

**HEALTH CARE AND UTILISATION OF HEALTH SERVICES
IN ANDHRA PRADESH AND ORISSA: 1995-96**

(IN VIEW OF WORLD BANK AND ITS POLICY PRESCRIPTIONS)

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CERTIFICATE

This is to certify that the dissertation entitled “**Health Care and Utilisation of Health Services in Andhra Pradesh and Orissa: 1995-96 (in view of World Bank and its Policy Prescriptions)**” submitted by **D. Supriya** in partial fulfillment of the requirements for the award of the degree of **Master of Philosophy** of this university is her original work according to the best of our knowledge and may be placed before the examiners for evaluation.

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I am alone responsible for the views expressed and whatever shortcomings in this work.

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Introduction

Background

Many of the developing countries in the eighties faced a debt crisis due to the excessive borrowing from the international banks (banks in the developed nations) and accumulation of the interest to be paid was so huge that it exceeded the total income earned by these countries from the export of their goods and the services. This then paved way for the structural adjustment programs, which were implemented in most of these debt-ridden countries by eighties and early 1980s. Structural adjustment programs are based on a set of policy advice given by the international agencies and more often than not were a part of the conditionality attached with the loans given by the World Bank and IMF to the developing countries. The main purpose of these programs is to enhance the economic growth ensuring macroeconomic and social stability, and elimination of the market and trade distortions. These structural adjustment programs commonly involved

- Reduction in the government expenditure through the sharp cuts in the public spending in the health, education and other social sectors and removal of subsidies and the price controls on the essential agricultural commodities like staple foods and other basic commodities.

- Privatization of the public and the state enterprises and encouraging the private sector in those sectors also where there was restriction in the entry
- Liberalization of trade and market and reduction of the government regulation and control on the private sector.
- Encouraging the foreign inflows of the capital in form of direct foreign investment and other foreign investment through reducing the regulation and the control on the foreign investment and the tax incentives or benefits.
- Dismantling of the social safety nets like public distribution system.

However these structural adjustment programs gave rise to a lot of criticism, on the grounds that they lacked the human face or rather they tend to overlook the aspect of the human development. Since most of them were designed to ensure the macroeconomic stability and free market and trade mechanisms and as one of the major components of the programs was the reduction in the government expenditure, it would directly affect the social sectors like health, education and policies for poverty alleviation and social safety nets. As the governments would mainly cut back the overhead expenditure on education, health and other social sectors, which is as it is quite a small share of total GDP in most of these

developing countries. This in turn would have a severe impact on the poor and socio-economic vulnerable groups.

Consequently a huge debate ensued between the proponents of the structural adjustment programs and those who were opposing them mainly on the grounds that they lacked the human face or failed to cover the aspects of human development and hampered the socially and economically vulnerable groups.

Structural Adjustment Programs and Health:

The phase of SAPS and the globalization as seen above is a concern for many, and more so in the health, since it is being felt that what little achievements the public health system over the decades had, in most of the developing nations, would be reversed. Since due to cut in the expenditure on health, there has been a general tendency by the governments and the World Bank (World Development Report 1993) to encourage the private provisioning of the health especially in secondary and the tertiary care or rather the curative care services. Further the quality of health care and access to health care in the public sector would be affected and there would be introduction of the cost recovery schemes like introduction of the user fees on the basis of the ability to pay in the public sector hospitals and dispensaries. All this might then lead to health

getting rejected as a human right and a social need and might have a drastic impact on the health and health outcomes which are mainly infant mortality, child mortality, maternal mortality and disease burden especially for the socio-economic vulnerable groups.

Further with the liberalization of agriculture and industry and its' markets and the dismantling of the public distribution system in many developing countries like India, the increase in the food prices and the price of other commodities will affect the household incomes and eventually the nutrition of the families and their ability to pay for the health services, which would be already affected by the privatization of the health services and the introduction of the user fees.

Despite the negative effects and the fact that there is little incompatibility between the public welfare and the private provision, the World Bank in its famous document 'Investing in Health' and its advocates encouraged the developing countries to go in for privatization in health care, especially the secondary and the tertiary health services, allowing for the provision of the primary and essential services like immunization services by the public sector. The main reasons being given in support is that the public health care system has been so far inefficient in providing for the health services and does not have a wide outreach, i.e. it has not proved

successful to reach the backward areas and the vulnerable groups, as was its intent in many countries.

However on the other hand there are studies or a literature that shows that the demand for the services from the private sector of health care can be highly inelastic in the absence of a well functioning public health system as a base. Unless people are given an alternative, they may be compelled to pay high prices or be forced to opt out of health services altogether, which might lead to increased burden of untreated morbidity. As the private sector solely operates on the profit or the pecuniary motive, it cannot be completely relied on to give the efficient and fair provision of health services to all sections of the society and all the regions of the country.

Impact of SAPs and the health reforms in India's health sector:

In India (Rama Baru, 1998), there was a mixed economy existing in health sector as well, like in any other sectors and private provisioning of the medical care has been a significant feature in the health sector. Thus the penetration of the private capital in the health sector predates the structural adjustment programs. Commercialization of the health services had already begun in the form of paying wards in the public hospitals, graded user-fees. SAP only accelerated these trends and gave new

directions to the privatization and also had an impact on the pharmaceuticals and medical equipment industry. This was further encouraged by the World Bank in its famous document Investing in Health where it urges the government to foster the regulated competition among the private sector for the distribution of the health services and regulated social insurance and reallocate the spending towards essential clinical services which would save a lot of DALYs. DALYs are the disability adjusted life years, which is a measure of the burden of the disease.

One of the other most significant impacts of the SAP in India was however the cut back in the health expenditure during the 1990s, which resulted in a steep fall to the grants to the disease control programs like tuberculosis, malaria. This is further highlighted by the National Health Policy 2002, which shows that the public spending on health is just 0.9 percent of total GDP and they aim to increase it in the coming years. Further the studies like that of Gita Sen 2002 show that there has been an impact of the structural adjustment programs on the patterns of utilization of the health services, in the sense that there has been a increase in the inequity in utilization of the health services. So then the question raised, by many economists are that whether the health reforms suggested by the Bank would really bring in the desired changes and would it further lead

to higher deprivation and is it really feasible for the Indian government to dismantle the public health.

This paper then attempts to study the policy prescriptions of the World Bank as a result of the structural adjustment reforms in various developing countries urging for the further health reforms in these countries with dismantling of the public sector. Also it tries to study the critiques of the paper or the World Bank's Prescriptions and in the view of the Indian data relating to 52nd Round, i.e. pertaining to utilization of health services. It then attempts to see what are the possible factors that could influence the utilization of the health services, and also the decision making of the individual to choose the public sector over the private sector.

This paper is divided into three sections or three chapters. The first chapter discusses the World Bank Report Investing in Health in detail and its critique with special relevance to India. The second chapter tries to draw conclusions from the empirical evidence given in the two states of Andhra Pradesh and Orissa or rather look at the factors which influence a person likelihood of not ailing, and the likelihood of a ailing person to seek treatment and likelihood of the person to seek hospitalization in the public sector separately for rural and urban for both the states. The third chapter is the concluding remarks, which try to draw the possible policy implications and the feasibility of the World Bank reforms.

Chapter 1

World Bank and the health sector

World Bank in its development report 1993 “ Investing in Health” has outlined the need for the health and the possible public action in the sphere of health, paving way for the reforms in the public health sector and the increase in private provisioning of the health services, keeping in line with the ongoing process of reforms in other spheres. Though it has been traditionally argued that there should be government intervention in the health sector, the rationales being health is a public good, good health for all would reduce poverty and inequality and there would be market failures in provision of the health services, as health is a social good. The World Bank has argued that these rationales by themselves do not justify the need for public health, and market failure can be corrected with adequate regulation and control of the private sector and health insurance, and has urged for the minimization of public sector in delivery of health services and increase in the role of the private sector. Additionally the bank in its report has also urged for the policies to strengthen the capacity of the households in terms of education and economic resources.

Policies to strengthen the household capacity

The ability of the people to improve their health depends so much on the income and the other economic resources and assets at their disposal, and

the education and the ability to understand and assimilate health information. Thus the policies should be such that they should promote growth and reduce poverty, expand and improve education and also empower women.

Promoting growth and reducing poverty: There is a positive relation between the incomes and the health outcomes, i.e. the higher income group people tend to have better health due to the better accessibility to good nutrition, better living environment in terms of appropriate sanitation and drainage mechanisms and last but not the least economic accessibility to better health services. Additionally the lower income groups are more prone to occupational hazards apart being more vulnerable due to lack of accessibility to clean environment, good sanitation and drainage and proper nutrition. More often than not poverty leads to starvation and hunger, which bring with it a lot of diseases. Thus if we improve the economic growth, it would improve the general incomes of the country and hence have a positive impact on the health. However there is a fallacy in such a statement that is improvement in income does not generally mean improvement in the distribution of the income (which would be discussed in detail in next section).

Improving and expanding schooling: Though in general the developing countries have made significant improvement in the education and

schooling, the literacy and the school enrolment rates are quite low and there are gaps in the education especially at the primary level, as more often than not the children who have completed the primary school, do not obtain the basic literacy and numeric skills and also the scientific understanding. Thus the Governments need to implement policies, which would extend the education and schooling. Since education has quite a positive impact on health, i.e. there is a positive impact of schooling on health. This is more true when women in the household are educated, as the women have the main responsibility for the broad range of activities like keeping the house clean, managing household chores, preparing meals and feeding the other family members, and also look after the sick and the old. Hence women's own health and their efficiency in using available resources have an important bearing on health of others and especially that of children. Education then hence becomes important for women, since it increases their ability to benefit from health information and to make good use of health services like immunization and further would conduct health advancing activities like keeping better domestic hygiene, giving better food and wiser use of medical services. Further education would also increase their access to income, enabling them to lead better and healthy lives. The effect of education on women is also seen before the child birth, since the educated women have a tendency to

marry and start their families later, which reduce the risks related to early age pregnancies.

The schooling or education has an impact on adults and especially adolescents, since better-educated people would tend to refrain from those personal habits and lifestyle choices like consumption of tobacco, which have an adverse impact on health and maintain those habits, which are enhancing to health like maintaining personal hygiene. Hence it is quite justified for the governments' support for schooling especially for girls at lower levels is justified.

Empowering Women: As already discussed above, the women play a very important role in the management of the household and the household activities, and thus apart from education other policies which lead to financial empowerment of women should be strengthened like removing gender discrimination in labor markets and the labor income and wages, giving more access to credit and access to equal share in the property law and so on, which would boost the earnings and the financial security of the women would benefit the health of the members of the household, especially the health of the children. In support of the statement the report has given the example of Brazil, where income in the hands of a mother has a bigger effect on family health than income controlled by the father. Further in Jamaica households headed by women

eat more nutritious food than those headed by men, as they spend less on alcohol and spend more of their income on child centered goods.

Further Bank in its report has stressed the need for the sensitivity of the health policies towards the socio-cultural needs of women, by encouraging more women to enter the field of medicine and health, and by being sensitive to the stigma surrounding certain diseases especially those which are sexually transmitted and are disfiguring.

Other policies paving way for reforms in the sphere of the health sector:

Policies that improve government investments in health: The Bank has argued in its report that though there are strong rationales for the government intervention which are reduction in poverty, market failures in provision of health services, and some health services are public goods, there are instances when government failures can occur. They can mainly occur due to the lack of the capacity and resources to administer or implement policies well and the governments are vulnerable to special interests both within and outside. Thus it is very essential the government invest in those services, which are cost effective in the sense that they have an impact on the wider section of the population

The possible other health policies of the government:

- The government should allocate its spending to cost effective services like essential public health and clinical services. The cost effectiveness of service, is defined as the ratio of cost and effect, or the unit cost of a DALY, whereby DALY or disability adjusted life years is a unit to measure the global burden of disease^a and the effectiveness of health interventions, as indicated by reduction in disease burden. DALY is hence calculated as the present value of the future years of disability free life that are lost as the result of the premature deaths or cases of disability occurring in a particular year. In other words if the health intervention helps to lower down the number of DALY, then higher is the cost effectiveness of the intervention. Thus instead of government allocating funds for sophisticated hospital services like treatment for cancer, specialized and super specialized services, it should allocate funds for the essential clinical services like control of tuberculosis, and malaria, and have a health package which would address the nutritional disorders and maternal and prenatal causes which are more cost effective and would lead to higher amount of DALYs saved.
- The government should hence as discussed above, reduce the subsidization of clinical services which lie outside the essential

^a Global Burden of Disease is an indicator developed in collaboration with WHO, that quantifies the loss of healthy life from disease, measured in disability adjusted life years

clinical services package and reallocate its current spending more towards essential clinical services. Since they are more cost effective and would help to offset the additional costs to the society that may be caused by diseases like STD or tuberculosis, by reallocating their current spending. The essential clinical services are prenatal, delivery and antenatal care; family planning services; management of sick child; treatment of tuberculosis and malaria; case management of sexually transmitted diseases; treatment of minor infection and trauma and finally administering advice and alleviation of pain for health problems that cannot be resolved with existing resources and technologies. Additionally the government should bring in legislation that would make the social or mandated private insurance mandatory to cover the essential package defined above and also encourage more private and NGO provision of essential services through appropriate legislation and targeted public subsidies.

- As already discussed in the above package, the government should limit the government involvement in delivery of nonessential services and encourage competition in delivery of services by the government, NGOs and the private sector. Further it should foster improvements in the quality of the private provision by

encouraging self-regulation of hospitals, medical schools and physicians and by disseminating performance indicators.

- If there is a presence of the private insurance in health, then it should regulate the private insurance, requiring community risk rating and forbidding the rejection of high-risk consumers.
- Government should also try and make the delivery of the clinical services more efficient by decentralizing the planning and management of the government health services and allowing the local bodies to take over the planning, day to day management of the funds, personnel, training, maintenance and other functions, improvement in hospital management and finally allowing for the competition among the health providers.

The other policy changes are the initiation of public private partnerships, i.e. contracting out the maintenance of cleanliness and hygiene to private sector or allowing for the private management of the public sector hospitals, introduction of user fees based on the ability of the person to pay or the income of the person in the public hospital and thus targeting of the subsidized services to the poor and the vulnerable groups

However these policy changes recommended could be modified according to the varying circumstances of the developing countries. Since their relevance may vary across the three kinds of groups of the countries,

which are low-income group, middle income group and high-income group. But now the question arises as to whether it would lead to the sustainability of health development and whether they would be appropriate measures in existing conditions of the most developing countries and would they not lead to worsening of health outcomes. These are the few questions, which are raised by the critics of the World Bank and the public health reforms, who have urged through their arguments for strengthening of the public sector instead of dismantling of the public sector, which would be discussed in detail in the next section.

Critique of the World Bank and its policies:

The policy prescriptions was widely critiqued and in fact a whole series of the seminar papers were brought out in critique of the World Bank and its report in the form of the book 'Disinvesting in Health' edited by Mohan Rao. Eminent researchers and scholars like Prabhat Patnaik, criticized the underlying assumptions of the World Bank' prescriptions for the developing countries and its policies. As Prabhat Patnaik emphasizes that though the World Bank's policy prescription that the government should concentrate its resources on the essential clinical services as discussed above due to the scarcity of the resources, this scarcity of the resources is due to the policies followed by the Bank and IMF. Since most of the Bank and the IMF prescriptions tend to bring

down the revenue sources for the government through lowering of the taxes of all descriptions, i.e. direct taxes and the indirect taxes. Further through the privatization of the public sector undertakings in all the sectors including health sector tends to reduce the actual and the potential revenue, which could accrue to the government. He uses the World Bank document itself to illustrate the point. He argues that if according to the World Bank the non essential clinical services should be charged at higher prices, then there is all the more reason for the public sector to involve in the distribution of the non essential clinical services, so that the revenue earned from it can be used for sustaining the expansion in the essential health services.

Further another noted scholar A.K.Shiva Kumar has criticized the Bank's prescriptions on the account of its ignoring the equity considerations not only in terms of economic equity but also the social equity or access like the caste considerations and the gender considerations. It also ignores the equity in terms of the physical access to the medical facilities, i.e. two persons regardless of their economic ability, social status should have a same physical and the geographical access to the health facilities. This is also very evident in the next chapter where it can be seen that if the medical facilities are within the village, and then the likelihood of the person to get treated is much higher. He further stresses that the

enhancement of education and improvement in income will only lead to improvement of health only if there is a strong public base for the distribution of the health services. Other noted scholars like Gita Sen has also emphasized that the strong public base for health services is needed if we need to regulate the private health services and keep the cost of the distribution of the health services at the check. Further as can be seen from the evidence given in the next chapter the lower economic groups still go to the public health sector for the hospitalization. So if we dismantle the public sector then we are leaving the people with no choice but to go to the private sector which could then charge them exorbitantly and also as majority of the population is not educated, they may not be able to make the informed choice regarding the health and the kind of the health services required.

Though it may be argued that since the out of pocket expenditure constitutes two thirds of the health expenditure as part of GDP, people can afford to pay for the health care. We need to look at the financial burden imposed by such heavy expenditures imposed on the people. The average hospital expenditure with the presence of the private sector tends to be high as can be seen in Table 1 and Table 2 and not only that the total average hospital expenditure per day in the hospital tends to rise due to the presence of the private sector and if there is no public sector at all

then the people would be left with no choice but to opt out of the treatment altogether due to the rising and the escalating costs. This is also quite evident from the estimates provided by the NSSO in their results of 52nd Round, whereby it was found that almost 24 percent of the people did not seek treatment for the ailment due to the financial reasons and also that the percentage of people reporting this reason for no treatment has increased from 15 percent in the survey preceding the survey of the 52nd Round which is 42nd Round that took place in 1986-1987.

Table 1: Average Hospital Charges per inpatient day in Public, Private and All facilities rural

State	Non SC ST	SC/ST	Fractile groups					State Average (Rs/day)
			Bottom 20%	20-40%	49-60%	60%-80%	Top 20%	
Andhra Pradesh Public Facilities (Rs/Day)	16.9	5.6	1.4	1.2	3.3	11.3	23.7	12.2
Private Facilities (Rs/Day)	190.2	107.2	75.8	74.7	96.7	112.8	228.4	171.6
All Facilities (Rs/Day)	135.8	53.5	29.7	40.6	44.9	74.4	170.1	111.4
Orissa Public Facilities (Rs/Day)	2	7.9	0	0.6	1.9	0.9	6	3.8
Private Facilities (Rs/Day)	125.1	50.7	19.7	56.1	99.8	82.4	126.7	114.8
All Facilities (Rs/Day)	18.3	10.2	1	3.9	4	8	24	16
All India Public Facilities (Rs/Day)	15.5	15.3	3.1	16.7	7	13	20.5	15.4
Private Facilities (Rs/Day)	158.1	126.5	38.2	78.3	89.6	115.2	190.9	151.4
All Facilities (Rs/Day)	91.1	58.8	18.4	36.4	40.4	64	113.8	82.5

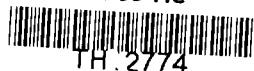
As can be seen from the above table in the Andhra Pradesh there is a very big gap between the average expenditure per day on the private facilities and the public facilities for each fractile groups and the average expenditure in private facilities is almost four times higher than that of the public facilities for each group, including the social groups. This trend is prevalent in Orissa as well and also in India. However we need to note

that the expenditure given here is average expenditure on hospitalization in a day, so if the stay is more than a day, the question then arises can the lower fractile groups whose monthly per capita consumption expenditure upper cut offs are around Rs 200 approximately (the accurate cut offs given in the annexure 1) can afford such a high expenditure even at one time.

Table 2: Average Hospital Charges per inpatient day in Public, Private and All facilities urban								
State	Non SC ST	SC/ST	Fractile groups					State Average (Rs/day)
			Bottom 20%	20-40%	49-60%	60%-80%	Top 20%	
Andhra Pradesh Public Facilities (Rs/Day)	13	5.3	0	10.4	9.3	11.7	27.6	11.1
Private Facilities (Rs/Day)	319	60.6	50.7	734	157.9	128.3	465.4	278.5
All Facilities (Rs/Day)	185.4	28.4	19.5	34.5	51.9	78.3	376.6	153.8
Orissa Public Facilities (Rs/Day)	2.2	6.6	0.5	0.2	0	10.1	4.1	2.7
Private Facilities (Rs/Day)	202.9	95.2	117.5	97.8	89.6	17.6	240.5	198.8
All Facilities (Rs/Day)	61.6	16.8	0.6	8.9	28.9	11.6	153.3	57.5
All India Public Facilities (Rs/Day)	49.4	16.5	10.8	9.6	14.8	30.7	124.6	42.4
Private Facilities (Rs/Day)	319.4	163.6	98.8	122.8	166	204.1	425.6	300.7
All Facilities (Rs/Day)	192.4	69.7	37.9	48.3	68.6	114.2	332.2	171.9

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This trend is very much true for the urban areas as well in both the states and India, and also there is not much difference between the upper cut offs for the urban areas and the rural areas for each fractile group.

Though one of the solutions to such a problem given by the World Bank is financing the private health care system through a system of the private insurance. The system of the private insurance will be ineffective in India, as it would exclude the majority of the population who do not have the ability to pay or rather would fall in the lower income groups, who barely have the resources to purchase their minimum essential needs. However given the state of the health deprivation in our country and the low health indicators like high infant mortality rates, we need a universal coverage.

Hence though the competition in the private sector may expand the choices to the people, it may not really expand their capabilities to access health and also may impose a severe financial burden on the people. Lastly if the objective of the universal health coverage is to be achieved, the government efforts in the sphere of the public health sector needs to be strengthened and not minimized and withdrawn. Also the efficiency of the public sector needs to be improved in imparting the health services rather than dismantling it and maybe other dimension like the

responsibility sharing between the center and the state and the local governments need to be looked at.

Finally though the policy prescriptions to promote poverty reducing growth and expanding education are very vital and cannot be done away with, they cannot be followed in isolation and for them to be successful in achieving better health status, we need to have a strong public health base. Since merely improving the income base does not improve the health outcomes. This could be illustrated by the evidence given in the A.K.Shiva's paper where he shows that though the India's per capita income growth between 1980 and 1992, the average annual rate of reduction in the under five mortality rate over this period is only 2.9 percent in India, whereas in Costa Rica though the per capita growth was only 0.8 percent in the same period, the annual rate of reduction in under five mortality rate was 4.5 percent over the period much higher than that of India.

Hence in conclusion we can say that the World Bank's Policy prescriptions seem reasonable enough and their assumptions are also reasonable enough, there are many flaws in the prescriptions and the major question is that are they really feasible. Finally what most people arguing against the World Bank are saying that the public sector should not be dismantled completely but instead strengthened and expanded and

improved in order to keep the private sector under regulation and control. We are going to take this discussion further in the next chapter by looking at the factors that could influence the health outcome of the person, the decision of the person to seek treatment for the ailment and the decision of the person to seek the public enterprises and see if the World Banks theories or prescriptions are matching with the empirical evidence.

Chapter 2

Health Care and Utilization of the Health Services in Two states: Andhra Pradesh and Orissa

Introduction:

The Bank in its report has emphasized on the efficiency and the equity to some extent and has made a special emphasis on the macro economic policies that promote poverty-reducing growth and extend and expand education. In counter argument given by many the social researchers and public health researchers have emphasized for a role of the public sector in the provision and delivery of the health services in order to facilitate the improvement in health outcomes and have also laid an emphasis on the factor that there are other inequalities apart from economic inequalities which are caste inequality and gender inequality, which also are a barrier to the increase in the people seeking treatment. Further they argued that the Bank policies would lead to an increase in the financial burden especially on the poor and the vulnerable groups, especially when they need to avail the non essential discretionary clinical services which are highly priced and consequently there will come a time when increasingly people will not seek treatment. This is truer in the absence of the well-regulated insurance markets. In this section we would look at some empirical evidence with respect to two states in India Andhra

Pradesh and Orissa and try to conclude how feasible are these policies and what is the post structural adjustment reforms scenario.

Data Source:

For the purpose of our study and analysis, we need the linked data on the socio- economic characteristics like the caste, monthly per capita expenditure, education and the health variables like the number of people not ailing and the number of ailing people who undertook treatment and the kind of the hospital accessed. Thus the main source of the data used for our purpose is the 52nd Round National Sample Survey Organization undertaken in July 1995- June 1996 respectively for a sufficiently large sample of the households in India for all the states and the union territories.

National Sample Survey Organization is a permanent survey organization set up by the government in 1950 to promote a continuous system of multipurpose surveys designed to fill gaps in the data required for planning the economic and social development. It covers the various issues like employment and unemployment, consumer expenditure; land holdings, livestock enterprises, debt and investment, **social consumption, morbidity and disability through household surveys.** Though in the past few decades the information on the morbidity was collected in the

past few decades in the yearly annual socio-economic rounds in the last 10 survey rounds, it was purely explorative in nature. As the primary aim of such exercise was to identify better data collection methods and instruments relating to the period of recall, proxy respondents, the definition of an illness, and utilization patterns of health care services.

The first two major surveys were however conducted by the NSSO in 1980-81 and 1986-87, which was followed by another survey conducted in 1995-1996, whereby the primary focus shifted from the morbidity and the utilization patterns. These surveys gathered the information about the extent of the coverage of the public health programs such as immunization, the provision of health care and nutritional supplements for mothers and children, the utilization of medical services, and the costs incurred for that purpose. Since the data from 1980-81 surveys could not be processed due to the non-availability of the computer facilities, the 1986-87 provided the first results on utilization of health services and the expenditures incurred on these services. **52nd Round is a further improvement over the 42nd round, as the information on the preventive and the curative care was collected for the first time from the same set of the sample households.**

52nd Round of the National Sample Survey Organization

Sampling Method and design:

Sample Size: The data of the 52nd Round is for nearly 121000 households, i.e. 71300 households in the rural sector and 49700 households in the urban sector. The sample was selected from 7663 villages and 4991 urban blocks representing all states and the union territories of India.

Sample Design: The sampling process by which data were collected follows a stratified two-stage sample design where each state and union territory is divided by the NSSO into one or more mutually exclusive and exhaustive agro-climatic regions. The first stage strata comprise districts in each of these regions and groups of towns within each region distinguished by a population size criterion for urban areas. Within these the first stage-sampling units are the villages or urban blocks chosen from the full list of villages and urban blocks given in census 1991 within each first stage stratum. For each first-stage sampling unit selected, a further stratification of the households into three categories was undertaken, which are the second stage units. The selection process took a sequential form, whereby the households with one child of less than one year were chosen first, then out of the remaining, the households reporting at least one hospitalization case in the preceding year of the survey were chosen and finally all those households which do not meet the above two criteria.

The total of 10 households were chosen from each first stage sampling unit, of which two households were those which had a child less than one year, two were the households having one hospitalization case in preceding year and the remaining six were the households which did not have any criteria. The data was collected over the course of the year since NSSO administers only about one fourth of the sample in each quarter.

Concepts and Definitions:

The definitions of the key variables for which the data was collected by the NSSO are given below:

- **Household:** A group of a persons normally living together and taking food from a kitchen constitutes a household. The word normally means that temporary visitors are excluded, but the people who are living there temporarily are included. Thus a child living away from his/her parents for the purpose of study or work or for any other purpose is not a member of the household of his/her parents. However a resident employee or resident domestic servant or paying guest (but not just a tenant) is included in the employer's/host's household. "Living together" is given more importance than "sharing food from a common kitchen" in drawing the boundaries of the household in case the two criteria are in

conflict. Though in the special case of a person taking food with his family, but sleeping elsewhere (say in a shop or a different house) due to space shortage, the household formed by such a person's family members is taken to include that person also. Each inmate of a mess, hotel, boarding, lodging-house, hostel e.t.c, is considered as a single-member household but a family living in a hotel is considered to be one household only and the same applies to a residential staff of such establishments.

- **Ailment-illness or injury:** Ailment, i.e. illness or injury, is defined to be any deviation from the state of physical or mental well-being. Cases of visual, hearing, speech and locomotor disabilities are also treated as ailment. Injury covers all types of damages like cuts, wounds, hemorrhages, fractures and burns caused by an accident, including bites to any part of the body. However the cases of sterilization, insertion of IUD, getting MTP, e.t.c. Under family planning programmed, pregnancy and childbirth are not treated as ailment, spontaneous abortion, i.e. a miscarriage is treated as an ailment, since it is a deviation from the state of normal health. **Further the reference period for an ailment episode is 15 days preceding the date of survey.**

- Hospitalization: A person is regarded as having been hospitalized if he/she has availed of medical services as an inpatient in any medical institution. However, hospitalization of female members for childbirth was not considered to be hospitalization for the survey.
- Medical Treatment: A person is considered to have received medical treatment if he/she consults a doctor anywhere and obtains medical advice for the ailment. Self-doctoring or acting on the advice of non-medical person is not treated as medical treatment.
- Expenditure For medical treatment: Total expenditure incurred for medical treatment received during the reference period (15 days for non hospitalized treatment and 365 days for hospitalized treatment) includes expenditure on items like bed charges inclusive of charges for food, medicines, materials for plaster, bandage, e.t.c. fees for the services of the medical and paramedical personnel, charges- for diagnostic tests, operations and therapies, charges of ambulance, and costs of oxygen, blood, e.t.c. All other types of expenditure incurred for treatment such as lodging charges of escort, attendant charges, cost of transport other than ambulance, and cost of personal medical appliances are excluded from medical expenditure.

- Fractile group by monthly per capita consumption expenditure:
Monthly per capita consumption expenditure based on data collected for broad heads of consumption expenditure was computed for each sample household.

Methodology:

For the purpose of my analysis I am trying to look at the factors that could influence the proportion of people not ailing or rather the probability that a person will not ail firstly. Secondly if a person is sick or ailing what are the socio-economic and other factors that could affect his or her decision to seek treatment for that ailment and last but not the least the decision to seek treatment or rather seek hospitalization in the public health facility or private facility.

Selection of states: For this purpose I am using the data relating to two neighboring states namely Andhra Pradesh and Orissa. Since Andhra Pradesh is one of the states where the reforms in the health sector under the guidance of the World Bank are being initiated since late 1995. Further Orissa is also implementing them now and not only that it is one of the low performing states in terms of the health indicators as shown by the government document National Health Policy of 2000, with high rates of infant mortality rates, even higher than the that of overall India as shown in the table 1.

Table 3: Major Health indicators or health outcomes of few states

State	IMR Per 1000 live births (1999-SRS)	<5 Mortality per 1000(NFHS II 1998-1999)	Leprosy Cases per 1000 population	Malaria positive cases in year 2000(thousands)
Kerala	14	18.8	0.9	5.1
Maharashtra	48	58.1	3.1	138
Orissa	97	104.4	7.05	483
Bihar	63	105.1	11.83	132
All India	70	94.9	3.7	2200

Method of estimation and analysis: Given the method of data collection as outlined in the sample design, we have used the weighted estimations of the parameters like the proportion of people seeking treatment for an ailment episode of 15 days, or the average medical expenditure. Whereby the weights used for each household is the inverse of the probability of choosing that specific household for that particular first stage stratum and the individual within that household.

However for the purpose of my modeling and analysis, I have taken the non-weighted observations^a.

General Description of the model:

As the variables or the dependent variables under study are dichotomous variables, the model to be used needs to be a binary response model, whereby the relationship would be modeled between the binary response dependent variable and a series of explanatory variables which could be continuous or categorical variables. For a binary response variable Y, the

^a This is in line with the common practice and the norms

model assumes $g(p) = \beta'x$, where p is $\text{Prob}(Y = y_1)$ for y as one of the two ordered levels of Y , β is the vector of the parameter estimates, x is a vector of the explanatory variables and g is a function of which p is assumed to be linearly related to the explanatory variables.

For our purpose we are using logistic regression and its form for the binary response variable Y is

$$\text{Logit}(p) = \log p/1-p = \beta'x$$

Or equivalently $p = \exp(\beta'x)/1 + \exp(\beta'x)$

The logistic regression models the logit transformation of the i th observation's event probability; p_i , as linear function of the explanatory variables in the vector x_i , whereby it uses the logit as the link function.

However it is to be noted that since vector of x variables used is more or less categorical in nature, we have defined the dummy variables for them.

For the purpose of our analysis we have taken three models, which are firstly the factors, influencing the proportion of people reporting not sick or not ailing. Secondly those factors which are explaining the decision of an ailing person to seek treatment^b and thirdly not the least the decision to access the public health facility.

^b The concept of treatment as outlined in concepts and definition is to seek a registered medical practitioner or a nearby health facility.

Description of the independent and explanatory variables used for analysis of all the three models:

1. **Regions of the respective states:** In each state there would be regional variations in terms of the per capita income, and social and economic development and thus like wise the people in each region would behave differently in accordance with their economic capacity and the accessibility. For instance in Andhra Pradesh the inland northern region which includes districts like Karim Nagar, Mehboob Nagar, is one of the economically backward regions of Andhra Pradesh and the Coastal Region which is also one of the most fertile regions of Andhra Pradesh are economically better off than other regions. Thus the people in such a region would fare better than the people in terms of the economic capacity than the people in the region of Inland Northern and thus should have a higher probability of maintaining good health. Similarly for Orissa, the economically backward region is Southern which includes districts like Kalahandi and as we are all aware of, it is also one of the districts where the starvation deaths are also very high due to unavailability of food and low nutrition and the presence of the high tribal groups.

2. **Distance of any health facility like PHC/CHC/hospital from the village:** As postulated by A.K.Shiva Kumar in his paper India's Formulation of Health Policy: A note on equity, the physical or access to health facilities also is very important when we talk of the equality of access to health services, that is the people should have same access to the same levels of the services regardless of their geographical locations. Since it would be really unfair that the one of the two mothers is deprived of the emergency obstetric care merely because she did not have access to the appropriate facilities near the place of the residence. Further if the facilities are there in the vicinity of the residence there is a higher tendency of the people ailing to go and seek treatment since it is easily accessible.
3. **Type of the nearest CHC/PHC/PHSC:** The type of the nearest Community Health Sector, Primary Health Sector, PHSC, i.e. whether it has a provision for bed or not also influences the health seeking behaviour. Since if it does not have a provision for the bed, it does not have appropriate facilities and cannot even admit a serious person or keep it under observation so as to administer the first aid or the first hand cure before referring him to other bigger hospitals. In other word it would be inadequate to treat and stabilize a person before it could direct him to bigger health

institutions. So it is possible that the person would not get the appropriate care for the ailment from the usage of the facilities within the village and is less likely to go and seek treatment from the facilities outside the village due to the economic incapacity or the low connectivity of the village with the outside world.

4. **Connectivity and Frequency of the bus services:** As mentioned above the connectivity and the frequency of the bus services also play an important role in the health seeking behaviour, since if there are no medical facilities within the village then the people can go and access the facilities outside the village for the treatment. But however, if there were no proper connectivity in terms of the bus services in the village or no proper road, it would be difficult for the persons to seek treatment outside the village.
5. **Water and sanitation** is a very important aspect of health care or health service, since good drinking water is very essential for reduction in sickness, as bad source of drinking water can lead to water borne diseases. Similarly good sanitation and drainage is also an indicator of the living condition and good environment and hygiene.
6. **Monthly per capita expenditure groups:** So far we have discussed the possible village characteristics that could influence

the health seeking behaviour in terms of seeking treatment for an ailment. However there are also some household characteristics which influence such behaviour and not only that they also affects the health, and one of them is monthly per capita income of the household as also postulated by the World Bank. However due to the unavailability of the data on the monthly per capita income of the household, we are taking the monthly per capita consumption expenditure of the household as a proxy for this variable. However for the convenience we have used the monthly per capita expenditure quintile groups, which are bottom 20 percent, 20-40 percent, 40-80 percent and top 20 percent^c.

7. **Social group of the household:** Social equality in accessibility to the health services regardless of their caste, gender, ability to pay and the educational background is very important. However in countries like India we have large social inequalities and caste and gender discrimination. Further as compared to the upper castes, the scheduled castes and the scheduled tribes with few exceptions are not only socially backward but also economically backward and mostly have low skilled and highly risky jobs. Due to the social

^c The upper cut off for each quintile group for the rural and the urban areas of Orissa and Andhra Pradesh are given in Appendix 1. They have been arrived at using the weighted observations of both rural and urban areas of Orissa and Andhra Pradesh.

and economic backwardness, they mostly are living in poor conditions with almost no access to good drinking water, good living conditions, good food and earn very low wages due to the nature of their jobs. Thus they have a higher tendency to fall ill and also after falling ill, they have a higher tendency not to seek treatment due to the lack of the appropriate economic resources at their disposal. One of the good examples to illustrate the point is the tribe of Kalahandi in Orissa who have very little accessibility to food due to the lack of the good public distribution system and mainly their economic inaccessibility and many of them are dying due to under nutrition and starvation. In such cases they would be least likely to seek treatment from the health facilities, as they would rather spend their meager resources on other necessities of life, like food. Further the differentials in health status as discussed above is also reflected in the national health plan document which shows that the scheduled castes have high infant mortality rate (IMR) per thousand live births which is 83 and scheduled tribes have recorded an IMR of 84.2 and the under 5 mortality rate per 1000 is 119.3 and 126.6 for scheduled castes and scheduled tribes respectively which is much higher than that recorded for India

8. **Sex:** Gender is a very important aspect of health and health seeking behaviour, since women are most likely to be denied the treatment for their ailments due to the priority being given to men right from their young ages. The priority will not only be in terms of seeking treatment but also in terms of nutrition or food, i.e. men would be given priority for better nourishment as they are the main income earners and bread earners of the household. Thus women would have more proneness to health. Further as acknowledged by the Bank in its report, there are certain social and cultural stigmas attached to women, due to which they may not be very comfortable with the male physicians in discussing their personal problems and also would not come out with reporting the ailment especially if they are related to the skin and they are sexually transmitted diseases.

9. **Age group of an individual:** The lower and the higher age groups as compared to other age groups have more proneness to the ailments and other sickness due to their vulnerability. At the same time the younger age groups would be given preference for the treatment of an ailment as compared to the older age groups as they are still in the formative years and also would be a part of the working population.

10. Educational attainment of the individual: As we all know that there is a very strong correlation between education and good health, i.e. there is a very strong relation between good education and good health, as education enhances the understanding capacity and awareness levels. This is more true of educated mothers who would be more aware of the nutritional and other needs of the children and would also take appropriate antenatal and postnatal care and ensure immunization of children on time and also try to allocate household funds towards better health care. Also education of adults and adolescents would mean that they can be educated about the harmful effects of the certain lifestyles like consumption of the tobacco, alcohol, and also would maintain a better lifestyle in terms of better cleanliness and hygiene. Further educated people would be aware of the appropriate medical services to seek in case of an ailment and would refrain from using the local and crude remedies to cure their illness. For instance certain tribes in Andhra Pradesh in cases of fever put a very hot thing on the forehead and burn it a little to eradicate the fever, for lack of awareness and of course also lack of the accessibility to health services.

11. Regular consumption of the tobacco/intoxicants: Lastly but not the least, the lifestyles like the regular consumption of tobacco and

other intoxicants like ganja, charas and alcohol, does affect the health of the people leading to various diseases and at time failure of the functioning of liver and the kidneys.

Empirical Results and Findings:

Factors influencing the health status of the people where the health status refers to the people not falling sick or not ailing

Contrary to general perceptions it was found in the analysis^d that the lower socio-economic groups mainly the scheduled castes and scheduled tribes and the lower monthly expenditure groups are more likely to report that they are not ailing in relation to the higher social groups and higher economic groups. Since it was found that the odds^e of the scheduled caste and tribes relative to other castes to be not ailing is fairly high, i.e. the odds ratio of scheduled caste in relation to other case is 1.34 at 5 percent significance level and the odds ratio of the scheduled tribes in relation to the other castes is .85 at 5 percent significance level in rural Andhra Pradesh. Similarly for urban Andhra Pradesh odds is 1.122 and .8944 for scheduled castes and scheduled tribes respectively though they are not significant. The similar trend can be seen in rural Orissa as well. However

^d Refer to Annexure 2 (Table A2.1 – A2.4).

^e Odds ratio estimate is, keeping other things constant, is the antilog of the logits coefficient or rather the ratio of the probability of the occurrence of an event to the probability of the non occurrence of the event.

in urban Orissa we see a result much in line with the general perceptions that the odds of the scheduled castes to other castes is .6464 which is slightly lower than the other places, which implies that the person is likely to be non ailing if he belongs to Urban Orissa and it is significant at 5 percent level.

In contrast to the general theories that the income exerts a positive influence on the health, as mentioned above we see a very disturbing trend in both the states, whereby the odds ratio of the lower groups to the top 20 percent group is more than 1 and significant at 1 percent level. This implies that the lower fractile groups are less likely to be ailing than the upper fractile groups especially the top 20 percent group. This is very clearly seen from the results shown below for the fractile groups and the social groups in both the states. This could be explained by the fact that many people may not report ailment as long as the particular ailment does not make them bed ridden and does not hamper their working activity and other activities. Since in doing so they may lose their daily wages, which they earn, and also subsequently their jobs and also reporting ailment means seeking treatment, which many a times they may like to do away with in order to avoid the heavy expenses they may incur. This could be better illustrated by one of my personal experiences I had, in one of the leather industries situated in and around Kalkaji, most of the leather

workers due to the bad working conditions and the overcrowding of the place, suffered from many chest-related ailments, but on being asked would not report it for the fear that they may be forced to leave their jobs or forego their daily piece rate wages.

Further though the odds of the male in relation to the female is not significant, i.e. the logit coefficients for the sex dummy is not significant, we find that the male is less likely to be not ailing than the females, i.e. the odds ratio in most of the cases is less than 1 but closer to 1. Though again in urban Orissa the trend is favorable to the general perceptions that the males are more likely to be not ailing than the females given the male bias, where the odds ratio is 1.0332 and is not however significant. This trend can also be explained by the social and the cultural stigma attached with the women to talk of certain diseases and ailments like sexually transmitted diseases and the skin diseases, as been discussed in the World Bank's Report. Moreover since they need to do most of the household chores and other chores, they tend to not report their ailments unless it is very serious.

These results are very important for the policy implications as the World Bank's theory that the lower income groups tend to be more unhealthy due to the occupational hazards faced by them and the living conditions they live in tends to get negated somewhat. We thus need to have those

policies, which would not only increase awareness about health and the various aspects of health but also have some uniform wage and labor legislations or other social security measures, which would ensure that they do not lose their incomes or the social and economic support in case of an ailment as well.

However when we took the educational attainment of the individual, they were in line with the general theory that the education exerts a positive influence on health, as in both the states and both the rural and the urban regions, it was significantly found that the odds of having little education to no education is more than 1 keeping other things constant. However the chance of the person with a secondary education and above will not be ailing was found to be very high. For instance if we compare the odds^f of the person being literate but below primary level to no literacy and the odds of the person attaining the secondary and above education to no literacy, we get that the person attaining secondary and above education is 1.015 times more likely to be not ailing in rural Andhra Pradesh. Similarly results could be found for urban Andhra Pradesh and other state. Thus the results show that the education does play a vital role in the health of the person.

^f The ratio can be obtained by taking the ratio of the odds of the person with secondary schooling and above to no literacy and the odds of the person with literacy but has below the primary level education.

Additionally in the same model we found that the odds of the tap as source of drinking water to other sources of drinking water was significantly in favor of not ailing, i.e. it was as close to 1 in rural Andhra Pradesh, though it is true of the other state and urban area of Andhra Pradesh, it is not significant. So we can presume that good source of drinking water does play an important role in maintaining good health and keeping sickness at bay.

Factors affecting the decision making of the ailing individual to seek treatment:

The results in this model were very much in abeyance with the general theory that the lower income groups' health is relatively poor due to their inability to seek treatment. As can be seen from the results⁸ we found that the odds of the bottom 20 percent to the top 20 percent for treatment was much below 1 for both the areas and both the states, i.e. bottom 20 percent are least likely to seek treatment for their ailments where by the odds ratio estimate keeping other things constant was .0968 for urban Orissa, .3338 for rural Orissa, .4182 for urban Andhra Pradesh and .519 for rural Andhra Pradesh and all the estimates are significant at the 1 percent level. This is also illustrated from the actual figures of the number of treated ailment episodes of last 15 days per thousands, which show that

⁸ Results are given in Annexure III (Table A3.1 – A3.4).

the percentage of people in the bottom 20 percent of the monthly expenditure groups getting treated is lower than or equal to 30 percent. For instance in rural Andhra Pradesh it is only 29.2 treated ailment episodes per 1000, and in rural Orissa it is much lower which is around 26.2. Though this picture is quite evident in all India figures, which also shows a figure of 26.3 and the urban areas, where it is 34.7 for urban Andhra, but however the observed percentage of the people in the lowest group availing treatment in urban Orissa was 50.3, which is quite contrary to the logit results we obtained.

Table 4: Number of all treated ailments episodes in the previous 15 days per 1000 persons by sex rural

State/Region	Non SC ST	SC/ST	Fractile Group					Total
			Bottom 20%	20-40%	40-60%	60-80%	Top 20%	
Andhra Pradesh								
Male	45.4	39	30.8	35.1	39.3	38.6	75.4	43.7
Female	40.4	41.1	27.8	39.2	32	51.4	55.3	40.6
Total	42.9	40	29.2	37.1	35.6	44.8	65.7	42.2
Orissa								
Male	40.5	38.3	29.7	43.8	28.8	35.2	59.4	39.5
Female	36.5	37.4	23.1	30.4	34.3	38.9	59.3	36.9
Total	38.5	37.9	26.3	36.9	31.6	37	59.4	38.2
All India								
Male	45.5	35.1	27.5	33.1	36.4	43.1	59.8	40.2
Female	43.8	37.9	26	35.2	39.1	46.1	66	42.3
Total	44.5	36.4	26.7	34.2	37.7	44.6	62.7	41.2

Though the sex was not significant in the regression models, it showed that the males had a higher probability of getting treated for an ailment episode, which can also be seen from the above figures of the rural areas where across all the groups the percentage of the females seeking treatment for their ailment is lower than that of men. Though curiously

enough we find that the higher percentage of women than men are seeking treatment in the urban areas.

Table 5: Number of all treated ailments episodes in the previous 15 days per 1000 persons by sex urban

State	Non SC ST	SC/ST	Fractile group					Total
			Bottom 20%	20-40%	40-60%	60-80%	Top 20%	
Andhra Pradesh								
Male	48.2	47.2	37.5	28.7	54.1	54.6	64.9	48.1
Female	46.5	52	32.1	51.1	53.2	50.8	49.7	47.2
Total	47.4	49.5	34.7	39.6	53.7	52.7	57.5	47.6
Orissa								
Male	43	29	38.4	25.5	27.6	42.9	65.3	40.5
Female	59.1	84	61.4	50.3	57.9	44.5	107.7	63.4
Total	50.6	55.3	50.3	37.4	42.3	43.6	83.4	51.4
All India								
Male	43.6	44.7	31.6	38.8	40.5	43.2	57.1	42.4
Female	48	46.7	34.5	44.7	47.2	53.5	68.2	49.3
Total	45.9	45.5	33.1	41.7	43.7	48	62.2	45.7

Second significant result found was that the odds of the medical facilities within the village to medical facilities far from the village in favor of treatment is more than 1 for rural areas of Andhra Pradesh and Orissa, i.e. the odds for the rural Orissa^h is 2.2386 and rural Andhra Pradesh is 1.462 as shown in the tables given in the annexure. This implies that the vicinity of the medical facilities to the place of residence makes a lot of difference and it increases the likelihood of the people with an ailment to seek treatment. Thus this makes a very strong policy implication that is in order to encourage people to seek treatment, the government needs to ensure the equality in terms of the physical access to health facilities

^h The distance of the medical facilities from the place of residence is taken for only rural areas as this information was collected by NSSO for only rural areas.

irrespective of social class and economic background, i.e. two people with same ailment should have equally a physical or geographical access to health facility and none of them should be denied the health care due to the unavailability of the health facility in the vicinity. This imposes an important question then, is the private sector suitable enough to ensure equal geographical physical access. As most of the private sectors are driven by the profit making decisions and would less likely to set up the facilities in the backward and the remote regions.

Further the positive relationship between education and health can also be seen in this model as well where the odds of literacy without formal schooling to illiteracy favors treatment of an ailment is more than one in both the states but the odds of secondary schooling and above to no literacy is much higher and it is greater than 1 for both the states in both the areas. For instance the odds of secondary schooling and above to no literacy in rural Andhra Pradesh is 2.7887 and for rural Orissa it is 1.6112, which shows that other things being constant the probability of the individual getting treatment would be much higher if the individuals are educated beyond secondary level and would be true even if he has slight levels of literacy. This shows the positive relationship between the education and health seeking behavior as postulated by many including the World Bank.

Factors influencing the decision making of the individuals to go in for the public sector:

The trendsⁱ in structure of utilization of the hospitalization are that the lower economic groups tend to utilize the public hospitals more than the private hospitals for any hospitalization case at least in the urban areas of both the states. However surprisingly people from lower economic groups tend to use more of the private sector than the public sector in the rural areas, which may be because of the number of private hospitals in Andhra Pradesh and Orissa as, can be seen in the tables given below.

Table 6: Distributions of Hospitalizations between private and public care rural

State/Region	Non SC/ST	SC/ST	Fractile Group					Total
			Bottom 20%	20-40%	40-60%	60-80%	Top 20%	
Andhra Pradesh								
Public Share	20	35.3	48.7	46.2	41.8	20.3	15.3	2
Private share	80	64.7	51.3	53.8	58.2	79.7	84.7	6.4
Total	6.3	2.1	0.5	0.7	0.9	1.7	4.6	8.4
Orissa								
Public Share	88	94.9	87.1	89.4	93.8	89	90.9	3.2
Private share	12	5.1	12.9	10.6	6.2	11	9.1	0.3
Total	2.2	1.4	0.2	0.5	0.6	0.6	1.7	3.6
All India								
Public Share	40.4	57.5	60.9	62.1	53.6	46	35.3	43.3
Private share	59.6	42.5	39.1	37.9	46.4	54	64.7	52.9

ⁱ Trends or results are given in Annexure 4 (Table A4.1 – Table A4.4).

Table 7: Distributions of Hospitalizations between private and public care urban

State/Region	Non SC/ST	SC/ST	Fractile Group					Total
			Bottom 20%	20-40%	40-60%	60-80%	Top 20%	
Andhra Pradesh								
Public Share	34.3	49.3	56.1	51.5	47.7	35.6	17.7	1.4
Private share	65.7	50.7	43.9	48.5	52.3	64.4	82.3	2.4
Total	3.2	0.6	0.4	0.6	0.7	0.8	1.2	3.7
Orissa								
Public Share	70.6	78.9	98	84.8	63.5	81.1	47.7	0.4
Private share	29.4	21.1	2	15.2	36.5	18.9	52.3	0.2
Total	0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.6
All India								
Public Share	39.2	54.8	59.8	56.4	47.2	39.8	26.5	21
Private share	60.8	45.2	40.2	43.6	52.8	60.2	73.5	29.4
Total	42.3	8.1	5.6	7.9	9.5	11.3	16.1	50.4

This trend can also be observed when we did the logistic regression, where we found that the odds of the lowest fractile group to the highest fractile group in favor of public sector is lower than 1, i.e. keeping other things constant the lowest fractile groups in the rural areas would be more likely to choose the public sector in the rural areas, whereas the odds of the lowest fractile group to highest fractile group is significantly much in favor of the public health care systems, i.e. it is 5.6 for urban Andhra Pradesh and 6.35 for urban Orissa as shown in the tables given in the annexure.

However these trends do not support the need for the private sector or the argument that the private sector would be more efficient than the public sector and contrary to the general perceptions, the private sector also

caters to the backward and the remote areas. It may be true that the trends in rural Andhra Pradesh and rural Orissa show a high prevalence of the use of the health facilities in the private sector, but inherent within these trends is the question is that whether it does not impose a severe financial strain on the people especially the lower income groups as the expenditure of the hospitalization and treatment in the private sectors is very high as can be seen in the previous chapter. Thus given the state of the economic, social and health deprivation of the masses especially in Orissa where already shown above the health indicators are very low and it is a low performing state, the government needs to strengthen the role of the public health sector and also expand the public health distribution in order to ensure the universal coverage and also ensure that the capabilities of the person does not get deleted.

Concluding Remarks:

The trends observed have been both positive and in line with the general perceptions, but they have also been disturbing and contrary to the general perceptions which make us question our general perceptions and force us to think of a policy framework which would be used as a corrective measure.

Conclusions

To sum it up, in the post era of the structural adjustment programs where the reforms are being initiated in all the sectors, in most of the developing countries, the social sectors have not remained untouched. Health is one of the most important sectors in which the World Bank in its famous World Development Report 'Investing in Health' has urged for the reforms in the health sector at the same time urging the government to achieve the other objective of universal health for all.

The Bank has been seen in the first chapter, has urged for the governments reallocation of its health spending to more essential clinical services like family welfare programs, management of sexually transmitted diseases, control of malaria and tuberculosis and the administration of the first aid in case of the minor injury and illness. Further it has stressed on the policies that promote poverty reducing growth and the policies to expand and enhance the primary education.

However as the trends of the data relating to the 52nd Round show that there is not really a positive relationship between the per capita income and the health status, as many of the lower income groups and the socially deprived classes like scheduled castes and scheduled tribes were tending to report not sick. This could be attributed to the fact that they do not want to so as they would lose their daily wages or income, if they do

not go for the work even one day and also it may be because of the lack of awareness and the ignorance on their part regarding the various diseases and their symptoms. For instance many can construe the regular and severe cough as normal cold and cough, but it can also be a symptom of the tuberculosis. Further due to the social and the cultural stigmas attached to the socially deprived classes, especially women, they may not be so forthcoming with their problems especially sexually related problems and the certain kind of the skin diseases which are considered as stigma, more so with the male physicians. Not only that the male members of the household in the lower economic and the social groups may not allow the females to talk or approach the male physicians. Thus considering the social stigma attached with the women and the lack of empowerment of women, women tend to hide their ailments or sickness. Though the Bank has considered this aspect and has offered the remedial measures in the form of encouraging the intake of women physicians and the doctors and empowerment of women in terms of the credit policies, uniform labor legislations that would remove the wage discriminations. The economic empowerment would definitely help the women to achieve a better health status, we need to empower the women socially and educate them on the various aspects of health. Further it is more important to remove the social and the cultural stigmas attached by

increasing the awareness and empowering the women not only economically but also socially and in terms of the education.

Additionally we need to have a strong social safety nets and labor legislation, which would give protection to most of the low skilled workers and also create awareness about them regarding the health and educate them. We also cannot be complacent about the trends by arguing that since the lower income groups are less likely to suffer from any ailments, the strong public base for the health sector is not needed and the private sector would suffice. However though the private sector through competition may ensure a effective delivery of the services and also may be encouraged to go to the rural areas, it is not essential that they would undertake the health awareness programs which would educate the people on the various aspects of health, as it is against the profitability motive.

The private sector without a public base and the regulation of the government will have the higher costs as can be seen in the first chapter for the use of the health services and may impose a financial burden on the people especially the lower income groups, leading to the further impoverishment of the people. This would also lead to the people borrowing from the private moneylenders landing them in huge debts and also the sale of their meager assets and more often than not lead the people to not seek treatment die to the high financial costs. Additionally

this may also lead the people to use the crude therapies or treatment, which may be even more harmful to the people.

Thus the strong public base is very essential for a country like ours where the majority of the population lives in the poverty and may not even have the ability to pay for the private insurance or the social insurance cover. Similarly as the theories of the insurance markets go the insurance markets would charge high premiums from the higher risk groups, i.e. those who are more prone to illness. So by that theory the insurance markets even with the heavy regulation may not be able to charge a premium according to the ability to paying capacity of the people. Thus the private insurance will not be feasible for the conditions of our country. Further we can see that there is still a higher majority of the lower economic and social groups, which prefer to go to the public sector over the private sector due to low costs. The dismantling of the public sector and limiting it to the expansion of the essential clinical health services may lead to the further degradation of the health of the people, since people may not be able to access the non-discretionary clinical services for the serious ailments without stripping off their capabilities.

Apart from the health programs, the governments also need to allocate some of their resources in providing the better sources of the drinking water and accessibility to better sanitation and drainage, as can be seen

from the trends the good sources of drinking water is also an essential component of the health service and exerts a positive influence on health. Since in both the states, we could see that the households having the safe sources of drinking water like tap or tube-well have a higher likelihood of not falling sick.

Additionally the least the education is also an important tool as postulated by the World Bank for improving the health standards and the efforts need to be made to expand and improve at least the primary education and ensure education for all. However this needs to go in hand with hand with the development of the public health services. One of the good examples is that of Kerala where there 100 percent literacy and also it is one of the high performing states in terms of the health indicators, due to the presence of the strong public health base. The gist of it is that the improvement in education will not help unless and until there is a strong government support for expanding the health services.

To sum it up finally we cannot do away with the public sector health services on the assumption that they are inefficient and cost ineffective and also that they have a poor quality of distribution of the health services. In fact we need to strengthen them and expand them and make it more accessible to the rural and the remote areas, where most of the private enterprises may not venture into due to their profitability motive.

As we have seen in the previous chapter that the mere physical accessibility of the health services or the facilities exert a positive influence on the person's decision to seek treatment, regardless of the economic capacity and the social status of the person. Along with it we need to increase the capabilities of the person as suggested by the Bank, but not just by increasing the economic growth. We also need to ensure an equitable distribution of the resources and also strengthen the social safety nets for the deprived classes like the public distribution system of the food grains.

Thus to sum it up we can say that the World Bank reforms are not sustainable and feasible in the sense that they may impose a huge financial burden on the people and also may lead to higher deprivations of the people in terms of the health.

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Annexure 1

Table A1.1: Monthly Per capita expenditure cut offs used for the expenditure quintiles Rural (Rs.)

State	Fractile Groups			
	I	II	III	IV
Andhra Pradesh	203	250.83	298	370.83
Orissa	185.75	222.5	267.17	330.83
India	208.33	258.17	312	397

Table A1.2: Monthly Per capita expenditure cut offs used for the expenditure quintiles urban Rs.

State	Fractile Groups			
	I	II	III	IV
Andhra Pradesh	268.5	346.75	453	649.42
Orissa	265.5	340.17	426.17	560.75
India	287.58	376.17	484	656.75

Annexure 2

Table A2.1 People not ailing

Regression of People of sample households of rural Orissa(Dependent Variable

Y = 1 if not ailing otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	1.1017	0.1662	43.9365	0	
Region					
Coastal	0.3843	0.1036	13.7581	0.0002	1.4686
Southern	-	-	-	-	-
Northern	-0.0254	0.0985	0.0664	0.7967	0.9749
Social Group					
Scheduled Caste	0.1643	0.0851	3.7315	0.0534	1.1786
Scheduled Tribe	0.115	0.0946	1.4773	0.2242	1.1218
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	0.4978	0.1115	19.9202	0	1.645
20-40 percent	0.5495	0.1089	25.4647	0	1.7323
40-60 percent	0.3321	0.1013	10.7483	0.001	1.394
60-80 percent	0.3761	0.1013	13.7914	0.0002	1.4566
Top 20 percent	-	-	-	-	-
Sex					
Male	-0.0288	0.0667	0.1865	0.6659	0.9716
Female	-	-	-	-	-
Age group					
Below 15 years	0.888	0.1209	53.9587	0	2.4303
15-44 Years	0.9575	0.1084	78.0083	0	2.6052
45-59 years	0.5161	0.1216	17.999	0	1.6755
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.3631	0.0937	15.0155	0.0001	1.4378
Below Secondary	0.4237	0.1023	17.1462	0	1.5277
Secondary and above	0.5128	0.1798	8.1371	0.0043	1.6699
Source of Drinking Water					
Tap	0.1225	0.1946	0.3961	0.5291	1.1303
Tubewell	0.1037	0.0663	2.4437	0.118	1.1092
Others	-	-	-	-	-
Source of Latrine					
Hygienic	-0.1938	0.3749	0.2672	0.6052	0.8238
Non Hygienic	-	-	-	-	-

TableA2. 1Cont...

Source of Drainage					
Hygienic	-0.8646	0.2346	13.5859	0.0002	0.4212
Non Hygienic	-	-	-	-	-
Regular Consumption of Intoxicants					
Yes	0.0268	0.0841	0.1016	0.7499	1.0272
No	-	-	-	-	-
-2 Log Likelihood 7667.612					
Goodness of Fit 16214.676					
Chi Square 211.837					
Degrees of Freedom 20					
Significance .0000					
Number of Observations 16292					

- Is for omitted variable

Table A 2.2 Proportion of People not ailing

Regression of People of sample households of urban Orissa(Dependent Variable

Y = 1 if not ailing otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	1.0323	0.2988	11.9327	0.0006	
Region					
Coastal	0.343	0.1817	3.5625	0.0591	1.4091
Southern	-	-	-	-	-
Northern	0.2563	0.1823	1.9779	0.1596	1.2922
Social Group					
Scheduled Caste	-0.4364	0.2102	4.3109	0.0379	0.6464
Scheduled Tribe	-0.098	0.19	0.2659	0.6061	0.9067
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	1.3458	0.2243	35.996	0	3.8414
20-40 percent	0.6827	0.1834	13.8552	0.0002	1.9792
40-60 percent	0.9661	0.1944	24.702	0	2.6277
60-80 percent	0.3254	0.1711	3.6177	0.0572	1.3846
Top 20 percent	-	-	-	-	-
Sex					
Male	0.0326	0.1199	0.074	0.7856	1.0332
Female	-	-	-	-	-
Age group					
Below 15 years	0.7218	0.2245	10.3398	0.0013	2.0582
15-44 Years	0.8831	0.2125	17.2709	0	2.4184
45-59 years	0.6904	0.2442	7.9953	0.0047	1.9946
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.268	0.1777	2.2744	0.1315	1.3073
Below Secondary	0.1395	0.1615	0.7461	0.3877	1.1496
Secondary and above	0.6272	0.2104	8.8867	0.0029	1.8724
Source of Drinking Water					
Tap	-0.1306	0.1261	1.0722	0.3004	0.8776
Tubewell	-	-	-	-	-
Others	-	-	-	-	-
Source of Latrine					
Hygienic	-0.0818	0.1568	0.2722	0.6018	0.9214
Non Hygienic	-	-	-	-	-

Table A2.2 Cont....

Source of Drainage					
Hygienic	-0.1833	0.1729	1.1239	0.2891	0.8325
Non Hygienic	-	-	-	-	-
Regular Consumption of Intoxicants					
Yes	0.1062	0.1651	0.414	0.5199	1.112
No	-	-	-	-	-
-2 Log Likelihood 2402.250					
Goodness of Fit 5465.979					
Chi Square 90.139					
Degrees of Freedom 19					
Significance .0000					
Number of Observations 5422					

- Is for omitted variable

Table A2.3. Proportion of People not ailing

Regression of People of sample households of rural Andhra Pradesh(Dependent Variable

Y = 1 if not ailing otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	1.4619	0.1262	134.1886	0	
Region					
Coastal	-0.784	0.0816	92.2258	0	0.4566
Inland Northern	-	-	-	-	-
SouthWestern	-1.515	0.0941	259.3583	0	0.2198
Southern	-1.5851	0.0914	300.8398	0	0.2049
Social Group					
Scheduled Caste	0.2936	0.1189	6.0964	0.0135	1.3413
Scheduled Tribe	-0.1554	0.0707	4.8332	0.0279	0.8561
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	0.7217	0.0963	56.2173	0	2.0579
20-40 percent	0.6472	0.0901	51.6466	0	1.9101
40-60 percent	0.2638	0.085	9.6348	0.0019	1.3019
60-80 percent	0.3489	0.0859	16.5053	0	1.4175
Top 20 percent	-	-	-	-	-
Sex					
Male	-0.1088	0.061	3.1799	0.0745	0.8969
Female	-	-	-	-	-
Agegroup					
Below 15 years	1.9467	0.0981	393.6649	0	7.0053
15-44 Years	1.8149	0.0862	443.1715	0	6.1406
45-59 years	1.3225	0.0965	187.8454	0	3.7527
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.3594	0.0975	13.5924	0.0002	1.4325
Below Secondary	0.3352	0.0879	14.5345	0.0001	1.3983
Secondary and above	0.375	0.153	6.0033	0.0143	1.4549
Source of Drinking Water					
Tap	0.0176	0.0816	0.0464	0.8294	1.0177
Tubewell	-0.0518	0.0686	0.5713	0.4498	0.9495
Others	-	-	-	-	-

Table A2.3 cont....

Source of Latrine					
Hygienic	-0.1066	0.3864	0.076	0.7827	0.8989
Non Hygienic	-	-	-	-	-
Source of Drainage					
Hygienic	-0.264	0.3764	0.492	0.483	0.768
Non Hygienic	-	-	-	-	-
Regular Consumption of Intoxicants					
Yes	0.0187	0.0748	0.0621	0.8032	1.0188
No	-	-	-	-	-
-2 Log Likelihood 9762.299					
Goodness of Fit 22722.350					
Chi Square 1176.142					
Degrees of Freedom 21					
Significance .0000					
Number of Observations 22705					

- Is for omitted variable

Table A2.4. Proportion of People not ailing

Regression of People of sample households of urban Andhra Pradesh(Dependent Variable

Y = 1 if not ailing otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	1.4328	0.1817	62.1692	0	
Region					
Coastal	-0.8232	0.095	75.1512	0	0.439
Inland Northern	-	-	-	-	-
SouthWestern	-1.4552	0.1118	169.5613	0	0.2334
Southern	-1.2804	0.1241	106.4384	0	0.2779
Social Group					
Scheduled Caste	0.1151	0.231	0.2482	0.6183	1.122
Scheduled Tribe	-0.1116	0.1005	1.2338	0.2667	0.8944
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	0.7537	0.1155	42.5652	0	2.1248
20-40 percent	0.6379	0.1097	33.8229	0	1.8924
40-60 percent	0.3543	0.1011	12.2844	0.0005	1.4253
60-80 percent	0.3016	0.1001	9.0741	0.0026	1.352
Top 20 percent	-	-	-	-	-
Sex					
Male	0.0002	0.0697	0	0.9981	1.0002
Female	-	-	-	-	-
Age group					
Below 15 years	1.4573	0.1093	177.9252	0	4.2944
15-44 Years	1.5143	0.1021	220.1036	0	4.5463
45-59 years	0.9428	0.1132	69.3393	0	2.5671
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.1616	0.0969	2.7843	0.0952	1.1754
Below Secondary	0.3165	0.0864	13.4259	0.0002	1.3723
Secondary and above	0.651	0.1075	36.683	0	1.9175
Source of Drinking Water					
Tap	0.1138	0.1175	0.9376	0.3329	1.1205
Tubewell	-0.0093	0.1466	0.004	0.9495	0.9908
Others	-	-	-	-	-

Table A2.4 cont...

Source of Latrine					
Hygienic	-0.0836	0.1008	0.6879	0.4069	0.9198
Non Hygienic	-	-	-	-	-
Source of Drainage					
Hygienic	-0.2837	0.1099	6.6641	0.0098	0.753
Non Hygienic	-	-	-	-	-
Regular Consumption of Intoxicants					
Yes	-0.2124	0.0972	4.7777	0.0288	0.8086
No	-	-	-	-	-
-2 Log Likelihood 7737.021					
Goodness of Fit 17580.392					
Chi Square 601.202					
Degrees of Freedom 20					
Significance .0000					
Number of Observations 17404					

- Is for omitted variable

Annexure 3

Table A3.1 Proportion of People ailing people seeking treatment
Regression of People of sample households of rural Orissa(Dependent Variable
Y = 1 if seeking treatment for ailment otherwise 0)

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	0.2647	0.3269	0.6557	0.4181	
Region					
Coastal	0.653	0.2175	9.0151	0.0027	1.9213
Southern	-	-	-	-	-
Northern	-0.1001	0.2015	0.2471	0.6191	0.9047
Social Group					
Scheduled Caste	-0.0725	0.1729	0.1757	0.6751	0.9301
Scheduled Tribe	-0.2319	0.1989	1.3588	0.2438	0.793
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	-1.0971	0.2484	19.5097	0	0.3338
20-40 percent	-0.5916	0.2483	5.6744	0.0172	0.5535
40-60 percent	-0.8125	0.2318	12.2848	0.0005	0.4438
60-80 percent	-0.5078	0.2386	4.5316	0.0333	0.6018
Top 20 percent	-	-	-	-	-
Sex					
Male	-0.0788	0.1433	0.3026	0.5823	0.9242
Female	-	-	-	-	-
Age group					
Below 15 years	0.5202	0.2182	5.6824	0.0171	1.6824
15-44 Years	0.5898	0.2225	7.0247	0.008	1.8036
45-59 years	0.2214	0.2486	0.7932	0.3731	1.2479
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.2182	0.2089	1.0907	0.2963	1.2438
Below Secondary	0.1861	0.2338	0.6338	0.426	1.2046
Secondary and above	0.477	0.4549	1.0996	0.2943	1.6112
Distance from the medical facility					
Within the village	0.8058	0.2893	7.7586	0.0053	2.2386
Near the Village(Less than 5 kms.)	0.6061	0.1513	16.0501	0.0001	1.8333
Far from the village	-	-	-	-	-

Table A3.1 cont....

Type Of PHC/CHC					
With the Provision for bed	0.2301	0.1524	2.2802	0.131	1.2587
Without the provision for bed	-	-	-	-	-
Frequency of The Bus Services					
No Bus Service	-	-	-	-	-
Infrequent Bus Service	0.8129	0.3816	4.5374	0.0332	2.2544
Frequent Bus Service	0.5708	0.2607	4.7929	0.0286	1.7697
All Weather Road					
Yes	-0.2887	0.1665	3.0082	0.0828	0.7492
No	-	-	-	-	-
-2 Log Likelihood 1253.517					
Goodness of Fit 1070.949					
Chi-Square 134.006					
Degrees of Freedom 21					
Significance .0000					
Number of Observations 1076					

- Is for omitted variable

Table A3.2. Proportion of Ailing People getting Treated

Regression of People of sample households of urban Orissa(Dependent Variable

Y = 1 if ailing person gets treated otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	2.6297	0.8942	8.6494	0.0033	
Region					
Coastal	1.2705	0.5374	5.5895	0.0181	3.5627
Southern	-	-	-	-	-
Northern	0.1594	0.4436	0.1292	0.7193	1.1728
Social Group					
Scheduled Caste	-0.0424	0.4983	0.0072	0.9323	0.9585
Scheduled Tribe	-0.0862	0.5443	0.0251	0.8741	0.9174
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	-2.3347	0.7089	10.8484	0.001	0.0968
20-40 percent	-1.6857	0.6904	5.9609	0.0146	0.1853
40-60 percent	-1.8564	0.7164	6.715	0.0096	0.1562
60-80 percent	-1.1171	0.7145	2.4445	0.1179	0.3272
Top 20 percent	-	-	-	-	-
Sex					
Male	-0.5762	0.363	2.5191	0.1125	0.562
Female	-	-	-	-	-
Age group					
Below 15 years	0.2983	0.5989	0.2481	0.6184	1.3476
15-44 Years	0.0426	0.5996	0.005	0.9434	1.0435
45-59 years	0.484	0.7386	0.4293	0.5123	1.6225
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	-0.1646	0.4669	0.1243	0.7244	0.8482
Below Secondary	0.4063	0.4515	0.8096	0.3682	1.5012
Secondary and above	0.7423	0.6761	1.2053	0.2723	2.1007
-2 Log Likelihood 240.33					
Goodness of Fit 322.439					
Chi-Square 43.598					
Degrees of Freedom 15					
Significance .0001					
Number of Observations 339					

- Is for omitted variable

Table A3.3 Proportion of Ailing People seeking treatment

Regression of People of sample households of rural Andhra Pradesh(Dependent Variable

Y = 1 if seeking treatment for ailment otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	0.9767	0.3023	10.4395	0.0012	
Region					
Coastal	-0.1609	0.2036	0.6242	0.4295	0.8514
Inland Northern	-	-	-	-	-
SouthWestern	-1.4035	0.2211	40.2904	0	0.2457
Southern	-1.0858	0.204	28.3152	0	0.3376
Social Group					
Scheduled Caste	0.0155	0.2974	0.0027	0.9586	1.0156
Scheduled Tribe	-0.3932	0.1508	6.7962	0.0091	0.6749
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	-0.6558	0.2093	9.8187	0.0017	0.519
20-40 percent	-0.1933	0.2013	0.9221	0.3369	0.8243
40-60 percent	-0.1803	0.1907	0.8939	0.3444	0.835
60-80 percent	0.0607	0.1963	0.0957	0.7571	1.0626
Top 20 percent	-	-	-	-	-
Sex					
Male	0.2028	0.126	2.5902	0.1075	1.2248
Female	-	-	-	-	-
Age group					
Below 15 years	1.1482	0.1669	47.3389	0	3.1525
15-44 Years	1.3369	0.16	69.8485	0	3.8071
45-59 years	1.208	0.1926	39.3339	0	3.3469
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.4743	0.2445	3.7646	0.0523	1.6069
Below Secondary	0.4775	0.2145	4.9572	0.026	1.6121
Secondary and above	1.0256	0.4378	5.4877	0.0192	2.7887
Distance from the medical facility					
Within the village	0.3798	0.193	3.8752	0.049	1.462
Near the Village(Less than 5 kms.)	-0.0198	0.1843	0.0116	0.9143	0.9804
Far from the village	-	-	-	-	-

TableA3. 3 cont....

Type Of PHC/CHC					
With the Provision for bed	-0.0345	0.1279	0.0726	0.7876	0.9661
Without the provision for bed	-	-	-	-	-
Frequency of The Bus Services					
No Bus Service	-	-	-	-	-
Infrequent Bus Service	0.6089	0.323	3.5544	0.0594	1.8384
Frequent Bus Service	-0.1689	0.1467	1.3248	0.2497	0.8446
All Weather Road					
Yes	-0.2926	0.162	3.2633	0.0708	0.7463
No	-	-	-	-	-
-2 Log Likelihood 1676.478					
Goodness of Fit 1701.657					
Chi-Square 275.834					
Degrees of Freedom 22					
Significance .0000					
Number of Observations					

- Is for omitted variable

Table A3.4 Proportion of People with an ailment seeking treatment					
Regression of People of sample households of urban Andhra Pradesh(Dependent Variable Y = 1 if ailing but seeking treatment otherwise 0					
Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	2.4351	.3929	34.4213	.00000	
Region					
Coastal	-0.3969	0.3124	1.6145	0.20390	0.6724
Inland Northern					
SouthWestern	-2.3312	0.3081	57.2625	0.00000	0.0972
Southern	-1.6713	0.3357	24.7923	0.00000	0.188
Social Group					
Scheduled Caste	0.3294	0.654	0.2537	0.61450	1.3902
Scheduled Tribe	0.1399	0.2994	0.2185	0.64020	1.1502
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	-0.8717	0.3373	6.6792	0.00980	0.4182
20-40 percent	-0.9957	0.3161	9.9231	0.00160	0.3694
40-60 percent	-0.3463	0.3063	1.2778	0.25830	0.7073
60-80 percent	-0.1967	0.3314	0.3521	0.55290	0.8215
Top 20 percent	-	-	-	-	-
Sex					
Male	0.237	0.1927	1.5121	0.21880	1.2674
Female	-	-	-	-	-
Age group					
Below 15 years	1.4448	0.2619	30.4281	0.00000	4.241
15-44 Years	0.8527	0.2382	12.8102	0.00030	2.346
45-59 years	1.0031	0.281	12.7433	0.00040	2.7268
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	-0.335	0.2712	1.5262	0.21670	0.7153
Below Secondary	0.4192	0.2564	2.6735	0.10200	1.5207
Secondary and above	-0.0931	0.3284	0.0804	0.77680	0.9111
-2 Log Likelihood 806.748					
Goodness of Fit 1271.843					
Chi-Square 194.447					
Degrees of Freedom 16					
Significance .0000					
Number of Observations 1225					

- Is for omitted variable

Annexure 4

Table A4.1 Proportion of people choosing public sector

Regression of People of sample households of rural Orissa(Dependent Variable

Y = 1 if choosing public sector otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	2.0672	0.6834	9.1501	0.0025	
Region					
Coastal	-0.2621	0.5682	0.2128	0.6446	.7694
Southern	-	-	-	-	-
Northern	0.0188	0.5429	0.3225	0.5701	1.0189
Social Group					
Scheduled Caste	-0.243	0.4279	0.3225	0.5701	0.7843
Scheduled Tribe	0.4259	0.4702	0.8205	0.365	1.531
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	-0.5189	0.6027	0.7414	0.3892	0.5951
20-40 percent	-0.2024	0.5198	0.1517	0.6969	0.8167
40-60 percent	0.4618	0.545	0.7179	0.3968	1.5869
60-80 percent	0.2719	0.405	0.4507	0.502	1.3124
Top 20 percent	-	-	-	-	-
Sex					
Male	-0.2177	0.3266	0.4443	0.5051	0.8044
Female	-	-	-	-	-
Age group					
Below 15 years	1.3076	0.6296	4.3131	0.0378	3.6974
15-44 Years	0.2312	0.4281	0.2916	0.5892	1.2601
45-59 years	0.5323	0.49	1.1799	0.2774	1.7028
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	-0.2692	0.4234	0.4045	0.5248	0.764
Below Secondary	-0.9523	0.3852	6.1102	0.0134	0.3859
Secondary and above	0.3059	0.818	0.1398	0.7084	1.3579
-2 Log Likelihood 310.123					
Goodness of Fit 453.535					
Chi-Square 18.824					
Degrees of Freedom 15					
Significance .2218					
Number of Observations 445					

- Is for omitted variable

Table A4.2 Proportion of people choosing public sector

Regression of People of sample households of urban Orissa(Dependent Variable

Y = 1 if choosing public sector otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	-0.7063	0.7254	0.948	0.3302	
Region					
Coastal	0.8846	0.5649	2.4528	0.1173	2.4221
Southern	-	-	-	-	-
Northern	1.257	0.5802	4.6944	0.0303	3.5149
Social Group					
Scheduled Caste	-0.5833	0.9523	0.3751	0.5402	0.5581
Scheduled Tribe	0.0235	0.5997	0.0015	0.9688	1.0238
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	1.8487	0.8641	4.577	0.0324	6.3517
20-40 percent	0.8802	0.6027	2.1329	0.1442	2.4113
40-60 percent	1.018	0.5596	3.3091	0.0689	2.7677
60-80 percent	0.7094	0.4597	2.3808	0.1228	2.0327
Top 20 percent	-	-	-	-	-
Sex					
Male	0.7994	0.3798	4.4298	0.0353	2.2242
Female	-	-	-	-	-
Age group					
Below 15 years	2.6274	1.1597	5.1332	0.0235	13.8375
15-44 Years	0.9152	0.5542	2.7275	0.0986	2.4973
45-59 years	-0.1734	0.5556	0.0974	0.755	0.8408
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	-0.8943	0.5915	2.2863	0.1305	0.4089
Below Secondary	-0.5682	0.5519	1.0602	0.3032	0.5665
Secondary and above	-1.4306	0.6162	5.3901	0.0203	0.2392
-2 Log Likelihood 198.562					
Goodness of Fit 239.951					
Chi-Square 50.578					
Degrees of Freedom 15					
Significance .0000					
Number of Observations 223					

- Is for omitted variable

Table A4.3. Proportion of People choosing public sector

Regression of People of sample households of rural Andhra Pradesh(Dependent Variable

Y = 1 if person chooses public sector otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	-1.4507	.3065	22.4043	.00000	
Region					
Coastal	-0.1579	0.197	0.6425	0.4228	0.0887
Inland Northern	-	-	-	-	-
SouthWestern	0.8262	0.2667	9.5982	0.0019	2.2845
Southern	0.6807	0.2575	6.9882	0.0082	1.9752
Social Group					
Scheduled Caste	0.4574	0.3423	1.7857	0.1814	1.58
Scheduled Tribe	0.4591	0.1926	5.6816	0.0171	1.5827
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	1.267	0.2808	20.3643	0	3.5502
20-40 percent	1.1298	0.2455	21.178	0	3.0951
40-60 percent	0.9784	0.2395	16.6956	0	2.6603
60-80 percent	0.3812	0.2237	2.9057	0.0883	1.4641
Top 20 percent	-	-	-	-	-
Sex					
Male	0.1394	0.1699	0.6731	0.412	1.1495
Female	-	-	-	-	-
Age group					
Below 15 years	-0.6583	0.3202	4.2272	0.0398	0.5177
15-44 Years	-0.3261	0.2589	1.5863	0.2079	0.7218
45-59 years	-0.1961	0.2762	0.5043	0.4776	0.8219
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	-0.1748	0.2779	0.3958	0.5293	0.8396
Below Secondary	-0.1558	0.2303	0.4576	0.4987	0.8557
Secondary and above	-0.3959	0.4109	0.9282	0.3353	0.6731
-2 Log Likelihood 964.899					
Goodness of Fit 887.201					
Chi-Square 981.180					
Degrees of Freedom 16					
Significance .0000					
Number of Observations 890					

- Is for omitted variable

Table A4.4. Proportion of People choosing public sector

Regression of People of sample households of urban Andhra Pradesh(Dependent Variable

Y = 1 if person chooses public sector otherwise 0

Explanatory Variable	Coefficient	Standard Error	Wald Statistic	Significance	Exponential of B
Constant	-1.299	0.2829	21.0787	0	
Region					
Coastal	-0.8245	0.1796	21.0708	0	0.4384
Inland Northern					
SouthWestern	0.1365	0.2509	0.296	0.5864	1.1462
Southern	0.5859	0.2881	4.1357	0.042	1.7967
Social Group					
Scheduled Caste	0.3348	0.4998	0.4488	0.5029	1.3977
Scheduled Tribe	0.4312	0.2231	3.7356	0.0533	1.5391
Others	-	-	-	-	-
Fractile Group					
Bottom 20 percent	1.7372	0.2903	35.7992	0	5.6812
20-40 percent	1.2404	0.2633	22.1864	0	3.457
40-60 percent	1.0941	0.254	18.5492	0	2.9864
60-80 percent	0.7486	0.2304	10.5531	0.0012	2.114
Top 20 percent	-	-	-	-	-
Sex					
Male	0.2173	0.1632	1.773	0.183	1.2428
Female	-	-	-	-	-
Agegroup					
Below 15 years	-0.536	0.2793	3.6826	0.055	0.5851
15-44 Years	-0.0159	0.2352	0.0046	0.9461	0.9842
45-59 years	-0.0751	0.2536	0.0877	0.7671	0.9276
Above 60 years	-	-	-	-	-
Educational Attainment					
Illiterate	-	-	-	-	-
Literate but below primary	0.5153	0.2485	4.298	0.0382	1.6741
Below Secondary	-0.0829	0.2083	0.1583	0.6907	0.9205
Secondary and above	-0.197	0.2501	0.6206	0.4308	0.8212
-2 Log Likelihood 999.863					
Goodness of Fit 871.102					
Chi-Square 118.044					
Degrees of Freedom 16					
Significance .0000					
Number of Observations 868					

- Is for omitted variable

