Chapter Two

Survey of Literature on Financing Health Care

2.1. Introduction

Nobody would deny that financing health care in India is very much limited. Financing health care in India is basically confined to the circle of jobholders in the organized sectors. Some fortunate fellows who are (and also their family members) engaged in some specific category of jobs (for example, employees of banking sector, state and central government employees and employees of very few other sectors) in the organized sectors are ensured only a partial benefit in terms of medical reimbursement. Service holders in some jobs, where there is no provision of medical reimbursement, are provided a small and fixed amount of money as medical allowances. This sum provided as medical allowances to the service holders is so meager that it cannot even meet sometimes the requirement of a single visit to be paid to a standard medical practitioner. On the other hand, for the vast proportion of population who works in the informal and unorganized sectors neither medical allowances nor any sort of medical reimbursement
are provided. These poor people in the case of their illness have no alternative but to depend on their fate and destiny.

In this chapter we shall present a short and brief review of literature on financing health care in India and abroad. The chapter is organized as follows. In section 2.2 we shall review the literature on compulsory health insurance scheme. Section 2.3 deals with the review of studies that consider the conceptual framework of health insurance. In section 2.4 recent studies based on community health insurance have been considered for review. In sub-section 2.4.1 the studies on community based health insurance in India are considered whereas in sub-section 2.4.2 the studies on community based health insurance of other countries are considered. Some earlier studies that dealt with the estimation of determinants of health care uses and health care expenditure and health insurance are reviewed in section 2.5.2. Some studies that give some ideas of the reforms in the history of health care financing have been considered for review in section 2.6. Finally, we present the conclusion of this chapter in section 2.7.

2.2. Studies on Compulsory Health Insurance

Several studies on compulsory health insurance scheme have been carried out by the social scientists with the basic intension of considering or judging the welfare implications of alternative methods of financing medical care or health care.
We should name Rothenberg (1951) who pointed out that the welfare analysis of medical care should be integrated with welfare analysis of the economy as a whole. Rothenberg (1951) therefore has considered the familiar criteria for optimum welfare within the economy as whole, which are (i) optimum allocation of resources in terms of medical and non-medical employment; (ii) maximum efficiency in the utilization of medical resources; and (iii) minimizing the financial burden on consumers, subject to the first two criteria. It has been argued that in order to allocate resources to treat serious illness, subsidies may be necessary. On the basis of the priority criterion, it should be possible to classify between the serious and non-serious type of illness and consumers’ tastes are relatively unimportant in medical care. In order to guarantee good medical care for all those suffering from serious illness, we must be able to specify a minimum necessary bundle of medical resources without sacrificing the quality of services. With these ideas in mind, the paper of Rothenberg (1951) includes (i) private medicine – fees for service (no insurance situation); (ii) private medicine – voluntary sickness insurance (iii) private medicine – compulsory sickness insurance; and (iv) socialized medicine. The first three models are similar to the existing mixed pattern of organizing health care by the Governmental, non-profit and proprietary groups and persons. Each model under the assumption of hypothetical equilibrium state is studied through subjective method. It is assumed that the transition problems are solved automatically.

However, under private fee-for-service medicine, a consumer has to pay from his/her pocket for the expensive medical care, which is independent of income. Under the voluntary insurance, which does not
organize or provide medical care, the subscribers have to pay the uniform contract premium in exchange, of which risk of illness is covered. The benefits of such insurance differ depending on type of contract. Under this voluntary insurance, the marginal cost to the subscriber of some hospital procedures is far less than that under fee-for-service. Subscribers, while not able to budget for health care under fee-for-service, are able to budget for voluntary insurance. The cost of health care is spread over the healthy as well as the sick in the insured population. The subscriber of voluntary insurance who otherwise would be medically indigent is generally better off. Under the voluntary insurance, the lowering of the financial barriers to health cares and services would maximize consumer participation.

The compulsory national sickness insurance scheme imposes the condition of some legally mandatory membership for every family within the affected population group and financial liability benefits as with voluntary insurance. The insurance fund does not organize or itself render medical care. Since, the membership is compulsory, the system is beneficial to the wealthier family and not to the poor families. This scheme does attach discriminatory priority depending on the seriousness of the illness. The scheme would impose co-insurance features into the insurance system. The co-insurance should apply only to non-serious illness and must be consistent with income tax financing and capitation reimbursement. Contrasted with this scheme the socialized medicine would involve the Government ownership of facilities and an employer relationship with all medical personnel. The Government organizes and renders cares. The chief issues
concern the complete antagonism of the practitioners who would have to work under the system and an evaluation of socialization in general.

Professor Harris (1951) has attempted in his paper to critically assess the economic impacts of the British National Health Act. He carried out a detailed analysis of costs and the changing character of medical expenditures in his study for the British economy with the intention of providing a very much useful tools in the context of formulating policy. But, in this writing Harris (1951) had focused only on those facts on which economists can rightly pass judgments, though he presented impartially these selected effects of the health scheme in the British economy. Unfortunately the works of Harris (1951) does not provide any measure that will help in eliminating the defects caused by financial stringency and human frailty. Rather he thinks that these defects will automatically be erased out as the time lapses. According to Harris, in Britain people should not be permitted to spend their money as they see fit, but priority should be set up through a system of taxation in order that medical care shall become a ‘must’ in the family budget. However, Professor Harris underestimated the importance of the hospital crisis in England and this is the reason for which he was bent in recommending the socialized medicine. He, however, did not answer to a simple question “should the wealthier nations spend a higher or lower percentage of national income on medical care than the poorer nations?”

Professor Kulp (1951) advocated for the compulsory health insurance scheme for the people. Under the Government compulsion the people protected by health insurance should be ready to pay the premiums for their
health insurance scheme. According to Professor Kulp (1951), it is much more likely than not that the average Americans under the existing medical care financial arrangements will soon or late be faced with unpaid medical bills or unmet medical needs.

Professor Kulp in his writing shows how the qualitative treatment creates its own difficulties and particularly that of medical care. With respect to the private insurance protection available to meet the medical care hazards, which are much more complex and important Professor Kulp has carefully considered some essential issues of adequacy, security and acceptability to the citizen of the existing voluntary insurance protection. Some basic determination of health care insurance has been taken into account for discussion. By assuming certain conditions, it has been suggested that provision of hospital care or benefits covering the costs of hospitalized illness be made as the function of compulsory insurance, leaving arrangements for other medical care and costs. But the compulsory insurance plan would in all probability attempt to cover the whole need of insured, the incentive to buy the voluntary insurance, as a supplement would be weak. On balance the argument seems clearly to favour the catastrophic reimbursement type of compulsory medical care insurance.

Obviously the discussion has been made about the means and ways in which the compulsory and voluntary health insurance could be combined. Even in principle, insurance can contribute little toward some facilities; actually it has contributed even less because insurance funds have usually not been sufficient to do more than finance cash and care benefits. The
central proposition of the discussion is that the compulsory medical care insurance could be used to promote and encourage preventive medicine, whereas some restrictions are imposed by the initiations. Hence, the necessity of a comprehensive medical care programme for the medically indigent has been evoked.

The three papers we have reviewed above agree substantially on the necessity for some form of compulsory insurance and the logic of the cause supports this reform in the financing of medical care (Arlt, 1951). Harris (1951) suggests that the British experience justifies the principle of compulsion even though it appears that a mistake was made in introducing a comprehensive scheme before the required facilities were available. Kulp (1951) points out that the “case for compulsion by the state is for the greatest part conceded” whereas Rothenberg (1951) advocates that financial protection against serious illness cannot be secured in a voluntary system where fees for service and high-level premiums for voluntary prepaid insurance exclude those of low-income status.

Blodgett (1951) has traced his discussion primarily to the question of cost and especially the cost of compulsory health insurance. In his paper, the amount of total cost to be allocated is of considerable importance in discussing methods of financing compulsory health insurance. The actual cost of compulsory health insurance would depend on several variables, including the efficiency with which the Government operated its ventures in general, the number of people covered, the number and kinds of medical services and facilities made available, the extent to which people made use
of the system, the number of governmental pay rollers involved in addition to medical personnel, and the volume of abuse that developed. The last factor mentioned would include simple overuse of medical personnel and facilities.

2.3. Conceptual Framework of Health Insurance

Jansen (1952) in his study discussed the influence of medical expenses as actually distributed by the size of expense and also by the size of income on the effectiveness of various deduction plans. This study makes available for the first time the primary data on the distribution of medical deduction by the size of expense and the size of income under alternative deduction plans. The data are summarized in measured aspects expressed as index numbers in order to facilitate comparison amongst different plans. The main purpose of the measured comparison of plans is to provide a better basis of policy decisions. A specific purpose is to seek a plan that will favour deduction at large, extra-ordinary medical expenses and also without great costs to the Government. Medical expenditures reduce the ability to pay taxes and therefore, a medical deduction from the income tax creates a differentiation according to ability to pay.

In this study the justification of deduction has been mentioned in accordance with ability to pay. It has also been explained in the study that if medical expenses are presumed by the public policy not to be included within the intaxed personal exemption, then a full medical deduction
expense deduction would be justified according to ability to pay. The central proposition of this study is to show several effects as follows.

- How the medical deduction differs according to size of medical expenditure.
- How the effect of personal deductions on distribution of tax burden by incomes will actualize in order to enlighten the context in which all tax policies are considered.
- How the distribution of medical deduction affects the distribution of medical expense by income.

Nobody would deny that the insurance is necessary due the presence of uncertainty in economic activities. Indeed Kenneth Arrow (1963) has identified a kind of market failure with the absence of market insurance against some uncertain events such as health. It follows that the Government undertakes insurance where the market, for whatever reason, has failed to emerge. The study of Pauly (1968) has shown that even if all individuals are risk averters, insurance against some types of uncertain events may be non-optimal. Hence, the fact that uncertain kinds of insurance have failed to emerge in the private market may be no indication of non-optimality and compulsory Government insurance against some uncertain events may lead to inefficiency. It will also show that the problem of moral hazards in insurance has in fact, little to do with morality but can be analyzed with orthodox economic tools. The particular type of insurance for which the argument will be presented is that of insurance against medical care.
expenses, for it was in a discussion of medical expense insurance that Arrow (1963) framed.

So, there is a social gain obtained by the purchase of insurance since the pooling of risks reduces the total risk, and therefore the risk per insured. However, since the individual preferred actually fair insurance to self-insurance, he will prefer some insurance with an actuarially unfair premium to self-insurance, so long as the premium is not too ‘unfair’. From this standpoint, Arrow (1963) concluded that the absence of commercial insurance against uncertain medical care expenses provides a case for Government intervention to provide such insurance.

Further, regarding the definition of insurance Arrow (1965) has commented that “Insurance is not a material good ..........., its value to the buyers is clearly different in kind from the satisfaction of consumer’s desires for medical treatment or transaction. Indeed unlike goods and services, transactions involving insurance are an exchange of money for money, not money for something which directly meets needs.” It is important to note that insurance is defined not in terms of liability ‘coverage’ of potential losses, as in the papers of Smith and Mossin (1968), but in terms of ‘coverage minus premium’ or the net addition to income in state zero.

The paper presented by Mossin (1968) has analyzed a series of problems related with the purchase of insurance coverage from the point of view of an individual facing certain risks. If the risk situation and economic background, which are measured by initial wealth of an individual wealth
are given, then the problem of that individual is to decide whether he should provide for insurance coverage and if so, then how much. The paper mainly analyses two situations in the context of insurance coverage. On the one hand, the solution to problems of optimal insurance coverage in various situations is clearly of considerable practical interest in itself. On the other hand, however, the analysis can be regarded as a set of methodological exercises. The absolute risk aversion in this paper, has been presented in the Pratt (1964)-Arrow (1965) sense, which is

\[ R_a(Y) = \frac{U''(Y)}{U'(Y)} \]

where \( U \) is a utility function representing preferences over alternative levels of Wealth \( Y \). The risk aversion function can be determined by the preference ordering and contains all essential information about the utility function. Pratt (1964) and Arrow (1965) envisaged how the values of the risk aversion function reflect the behaviour with respect to small risks. Arrow advances the hypothesis of \( R_a \) in a decreasing function of wealth and he uses this hypothesis in analyzing a portfolio selection problem to show how it implies that investment in risky assets increases with the size of the portfolio. In analyzing a model incorporating both consumption and portfolio choices, Sandmo (1968) derives similar and plausible conclusions from the hypothesis of decreasing risk aversion. Mossin (1968) has shown how the same hypothesis can be employed to derive implication of taxation for risk taking.
Ehrlich (1970) has advanced the justification for having insurance by the way that when there are several independent hazards, a person might ‘gamble’ and ‘insure’ at the same time, provided the different hazards were associated with different opportunities. An illustration under this context given that a fair price of theft insurance has been mentioned then an individual may fully insure had households against theft and at the same time engaged in a risky activity if his expected earnings there were greater than earning in alternative ‘safe’ activities.

Insurance can be argued as different from ordinary goods and services because it is not desired *per se*, but as means of satisfying more basic needs. Recent developments in consumption theory suggest, however, that the distinction between goods and services purchased in the market and more basic needs they satisfy is not a unique characteristic of insurance, but applies to all goods and services. The demand for the insurance is also derived from the needs they satisfy, just as in the theory of production the demand for factors of production is derived from their contribution to final products. The basic needs that the purchase of insurance will be identified with consumption opportunities contingent upon the occurrence of various mutually exclusive and jointly exhaustive “states of the world” (see Becker and Michel, 1970).

The intention of presenting the paper by Khilstrom and Pauly (1971) is to develop a general equilibrium theory of insurance and to use it to study the allocation of risk. This study is basically based in a reinterpretation of the contingent claims models of Arrow (1964) and Debru (1959) and Radner.
The Radner model allows introducing the cost of information required to provide insurance. This provides an explanation for the observation that real world insurance institutions provide less insurance than suggested by the Arrow-Debru model. This study explored a few of the implication for optimal arrangements of introducing an information cost. The cost of information is obviously a kind of transaction cost that must be paid if trade is to take place. It is one of the costs of having a market.

The study views that people actually trade in insurance policies by assuming that they have some notion of the going price for insurance policies of various types. However, the notion of an insurance equilibrium, which have been defined in the study required that any policy to be available. But, this does not occur in actual insurance markets. Also, this may in fact be of no difficulty if the class of policies available includes optimal policies. The paper finds that if all individuals share the same probability distribution over states that the optimal policies depend only on the total loss; that is, the only policies that will be sold and observed are those in which payment in states will be the same when the economy's total loss is the same. That is, the number of states, which need to be distinguished in optimal policies, is equal to the number of different possible total losses. But it appears that the class of policies actually available is too restricted to allow for the achievement of Pareto optimal allocations in the Arrow-Debru models even if there is no common probability distribution. Again, in the context of cost of information and the aspect of insurance market behaviour, it seems to be reasonable to assume that more complicated policies would be more costly to provide. This study shows that
if information is expensive then no trade is Pareto optimal. In such a situation it is possible for a Pareto optimal allocation to be one in which there is no insurance, because the information of providing it is too high.

The study by Spence and Zeckhauser (1971) presents a theory of optimum insurance provisions when all premiums are actuarial, which indicated utility maximizing zero cost insurance, with and without moral hazards and has been variously specified. But, in their writing, it is mentioned that the insurer’s utility function is implicitly risk neutral and the insurer is the Government. Thus, the analysis covers only the demand side of the picture, and that only for the case of actuarial premium. It is necessary to consider the supply side of insurance and the response of demand to loading charges. The paper constrains that insurance company to break-even actuarially, which implies they require the expected value of insurance company when profits be zero. This does not mean that an insurance company will in fact break-even and this possibility need to be introduced into their analysis.

The paper by Spence and Zeckhauser (1971) differs from the papers by Arrow (1964) and Debru (1959) and Khilstrom and Pauly (1970) on several counts. In particular it does not attempt to exploit closely the Arrow-Debru framework. Using an information structure approach, common in the theory of game, the paper determines under what condition the benevolent insurance companies will be able to maximize the expected utility of the insured individuals. However, insured individuals may not always gain by disclosing information about their actions or the state of nature to an
insurance company. Hence, the insurance companies will not maximize the expected utility of policyholders when information is incomplete or untimely.

The papers show that Arrow-Debrup format can yield insights into the design of insurance scheme, and may help make precise the obstacles to the achievements of optimality by way of insurance. However, for many phenomena the ingredients to a state preference view are both subjective and unstable. By way of contrast, the paper by Brainard and Dolbear (1971) is not so much concerned with the information structure of the insurance problems as it is with the question of whether or not enough different insurance contracts will be offered to reach Pareto optimality in markets for contingent claims.

Grossman (1972) constructed a model of demand for the commodity ‘good health’. The central proposition of the model presented is that health can be viewed as a durable capital stock that produces an output of healthy time. The model explains variation in both health and medical care among persons in terms of variation in supply and demand curves for health capital. The first prediction of the model is that if the rate of depreciation increases with age, at least after some point of life cycle, then the quantity of health capital demanded would decline over the life cycle. Hence the expenditure on health care would rise with age. A second prediction is that a consumer’s demand for health and medical care should be positively correlated with his wage rate. Finally, it has been predicted that if education insurances the
efficiency with which gross investments in health are produced, then the more educated would demand for a larger optimal stock of health.

It should be noted that in the real world the length of life is not certainly known with perfect foresight. It might be postulated that a given consumer faces a probability distribution of depreciation rates of health in each period. The uncertainty would give persons an incentive to protect themselves against the ‘losses’ associated with higher than average depreciation rates by purchasing various types of insurance and perhaps by holding an ‘excess’ stock of health (see Phelps, 1977).

Ehrlich and Becker (1972) have developed a theory of demand for health insurance that emphasizes the interaction between market insurance, self-insurance and self-protection. The effects of changes in prices, income and other variables on the demand for these alternative forms of health insurance are analyzed using ‘state preferences’ approach to behaviour under uncertainty. In this paper, it has been shown that the market insurance and self-insurance are close substitutes. But the market insurance and the self-protection can be complements. The analysis challenges the concept that ‘moral hazard’ is an inevitable consequence of market insurance, by showing that under certain conditions the market insurance may lead to reduction in the probabilities if hazardous events occur. Though the study by Mehr and Commack (1966) have viewed moral hazard, in part, as a moral phenomenon related to fraud in the collection of benefits. A fire insurance policy, for example, may create an incentive for arson as well as for carelessness. The study by Ehrlich and Becker (1972) deals explicitly with
only the effects of market insurance on self-protection although implicitly it
applies also to the effects on fraud.

The paper also explained the extensive use of health insurance, its
provision by the employers and the Government. It also explained the fact
that the individual’s premium is generally independent of his own behaviour
and it may tend to reduce self-protection (e.g., preventive care and good
health habits) and self-insurance (e.g., early treatment and the reduction of
work activities that exacerbate an illness). But, the effect is not clear,
because some of the self-protection and self-insurance activities in relation
to expensive serious illness are actually insured (e.g., preventive care and
eyearly treatment) while others are not (e.g., good diet and reduction of work
activities). A full analysis would require an extension of the Ehrlich and
Becker (1972) binary event model to multiple conditional risks.

Feldstein (1973) in his study in American context has shown that
families in general are over-insured against the health expenses. If insurance
coverage were reduced, the utility loss from increased risk would be more
than outweighed by the gain due to lower prices and the reduced purchase of
excess care. In the first part of the study, he develops and estimates a
structural equation for the demand for health care and then examines the
dynamic interaction between the purchase of insurance and demand and
supply of health care. The second part of the study estimates the welfare
gains that would result from decreasing insurance by raising the average co-
insurance rate.
The study by Feldstein (1973) shows that the price and the type of health services that are available to any individual reflect the extent of health insurance among other members of the community. The previous study by Feldstein (1970, 1971) shows that the physicians raise their fees and non-profit hospitals also respond by increasing the sophistication and the price of their product when the insurance becomes more extensive. Hence, the non-insured persons will be influenced by the insurance of the others. So, the people spend more on health because they are insured and buy more insurance because of high cost of health care.

The study also analyzes the determinants such as premium/benefits ratio, income, tax exemption, groups, the habitual character of the demand for insurance services etc. Finally, the paper shows how insurance raises price of hospital cares and services and derives specific estimates of the potential welfare gain from reduced price distortion and the potential welfare loss from reduced risk avoidance.

In the United States, the dominancy of the health insurance provides partial reimbursement to the consumers for expenditure on selected goods and services, in lieu of paying a predetermined price for the policy, called the premium per period. The consumer is uncertain about many future events such as occurrence of various illnesses, the amount of medical services consumed and the out-of-pocket monetary loss and which cannot be perfectly foretold. The paper presented by Friedman (1974) suggests a model of choice among health insurance options, which permits quantitative inference about risk aversion from revealed choices. This model is actually
based on the theory of expected utility maximization and is almost similar to the works of Arrow (1963), Pauly (1963) and Zeckhauser (1970). The model has its useful application to the Federal Health Benefits Programme in which federal employees choose health insurance from a wide range of options.

Rothchild and Stiglitz (1975) has focused that in the insurance market, sales offer at least those that survive the competitive process, do not specify the price at which customers can buy all the insurance they want, instead consist of both a price and a quantity – a particular amount of insurance that the individual can buy at that price. Again, if individuals were willing or able to reveal their information, everybody could be made better off. By their very being, high-risk individuals cause an externality; the low risk individuals are worse off than they would be in the absence of the low risk individuals. This paper is important to show that even a small amount of imperfect information could have a significant effect on competitive markets. The model developed by Rothchild and Stiglitz (1975) is very much similar with the models of educational screening and signaling studied by, among others, Arrow (1973), Riley (1975), Spence (1973 and 1974) and Stiglitz (1971, 1972, 1974 and 1975).

A Deductible in a health insurance policy has been considered in a paper by Keeler, Newhouse and Phelps (1977). This paper studied that the correct methods for analyzing medical demand when deductibles are present is by the episode of illness, rather than by any temporal aggregation. Time remaining in the accounting period and distance to the price change at the time of episode should be explanatory variables. This study also advocates
that if analysis by episode of illness is not practical, one should consider excluding individuals with deductibles in their policies from the sample. In the case of hospitalization, where common deductibles are almost always excluded, admission decisions may be analyzed as a function of total out-of-pocket price, while the length of stay decisions can be assumed to be made on the basis of the nominal marginal price.

The popularity of deductibles has been explained in this paper under three headings. First, administrative costs appear to be nearly invariant to the size of the claim. Parish (1974) asserts that the costs of processing a claim is about $3 per claim, regardless of the size of the claim. As a result, insurance that covers larger claims is more attractive than the insurance that covers smaller claims, because the payment ratio is higher. Second, the problem of adverse incentives may be more severe for small claims than for large. Insurance coverage may also make it rational for consumers to take more chances and spend more on medical services than they would choose to, *a priori*. This is another type of adverse incentive problem. But, it is not clear whether coverage of small or large expenditures is more likely to induce such behaviour (see Ehrlich and Becker, 1972). Finally, Arrow (1963 and 1973) has shown that the optimal insurance policy for a given premium for risk-averse consumers has no co-insurance after a deductible.

According to Abel Smith (1986), health insurance like any other risk sharing arrangements is useful when the illness or injury to be insured is high. In effect, the health insurance scheme implies that those fortunate enough to be healthy pay those who are sick, with the clear understanding
that should those well fall sick later on, their costs in turn will be covered (Berhman and Khan, 1993). But, if the healthier proportion is small, then the scheme will run into problem. In other words, if risks are predictable and if those with lower risks do not wish to join the scheme, the resulting adverse selection will make the scheme unviable.

Benjamini and Benjamini (1986) have analyzed the efficiency of health insurance with the choice among plans. In the United States, many employers offer their workers group policies for several plans, with no tax advantage to one method or another by following the Act of 1973. The insurance plans are classified into two major categories: conventional insurance schemes and health maintenance organizations plans. The conventional insurance schemes are characterized by fee-for-service, third party reimbursement of most medical expenses made on behalf of the insured. Under health maintenance organizations plans, the insured has access to a comprehensive range of health services in time of need in return for per capita periodic payments. In this study the choice between the two types of insurance has been analyzed.

This study clarifies that the health maintenance organizations plan is a more efficient way of providing medical insurance for a relatively homogenous group. Different groups may have different plans that best fit their members. It has been shown that where employees can choose among several plans they cluster in relatively homogenous groups in a specific health maintenance organizations plan. In order to characterize the desired market for medical insurance, it is apparent that a uniform health
maintenance organizations plan of cannot be optimal, as it is impossible for one plan to approximate the choice of most of the people when the group is as big as diversified as the whole nation. It implies that any Governmental system that imposes a unique health maintenance organizations plan like structure on the entire society is inefficient. Thus the optimal system would consist of various health maintenance organizations plans, co-existing with fee-for-service providers whose patients are covered by conventional policies.

Manning et. al. (1987) estimate how cost sharing, the portion of the bill the patient pays, affects the demand for medical care services. In United States, the medical care cost increases 4% per year in real terms. The share of GNP devoted to medical care increased from 4.4% in 1950 to 10.7% in 1985 (see Daniel Waldo, Katherine Levit and Helen Lazenby, 1986). A prominent cause of this rapid increase has emphasized the spread of health insurance, which has generated demand for both a higher quality and an increased quantity of medical services (Feldstein, 1971, 1977). In turn, the spread of health insurance has been linked to the exemption of employer-paid health insurance premiums from the individual income tax (Feldstein and Allison, 1974; Feldstein and Friedman, 1977 and Pauly, 1986). Thus, the increase of health care expenditure is due to market failure induced by public policy. Although such an argument is not universally accepted (Barer, Evans and Stoddort, 1979; Geoddeeris and Weisbrod, 1985).

This paper by manning et. al. considered the Rand Health Insurance experiment, which had several objectives other than improved estimates of
how demand responds to health insurance. The merit of such objectives is explained in the study.

- The first objective mentioned that many poor individuals are insured through public programmes; whether the demand response differs for the poor is therefore, an issue in decisions on the scope of these programme.

- The second merit is that insurance need not be uniform across various medical services. In fact, the second best pricing implies that the coverage should be more generous for less price elastic, that is, less insurance elastic, for the health care expenditure (Zeckhauser, 1970; Broadford, 1970). From this study, it has been clear that if insurance elasticities differ for various types of medical services. Hence, the demand for health insurance is greater for outpatient physician services, psychotherapy and preventive services, which would accord with the observed lesser coverage of these services.

- The third merit has been mentioned as that the public financing of medical care has been justified by its status as a merit good (Musgrave, 1959) and in particular the claim that the consumption of medical services leads to improved health, which can generate externalities (Lindsay, 1969; Culyer, 1971, 1976 and 1978; Pauly, 1971; and Evans, 1984). In this context it can be sought to quantify how the change in the consumption
of medical care services at the margin might affect health insurance. But the problem of the expenditure on health care services still remains due to political debate about the benefit of public financing.

- The final merit of the objectives is that public policy has promoted health maintenance organizations on the groups that such organizations were more efficient in the delivery of health cares and services, which has been proved during the past decades.

Almost all evidence of lower cost, however, came from uncontrolled settings, leaving unresolved the question of whether selection of healthier members or more efficient treatment was responsible for lower costs in health maintenance organizations (Luft, 1981). Also unresolved was the question of whether any true reduction in services at health maintenance organizations might adversely affect health status. Moreover, it can be sought to determine whether any reduced use of services affected health status and satisfaction.

John Akin (1987) has extensively reviewed the economic rationale for risk sharing and discusses the role of the Government in providing insurance services to the people when services are available free of charge, the need of insurance is not felt by the people. Moreover, when incomes are very low, often health care does not receive any priority. Overtime, as incomes
increase, the quality of free services declines and the cost of health care increases. Then the demand for health insurance goes up.

In the context of organizing the health insurance market, Diamond (1992) presents a new approach to organizing universal health insurance. The key piece in this study was in the image of medical care in the United States. The medical care was discussed in terms of three factors: access, cost and quality of medical care services. The Government can divide the entire population into many large groups and then a Federal health insurance system (Health Fed) can be created. The Health Fed would be in charge of monitoring quality and handling complaints about the insurance company; it would help the insurance company with both quality and assurance and cost containment; it would also set minimum standards for the insurance offered. In this paper it also discussed that the insurance company and the group would negotiate premiums for basic coverage of the entire group, preserving the option of considering alternative bids and option of rejections of the current company as offering inadequate service and opening bidding only to other companies. Conversely, investment in handling transactions is probably not so specific as to have an important under-investment incentive from future negotiations (Goldberg, 1976; Shleifer, 1985). Hence, the Health Fed would create a short menu of alternatives – solicit bids for insuring the entire group and price alternative. There would be redistribution between groups and pricing of alternatives to reflect optimal social insurance principles.
As per discussion of world development report (1993), out-of-pocket payments are the main source of financing for discretionary care in low-income countries. They remain substantial in the middle-income countries, but insurance becomes increasingly important as incomes rise. Because, except for the very rich, out-of-pocket financing cannot cover expensive care or deal with catastrophic illness, widespread financing of discretionary care is possible only through insurance. Countries have two main options for meeting a growing demand and need for insurance. One is to move toward the current U.S. system, which relies substantially on private voluntary insurance. The other is to follow the examples of Canada, Japan and most European countries, where general Government revenues or social insurance cover the cost of only a small discretionary residual for private insurance.

In order to improve the financing of insurance markets, the Government policy can function in three ways. It can strive to eliminate unfair subsidies to insurance. The policy can work to maximize the population covered by insurance by preventing selection bias the tendency of the insurers to discriminate against bad health risks. And it can help to eliminate another potential problem with insurance: the explosive increases in health care, costs that are closely associated with fee-for-service payment of health providers by third party insurers (Griffin, 1992).

Reiman (1993) in his study exposed the rationale that the Government should intervene in health care markets because of the fact that significant failures apply particularly to the regulation of health care and health insurance. In fact, Government cannot finance all medical care for which
insurance might be desirable without worsening the tendency towards higher costs and risking \textit{de facto} rationing of health care which particularly hurts the poor. Beyond a well-defined package of essential services, therefore, the role of the Government in clinical service should be limited to improving the capacity of insurance and health care markets to provide discretionary care – whether through private or through social insurance (earmarked taxes such as social security or other mandated arrangements). Government can further improve how markets function by providing information about the cost, quality and outcome of health care. Simply, by defining an essential clinical package, the public sector provides valuable guidance on what is and what is not cost effective. This distinction, of course, may then influence the design of private or social insurance packages and the behaviour of individual providers or patients. Information on the relative cost effectiveness of different discretionary procedures is similarly valuable and might be used by insurers and providers to reduce costs and attract clients.

Gertler and Sturm (1997) have advocated in favour of private health insurance in Jamaica. Because, the private sector can play as an alternative of financing health care and as way to alleviate some of the financial pressure on the public sector. Indeed, universal public health care systems are better able to redistribute income when private sector alternative exists (Besley and Coate, 1991). They have undertaken this study in Jamaica due to a good setting of private health insurance on public expenditures because it has a universal public health care (Fiefer, 1990). In addition, there exists a large private sector that offers substantially higher quality services at substantially higher prices (Peabody, 1994). The study shows that there is a
strong association between insurance status and the choice between private and public health care; and, there is a positive correlation between health insurance and utilization. This may be due to the fact of an income effect since insurance coverage increases with income. The central proposition of this study is to add the notion that mandating health insurance will have expenditure and efficiency implications for the public sector and that these implications are one of the factors that should be considered in the evaluation of such a policy.

2.4. Recent Studies Based on Community Health Insurance and Policy Implications

In low-income countries health insurance schemes are an increasing remarkable factor as a tool to finance health care provision of the poor (WHO, 2000). The low-income people lack access to health care with a negative impact on their dignity, human capital formation and their risk management options (Jutting, 2003). Given the high latent demand from people for health cares and services of a good quality and the extreme under-utilization of health services in some countries, it has been argued that social health insurance may improve the access to health care of acceptable quality. Whereas alternative forms of health care financing and cost recovery strategies like user fees have been heavily criticized (Gilson and others, 1998), the option of insurance seems to be a promising alternative as it is possible to pool risk transferring unforeseeable health care costs to fixed premiums (Jutting, 2000). Now, in many countries non-profit mutual, community based health insurance schemes have emerged and these are
characterized by an ethic of mutual aid, solidarity and the objective of pooling of health risks. These schemes operate in collaboration with health care providers, mainly hospitals in the area of several countries. The prospects and limitations of innovative health insurance schemes as social security system in the rural areas have been empirically studied in many countries like Ethiopia, China, Ghana, India, Senegal and Tanzania. The target of these studies is to estimate demand for health care and health insurance, economic and social impacts, as well as identifying factors of success and failure.

It is worthwhile to mention that the developing countries are not able to fulfill the health care needs of the poor, especially of the rural population. The lower rate of budgetary allotment in health care, inefficiency of health care provisions, unacceptably low quality of public health care services and imposition of user charges for health care, reflect the states’ inability to provide health care to the poor. Recently, the ‘health care crisis’ led to the emergence of many community based health insurance schemes in different regions of the developing countries, particularly in sub-Saharan Africa (Jutting, 2001’ Wiesmann and Jutting, 2001 and Preker et. al, 2001). The decentralization process, which unleashed in these countries to empower lower layers of Government and the local community further fuelled the emergence of the community based health insurance schemes (Atim, 1998; Musau, 1999). The success of micro credit schemes may have also contributed to the emergence of community based health insurance schemes designed to improve access through risk and resource sharing (Dror and Jacquier, 1999; Brown and Churchill, 1999). Also the community based
health insurance is considered to be pro-poor programme as it strengthens the demand side and thereby helps the poor to articulate their own needs (Devettere and Fonteneau, 2001).

2.4.1. Studies on Community Health Insurance in India

Bhat (1993) in his study discussed the importance of private health care services in India’s health care delivery system. The health care facilities providing services in different systems of medicines and using various forms of organizations, institutions in the private sector cater to the health requirements of both the rural and urban population. As demand for health care services has increased, the private sector has expanded widely in response. Survey findings on utilization patterns indicate the high dependence of health care seekers on the private sector (Duggal and Amin, 1989; Yesudian, 1990). The evidence shows that the public health care system is far from being the only instrument for controlling disease patterns; the private sector plays an equally important role (Viswanathan and Rohde, 1990). Despite the widespread public infrastructure, a higher proportion of health services are provided by the private sector rather than by the Government facilities (Chatterjee, 1988). The private sector health care services affect both the costs and the quality of services available. In this section we are going to review the role of private sector health care in India and the policy concerns it engenders.

Gumber and Kulkarni (2000), in their study, attempt to explore some critical issues relating to the availability and needs of health insurance
coverage for the poor and especially women, and the likely constraints in extending current health insurance benefits to workers in the informal sector. In this context, the study on the state of Gujarat in India shows that the poor and other disadvantaged sections of population are forced to spend a higher proportion of their income on the use of health care than the better off. The burden of treatment is unduly high when seeking inpatient care (Visaria and Gumber, 1994; Gumber, 1997). Therefore, those who are living above or on the poverty line are likely to fall into poverty trap in the event of any major health shock (Holzman, 2001). If such people have access to credit, their need for health insurance may be defined in terms of effective demand for health insurance, which fall due to their subsistence constraint and through purchase of insurance they may be able to protect themselves against the risk of falling into poverty trap.

The households belonging to the informal sector expend more on health care. Overall about 6% of the household income is spent on curative care, which amounts to Rs.250 per capita per annum (Shariff et. al., 2002). It is important to mention that less than 9% of Indian workforce is covered by some form of health insurance through different schemes such as CGHS, ESIS and Mediclaim. A majority of the covered population belongs to the organized sector (Gumber, 1998). But, a majority of the rural and urban slum population in India remain outside the health insurance system due to lack of information regarding availability of health insurance scheme or the mechanisms used by the providers are not suitable to them. There is also a gender bias with men who have better access to health care when compared to women due to socio-economic and cultural reasons.
On the side of the provider, the only public sector insurance scheme in India is Mediclaim, which is not developed too much. Again the Jana Arogya Bima Policy, which has been shaped basically for the poor and disadvantaged sections of people, is not known to the majority of the population. This study demonstrates that while there is a great interest, the concept of health insurance and paying for a service, which may or may not be availed of is new to low income people. This suggests for effective information, education and communication activities, which in turn develop the health insurance schemes and markets. The study undertaken by Sunder and Sharma (2002) attempted to examine the pattern of morbidity and health care utilization by the urban poor, living in the slums and resettlement colonies of Delhi and Chennai. However, very few attempts have been made to study the health care utilization especially among the urban poor (Madhiwala et. al., 2000; Nandaraj et. al., 1998). The study is important on the ground that large share of the total population in the urban areas live in slums.

The study shows that in spite of presence of health care facilities nearly a significant proportion of population living in the slums or colonies does not seek treatment for their illness. Particularly for the old people the financial constraints appear to be one of the important reasons for not seeking treatment and this due to the fact that most of the old people are financially dependent on the other earning members of the family. This has a significant implication for financing of health care in the case of aging people. The study reveals that the sample households do incur a substantial
expense on the treatment of ailments (both outpatient and inpatient treatment) even if the treatment is sought from a Government facility. But, in the case of inpatient treatment in a Government hospital, especially when the surgical intervention is required, the households have to incur a huge out-of-pocket payment on various items. The sample households also reveal that to meet the hospitalization expenses the households have to borrow money and even liquidate their assets. So for the households the hospitalization and the treatment in the hospital involve huge expenditure - both medical and non-medical expenses, which affect the household budget.

In order to provide financial protection to the poor households against such expenditure on health cares and services the health insurance schemes are needed. Such insurance schemes should be designed in such a manner that these schemes should cover the poor and low-income people who are mostly engaged in the informal or unorganized sector and if so the have-nots will be provided financial protection through the instrument of health insurance schemes.

The study of Ellis, Alam and Gupta (2000) attempts to review a variety of health insurance schemes, which cover the risks of payment for health care at the time of necessity. The evidence shows that the level of health care spending in India is very high compared to that in many other developing countries. It has been pointed out that more than three quarters of health care spending includes private out-of-pocket expenditure, though the outcomes of these expenses are unsatisfactory. Most of the out-of-pocket payments are borne by the households engaged in the informal or unorganized sectors. Some of the households who work in the organized
sectors are covered by the health plans, but they experience growing inefficiencies and low quality of health cares and services. However, several recent studies and reports have critically reviewed the Indian health delivery and financing system (Berman and Khan, 1993 and World Bank, 1995). These studies have documented many serious problems related to the accessibility, efficiency and quality of the health delivery system and recommended to alleviate these problems. Though there is more provision for health care in private sector, this needs huge amount of expenditure, which in turn, creates the necessity of health insurance for the low-income people. The paper also attempts to develop a prospectus of strategy for greater regulation and increased health insurance coverage by making suitable changes. The importance of this study has been proved on the ground of a series of recommendations relating to the improvements in delivery of health care and its financing. This also includes efficient functioning of different schemes provided by the Government and Mediclaim system. This study talks in favour of enhancing competition and possible privatization of health insurance within a strict regulatory system.

The policies under which the expenditure on health care and services would decrease have been discussed in a paper by Mahal (2000). In this context, the policies of different countries have been taken into account to compare with India’s present situation. For instance, it is often contended that an increase in the supply of doctors, instead of leading to reduced prices, may sometimes actually increase the average expenditure of health care, through an increased number of specialists and supplier induced demand (Havard Team, 2000). Thus countries often put a range of restrictions on the
number of doctors, proportion of specialists, number of immigrant doctors and so on. Similar restrictions may arise on the introduction of new drugs and technology. Quality and cost of care are also crucially dependent on laws for consumers’ protection and requirements for continuing education. But, this in fact requires a reform in the health sector, which needs a long-term process and a close monitoring of outcomes.

In order to reform the health sector, the policy makers would face a number of challenges in India. This obviously is related to health care (but not to health insurance), which is primarily a state subject and therefore requires coordination. Again, to reduce the burden of health care expenditure, it may be useful to purchase private health insurance scheme or to negotiate with the private providers.

Under the caption “Better Health system for India’s Poor”, the World Bank (2001) overviewed the sight and suggested some options for health financing and inpatient care. Inpatient care is very expensive and risky due to quality, accountability and equity of inpatient services. Plans for care or insurance that attempt to provide the poor with exactly the same quality and quantity of inpatient care as the rich receive, run the risk of cost escalation. Because of the close relationship between financing and high cost per episode of illness for the inpatient care, a set of options for financing and provision of inpatient care together has been considered. Hence, the reforms suggested are not cheap but costs of not reforming are even greater. Sometimes high levels of private financing and debt for inpatient care are
required; so methods that are able to capture this funding under such situation will have a greater chance of long term success.

Ahuja and Jutting (2003) have used the idea of community based micro-insurance in facing health care challenges for the low income people. In their study they have considered the analysis under institutional rigidities such as credit constraint impinge on the demand for health insurance and how insurance could actively prevent the poor households from falling into debt trap. Although, the empirical literature on the impact of micro-insurance schemes is still limited, the available evidence seems to suggest that the micro-insurance, if properly designed and implemented, can provide an effective mechanism for meeting health care challenges of the poor. This implies that the out-of-pocket payment of the poor households for their treatment will be reduced and their access to health cares and services will be sufficiently improved (Jacob and Krishnan, 2001; Preker et. al., 2001). In order to extend and expand the micro-insurance programmes, we need to consider the issue of affordability on which the success of the micro-insurance programmes crucially depends. This implies that the extent of resource mobilization from the poor households for meeting health care costs is important to consider, since this is indicative of the strength of affordability of the people. Regarding the insurance prospective as well, the analysis highlights the importance of having appropriate savings and borrowing instruments for the poor. The main focus of the paper is only the demand side factors and in particular on the issue of affordability.
A few micro level studies that have tried to estimate the demand for health insurance based on the willingness and ability to pay for health insurance have come out with positive findings. A survey based study on the willingness to pay in case of Ethiopia, one of the poorest countries in the sub-Sahara Africa shows that the poor are willing to pay even up to 5% of their monthly income for having a scheme that can take care of their costs of illness.

A review of various micro-insurance schemes by Jacob and Krishnan (2001) highlights some facts as follows.

(a) Micro-insurance schemes can raise substantial resources but need to get additional funds from donor agencies, the health care providers.

(b) The poorest of the poor in a community are often excluded from the schemes.

In order to increase the access of the low-income people in health insurance, some schemes have developed mechanisms, which are simply related to the mode of collection of premiums. These schemes emphasize on the flexibility of premium collection and sometimes on the exemption of payment of premiums if the situation deserves such things.

The study by Ahuja (2004) gives an overview of the health insurance for the poor people in India. Generally, health insurance is not well developed in India and a major portion of the total health expenditure takes
the form of private out-of-pocket payment, which is clearly regressive in nature. WHO (2000) estimates the private spending in India to be 87% of total health spending, of which 84.6% is out-of-pocket payment (Misra et al., 2003). Again a significant proportion of public spending on health goes into supporting tertiary care whose beneficiaries are mainly the non-poor. The World Bank (2002) comes up with some other startling observations, which may be mentioned below.

- **On an average, the poorest section of Indian population is 2.6 times more likely than the richest section to forego medical treatment in the event of illness.**
- **More than 40% individuals hospitalized in India in a year borrow money or sell assets to cover the costs of health care.**
- **Hospitalized Indians spend more than half of their total annual expenditure on health care.**

Under such circumstances, the need for alternative financing of health care has been advocated. According to Srinivasan (2001), health insurance would help to develop and maintain well-targeted system of health care financing.

In the study of Srinivasan (2001), different forms of community based health insurance schemes have been discussed. He has critically examined “universal health insurance scheme” launched in the country in recent years. Development of private health insurance in the country would be effective in order to increase access to health cares and services by the low income
people. Srinivasan (2001) has considered the factors that are holding back the development of private health insurance in the country. He also has discussed how the development of private health insurance market could possibly affect the poor in the country.

Recently the community based health insurance has emerged as a possible means of improving access to health care among the poor and thereby protecting the poor from indebtedness and impoverishment resulting from medical expenditures. Various other terms are used in reference to community based health insurance, including ‘micro-health insurance’ (Dror et al., 1999), ‘local health insurance’ (Criel, 2000) and ‘mutuelles’ (Atim, 2001).

Devadasan et al. (2004) have studied the Indian community based health insurance. They have described the Indian community based health insurance as “any not-for-profit” insurance scheme that is aimed primarily at the informal sector and formed on the basis of a collective pooling of health risks, and in which the members participate in its management”. The community health insurance schemes involve prepayment and pooling of resources to cover the costs of health related events. Encouragement for such schemes was enhanced in part by studies showing disproportionate increases in utilization among the poorest with the implementation of insurance (Yip and Berman, 2001) or mandatory prepayment schemes (Diop, Yazbeck et al., 1995) in developing countries. But, the studies of voluntary community health insurance schemes have yielded less promising results. The studies and reviews that have been undertaken in this context suggest that many
schemes are short-lived and fail even to meet the goals they set for themselves (Bennett, Creese et. al. 1998). The schemes also tended to exclude the poorest section of population from the targeted benefit because of the fact that a general flat premium, which was imposed on them was unaffordable. But, in Rowanda, Senegal and India, even among the insured, it has been shown that low income remained a significant constraint to health care utilization (Preker, Carrin et. al., 2001).

In fact a country with one of the highest out-of-pocket payment in the world should take some measures, which can protect the poor households. Devdasan and others (2004) have suggested that community based health insurance could be an interim strategy to finance the health care of the people; till a more formal social health insurance is in place. They also suggest that community based health insurance is a feasible alternative given that the community based organizations and movements exist in India. In this context it is necessary to regulate the providers and to legislate so that this programmes continue.

Choudhury (2004) in his study has discussed the new policies, namely, the universal health insurance scheme (UHIS) and the unorganized sector worker’s social security scheme (SSS) extensively, the schemes which are recently launched. These schemes appear substantive by way of coverage and merit security. Several packages of private health insurance have been available even earlier, though these are very expensive and covered a smaller fraction of population. The formal sector has for long had mandatory welfare schemes, though scattered and on a relatively small scale.
Universal Health Insurance Scheme is the first broad-based health security scheme, having an element of financial contribution from the state. It can therefore, be said to be within the ambit of 'social health insurance'. This scheme offers a package of insurance cover for hospital services. The Social Security Scheme launched for unorganized sector workers is designed for those engaged in scheduled employment. The ultimate objective is to regulate the employment and conditions of the service and to provide for their safety, social security, health and welfare.

Devdasan, Monoharan et al. (2004) described one of the community based health insurance scheme managed by Action for Community Organization, Rehabilitation and Development (ACCORD), the Adivasi Munnetra Sangam (AMS) and the Association for Health Welfare in the Nilgiris (ASHWINI). In their study, they explained the scheme in details and looked at its performance vis-à-vis access to hospitalization. They also looked at some of the determinants of the performance and came up with recommendations for improved performance of community health insurance schemes. From the data it has been proved that the community based health insurance has been able to increase the access of the poor people to health care. The determinants regarding the performance are: the existing solidarity in the community, the affordable premium, the comprehensive benefit package, and minimum administrative bureaucracy. It is important to mention that this study is the first, in Indian context, to show a positive impact of community based health insurance on the utilization of health cares and services.
Jajoo and Bhom (2004) have given a new idea about the Jowar Rural Health Insurance scheme, which describes the trend of moral and social upliftment of the villagers in the Sevagram region of Maharashtra. It had its roots from the initiation and success of micro of micro-health insurance scheme first introduced to ensure uniform health care to the poor and needy in a Nagpur village. The scheme was financed by the establishment of a village fund. The purpose of the fund was not to raise financial support to the outreach programme, but to generate demand for qualitative service from the providers. The fund would finance the salary of the village health workers and the drug requirements of the local dispensary besides transportation cost of the mobile health team. The fund was collected through in kind of Jowar and this contribution would be according to the capacity and the services according to need. The fund would act as a prepayment of premium for the scheme or as subscription, entitlements being free from primary health care and subsidized referral care (Jajoo, 1993). So, as per experiment this may be an ideal by which poor villagers can get qualitative health care services within their limited capacity.

Ranson (2004) attempted to assess the impact of the Self Employed Women’s Association’s (SEWA) medical insurance fund in Gujarat in terms of inclusion of the poor hospital utilization, and expenditure. The study finds that wealth is not a determinant of membership and the poor also are included as member of the scheme. Increased frequency of health care utilization is not a factor of SEWA membership but it is the reduced costs of hospitalization that is important. This scheme is not alike the community financing schemes, which exclude the poorest because of nesting of the
funds within a larger development organization. The result shows that the reimbursement policy was not suitable to the members.

The community based health insurance appears insignificant, given the scale of the problem in India. One of the main lessons from these case studies is the fact that a good community based organization can be held to develop an effective community based health insurance programme. The main pitfall in developing community health insurance is to find an appropriate provider. The Indian private health sector is unregulated and unaccountable (Bhat, 1999). In this context, introducing health insurance can lead to uncontrolled cost escalation without the promise of quality (Ransen and John, 2001).

2.4.2. Studies on Community Health Insurance Abroad (Outside India)

Waters (1999) has evaluated the impact of publicly financed health insurance programmes on the use of health care. The study discussed the two types of health insurance programmes in Ecuador. The first one is the General Health Insurance (GHI) Programme, which primarily covers workers in the formal sector of the economy. This programme is found to have a strong positive association with the use of curative health care after correcting for the selection bias, but no significant effect on the use of preventive care. The second one is the Seguro Campesino Social (SSC) programme, which provides the health insurance for the agricultural workers and other section of population. The study shows that this programme has a
positive but insignificant associations with both curative and preventive care.

The GHI programme provides health care including hospitalization, dental care and medicines. The SSC programme is specifically designed to cover the rural population in principle, where the clinics must be at least at a distance of 8km from the nearest urban center or another health facility (DeRoeck et al., 1996). The SSC clinics offer maternity, dentistry, and preventive services (Myusa, 1992).

Wiseman and Jutting (2000) in a study have presented a detailed overview of health insurance schemes outside the formal sector employment in sub-Saharan Africa, which is based on extensive research done in past few years (Bennet et al., 1998; Atim, 1998 and Musau, 1999). Most of these schemes were set up in the 1990’s. The cause behind the promotion and fostering of the development of mutual health insurance scheme has not been analyzed in details so far, but some trends are obvious. The study mentioned some reasons for thinking alternative source of health care.

- First, people have been forced to think about alternative solutions, as health care is no longer offered for free of cost at the public sector institutions and create negative effects, especially for the poor by the introduction of user fees.
- Second, by the process of decentralization, more power has been delegated to communities, which influence them for
taking more responsibilities in the provision of local public goods.

- Third, the quite positive experience with credit and financing institutions is leading to a question about the enlarging portfolio of insurance products by the mutuals.

- Finally, the debate in the literature over the cost of illness arises that health shocks often forced households into high-cost risk coping strategies. Access to health insurance could reduce these costs substantially (Weinberger and Juting, 2000 and Asfaw et al., 2001).

Jutting (2001) envisaged that community based health insurance schemes are an important instrument to finance health care in developing countries. It has been argued due to the demand for health care services of a good quality and the extreme underutilization of health care in several countries that social insurance may increase/improve the access to health care of acceptable quality. Though the alternative forms of health care financing and cost recovery strategies like user fees have been criticized by many authors (Gilson, 1998), the option of health insurance seems to be a prominent alternative. Since, there exists the possibility to pool risks, it is therefore possible to transfer unforeseeable health care costs to fixed premiums (Geriffin, 1992). In fact, in the rural and remote areas the transaction costs of contracts are too high, which often leads to a state and market failure (Jutting, 2000). Recently, the studies in the context of sub-Saharan Africa and in a variety of other countries, non-profit mutual,
Community based health insurance schemes have emerged (Bennett *et. al.*, 1998; Jacob and Krishnan, 2001).

The study by Msuya *et. al.* (2002) has analyzed the role of community based health insurance schemes in rural Tanzania. The study shows that members of a community health fund are more likely to seek formal medical care when they are ill than non-members. Hence, community based health insurance can help to turn latent demand for health insurance into effective demand for health insurance. Besides the study shows that because of an improved access of the members to health cares and services, the members rely less on risk coping mechanisms that have a negative mild to long term impact on selling of assets, taking children out of school etc. The results show that members paid considerably less out-of-pocket for health care facilities than the non-members. This implies that in an area where most people are deprived of access to health care of good quality, the introduction of community based health insurance schemes can make a substantial difference. This has a potential positive effect on the ability of the households to smooth their consumption, on labour productivity, labour supply and the health status of the insured persons (Lucas and Nuwagasa, 1999).

One of the most recent major studies, which looked at the health sector in poor countries, is the Macro-economic Commission for Health (WHR, WHO, 2000). This study focused almost entirely on the state as a source of finance. While it recognized that out-of-pocket expenditure is a contribution to health expenditure in low income countries, it recommended
that this should not finance the basic package but should be channeled through health insurance to access basic curative services. It did not spend much time on the other item blandly recommending that community based health insurance schemes should be encouraged. Its focus was on increasing public finance (Grant and Grant, 2003). In almost all countries private expenditure on health care is the main source of expenditure and that most of that is the direct out-of-pocket payment rather than through insurance schemes or other prepaid programmes (Smith, 2001). The countries where out-of-pocket expenditure is slightly less are those with insurance schemes linked to employment and almost certainly do not reflect expenditure by the poor who will not be working in the formal sector (Grant and Grant, 2003).

Jutting (2003) has shown the necessity of community based health insurance schemes in rural Senegal. The study by Jutting (2003) identifies the factors explaining the participation in community based health insurance schemes. Though the actual or potential benefits of the community financing schemes have been described in literature (Jutting, 2002), very little has been mentioned so far on the determinants of participation in those schemes. In particular, very little is known about the equity of participation and health care utilization of participants categorized by income, ethnic group, religion, age, gender and health care status. These characteristics are very important to judge whether the social security schemes would be favourable to access to social protection. By using household data from rural Senegal, the study analyzes the determinants of the demand for health insurance. In this study Jutting (2003) has noted some facts as follows.
• First, although the scheme reach the ‘poor’ in general, ‘the poorest of the poor’ within the villages find it financially difficult to participate in the community based health insurance.

• Second, social exclusion due to religion or ethnic group might persist.

In order to estimate the determinants of viable health insurance schemes in rural sub-Saharan Africa, Wiseman and Jutting (2004) have discussed the influence on the community based health insurance in details. Though there are some pitfalls in the community based health insurance, it seems to be a promising attempt to improve access to health care, health outcomes and social protection in the case of illness (Ziemek and Jutting, 2000). If the ethnic, lingual and cultural diversity within African nations are, the community based health insurance approach may be particularly valuable, because it allows adoption to local conditions. The actual implementation of the community based health insurance schemes in sub-Saharan Africa has resulted in mixed consequences so far. The viability and acceptance of such scheme largely depend on the design and management of the scheme, community participation, regulations at the level of health care provider, quality of services and on the socio-economic and cultural context (see Wiseman and Jutting, 2004).

Preker et. al. (2004) in their works have argued that the strength of the community based health insurance schemes is the extent of outreach penetration achieved through community participation, the contribution to financial protection against illness and the increase in access to health care
by the low income rural and informal sector workers. According to them the weaknesses of this scheme are follows.

- Low amount of revenues that are mobilized from the poor communities.
- Frequent exclusion of the poorest of the poor from the scheme.
- Small size of risk pooling.
- Limited management capacity.
- Isolation from the more comprehensive benefits.

The study proposed some reforms from the Government point of view and these are mentioned below.

- First, increased and well-targeted subsidies to be paid for the premiums of the low income population.
- Second, use of insurance to protect against expenditure fluctuations and use of re-insurance to enlarge effective size of small risk poor.
- Third, use of effective prevention and case management techniques to limit expenditure fluctuations.
- Fourth, technical support to strengthen the schemes.
- Finally, establishment and strengthening of links with the formal financing and provider networks.

Jacob *et. al.* (2004) have provided empirical evidence regarding the performance of community based health care financing in terms of social
inclusion and financial protection by taking five countries under consideration. Market based organizations, however, lack incentive to promote their insurance products to rural population as high transaction costs would translate into high and unaffordable premiums for the poor (Preker and Jacob, 2001; Wiseman and Jutting, 2001; Dror and Jacquier, 1999 and Jutting, 2002). Different studies advocate that community financing is an effective measure to reach the poor population to protect them from the cost of illness (Desmet et. al., 1999; Diop et. al., 1995; Arhin, 1994; Liu and others, 1996; DeRoeck et. al., 1996 and Hsio, 2001). The study shows that community financing schemes are effective in four countries (India, Rwanda, Senegal and Thailand) to protect the poor population against the impoverishing effects of illness.

Schneider and Diop (2004) evaluated the impact of prepayment schemes on the access to health care for poor households in the context of Rwanda. It has proved that health insurance has significantly improved equity in financial accessibility to care for members by increasing their probability of visiting the hospitals while at the same time possibly reducing the financial burden per episode of illness. Health insurance has helped to eliminate financial barriers in access to health care for the poorest of the poor among the insured members, whereas the non-insured in the lowest expenditure group are worsened in respect of access to health care more than the richer non-insured. The insured households are also able to take care from modern health sector and have improved the efficient use of limited medical resources. The study shows that the community managed health plans, combined with the provider of capitation payment, have built up
expertise and capacity among insurance members as the financial impact of prepayment schemes on health care providers.

Supakankunti (2004) analyzed the impact of health card system in Thailand. The objective of this system is the risk sharing of health expenditures with no cost sharing in a voluntary health insurance prepayment scheme (Janjaroen and Supankankunti, 1994). The main target of this study is to assess the application of voluntary health insurance, in the case of health card programme of Thailand, and provide greater understanding of how a voluntary health insurance programme performs and how to improve and sustain it more efficiently. The study focused on the determinants of employment, education and presence of illness for influencing health insurance card purchase. The results also show an improvement in accessibility to health care and a high level of satisfaction among card holders. The study also mentioned some measures in order to strengthen the programme.

We would conclude this section by referring to a study by Jacob and Krishnan (2004). They have reviewed forty five published and unpublished reports on community financing in between 1990 and 2001. The main objective of this study is to explore performance measures mentioned in various studies on community financing. The performances are measured by three indicators.

- **Resource mobilization capacity**: The mechanism of community financing is to mobilize significant resources for
health care. Though there is a large variation in the capacity of resource mobilization of different schemes, this review did not find systematic estimates of community financing contribution.

- **Social inclusion:** A large number of low income people are benefited through community financing, while protected against the cost of illness. The number of people covered by community financing are not estimated and no indication for the poorest and socially excluded groups is automatically reached in these schemes.

- **Financial protection:** Community based health insurance schemes systematically reduce the out-of-pocket expenditure and simultaneously increase the utilization of health care members.

2.5. Estimation of Determinants of Health Care Uses Health Care Expenditure and Health Insurance

In recent years in the field of health services there has been developed a quantitative approach that concentrates on the econometric estimation of certain important economic relationships (see Klarman, 1970; Perlmaned, 1974; Rosetted, 1975 and Feldstein, 1974). The demand function for health services and cost of hospital stay is the most important relationship. It is only natural that an economic study would treat demand and the demand for health services and this has been the subject of numerous studies (Feldstein, 1966; Joseph, 1971; Grossman, 1972). These studies intended to estimate the
demand function related to health issues, for example, demand for health care, demand for health insurance etc.

Newhouse and Phelps (1974) studied such relationship between demand for health and other determinants of health by using the cross section data on 2367 U.S. families. Their analysis is limited to those individuals with positive observed quantities of the health service considered, and their estimated demand curves depend on hospital length of stay and physician visit. The other explanatory variables are non-wage income greater than $3000, education measured by 9 to 11 years of attending the educational institutes, age in years between 25 and 34 and sex. The empirical results show that disability days are the most significant explanatory variable for the hospital length of stay. The price variables allow for the existence of health insurance in that they are the net price to the individual consumer, after taking account of the co-insurance rate (the percentage of the hospital or physician bill paid by the consumer). The estimated demand functions are both price and income elastic and do not exceed 0.1 in absolute value. While wage-income elasticities are positive, non-wage income is found to have no effect on demand for physician visit.

In the delivery of health services cost for hospitals is also an important determinant (Lave, 1966; Mann and Yett, 1968 and Hefty, 1969). Francisco (1970) has studied the behaviour of cost function for 'short-term' hospitalization, which refers to the average length of stay in hospital. The result shows that the utilization of hospital stay is a significant factor in
lowering average cost, while added facilities and location of hospital in an urban area significantly increase the average cost.

Lave and Lave (1970) estimated hospital cost function by using pooled cross-section and time-series data for 74 hospitals in Western Pennsylvania over the period 1961 – 67. In their estimation the log of the ratio of cost per patient day for average cost to the average of this cost per patient day for the individual hospital over the entire period has been taken as the dependent variable. The explanatory variables are: the log of the ratio of utilization rate to its average for the hospital over the period, the log of the ratio of the size of hospital to its average for the hospital over the period and a dummy variable to account for possible errors in the semi-annual data. The result shows that utilization have a large and significant effect on demand for health care services. This also indicates that marginal cost is a large percentage of the average cost. Again, the small size and insignificance of the coefficient of hospital size implies that while there may be economics of scale in providing hospital services, these services are not very strong. These results are also supported by the analysis of Feldstein (1967).

Some studies evolved from non-quantitative to quantitative of single relationship in the health care system in order to formulate, estimate and utilize simultaneous equations models of the entire health care system. Feldstein (1967) concentrated in his model with certain ratios. The exogenous variables in his model are certain major demographic, economic and health variables. The model relates these variables to one another and to lagged values of the variables. The model was estimated by
using two stage least squares, using cross-section data pertaining to states. The model reduces to constant ratios if the explanatory variables are set at fixed levels. The equation of his model explains the number of general practitioners per 1000 population as a function of health insurance, income and previous level of physicians. The central proposition of the model was to explain the ratio of general practitioners and other ratios in terms of certain broad underlying considerations and past values. It should be emphasized however that the interest of Feldstein (1967) was to illustrate the application of econometric techniques in the health care system. The model was developed to serve as a methodological prototype, not to provide detailed estimates of structural parameters of complete model of health care system.

Yett, Drabek, Intriligator and Kimbell (1972, 1974) presented the macro-econometric model for the estimation of the system. The model is called the ‘macro-econometric model’ to distinguish from the ‘micro-econometric model’, which is based on the behaviour of individual consumers and provider of health care services. The endogenous variables described in the model are in terms of the institutions and manpower explicitly included. The exogenous and standardizing variables of the model include demographic variables (total population, proportion of the population of age 65 and above), economic variables (per capita income, consumer price index, insurance variable like private health insurance and medicare, medical expenditures) and health manpower variables (stocks of registered nurses and practical nurses).
The basic mechanism of the model is that of demand and supply, as applied to inpatient institutions to yield patient days and daily service charges to outpatient institutions to determine patient visits and prices per visit and health manpower to categorize to determine number employed and wage rate. However, the model is not an equilibrium one but allows both for inequality of demand and supply and for lags in the process of adjustment to equilibrium. The model was estimated by using 1970 cross-sectional data on states in order to forecast health services and simulation of certain changes in a state health care system.

Rosett and Huang (1973) estimated the effect of health insurance on the demand for health care by using data of 13,728 urban and rural households in the United States. They used the probit regression model of Tobin (1958). Medical care utilization is dependent mainly on premiums for medical insurance and prepaid medical plan and expenditures on dentistry. Other explanatory variables selected from survey data are household disposable income, the square of household income after taxes, savings-income ratio, stratum size and region, education of the family head, family size, age of the family head, sex and employment status of family head. These variables are intended to account for differences in expenditure due to family composition, taste for consuming medical care and environment.

In order to estimate the demand for health care, price and income elasticities of demand for health care were taken into account. Following Tobin (1958), it is possible to derive a function that gives average household demand and then compute the relevant elasticities. Hence, the price
elasticities are practically independent of income and the income elasticities are practically independent of price. The estimate of price and income elasticities ranges from \(-0.35\) and \(0.25\) respectively.

Rosenthal (1970) estimated price elasticities of demand for hospitalization by regressing length of stay on room price. In this estimation separate elasticities for twenty categories of medical care and eight surgical categories were included. The estimated elasticities range from positive values that are inadmissible as price elasticities to \(-0.7\) in some categories. In the case of post-operative length of stay as dependent variables, the elasticities range from \(-0.12\) to \(-0.97\). These estimates do not reflect the effect of insurance benefits and hence the probably underestimate the elasticities.

Silver (1970) estimated income elasticities and demand for medical care from survey data. He finds an income elasticity of demand for physicians’ services as \(0.85\). He includes insurance benefits in his dependent variables but takes no account of insurance coverage among independent variables.

Anderson and Benham (1970) using a synthetic measure of permanent income as independent variable, obtain an income elasticity of demand for physicians’ services as \(0.17\), but it is not statistically significant. In this estimation independent variables include measures of medical care quality as an independent variables. The income elasticity then rises to \(0.24\). In the estimation by Feldstein (1971) the price elasticity for hospital services was found to be \(-1.12\) and the income elasticity to be \(0.54\). So in order to
compare these estimation too many factors differ from each other in elasticity estimation.

Keeler et al. (1977) estimated the demand for health care services when deductible exists by the episode of illness. Under this context, time remaining in the accounting episode should be explanatory variables. This model suggests that if analysis by episode of illness is not practical, one should exclude individuals with deductibles in their policies from the sample. In the case of hospitalization, where common deductibles are almost always exceeded, admission decisions may be analyzed as a function of total out-of-pocket price, while length of stay decisions can be assumed to be made on the basis of the nominal marginal price, if the marginal price is not likely to change again as a function of total expenditure. In this situation, inconsistency does not occur and policyholders with deductibles may be kept in the sample. It is possible that demand is sensitive to small co-insurance rates above large deductibles; if so, it may be preferable that the consumers pay a small fraction of the bill above a deductible. Resource allocation in the case of so-called catastrophic illness may be handled well by advance political agreement rather than through decentralized arrangements (Zeckhauser, 1973).

In order to test empirically the influence of private health insurance on health care uses, Gertler and Strum (1997) estimated both poison and negative binomial model (see, Lowier, 1987). Poison model was used and tested for its goodness of fit using chi-square test of predicted versus observed counts. The statistical significance of individual parameters is
slightly lower and the insurance effect is slightly larger in the negative binomial estimates. Health insurance is associated with a significant decrease in the number of visits to public providers and a significant increase in the number of visits, to private provider for both curative and preventive care. The demand for private preventive care also increases with income. Age is associated with increases health care utilization. Women use more health care than men and in particular more preventive care. Age-gender interaction is not significant for curative visits. Higher education that reduces the probability of curative visits is significantly associated with preventive health care. Finally, the location dummy variables are jointly significant.

In a study Feldstein (1973) estimated the effect of the price of hospital care on the demand for health insurance. The data used in the study are a cross-section of time series for individual states for the years 1959 – 65. At first Feldstein estimated the demand for hospital insurance and then the price of insurance services as the ratio of total health insurance premiums to benefits. The price of hospital care was measured by the average cost per patient day in short-term general hospital, deflated by the consumer price index for that year. The impact of other factors that affects hospital cares and services was also taken into account in a way that utilizes the information of the demand for hospital services. The estimated coefficients indicate a substantial and significant positive elasticity of both quantity of insurance and the long-run equilibrium enrollment proportion corresponding to the current value of the explanatory variables with respect to price of hospital care.
care. A rise in the price of hospital care leads to an increase in the proportion enrolled and in the total quantity of insurance.

In a large group of persons age and income are two variables of particular importance for health care expenditure, which implies that insurance choices would differ for reasons other than risk preference (Friedman, 1974). In the estimated of the study logit formulation of econometric application was used to show that insurance coverage has an effect on the total expenditure on medical care services. The difference in health care expenditure that would occur under different insurance coverage should affect the well being of the consumer, aside from any indirect effect on utility through higher monetary loss due to amount not reimbursed for the expenses of health care services. Zeckhauser (1970) analyzed a model where utility depends on total expense as well as direct expense.

A number of studies have examined the utilization pattern of health care services and its determinants. Some of these studies have also analyzed through services. The finding from these reports show that the people generally prefer private health care facilities and their spending on health care as a proportion of total consumption is quite significant. The data also show small in proportion to what is being spent by the household sector.

The study by Duggal and Amin (1989) analyzes the socio-economic-demographic determinants of utilization facilities by 590 households in Jalgon district of Maharatra. For over three-fourth (77%) of the illness episode, the patients chose private practitioners and hospitals. The patients
utilized Government-run facilities in only 13% of the episodes. According to
the data in studies it shows that differences in income do not have much
influence on the propensity to use different types of facilities. The private
health care services are utilized by all classes of people. When some data
was analyzed to find the utilization pattern in the rural-urban context, the
patterns did not change very much.

The study shows that during 1986 – 87, the per capita private health
care expenditure was Rs.182.49 per year as compared to public health care
expenditure, which was Rs.13.83 per capita per annum. The financing
mechanisms used by households to support these services showed that only
4.11% of total health care expenditure was reimbursed by employers. The
study also observed that people borrow about Rs.28.52 per capita a year to
finance their health care expenditure. In some individual cases borrowing
was as high as their annual incomes.

2.6. Reform Trends

Over the last few decades, significant changes are occurring in the
legal, policy and organizational sphere of insurance management. In some
countries the reform process is a part of the total economic reforms of the
economy as whole, while in others it has emerged only due to scarcity,
performance, deterioration, financial non-viability issues etc. Although the
countries differ in terms of coverage, these steps certainly act as a positive
catalysts to raise the opportunity costs, institutional change, reduce
transaction costs and create a pro-reform environment that motivates other countries to take up the same as part of their total reform agenda.

A peep into the reforms processes worldwide will depict certain similarities. These include the increasing trend toward user participation and decentralization, debureaucratization, privatization and integrated community based health insurance (Jutting, 2001). While health care is treated as economic good with an emphasis on market oriented approaches, its ethical and social functions in terms of both the human rights issues of meeting basic health care needs and the equity issues of empowering vulnerable groups including women are also getting increasingly policy attention (Gumber and Kulkarni, 2000).

The privatization and decentralization policies observed in the health care sector take different forms based on the country, its overall reforms agenda, its socio-economic conditions etc. An efficient and equitable health care system is an important instrument to break up the vicious circle of poverty and ill health (Wisemann and Jutting, 2000). Although the role of the private health care sector has long been recognized, interventions have largely been limited to pilot projects with little if any attempts to scale up. Indeed, the whole literature in this area is littered with small scale interventions either on the delivery side where the public sector has used public finance to contract with or franchise private providers or on the financing side where various forms of health insurance have been tried (Grant and Grant, 2003).
The initial goal of public sector health care is to provide “free health care for all”, was never achieved. In the eighties, Government resources dried up in many countries and deterioration in the quality of existing services was the result, with poorly paid and less motivated staff and shortage of drugs and medical equipments. Under the pressure to mobilize additional resources for health care provision, public facilities and NGO run hospitals resorted to formal or informal cost recovery strategies by collecting fees at the point of use (Criel, 1998).

Health insurance schemes are an increasingly recognized factor as a tool to finance health care provision in low income countries (WHO, 2000). Most of the people generally demand for health care services of good quality and the extreme under-utilization of health care services in several countries, it has been argued that health insurance may improve the access to health care at acceptable quality. Whereas alternative forms of health care financing and cost recovery strategies like using fees have been criticized (Gilson, 1998), the option of insurance should be considered as a prominent source of financial protection (Geriffin, 1992).

Formal insurance scheme covers only a marginal proportion of the population in low income countries. Due to economic constrains, lack of governance and institutional weaknesses, formal social protection for the vulnerable segments of the population is widely absent (Msuya et. al., 2002). In some countries public and private health insurance covers almost exclusively the formal sector, and therefore achieves a coverage rate not more than 10 percent of the population (Wisemann and Jutting, 2000). As a
response to this lack of social security, to the negative side effects of user fees and the persistent problems with health care financing, non-profit voluntary insurance schemes for urban and rural self employed and informal sector workers have recently emerged (Jutting, 2000; Atim, 1998; Jacob and Krishnan, 2001). These schemes are characterized by an ethic of mutual aid, solidarity and the collective pooling of health risks (Atim, 1998). Community health insurance is such an innovative scheme, which would appear to offer the best way forward has considerable problems in sustainability and financial stability. However, community health insurance needs to start on the foundation of solidarity, to have an affordable premium, an appropriate benefit package and minimum administrative burden. Provision of health care is a major issue, and the agency needs to negotiate with the providers for measures to contain cost and maintain quality (Devadasan et. al., 2004).

Community based health insurance is a more suitable arrangement for providing insurance to the low income people, in order to easy access to the health care sector and lowering financial burden. As experience accumulates the scheme can be fine-tuned and expanded to cover the entire low-income population. However, increased public health spending and reforming of public health facilities is a must for the success of these community based health insurance (Ahuja, 2004). A related point to be made clear is that not only reimbursement type policies but also insurance plans which integrate financing and delivery of care should be encouraged (Ellis et. al.,2000). Again, a further research is required to identify appropriate measures and
instruments to overcome the identified limitations of community based health insurances (Wiseman and Jutting, 2004).

2.7. Conclusion

In this chapter we have discussed various studies related to health insurance schemes and the corresponding strategies. We discussed the literature on the traditional concept of supply side management. We have also discussed the literature on the decision to purchase health insurance and the willingness to pay for it. Finally, we have discussed the new strategies of health insurance adopted by various countries, which have been reflected in various studies.

In our dissertation the focus is more on the demand for health insurance rather than the supply of health insurance by different companies or agents. We have used econometric technique based binary response model in order to estimate the demand for health insurance by the different category of families/households in the district of Birbhum. A set of economic, socio-cultural and technological factors has been considered as determinants of the health care use/decision to visit health care centers, out-of-pocket payment for use of health cares and services and finally the demand for health insurance. We have considered a logit model for the estimation of the decision to visit health care centers/use of health cares and services there. The simple log-linear model has been used to look into the effect of the demand for health insurance on the out-of-pocket payment of the households. And both logit and probit models have been used to assess
the probability of demand for health insurance. In the next chapter we are going to present, in details, the methodology of estimation of the models and collection of data to be used for the purpose of the said models.