

AN EMPIRICAL STUDY OF DEMAND FOR HEALTH INSURANCE IN
KOLKATA

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By

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Certified that the dissertation entitled "AN EMPIRICAL STUDY OF DEMAND FOR HEALTH INSURANCE IN KOLKATA" submitted by TOPOSMITO SENGUPTA in partial fulfillment for the award of the degree of Master of Philosophy (M.Phil.) of this University is his original work and may be placed before the examiners for evaluation. This dissertation has not been submitted for the award of any other degree of this University or of any other University.

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Introduction

Healthcare, as a commodity, is unique in certain forms. First of all, it has a positive externality for the society. The effect of the externality on society can be direct or indirect. Curative care for communicable diseases results in direct external benefits as it resists spread of the disease across an area. If a particular person is afflicted by a communicable disease, it will lead to disutility for the economic agents who surround the ill-person. Hence, the curative care would accrue utility to them. Naturally, the question of free rider problem creeps into the system. However, illness being associated with potential income loss, free rider problem of seeking a medical care should not be a major pertinent issue. The ill person is likely to get treated irrespective of whether the cost of the treatment is borne by the disutility group or not thus virtually ignoring the externality associated with his curative care. The indirect external benefit for the society is the rise in per capita income. If a person gets cured early, he may re-enter the workforce of the country and increase social productivity as well as his own life time income horizon. The resultant multiplier effect can lead to an increase in per capita income of the economy and thus benefiting others, too. However, the logic holds true only under the neo-classical full employment assumption.

Another unique characteristic of the healthcare is that the expected utility gain from a curative care is itself uncertain. A patient, i.e., the consumer of healthcare may not be cured fully or even partially by consuming healthcare. His expected utility gain may also suffer in the form of treatment's failure to reduce pain of the disease. This uncertainty, however, does not depend fully on quality of treatment as a world class care may even not guarantee that the patient would be cured. Moreover, two patients, homogenous from the point of view of disease and other health related criteria, may respond oppositely to a same doze of same medication, which basically reveals the inherent uncertainty of the effect of a particular treatment on a particular patient. Hence, healthcare is a unique commodity, consumption of which may not necessarily increase the utility of the consumer concerned.

The healthcare consumption decision is greatly influenced by the providers of the service. Medical profession is technically so skilled a sector that the physicians enjoy a sort of

monopoly in healthcare decision making. General people do not have the knowledge of the exact utility of each prescribed medication that whether some of them are redundant. Therefore they are not in a position to question the doctor's decision. Hence, the ultimate decision of the nature and extent of utilization of medical care does also crucially depend on the service provider which is quite unique in its very nature.

The modern growth literature vastly acknowledges the role of human capital in economic development. Recent empirical studies have shown how the human capital, in the form of education and health standard, is important for achieving the target goal of economic prosperity (Fogel, 1994; Mayer 2001; Barrow, 1996; Bhargava et al., 2001). Simple logic follows that if the general health standard of the workforce of a nation rises, the economy can move to a higher growth trajectory through increased productivity. Recent research has established a strong, positive causal relation between standard of health and the growth of per capita Gross Domestic Product (Bloom, Canning and Sevilla, 2004). In the words of Barrow, "For a given starting level of real per capita GDP, the growth rate is enhanced by higher initial schooling and life expectancy, lower fertility..." (Barrow R, 1996). The importance of health in breaking the vicious circle of poverty is increasingly being felt worldwide by the policy makers. Hence, the provision of healthcare- whether public or private or a balance between them- has been the centre point of discussion.

The strong argument in favour of public provision of healthcare system is the notion of equity in terms of access. The guiding principle of healthcare provision in most of the countries, at least in papers, is that the access to healthcare should be universal regardless of ability to pay, cast, creed or religion. The demand for a universal healthcare provision got impetus worldwide with the Alma Ata declaration that access to proper healthcare is not a boon rather a fundamental human right. Hence, a public provision of healthcare facility plays a very crucial role in establishing the 'fundamental right'.

Public provision is further justified by the notion of market failure for the commodity, 'healthcare'. The very nature of externality that healthcare has, as noted earlier, strongly recommends for direct public intervention, at least through subsidy. The market

allocation of resources for healthcare would not be an efficient one from social perspective as it can not capture the externality factor coupled with consumer ignorance linked to it (Le Grand, 1982). This argument calls for government intervention in healthcare market.

The private provision of healthcare is largely supported on efficiency ground. A free or subsidized public healthcare system is often handicapped by the poor standard of service. If the government can not maintain the pace of investment with the increasing demand for healthcare, the system has to compromise with the quality of service. The healthcare centres are overburdened with patients affecting both the out-patient and inpatient care adversely. Long waiting period for patients tends to be a common phenomenon under the circumstance. Hence the option for a private provision is also argued for.

Insurance is a viable option to finance the healthcare expenditure. Insurance basically covers a future possible cost of treatment on a pre-payment basis called premium. In a universal health insurance system the government pays fully or partly the insurance premium. However, in a private insurance regime, the individual consumer pays the premium. Health insurance can also be thought of a tool to access expensive healthcare (Nyman, 1999). If a person does not have sufficient saving to meet an unexpected huge healthcare cost, either he will have to borrow money or forgo the treatment. Therefore, insurance is an arrangement to safeguard and thus guarantee such expensive medical care that can entail huge monetary shock. This is akin to a consumer purchasing, for instance, a car and paying in installment as he does not have the sufficient liquid asset at one time to purchase it. However, here the consumer is definite to consume the car while in case of health insurance where the installments are the premium, he is uncertain to consume healthcare as the need itself is uncertain.

In India, the public spending on healthcare has been very poor. Though repeatedly government acknowledges the important role of healthcare in combating poverty and in the overall development of the economy, public spending remained a mere 0.9% of GDP till the end of the previous decade. India was a signatory in the Alma Ata declaration and

had vowed the aim of 'health for all by the year 2000A.D.' in the country's first ever comprehensive health policy in 1983. But with such a poor level of public investment, the realization of such an optimistic target can only crash into a failure. And it is not only the level of investment that is often criticized, the existing public structure is a den of inefficiency including corruption.

“Until the early 1980s government-run hospitals and those operated by charitable organisations were the main providers of hospital care. However, in the 1980s and thereafter, the sector attracted private capital and fresh investments took place in setting-up hospitals and smaller nursing homes” (Bhat R, 2006). This change in policy continued later also, by further conferring the healthcare industry with infrastructural status that could help the private nursing homes to raise tax subsidised long term capital. In fact, the National Health Policy 2002 states, “In principle, this Policy welcomes the participation of the private sector in all areas of health activities – primary, secondary or tertiary.” The private participation in healthcare sector gained momentum in the '90s with the liberalization of the economy. This resulted in the setting up of for-profit private hospitals, popularly known as nursing homes in a large scale and even some corporate hospital chains like Apollo Hospital, Wockhardt, Max India etc. These corporate bodies generally provide tertiary level of care. However, the presence of such private hospitals is limited to the urban areas mainly.

Presently, almost 87% of healthcare expenditure in India is private spending of which 84.6% is estimated to be direct out of pocket “...lower only to Cambodia, the Democratic Republic of Congo, Georgia, Myanmar and Sierra Leone” (Misra et al. 2003 as quoted in Ahuja R, 2004). Hence, the call for substituting this high out of pocket expenditure with a suitable insurance system is gradually picking up. However, insurance is not the panacea to the entire healthcare problem.

The objective of the present study is to identify the factors that influence the voluntary health insurance purchase decision. The findings of the study are based on a primary survey conducted in Kolkata. The questionnaire based survey includes some socio-

economic variables apart from the health insurance possession related variables. In the process of the study, a prior analysis of the present Indian healthcare scenario coupled with Indian health insurance sector has also been carried out.

The second chapter gives an impression of current Indian healthcare scenario. The chapter includes discussion on the condition of primary healthcare system and its potential improvements, pattern of healthcare utilization, urban healthcare system and the private participation, the boom in medical tourism in India and the problems of private healthcare system. It also includes the rationale behind encouraging the development of a proper, well monitored health insurance system in India. The third chapter deals in the economic theory of insurance to finance healthcare including its limitations. The chapter also tries to present a brief overview of Indian health insurance market from its evolution to future prospect coupled with a short comparative discussion of the healthcare system of some other countries. The fourth chapter discusses about the primary survey that was undertaken in Kolkata to understand the factors relevant for generating demand for voluntary health insurance for a particular income segment of the society. The chapter discusses the methodology of the sample survey and the results derived out of it. The detailed results are presented in tabular form in appendix. Chapter five concludes the present study. All the chapters except the fourth one inherently encompass a comprehensive literature survey.

Indian Healthcare Sector: An Overview

2.1 Indian healthcare system in global map

In India, primarily healthcare is States' responsibility. Almost 85% of Public health financing comes from the states (National Rural Health Mission, 2005-2012). However, much of the state financing in the healthcare has gone either in the direction of family planning or in achieving the vertical programme targets such as eradicating polio, restricting the growth of HIV/AIDS etc. Hence, general curative care has remained under-served. The result is that the healthcare sector did not perform upto the expectation. However, India's health outcome has been quite a variant one across the states. Southern states have performed better than their other counterparts. Overall, the performance indicators show a dismal picture of India's healthcare sector. India's Life expectancy at birth is 63.3, still lower than the average (65.0) of all developing countries.

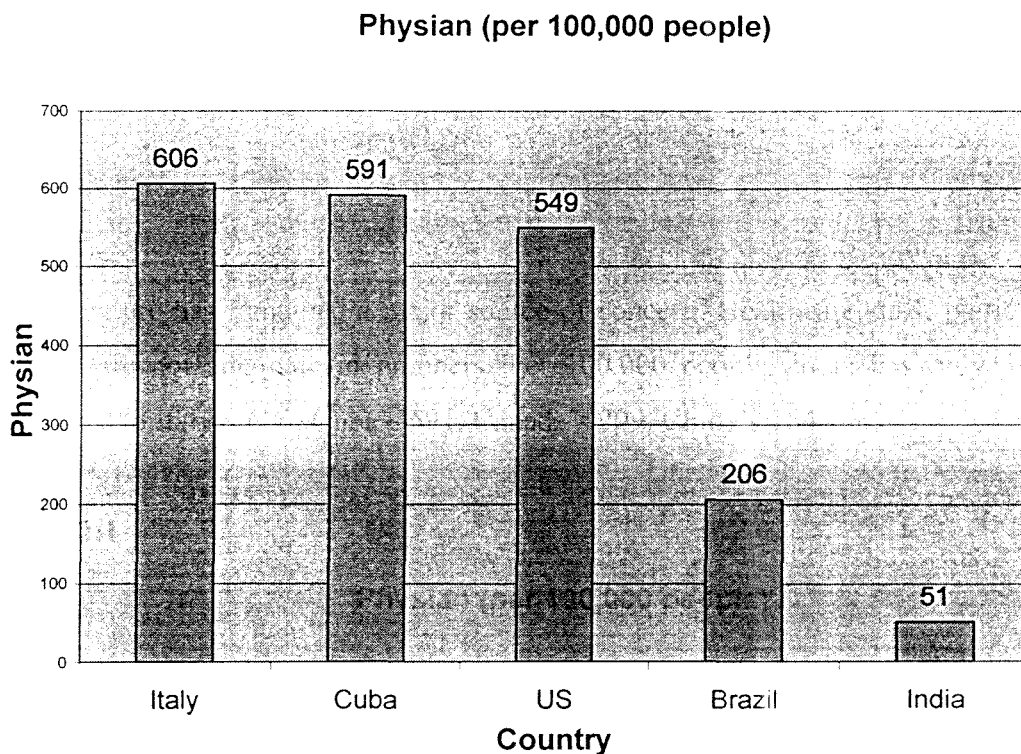
Table 2:1 Life expectancy at birth

India	63.3
Canada	80.0
UK	78.4
UAE	78.0
US	77.4
Kuwait	76.9
Mexico	75.1
Argentina	74.5
China	71.6
Brazil	70.5
Vietnam	70.5
Philippines	70.4
Pakistan	63.0
Bangladesh	62.8
South Africa	48.4
Ethiopia	47.6

Source: Human Development Reports, 2005

Infrastructure has remained a major source of concern. Healthcare staff, particularly the doctors are not adequate in numbers. Per 100,000 people, India has only 51 doctors compared to Italy's 606, Cuba's 591, Canada's 209, China's 164.

Chart 2:1



Data Source: Human Development Reports, 2005

Maternal mortality ratio in India, per 100,000 cases is still 440, slightly less than the average (463) of the developing countries. However, the same is as low as 9 in Norway and 12 in the US for every 100,000 cases. Infant mortality rate per 1000 live birth is 67 compared to 31 for Brazil and 7 for the US. However, in the past two decades, the rate of decline of Infant mortality has been 35% and is “slightly more rapid than the average in other low-income countries” (M Claeson, E Bos and I Pathmanathan, 1999).

Table 2:2 Country specific Under five mortality, IMR and MMR

	Under five mortality rate (per '000 live births)	Infant mortality rate (per '000 live births)	Maternal mortality ratio (per 100,000)
India	97	67	440
Brazil	36	31	88
Pakistan	109	84	200
Ethiopia	172	116	1800
US	8	7	12
Norway	4	4	9
China	39	31	60

Source: Human Development Reports, 2005

The public healthcare initiatives in respect of eradicating smallpox and guinea worm disease have been a success, indeed. Nevertheless some diseases like malaria, hepatitis, tetanus, leprosy etc, which now form a part of history in most of the countries, are still common in India (Bajpai N and Goyal S, 2005).

Table 2:3 Epidemiological Shifts

	1951	1981	2000
Malaria (cases in million)	75	2.7	2.2
Leprosy cases per 10,000 population	38.1	57.3	3.74
Small Pox (no of cases)	>44,887	Eradicated	
Guineaworm (no. of cases)		>39,792	Eradicated
Polio		29709	265

Source: National Health Policy, 2002

The Bhore committee (1946) had recommended for a need based provision of healthcare which remained the very essence of Planning for public healthcare distribution in India. The First (1951-56) and Second (1956-61) Plan of India gave stress on developing the

basic infrastructure of the healthcare system. Family Planning received priority in the Third Plan (1961-66). The Fourth Plan (1969-74) concentrated on strengthening the PHCs and intensified support on the vertical objective of fighting communicable disease. The Fifth Plan (1974-79) identified the necessities of linking healthcare with other development programmes. The sixth Plan (1980-84) was grossly guided by the Alma Ata Declarations. The Seventh Plan (1985-90) reiterated strengthening the rural healthcare sector. However, private participation was encouraged in the Eighth Plan (1992-97). Both the Ninth Plan (1997-02) and the Tenth Plan (2002-07) reverted back again to the rebuilding of the dismal primary level care.

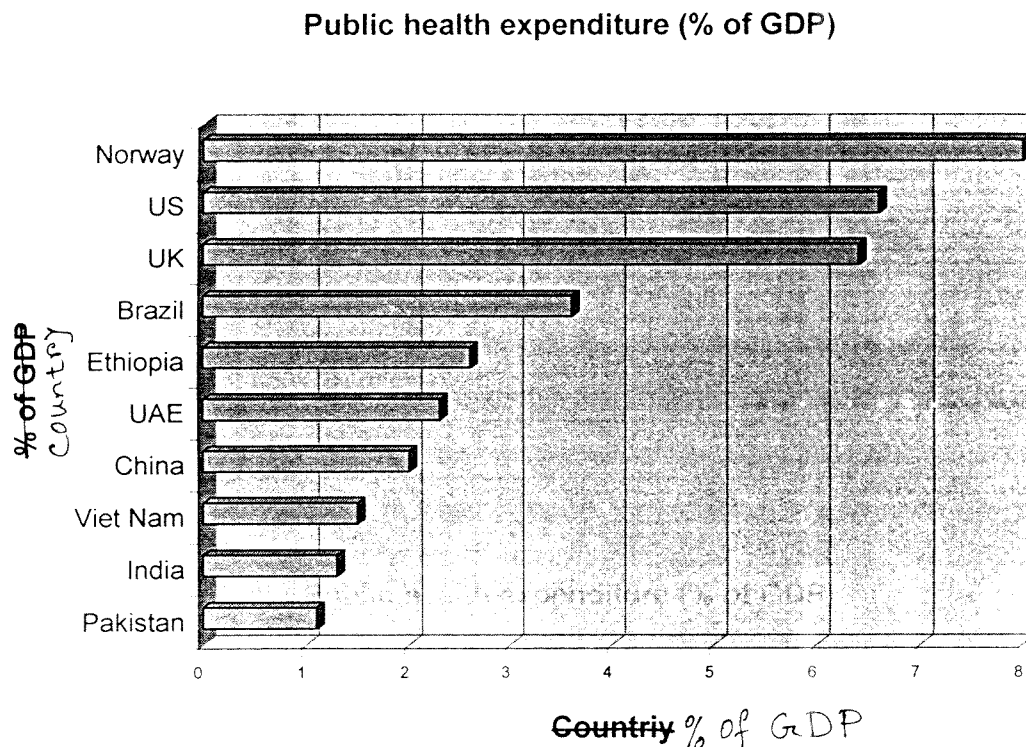
India had its first comprehensive healthcare policy in 1983 with the inception of the National Health Policy followed by the second National Health Policy in 2002. The National Health Policy, 1983 emphasised on “Health for all by the year 2000AD” through setting up of a well-dispersed network of comprehensive primary healthcare services, spread of health education, establishment of a well functioning referral system to avoid congestion at the hierarchically higher level of hospitals, an integrated network of evenly spread speciality and super-speciality services. The policy encouraged private participation in setting up of tertiary level super-speciality hospitals. However, India could not achieve “13 out of the 17 goals laid down in the policy” (Rao K Sujatha, 2005).

The second comprehensive health policy- the National Health Policy, 2002- vows “...to increase access to the decentralized public health system by establishing new infrastructure in deficient areas, and by upgrading the infrastructure in the existing institutions.” It also claims “Overriding importance would be given to ensuring a more equitable access to health services across the social and geographical expanse of the country. Emphasis will be given to increasing the aggregate public health investment through a substantially increased contribution by the Central Government.” The Policy clearly states that “The contribution of the private sector in providing health services would be much enhanced, particularly for the population group which can afford to pay for services.” The Policy adds that “In principle, this Policy welcomes the participation of the private sector in all areas of health activities – primary, secondary or tertiary.” The

policy identifies the need of maintaining a health database and thus “NHP-2002 emphasises the need to establish national health accounts, conforming to the ‘source-to-users’ matrix structure” (NHP-2002). The policy aims to lift central budgetary support for the healthcare sector to 2% of GDP by 2010 and hopes that the state share of healthcare would increase to 8% by the same period. The Policy looks forward to a greater participation of panchayat bodies in healthcare programmes. The Policy also calls for rigorous implementation of a comprehensive code of ethics by the Medical Council of India.

Despite some achievements and a wide spread public healthcare network, India’s overall performance in the healthcare sector has been a dismal one. In a vast and diverse country like India implementation of a universal health policy can not be a total success. The National Health Policy rightly identifies that “It is self-evident that in a country as large as India, which has a wide variety of socio-economic settings, national health programmes have to be designed with enough flexibility to permit the State public health administrations to craft their own programme package according to their needs.” (NHP-2002). But, without enough budget to support programmes, nothing can be a success. The share of public healthcare spending as a percentage of GDP was as low as 1.3% in 2002. During the last decade, States’ budgetary share of healthcare has declined from 7% to 5.5% (NHP, 2002). India is much beyond other comparable developing countries in terms of financial support of government to the healthcare sector.

Chart 2:2



Data Source: Human Development Reports, 2005

Health expenditure per capita (PPP adjusted, 2002) is just US\$96 compared to Brazil’s US\$611, China’s US\$261, Viet Nam’s US\$148 and US’ US\$5274. And not only the amount of public spending has been agonizingly poor, the service itself is inefficient. The inefficiency is particularly evident in rural healthcare infrastructure.

2.2 Rural healthcare system

In the rural areas, the primary health care services are delivered through a three tiered system comprising a sub-centre (SC) for a population of 3000-5000, a Primary Health Centre (PHC) and a Community Health Centre (CHC) as a referral centre for every four PHCs. A PHC is established with a population norm of 20,000 people for hill and tribal areas and 30,000 people for plain area. The PHC is also required to serve 6 sub-centres within its jurisdiction. The PHCs are slated to offer a wide range of services such as health education, promotion of nutrition, basic sanitation, the provision for mother and

child family welfare services, immunisation, disease control and appropriate treatment for illness and injury (Patel N, 2005). According to an 'Evaluation study on functioning of PHCs assisted under Social Safety Net Programme (SSNP)' by The Programme Evaluation Organisation of the Planning Commission, "...on an average, while the population coverage by a programme assisted PHC is 68386 people, it is 57705 people by a non-assisted PHC. This indicates that adequate number of PHCs against their requirement have not been established in the rural areas, as they are covering the population more than the prescribed norm. The inter-PHC comparison reveals a wide variation in coverage of population across the states. Of the 12 programme assisted PHCs, only one sample PHC in Orissa has a population coverage of 27319 people which is well within the prescribed norm, while the remaining PHCs are observed to have covered population higher than the prescribed norm with a variation from a minimum of 34,199 people by a PHC in Haryana to a maximum of 1.4 lakh by a PHC in Uttar Pradesh" (Planning Commission, 2001). In another study of Poverty Action Lab in the rural Rajasthan, it was found that a primary health center serves 48,000 individuals (Banerjee Abhijit et al., 2004). The prescribed norm of a PHC for a population of 20,000-30,000 itself is quite high. Inefficiency would automatically creep into the system if only a centre without much diagnostic facility and adequate man power has to serve such a huge population. Adding to the woe, the number sometimes even crosses a lakh or more. Moreover, utilisation of health care and medical services for delivery cases in a PHC depends on availability of doctors, para-medical staff and requisite essential complementary facilities. Regarding the availability of the medical personnel, several studies have showed that on an average, the absenteeism of the medical practitioners in the PHCs is as high as 45% (World Bank, 2004; Rao 2003; Mohan et al. 2003). The case study of Rajasthan has a bleak story to tell, too. On a weekly basis survey, the study found that 45% of medical staffs were absent in subcentres and aid posts, 46% were absent in PHCs and CHCs. Given the subcentres are mainly staffed by only one nurse (ANM), it is quite natural that they would remain closed in case of staff-absenteeism. According to the study in Rajasthan, "Only in 12% of the cases was the nurse to be found in the catchment area of her subcenter." (Banerjee Abhijit et al., 2004). Originally, the subcentres should be managed by two staffs—one male multi-purpose worker and one

female multipurpose worker. But the male multipurpose worker's post remains vacant for the most of the time. This increases the workload of the ANM (Auxiliary Nurse Midwife). And the "single ANM is required to undertake village visits, attend to fixed day immunization schedules, domiciliary deliveries, disseminate health information, oversee the work of the TBA (Traditional Birth Attendant), coordinate with the anganwadi worker (AWW), conduct household survey, attend review meetings in PHCs maintain records, etc. (Rao K Sujatha, 2005)." The Subcentres, the PHCs and the CHCs which comprehensibly form the backbone of rural healthcare infrastructure are all slated to be open six days a week for six hours a day which holds true only on papers. This leads to the virtual breakdown of the healthcare services at the grass root level.

Maternal and childcare has been an important part of the PHC and Subcentre functionary. Here also, the reality has been a misery. In most of the times the PHCs do not have adequate facilities that can at least guarantee women dignity. The PHCs lack in lady practitioner or healthcare staffs. The Planning Commission study holds the fact in its study: "none of the sample PHCs either assisted or non assisted under SSNP has attended the delivery cases during 1995-96...those PHCs which were assisted under SSNP are found not 17 equipped with all essential complementary facilities including the post of lady doctor for attending on delivery cases" (Planning Commission, 2001). Hence, domiciliary delivery remains the only option for the rural people unless accessing service to hierarchically higher hospitals or the rural private "doctors" who are often unqualified. The post-natal care is also very poor. Under the programme of RCH "the health workers visited an average of 5.1% mothers within one week of delivery and 16.5% mothers within 2 months of delivery. In Madhya Pradesh, these figures were 1.8% and 10% and in Uttar Pradesh 2% and 7.2%, respectively" (Rao K Sujatha, 2005). This clarifies enough for India's high neonatal mortality incidence.

The subcentres or the PHCs not only lack in regular man power, they lack in essential equipments, including medicines, too. The National Health Policy, 2002 acknowledges itself the facts: "For the outdoor medical facilities in existence, funding is generally insufficient; the presence of medical and para-medical personnel is often much less than

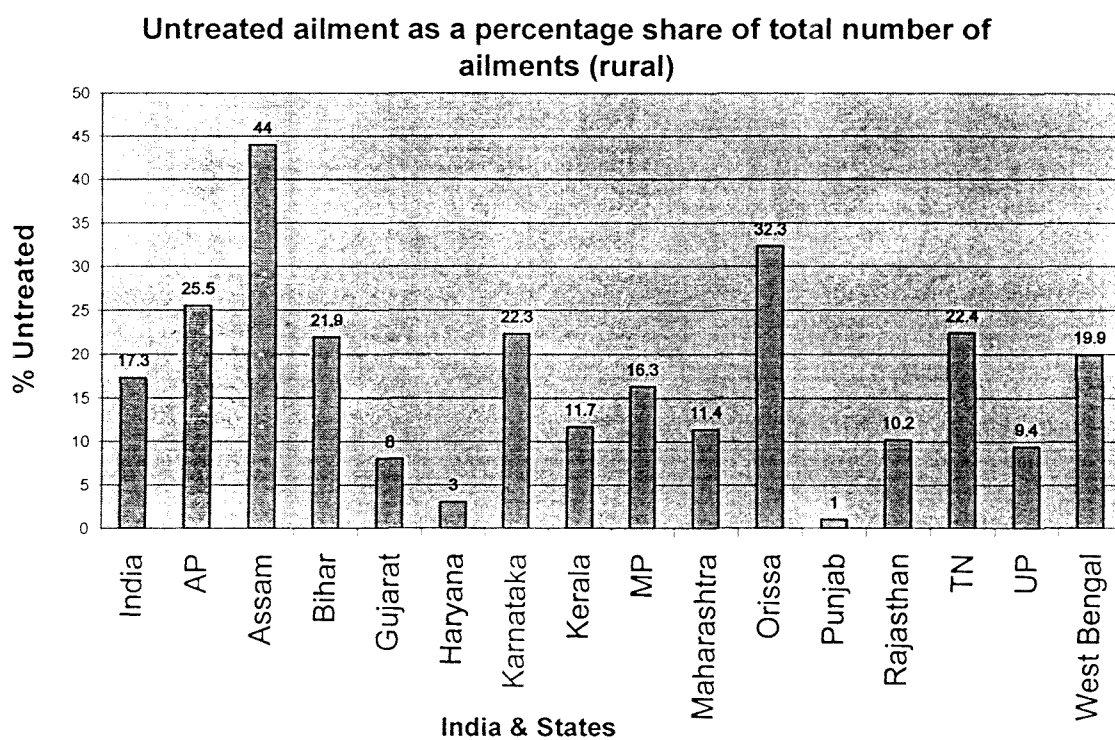
that required by prescribed norms; the availability of consumables is frequently negligible; the equipment in many public hospitals is often obsolescent and unusable; and, the buildings are in a dilapidated state. In the indoor treatment facilities, again, the equipment is often obsolescent; the availability of essential drugs is minimal; the capacity of the facilities is grossly inadequate, which leads to over-crowding, and consequentially to a steep deterioration in the quality of the services” (NHP, 2002). “Vehicles without POL budgets, beds without washing allowances, X-ray machines lying idle for the want of consumables or maintenance budgets, empty shelves in pharmacy counters” have become quite common for the public hospitals (Rao K Sujatha, 2005).

The rural healthcare mechanism is also adversely affected by the geographical remoteness of the delivery centres from the rural habitation. In the National Health Policies, though it had been repeatedly stressed that remoteness should not be a barrier to access the healthcare, a large portion of the rural population still does not find a public healthcare delivery centre within its vicinity. The existing system “...requires a villager to travel an average distance of 2.2 km to reach the first health post for getting a paracetamol; over 6 km for a blood test and nearly 20km for hospital care...It is estimated that 25% of people in Madhya Pradesh and Orissa, and 11% in Uttar Pradesh could not access medical care due to locational reasons”(Rao K Sujatha, 2005). Adding to the woes, the rural poor often face very harsh, rude and non-cooperative behaviour from the healthcare staffs including the doctors, in health centres or hospitals. This also sometimes prevents the poor to avail the public health facility.

2.3 Utilisation pattern of public healthcare system

All these factors boiled down to the declining trend of utilization of Public healthcare system. The inefficiency of public health care system is reflected in the utilization-pattern of the services by the people for whom they are primarily aimed at. A significant portion of the total ailing-population does not seek treatment due to non-accessibility of a reasonably functioning-- free or at least subsidized public health system. The following chart shows that out of 100 rural residents who are ill, 44 do not seek treatment in the Northeast and the same is almost 32 in Orissa.

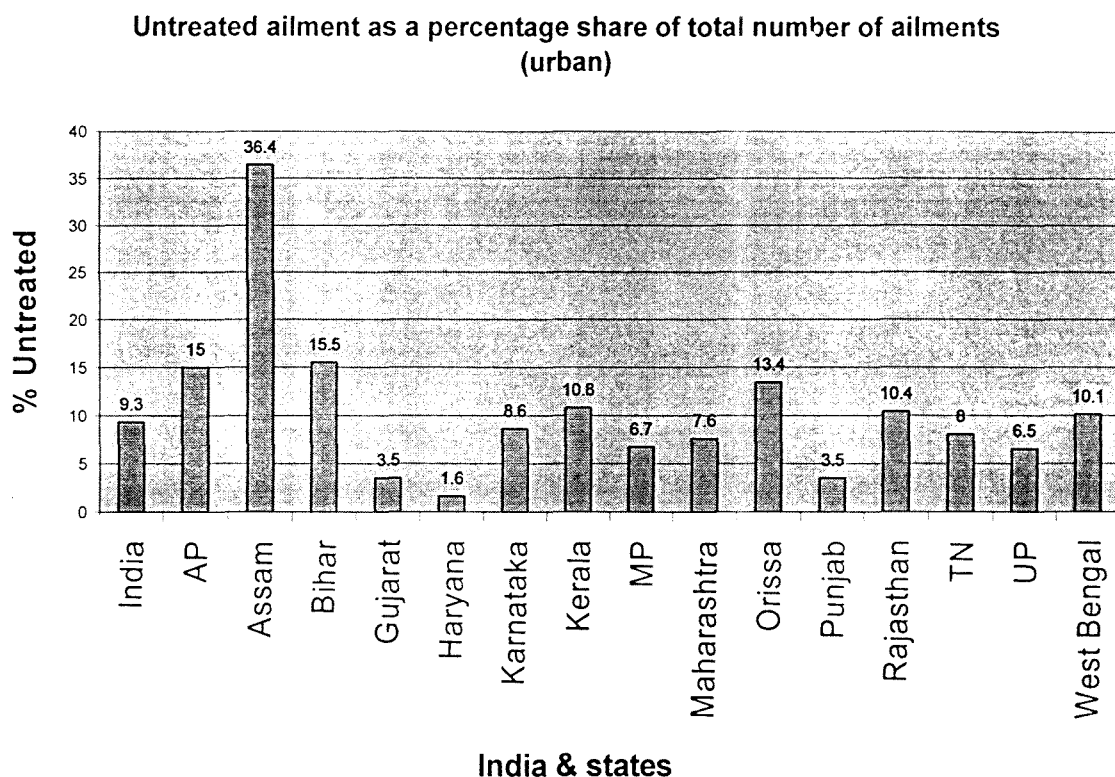
Chart 2:3



Data Source: K. Sujatha Rao, 'Delivery of health services in the public sector', 2005

Even in urban section of the population, 9.3% of people remain untreated.

Chart 2:4



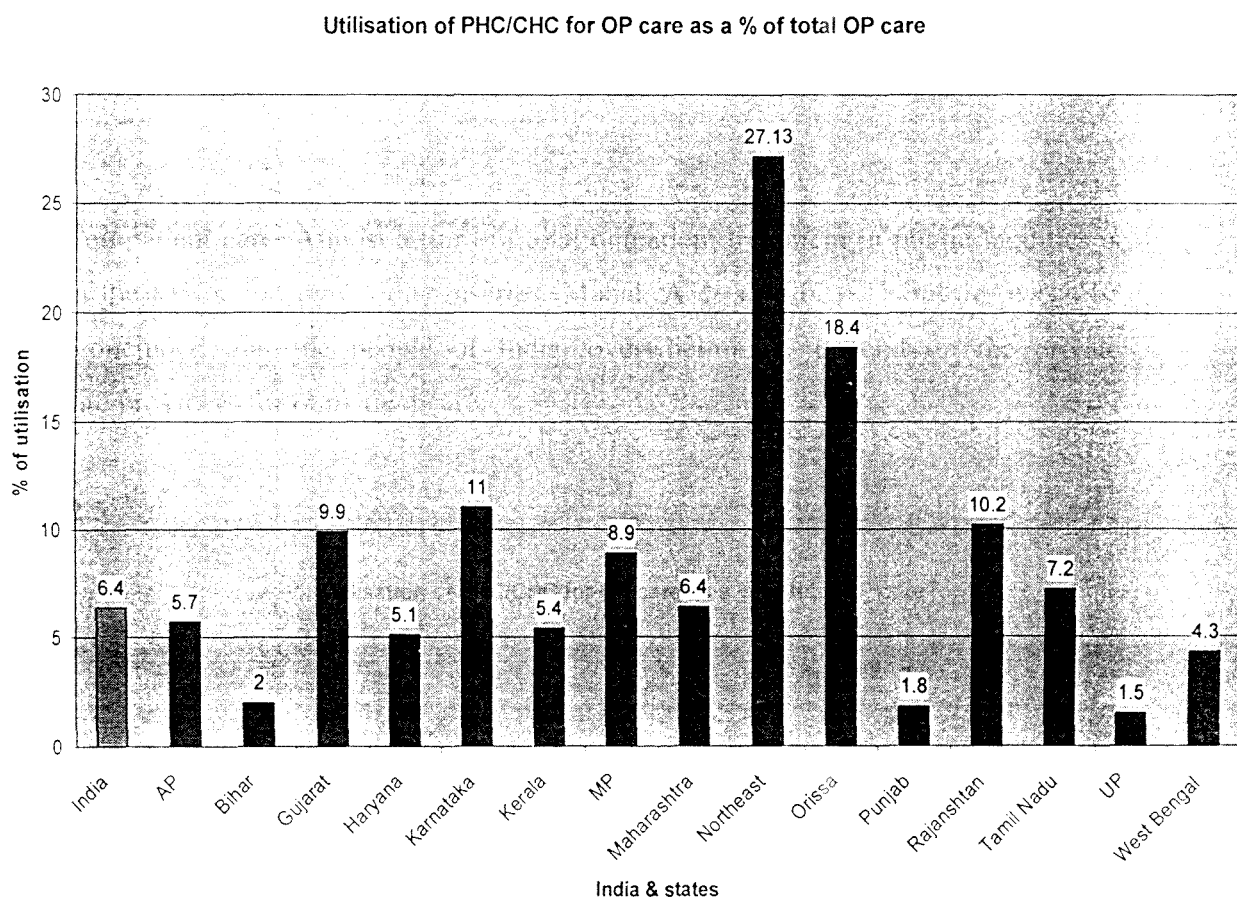
Data Source: K. Sujatha Rao, 'Delivery of health services in the public sector', 2005

Using the data of 52nd Round of NSS, a National Council of Applied Economic Research (NCAER) study found that, the PHCs only account for 2.5%-6% of total public facility inpatient stays (Mahal, A et al., 2002). According to the study, “Nearly 82% of all treatments occurred in the private sector.”

Grossly speaking, the form of public spending is not an egalitarian one, too. It is the richer section of the population that has a better access to the public healthcare system. The main reason for it has been the urban biasness of the public healthcare delivery mechanism. The public secondary or tertiary levels of health centres are much better functioning than its rural counterparts. According to the NCAER study, the top per capita expenditure quintile, at the national level, accounted for 38.5% of all non-birth related public inpatient treatment whereas the lowest quintile accounted for only 6.6% (Mahal A et al., 2002). For outpatient care, the utilization of PHC or CHC account for a mere 6.4%

of total outpatient care. Almost a third of total outpatient treatment in public facilities is given in the PHCs and public dispensaries (Mahal, A et al., 202). Therefore, it can be safely concluded that the people of India, overwhelmingly depend on the private healthcare providers for outpatient care.

Chart 2.5



Data Source: K. Sujatha Rao, 'Delivery of health services in the public sector', 2005

According to the study, almost two-fifths of all inpatient care utilized in public facilities for childbirth and related medical factors, during 1995 were accounted for by urban habitation. The system of domiciliary delivery is still overwhelmingly prevalent in Indian villages. Though in the first National Health Policy, the goal was set that by 2000 every delivery should be in the safe hands of trained birth attendants, the success rate has been

less than half of the target, a meager 42.5% compared to 100% for Cuba, 99% for US, 97% for China and 88% for Brazil (Human Development Reports, 2005). The resulting factor has been a significantly higher MMR (440 per 100,000 live births) compared to the some other developing countries.

The mostly nonfunctioning rural public health care, specifically the curative care, has encouraged the existence and expansion of the business of the private quacks. The public healthcare staffs at least do possess the required qualification according to their role of functioning. But the unregulated private healthcare providers, in villages, often do not possess the minimum required qualification. The research team working on rural Rajasthan had asked the private healthcare providers about their qualification. "According to their own report, 41% of those who called themselves "doctors" do not have a medical college degree. 18% have no medical or paramedical training whatsoever (including one week courses). 17% have not graduated from high school" (Banerjee A, et al., 2004). Sometimes, the villagers even rely on the 'ojhas' or 'gunins' to cure a patient. To them illness is nothing but an act of a witch. In Purulia district or in the tea gardens of West Bengal, reports have flashed out on the killings of such 'witch' by the friends and relatives of the patient on whom the 'witch' had worked her witchcraft or 'super-power.' Some times religious convictions negate people from availing scientific healthcare facility. These superstitions are the net result of lack of education and healthcare consciousness.

If PHCs do not function efficiently, the burden falls on the hierarchically upper level of hospitals such as Sub-divisional or District hospitals and Medical colleges. The PHCs generally do not have diagnostic equipments. Hence the patients have to be sent to the referral hospitals for diagnosis. Therefore, it is not only the question of the number of PHCs or subcentres or SHCs, rather the service they can and do provide. In rural healthcare delivery system, inefficiency has become quite a bit fundamental in its very nature. Therefore, a complete reorientation of the rural healthcare delivery system has become imperative.

2.4 Required government initiative to revive rural health sector

The government has mainly a job of two folds— increase public health expenditure at least to the stated “2% of GDP by 2010” (National Health Policy-2002) and secondly, to better target the subsidy so that the benefit of public subsidy reaches the vulnerable section of the society. However, efficient utilisation of human resource of the health department, fighting corruption, giving stress on preventive care and encouragement of alternative system of medicine should be given due importance, too.

2.4.1 Ways and means to improve budgetary support

As the level of public expenditure on healthcare is very low, the government should immediately evolve some proper mechanism for increased financing to the health sector. Given, already strained fiscal situation of both the Central and State Governments, it may be hard to find the channels to finance the increased healthcare expenditure. However, there may be several options that the central government, in appropriate coordination with its federal counterparts, can exploit as a source to generate additional revenue. For instance, the Centre may impose an earmarking tax specifically for the healthcare sector. However, only imposition of an earmarked tax would not suffice itself as the fund generated of it may be transferred as well to other activities else healthcare. Hence a proper administration and monitoring of the tax is imperative. Recently, India has imposed an education cess of 2% on income tax, service tax, corporation tax, excise and custom duties to finance the Sarva Shiksha Abhiyan.

Subsidy reform can be another way to generate the required extra resource to fund the increased healthcare finances. For example, there is no logic of incurring subsidies to the road transport sector as the private sector, with a proper regulation, has the potential to serve better and efficiently than the public sector. State Electricity Boards (SEBs), which account for almost 85% of investments in state-level public enterprises, have not even been able to meet the stipulated minimum return of 3% on investment for the past two decades due to inefficient management, irrational pricing etc. “The savings generated from reforming SEBs have the potential of freeing up resources-nearly 1.2% of GDP-that are more than India’s current public expenditure on health” (Bajpai N and Goyal S,



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2005). In other words, the government should be serious to limit its fiscal mismanagement.

2.4.2 Targeting the poor

Increased healthcare financing would not suffice itself so far as the equity perspective of the society is concerned. The latest National Health Policy, too has conceded this problem “Access to, and benefits from, the public health system have been very uneven between the better-endowed and the more vulnerable sections of society. This is particularly true for women, children and the socially disadvantaged sections of society” (NHP-2002). As evident from the pattern of utilization of the public facilities, it is the richest section of the population who are better benefited than the poorest and the most vulnerable section of the population. “Public health subsidies are disproportionately distributed in favour of the richer groups- some 31% of the total subsidies going to the highest (expenditure) quintile and 10% to the lowest” (Mahal A et al., 2002). Hence the government financing and provision of healthcare always do not promote the equity concern of the society. “Curative services favour the non-poor: for every Re.1 spent on the poorest 20% population, Rs.3 is spent on the richest quintile” (NRHM 2005-2012).

A study on the public spending on healthcare in Africa showed that “curative health spending in Africa is not well targeted to the poorest. Typically the share of the subsidy to the poorest quintile was significantly less than that to the richest 20%...overall the poorest 20% of the population received less than 20% of the subsidy. Moreover, the share received by the richest quintile was far in excess of 20%....” (F Castro-Leal et al.). Hence, unless the subsidy is well targeted to the poorest section of the population, equity concern can not be achieved.

2.4.3 Better utilisation of human resource of health department

One of the major reasons of the poor rural public healthcare system is the shortage of dedicated man power. Given the growth structure in the government job, it is quite obvious that the doctors would try to move out of the rural system. In many states like Orissa, Bihar, the MO often gets the first promotion after 15-20 years of service (Rao K

Sujatha, 2005). Naturally, no qualified doctor would like to have such type of career stagnation, particularly in rural area where the scopes are very limited. Moreover, the rural sector is characterized by typical lack of infrastructure. Good quality schools are seldom available in villages and this definitely hampers the formal education of the children of the doctor. A solution to this problem is that the doctor can not keep his/her family with him/her. This also reduces the accountability of the concerned doctor as the doctor tries to shift out of the village to a modern facility city and hence seldom works with dedication. The medical science is a very dynamic subject. Doctors are required to upgrade and update their knowledge base continuously. But the rural facility typically lacks in the process of information-dissemination. Usually, the villages neither have a good library where the doctor can consult medical journals nor they have access to the internet facility. Hence, the stagnation in knowledge base is a natural course for village doctors unless he/she personally is in touch with medical journals, or with any other kind of mechanism. Often the doctors have some specialized skills in their field which they hardly can apply in rural healthcare system. In addition to that, the PHCs or CHCs do not have adequate equipments to treat with. They sometimes even lack in life-saving drugs. Therefore, it becomes frustrating for a qualified doctor to treat in this non-congenial environment. Now, there are incidences that the CMOs are appointed on an ad-hoc basis. Often the transfer policies are not very transparent one. All these definitely adversely affect the morale hence the quality of service being provided by the doctors at the rural level public system. The nurses or the ANMs even face personal security problems. Sometimes their workplaces do not have basic amenities like that of a toilet. The subcentres are often run in a rented verandah of a house. The housing facility is sometimes in a deplorable condition. Given, this despicable picture of infrastructure, work-culture or moral responsibility can not be imposed from outside, successfully. No 'incentive' will be able to attract and keep the qualified health workers including the doctors to the village public healthcare unless the infrastructure is upgraded.

2.4.4 Role of e-governance to bring efficiency in health department

Above all, the ministry of health and family welfare needs to reorient itself towards an efficient and transparent functioning system. The health department spends most of its

time in sanctioning new medical colleges, addressing VIP claims under CGHS, transferring doctors, court cases and procuring medical drugs and supplies (Rao K Sujatha, 2005). According to the Transparency International India, healthcare sector is the second most corrupt sector of India. Hence, to enhance accountability and credibility of the system, efforts should be launched to cleansing the healthcare sector. Increasing transformation to e-governance through the use of modern information technology (IT) would simplify the whole processes of functioning, reduce operational cost and time and also help in the dissemination of information across the sector and to the patient party. A significant chunk of government expenditure on healthcare is spent on the wage and salaries of the staff personnel. "Manpower is the major sunk cost (its share in total cost is nearly 90 per cent in some cases) in Tamil Nadu and it is crucial to improve its productivity if the efficiency is to be achieved" (Varatharajan D, 1999). Increasing use of IT may free some resources in terms of salary paid to the workers which may be invested in upgrading and modernizing the system, though this policy may become politically non-sustainable. A rigorous performance based monitoring and programme review system should be emphasized in order to assess the efficiency of the outcome of the existing programmes.

2.4.5 Need to improve preventive care

Government should give increasing stress on the preventive care also. Much of the rural diseases stem out of unhygienic life-style and mostly the diseases happen to be communicable in nature. Incidence of such disease can be lessened through proper preventive measures such as awareness campaign.

Health awareness and sanitation

Health education can become an effective tool to a sustainable awareness drive. However, a major problem related to hygiene has been the lack of proper sanitation system in India. According to a Planning Commission report, only 18%-19% of all rural household has a toilet whereas 75%-81% of urban households have a toilet. "The higher percentages for urban sanitation have largely been due to private initiatives at the household level and due to high concentrations of household toilets in the larger urban

metropolitan cities. Coverage performance at the rural levels has obviously not been as successful. This has been due to a multiplicity of factors including low awareness of the potential health benefits (and therefore, economic benefits) of better hygiene practices, perception of the costs of having a household toilet as being very high and in most cases unaffordable, the sheer convenience (at least for men) of open defecation (vis-à-vis an enclosed space), high subsidies, and inadequate promotion of awareness” (Planning Commission, 2002). However, there is a huge inter-state variation in terms of access to toilet facilities. Kerala had an overall access to household toilet for about 51% whereas the same was only around 10% for Orissa (National Human Development Report, 2001).

Issue of safe drinking water

Safe drinking water is another issue that is highly linked to the general health standard. Water remains one of the major routes of transmission of diseases. Almost half a million children below the age of 5 years still die in India due to diarrhea, which is a waterborne communicable disease (Planning Commission, 2002). Other waterborne diseases like Hepatitis have become extinct in many countries but still it is very much prevalent in India. “Millions of people in the country suffer from water borne diseases on account of lack of access to safe drinking water. It is the poor who suffer from higher prevalence of disease as compared to the rich. Studies undertaken in many metropolitan cities show a higher rate of diseases and longer duration per illness due to poor quality of drinking water supply in the slum areas” (National Human Development Report, 2001). According to 1991 Census, 62% of household in India had access to safe drinking water (National Human Development Report, 2001). In several districts of West Bengal, arsenic contaminated drinking water has even been contributing in deforming human limbs. The National Water Policy, 2002 had rightly accorded top priority to safe drinking water. But if in the name of water sector reform, privatization of water sector is encouraged, it may have a disastrous effect on the poor people of the country. The same had been tried on the Latin American countries in the late 1990s and early 2000s with a resultant disaster on their respective national water fronts. In Bolivia, lack of clean water plays a role in the death of children under the age of five. Nevertheless MNC Bechtel raised prices of water by 200 per cent when the company took over the responsibility of water supply of

Cochabamba city in that nation. “After World Bank and IMF policies were enforced in Ghana, three buckets of water cost a family almost half of the minimum wage” (Sainath P, 2006). Privatization can not be a panacea to all the problems. Therefore, a comprehensive water resource programme has to be evolved with a proper public participation guided by a universal outlook.

If preventive care is implemented properly, the pressure on the curative care would also get eased to certain extent owing to the fact that the incidence of disease will definitely get reduced, both in the rural areas and urban slum areas. This in turn should lift the quality of public curative services. The participation of NGOs, who can mobilize community participation, is necessary for a successful awareness campaign drive to have a hygienic life-style. College or high school students may also be used under National Service Scheme or any other scheme for awareness campaign.

2.4.6 Enhancing alternative system of medicine

Indian traditional system of medicine and homoeopathy act as a supplement to mainstream allopathic treatment. The cost of treatment under these systems is quite a bit low compared to the allopathic one. Therefore accessible well networked centres of these alternative systems can lessen some burden of patients on the allopathic system. In 1999, The Central Council for Health and Family Welfare recommended, inter-alia, that at least one physician from the Indian Systems of Medicine & Homoeopathy (ISM & H) should be available in every primary health care centre. It noted that vacancies caused by non-availability of allopathic personnel should be filled by ISM & H physicians. Therefore, the department of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy) under the Ministry of Health and Family Welfare can play a crucial role to make healthcare accessible to common people.

2.5 National Rural Health Mission

The Union Government recently has announced a National Rural Health Mission for the time period of 2005-2012. The main goals of the policy have been the reduction of the IMR (Infant Mortality Rate) and MMR (Maternal Mortality Rate), universal access to

public health services, access to integrated comprehensive primary healthcare, and promotion of healthy life styles. The Mission aims at upgrading the Subcentres, PHCs and CHCs. It intends to regularize the supply of essential drugs and equipments, keep provision of 24-hour service in 50% PHCs. The CHCs will be upgraded for 24 hour First Referral Unit. The action plan, however, will require a well-functioning Panchayati Raj System because the Accredited Social Health Activist (ASHA) who “would act as a bridge between the ANM and the village” and “act as the interface between the community and the public health system” would be chosen by and accountable to the local Panchayat.

2.6 The urban public healthcare system

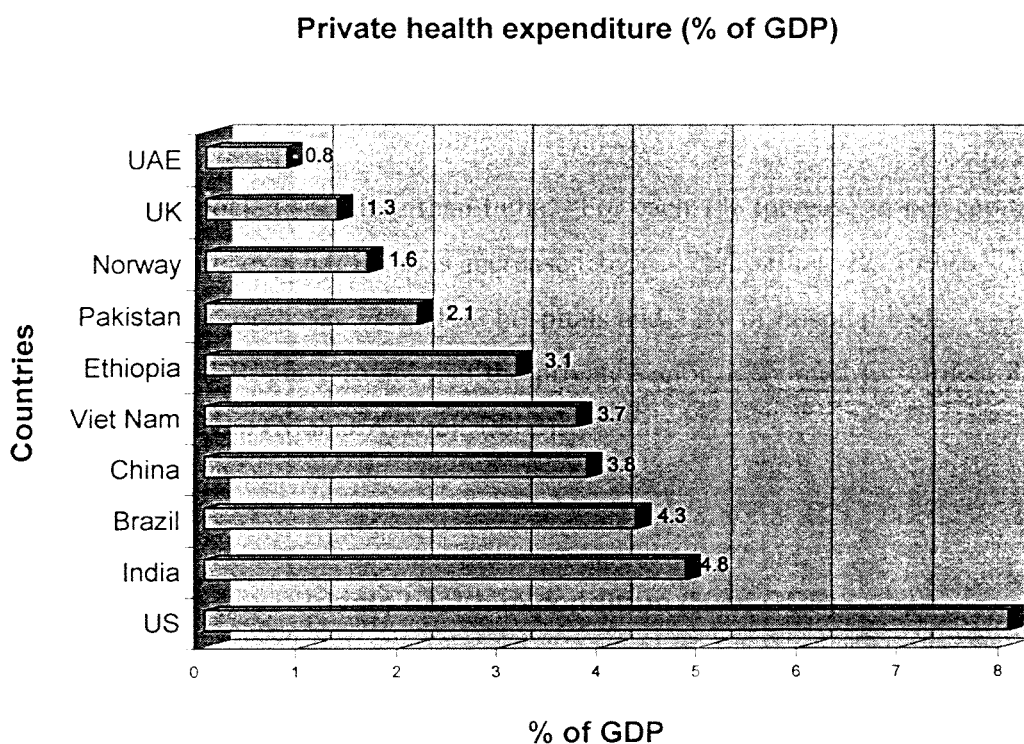
The urban society is gifted with the secondary or tertiary level care of the public sector which is better functioning than the primary care. There is even a common perception among people in general that the doctors, at least the seniors ones, in public hospitals are better competent than the doctors of the private sector. Nevertheless, the capacity of the public secondary or tertiary hospitals did not maintain the pace of growth with that of the population growth. Therefore, the public provision is not enough to meet the growing healthcare demand. Hence, long average waiting time, non-availability of bed have become almost regular aspect of the public provision.

2.7 Private participation in health sector

In an aim to attract more private capital to the healthcare sector, government has recently granted healthcare sector the infrastructure status. Many more incentives in the form of tax rebate for the land of use, tariff reduction for the import of advanced medical equipments etc are being practised by government to encourage the private sector to invest in healthcare. Since the 1980s, with a government encouragement towards private sector participation in the healthcare sector, there has been a gradual but overwhelming transition towards private healthcare utilization from the public sector, particularly in the urban area. Private spending in the healthcare sector accounts for almost 87% of the total health expenditure. Out of this almost 85% is direct out-of-pocket expenditure. Only Cambodia, the Democratic Republic of Congo, Georgia, Myanmar and Sierra Leone have

a higher out of pocket spending than India. “For each 1% increase in per capita income, private healthcare expenditure has increased by 1.47%” (Bhat, R, 1999). The private sector constitutes for about 57% of all hospitals and 32% of hospital beds. As mentioned earlier, the NCAER study found that the private sector accounted for almost 82% of all out patient treatment (Mahal A. et al., 2002).

Chart 2.6



Source: Human Development Reports, 2005

Studies have shown that a positive correlation exists between urbanization and the growth of the formal private healthcare sector (Kavadi, 1998).

2.7.1 Boom in medical tourism

Private initiatives have set up some state of the art modern hospitals with world class treatment facilities. Foreign nationals are even coming down to India to get treated in these hospitals. In fact, medical tourism is passing through a boom period in India. The

world-class tertiary care with a low international price compared to developed countries is increasingly making India a favourite destination for foreign medical tourists. The annual growth rate of foreign medical tourists in India is quite high at 15% resulting in a 25% revenue growth from foreign patients for private tertiary hospitals (Ananthakrishnan G, 2006). Foreign patients choose India as their medical destination for more than a couple of reasons. It can be either to avoid a long waiting time (typical example of Britain) or to cut in cost (the uninsured or under-insured in the US healthcare system) or to avail a world-class treatment that is not available in their native country (examples are South-East Asian developing countries). With the establishment of more new state of the art corporate hospitals, well networked through tourism agencies, the boom is likely to increase in near future. However, the main concern with such a huge corporatisation of healthcare is that, accomplished physicians working in the public hospitals will be poached by the private healthcare giants that will adversely affect the service of low cost government run hospitals. Hence, a likely unwarranted outcome of this corporatisation may be the 'health divide' on the ground of ability to pay. The notion of equity will be sacrificed for efficiency.

2.7.2 The problem with the private sector

In India, most of the private hospitals are of sole-proprietorship in nature, some run on the basis of a partnership model, and a very few are corporate in nature. However, the growth of the private sector has not been a well guided one and it has concentrated only in the urban sector totally neglecting the rural one. Government intervention has not been adequate and appropriate. Grossly speaking, India's private healthcare sector is under regulated. "...the private health sector in India has grown in an undirected fashion, with virtually no effective guidance on the location and scope of practice, and without effective standards for quality of care or public disclosure on practices and pricing" (Ahuja R, 2004). Therefore, a overwhelming use of private healthcare sector does not necessarily signify a very good service from the sector but that the situation in public sector is worse. The main problem with the private sector is that there has not been any standardization of the services being provided by them in terms of pricing. Practice of arbitrary charging has become a common fashion with the private healthcare providers.

Provider induced over-utilisation of services is particularly another area of concern. In this industry, the physician has the ultimate say. If a medical practitioner asks a patient to undergo a certain diagnosis or a surgery, though it may not be a necessary one, generally the patient does not have any other option than to abide by the suggestion. Instances are there that the number of visits of a particular doctor for a hospitalized patient shown at the time of billing is higher than the actual number of visits. Medical science being a very specialized and sensitive area, the common man always remains at the receiving end. The extent of all these fraud and mal-practices basically depend upon the nature of ethical practice and personal accountability of the medical practitioners. A flourishing private hospital in Kolkata earned so bad name for the mal-practices that it had to shut down and sale the stake to a different group. Sometimes, the vulnerable financial situation of the private hospitals forces them to resort to unethical practices. "Foreign manufacturers dominate the high end of the hospital equipment market and healthcare technologies. Most of the equipment purchases for hospital are of high value and paid in foreign currency. Due to the technological advancement in treatment, there is always an increased risk of faster technological obsolescence. This contributes to higher risk on capital cost invested (Bhat R, 2006)" In India, the pay back period for the equipments tends to be longer than their country of origin. Sometimes the interest burden of the private hospitals remains higher than the return from investment. All these financial reasons also tame the private hospitals to resort to unethical practices. Another problem in India is that the general people are not much aware of and have access to the consumer forum which ideally has the power of negotiation on behalf of the consumers. The root cause of some of the problems is the incentive being provided to the doctors for each extra service the patient is 'advised' to undergo. However, logically these mal-practices do not prevail in public healthcare system. Hence, standardization of pricing and proper government intervention and regulation is necessary for the efficient functioning of the private sector.

2.8 Need to bring in health insurance

Given the dominant private healthcare sector and the very high out-of-pocket expenditure, a lion's share of population remains vulnerable to the threat of sudden huge

expenditure for consuming healthcare. It is estimated that almost 40% of the people in India who seek total inpatient treatment move below poverty line due to cost of treatment. With the epidemiological transition in favour of cardio-vascular and hypertension related diseases, malignancies etc. which require advanced technology aided treatment, the cost of treatment is increasingly becoming unbearable for common people. Around 70% of death worldwide is due to cancer, heart attacks or stroke (Iyer S V, 2000). Adding to the woe, the changing social-structure in favour of micro-family, the financial burden has increased on individual small households at the time of hospital care. “Over 25% of hospitalized Indians fall below poverty line because of hospital expenses” (NRHM 2005-2012). More than 40% of total hospitalized persons have to sell their asset or borrow heavily in order to meet the cost of hospitalization.

All these arguments campaign in favour of an efficient well monitored health insurance sector which will be able to pool the risk across the population and reduce the vulnerability of common people. Only less than 10% of Indian population has any kind of health insurance. Therefore India has a huge potential health insurance market to tap for. In the next chapter we would discuss India’s health insurance aspects in terms of achievements and prospects.

Health Insurance: Theory and Indian Experience

3.1 Theoretical background:

The theoretical background of health insurance derives off the individual's conjectural behaviour on potential health-risk pattern. The guiding principle of insurance is maximizing the expected value of utility function. The expected utility hypothesis was pioneered by Daniel Bernoulli in the early 18th century as a way to resolve the St. Petersburg paradox. In insurance, this basically calls for forgoing current consumption to a certain level in the form of paying premium, to cover up a future unforeseen income shock. Ideally, an individual will purchase an insurance policy if the expected utility gain at least matches the premium. The premium that equals to the expected value of utility function is known as the 'actuarially fair premium'. Usually, the individuals tend to be risk averse in nature. They would like to transfer the risk of financial shock due to health to others for a certain maximum price and there would be some agent who will like to pool the risk across the population for a certain minimum price. The maximum and minimum price should be equal that refers to basically the 'fair premium'. To go with Arrow, "It follows from the assumption of risk aversion that if an individual is given a choice between a probability distribution of income, with a given mean m , and the certainty of the income m , he would prefer the latter. Suppose, therefore an agency, a large insurance company plan, or the government, stands ready to offer insurance against medical costs on an actuarially fair basis; that is, if the costs of medical care are a random variable with mean m , the company will charge a premium m , and agree to identify the individual for all medical costs. Under these circumstances, the individual will certainly prefer to take out a policy and will have a welfare gain thereby" (Arrow, 1963). This can lead to, Arrow argues, social gain if the insurance agent does not suffer any social loss. If the insurer is in the mood of risk aversion to a certain degree, it can charge a premium that is higher to fair premium. Even if the insurer is risk neutral, administrative costs of insurers will lead to the loading of premium. Therefore, the insurer can not charge actuarial fair prices. If the loading is excessive, surely the demand will substantially decline. Even, the marginal loading might adversely affect the purchase of insurance (Ehrlich I et al., 1972). However, the actual effect of loading on the demand for insurance will depend crucially on the extent of loading. But it is expected that given the nature of risk averters, they would still continue to hedge their future risk with a marginal higher

premium than the fair one, if it is not, obviously, a substantially higher premium (Arrow, 1963). Loading is a crucial point of argument for market equilibrium. In Pauly's words "How the loading varies with the amount of type of insurance, and with the setting in which the insurance is purchased, will be an important determinant of market equilibrium" (Pauly M V, 1986). Moreover, given the recovery itself an uncertain event, an ideal insurance policy will not require the policy holder to pay anything unless he benefits, at least, in terms of relief of pain or arrest of further deterioration. That is the policy should cover for the unfortunate event of non-recovery, too. Indemnity can be of various types. It may depend on the nature of illness, number of times of seeking medical care and may even be independent of actual medical expenses, sometimes.

3.1.1 The general problems of insurance

The basic inherent limitations of any kind of insurance are 'Moral hazards' and 'Adverse selection' problem. Health insurance is not free from these limitations, too. These problems have widely been debated in the insurance literature extensively. Since apart from consumers and insurers, health insurance has its unique nature of involvement of a third party in the form of healthcare provider, the limitations can broadly be classified as demand side and supply side moral hazard and adverse selection problem. We now discuss these problems and their various alternative solutions put forward by different authors.

Demand driven moral hazard:

When a person becomes insured against the occurrence of a particular unforeseen event, he may deliberately curb precautionary measures that prevent the occurrence of the event thus increasing the chance of occurrence of the risk. This behaviouristic approach of an insured is popularly known as moral hazard problem. In case of health insurance, the moral hazard is of slight difference in nature. Apart from monetary shock, ailment has other kind of disutility including the fear of death. Therefore, it is unlikely that a health insured person will invite risk of getting afflicted by diseases through reduction in precaution. However, in extreme case of moral hazard, this may happen. Generally, the demand driven moral hazard in health insurance takes a different form. If insurance

makes healthcare a virtual free good for the insured, he may get tempted to over consume the service. Though, in practice, the problem may not become a severe one, since every form of health diagnosis involves a time opportunity cost. Moreover, if the easily available healthcare delivery centre is unhygienic, like that of government hospitals and OPD care centres, they may act as a deterrent in over consumption of the service. Further, it is the physician who dictates what facility to consume and to what extent. Hence, in practice, general patient's or patient party's choice for over consumption is highly restricted by the decision of the attending physician. There is allegation that the insured patient would not shop around for a better deal of hospitalization since patient is not required to pay for the service. But this logic holds true only in a healthcare market that has some sort of standardized service. Otherwise, the past experience and distance of the hospital from home would only tend to influence the choice for a hospital. Added to these, the doctors sometimes 'advise' the patients to undergo a diagnosis in a particular private centre. The patients, either believing the doctor or at least not in a mood to antagonize the doctor accepts the 'suggestion' and hence does not get the scope for shopping around. Therefore, in practice, the demand driven moral hazard problem, at least for curative care, should be low in health insurance. However, if a plan comprehensively takes into account preventive care then a consumer may effectively be induced to over consume medical care.

Several remedies of the problem have been put forward by different authors that include limits on coverage, coinsurance, copayments, deductibles etc. (Arrow,1963; Pauly 1986; Chollet and Lewis 1997; Keeler et al., 1977). We would discuss them below.

Limits on Insurance coverage: This is a common practice to tackle the moral hazard problem. Insurance company, in its policy, limits the amount of coverage to a certain level beyond which every cost is to be borne by the insured person. The coverage amount depends on insured's age and the premium. Apart from the limitation on total coverage, insurance plans sometimes set a limit on reimbursement for each individual disease covered under the policy. These are known as internal limits. Internal limits, however,

can be of two types, either on the amount of coverage or on the number of inpatient and outpatient visits (Chollet and Lewis, 1997).

Coinsurance: Coinsurance requires a policy holder to pay a fixed proportion of the cost of treatment, the proportion generally being upto 20%. It raises the user price per unit of medical care thus reduces unnecessary usage of medical care.

Deductibles: Deductibles is another way to check the moral hazard problem. A health policy with deductibles calls for the reimbursement of covered diseases only after the initial expenditure of treatment, to a certain stated sum, is incurred by the policy holder. This deters the policy holder from over utilization of the healthcare service and also frees the insurance company of hazards of small claims. However, in a private healthcare industry where stringent standardized pricing system is nonexistent, deductible might not come out as a successful tool in combating moral hazard since, the policy holders would be tempted to visit the high priced superspeciality corporate hospitals. However, the amount the insured needs to pay should play a crucial role here. If the amount is high enough to create a significant difference between the insured's payment for corporate and non-corporate common hospital then the objective of deductible may be fulfilled, otherwise not. A variation of it says that the success of the policy would depend on the expectation of total expenditure exceeding the deductible amount (Keeler et al., 1977). Another drawback of the mechanism is that it can induce the policyholder to postpone healthcare consumption which in future may turn out to be a costly affair by developing complexities of the disease.

Copayment: Copayment requires the policy holder to pay a certain fixed amount of fee every time he seeks some covered care like routine medical check up, dental and mental check up etc. Hence, this clause acts as a deterrent to over utilization of healthcare.

Adverse selection:

The problem of adverse selection arises when the insurer can not substantially differentiate between high and low risk persons and the average risk anticipated ex-ante

at the time of writing premium turns out actually higher ex-posed. If the insurer charges actuarially 'fair premium' for an entire group instead of charging individual members of the group, the low-risk persons would regard the premium high. Hence, they would opt out of the policy. Only the high risk persons would go for insurance. This will increase the actual risk of the group. To make the insurance policy sustainable, insurers have to increase the 'fair premium'. This new premium will be considered high for some individuals whose expected benefit would be lower than the premium cost. This set of people will not opt for insurance resulting in further increase in premium. Ultimately, this premium death spiral would lead to such a high rate of premium which no body in the market will be interested to pay leading to the virtual breakdown of the market for the product. This is known as the 'Lemon problem' for market existence.

The best way to fight adverse selection is writing individual premium based on individual risk profile. However, being this is not at all a realistic solution, alternatives like risk selection, group coverage etc. have been devised to tackle adverse selection.

Risk selection: Assessment of individual's risk profile is the major issue in adverse selection. Underwriting mechanism is an important tool of the insurers to identify individual risk. On the basis of risk selection, premiums are set. Insurers compulsorily require a medical test of the insurance-interested individuals before entering into a health policy contract, at least for the people beyond a certain age. Tiered ratings, on the basis of charging different prices for individuals belonging to different risk groups somewhat tend to mitigate the problem of adverse selection. Excluding pre-existing conditions is sometimes used also to combat adverse selection. Hence, reimbursement for chronic diseases that exist at the time of purchasing the policy is not available. Sometimes, coverage is denied for any health problem that the consumer had suppressed and could have been identified at the time of purchasing the policy. Some 'costly diseases' like HIV/AIDS, Cancer, Open heart surgery etc. are also kept out of coverage, sometimes. However, the 'method of exclusion' stands for the major point of controversy in India now and consumers tend to regard health insurance as a 'cheating' product. So, for popularizing health insurance from demand perspective, this option is not a very good

one, though. However, inclusion of pre-existing clauses at the payment of some extra premiums is sometimes allowed, also.

Group Coverage: For insurers, the product health insurance is much profitable for group coverage than individual coverage. The economy of scale can be reaped under group coverage which tends to reduce the price of the product, also. Therefore, this is a sort of win-win situation for both the provider and the consumer. Moreover, the groups, in general, tend to be homogenous in nature. Therefore risk selection becomes an easier task compared to individual policy. Further, groups may be formed for any other reason else health insurance, too. The members of such group are likely to be healthier than the individuals who voluntarily seek health coverage (Schieber and Maeda, 1997). Therefore, adverse selection problem gets automatically reduced.

Supply side moral hazard problem

As mentioned earlier, in health insurance market, healthcare provider induced moral hazard problem tends to be much stronger than its demand side counterpart. Healthcare advice strictly falling within the domain of physicians, the patient is almost bound to abide by the guidelines put forward by the attending doctor. If a doctor advises for some particular diagnosis, the patient party, in practice, does not have the courage to question it provided the diagnosis is not a wild one that has no relevance with the illness at all. Hence, if the doctors have any incentive for prescribing over consumption of healthcare facilities, it materializes. The uninsured patients are also unlikely to go against the attending doctor's decision as it may have a life-risk, too. Only an ethical practice of a physician can contain this problem properly. Therefore, the point, whether the physician has any incentive to resort to unethical practices is the centre most, here. The physicians can act as a 'double agent' both for the patient party and the insurer (Blomqvist, 1991). The doctors are supposed to refer adequate medication for the patient, neither under treating nor over treating him thus maintaining both insurer's and patient party's interest. However, this is an ideal situation where the physicians are guided only by their professional ethics. If the physician is a salaried person and does not have any incentive to recommend over utilization of healthcare, this problem automatically gets nullified.

The government hospitals are the perfect example of it. In government hospitals, the doctors are just salary earners, sometimes with a non-practicing allowance and hence public hospitals are free from the allegation of forced over consumption. Health Maintenance Organisation (HMO), which has its own set of salaried doctors are, too, free from such problem where the interest of insurer and healthcare provider is merged into one common objective. In fact, the concept of HMO emerged as to contain the moral hazard driven healthcare cost escalation. On the other hand, if the physician's payment structure is pay-for service, the doctor would be inclined to prescribe for over medication.

3.1.2 Managed Care Organisation:

The medical insurance can be offered through two types of healthcare facilities, one the usual private or public run hospitals and the other through Managed Care Organisations (MCOs). The concept of MCO is that the insurance provider will itself have its own independent provision for healthcare services like hospitals or clinics, etc. MCOs were introduced to contain the escalating healthcare cost due to the existence of insurance in the United States (Fairfield et al., 1997). The MCO-concept gained popularity in the United States to contain the cost of healthcare in the '80s. Access to quality care to the policy holders is another objective of MCO. "Managed care places special emphasis on coordinated and comprehensive services, appropriate use of both ambulatory and inpatient settings, evidence-based decision making, cost-effective diagnosis and treatment, population based planning, and health promotion and disease prevention. Utilisation review, case management, coordinated care, home healthcare, pharmacy benefit management, information technology systems, physician contracting, and network development are some of the features of managed care" (Bhat R, Babu S K, 2003). MCOs use utilization review strategy to control the over consumption of the service. "The amount of utilization is usually expressed as a number of visits or services or a dollar amount per member per month (PMPM)" (Wikipedia, <http://en.wikipedia.org/wiki/HMO>). "After admission, utilisation managers monitor inpatient stay to ensure earliest possible discharge. In complex or difficult cases a case manager may work with the doctor to develop a treatment plan that substitutes less expensive care whenever possible. Utilisation management seeks to reduce healthcare

costs primarily by avoiding unnecessary hospital admissions and reducing length of stay” (Bhat R, Babu S K, 2003). However, there is a general tendency of monopolization under the MCOs that has widely been criticized. Another drawback of MCO is that it can not pool the risk sufficiently across the population due to its own structural nature. The biggest allegation against the MCOs is that the patients do not get adequate necessary medication.

There are several forms of an MCO—Health Maintenance Organisation (HMO), Preferred Provider Organisation (PPO) and Point of Service (POS). Health Maintenance Organisation or HMO is a kind of voluntary membership organization where the members are given free healthcare service on a pre-payment basis. The payment does not depend on the total service utilization. The HMOs control the physicians and all other aspects of healthcare services being provided to the members. Most of the HMOs require their members to choose, of their own, a primary care physician (PCP) who acts as a ‘gatekeeper’ to medical services. PCP typically plays the role of a referral physician to the specialists in case the disease is complex enough to not to be treated by the PCP. However, prior authorization of a PCP for a specialist consultation is exempted for the emergency cases. Though the HMOs are successful to contain the insurance led healthcare inflation to certain extent, it has been criticized of not being able to pool the risk on a big horizon. Given the healthcare service restricted to only the members of HMO and the number of healthcare facility centres being limited, the extent of risk pooling remains underutilized. The biggest allegation against HMO is that the physicians lose significant amount of control over the treatment procedure since they remain in a constant pressure of suggesting as less diagnosis or surgeries and overall medication as possible to contain the cost of medication. This seriously hampers the quality of treatment which is the guiding principle of medical ethics. Hence, patients turn out to be net sufferers.

Another form of MCO is Preferred Provider Organisation or PPO. The health insurer comes in a contract with a set of independent healthcare providers under PPO. The healthcare providers treat the members of the MCO at a pre specified fee structure. The

fee is generally discounted compared to non-members who consume the healthcare facility at the centre. Under a PPO, the members are not usually required to prefix a PCP as a referral doctor. The members can also access non-networked healthcare providers, generally at some co-payment or deductible arrangement.

The Point of Service (POS) category basically pools the lower cost feature of HMO and flexibility of PPO. Under a POS, the insured can opt for out of the network hospitals with the conditions of deductible etc. akin to PPO in addition of HMO coverage. Here also, the policy holder needs to choose a PCP within the network who becomes the policy holder's POS and can refer him to out of the network hospitals also.

There are some sub-variations of MCOs like Independent Practice Association (IPA) and Physician Hospital Organisation (PHO). Physicians form an association under IPA which both can have a contract with a MCO and own independent practice. PHO is a chain of hospitals that have the contract with an MCO. However, in India the concept of HMO is yet to be popular. In the next section, we would discuss the experience of India in terms of health insurance.

3.2 Indian market of health insurance

The insurance industry in India has traveled a long journey since its inception. The origin of the insurance business in India, in its well structured modern form, can be traced back to 1818 with the formation of Oriental Life Insurance Company at Calcutta followed by Bombay Life Assurance Company in 1823. In 1912, the British-Indian government came up with the Indian Life Assurance Companies Act to regulate the insurance industry. Later in 1928 the Indian Insurance Companies Act was enacted to enable the Government to collect statistical information about both life and non-life insurance business transacted in India by Indian and foreign insurers including provident insurance societies. The Act was amended in 1938 with the aim of giving protection to the insured. In 1956, with the enactment of Life Insurance Corporation Act, the government took over the business of the 154 Indian insurers, 16 foreign insurers and 75 provident societies who were carrying out the life insurance business in India, in order to nationalize the industry.

The first general insurance company in India, Triton Insurance Company Ltd was set up in 1850 in Calcutta. In 1907, the Indian Mercantile Insurance Ltd started up all classes of general insurance business. In 1968 the Insurance Act was amended to set a minimum capital requirement for business and the Tariff Advisory Committee was set up. Finally, in 1972, the government nationalized the general insurance business in India with the enactment of The General Insurance Business (Nationalisation) Act. At that time, 107 companies were operating the general insurance business. All the companies were merged to form the state owned four subsidiaries, namely National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd. and the United India Insurance Company Ltd., under the General Insurance Corporation of India.

With the liberalization of Indian economy, the need was felt to reorient the insurance business in the country. As a result, in 1993, a committee headed by former Finance Secretary and RBI Governor R.N. Malhotra was formed to have the guidelines for the reforms in insurance industry. The recommendations submitted by the committee were:

i) Structure

- Government stake in the insurance Companies to be brought down to 50%
- Government should take over the holdings of GIC and its subsidiaries so that these subsidiaries can act as independent corporations
- All the insurance companies should be given greater freedom to operate

ii) Competition

- Private Companies with a minimum paid up capital of Rs.1 billion should be allowed to enter the industry
- No Company should deal in both Life and General Insurance through a single entity
- Foreign companies may be allowed to enter the industry in collaboration with the domestic companies
- Postal Life Insurance should be allowed to operate in the rural market
- Only one State Level Life Insurance Company should be allowed to operate in each state

iii) Regulatory Body

- The Insurance Act should be changed
- An Insurance Regulatory body should be set up
- Controller of Insurance (Currently a part from the Finance Ministry) should be made independent

iv) Investments

- Mandatory Investments of LIC Life Fund in government securities to be reduced from 75% to 50%
- GIC and its subsidiaries are not to hold more than 5% in any company (There current holdings to be brought down to this level over a period of time)

v) Customer Service

- LIC should pay interest on delays in payments beyond 30 days
- Insurance companies must be encouraged to set up unit linked pension plans
- Computerisation of operations and updation of technology to be carried out in the insurance industry

Source: Insurance in India, www.ciionline.org

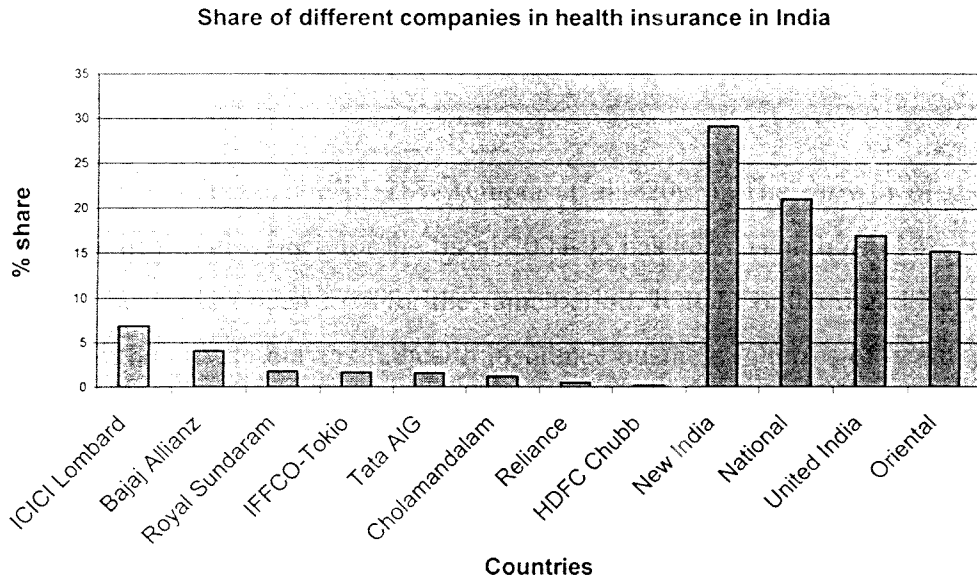
In 1999, the insurance sector was formally reformed with the bringing of the IRDA Bill in the Parliament. The Bill got passed in 2000. Managed competition, with 26% of foreign equity participation was tried to give a shape with the inception of the Bill. The autonomous regulatory body, the Insurance Regulatory and Development Authority (IRDA) was formed with an aim of regulating and promoting the insurance business.

3.2.1 Health Insurance

Since the liberalization of insurance industry in India, the growth of the medical insurance has been tremendous. In the first half of the current decade, the total business of health insurance has grown almost eight-fold to touch the figure of Rs.1732 crore in 2004-05. In the year 2003-04 alone, the growth of health insurance in terms of gross premium collection has been 35%, surpassing the 19% and 7% growth of motor insurance and fire insurance respectively. Even during 2004-05, the health insurance could retain the first position of growth compared to other major non-life insurances,

however, with a reduced rate of 28% (Gupta et al., 2005). The growth of the private players in the health insurance for the fiscal 2004-05 has been as high as 114% while that of the public sector has been 17% for the same period. ICICI Lombard and Bajaj Allianz top the list of the private players in health insurance business in terms of health premium collection.

Chart 3:1

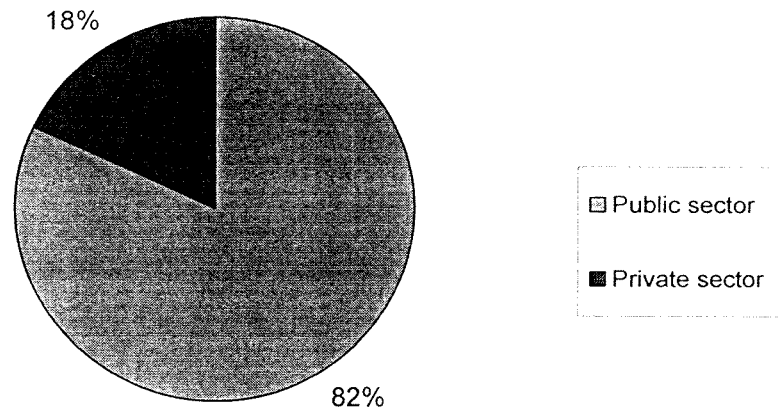


Data Source: Gupta I, et al., 2005

However, the public sector New India Assurance and National Insurance both alone surpass the whole private sector health premium collection for 2004-05. The premium for the private sector for 2004-05 was Rs.304 crore while that of the New India was Rs.504 crore and of the National was Rs.364 crore for the same period. Total public sector premium collection was Rs.1427 crore. This shows that the public sector companies hold a market share of 82%.

Chart 3:2

Public-private share of health insurance business



Data Source: Gupta I, et al., 2005

3.2.2 Third Party Administrators:

The IRDA Act, 2001 paved the way for the maiden entry of Third Party Administrators (TPA) in Indian health insurance market. “The IRDA mandated that only an organization registered under the Companies Act, 1956 with a share capital of at least Rs.1 crore could set up TPA. Further, a minimum of Rs.1 crore worth of working capital is also mandated by the IRDA regulations” (Gupta I et al., 2004). An insurance company can tie up with more than one TPA and the vice-versa. TPAs are entrusted with the duties of mainly claim settlement, issuing insurance ID cards to customers, arrange for the admission of the patient in any networked hospital, supervising the quality of healthcare being provided to the consumers etc. However, marketing of any insurance product is not permissible for TPAs. The insurance companies pay the TPAs a commission of 5.5% of the total amount of premium collected under a policy. The TPA was introduced into the system in an aim to enhance the efficiency of the total health insurance business. Cashless hospitalization policy could take off due to the existence of TPA. With the cashless policy, the burden of claim settlement has been shifted to the healthcare providers from the customers. Moreover, speedy disposal of payment has also been

realised since the inception of the TPAs. Average time for claim processing, after the entry of the TPA, has been reduced to a considerable amount. Further, the TPAs are supposed to standardize the healthcare provision to a certain degree by monitoring the quality of healthcare being provided to the customers. Moreover, it is believed that the existence of this intermediary organization would reduce the claim ratio for the insurance companies by closely monitoring the veracity of the claims. However, redundant to mention, TPAs could not perform all the duties efficiently it was entrusted with. The first and foremost drawback of it is that it raises the administrative cost of the insurance company substantially. “..even when their role is confined to payment of benefits and management of claims, the administrative costs run up to 20%-30%. If they are assigned the role of identifying providers then the amount can go even higher to 45%, making insurance products very unaffordable” (Rao K Sujatha, 2005). Moreover, given there is no practical incentive for the TPAs to contain the claims ratio, the insurers’ interest is not served fully. Rather the possibility remains that TPA will form a cartel with the healthcare provider to not to reduce the supplier induced over consumption of healthcare products which may further increase the moral hazard problem. The selection process of a TPA by an insurance company is quite an arbitrary one. The concept of TPA is a new one for Indian customers and the level of awareness about it is quite low among them. Therefore, the IRDA should initiate some modifications in the functioning of the TPA in line with better performance target.

3.2.3 Health insurance products:

In India, different forms of health insurance products are available. There are large scale state owned not-for-profit health insurance products like Employee State Insurance Scheme, Central Government Health Scheme etc. Both the public and private sector operate in the voluntary health insurance market. Apart from these there are some not for profit micro insurance schemes which are generally managed and promoted by different NGOs.

Employee State Insurance Scheme

The journey of health insurance in India began in 1948 with the inception of Employee State Insurance Act which paved the way for the creation of state owned Employee State Insurance Corporation in 1952. The ESI is a mandatory type health insurance scheme for the workers in the formal sector whose monthly wage limit is Rs.7500. “The Act was originally applicable to non-seasonal factories using power and employing 20 or more persons; but it is now applicable to non-seasonal power using factories employing 10 or more persons and non-power using factories employing 20 or more persons” (ESIC Website Home Page). Now, the Scheme has been extended to shops, hotels, restaurants, cinemas including preview theatre, road motor transport undertakings and newspaper establishment employing 20 or more persons. However, mines and plantation workers have been specifically excluded from the Scheme. The insured under the ESIS get treatment in the ESI run hospitals and dispensaries. The coverage ranges from medical care that includes inpatient treatment, specialist consultation, free medicines, immunization programmes, family welfare services to maternity benefit, temporary and permanent disablement benefit and even funeral expenses. It is the only health insurance scheme that “offers full medical care to workers and their dependents without any ceiling on personal expenditure”. The scheme is funded with a pre-payment contribution through a payroll tax of 1.75% by employees, 4.75% by employers and 12.5% of the total expenses by the state governments. The scheme covers 33 million people. The ESI network is spread across Delhi, Chandigarh and Pondicherry and all the states except Nagaland, Manipur, Tripura, Sikkim, Arunachal Pradesh and Mizoram through 143 hospitals, 43 annexes, 322 specialist centres, 1412 dispensaries with 27099 bed facilities.

Although the scheme has a large network of delivery centres across the country, the quality of service has been poor. A committee for the review of the scheme found that the standard of the facility was poorer compared to that of the private clinics and diagnostic centres. Studies have showed that the hospital equipments are often in a dilapidated condition coupled with shortage of medicines. A study on Gujarat showed that more than half of those covered under ESIS did not seek treatment from the ESIS centres. The reasons cited were “unsatisfactory nature of ESI services (which includes low quality

drugs and long waiting periods)” (Shariff A, 1994 as quoted in Randall P Ellis et al.). Hence there is a tendency of the insured people even not to access the service of the scheme rather avail the private care. Moreover, the scheme could not keep pace with the growth of the formal sector workers. “In fact, over the period 1955–56 to 1984–85, there has been a decline in the percentage of the total organised sector employees covered by ESIS from 38.2 to 29.3” (Gumber A, 2002). The formal sector employs only about 10% of the country’s total workforce and the scheme covers only those of the sector whose monthly wage is limited to Rs7500. Hence, in terms of number, the scheme could not scratch a comprehensive effect in the country’s health insurance market. So, both qualitatively and quantitatively the scheme failed to mark any significant positive impression though the government spends 12% of the total medical expenditure on ESIC.

Central Government Health Scheme

In 1954, a scheme, namely Central Government Health Scheme (CGHS) was launched to “provide comprehensive medical care facilities to the Central Government employees/pensioners and members of their families” and “to avoid cumbersome system of reimbursement of medical expenses to the employees/pensioners” (Information booklet, CGHS, 2000). Apart from central government employees and retirees, the scheme covers incumbent and retired judges of Supreme Court and High Courts, MPs and ex-MPs, ex-Governors and ex-Vice Presidents of India, accredited journalists, freedom fighters and employees of some semi-Government bodies/semi-Government organizations. The premium varies from as low an amount of Rs.15 a month to Rs.150 a month, depending upon the basic pay/ pension of the insured person and the rest is funded by the central government. The scheme runs independent dispensaries in both allopathic and homoeopathic systems of medicine including dental units for the exclusive use of the covered people under the scheme. The scheme reimburses for both inpatient and out patient cares in CGHS dispensaries or in government hospitals and in some approved private hospitals. Coverage also includes free supply of necessary drugs. A beneficiary under the scheme is around 43 lakh people across about 24 cities. However, the CGHS has also been criticized on the grounds of poor service of quality, slow reimbursement process resulting in high out of pocket expenditure for a significant period

of time, incomplete coverage as only 80% of cost is reimbursed for the referral cases to private hospitals, inadequate supply of medicine and equipments, unhygienic condition at the place of treatment, inadequate staff coupled with long waiting period.

Other Public not for profit provisions of healthcare reimbursements

Employees of some state owned services like, Railways, Defence, Police respectively have their own healthcare networks that include hospitals, dispensaries, ambulances and own healthcare personnel. There are some government run social security benefits which can be availed of under the provisions of the Maternity Benefit Act 1995, Workmen's compensation act 1984, Plantation Labour Act 1951, Mine Labour Welfare Fund Act 1946, Beedi Workers Welfare Fund Act 1976 and Building and other Construction Workers Act 1996. They all are mainly targeted towards the disadvantaged group of the workforce.

Voluntary Health insurance schemes:

Under a voluntary health insurance scheme, the insured purchases future possible healthcare at the payment of a premium in advance. The premium depends on the risk-level of the consumer and the amount of coverage. The premium does not depend on the consumer's proportion of income. Hence, it is said that the voluntary health insurance does not maintain the essential equity component of the expenditure on healthcare.

In India, both private and public sector companies offer voluntary health insurance. As a percentage share of the total voluntary health insurance market, the public sector products enjoy an absolute edge over the private products. The public sector holds almost 82% of total market share.

Public Sector Schemes:

In the public sector, the four subsidiaries of General Insurance Corporation, viz., National Insurance Company Limited (NIC), New India Assurance Company Limited (NIAC), Oriental Insurance Company Limited (OIC) and United India Insurance Company Limited (UIC) along with LIC offer voluntary health insurance schemes. The products

offered by GIC are Mediclaim policy, Jan Arogya policy, Cancer Insurance policy, Bhavishya Arogya policy, Raj Rajeshwari policy, Dreaded Disease policy and Personal Accident policy. Among these the Mediclaim policy is the main product of the GIC.

The **Mediclaim** was introduced in November, 1986 that marked the beginning of voluntary health insurance schemes in India. Mediclaim has three versions, viz., Individual Mediclaim policy, the Group Mediclaim policy and the Overseas Mediclaim policy. Individuals and groups of the age category of 5 years to 80 years are eligible for coverage under the scheme. The children belonging to the age group of 3 months to 5 years are covered with their parents. Any individual can choose a coverage between Rs.15,000 to Rs.5,00,000. The premium varies between Rs.175 to Rs.5770 (Gumber A, 2002). On an average, the individual category per capita premium is Rs.1282 and for group category is Rs.1150, clearly showing the advantage of risk pooling (Gupta, I et al., 2005). The policy covers for hospitalization and domiciliary hospitalization. It also offers cashless hospitalization in selected hospitals. Further, reimbursement of cost of health check-up once at the end of a block of every four underwriting years, family discount and claim free bonus are the additional benefits offered. For group policy, the benefits, clauses and conditions are same except some additional features like maternity coverage and family floaters. However, there are exclusions of certain conditions and pre-existing disease clauses in the first year of coverage. The policy does not reimburse for AIDS, venereal diseases, pregnancy, dental care, hearing aid, spectacles and contact lenses. In 1996, the premium was made almost half of the previous rate for the higher category of coverage sum. "...enrolment in Mediclaim insurance has increased by 174 per cent" (Randall E et al., 2000) between 1994-1999 which clearly shows that the policy had a positive impact on the purchasing decisions of the health insurance.

However, there are several drawbacks of the policy. The general resentments against the policy are that it covers only hospitalization and domiciliary expenses but not the outpatient care, the coverage is subject to numerous exclusions and restrictions on eligibility. The major problem the Mediclaim has been facing is the higher claim reimbursement than premium collection. Stung by the losses, the providers of the scheme, recently has started to think of modifying it. They are planning to cap the

maximum amount of sum insured to something between Rs.2 lakh to Rs.3 lakh. They are also planning to set a floor level for sum insured at Rs 50,000 (Sen S K, 2006).

In 1996, the GIC introduced another policy named **Jan Arogya Bima** policy. The policy was aimed at expanding the health insurance base across the middle and low income class category. Given the low income target population, the premium was set at the range of Rs.70 to Rs.140, depending upon the age against an insured sum of Rs.5000 per annum. The premium for dependent children was as low as Rs.50 per annum.

Another policy of GIC, **Bhavishya Arogya** policy, introduced in 1991 was designed as an old age security against health expenditure. With this policy, the contributions made at the earning phase of a person would safeguard his health expenditure upto the covered amount during his post retirement life span.

Apart from GIC, the LIC also offer a health insurance plan known as **Asha Deep II**. The policy was launched in 1995. Under this policy the coverage is available only for cancer, paralytic stroke, renal failure and coronary artery diseases. Anyone between the age group of 18-50 years can opt for the policy. The coverage amount under this policy is Rs.50,000-300,000. The benefit for only one disease out of the four is reimbursable.

Another public sector undertaking, Unit Trust of India came up with a health insurance plan in 1993 called **Senior Citizens Unit Plan (SCUP)**. The policy requires a one time investment by anyone in the age group of 18-54 years to enjoy a coverage for hospitalization expenses upto Rs.5,00,000. The benefit can be claimed after attaining the age of 58 years.

In 2003 the government launched a scheme for the people below the poverty line (BPL) known as **Universal Health Insurance (UHI)**. It has been designed in such a way that the transaction cost remains low and makes the scheme viable. The policy reimburses hospitalisation expenses upto Rs.30,000 to an individual /family subject to some sublimits. It covers for death of the earning head of the family due to accident and the

coverage limit is Rs.25,000. However, outpatient care is not covered under this scheme. This policy covers people between the age of 3 months to 65 years. For an individual, the premium is Re.1 per day or Rs.365 per year. For a family upto 5 (including the first 3 children), the premium rate is Rs.1.50 or Rs.548 per annum. For a family upto 7 (including the first 3 children and dependent parents) the premium is Rs.2 or Rs.730 annually. Initially the government paid a premium subsidy of Rs.200 per annum for each case. In May 2004, the subsidy per annum was raised to Rs.300 for families of five persons and Rs.400 for the family of seven persons. However, subsidy for individual premium remained same. Till 31 January 2005, the policy covers only 34000 families (Rao K Sujatha, 2005).

The reasons for such a low penetration of the scheme are many fold. First of all, the public sector companies who are mandated to sell the policy do not find any incentive to market it as the scheme is a loss making one. Hence low awareness about the scheme comes as the major impediment in the road to make it popular. Even it is noted that, to meet the target “several field officers pay up the premium under fictitious names” (Rao K Sujatha, 2005). The TPAs are also reluctant to implement the scheme at 5.5% of premium rate. Further, the poor find it very difficult to pay a sum of at least Rs.365 at a time forgoing present consumption. Above all, the debates again and again boil down to the methodology of targeting poor.

Private sector products:

After the opening of the insurance sector, many private players started to offer the health insurance product. Among them, prominent are ICICI Lombard, Bajaj Allianz, Royal Sundaram, Cholamandalam, Tata AIG, IFFCO-Tokio, Reliance, HDFC Chubb and India’s first stand alone health insurance provider Star Health and Allied Insurance Company Limited.

Cholamandalam is the second largest private health insurance provider in India in terms of its share of health premium collection to total premium. The premium ranges between Rs.618 to Rs.22007 depending upon the coverage that varies between Rs.50000 to Rs.10

lakhs and age group. Maximum entry age for any proposer is 55 years and the same is 69 years for dependent parents. Apart from hospitalization reimbursement, this policy offers for a cashless hospitalization in more than 1440 networked hospitals. It also covers for medical expenses incurred 60 days prior to hospitalization and post hospitalization benefits of upto 90 days from the day of discharge. The policy reimburses expenses incurred on ambulance services to the nearest hospital having emergency health facilities.

ICICI Lombard offers health plans for group health insurance policy, individual insurance policy under 'Family Floater Health Insurance', corporate bodies, institutions and associations. It predominantly has two health plans, viz., '10k Tax Saver' plan and 'Family Floater Health Insurance'. The '10k Tax Saver' has a fixed premium of Rs.10000 and the amount of coverage depends on the age category and the number of members covered. The family floater health scheme has a policy for 1 year and 2 years. Here also, the premium rate differs according to the age, number of members covered and the coverage amount. The floater health plan covers the insured's entire family under one policy with one sum insured and one premium. The health policies cover a wide range of diseases and reimburses for medical expenses incurred 30 days prior to hospitalization and 60 days post hospitalization. Cashless facility is available at over 2900 hospitals. No health check up is required upto the age of 45 years. Under the policy, a benefit of Rs.10,000 is paid, if more than one member of the family (covered under one policy) are simultaneously hospitalised for a period of 5 consecutive days or more. Another benefit of Rs.10,000 is paid, if the period of hospitalisation is 10 consecutive days or more. This benefit is paid once in a year. Pre-existing disease can be covered after the 4th year provided the policy is renewed for four consecutive years.

In 2003, **Tata-AIG** life insurance launched a health insurance policy with life cover, known as 'HealthFirst'. The plan covers for prolonged hospitalisation including major surgery or critical illness. One of the features of the policy is that a lump sum allowance is paid irrespective of the actual medical/hospitalisation expenses. The policy is renewable till 65 years of age without any further medical examination with premium increasing only once every five years. During hospitalization, allowance of Rs.2,500 per

day is paid under Daily Hospitalisation Benefit (DHB). The policy also offers a post hospitalization benefit of Rs.1,250 a day up to a maximum of 3 days. A lump sum of Rs.125,000 is paid for specified surgical procedure and the complete amount is paid, even if the procedure costs less. Any person between 18 and 60 years of age is eligible for the policy. Unlike other policies, for this case, premium depends on gender of the policy holder also. Tata-AIG has another health plan known as 'Health protector'. This scheme covers for Accidental Death Benefit, Family Accidental Death and Dismemberment Benefit, Accidental Hospitalisation Cash, Total Permanent Disability, Critical Illness, Cancer Care, Death Benefit.

Bajaj Allianz offers a stream of health insurance schemes, viz., Health Guard, Critical Illness, Silver Health, Hospital Cash, Personal Guard, e-opinion. The facilities under the policies include, reimbursement of hospitalization within 14 working days of the submission of all the relevant documents, cashless benefit under 1500 hospitals across India, reimbursement for pre and post hospitalization expenses of 60 days and 90 days respectively, ambulance charges upto Rs.1000, free medical check up upto Rs.1000 after four years' of consecutive claim free renewal, doubled benefit in case of ICU admission, family discount of 5%, children's educational bonus, valuable second opinion e-consultation services for serious illness at nominal cost without physically visiting renowned hospitals that have access to over 7000 physicians. Existing disease can also be covered. Premium ranges from Rs.200-Rs.30000, depending upon coverage and age. Hospital Cash policy has per day basis coverage and monthly or bi-monthly coverage based premium ranging from Rs.250-Rs.5800. The coverage varies between Rs.50000 to Rs.100000. For the Hospital Cash policy, per day coverage ranges from Rs.500-Rs.2500. Eligibility age for the coverage changes according to the policy, e.g., anybody between the age group of 6- 59 years is eligible for the Critical Illness policy, while the same is 90 days-60 years for Hospital Cash policy.

Under **HDFC-Chubb**, several benefits are given, like it pays a benefit if the insured is permanently disabled in an accident, pays the costs of transporting the insured to the nearest hospital in a ground ambulance if the insured suffers a life threatening bodily

injury, pays a benefit if bodily injury results in a broken bone, pays a benefit if bodily injury results in the insured going into a coma, pays a benefit if bodily injury results in concussion, pays a reimbursement for medical expenses incurred if the insured requires hospitalisation as an in-patient due to an accident, pays medical insurance premiums for the surviving spouse and dependent child, in case of accidental death of the insured, pays 95% of costs of a wheel chair, vehicle and/or lifts or ramps needed by an insured who is permanently disabled in an accident, pays a benefit, due to the insured person requiring essential medicines and/or medical by-products which are not available locally, for the location and freighting cost of the medication etc (HDFC Home site).

The Royal Sundaram Group offers **Shakthi Health Shield** policy. Under this policy, the premium is Rs.125 per year for the persons aged upto 45 years, Rs.175 for aged beyond 45 years. Children are covered at Rs.65 per annum. The policy offers a benefit upto Rs.7000 annually with a limit per claim of Rs.5000. Maternity benefit subject to conditions is also available under the policy.

Liberalisation of insurance brought India its first ever stand alone health insurance company with the setting up of **Star Health and Allied Insurance Company Limited**, in March 2006. The company is a joint venture of a group of Indian industrialists with 26% foreign direct investment from Oman Insurance Company with a couple of other businessmen. The initial capital base of the Chennai based company has been Rs.105 crore.

3.2.4 Community Based Health Insurance:

Apart from public and private initiatives which are mainly targeted towards reasonably well to do section of the organized sector, there are several other policies that rely on community financing and its active participation. These schemes are known as micro-insurance or Community Based Health Insurance (CBHI). “These are local initiatives that build on traditional coping mechanisms to provide small scale health insurance products specially designed to meet the needs of low income households. They are voluntary

schemes, and are typically based on concepts of mutual aid and social solidarity” (Steven R. Tabor, 2005).

The policy makers, worldwide have started exploring different options to break the vicious circle of poverty. The vicious circle of poverty is the low purchasing power-lack of consumption of nutritional food-illness-loss of income coupled with cost of treatment (if any)-poverty. Addressing the issue of health security to the poor for poverty reduction has got an impetus in the recent years. Hence, the concept of micro-insurance, that is the insurance for the vulnerable section of the populace, has picked up recently. Moreover, growing evidence that the poor also can contribute for hedging their future risk coupled with some innovative cost containing mechanism on the part of the insurer has given a solid backing for go in with the concept of micro-insurance. “... it can be an efficient way of allocating limited household resources for high-cost health events, by reducing the need for precautionary savings or coping mechanisms that ultimately exacerbate poverty” (Steven R. Tabor, 2005).

Around 57% of the micro-insurance schemes operational in India offer health insurance while 59% offer life-insurance (Ahujra R, 2005). An estimated number of beneficiaries under the CBHI in India is only around 2.6 million. Hence, CBHI has a tremendous potential to grow. Usually these schemes are managed and run by Non-Governmental Organisations (NGOs), Community Based Organisations (CBOs), trust hospitals and Micro Finance Institutions (MFIs). However, broadly speaking, NGO can take the form of CBO or MFI or even a trust hospital. In India, almost 33% of the schemes have been launched by the MFIs, 27% by NGOs, 20% by CBO and 12% by the trustee hospitals (Ahujra R, 2005). These schemes are typically targeted for the unorganized sector workers. These schemes have the essence of social health insurance, though at a small scale, as the schemes are not-for-profit and mobilize community wealth and resources in order to finance the scheme. Sometimes, the government or/and donor agencies also lend financial aids to the programmes. The premium may be in the form of a fixed amount per year irrespective of income and risk factors or it may vary according to the risk and income. Sometimes, the premium even takes a ‘soft’ form when it is collected in the form

of labour service, agricultural produce, etc (Ahuja R, 2005). Generally, for the varying type of progressive premium, the insurer finds itself in a position to truly minimize the problem of 'adverse selection' and 'moral hazard' since the managing authority of the scheme can exploit the readily available local knowledge about the people living in that close community that is to say the individuals' risk profile and can charge accordingly. However, if the size of the community is very small, then designing different contracts according to the different risk profile may become a costly and hence non-sustainable affair given the low-income customers. Normally, the general health characteristics within the group do not differ much as the people within the group tend to be homogenous. Hence, even a community rate may become feasible instead of writing for individual risk profile.

The role of nodal agency:

The function of a nodal agency in the micro-insurance scheme can be of three types. Firstly, the nodal agency can play the role of an intermediary between a formal for-profit insurance company and the target community. With this type of scheme the volume of risk pool widens and hence tends to become a sustainable arrangement. Post insurance-liberalisation era calls for developing products for low income and vulnerable segment of the market and meeting a minimum quota of selling products in this segment. The inherent idea was to cross-subsidise the loss with the profit earned in the other segment. This is in line with government's 'universal service obligation' like that of the banks' priority sector lending, mandatory air line operations to price-subsidised non-profitable North-eastern routes etc. Therefore, it is obligatory on part of the insurance companies to spread the business across the income group through out the rural sector. If any organization acts as an intermediary between the rural community and the insurance provider, the scheme may become profitable for the company, too since the presence of a nodal agency substantially lowers transaction costs. "Conveying the idea (of health insurance), canvassing it, collecting premium, verifying and reimbursing claims often take up significant portion of the premium costs. In case of formal insurance contracts, these costs are well in excess of 15-20 percent of premium" (Ahuja R, 2005). Surely, the not for profit intermediary agency treasured with local community knowledge will tend to

make a formal insurance scheme, aimed at poorer section, viable. Self Employed Women Association (SEWA) of Gujarat and ACCORD in the Nilgiris are the example of these kinds of schemes. However, these schemes, in general, do not offer outpatient care. Moreover, the effectiveness of the scheme will depend on availability of healthcare service near about the target community.

A second type of scheme is a kind of in-house arrangement provided by the nodal agency in association with a healthcare provider. However, designing the policy effectively will be of great importance, since it may not be done by a professional actuary like in the case of previous type of arrangement. Moreover, the size of the group will play a crucial role in making the scheme a viable one. Tribhuvandas Foundation in Gujarat and Yeshwani in Karnataka fall under this kind of scheme.

There is a third type of arrangement where a healthcare provider itself launches and manages insurance scheme. This can be termed as not for profit Managed Care Organisation (MCO). This kind of arrangement not only becomes effective for inpatient coverage, but also covers for outpatient care. Sewagram Hospital in Maharashtra, Students' Health Home in West Bengal are the examples of such kind of arrangement.

Examples of different CBHIs in India:

Prominent among the CBHIs in India are Self Employed Women's Association (SEWA) in Gujarat launched in 1992, Tribhuvandas Foundation in Gujarat founded in 2001, The Mallur Milk Cooperative in Karnataka established in 1973, Sewagram in Maharashtra set up in 1972, Action for Community Organisation, Rehabilitation and Development (ACCORD) launched in 1991 in Tamil Nadu, The Voluntary Health Services (VHS) in Tamil Nadu established in 1963, Raigarh Ambikapur Health Association (RAHA) established in Chhattisgarh in 1972, Students' Health Home and Seba Cooperative Health Society in West Bengal, Cooperative Development Foundation in Andhra Pradesh.

Limitations of CBHI schemes:

The CBHIs do have several limitations. First of all, the nodal agency tends to lack in expertise in technical insurance skill and managerial skill (Steven R. Tabor, 2005). Capacity building, within the community is a real challenge for efficient functioning of these schemes. The CBHIs are also blamed for their urban biased nature. Another complaint against CBHIs is that they can not include the poorest section of the population as they can not afford to pay, even the small amount of premium. Hence, the most vulnerable section of the population does not find itself fortunate enough to get health risk coverage. Further, the well-functioning of the CBHI schemes often get impaired by the absence of local healthcare delivery centres.

3.2.5 Problems of health insurance in India:

The health insurance industry has its own problems in India. The share of the health insurance to total non-life insurance sector still has been very poor at 9.6% in 2004-05 compared to motor insurance's 41.4% share and fire insurance's 18.5% share. Given, the low base of the health insurance, it is quite expected that the growth rate would be good. Health insurance penetration in India is still at a nascent stage. Only about 10% of Indian population has any kind of health insurance. The industry faces a number of problems from both the demand and supply quarters.

From the demand side, the lack of knowledge of health insurance is the major impediment for the desired level of penetration of the product. Indian customers have traditionally recognized the concept of insurance as only a tool of saving taxes. The most inherent characteristic of the insurance of hedging a future risk has not been given due importance. Hence, if one possesses enough life insurance to save taxes, one usually becomes unwilling to go for another voluntary insurance. Therefore, the basic approach of Indian consumers to insurance does prevent them to generate knowledge about health insurance. The limited marketing and canvassing of this insurance, too, contribute to the lack of awareness about health insurance. Moreover, there is a general perception that healthcare is a public responsibility. At the time of planning for individual household expenditure, the availability of low cost public sector hospitals (even if not used at the

time of need), also influences against having any health insurance to prevent any economic hardship in future due to illness. The complexity in terms and conditions, particularly, the clauses and exclusions tend to confuse the general customers as well. The dispute relating to the clause of 'pre-existing illness' is a major area of contention. Companies frequently reject claims on the ground that the insured had suppressed information regarding his/her illness at the time of purchase of the product. The debate over clauses has further been intensified with the most health insurance policies insisting on a minimum of 24-hour period of hospitalization for reimbursement and on the other hand scrutinising voraciously the 'necessity' of hospitalization. Naturally, the consumers even tend to become suspicious about the objective of the insurer. This only supplements "...an underlying belief that claims will not be paid by the insurer" (Matthies Susan et al., 2004). Moreover, unaffordable premium prevents common customers to go for a health insurance. In India, the administrative costs are high due to various factors like commission to agent, administrative fee and remunerations to TPAs etc. resulting in high premium rate. Apart from the cashless policies, the reimbursements are time consuming task in general which the customers believe harassment. This, too, leads to a lower demand for health insurance.

The supply side impediments in development of health insurance are various. First and foremost reason is that the health insurance is not at all perceived to be a profitable product by the insurance companies. Unlike life or other non-life insurances, health insurance is unique in its very nature. It is the only insurance product that requires the efficient functioning of four different parties, viz., insurer, insured, healthcare provider and TPAs simultaneously for a sustainable self-existence. This makes the whole process a complex one. Again, the claims under motor insurance or fire insurance are much easier to verify compared to health insurance. Only the attending physician/s know/s exactly what sort of diagnosis and treatment is necessary for a patient. Healthcare being a very specialized field, all treatment related decisions are only taken by medical practitioner. Hence, it is very difficult, on part of the insurance provider, to assess whether the insured had over consumed the medical services. Even a standardized medical practicing system may not fully eliminate this provider induced moral hazard problem. It is really very

difficult to cross check an emergency case after the crisis is over. On the other hand, it is easier to check the fire and motor insurance related claims. In case of life insurance, it is much easier to find out whether a person has died or not. Hence, claim settlement is a tough task under health insurance, for the insurers. The problem for the insurers has been intensified by a lack of database on morbidity, mortality, beneficiary and claims related information required to calculate the actuarial fair price of the product. Lack of consumer awareness is also a factor that results in higher than average marketing cost and thus makes the product non-attractive to the providers. The dispute relating to the clause of 'pre-existing illness' and a minimum of 24-hour period of hospitalization has adversely affected the insurer, too, in terms of time and resource spending in claim settlement. The minimum 24-hour period of hospitalization clause basically induces the customers to stay in a hospital at least for 24 hours even after a minor surgery, though from curative perspective, it may not be necessary at all. Therefore, to some extent, the designing of the policy may induce over consumption of medical care, as well. Overall, about 70 per cent of the disputes in insurance industry stem out of the area of health insurance alone (Menon R, 2005). Incidence of high communicable-disease related claims (Bhat R, 2002) in India has diluted the relevance of risk pooling, too. Grossly speaking, the insurance companies tend to market a health policy in order to reap the incentive given to the companies who have health insurance product as well. Therefore, the companies eye on other profitable products than on health insurance.

Private healthcare providers have also raised several concerns regarding the development of health insurance in India. Cash free era, with the introduction of TPA has shifted the pain of claim settlement from the customer to the healthcare provider. The healthcare providers have also cited the cost of the provision of data to the insurers, required to verify claims. Moreover, the hospitals have raised concern over the selective way of contracting with the hospitals by insurers for cashless policy encouraging monopolisation of service, to some extent.

3.2.6 Regulation of Health Insurance:

Prudential regulation of the nascent health insurance industry is increasingly gaining voice. It is felt necessary to amend changes in the regulatory laws to identify and take into account the special feature of health insurance. Firstly, it is often argued that "...health insurance companies face a different risk profile than other forms of insurance. For example, they do not generally face the huge liabilities that confront general insurance when a catastrophic natural disaster (e.g., earthquake) occurs. Also, health insurance claims tend to be more frequent, smoother and predictable than some other forms of insurance (though health risks can increase dramatically as a result of epidemics and other occurrences). To the extent that health insurance is less risky than some other forms of insurance, capital requirements should reflect this, since they should be risk based" (Matthies Susan et al., 2004). This forms the basis of the demand for a reduction of minimum paid capital of the health insurer to Rs.50 crore from the existing Rs.100 crore. Secondly, the TPAs are less regulated than the desired degree. IRDA does not effectively regulate the financial activities of the TPAs. It also does not supervise whether a TPA is networking with a substandard healthcare provider. Thirdly, the IRDA should examine the prospects of allowing the TPAs to market health insurance products. "TPAs point out that if they can collect money from the customer, it will mean more competition and thus better service" (Bhat R and Babu S, 2004). The functioning of the TPAs should be devised in such a way that it finds incentives in transmitting awareness of health insurance to the mass. Fourthly, though it is widely debated that the present minimum capital requirement of Rs.100 crore for an insurance company is redundant for stand by alone health insurance business, constant monitoring on solvency ground of the companies is imperative to safeguard the customers from fly- by-night insurance groups. Further the consumers' interest should be safeguarded also from vulnerable financial scams like that of the recent US 64 scam of UTI that came down heavily on the investors. Fifthly, determining appropriate number of players in the industry is a crucial thing on efficiency ground. Increase in the number of the players will definitely better competition in the market, however, as the number will increase, the cost of claim settlement for the healthcare providers will increase, too, raising the price of healthcare service. Accounting of the healthcare provider gets complicated as they have to deal with increased number of

insurers. Further, cut throat competition at the nascent stage may not be desirable as it can adversely affect the solvency requirement with a resultant shut down of business jeopardizing the customers of the concerned company.

However, the regulation may not always be guided by customer safety concerns and market efficiency. A strong business lobby can influence the 'purchasable' government decision, particularly in a corruption ridden country, for its own private interest that has nothing to do with social utility. However, this logic can be put forward against any kind of government intervention in any market.

Last but not the least, India's private healthcare market is severely under regulated. A proper regulation of the undirected growth of private healthcare market is more than necessary for efficient functioning of health insurance.

IRDA Response:

Keeping in view of the requirements, the IRDA has constituted a Working Group on Health Insurance with representatives drawn from various stakeholders to properly set the guidelines of supervision of health insurance sector. "Overall the thrust of the recommendations of the Working Group is to create an environment to popularize the concept of Health Insurance by i) diversification of products, ii) alleviation of grievances by reframing the policies if necessary, iii) clear definitions of benefit coverage, preexisting disease etc., iv) training on ICD -10 coding, v) setting up a Rural Health Insurance Committee" (Annual Report 2004-05, IRDA Journal). Instead of Rs.100 crore, the Group recommended for a "Minimum Capital Requirement of Rs.50 crore for a stand-alone health insurance company" and "adoption of a Risk Based Capital Model for stand-alone Health Insurance companies" (Annual Report 2004-05, IRDA Journal). It is the IRDA which should effectively implement a prudential regulation that can truly promote healthy competition, efficiency and overall growth of health insurance in India. Given the low penetration— less than 10% of total population— of health insurance in India, a congenial environment can tremendously boost this under served sector.

3.3 The healthcare system in some selected countries:

We would now shortly discuss the healthcare system of United States of America, Canada and Germany below.

3.3.1 United States of America

The US healthcare system crucially depends on private health insurance. Though not mandatory, individuals tend to have an insurance policy of their own due to a massive cost of healthcare service. Hence, high cost of treatment has made insurance somewhat a mandatory, automatically. However, a significant portion of population has a kind of social insurance coverage. The poor and the people above the age of sixty five are given some coverage by the state in the form of Medicaid and Medicare, respectively. In the latter case, the state shoulders the financial responsibility of paying the doctors and the hospital expenses. However, the persons covered by Medicare can go for supplementary private health insurance coverage. Employer group insurance plans also cover serving employees through private insurance schemes. There are several not-for-profit insurance organizations which provide comparatively low cost insurance to the persons whose financial condition does not allow them to opt from wide range private insurance products. The US system of health insurance is largely been criticized for spearheading the cost escalation in medical care industry.

Though several measures have been taken by the Federal Government from time to time to check the cost escalation to a limit, the major concern of the time is still, the rate of cost escalation and inadequate coverage provided by the insurance companies. During sixties and seventies of the last century the soaring per-capita expenditure on healthcare compelled the Federal and state governments to initiate significant control over medical care expenditure. Certain financial measures, such as, preferred provider contracts and negotiations over discounted prices and fees etc. were also adopted. With a little pause in the eighties, however, the healthcare expenditure continued to grow during nineties. Some states in the US made it a rule for the private insurer to obtain permission from the government for raising insurance rates. The reasons of this cost escalation are attributed to the high administrative over head costs in the US coupled with moral hazard problems.

According to Amy Finkelstein, "...Medicare is associated with a 23 percent increase in real hospital expenditures (for all ages) between 1965 and 1970, and even larger effects if the analysis is extended through 1975" (Finkelstein A, 2005). The study further notes that the introduction of Medicare was associated with an increase in treatment intensity.

The position of innumerable non-elderly Americans seems to be precarious so far as health care insurance is concerned. A survey of the Commonwealth Fund (2006) shows that 41 percent of non-elderly American adults having \$20,000 to \$40,000 income per annum were without health insurance for all or part of the year 2005. Compared to 2001, it is up by 13 percent. Several uninsured Americans are spending their entire savings on health care and thus are being gradually deprived of some of their basic necessities. Most uninsured adults are reported cutting corners on medical care to save money. For lower income working Americans, lack of health insurance is quickly becoming the new normal. Krugman contends that the health care system is driving a growing number of Americans into financial ruins and in many cases kills them through lack of basic care. (Krugman P, 2006).

3.3.2 Canadian Healthcare system

The health care system in Canada is claimed to have a well organized, general tax financed, universal public health system. Almost the entire population is covered by a universal health insurance system. The system is financed and managed by the Federal as well as the state governments. The five major principles of the Canada Health Act are Public Administration, Comprehensiveness, Universality, Portability, and Accessibility. Private insurance organizations supplement the universal public insurance programme. Board of trustees generally runs the hospitals on no loss-no profit basis. The physicians are allowed also to attend patients privately. The physicians retain the right to negotiate fees. The Canadian system ensured the availability of health care as a matter of right to all citizens. No discrimination is made on the ground of disparity in income. The system is characterized by need based universal accessibility. However, Canadian system is criticized for the long waiting period of treatment.

3.3.3 German healthcare system

German health insurance system is one of the oldest insurance systems in the world. In the late nineteenth century, Otto Von Bismarck first introduced the concept of compulsory accident sickness insurance in Germany. Prior to the fall of the Berlin Wall, East and West Germany followed a system which was known by the name of Eastern Lander system and Western Lander System, respectively. After the unification, the Western Lander system was found to be more suitable for the entire nation. It is basically a sickness fund that provides care for all workers including their families, the unemployed and the retired persons. Individual physicians are paid fees for services rendered to the patients through government and private hospitals.

German health care system is predominantly characterized by a form of social health insurance. Above 90% of the German population belongs to any of the over 315 statutory social health insurance schemes. It is mandatory for all employees, earning up to a certain level (Euro 46,800 per annum in 2005) to opt for any of the schemes. Insurance premium of the employee is paid both by the employer and the employee on a 50:50 basis. The employees, however, are exempted from paying any premium for their family members who do not work. The insured can choose his or her own panel of doctors. The unemployed, the students, the pensioners can also avail the social health insurance, subject to certain conditions. The cost of the curative care is paid by the insurer either in full or in-part according to contract. The premiums are based on earning and not on the risk profile. As a result, the insurance programme redistributes wealth from the rich to the poor, encompassing the classic nature of progressiveness.

Again, individuals earning more than the threshold amount can opt for a private health insurance scheme. The private insurers, who co-exist with the social insurance system, cover nearly 10 percent of the population. They operate under strict regulation of the government. The government formulated, from time to time, laws to contain costs of insurance and also provided mechanism for improving efficacy and efficiency of the German health care system.

The fact that states differ in their geographical conditions, in their culture, tradition and economic environments, should be kept in mind while drawing analogy and adopting the methods for growth and developments of health care system in India.

Primary Survey: Methodology and Results

4.1 Methodology of survey:

4.1.1 Design of sample:

In an aim to broadly find the factors that determine the demand for voluntary health insurance, a primary survey was undertaken in south Kolkata. The target population for the study was the high middle income group and high income group households having an average monthly income of Rs.10000 or more. As the true data for individual household income is very difficult and sometimes impossible to obtain, the newly built multi-storied housing complexes were taken as the proxy of the income of households. It can be well comprehended from the state of the art amenities and glittering status of the complexes that the individual households there fall within the pre-specified income groups. Due to monetary, man-power and time constraint, the survey had to be restricted to South Kolkata's housing complexes from Chakgaria to Ajaynagar across the Bye-pass. There are five big housing complexes within the specified area, viz., 'Baitalik' complex and 'Mangalik' complex developed by the KMDA, The Hiland Park complex developed by SP Group, 'Calcutta Greens' phase I and II developed by the West Bengal Housing Board and 'Udayan the Condoville' developed by Bengai Ambuja. The survey covered 'Baitalik Complex', 'Calcutta Greens' and 'Udayan the Condoville'. The Hiland Park project was still in the process of completion and hence was not included in the survey. 'Mangalik' is MIG category flats and therefore was excluded from the survey. The 'Calcutta Greens' and the 'Udayan the Condoville' comprise of 462 and 706 HIG flats respectively while the Baitalik Complex has 84 HIG flats.

4.1.2 Data Collection:

Out of these 1252 flats, randomly 150 flats were selected for the survey purpose. However, for 5 non-consecutive cases, the flats were found to be locked. Therefore, data could not be collected for those 5 households. Moreover, 4 household members were reluctant to cooperate with the one member survey team and hence data could not be collected from them, too. Therefore, effectively the sample size became 141. Four of the respondents did not have any idea about whether their family had any sort of health insurance. At the time of interview no adult family member was present at the respective

houses in all these four cases and the respondents were school going minor members of the families. Therefore, some corresponding data cells had to be kept vacant making the usable sample size 137.

The survey was single handedly carried out by the researcher himself. Therefore, the survey could avoid the surveyor induced biased result. The data was collected over a period of 24 days from 19th January, 2006 to 11th February, 2006. Average time taken for individual household survey was roughly about 20-25 minutes. Overall, the households cooperated with the researcher. A questionnaire was framed to obtain a comprehensive idea about the socio-economic position and health related matters of the respondents. Before starting the survey, a pilot survey was carried out to understand the clarity of language used in the questionnaire and over all relevance of its content matter. Five persons belonging to five different households were interviewed for this purpose. The questionnaire had mainly closed ended questions with a very few exceptions. Two sets of reasons, seven for holding policy ('Cost of treatment', 'Cost of medicine', 'Ageing family members', 'General bad health', 'Environmental hazard', 'Tax saving tool' and 'Other') and twelve for not holding policy ('Health insurance is unknown concept', 'Employer provides health reimbursement', 'Claim settlement is a tough task', 'Terms and conditions are complex', 'High premium', 'General good health', 'Impaired quality of treatment for having a policy', 'Do not know whom and how to approach for a policy', 'Not bothered of the cost of treatment', 'Insurers cheat', 'Not regard it as a tax saver' and 'Other'), were included in the questionnaire to capture the respondents' intrinsic view towards health insurance. The first set of reasons was applicable for the respondents who hold a policy and the second set for those who do not hold. The status of possession of health insurance was also incorporated into the questionnaire. The qualitative answers were represented by dummy variables encompassing 0s, 1s etc. For instance, if a person possesses health insurance then 1 was put into the cell corresponding to the variable and 0 otherwise. The variable 'Education' was represented as 12, 15, 17 and 21 for +2, Graduation, Masters' and MPhil/PhD level respectively.

4.1.3 Data utilization:

After the survey, the questionnaires were scrutinized to check the consistency and loaded onto a MS-excel sheet. The reasons for having a health insurance were split into 7 columns corresponding to seven specified reasons. The reasons for not having a health policy were also split into 12 separate columns. The corresponding cell of the reason that the respondent said a valid one to have a policy was filled by 1 and 0s were put in other cells. Some interviewees cited more than one reason and hence more than one cell were filled by 1s. The same was done for the reasons of not holding a health insurance policy.

The data was then transferred to SPSS software and various cross tabulations were obtained by the software. The detailed tables are presented in the appendix. Finally, a binary Probit based regression analysis was carried out using the STATA software (version 8) to check the explanatory factor of different variables on demand for voluntary health insurance. Four Ordinary Least Square (OLS) based separate simulations were also done to check how health insurance possession affects the pattern of healthcare utilisation.

4.2 Observations:

4.2.1 The basic characteristics of the sample:

Of the 137 respondents, 75.2% are male and 24.8% are female. More than 72% of the respondents are head of the households, while almost 7% are wife of the head of the household and more than 21% are son/daughter of the head of the family. 54% of the respondents are graduate, 32.8% are Masters', 11.7% are MPhil/PhD, and 1.5% are of +2 standards. Graduation is the highest level of education in family for almost half (50.4%) of the households. Post graduation is the highest level for 36.5% households while 13.1% of the households have an MPhil/PhD degree holder in their respective families. Of the entire sample, 24.8% of the head of the households are government sector employees, 25.5% are private sector employees, 13.9% work for autonomous/semi government organizations, 11.7% are self employed, 19% are retired employee, and 5% do not work. 91.2% of the respondents are Hindu; 4.4% are Muslim and Christian; Sikh and Buddhist

constitute each 1.5% of the households. Almost 87% of the respondents fall in General category, 5% Schedule Caste (SC), 2% Schedule Tribe (ST), and almost 6% belong to Other Backward Class (OBC). 58.4% of the interviewed households do not have any member of the age group '65 years or more' while 35% households have a single member of that age group and 6.6% have 2 such members in their respective families. 86.9% of the interviewees are owners of the flats they reside in while the rest 13.1% are tenants.

4.2.2 Healthcare and health insurance related observations:

Among the 137 respondents, 59 households have health insurance of voluntary type while the rest 78 do not have any voluntary health policy. In terms of percentage to total respondents, 56.9% of the respondents do not have voluntary health plan, and remaining 43.1% have insurance. 43.2% of the Hindus, 83.3% of Muslims have health insurance while the rest respondents of other religions do not have any health insurance.

Education

Most of the graduate families (63.8%) do not have health insurance, while 54% of the post graduate families also do not have health insurance. Almost 39% of the households, who have at least one member holding MPhil/PhD degree, do not have any health insurance. So, it is evident that as the level of family education increases, the likelihood of opting for insurance increases, too.

Age factor

Interestingly, 62.5% of the households who have a '65 years or more' aged person do not have health insurance. In the households where 2 such members exist, 66.7% do not have a policy. Compared to this, only 52.5% of the families without any older member do not have a policy. As the age increases, the risk factor increases and so increases the premium. Interestingly, high premium is not a barrier for the 93.3% of insurance non-holders having an old person of age group '65 years or more'. Units having 2 members of that age group, too, do not hold premium as the culprit for not possessing a health policy.

A possible explanation of the outcome is that the older members are 'too aged' to be covered under a policy. Unfortunately, the survey can not reveal it.

Pattern of healthcare utilisation:

67.7% of the respondents who were admitted once in a private nursing home in the past one year have health insurance. The statistic is 66.7% for the twice privately admitted patient-families during the same period. The same is only 16.7% for once a year government hospitalization cases. Of the policy holders, 81.4% prefer private healthcare services, 11.9% prefer government healthcare services and choice of 6.8% depends on the nature of ailment. The health insurance purchase decision of almost half (43%) of the policy holders who still prefer public healthcare facilities, has been influenced by its tax saving feature.

Family health history:

78% of the policy holders do not have any chronic disease. Almost 70% of the non policy holders do not have chronic disease. Hence, the difference between policy holders and non holders for chronic disease is around 8%.

Reasons for holding a health insurance policy:

Rising cost of treatment and tax saving feature of insurance have contributed highest, 49.15% each, for possessing a health insurance followed by medicinal cost (32.2%), chance of ailment due to augmented environmental hazards (6.78%), ageing dependent family member and bad health (5.08% each). Other factors have contributed for 10.17% cases.

Continuation and marketing of health policy:

93.2% of the policy holders want to continue their policy while 3.4% are yet to decide over the matter and another 3.4% do not want to continue. Almost 33% of the policy holders have come to know about the health insurance policy by insurance agents, 25% through friends and relatives, 22% through office, 10% through advertisement, 8% through internet and 2% by other modes. 59.3% of the policy holders do not have

knowledge of any other existing health insurance policy except the one he possesses. This is quite consistent with the less than potential marketing effort put in by the health insurers. The effect of advertisement is so poor in awareness generation that it is quite likely the general people, including the policy holders will not have a comprehensive idea of the existing rainbow of different options. 83.3% of the health policy holders have other kind of life or non-life insurance coverage while, strikingly, the same for the non-policy holders is lesser at 75.6%.

Reasons for not holding a health insurance policy:

Lack of awareness about health insurance is the major factor for not holding health insurance. 34.6% of the health policy non-holders report that health insurance is an unknown concept to them. Given the metropolis, income strata and social status they belong to, it is striking that such a high percentage of household still do not have any idea of health insurance, even after 6 years of opening of the insurance industry. This clearly unveils the allegation that insurance companies do not give sufficient efforts, time and resource in marketing the product. High percentage of people, in fact the third in the series (14.1%), reports that even if they have an idea of health insurance, they do not know how to enroll for it, that is to say, whom and how to approach for it. Obviously, an easy means to tackle this obstacle is internet. But, everybody does not have enough time and sometimes even the regular access to internet to search for the health insurance product. A weak marketing is thus highly responsible for poor penetration of health insurance in the households.

The second-most attributed factor (15.4%) is the complex terms and conditions of health insurance. Obviously, everybody is not familiar with some insurance or actuarial science related technical terminologies used in policies meant to be sold to general people. Further, exclusion clauses and pre-existing conditions make the whole policy a cumbersome one. Difficulties in claim settlement is another significant factor (10.3%) followed by high premium (10.3%), notion that insurers cheat (9.0%), non botheration of the cost of treatment (7.7%), fear of an impaired quality of healthcare service due to insurance (6.5%), a general good health (1.3%) and 'other' factors (5.1%). 12.8%

respondents have not opted for a voluntary health policy as their respective employers provide them with some form of healthcare reimbursement plan. Only a small portion of households believe that insurance impair the quality of treatment. This reflects a low prevalence of MCO type insurance arrangement. HMOs tend to have a check on both the quantity and quality of treatment that sometimes leads to the under treatment of the policy holder (member).

4.3 Regression analysis:

4.3.1 The Probit model

A binary regression analysis is carried out to find the factors responsible to generate voluntary health insurance demand for the respondents. Probit model is used in the analysis where possession of health insurance is treated as the dependent binary variable. A dummy is constructed for it that takes the value 1 when the person concerned possesses voluntary health insurance and 0 otherwise. After a careful study of the survey data, fourteen variables have been chosen as independent variables in the regression analysis as they seem to influence the health insurance purchase decision. The explanatory variables are 'Highest level of education in family', 'Religion', 'Caste', 'Occupation of the head of the family', 'Number of family members', 'Number of family members aged 65 or more', 'Per capita family expenditure', 'Per capita medical expenditure', 'Number of times of admission in private nursing home in the past one year', 'Number of times of admission in government hospital in the past one year', 'Number of times of OPD treatment in private hospital including visit to doctor's chamber', 'Preference for private or government hospital', 'Number of family members having any chronic disease' and 'Other type of insurance-possession'. Among them, 'Religion', 'Caste', 'Occupation of the head of the family', 'Preference for private or government hospital' and 'Other type of insurance-possession' are qualitative in nature. Therefore, they are quantified using dummies. However, the specified reasons for holding or not holding health policy (e.g. 'tax saving tool' etc.) are excluded from the regression analysis as the simulation exercise does not intend to include the views of the respondents.

Out of the fourteen variables, five variables, viz., 'Number of family members', 'Number of family members aged 65 or more', 'Per capita medical expenditure', 'Number of times of admissions in private nursing homes in the past one year', and 'Number of family members having any chronic disease', come out to be statistically significant at 10% level. A second Probit regression is run with these five variables. The high LR χ^2 shows a good overall significance of the regression equation while each variable is statistically significant at 10% level. Both the models retain a constant term.

The signs of regression coefficients give an insight of how the explanatory variables affect the dependent one. A positive sign for the coefficient of the 'Number of family members' signifies that as the family size increases, it raises the likelihood of holding a health insurance plan. This clearly indicates the popularity of group health insurance against individual insurance. Secondly, it is found that demand for health insurance is inversely related with the number of aged persons in the household. An increase in the number of persons aged beyond 65 reduces the likelihood of holding a policy. The result seems to highlight that the aged are too aged to cover under a policy and hence the entire family chooses to stay out of any health plan. Thirdly, the simulation shows 'Per capita medical expenditure' positively influences the health insurance purchase decision, however, the effect is negligible. It seems to be logical that as the medical expenditure increases people would try to shift the burden of healthcare expenditure on the insurers. Fourthly, admission in private hospitals also positively affects the demand side of health insurance as an increase in the number of admission in private hospitals raises the likelihood of holding a health insurance policy. It inherently unveils the healthcare cost shoot up led demand for health policy. Lastly, 'Chronic disease' plays a dampening role in generating demand for health insurance policy. A marginal increase in the number of chronic patient in a family reduces the likelihood of holding a policy. This indicates that pre existing clauses of health insurance policies are acting as deterrent to raise health insurance demand.

4.3.2 The OLS regressions

Separate four regressions, based on Ordinary Least Square (OLS) have been carried out to check whether holding a health insurance plan changes the healthcare utilization behaviour. Number of times of admission in private nursing home, Number of times of admission in government hospitals, private OPD and public OPD facilities are regressed separately on the dummy of health insurance possessions, respectively. Here also, the chosen level of significance is 10%. The result of the first simulation shows health insurance possession is statistically significant and it raises the number of admissions in private hospitals. Health insurance possession lessens admission in government hospital, as is evident from second simulation, though the result is not statistically a significant one. Probably, the results of these two regression analyses implicitly signal the moral hazard problem. One thing is, however, evident that if the affordability barrier is not an issue, people tend to utilize private healthcare facility. Surprisingly, the number of visits to private OPD care is highly and positively influenced by health insurance possessions and it is statistically significant, too. Though visit to OPD depends on lots of other things, nevertheless the result probably reveals that even health insurance holders are not fully aware of the exclusion of OPD care from policies in India. This can contribute to a major source of resentment for the policy holders. Fourth equation shows that health insurance possession negates visit to public sector OPD care and the result is significant.

To sum up, cost escalation is the major reason to drive people to go for a health plan. However, tax saving nature plays an equal important role in demanding voluntary health insurance revealing Indians' traditional approach to insurance as a tax saving tool rather hedging future risks. Lack of awareness about the concept of health insurance is the major impediment in popularizing the product. Moral hazard problem is likely to be present in the healthcare utilisation pattern of the policy holders. The results of the regressions are shown in the appendix.

Conclusion

Healthcare has become a major global issue since the last three or four decades. The World Health Organisation has taken initiative to infuse the governments of different countries, particularly the Afro-Asian and Latin American countries to ensure ways and means to provide a well-organized health care system so that the miseries of the people of disease prone countries can be relieved. The poor investment capability and the in-apt political will of the governments in the least developed and developing countries have made the health care system a matter of great concern. The performance of the health care system depends largely on improving the knowledge, skills, motivation and availability of human resources. About fifty-nine million people make up the world health workforce. One of every three of them is employed in the United States and Canada where more than half the world's monetary resources are invested. Only 4% of the world health workforce is employed in the Sub Saharan Africa which bears the brunt of one forth of the global burden of diseases (WHO, 2006). Therefore optimum healthcare resource allocation and its efficient utilization are very important in global fighting against diseases.

Indian healthcare market, led by economic reform coupled with several congenial government initiatives like conferring the healthcare business, industry status and more specifically infrastructure status, has been witnessing a significant increase in private investment, particularly, in the tertiary care market. Several corporate hospital groups have emerged who provide state of the art healthcare service through expert professionals aided by most modern technology equipments, though charging a high rate of price for it. This competent quality of service at internationally low price has started to attract foreign nationals to come down to India and get treated here. This has resulted in a medical-tourism boom for the country. However, the result of this boom may not be all favourable one since it can encourage a 'health-divide' on the ground of ability to pay particularly in an economy with high out of pocket healthcare expenditure.

As discussed earlier, insurance has the potential to bid an adieu the huge out of pocket expenditure on healthcare. Only a small portion of the total population is covered under

health insurance in India. Therefore, it is a sunrise industry in terms of share of business. Nevertheless, insurance companies in India are pretty much reluctant to popularize this product that is still under General Insurance business. The functioning of the TPAs needs to be reviewed carefully to make it much more efficient without making the system a complex one. Widespread and effective implementation of CBHI schemes is an essential part of the transition to insurance as a method of financing healthcare. The government should actively encourage capacity building of the organizations working in the rural area.

The major risk of shifting to health insurance is the probable cost escalation for healthcare services as experienced by some other countries dependent on voluntary health insurance. “The experience of developed countries with health insurance in terms of its consequences for cost of treatment and medical malpractices can not be easily ignored particularly in the context of large scale illiteracy and poverty” (Rao D N, 2006). Hence, prudential regulation of the insurance is quite imperative. A pre requisite of transforming the whole healthcare financing to universal social health insurance is a well functioning, efficient public healthcare structure across the country. Given the dismal condition of public healthcare system and poor budgetary support to healthcare, social insurance for all may not be a feasible option in near future, nonetheless government has initiated a universal health insurance scheme for the BPL population. The scheme has some inherent drawbacks with the major concern being popularizing the scheme and targeting the poor. Therefore, dependence on voluntary health insurance, to some extent is of utter importance.

However, in a highly populous country like India with 27% of the population living below the poverty line, voluntary insurance can never fully substitute public healthcare system. Moreover, voluntary health insurance has been criticized that it is iniquitous in its very nature. It ignores one’s ability to pay thus violating the fundamental human right to have access to healthcare. Therefore, upgradation of public healthcare system, particularly the PHCs and CHCs, is very important. Though there are budgetary constraints, government should increase its financial support to the healthcare to at least

the promised level of 2% of GDP (NHP, 2002) and bring in efficiency and accountability to the system. According to Transparency International India, people of the country spend Rs.2017 crore a year as petty bribes in public hospitals. Uprooting this widespread cancer of corruption would be a mammoth task and e-governance may somewhat streamline the system into a transparent one. Public healthcare service acts as a social safety net to its people, particularly the vulnerable. Hence, striking an optimum balance between well-monitored voluntary health insurance with adequate transparent public provision is probably the most desired way of financing healthcare in India.

Appendix

Results (Cross-tabulations) of Primary Survey

Table 4:1

Health insurance possession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	do not possess	78	56.9	56.9	56.9
	possess	59	43.1	43.1	100.0
	Total	137	100.0	100.0	

Table 4:2

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	103	75.2	75.2	75.2
	female	34	24.8	24.8	100.0
	Total	137	100.0	100.0	

Table 4:3

Relationship of the respondent with the family head

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	head	99	72.3	72.3	72.3
	wife/husband	9	6.6	6.6	78.8
	son/daughter	29	21.2	21.2	100.0
	Total	137	100.0	100.0	

Table 4:4

Occupation of head of the household

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid govt sector employee	34	24.8	24.8	24.8
autonomous	19	13.9	13.9	38.7
pvt sector employee	35	25.5	25.5	64.2
self employed	16	11.7	11.7	75.9
do not work	7	5.1	5.1	81.0
retired employee	26	19.0	19.0	100.0
Total	137	100.0	100.0	

Table 4:5

Education of Respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid senior secondary	2	1.5	1.5	1.5
graduation	74	54.0	54.0	55.5
masters	45	32.8	32.8	88.3
mphil/phd	16	11.7	11.7	100.0
Total	137	100.0	100.0	

Table 4:6

Health insurance possession * education Crosstabulation

			education				
			senior secondary	graduation	masters	mphil/phd	Total
Health insurance possession	do not possess	Count	1	46	24	7	78
		% within education	50.0%	62.2%	53.3%	43.8%	56.9%
	possess	Count	1	28	21	9	59
		% within education	50.0%	37.8%	46.7%	56.3%	43.1%
Total	Count	2	74	45	16	137	
	% within education	100.0%	100.0%	100.0%	100.0%	100.0%	

Table 4:7

Religion

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid hindu	125	91.2	91.2	91.2
christian	2	1.5	1.5	92.7
muslim	6	4.4	4.4	97.1
buddhist	2	1.5	1.5	98.5
sikh	2	1.5	1.5	100.0
Total	137	100.0	100.0	

Table 4:8

Health insurance possession * religion Crosstabulation

			religion					Total
			hindu	christian	muslim	buddhist	sikh	
Health insurance possession	do not possess	Count	71	2	1	2	2	78
		% within religion	56.8%	100.0%	16.7%	100.0%	100.0%	56.9%
	possess	Count	54		5			59
		% within religion	43.2%		83.3%			43.1%
Total	Count	125	2	6	2	2	137	
	% within religion	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Table 4:9

Caste

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid general	119	86.9	86.9	86.9
SC	7	5.1	5.1	92.0
ST	3	2.2	2.2	94.2
OBC	8	5.8	5.8	100.0
Total	137	100.0	100.0	

Table 4.10

Number of family member

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	6	4.4	4.4	4.4
2	12	8.8	8.8	13.1
3	42	30.7	30.7	43.8
4	48	35.0	35.0	78.8
5	17	12.4	12.4	91.2
6	8	5.8	5.8	97.1
8	3	2.2	2.2	99.3
9	1	.7	.7	100.0
Total	137	100.0	100.0	

Table 4.11

Health insurance possession * number of family members beyond the age 65 Crosstabulation

			number of family members beyond the age 65			Total
			0	1	2	
Health insurance possession	do not possess	Count	42	30	6	78
		% within number of family members beyond the age 65	52.5%	62.5%	66.7%	56.9%
	possess	Count	38	18	3	59
		% within number of family members beyond the age 65	47.5%	37.5%	33.3%	43.1%
Total		Count	80	48	9	137
		% within number of family members beyond the age 65	100.0%	100.0%	100.0%	100.0%

Table 4.12

**Number of family members beyond the age 65 * High premium * Health insurance possession
Crosstabulation**

Health insurance possession				High premium		Total
				no	yes	
do not possess	number of family members beyond the age 65	0	Count	38	4	42
			% within number of family members beyond the age 65	90.5%	9.5%	100.0%
		1	Count	28	2	30
		% within number of family members beyond the age 65	93.3%	6.7%	100.0%	
		2	Count	4	2	6
			% within number of family members beyond the age 65	66.7%	33.3%	100.0%
	Total		Count	70	8	78
			% within number of family members beyond the age 65	89.7%	10.3%	100.0%
possess	number of family members beyond the age 65	0	Count	38		38
			% within number of family members beyond the age 65	100.0%		100.0%
		1	Count	18		18
		% within number of family members beyond the age 65	100.0%		100.0%	
		2	Count	3		3
			% within number of family members beyond the age 65	100.0%		100.0%
	Total		Count	59		59
			% within number of family members beyond the age 65	100.0%		100.0%

Table 4.13

Land ownership status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid owner	119	86.9	86.9	86.9
tenant	18	13.1	13.1	100.0
Total	137	100.0	100.0	

Table 4.14

Health insurance possession * land ownership status Crosstabulation

			land ownership status		Total
			owner	tenant	
Health insurance possession	do not possess	Count	64	14	78
		% within land ownership status	53.8%	77.8%	56.9%
	possess	Count	55	4	59
		% within land ownership status	46.2%	22.2%	43.1%
Total		Count	119	18	137
		% within land ownership status	100.0%	100.0%	100.0%

Table 4:15

**Number of admission in nursing home * Health insurance possession
Crosstabulation**

			Health insurance possession		Total
			do not possess	possess	
number of admission in nursing home	0	Count % within number of admission in nursing home	66 66.0%	34 34.0%	100 100.0%
	1	Count % within number of admission in nursing home	10 32.3%	21 67.7%	31 100.0%
	2	Count % within number of admission in nursing home	1 33.3%	2 66.7%	3 100.0%
	3	Count % within number of admission in nursing home	1 100.0%		1 100.0%
	4	Count % within number of admission in nursing home		1 100.0%	1 100.0%
	5	Count % within number of admission in nursing home		1 100.0%	1 100.0%
Total		Count % within number of admission in nursing home	78 56.9%	59 43.1%	137 100.0%

Table 4:16

Health insurance possession * number of times of govt hospitalisation Crosstabulation

			number of times of govt hospitalisation			Total
			0	1	2	
Health insurance possession	do not possess	Count	72	5	1	78
		% within number of times of govt hospitalisation	55.4%	83.3%	100.0%	56.9%
	possess	Count	58	1		59
		% within number of times of govt hospitalisation	44.6%	16.7%		43.1%
Total		Count	130	6	1	137
		% within number of times of govt hospitalisation	100.0%	100.0%	100.0%	100.0%

number of times of visiting a private chamber * Health insurance possession
 Crosstabulation

		Health insurance possession		Total	
		do not possess	possess		
number of times of visiting a private chamber	0	Count % within Health insurance possession	32 41.0%	16 27.1%	48 35.0%
	1	Count % within Health insurance possession	11 14.1%	9 15.3%	20 14.6%
	2	Count % within Health insurance possession	15 19.2%	5 8.5%	20 14.6%
	3	Count % within Health insurance possession	7 9.0%	5 8.5%	12 8.8%
	4	Count % within Health insurance possession	2 2.6%	2 3.4%	4 2.9%
	5	Count % within Health insurance possession	5 6.4%	6 10.2%	11 8.0%
	6	Count % within Health insurance possession	4 5.1%	7 11.9%	11 8.0%
	7	Count % within Health insurance possession		2 3.4%	2 1.5%
	8	Count % within Health insurance possession	1 1.3%	4 6.8%	5 3.6%
	10	Count % within Health insurance possession		1 1.7%	1 .7%
	21	Count % within Health insurance possession		1 1.7%	1 .7%
	24	Count % within Health insurance possession		1 1.7%	1 .7%
	31	Count % within Health insurance possession	1 1.3%		1 .7%
	Total	Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:18

Number of times of visiting Govt OPD * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
number of times of visiting govt opd	0	Count	73	59	132
		% within Health insurance possession	93.6%	100.0%	96.4%
	1	Count	1		1
		% within Health insurance possession	1.3%		.7%
	2	Count	1		1
		% within Health insurance possession	1.3%		.7%
	3	Count	1		1
		% within Health insurance possession	1.3%		.7%
	4	Count	2		2
		% within Health insurance possession	2.6%		1.5%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:19

Health insurance possession * preference for hospitalisation Crosstabulation

			preference for hospitalisation				Total
			pvt nursing home	govt hospital	depends on the nature of ailment	do not differentiate	
Health insurance possession	do not possess	Count	49	19	7	3	78
		% within Health insurance possession	62.8%	24.4%	9.0%	3.8%	100.0%
	possess	Count	48	7	4		59
		% within Health insurance possession	81.4%	11.9%	6.8%		100.0%
Total		Count	97	26	11	3	137
		% within Health insurance possession	70.8%	19.0%	8.0%	2.2%	100.0%

Table 4:20

Health insurance possession * number of members having chronic disease Crosstabulation

			number of members having chronic disease			Total
			0	1	2	
Health insurance possession	do not possess	Count	55	20	3	78
		% within Health insurance possession	70.5%	25.6%	3.8%	100.0%
	possess	Count	46	11	2	59
		% within Health insurance possession	78.0%	18.6%	3.4%	100.0%
Total		Count	101	31	5	137
		% within Health insurance possession	73.7%	22.6%	3.6%	100.0%

Table 4:21

Cost of treatment * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
cost of treatment	it did not influence	Count	78	30	108
		% within Health insurance possession	100.0%	50.8%	78.8%
	it influenced	Count		29	29
		% within Health insurance possession		49.2%	21.2%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:22

Cost of medicine * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
cost of medicine	did not influence	Count % within Health insurance possession	78 100.0%	40 67.8%	118 86.1%
	influenced	Count % within Health insurance possession		19 32.2%	19 13.9%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:23

Ageing family member * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
ageing family member	did not influence	Count % within Health insurance possession	78 100.0%	56 94.9%	134 97.8%
	influenced	Count % within Health insurance possession		3 5.1%	3 2.2%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:24

General bad health * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
general bad health	did not influence	Count % within Health insurance possession	78 100.0%	56 94.9%	134 97.8%
	influenced	Count % within Health insurance possession		3 5.1%	3 2.2%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:25

Environmental hazard * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
environmental hazard	did not influence	Count % within Health insurance possession	78 100.0%	55 93.2%	133 97.1%
	influenced	Count % within Health insurance possession		4 6.8%	4 2.9%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:26

Tax saving tool * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
tax saving tool	did not influence	Count	78	30	108
		% within Health insurance possession	100.0%	50.8%	78.8%
	influenced	Count		29	29
		% within Health insurance possession		49.2%	21.2%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:27

Other * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
other	did not influence	Count	78	53	131
		% within Health insurance possession	100.0%	89.8%	95.6%
	influenced	Count		6	6
		% within Health insurance possession		10.2%	4.4%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:28

Health insurance possession * continue Crosstabulation

			continue				Total
			NA	yes	no	yet to decide	
Health insurance possession	do not possess	Count % within Health insurance possession	78 100.0%				78 100.0%
	possess	Count % within Health insurance possession		55 93.2%	2 3.4%	2 3.4%	59 100.0%
Total		Count % within Health insurance possession	78 56.9%	55 40.1%	2 1.5%	2 1.5%	137 100.0%

Table 4:29

Mode of information about the policy * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Mode of information about the policy	NA	Count % within Health insurance possession	78 100.0%		78 56.9%
	advertisement	Count % within Health insurance possession		6 10.2%	6 4.4%
	friends/relatives	Count % within Health insurance possession		15 25.4%	15 10.9%
	internet	Count % within Health insurance possession		5 8.5%	5 3.6%
	insurance agent	Count % within Health insurance possession		19 32.2%	19 13.9%
	office	Count % within Health insurance possession		13 22.0%	13 9.5%
	other	Count % within Health insurance possession		1 1.7%	1 .7%
	Total	Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:30

Knowledge of other policy * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
knowledge of other policy	NA	Count % within Health insurance possession	78 100.0%		78 56.9%
	yes	Count % within Health insurance possession		24 40.7%	24 17.5%
	no	Count % within Health insurance possession		35 59.3%	35 25.5%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:31

Experience of healthcare service under the policy * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
experience of healthcare service under the policy	NA	Count % within Health insurance possession	78 100.0%	15 25.4%	93 67.9%
	not satisfied at all	Count % within Health insurance possession		2 3.4%	2 1.5%
	somewhat satisfied	Count % within Health insurance possession		24 40.7%	24 17.5%
	completely satisfied	Count % within Health insurance possession		18 30.5%	18 13.1%
Total		Count % within Health insurance possession	78 100.0%	59 100.0%	137 100.0%

Table 4:32

Other life or non-life insurance * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
other life or non-life insurance	yes	Count	59	50	109
		% within Health insurance possession	75.6%	84.7%	79.6%
	no	Count	19	9	28
		% within Health insurance possession	24.4%	15.3%	20.4%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:33

Other life or non-life insurance * Health insurance possession * tax saving tool Crosstabulation

				Health insurance possession		Total
				do not possess	possess	
did not influence	other life or non-life insurance	yes	Count	59	25	84
			% within Health insurance possession	75.6%	83.3%	77.8%
		no	Count	19	5	24
			% within Health insurance possession	24.4%	16.7%	22.2%
Total		Count	78	30	108	
		% within Health insurance possession	100.0%	100.0%	100.0%	
influenced	other life or non-life insurance	yes	Count		25	25
			% within Health insurance possession		86.2%	86.2%
		no	Count		4	4
			% within Health insurance possession		13.8%	13.8%
Total		Count		29	29	
		% within Health insurance possession		100.0%	100.0%	

Table 4:34

Health insurance is unknown concept * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Health insurance is unknown concept	no	Count	51	59	110
		% within Health insurance possession	65.4%	100.0%	80.3%
	yes	Count	27		27
		% within Health insurance possession	34.6%		19.7%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:35

Employer provides * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Employer provides	no	Count	68	59	127
		% within Health insurance possession	87.2%	100.0%	92.7%
	yes	Count	10		10
		% within Health insurance possession	12.8%		7.3%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:36

Claim settlement is a tough task * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Claim settlement is a tough task	no	Count	70	59	129
		% within Health insurance possession	89.7%	100.0%	94.2%
	yes	Count	8		8
		% within Health insurance possession	10.3%		5.8%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:37

Terms and conditions are complex * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Terms and conditions are complex	no	Count	66	59	125
		% within Health insurance possession	84.6%	100.0%	91.2%
	yes	Count	12		12
		% within Health insurance possession	15.4%		8.8%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:38

High premium * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
High premium	no	Count	70	59	129
		% within Health insurance possession	89.7%	100.0%	94.2%
	yes	Count	8		8
		% within Health insurance possession	10.3%		5.8%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:39

Family members possess a good health * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Family members possess a good health	no	Count	77	59	136
		% within Health insurance possession	98.7%	100.0%	99.3%
	yes	Count	1		1
		% within Health insurance possession	1.3%		.7%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:40

Reduced treatment-quality * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Reduced treatment-quality	0	Count	73	59	132
		% within Health insurance possession	93.6%	100.0%	96.4%
	yes	Count	5		5
		% within Health insurance possession	6.4%		3.6%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:41

Whom and how to approach * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Whom and how to approach	no	Count	67	59	126
		% within Health insurance possession	85.9%	100.0%	92.0%
	yes	Count	11		11
		% within Health insurance possession	14.1%		8.0%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:42

Not bothered of the cost of treatment * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Not bothered of the cost of treatment	no	Count	72	59	131
		% within Health insurance possession	92.3%	100.0%	95.6%
	yes	Count	6		6
		% within Health insurance possession	7.7%		4.4%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:43

Not bothered of the cost of treatment * Health insurance possession * preference for hospitalisation Crosstabulation

Count

			Health insurance possession		Total
			do not possess	possess	
pvt nursing home	Not bothered of the cost of treatment	no	45	48	93
		yes	4		4
	Total		49	48	97
govt hospital	Not bothered of the cost of treatment	no	17	7	24
		yes	2		2
	Total		19	7	26
depends on the nature of ailment	Not bothered of the cost of treatment	no	7	4	11
	Total		7	4	11
do not differentiate	Not bothered of the cost of treatment	no	3		3
	Total		3		3

Table 4:44

Insurers cheat * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Insurers cheat	no	Count	71	59	130
		% within Health insurance possession	91.0%	100.0%	94.9%
	yes	Count	7		7
		% within Health insurance possession	9.0%		5.1%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:45

Not a tax saver * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
not a tax saver	no	Count	77	59	136
		% within Health insurance possession	98.7%	100.0%	99.3%
	yes	Count	1		1
		% within Health insurance possession	1.3%		.7%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:46

Other reasons * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
other reasons	no	Count	74	59	133
		% within Health insurance possession	94.9%	100.0%	97.1%
	yes	Count	4		4
		% within Health insurance possession	5.1%		2.9%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:47

Possessed health insurance earlier * Health insurance possession Crosstabulation

			Health insurance possession		Total
			do not possess	possess	
Possessed health insurance earlier	NA	Count		59	59
		% within Health insurance possession		100.0%	43.1%
	yes	Count	1		1
		% within Health insurance possession	1.3%		.7%
	no	Count	77		77
		% within Health insurance possession	98.7%		56.2%
Total		Count	78	59	137
		% within Health insurance possession	100.0%	100.0%	100.0%

Table 4:48

continue * experience of claim settlement Crosstabulation

			experience of claim settlement							Total	
			NA	excellent	fair	good	poor	very poor	can not evaluate		yet to have any experience
continue	NA	Count	78								78
		% within continue	100.0%								100.0%
	yes	Count		2	5	27	4	1	1	15	55
		% within continue		3.6%	9.1%	49.1%	7.3%	1.8%	1.8%	27.3%	100.0%
	no	Count					1	1			2
		% within continue					50.0%	50.0%			100.0%
	yet to decide	Count			1		1				2
		% within continue			50.0%		50.0%				100.0%
Total		Count	78	2	6	27	6	2	1	15	137
		% within continue	56.9%	1.5%	4.4%	19.7%	4.4%	1.5%	.7%	10.9%	100.0%

Table 4:49

Health insurance possession * occupation of head of the household Crosstabulation

			occupation of head of the household						Total
			govt sector employee	autonomous	pvt sector employee	self employed	do not work	retired employee	
Health insurance possession	do not possess	Count	21	11	17	7	2	20	78
		% within occupation of head of the household	61.8%	57.9%	48.6%	43.8%	28.6%	76.9%	56.9%
	possess	Count	13	8	18	9	5	6	59
		% within occupation of head of the household	38.2%	42.1%	51.4%	56.3%	71.4%	23.1%	43.1%
Total	Count	34	19	35	16	7	26	137	
	% within occupation of head of the household	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Table 4:50

Not bothered of the cost of treatment * occupation of head of the household * preference for hospitalisation * Health insurance possession Crosstabulation

Count

Health insurance possession preference for hospitalisation				occupation of head of the household						Total
				govt sector employee	autonomous	pvt sector employee	self employed	do not work	retired employee	
do not possess	pvt nursing home	Not bothered of the cost of treatment	no	8	6	11	4	2	14	45
			yes		1	2	1			4
		Total		8	7	13	5	2	14	49
	govt hospital	Not bothered of the cost of treatment	no	10	1	1	2		3	17
			yes			1			1	2
		Total		10	1	2	2		4	19
	depends on the nature of ailment	Not bothered of the cost of treatment	no	3	2	1			1	7
		Total		3	2	1			1	7
	do not differentiate	Not bothered of the cost of treatment	no		1	1			1	3
		Total			1	1			1	3
possess	pvt nursing home	Not bothered of the cost of treatment	no	11	6	16	9	3	3	48
		Total		11	6	16	9	3	3	48
	govt hospital	Not bothered of the cost of treatment	no	2	2	1			2	7
		Total		2	2	1			2	7
	depends on the nature of ailment	Not bothered of the cost of treatment	no			1		2	1	4
		Total				1		2	1	4

Dependent Var. is Health Insurance possession

Probit Regression 1		Probit Regression 2	
Independent Var.	Coeff.	Independent Var.	Coeff.
x4	0.030899 (0.366)	x9	0.3212243 (0.002)
x5_3	0.1576145 (0.556)	x11	-0.6845664 (0.003)
x6_2	-0.0648728 (0.799)	x15	0.0022522 (0.003)
x6_4	-0.1276453 (0.565)	x18	0.4757669 (0.028)
x8_2	-0.0781299 (0.691)	x25	-0.3946885 (0.099)
x8_3	0.0258426 (0.869)	Const	-1.609346 (0.000)
x8_4	0.1938374 (0.342)		-
x8_5	0.0918599 (0.722)		-
x8_7	-0.3319286 (0.113)		-
x9	0.1184824 (0.062)		-
x11	-0.2581008 (0.033)		-
x13	-0.0000348 (0.344)		-
x15	0.0008571 (0.028)		-
x18	0.2446655 (0.068)		-
x19	-0.277813 (0.391)		-
x22	0.0187335 (0.281)		-
x24_2	0.0098912 (0.954)		-
x24_3	0.0348495 (0.865)		-
x25	-0.2529949 (0.035)		-
x40	0.0566837 (0.742)		-
Const	-1.114296 (0.424)		-
LR chi2 > 42.43		LR chi2 > 30.17	

p values are given in parentheses

Variable List

x4 is highest level of education in family

x5 is religion and x5_1, x5_2, x5_3, x5_4 and x5_5 are Hindu, Muslim, Christian, Buddhist and Sikh, respectively

x6 is cast and x6_1 is general, x6_2 is SC, x6_3 is ST and x6_4 is OBC

x8 is occupation of family head and x8_1 is government employee, x8_2 is semi government employee, x8_3 is private sector employee, x8_4 is self employed, x8_5 stands for do not work, x8_6 stands for other and x8_7 stands for retired employee

x9 is number of family members

x11 is number of family members aged beyond 65

x13 is per capita family expenditure

x15 is per capita medical expenditure

x18 is number of times of admissions in private nursing home in past one year

x19 is number of times of admissions in government hospital in past one year

x22 is number of times of visit to private OPD or chambers of doctors in past 6 months

x24 is preference for government or private hospital while x24_1 is private nursing home, x24_2 is government hospital, x24_3 stands for the preference on the basis of nature of ailment, x24_4 is the case where the respondent does not differentiate

x25 is number of family members having any chronic disease

x40 is possession of other kind of insurance except health

Independent Variable is Health Insurance possession

OLS (based) Regression 1		OLS (based) Regression 2	
Dependent Var. x18		Dependent Var. x19	
Independent Var.	Coeff.	Independent Var.	Coeff.
y	0.3839635 (0.003)	y	-0.0727944 (0.111)
Cons.	0.1923077 (0.020)	Cons.	0.0897436 (0.003)
Adj R-squared = 0.0587		Adj R-squared = 0.0114	

x18 is Number of times of admissions in private hospital in the past one year

x19 is Number of times of admission in government hospital in the past one year

p values are given in parentheses

Independent Variable is Health Insurance possession

OLS (based) Regression 3		OLS (based) Regression 4	
Dependent Var. x22		Dependent Var. x23	
Independent Var.	Coeff.	Independent Var.	Coeff.
y	1.618427 (0.026)	y	-0.1794872 (0.069)
Cons.	2.025641 (0.00000)	Cons.	0.1794872 (0.006)
Adj R-squared = 0.0292		Adj R-squared = 0.0171	

x22 is Number of times of visit to private OPD or chambers of doctors in past 6 months

x23 is Number of times of visit to public OPD care in past 6 months

p values are given in parentheses

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