician (provider) or the patient (insured). There could be different methods to build the relationship with the providers such as having strategic tie-up wherein a minimum number of patients is guaranteed, by building some form of incentive mechanism, by sharing a component of risk as seen in managed care, by cost-sharing of resources like nursing staff. The method to built relationship with the insured (patient) could be by having a “medical saving account”, by providing value added services like health check-up, free passes to gym etc.

Pickrell (1961) in his book “Group Health Insurance” (p. 205-207) write about the abuse of insurance benefit which is replicated as under:

“It is well known in the industry that insurance for medical care benefits increases the use of medical services. Probably more serious to the industry is the tendency of pre-payment system to create ability to pay for these services that might not be present otherwise….there is of course much to be said for charging those able to pay so medical care can be provided to all, but many abuses of insurance benefit are only indirectly related to this practice”

Some of the more common causes of unnecessary use of insurance are: (1) the practice of caring for charity patient at less than cost and adding the difference to the private or insured patient’s bill, (2) the tendency of doctors to hospitalize and extend the hospitalization period of insured patient as a matter of convenience, and (3) the practice of applying charges to utilize insurance benefit. The problem of increased charges when the patient is insured is a particularly serious one, and the presence of insurance may not by any means reflect the patient’s ability to pay. Doctors are understandably jealous of their rights to set the fee for their services, and they are inclined to feel that such fees are reasonable even if the fee for a given service varies from one doctor to another or even from one patient to another. The problem is more acute in major or comprehensive medical when benefits are not scheduled, and many feel that the “necessary and reasonable” restriction on covered medical expenses is effective only for gross overcharges. Well known is the general attitude of insured individuals that benefit have been purchased and should therefore be used at every
opportunity, without regard for the ultimate effect on premium rates. General check-up and long hospital stay for rest and convenience are common, especially when the patient is over-insured; and individual doctors and hospitals cannot actively oppose such practices without losing patients. Substantial progress has been made towards closer co-operation between doctors, hospitals and all types of insurance carriers in recognizing the serious problems facing medical care insurance. Solving the problem of abuse seems imperative, particularly in the view of the increasing interest in major and comprehensive medical insurance. Only by the closest co-operation can such plans provide blanket coverage without detailed scheduling of benefits.

Since the book was published in the year 1961 and the author was exposed to the US health insurance system, it could be seen that the challenges they faced in the 1960s and 1970s are so similar to that which we might be facing today. The misuse of insurance is linked to higher cost and overconsumption of medical service. Both of these are harmful to the health insurance industry and the Indian society at large, because higher cost will lead to higher premium and will make most of the health insurance plans economically unviable and because in a country like ours where there is already a shortage of doctors and hospital beds, the overconsumption will lead to further shortage of healthcare services.

Pauly (1968) suggested that moral hazard will exist when the party with superior information alters his behavior in such a way that benefits himself while imposing cost on those with inferior information. Moral hazard can affect any insurance market but is a particularly serious problem for health care insurance. Consumers who are insured have an incentive to over-consume healthcare to demand operation and treatment which they would not choose if they were directly paying for them. They may also not bother to follow a healthy life-style or to get preventive check-ups. As a result, when they do fall ill, the cost of treatment is higher than it would otherwise have been.

Cameron, Trivedi, Milne and Piggot (1988) analyzed the relationship between the purchase of health insurance and the demand for health care services in Australia, finding that moral hazard significantly affects demand for the various health care services analyzed. Newhouse (1993) presents the results of a controlled experiment in the United States, in which significant health care service over-consumption (moral hazard) is found among plans with greater coverage. One of the ways suggested to handle moral hazard was the demand side
intervention like the contracts having provisions for deductibles, copayments and other coverage limitations to control the cost of care and thereby reduce premiums by restraining provision of care but may expose consumer to large un-insured risk. But as the global health insurance market matured and with the advent of managed care the supply side interventions were initiated by giving healthcare providers explicit financial incentives, such as prospective payment, capitations and cost sharing contracts. Bertranou (1998) undertakes a similar study in Argentina, also finding that moral hazard is an important determinant of the demand for health care services.

In the existing literature there is an argument by Riordan et al. (2002) that these “supply management” instruments have become more important. As per their model the managed care, which control moral hazard with physician incentives, can either increase or decrease treatment delivery relative to traditional insurance, depending on whether demand management results in deficient or excessive treatment. Sapelli and Viral (2003) found that insurance plans in Chile receive an adverse selection of the population, and their affiliates consume more than they would have if they had not purchased insurance (moral hazard).

2.2.3 Studies related to hospitalization cost and risk covered by insurer

Karen Davis (1973) studied the hospital cost and the Medicare program. His study findings revealed that many characteristics of hospital inflation in the pre-Medicare period continued with greater intensity in the first two years of Medicare. Capital expenses continued to grow faster than labor expenses. Most if the rise in expenses had occurred in ancillary services rather than in basis room and board. The findings tend to support the demand-pull view of hospital inflation and the views that emphasize changes in technology and expansion of the hospital’s role. Economic estimation of hospital cost over the pre-Medicare and Medicare period indicates that Medicare affected hospital costs in much the same way as the growth of private insurance in the earlier period.

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13 Medicare is a social insurance program administered by the United States government, providing health insurance coverage to people who are aged 65 and over; to those who are under 65 and are permanently physically disabled or who have a congenital physical disability; or to those who meet other special criteria.
Louis, T. Y. et al. (1994) studied the medical claim cost distribution and factors that relates to cost. The data of 7796 employees who selected an indemnity medical plan for at least one year during 1985 to 1990 was studied. Descriptions for medical claim costs were presented for both single and multiple year time period. The claim data was recorded on a per-claims basis and does not consider the components of hospitalization cost. Factors that associated with high cost status were studied by using multiple logistic regression models. Employees at or above the top tenth cost percentile were accounted for approximately 80 percent, 65 percent, and 58 percent of the total employees medical cost to the employer in single year, 3-year, and 6-year periods, respectively. Bivariate analysis indicated that six of the seven selected demographic variables were significantly related to cost status. When the multivariate models excluded health risk measures, four of the demographic variables and the frequency of health risk appraisal completion were significantly associated with cost status. When the multivariate models included health risk measures, the health risk measures became the dominant predictors of the high-cost status.

Salah, M. et al. (1997) examined the effects of type of hospital and health insurance status on hospital length of stay for three identified medical and surgical conditions. Medical records of patients for a single year were reviewed in one public and one private hospital. Comparison of hospital length of stay for private versus public sector was carried out. The effect of presence of health insurance and lack of it was also studied. It was found that the average length of stay (ALOS) in the public hospital was significantly longer than the private one (3.3 versus 2.7 days). In addition, insured patients had significantly longer hospital length of stay (3.3 versus 3.0 days). The result of the multi-variate analysis showed that after socioeconomic factors and clinical conditions of patients were adjusted for, the influence of hospital type and health insurance on hospital length of stay was about one day.

Lucien, G. et al. (2005) presented an empirical analysis of the link between health insurance coverage and health care expenditures. They used claims data for over 60,000 adult individuals covered by a major Swiss Health Insurance Fund, followed for four years. In the Swiss health insurance system, each individual can choose between five plans, corresponding to different levels of annual deductible. The data show a strong positive correlation between coverage and expenditure. Standard insurance theory predicts that expenditures and coverage should be positively correlated, for two main reasons. First,
individuals who expect high health care costs may choose a more extensive coverage. Second, a more extensive coverage may increase health costs, either through an increase in the probability to experience sickness or through an increase in expenditures for a given health status. The causality relationship between costs and coverage are quite difficult to separate empirically, especially on cross sectional data (see, e.g., Chiappori and Salani’e, 2000).

2.2.4 Health Insurance Studies in India

With the liberalization and entry of private companies in insurance, the Indian insurance sector has started showing signs of significant change. Within a short span of time, private insurance has acquired 13 percent of the life insurance market and 14 percent of non-life market (Bhat et al., 2005). Health insurance has gained importance since the privatization of the insurance sector in India. The entry of standalone insurance company has triggered the growth and focus in this area. In India only about 2 percent of total health expenditure is funded by public/social health insurance while 18 percent is funded by government budget (Bhat & Mavalankar, 2000). The duo reviewed the health insurance situation in India- the opportunities it provides, the challenges it faces and the concerns it raises. They discussed the implication of privatization of insurance on health sector from various perspectives and how it will shape the character of our health care system. However, this discussion was primarily based on a deliberations of a one day workshop (IIMA 1999) and a conference held at IIM Ahmadabad (IIMA 2000) in 1999-2000 on health insurance involving practicing doctors, representative from government insurance companies, medical association, training institutes, member based organization and health policy researchers. Also, a through stakeholder analysis and classification as suggested by Mitchell, Agle et al. (1997) was missing. By undertaking such stakeholder analysis one can understand the potential threats and opportunities in the market which can throw some good insight to device strategies for synergy among health insurer and health care providers.

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14 Mitchell, Angle et al. (1997) proposed a classification of stakeholders based on power to influence, the results of this classification may assess the fundamental question of “which groups are stakeholders deserving or requiring manager’s attention, and which are not?”
Sodani (2001) investigated the community's preferences in Jaipur, Rajasthan on various aspects of health insurance. His study revealed low level of awareness (15 percent) about health insurance, that quality of care and cost are the two important factors identified by the community as the factors affecting their decision to subscribe to any new health insurance plan. The finding also suggested that an integrated provider and insurer system is preferred irrespective of public or private-based management and that there is high level of willingness to join a health insurance plan in future if designed carefully for the informal sector.

Since much growth was not seen earlier and the coverage of health insurance was minimal with most of the claims being paid through re-imbursement mode, may be that could be one of the reason for less interest shown by the industry and researchers. This is reflected in the both the quantity and quality of research undertaken in the area of health Insurance. However, there have been few good studies in the area of CGHS and ESI schemes. There have been studies in the micro-health insurance domain where few of the successful schemes like SEWA, Yashashvani and others have been studied in detail. It is only in the past ten years that we have seen some good research work being carried out in this field which is helping us to understand the dynamics of health insurance well.

Anchan, S. et al. (2011) studied the claim process of existing health insurance schemes, to identify the barriers in the claim process at the hospital level and the consumer awareness and satisfaction level in health insurance. Method employed was cross-sectional study with convenient sampling, data included time analysis format and validated questionnaire. Results showed Sampoorna Suraksha had more claims followed by Yeshasvini. Overall there is a delay in query justification followed by preauthorisation, preparation and faxing. Policyholders were not fully aware about health insurance, 50 percent of policyholders knew what TPA means and consumers were not fully satisfied with health insurance. Overall claim process was partially smooth. An effort has to be made to determine what healthcare customers need, tailoring their services. Distribution channels have a direct impact on the insurers’ market image. There is widespread recognition of the need for qualified trained sales force to serve the increasingly discerning insurance buyers.

Therefore, from the above discussion we can see that health insurance has its own sets of issues which make it problematic to study. Also, it seems that there is a gap in literature
regarding studying the provider - insurer relationship to better understand the issues and then find plausible solutions for co-operation and synergy. The literature on relationship between claims paid by the insurer, component of hospitalization cost and the risk covered by the insurers were found missing.

In the Indian context one need to closely examine the providers and understand their perceptions so that to gain better insight regarding the problem and they may be study all the stakeholders including the insurance companies, insured, brokers etc. so as to craft strategies for synergy between the provider and the insurer.

2.3 Literature on Health Care Providers

There are a lot of literatures dealing with issues related to health care providers. For the convenience of understanding and on the basis of broad sub-areas identified earlier, the literature is categorized accordingly.

2.3.1 Effect of good health in economic growth

Economic growth is commonly used as an indicator of a nation’s economic performance, and the level of GDP per capita is a key component of the Human Development Index of the United Nations Development Programme, a popular indicator of national well-being.

One of the key determinants apart from the growth in labour and the stock of physical capital is the human capital. Two key elements of human capital are the extent to which the labour force is educated, and the level of its health. There is a large body of theoretical and empirical research on the determinants of economic growth, suggesting health as one of the major determinants. Recent empirical work has sought to assess the association between human capital and aggregate economic performance and found that, given labour and capital, improvement in health status and education of the population lead to a higher output (Barro and Sala-i-Martin 2004).

The role of health in influencing economic outcomes has been well understood at the micro level. Healthier workers are likely to be able to work longer, be generally more productive than their relatively less healthy counterparts. It has been documents that better health also has a positive effect on the learning abilities of children, and leads to better educational
outcomes (school completion rates, higher mean years of schooling, achievements) and increases the efficiency of human capital formation by individuals and households (Strauss and Thomas 1998; Schultz 1999). Gupta and Mitra (2003) examined the relationship between health, poverty and economic growth in India for the years 1973/74, 1977/78, 1983, 1987/88, 1993/94, 1999/2000 based on data for 15 Indian States. Their econometric analysis showed that per capita public health expenditure positively influences health status, that poverty declines with better health, and that growth and health have a positive two-way relationship. Bloom, Canning and Sevilla (2004) report evidence from more than a dozen cross-country studies and all these studies, with a single exception, show that health has a positive and statistically significant effect on the rate of growth of GDP per capita.

As the Intra country analysis has the advantage of being better equipped to handle data-comparability issues relating to health, education and economic performance, there are studies which has been carried out in his direction. Duraisamy & Mahal (2005) carried out a analysis using a cross-state panel dataset for 14 major Indian States for the year 1970/71, 1980/81, 1990/91 and 2000/01, spanning thirty year period. The health status of the population was captured through two indicators – Life Expectancy at Birth (LEB) and Infant Mortality Rate (IMR). Apart from health, human capital was measured along two additional dimensions – average year of schooling and work experience. Their findings suggest that there is a two-way causation between economic growth and health status. The effect of health measured by life expectancy is positive and significant on economic growth even after controlling for initial income levels. Also, a thousand rupee increase in per-capita health expenditure would lead to a 1.3 percent increase in LEB, while a 10 percent increase in per capita income is required to increase the LEB by about 2 percent.

2.3.2 Delivery of healthcare services in India (public and private sector)

In was in 1946 that Bhore Committee Report stated that ‘…it will be for the governments of the future to decide ultimately whether medical service should remain free to all classes of the people or whether an insurance scheme would be more in accordance with the economic, social and political requirements of the country at the time’

The objectives of the First (1951-56) and Second Five-Year (1956-61) Plans were to develop the basic infrastructure and manpower visualized by the Bhore Committee. The concern of
the Health Survey and Planning Committee (Mudaliar Committee 1962) was limited to the development of the health services infrastructure at the primary level. The Alma Ata Declaration in 1978 called for an integration of preventive, promotive, curative and rehabilitative health services that had to be made accessible and available to the people, and this was to be guided by the principles of universality, comprehensiveness and equity. The Declaration also emphasized on complete and organized community participation, and ultimate self-reliance with individuals, families and communities assuming more responsibility for their own health, facilitated by support from groups such as the local government, agencies, local leaders, voluntary groups, youth and women's groups, consumer groups, other non-governmental organizations, etc.

It was the Alma Ata Declaration in 1978, wherein India was a signatory which led to the formulation of the National Health Policy of 1983. This policy could be seen as the stepping stone in terms of involving the private sector to share the burden of diseases by building bed capacity and training resources.

"India has a rich, centuries-old heritage of medical and health sciences. The philosophy of Ayurveda and the surgical skills enunciated by Charaka and Shusharuta bear testimony to our ancient tradition in the scientific health care of our people. The approach of our ancient medical systems was of a holistic nature, which took into account all aspects of human health and disease. Over the centuries, with the intrusion of foreign influences and mingling of cultures, various systems of medicine evolved and have continued to be practiced widely. However, the allopathic system of medicine has, in a relatively short period of time, made a major impact on the entire approach to health care and pattern of development of the health services infrastructure in the country." (National Health policy 1983)

The private health markets are more complex and often driven by profits than by affordability. The market is driven by multiple factors. The nature of health financing and payment systems, type of technology, cost of initial education and training, public expectations and perceptions, regulatory framework, and social values are some of the factors that interact with one another to determine how equitable, efficient, safe and accessible the private sector could be. International experience shows that the private sector tends to focus on profit maximization and is hardly concerned with public health goals (Bennett 1997), thus making state intervention essential.
As argued by Hsiao (2001) the health systems have five aspects or knobs that interact with each other and influence its basic nature and direction: (i) financial (tax, user fees, out-of-pocket expenditure, insurance), (ii) payment systems (how providers are paid: salary, per service rendered, capitation), (iii) organizational (manner in which the delivery systems are organized/structured), (iv) legal (regulatory frameworks) and (v) social (access to health information, advertising).

In words of Rao Sujata (2005) “The health system in India consists of a public sector, a private sector and an informal network of providers of care operating within an unregulated environment, with no controls on what services can be provided by whom, in what manner, and at what cost, and no standardized protocols to help measure the quality of care. There are wide disparities in access, further worsened by the poor functioning of the public health system.”

Rao Sujata (2005) also studied the evolution of India's health system and categorized into three distinct phases. Phase I (1947-83)- when the focus was on ability to pay and the state responsibility towards health care need of the respective population. Phase II (1983-2000)- when the first National Health Policy of 1983 articulated the need to encourage private initiative in health care service delivery, while at the same time expanding access to publicly funded comprehensive primary health care. Phase III (post-2000)- which is witnessing a further shift that has the potential to profoundly affect the health sector in three important ways: (i) the desire to utilize private sector resources for addressing public health goals; (ii) liberalization of the insurance sector to provide new avenues for health financing; and (iii) redefining the role of the state from being only a provider to a financier of health services as well.

Though health is a State subject, the Central Government has certain powers and responsibilities related to the control of infectious diseases, family planning, education, drugs and research. Structurally, the administrative units do not take into their purview the functioning of the private sector, which is seen as an independent, autonomous entity. This disassociation is in part due to the fact that various ministries administer matters that directly affect health outcomes and have no mechanism to ensure coordination among them. For example, in the Central Government, drug regulation is under the Ministry of Health, policies related to import or export of drugs and technology are the responsibility of the
Ministry of Commerce, the pharmaceutical industry is under the Ministry of Chemicals, programmes related to nutrition are part of the Department of Women & Child Welfare, water and sanitation is looked after by the Ministry of Rural Development, research in medical diagnostics or vaccines by the Department of Biotechnology, while health insurance by the Ministry of Finance, etc. Such intense fragmentation across departments and States is one of the important factors which require immediate attention. It can be argued that it is due to this gap that it is difficult to standardized processes in the health insurance domain primarily at the provider’s end which is spread across states.

The growth and development of the private sector in the delivery of health services has been relatively autonomous and independent, and not a consequence of any focused discussion or policy framework. Three-quarters of the human resources and advanced medical technology, 68 percent of a total of over 15,097 hospitals and 37 percent of over 623,819 beds in the country are in the private sector (Directory of Health Services, GOI 1996). Over one-third of them have no registration of any kind and 25 percent are AYUSH practitioners. An important subset of health care providers are the large number of informal providers—quacks, traditional healers, traditional birth attendants (TBAs), etc. (refer to the 57th Round National Sample Survey Report). A survey of ‘quacks’ in 3 districts of Andhra Pradesh showed that there was one for every 2000 population (Rao et al. 1997). The CII-McKinsey Report of 2004 has estimated the private sector in India to be worth Rs 69,000 crore and expects it to double to Rs 156,000 crore by 2012, besides an additional Rs 39,000 crore if health insurance picks up. The study also estimates that the proportion of in-patient care will go up to 47 percent largely due to lifestyle diseases, namely cancer and cardiovascular diseases. This growth is likely to require an additional 750,000 beds, 520,000 doctors and an overall investment of Rs 100,000-150,000 crore, of which 80 percent has been projected as the share of the private sector.

Bhat (1999) carried out a survey of 108 private practitioners of allopathy to examine the factors that influence health seeking behavior and growth of private practice. The survey showed that three factors provided the competitive edge—the experience of the treating physician, technology and location, which also acted as barriers to entry. In addition to the studies on health seeking behavior there are studies on different forms of payment systems. Muraleedharan (1999) in a study of private sector pricing in Chennai identified three forms
of payment systems: fixed fee schedule, flexible-fee schedule and fee-sharing system. Of these, the most prevalent was the flexible-fee schedule system under which the physician and the hospital charged their rates separately. In none of the systems is there any incentive for cost control since the payment system is based on fee for service. One of the factors which help in cost control is by controlling the Average Length Of Stay i.e. if the patient is admitted for lesser number of days then the total hospitalization cost would be lesser due to fixed expenses like the room rent, doctors fee, nursing charges etc. Thankappan's (1999) study of 9 hospitals in the Thiruvananathapuram district of Kerala showed that the private sector tended to keep patients in their hospitals for a shorter time and order more diagnostic tests as compared to public sector hospitals.

Rao, Nundy and Dua (2005) undertook a survey in 8 median districts identified in the 1991 Centre for Monitoring Indian Economy (CMIE) index. Their study covered both allopathy treatment and AYUSH\textsuperscript{15}. The survey obtained information on the ownership pattern, services provided, utilization levels, human resources appointed, equipment used, prices charged for some services, etc. They found that the ratio of the public-private sector is 60:40 in rural areas as compared to 10:90 in urban areas. Their study also suggests that the presence of the private sector in the poorest blocks was negligible. They observed that the payment system in the private sector is predominantly based on fee for service and due to the absence of any system of provider control; there is a huge variation in the prices charged for similar services. They also suggested that no insurance policy, no matter how attractive, can have any value for the poor if the provider supplying the services is located at a distance that would entail huge indirect expenses in terms of loss of wages, transport costs, etc. This is more relevant for women and the elderly who may have to depend on another person to accompany them to the facility. Their survey found that in some places there was a clear nexus between private medical practitioners and pharmacy shops. In one district it was learnt that most pharmacy shops were 'owned' by the doctors; most private doctors depended on referrals from quacks who acted as 'procuring' agents for getting patients to their facilities for which a certain commission was paid; fee-splitting between diagnostic centers and referring doctors, AYUSH practitioners practicing allopathy; etc. Such practices contribute to

\textsuperscript{15} The Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) was established as Department of Indian Systems of Medicines and Homoeopathy (ISM & H) in Ministry of Health & Family Welfare in March, 1995.
increasing costs on account of over-prescription of drugs, over-diagnosis of tests and over-treatment, or subjecting the patient to unnecessary investigations and procedures.

Gupta, Ravichandran and Kumar (2005) adopted systems framework approach to analyze and understand the various factors and constraints in training for capacity building and skills development in the health sector. A multipronged procedure was used to collect data. A triage in the form of a combination of asking questions, making observations and reviewing relevant records and reports was adopted. One district in each State, Khammam in Andhra Pradesh, and Udaipur in Rajasthan were identified for detailed discussion and fieldwork. They found that despite increasing realization of the importance of training in human resource development, no serious efforts have been made to develop an effective and comprehensive training policy at the National and State levels in the health sector.

It is evident that there is a huge backlog of trained hospital managers and administrators to work for hospitals, pharmaceutical companies, health insurance and third-party administration and other health care provider organizations. Despite having a diverse range of options to choose the educational institutions for such managerial courses, there is still a gap between the supply and the demand side, as no exhaustive list of program related data from these institutes is available till date (Sharma Kavya and Zodpey Sanjay 2011).

2.3.3 Studies related to competition in the health care industry

The evolution of competition in the health care market has been documented by numerous authors (Arnold, 1991; Eastaugh, 1992; Feldstein, 1986, 1994; Hillestad and Berkowitz, 1991; Joyce and Cronin, 1985; Schulz and Johnson, 1983; Vraciu, 1985). In the United States from 1935 to 1965 health care cost as a percent of GNP increased only from 4.1 percent to 5.9 percent. Then in 1966 the government introduced Medicare and Medicaid\(^{16}\).

\(^{16}\) Medicare is a social insurance program administered by the United States government, providing health insurance coverage to people who are aged 65 and over, or who meet other special criteria. The program also funds residency training programs for the vast majority of physicians in the United States. Medicaid is the United States health program for eligible individuals and families with low incomes and resources. It is a means tested program that is jointly funded by the states and federal government, and is managed by the state. Among the groups of people served by Medicaid are certain eligible U.S. citizens including low-income adults and their children, and people with certain disabilities. Medicaid is the largest source of funding for medical and health-related services for people with limited income in the United States.
basing reimbursement to hospitals according to their costs. While some legislation before the 1970s had the effect of protecting hospitals from the economics of marketplace competition (e.g., Hill Burton legislation of 1945; Medicare and Medicaid legislation of 1965), several other acts laid groundwork for later competition (Health Professional Education Assistance Act, 1963; Health Maintenance Organization Act, 1973; changes in certificate-of-need legislation to ensure that these laws would not restrict competition, 1979-80; Tax Equity and Fiscal Responsibility Act, 1982; Diagnosis-related group Legislation, 1983). The changes to a more competitive environment in the early 1980s cannot be traced to a specific piece of legislation or single environmental event but was rather the result of two major forces converging on the health care market simultaneously: a desire by the third-party payers to reduce increasing health care expenditures and excess capacity among health care providers, particularly physicians and hospitals (Feldstein, 1986).

It can be argued that environmental events such as recession, increased foreign competition, high medical insurance expenses and social trends emphasizing diet, exercise, and wellness also contribute towards a decline in hospital inpatient census and thus increase competition. Such environmental shifts have been described not just as a rapid change but as a period of destabilization for the health care industry (Ginzberg, 1986). One of the products of this destabilization of the hospital environment has been a dramatic increase in competition among hospitals for such strategic resources as physician loyalty and consumers (Coddington and Moor, 1987). Numerous sources have noted the increased level of competition among hospitals as a result of the changes in the environment (Autry and Thomas, 1986; Battistella, 1985; Calder, 1983; Christianson and McClure, 1979; Cooper, 1983; Friedman, 1980; Haines, 1983; Salkever, 1980). One author (Arnold, 1991) suggested that the major environmental forces leading to a rise in competition includes excess capacity, inflation and rising health care cost, rapidly advancing technology and increasing specialization, the consumer movement, deregulation of health care industry, changes in reimbursement system and declines in occupancy rates, and corporate restructuring and diversification.

In a competitive market the activities related to marketing is on a higher side. Thus, by studying the level of healthcare marketing activities, one can also test the level of competition. There is a wider acceptance and demand by the readers and the business
community for topics which are relevant and are emerging in the health care domain. A 1979 bibliography of health care marketing (Robinson and Cooper, 1980) listed 166 marketing-related articles for the twenty five years prior to 1979, whereas a subsequent bibliography covering only 1979 to 1983 listed 617 marketing related citations (Cooper, Jones, and Wong, 1984). Other authors have attributed some of this increased interest to research findings that patients were exercising more discretion in their choice of physicians (Wolinsky and Steiber, 1982) and hospitals (Boscarino and Steiber, 1994). Marketing was viewed as a means for influencing such choice decisions. However, it was observed that marketing received less than unanimous and enthusiastic support by hospital administrators. The difficulties of implementing a marketing orientation in hospitals were evidenced by articles with such titles as “Marketing Health Care: Problems in Implementation” (Clarke, 1978); “Roadblocks to Hospital Marketing” (Robinson and Coop, 1980-81); “Why Marketing Isn’t Working in the Health Care Arena” (O’Connor, 1982); “Marketplace Language Harms Health Care” (Hague, 1979); and “Has Marketing Been Oversold to Hospitals Administrators?” (Lamb and Finn, 1982).

Within a hospital setting, the marketing concept has been defined (Arnold, Capella, and Sumrall, 1987) as: “…… A patient orientation backed by integrated marketing aimed at generating patient satisfaction as the key to satisfying the hospitals goals.” (p. 20). Such a definition is consistent with the general definition encompassing customer philosophy, integrated marketing organization, and goal directed behavior. Although the health professionals have long accepted the belief that the health need of the public should govern the behavior of hospitals and other health care institutions, the predominant practice has been to define needs “in terms of how the health professionals felt people should behave rather than the actual utilities sought by the consumer or motivation that influence human behavior” (Cooper, 1985, p.7). This notion that health professionals are in a better position to define the entire needs of consumers, who have only limited ability to express their health needs, is similar to the belief held by critics of the marketing concept that it relies too much on consumers, who are not able to articulate their needs because they are unaware of what technology can produce (Bennett and Cooper, 1979; Hayes and Abernathy, 1980; Kaldor, 1971; Riesz, 1980; Sachs and Benson, 1978; Weeks and Marks, 1968). It can be argued that with the introduction of a third party and an insurance company (acting as a moderator between hospitals and patients), the power of the health care professionals (Doctors) to
access and decide the needs of the patient (insured) has decreased. The hospitals not only required to take care of the patient’s needs but also that of the third party administrators and the insurance companies.

Well talking of competition in Indian health care market, how one cannot speak about the medical tourism. Medical tourism has gained momentum in India over the past few years, a trend underpinned by India’s low-cost advantage and the emergence of new high-quality healthcare service providers across major cities. In India, approximately 1, 80,000 patients arrived in 2004 from across the globe for medical treatment. The medical tourism market in India, estimated at US$ 333 million in 2004 grew by about 25 percent and is predicted to become a US$ 2 billion-a-year business opportunity by 2012. India is seeing a surge of patients from developed countries as well as from countries in Africa and South and West Asia that lack adequate healthcare infrastructure.

Table 2.3: Health Tourism: Cost comparison between Thailand and India (In US$)

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Thailand (Cost*)</th>
<th>India (Cost*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone marrow Transplant</td>
<td>62500</td>
<td>30000</td>
</tr>
<tr>
<td>Liver Transplant</td>
<td>75000</td>
<td>40000</td>
</tr>
<tr>
<td>Open Heart Surgery (CABG)</td>
<td>14250</td>
<td>4400</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>6900</td>
<td>4500</td>
</tr>
<tr>
<td>Knee Surgery</td>
<td>7000</td>
<td>4500</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>2012</td>
<td>511</td>
</tr>
<tr>
<td>Gall Bladder Removal</td>
<td>1755</td>
<td>555</td>
</tr>
</tbody>
</table>

* Cost in US $ The Indian costs are based on the average rates offered by top Indian hospitals like Escorts Heart Institute, Apollo Hospitals and Batra Hospital. The Thailand rates are based on rates provided by Bumrungrad Hospital, Bangkok, which is Thailand's largest private hospital.

Source: IBEF Research, March 2004 (available at www.ibef.org)

A study by the India Brand Equity Foundation (IBEF) in 2004 shows how competitive India is in comparison with Thailand, another leading medical tourism destination. Thailand has a
cost advantage over India in only two categories: plastic surgery and breast augmentation. India is cheaper than Thailand across a whole range of other and more serious surgery categories (Table 2.3).

Thus, the Indian hospitals are not only competing for the domestic needs but also for the vast pool of patients across the globe. One of the major contributing factors would be the Rashtriya Swasthya Bima Yojna scheme\textsuperscript{17}. The RSBY policy is already advertised by twenty nine states and as on July 2011, more than 24 million smart cards are activated. The money collected in the form of premium would be routed to the healthcare industry which in turn would not only see the increase in the number of hospitals beds but also the opening of new hospitals, nursing homes and clinics. There would be competition among providers to cater to the increasing demand of health care services. Here, the competition would not be limited to higher end hospitals in the metros but also in small cities even at district, block and panchyat levels.

2.3.4 Studies related to health financing in India

In India there are limited studies which have touched upon the issue of health care financing, its nature and related issues. First important study was R.B. Lal’s Singpur study of private household expenditure, which talked about private expenditure on health in Singpur area and also regarding the government healthcare expenditure for the same area (Bhore committee, 1946). The Indian Institute of Management, Ahmadabad had carried out a study of health finance covering all the levels of health expenditure- state, municipal, corporate and household (IIM 1987). Tulasidhar V. B. (1993) did a comparative study of different states of India with respect to public expenditure, medical care at birth and infant mortality. They

\textsuperscript{17}RSBY has been launched by Ministry of Labour and Employment, Government of India to provide health insurance coverage for Below Poverty Line (BPL) families. The objective of RSBY is to provide protection to BPL households from financial liabilities arising out of health shocks that involve hospitalization. Beneficiaries under RSBY are entitled to hospitalization coverage up to Rs. 30,000/- for most of the diseases that require hospitalization. Government has even fixed the package rates for the hospitals for a large number of interventions. Pre-existing conditions are covered from day one and there is no age limit. Coverage extends to five members of the family which includes the head of household, spouse and up to three dependents. Beneficiaries need to pay only Rs. 30/- as registration fee while Central and State Government pays the premium to the insurer selected by the State Government on the basis of a competitive bidding.
found that in all the states, per capita real public spending grew faster than real per capita state domestic product. Utilization studies show that a third of in-patients and three fourths of out-patients utilize private healthcare facilities (Duggal 1989; Yesudian 1990; Visaria 1994).

Dreze (1995) and Mahal (2000) analyzed life expectancy at birth and found substantial differences at birth across states. States such as Madhya Pradesh, Orissa have mortality rates of well over 100 per 1000 live births in rural areas. Duggal (1996) discusses the public-private participation in health sector and how this can be optimized for best result. Bhat (1996, 2000) discussed the importance of regulating the private sector in India and how public-private partnership can bring needed resources while also taking care that the vulnerable groups - the poor and rural population – have access to health facilities. These studies suggest that India’s dependence on private sector in healthcare is very high.

In another study, Mahal et Al. (2000) tried to find the distribution of public health subsidies in India in different states. Despite a considerable desire for “equity” in public policy documents, they found that public subsidies on health are distributed quite unequally across different socio-economic groups in India. At the all-India level, the share of the richest 20 percent of the population in total public sector subsidies is nearly 31 percent, nearly three times the share of the poorest 20 percent of the population. In rural areas, this inequality was much greater where the share of the top twenty percent in public subsidies was nearly four times that of the poorest twenty percent. They also found that thirty one percent of public subsidies on health accrued to urban residents, somewhat higher than their share in the total population of about twenty five percent. Even at the state level they found substantial differences in the degree of inequality with southern states such as Kerala, Tamilnadu and Andhra Pradesh, and the western state of Maharashtra and Gujarat enjoying a much more equal distribution that the north Indian states. Some of this inequality in the allocation of public health subsidies can be explained by income-related differences in utilization patterns of public facilities, with the rich using more care, if health care is a normal good. However, if promoting equity is a key objective of the state, there is no doubt that substantial scope for improvement remains, whether in terms of inter-state equity, or within state distribution of public subsidies.
While some of the studies in the Indian context have tried to see the differences across states in some parameters, another set of studies has tried to see that private sector’s role in health financing and how people are heavily dependent on private sector healthcare (Bhat, 2001). However, studies to examine the relationship among healthcare providers and insurers were found lacking.

2.3.5 Studies related to Managed Health Care

There is emptied number of studies done in the area of managed health care in the western part of the world. This is primarily due to the fact that they were introduced in the United States of America more than eighty years ago. However, the sample of only those which throws insight regarding their introduction, benefits and current age challenges are presented below.

As per Buividas (1992) ‘Managed care’ refers to a wide range of techniques employed by third party payers- employers, insurance companies, governmental insurance programmes, etc, to control health benefit expenditure through the control of the use of health-care services. As the definition clearly states that the primary objective of managed care is to save and or reduce health care cost by closely monitoring the delivery of health care services.

Looking back into the history it was the year 1929 which witnessed the establishment of a rural farmers’ cooperative health plan by Michael Shaidid, M.D. in Elk City, Oklahoma, United States, as well as the formation of the physician-owned and controlled group practice prepayment plan by two California physicians in Los Angeles, Donald Ross M.D. and H. Clifford Loos, M.D., who entered into a prepaid contract to provide comprehensive health services to about two thousand water company employees (MacLeod & Prussin 1973).

The word managed health care and the HMO goes hand in hand and are at times used interchangeably. A major factor in the overall success of HMOs was the willingness of physicians to accept some degree of financial risk for providing health and medical care services to group of subscribers. If HMO physician incurred expenses exceeding budgeted cost, then part or all of the shortfall would have to be absorbed by the physicians. On the other hand, any excess in revenues over expenditures would be shared by the physicians. In addition, considerable savings were achieved by reducing unnecessary hospital admissions. By combining coverage for out-patient and in-patient care, HMOs were able to reduce
hospitalization rates substantially, simply by shifting services to the less expensive ambulatory settings. During the HMO developmental years, most hospital administrators viewed HMOs as a threat because they believed that they would drastically reduce the number of admissions compared to the other kind of health insurance (Gordon K. Macleod 2004).

As per Chern (1994) the managed care works through the following ways in containing and controlling health-care expenditure: - controlling the selection of health care providers - providing incentives to use certain providers - risk sharing with providers - limited use of services by prior approval procedures - initiating peer review and quality assurance procedures - contractual reimbursement system such as a fixed consultation fee per visit - ground rules for payment for patients needing multiple services - special review for patients requiring extraordinary services and by giving emphasis on primary and preventive health care.

The health maintenance organization has the drawback of restricting the members to choose their own physicians by applying the gatekeeper concept. To circumvent these lacunae the market forces lead to the formation of preferred provider organization (PPO). The pure PPO is a contractual arrangement between professional and or institutional health care providers and employers, insurance carriers, or third party administrators to provide health care services to a defined population at established fees. The PPO first appeared in the medical market place in the early 1980s as an evolutionary growth of the HMO. This corporate model offers a “discount” to enrollees who agree to use the services of selected set of physicians and hospitals usually at fifteen to twenty percent below what competitors charge. Unlike the HMO, however, the PPO reimburses the patient for covered services obtained from any provider at the discounted rates set for preferred providers; the patient then has to pay the difference between the scheduled fee and the billed amount out of his or her own pocket.¹⁸

By the late 1980s and the early 1990s, the high cost of U.S. healthcare relative to the rest of the world became quite evident. Thus, the managed care movements devoted its attention

primarily towards cutting cost. Reformers believed that competition among health plans would drive down costs as health plans, through primary care physicians, managed the patient’s care and bargained with providers (Enthoven 2004).

For a while in the early 1990s, managed care was viewed as a success. Health plans aggressively accumulated bargaining power and exercised it to shift cost to providers in the form of extracting discounts. Many health plans moved to pay providers using capitation, or contracts that paid the providers a fixed amount per subscriber per period of time to provide all covered services. In this payment system, the provider keeps any of the payment that is not spent, which creates strong incentives to reduce costs. HMO and PPO’s used their bargaining power in the early 1990s by contracting only with providers that would agree to lower rates, allowing them to hold down premium increase. However, as per Porter and Teisberg (2006) “… providers soon respond to the new clout of health plans by merging and broadening their scope of services to bolster their own bargaining power…..the direction of cost shifting reversed, and health plan costs and premium began to rise more rapidly. Managed care rapidly deteriorated into a zero-sum competition over cost shifting, with patients the ultimate loser as quality suffered….health plans also began offering incentives for physicians to spent less time with patients, order fewer tests, and make fewer or less expensive referrals. The net result was increasingly rationed and restricted services.”

It is quite evident that the introduction of managed care was due to the need to reduce cost. To some extent it was able to achieve its objective but was not so successful due to lack of coordination between various factors affecting and getting effected by it. In India, we do see some examples of managed care, not in its true sense but its form. One of such example is that of “Yeshasvini Health Insurance Scheme” introduced throughout rural Karnataka in 2003. In this scheme the members (primarily farmers) contributed five rupee per month or sixty rupee per year and get covered for all surgical interventions, major and minor, and for outpatient services at a network private hospital. (For further details please see Harvard Case Study Karnataka, Yeshasvini Health Insurance Scheme).
2.4 Theoretical and Methodological Gaps

From the literature review and the earlier discussions, it could be seen that there are many areas in the field of health insurance, specially the relationship between the insurer and the health care providers, which are unexplored or need to be explored further in the Indian context. Some important theoretical and methodological gaps found are as follows:

Studies which have analyzed relationship between healthcare providers and the insurer have done that only in the context of developed countries and a few developing countries. No study, which analyses the relationship between insurer and the health care provider from a strategic perspective, has been done in the Indian context till now. The trends in the health insurance industry are documented well in the developed countries. The growth of managed care both the HMOs and PPOs and its different derivatives, has been studied well in developed countries. It is through these studies one is able to identify the past trends, the impact of interventions, both governmental and non-governmental. The trend analysis also helps to read and gauge the industry trajectory and show pointers with reference to resource requirements and future competitiveness in the industry. It also helps to learn from past mistakes and create innovative strategies keeping in mind the different data sets and interlink-ages. Such trend analysis of the Indian health insurance industry was found missing in the current literature.

It has been well documented that the health insurance industry is prone to both adverse selection and moral hazards. The effect of these challenges on cost and on premium is also being studied. However, there is no literature in the Indian context which measures the relationship between the hospitalization cost paid by the insurer, components of hospitalization cost and the risk covered by the insurer. There is an industry wise feeling that the cost in case of cashless hospitalization is more than that of re-imbursement. This is based on the premise that the insured does not have any incentive to control cost in-case of cashless hospitalization. On the other side, it is being argued that the TPA’s in the Indian health insurance industry was introduced, with one of its objective as cost saving. They achieve this by negotiating rates with health care providers.

In health insurance there are three main players i.e. the insured, the insurer and the provider. There are studies which have studied the system from the customer perspective and few have
studied from the insurer and the provider’s perspective. The studies which have been carried out in India to study the provider’s perception are limited to the southern and western part of the country. No study has been undertaken to study the provider perceptions in the northern and the eastern part of the country.

There has been no study which has taken a comprehensive view of the cashless process and talks about different factors that can affect synergy among insurers and providers. Therefore, there is a need to take a holistic view of this sector and study it from a different perspective all together.
2.5 Research Objectives and Hypothesis

Keeping in mind the problems identified and the gaps in the existing literature the following five objectives were decided to be achieved through the current study.

2.5.1 To study the trends in Indian health insurance market.

2.5.2 To find out the relationship between hospitalization cost paid by the insurer, components of hospitalization cost and the risk covered by the insurers in the Indian context.

For the second research objectives two hypothesis were generated keeping in mind the below multiple regression model (population). See Table 2.4 for variable and their definitions.

\[
(Claim\ Cost\ Paid)_i = \beta_0 + \beta_1 *(Age)_i + \beta_2 *(SI)_i + \beta_3 *(ALOS)_i + \beta_4 *(RENT)_i \\
\beta_5 *(SUR)_i + \beta_6 *(CON)_i + \beta_7 *(INV)_i + \beta_8 *(MED)_i + \\
\beta_9 *(MISC)_i + \epsilon_i
\]

Hypothesis A

H\(_0\): \(\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = \beta_9 = 0\)

H\(_A\): At least one \(\beta_i \neq 0\)

Hypothesis B

H\(_0\): \(\beta_i = 0\)

H\(_A\): \(\beta_i \neq 0\)

2.5.3 To closely study the provider perception’s in Delhi and NCR region in order to gain better insight about service, process and synergy.

2.5.4 To undertake stakeholder analysis in order to study their attitude, influence and interest towards insurer-provider relationship and identify the key factors affecting synergy.
2.5.5 To study the business environments keeping in mind the competitive landscape to formulate strategies for synergy among insurers and providers.

Table 2.4: Multiple Regressions: Variables and Definitions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition/Calculation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim Cost Paid by Insurer CLMPAID</td>
<td>The amount of money paid by the insurer to the insured</td>
<td>IRDA</td>
</tr>
<tr>
<td>Age</td>
<td>The age of the insured at the time of taking the policy. This is also taken into account at the time of calculating the premium</td>
<td>IRDA</td>
</tr>
<tr>
<td>Sum Insured (SI)</td>
<td>This is the maximum amount that could be paid to the insured during the entire policy period. It is at times called as the policy limit. It is also taken into account at the time of calculating the premium</td>
<td>IRDA</td>
</tr>
<tr>
<td>ALOS</td>
<td>Average Length of Stay in hospital. This is calculated by subtracting the date of discharge with the date of admission of the insured patient.</td>
<td>IRDA</td>
</tr>
<tr>
<td>Room Rent (RENT)</td>
<td>This is the expenses incurred towards the room rent category availed by the insured customer.</td>
<td>IRDA</td>
</tr>
<tr>
<td>Surgeon Fees (SUR)</td>
<td>The fee charged by the surgeon who operates on the patients. The amount is paid to the hospitals and then passed on to the surgeon based on their mutual understanding</td>
<td>IRDA</td>
</tr>
<tr>
<td>Consultation Charges (CON)</td>
<td>The fee charged by the consultants (Doctors). At times there could be multiple doctors consulting the patient based on his need and the ailment</td>
<td>IRDA</td>
</tr>
<tr>
<td>Investigation Charges (INV)</td>
<td>The fee linked to the investigations conducted to diagnose the problem e.g. pathological test, X-ray, Ultrasound, MRI etc.</td>
<td>IRDA</td>
</tr>
<tr>
<td>Medicine Charges (MED)</td>
<td>The cost of medicines administered to the insured patient</td>
<td>IRDA</td>
</tr>
<tr>
<td>Miscellaneous (MISC)</td>
<td>Other cost like implants, lenses etc.</td>
<td>IRDA</td>
</tr>
</tbody>
</table>