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Abstract

This paper takes up the issues pertaining to the health sector in Kerala in a larger comparative perspective in the Indian context. It would focus on the incidence of morbidity across socio-economic dimensions and their implications for economic policy. Its major findings are: The level of living of every decile group in Kerala is higher than that of the corresponding group at the all-India level. Extent of inequality in consumption distribution is higher in rural Kerala (North, South and combined) than in rural all-India and higher in urban Kerala (combined only) than in urban all-India. Within Kerala, the southern region is better off in terms of levels of living in both rural and urban sectors. The extent of inequality is also higher in South Kerala than in the North; still incidence of absolute poverty is higher in the North than in the South, reflecting the relatively lower level of standard of living in the former. As regards institutional facilities for health care, proportion of illness treated is higher in Kerala than in India as a whole. Extent of dependence on the public sector for health care is higher in Kerala than in all-India. Opportunity cost of illness is lower in Kerala than in India as a whole. Incidence of morbidity is higher in Kerala than in all-India. Within Kerala as a whole, it is (i) higher among women than men; (ii) higher in the rural than in the urban sector; and (iii) higher in the in the South than in the North. Incidence of morbidity is higher in rural than in urban Kerala and vice versa for all-India. As regards inequality in morbidity, the extent in general is lower in Kerala than in India though levels of morbidity are higher in the former than in the latter. Incidence of morbidity is uniformly higher among the poor than among the non-poor categories in South as well as North Kerala. In general, the poor rely relatively more on the public sector than on the private for treatment of illness as well as for hospitalization. Hence, the pursuit of privatization and public sector reform has to be carried out with due regard to the welfare costs associated with them.

Key words: Socio-economic dimension, economic policy, inequality, opportunity cost.

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1. Introduction

Conventional emphasis in public policy for economic growth and development has generally been on physical capital accumulation and technological progress for productivity improvements. There was little by way of recognition of the importance and role of human capital in promoting growth and poverty reduction. This is not to state that governments had little concern for these dual dimensions of human capital. In fact, the emphasis on education and health, two major ingredients of human capital, was largely based on welfare considerations rather than the perspective of 'human capital as a factor of production'. Both education and health are important from the economic growth perspective too. While education has a role with respect to productivity, levels as well as rate of growth, health would contribute to growth from several perspectives as shown below. Good health would enhance growth by:

a) Reducing productivity losses due to illness.
b) Permitting utilization of resources which otherwise would have remained inaccessible or unutilized.
c) Promoting school enrollment of children and enabling them to learn.
d) Saving on resources required for treatment of illness (World Bank 1993).

The World Development Report 2000 has even gone to the extent revising its concept of deprivation with reference to the multiple dimensions involving both income and non-income aspects. The Millennium Development Goals adopted by the UN member countries too acknowledge this fact and seek to reduce incidence of deprivation in some major dimensions like education and health.

India has miles to go in terms of comprehensive policies with respect to education and health, the latter in particular. It is precisely at this juncture that the country has initiated a series of economic reform measures in terms of revising the scope for public health centers, cost recovery and privatization (Purohit and Siddiqui, 1995; Bhat 2000), which is likely to have considerable costs from a welfare perspective. This naturally would raise the question regarding the most appropriate cost-effective strategy for improving health in India? As a special case study, one may consider the unique experience of Kerala for the following reasons: As regards the health sector, levels of morbidity in the State of Kerala, despite its remarkable achievements in human development (including life expectancy), are quite high. There is a hypothesis that high levels of morbidity along with low rates of mortality could be due to a poor health status associated with low levels of income and hence, inadequate nutrition (Panikar and Soman, 1984). A moot question would be to ask whether the hypothesis is valid any longer given the recent evidence that Kerala has caught up and has even done better than most of states in terms of growth and levels of living during the post-1973 scenario. If so, it would be worthwhile to examine the levels of living in Kerala as well as different parts of Kerala vis-à-vis that of all-India, morbidity rates, their causes, type and extent of institutional facilities available for their treatment. This would provide

some clues to address the question on the welfare implications of such high levels of morbidity in Kerala in the wake of economic reform and privatization of health care.

To be specific, this paper takes up the issues pertaining to the health sector in Kerala in a larger comparative perspective in the Indian context. It would focus on the incidence of morbidity across socio-economic dimensions and their implications for economic policy. The rest of the paper is organized as follows: Section 2 provides the motivation for taking up a study of Kerala. Section 3 provides a macro profile of morbidity, health care facilities and utilization in Kerala, rest of the states and India as a whole. Section 4 socio-economic dimensions, occupational and regional profile of morbidity in Kerala. The final section sums up the paper.

2. Why Study Kerala?

The State of Kerala within India has received international attention and acclaim for its conscious policy intervention for high levels of human development. Contrary to the previous apprehension about the sustainability of the Kerala model, recent evidence seems to show that high levels of human development have also been instrumental in registering sustained economic growth. However, there are doubts regarding the quality and type of education as well as status of health in Kerala and also the soundness of the recent growth experience. As regards health, one feature that stands out is the high level of morbidity co-existing with low levels of mortality and high life expectancy in Kerala. The *Human Development Report 2005* for Kerala highlights the fact that morbidity estimate was 71 per 1000 persons for acute illness and 83 per 1000 persons for chronic illness in the year 1973-74; it corroborates this point with additional evidence from several studies (Centre for Development Studies, 2006; p.29). Of course, these estimates have been interpreted from different perspectives. There have been different types of explanations for this paradox, which are as follows:

1) Panikar and Soman (1984) explain the paradox of low mortality but high morbidity in terms of a lopsided health strategy, which emphasized curative medicine to reduce death rates and not sustained improvement in health status through nutrition, housing, water supply, sanitation and medicine. (p. 100). In other words, it is a case of “averting death without improving life”. As per their assessment, one salient feature of the morbidity profile of Kerala is that diseases of poverty coexist with those of affluence. Panikar and Soman (1984) also point out that morbidity estimates for Kerala could be over-estimates because of high levels of education and public awareness of rights and access to health services involving higher-than-normal utilization of such services.
2) Another hypothesis seeks to explain high levels of morbidity in terms of better reporting in a state with higher levels of education and awareness.
3) *Human Development Report 2005* adduces increase in life expectancy as one of the reasons for high levels of morbidity in Kerala (Centre for Development Studies, 2006).
4) Chen and Schaik (1986) explain the paradox with reference to lopsided emphasis on social development overlooking the importance of income growth. The explanation runs as follows: (a) Curative medical care combined with a literate and articulate society will go a long way in curbing mortality rates; (b) Incidence of morbidity depends on risk factors governing exposure to disease like housing, water supply and sanitation which in turn depend upon income; and (c) Nutritional status depends upon food consumption, which in turn is a

function of income and economic access. As a result of Kerala's lopsided emphasis, fertility and mortality declined without corresponding improvements in health and nutritional status.

5) There are studies (Kannan *et al.*, 1991), which authenticate the high estimates of morbidity for Kerala on two grounds: (i) Infections account for a majority of morbidity; and (ii) incidence of illness is more for the poor than the rich.
6) The findings of National Family Health Survey II (1998-99) provide evidence of high prevalence of illness like asthma and Tb in Kerala: Incidence of asthma was 5.08 per cent in rural Kerala, 3.90 per cent in urban Kerala and 4.81 per cent in Kerala as a whole while the corresponding estimates for all-India were 2.64, 1.97 and 2.47 respectively (IIPS and ORC Macro, 2000; pp. 200-202).

The set of issues and explanations listed above, if valid, have indeed serious policy implications. As point out by the *Human Development Report 2005: Kerala*, the findings call for an emphasis on (i) 'better nutrition, environmental sanitation and preventive health care'; (ii) enhanced role for the public sector and (iii) greater regulation of the private sector from a welfare perspective (Centre for Development Studies, 2006; p. 163).[2] However, recent evidence on Kerala's growth experience casts doubts on the hypothesis regarding poverty as the cause of morbidity.

1) Income does not seem to be a severe constraint any longer. Due to high levels of human development and hence, emigration and income remittances, Kerala has caught up with the rest of the country and has even excelled the rest in terms of levels living during the post-1973 scenario. Average consumer expenditure levels, which were less than that of all-India prior to 1973, have exceeded and even grown faster than that of all-India average.
2) Estimates of measures of nutritional intake like energy, protein and fat show general improvement for all poorer decile groups in rural and urban Kerala (Suryanarayana, 2003). Available information for the recent year 2004-05 shows that estimates of nutritional intake (calorie, protein and fat) per consumer unit are high in both rural and urban sectors (Table 1).
3) Since 1997, Kerala's domestic growth performance too has caught up with that of major growing states like Maharashtra and is toady one of the fastest growing Indian states (Ahluwalia, 2000; Kannan, 2005).
4) Other correlates of standard of living also corroborate the relative high status of Kerala in terms of standard of living.
    a. One major factor, which is a good measure of standard of living and has a positive influence on health status is the type of dwelling. About 73 percent of rural households in all-Kerala lived in pucca structures as against the estimate of 48 per cent for rural all-India. The corresponding estimates for urban households were 84.7 per cent for all-Kerala and 84.2 per cent for all-India. The percentage numbers of households living in kutcha structures were meager for all-Kerala (7.2 per cent for rural and 2.4 per cent for urban) when compared with those for all-India (18.8 per cent for rural and 4.3 per cent for urban) (Government of India (GoI), 2006; p. 36).
    b. Though Kerala is comparable to all-India with reference to percentage number of households depending upon safe sources for drinking water, it comes out poorly in terms of awareness and hygiene. Only 3.9 per

[2] For a critical perspective, see Subramanian (2006).

cent of the rural households in all-Kerala (as against 19.9 per cent for rural all-India) and 32.9 per cent of the urban households in urban Kerala (as against 37.5 for urban all-India) treated water before drinking (GoI, 2006; pp. 37-38).

5) Still morbidity has increased between July 1995-June 1996 and January – June 2004 from 11.8 to 25.5 per cent in rural Kerala and from 8.8 to 24 per cent in urban Kerala.[3]

The set of issues and different perspectives presented above would naturally give rise to several questions on the incidence of morbidity across income groups in different parts as well as Kerala as a whole, morbidity profiles and the role of medical institutions. A clear perspective would call for a verification of the level of health status, morbidity rate across income groups, their causes and policy imperatives in Kerala.

3. Data Base

The current study is based on the NSS findings from its 60th round survey during January-June 2004 of morbidity and utilization of health services. The findings are based on published report (Report no 507) as well as tabulation of unit record data.

The survey was based on a two-stage stratified sample design: census villages in the rural and blocks in the urban areas constituted the first stage units and households were the second stage units in both the sectors. The survey was carried out during two sub-rounds of three months each between January and June 2004.

The NSS definition of illness includes (i) disabilities related to visual, hearing, speech, loco motor and mental faculties; (ii) physical damages involving cuts, wounds, hemorrhage, fractures and burns due to accidents; and (iii) spontaneous abortion, natural or accidental". The details are ascertained in terms of probing questions to the extent possible the individual members of the sampled household. The enquiry regarding morbidity was with reference to the 15 days preceding the date of enquiry. As regards hospitalization, the preceding 365 days was the relevant reference period.

Generally, studies refer to either the State as a whole or isolated regions or localities. This paper seeks to provide profiles of northern and southern parts of Kerala and examine their features. For this purpose, special tabulations of the NSS unit record data from the 60th round survey on 'Morbidity and Health Care' are carried out for the two NSS regions in Kerala. They are (i) Northern region (consisting of the districts of Kannur, Kasaragod, Kozhikode, Malappuram, Palakkad and Wayanad) and (ii) Southern region (consisting of the districts of Alappuzha, Ernakulam, Idukki, Kollam, Kottayam, Pathanamthitta, Thiruvananthapuram and Thrissur). Statistical details about sample size by region and sector, extent of response and representativeness are as follows (Tables 2-4):

1) In keeping with the population weights, the rural samples were larger than the urban ones in both North and South Kerala; (Table 2);

[3] Morbidity has increased at the all-India level too from 5.5 to 8.8 per cent and 8.4 to 9.9 per cent between the same two periods (GoI, 2000 and 2006)

2) Extent of (rural and urban) household response and capability was higher in all-Kerala than in all-India, and higher in the North than in the South within Kerala (Table 3).
3) Representativeness, as measured by the percent of originally selected households in the sample, was higher for all-India than for all-Kerala and higher for North Kerala than for the South (Table 4).

4. Economic Development and Health Care: A Macro Profile

The state of Kerala has received attention across the world for effective public intervention for human welfare, which has finally led to both high levels of human development and economic growth. Though there were doubts regarding the sustainability of Kerala's development strategy, recent evidence on economic growth has set at rest all such doubts. Today the level of living of every decile group of all-Kerala population is higher than that of its counterpart at the all-India level (Table 5). This holds good even when the comparison is made between South Kerala and all-India (Table 5). Only the rural sector of North Kerala is better off than its counterpart at the all-India level; not so as to its urban sector. This is confirmed by estimates of incidence of poverty (headcount ratio) across regions and by sectors also.

Given the status of economic development, it would be worthwhile to examine the extent of facilities available and their utilization pattern. Some available details are as follows:

1) About 90 per cent of the illness is treated in both rural and urban areas of Kerala as against 82 per cent in rural all-India and 89 per cent in urban all-India (Table 6).
2) However, their relative dependence on public and private medical sources differs. While 37 per cent of the ailments are treated in the government medical facilities in rural Kerala, it is just 20 per cent in its urban sector. Compared with rural Kerala, a relatively smaller proportion of the all-India rural population is dependent on the public institutions (22 per cent); both rural and urban sectors rely more on the private medical institutions (about 80 per cent) (Table 6).
3) Such estimates for the years 1986-87, 1995-96 and 2004 show marginal variations in the role of public institutions in providing non-hospitalised treatment of ailments for both rural and urban populations. However, the profile is different for Kerala: Reliance of the urban population on public intuitions has decreased but that of the rural population, though fluctuating decreased between 1995-96 and 2004 (Table 7).
4) As regards hospitalization, the rate is the highest for Kerala across all states. The proportion of persons hospitalized is 10.1 per cent for rural Kerala and 9 per cent for urban Kerala while corresponding estimates for all-India are 2.3 and 3.1 per cent respectively (Table 8).
5) Kerala along with Jammu & Kashmir are the two states where the percentage of hospitalized cases treated in government hospitals exceeds the percentage of beds in government hospitals (Table 9). This feature reflects quite favorably on the quality of service provided in public hospital in these two states.
6) High levels of morbidity and the relatively higher reliance on the private sector in urban Kerala would have its own implications for the poor in an era of privatization and drug deregulation. The average medical expenses for non-hospitalised treatment per ailing person during the period of 15 days is Rs 182

in rural Kerala and Rsb193 in urban Kerala. A further break-up by source (govt. vs. private) shows that virtually the entire amount (Rs 179 in rural Kerala and Rs 189 in urban Kerala) was on treatment from private institutions. As against this, the all India estimates of medical expenses for rural and urban sectors are Rs 257 and Rs 285 respectively. The public vs. private break-ups are (11 + 2416) for rural and (7+299) for urban all-India (Table 10).

7) In addition, illness involves an opportunity cost for the household in terms of loss of income. Estimated loss of income per treated person (non-hospitalised cases) during the reference period of 15 days is Rs 72 in rural Kerala and Rs 83 in urban Kerala; the corresponding estimates for all-India were Rs 135 and Rs 96 respectively (Table 10). In a similar way, hospitalization for different types of ailments too has its own monetary and opportunity costs as listed in Table 11.

5. Morbidity and Health in Kerala

5.1 Current Scenario:

To facilitate a proper understanding of issues and appreciation of welfare imperatives, this section provides a profile of the incidence of morbidity that is, Proportion of Ailing Persons across gender and by sector sex for Kerala along with that for all-India for the same reference period (January-June 2004) (Table 12). In fact, several studies have emphasized the gender and economic dimensions of inequality in health status in India (Sen. *et al.,* 2002) and from a policy perspective, one may consider other dimensions like occupation too. Some salient features of the gender, occupational and economic dimensions are presented in the same sequence below:

1) Incidence of morbidity is higher in Kerala than India as a whole. For the population as a whole it is 25.11 per cent for Kerala as against 9.11 per cent for All-India.
2) For both men and women, it is higher, though marginally, in the rural sector than in the urban in Kerala and the reverse at the all-India level.
3) It is uniformly and marginally higher for women than for men across sectors both in Kerala and in India as a whole. Within Kerala, it is higher for women only in the South; it is the same as/marginally less for women than for men in North Kerala.
4) Within Kerala, the incidence is much higher (almost twice) in the South than that in the North, whatever it may imply about the health status. This pattern holds good across gender in both rural and urban sectors.

That the magnitude of morbidity is much higher in Kerala than in India as a whole has serious budgetary and policy implications with respect to provision of health care, its volume as well as type, in Kerala.

If so, a moot question would be how far these estimates are reliable? Do they represent actual state of affairs or are they resultant of higher levels of awareness thanks to high levels of literacy in Kerala? One approach to verify this issue could be to juxtapose estimates of morbidity with those for infant mortality across states. This is because infant mortality is widely considered as a reliable indicator of the health status of a population. Sample Registration Scheme estimates by the Registrar-General of India of infant mortality for the year 2002 exhibit broad negative covariance with morbidity across states in India (Table 13).

5.2 Occupational Profile:

From a policy perspective, it would be important to examine the levels morbidity by occupational groups of households since the nature and extent of access to health facilities as well as insurance available varies by these groups (Tables 14 & 15):

1) As regards the rural sector, incidence was the highest among 'other labour' in Kerala and 'Others' for all-India. Within Kerala, the North and the South differ with respect to both magnitude and profile. Incidence was the highest for self employed in agriculture in Northern Kerala but Other labour in South Kerala It was the lowest among self-employed in anon-agriculture in North Kerala, 'Others' in South Kerala, but agriculture labour' for Kerala as a whole. For all-India, it was lowest among 'agriculture labour' (Table 14).
2) As regards the urban sector, morbidity was the highest among casual labouers in northern Kerala, other labour in South Kerala and Kerala as a whole and also for all-India. Urban morbidity was the lowest among regular wage/salary earners in North Kerala, self-employed in non-agriculture in South Kerala, Kerala as a whole and also all-India (Table 15).

5.3 Economic Class Profile:

Given the general perception that level income and health status co-vary in the same direction, it would be interesting to examine the incidence of morbidity by population decile groups formed with reference to levels of consumer expenditure in Kerala as well as country as a whole. The extent of inequality in health status is generally measured in terms of different measures. For instance, Sen. *et al.* (2002) regress morbidity on fractile group and use estimated slope parameter as a measure of extent of inequality. However, one limitation of this study is that the fractile groups are of unequal size involving heteroscedasticity and giving scope for specification error and hence, inefficient regression slope estimates. Hence, we overcome this problem by estimating morbidity rates across equi-frequency decile groups and pseudo-Gini rations based on unit record data. The estimates bring out the following features (Table 16):

1) Incidence of morbidity is higher in rural than in urban Kerala and vice versa for all-India. As regards inequality in morbidity, the extent in general is lower in Kerala than in India though levels of morbidity are higher in the former than in the latter. Within Kerala, contrary to the relative profile of morbidity levels, inequality was higher in urban than in rural sector in South Kerala and Kerala as a whole. Similarly, at the all India level too, inequality in morbidity as against incidence was higher in the rural than in the urban sector.
2) Within Kerala, relative levels of incidence of morbidity across sectors was the same as at the state level; and the incidence in general was less in the North than in the South.
3) Estimates of relative inequality in morbidity distribution show explicit ordinal rankings of sectors; however, pseudo-Lorenz curves for sectors at different levels (state as well as all-India) intersect implying that relative levels of morbidity vary at different percentiles of expenditure (Figs 1-4).

4) However, a binary classification into poor and non-poor categories tend to show that finding that the incidence of morbidity is uniformly higher among the poor than among the non-poor categories at all geographical levels (Table 17).

Given Panikar-Soman explanation for the Kerala's paradoxical experience, a moot question would be on type of diseases afflicting these two categories at different levels (Tables 18 & 19). This coupled with the information on their relative access to private and public medical institutions will facilitate a study of welfare costs and benefits (Tables 20 &21). These issues are discussed in the following sub-section.

5.5 Morbidity: Profile and Treatment

The profiles of morbidity with reference to (a) past 15 days and (b) past 365 days are provided in Tables 18 & 19 respectively. While the former refer to the number of ailing cases treated either as an outpatient or inpatient or both, the latter pertains only to number of spells of hospitalization only. The salient features pertaining to major[4] diseases are presented below:

5.5.1 Short-run scenario:

The profile of self-reported morbidity with a reference period of 15 days bring out the following (Table 18):

Rural Sector:

1) In rural all-Kerala, major ailments were hypertension (7.61), respiratory & ENT (12.3), bronchial asthma (5.2), joints/bones (8.97), diabetes mellitus (5.92), fever (unknown) (15.4) and other diagnosed (16.5). The same profile, with marginal differences (that is, percentage point difference of less than five) in magnitude, held good for both the poor and non-poor categories except that diabetes mellitus was not a major disease for the poor (3.07) and that the percentage point difference between the poor (21.5) and non-poor (15.6) was not marginal for 'other diagnosed' category.
2) Given the demographic weight, South Kerala exhibits almost the same features as all-Kerala. As regards North Kerala, there are some notable differences.
    a. While Respiratory (&ENT) category accounted for only 5.11 per cent in North Kerala but 15.19 per cent in South Kerala.
    b. As regards joints/bones, the incidence was 5.19 in the North and 10.5 in the South.
3) In general, the major diseases in Kerala are those generally associated with life-style and not with deprivation.
4) The above features observed for Kerala are in some sense in contrast with those for all-India:

[4] Identification of ailments as major / minor is carried out with reference to their percentage share criterion: ailments, which accounted for more than or about 5 per cent of the total number of ailing cases or spells of hospitalization are called major.

a. Diarrhoea/dysentery, gastric/peptic ulcer together account for about 10 per cent of the reported cases at the all-India level while the same for Kerala was about 3 per cent. Further malaria, which did not prevail in Kerala, afflicted the rest of India.
b. Heart diseases and hypertension together accounted for about 11 per cent in Kerala but about 5 per cent at all-India rural sector.
c. ENT related ailments afflicted one out of every eighth ailing case in Kerala but only one out of 14 at the all-India level.

Urban Sector:

1) Major ailments in urban all-Kerala were hypertension (9.84), respiratory & ENT (13.79), joints/bones (7.44), diabetes mellitus (8.52), fever (unknown) (17.47) and other diagnosed (13.36). All these diseases except 'other diagnosed' and 'fever (unknown)' categories, dominated for the non-poor than for the poor in the sense that the estimates for the former exceeded those for the latter by more than five percentage points.
2) South Kerala exhibited nearly similar features as the state as a whole; however, the North differs by exhibiting near homogeneity of ailment profiles for the poor and non-poor.
3) All-India features too were broadly similar to those for Kerala in some respects.

5.5.2 Long-run (hospitalization only) scenario:

Rural sector:

1) For Kerala as a whole, major ailments for which hospitalization was undertaken were heart disease (5.62), respiratory (ENT) (5.36), fever (unknown) (18.52), fractures/poisoning (8.83) and 'other diagnosed' (18.29). As regards the poor, the profile differs in that other categories like diarrhoea/dysentery, gastric/peptic ulcer, joints/bones also dominate.
2) A similar profile held for the North and the South but for the following: Ailments pertaining to 'joints/bones' were major in the South while diarrhoea was major in the North. Further, respiratory (ENT) was not major in the North.

Urban sector:

1) Major ailments were heart disease (7.15), respiratory (ENT) (8.23), bronchial asthma (5.51), diabetes mellitus (5.34), fever of unknown origin (15.69), fractures/poisoning (10.03) and other diagnosed (12.29) (Table 19). The same holds good for both the poor and the non-poor with the following features:
    a. The first three categories of ailments accounted for relatively larger percentage number of hospitalization among the non-poor than that among the poor; the estimates for the non-poor were heart disease (7.73), respiratory (ENT) (9.25), bronchial asthma (5.87).

b. The last four categories of ailments were relatively more dominant for the poor (diabetes mellitus (6.48), fever of unknown origin (19.07), fractures/poisoning (14.66) and other diagnosed (16.82).

2) The urban profile was almost similar for the South. North Kerala had a similar profile but for the following features.
   a. Hypertension (10.15) was another major ailment; respiratory (ENT) category (1.77) was a minor ailment.
   b. The profiles of diseases between poor and non-poor were different: diarrhoea (6.13) was a major ailment that afflicted the poor while diabetes was major for the non-poor (8.43).

A summary profile of the preceding features is provided in Table 20. In general, the profile is the same between economic categories and across sectors. This is further corroborated by estimates of rank correlation coefficients between ailment profiles for both reference periods by sector and different regional levels (Tables 21 & 22).

Finally, a factor that has some relevance from a policy perspective is the finding that in general the poor rely relatively more on the public sector than on the private for treatment of illness as well as for hospitalization. If so, the pursuit of privatization and public sector reform has to be carried out with due regard to the welfare costs associated with them.

6. Summing up:

India has much to realize with reference the goals for the sectors on education and health, particularly the latter. Of course, the country has initiated reform measures like revisions in the scope for public health centers, cost recovery and privatization. Such measures will bear upon the welfare pursuits of the poor and hence would call for appropriate cost-effective strategies for improving health in India.

It is this reason, which has motivated this study on Kerala, which is unique for several reasons like the following: (i) Levels of morbidity in Kerala are quite high despite remarkable achievements in human development (including life expectancy); (ii) Hypothesis that high levels of morbidity along with low rates of mortality could be due to a poor health status associated with low levels of income and hence, inadequate nutrition; and (iii) need for verification of such hypotheses given the evidence that Kerala has caught up and has even done better than most of states in terms of growth and levels of living during the post-1973 scenario.

This study has taken up issues pertaining to the health sector in Kerala in a comparative perspective in the Indian context. Its focus is on the incidence of morbidity across socio-economic dimensions and their implications for economic policy. Its major findings are as follows:

- The level of living of every decile group in Kerala is higher than that of the corresponding group at the all-India level. The same result holds good for South Kerala versus all-India. However, only the rural population of North Kerala is better off than its counterpart at the all-India level.
- Extent of inequality in consumption distribution is higher in rural Kerala (North, South and combined) than in rural all-India and higher in urban Kerala (combined only) than in urban all-India.

- Within Kerala, the southern region is better off in terms of levels of living in both rural and urban sectors. The extent of inequality is also higher in South Kerala than in the North; still incidence of absolute poverty is higher in the North than in the South, reflecting the relatively lower level of standard of living in the former.
- As regards institutional facilities for health care, proportion f illness treated is higher in Kerala than in India as a whole
- Extent of dependence on the public sector for health care is higher in Kerala than in all-India.
- Opportunity costs of illness is lower in Kerala than in India as a whole
- Incidence of morbidity is higher in Kerala than in all-India. Within Kerala as a whole, it is (i) higher among women than men; (ii) higher in the rural than in the urban sector; and (iii) higher in the in the South than in the North.
- Incidence of morbidity is higher in rural than in urban Kerala and vice versa for all-India. As regards inequality in morbidity, the extent in general is lower in Kerala than in India though levels of morbidity are higher in the former than in the latter. Within Kerala, contrary to the relative profile of morbidity levels, inequality was higher in urban than in rural sector in South Kerala and Kerala as a whole. Similarly, at the all India level too, inequality in morbidity as against incidence was higher in the rural than in the urban sector.
- Incidence of morbidity is uniformly higher among the poor than among the non-poor categories in South as well as North Kerala.
- The short-run and long run profiles of morbidity are as follows:
    - As regards the short-run estimates based on self-reported morbidity for the reference period of 15 days, the major diseases in Kerala are those generally associated with life-style and not with deprivation.
    - For rural Kerala as a whole, major ailments for which hospitalization was undertaken were heart disease, respiratory (ENT), fever (unknown), fractures/poisoning and ‘other diagnosed’. As regards the poor, the profile differs in that other categories like diarrhoea/dysentery, gastric/peptic ulcer, joints/bones also dominate.
    - c. For urban Kerala, major ailments were heart disease, respiratory (ENT), bronchial asthma, diabetes mellitus, fever of unknown origin, fractures/poisoning and other diagnosed.
- In general, the poor rely relatively more on the public sector than on the private for treatment of illness as well as for hospitalization. Hence, the pursuit of privatization and public sector reform has to be carried out with due regard to the welfare costs associated with them.

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Table 1: Measures of Nutritional Status across States: 2004-2005

State	Rural								Urban							
	% expenditure on		per capita per day intake of			per consumer unit per day intake of			% expenditure on		per capita per day intake of			per consumer unit per day intake of		
	Food	Cereals	Calorie (Kcal)	Protein (gm)	Fat (gm)	Calorie (Kcal)	Protein (gm)	Fat (gm)	Food	Cereals	Calorie (Kcal)	Protein (gm)	Fat (gm)	Calorie (Kcal)	Protein (gm)	Fat (gm)
Andhra Pradesh	55.2	19.4	1995	49.8	33.5	2475	61.8	41.6	41.6	12.2	2000	50.9	43.2	2449	62.4	52.9
Assam	66	24.8	2067	52.7	26.7	2515	64.1	32.4	49.5	13.6	2143	55.9	36.8	2593	67.6	44.5
Bihar	64.8	27.1	2049	57.8	28.4	2560	72.3	35.5	51.1	17.2	2190	62.2	40.4	2683	76.1	49.5
Chhatisgarh	56.2	27.2	1942	47.4	19.9	2424	59.2	24.8	39	12.1	2087	53.9	37.2	2550	65.9	45.4
Gujrat	58	13.3	1923	53.3	50.9	2380	65.9	63	44.9	8	1991	57.3	63.5	2436	70.1	77.7
Haryana	48.6	8.6	2226	69.6	55.4	2738	85.6	68.1	41.4	6.9	2033	60.5	54.4	2487	74	66.6
Jharkhand	61.9	27.2	1961	51.2	22.8	2440	63.8	28.4	46.9	13.4	2458	69.5	53.8	3013	85.2	65.9
Karnataka	55.7	16.5	1845	48.8	33.9	2276	60.2	41.8	43.2	11.1	1944	52.2	43.3	2385	64	53.1
Kerala	45	11	2014	55.4	40.8	2549	70.1	51.6	40	8.4	1996	56.7	44.9	2534	72	57.1
Madhya Pradesh	52.9	18.1	1929	58.8	35.1	2386	72.7	43.4	38.9	9.8	1954	58.2	43.4	2397	71.4	53.2
Maharashtra	51.7	14.5	1933	55.7	41.5	2405	69.3	51.6	40.4	8.4	1847	52.1	50.1	2261	63.8	61.3
Orissa	61.6	28.3	2023	48.3	17.8	2512	59.9	22.1	49.9	16.8	2139	55.2	28.3	2596	67	34.4
Punjab	49.2	8.8	2240	66.7	58.7	2763	82.3	72.5	37.6	6.4	2150	63.4	61	2614	77	74.2
Rajasthan	54.8	14.5	2180	69.6	50.9	2714	86.7	63.3	41.6	9.6	2116	64	56.4	2586	78.2	69
Tamilnadu	52.4	15.5	1842	44.9	29.6	2294	55.9	36.9	42.7	10.3	1935	49.2	41.1	2394	60.8	50.8
Uttar Pradesh	53.6	17.6	2200	65.9	37.5	2743	82.1	46.8	45	11.4	2124	65.1	46.1	2598	79.7	56.4
West Bengal	58.7	23.4	2070	52	26.5	2545	64	32.6	43.4	11.3	2011	55.1	39.1	2467	67.6	48
All	55	18	2047	57	35.5	2540	70.8	44	42.5	10.1	2020	57	47.5	2475	69.9	58.2
Upper quartile			2070	58.8	41.5	2560	72.7	51.6			2139	62.2	53.8	2596	76.1	65.9

Source: GoI (2007a; p. 44).

Table 2: NSS Sample Size for 60th Round (January – June 2004)

(No of households)

Region/State	Sector	
	Rural	Urban
Northern Kerala	870	360
Southern Kerala	969	630
All-Kerala	1839	990
All-India	47302	26566

Source: Tabulated from NSS Unit record data (60th Round)

Table 3: Response to Survey: Kerala vs. All-India

Response / Response Code	Rural				Urban			
	North Kerala	South Kerala	All-Kerala	All-India	North Kerala	South Kerala	All-Kerala	All-India
Co-operative & capable	95.98	86.38	90.92	76.02	93.33	90.16	91.31	79.61
Co-operative & incapable	3.68	12.18	8.16	21.68	5.83	7.94	7.17	17.62
Busy	-	0.52	0.27	1.34	-	0.95	0.61	1.49
Reluctant	0.34	0.72	0.54	0.76	0.83	0.63	0.71	1.09
Others	-	0.21	0.11	0.20	-	0.32	0.20	0.20
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Tabulated from NSS Unit record data (60th Round)

Table 4: Representativeness of the Sample

Survey / Survey Code	Rural				Urban			
	North Kerala	South Kerala	All-Kerala	All-India	North Kerala	South Kerala	All-Kerala	All-India
Original	94.83	92.16	93.42	97.67	94.17	93.17	93.54	95.39
Substitute	5.17	7.84	6.58	2.33	5.83	6.83	6.46	4.61
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Tabulated from NSS Unit record data (60th Round)

Table 5: The Average Monthly per Capita Expenditure by Decile Group of Population by Sector: Kerala (North, South and whole) and All India (2004)

(at current prices)

MPCE DECILE GROUP	NORTH KERALA			SOUTH KERALA			ALL-KERALA			ALL-INDIA		
	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.
1	284.58	290.69	301.6	346.47	418.09	366.72	314.8	351.6	322.35	211.83	324.21	222.54
2	384.66	406.54	412.95	441.43	536.8	484.83	416.42	481.39	428.02	280.62	452.67	299.26
3	446.61	475.69	481.6	511.88	627.99	576.75	480.82	546.5	494.68	323.56	520.67	350.34
4	493.32	515.16	535.04	577.13	742.37	682.65	529.06	623.45	551.13	364.33	611.65	397.85
5	534.32	561.05	611.84	653.61	863.3	787.98	595.63	728.33	620.97	403.64	711.57	446.58
6	592.66	625.95	711.33	727.92	1012.05	982.25	670.28	852.46	704.38	444.47	815.75	503.61
7	665.26	715.93	855.34	806.06	1234.28	1446.33	746.7	1026.64	789.4	497.04	967.08	576.57
8	746.67	851.55	1245.93	950.12	1444.7	943.23	848.44	1280.03	938.86	562.93	1114.37	687.49
9	873.51	1103.23	503.93	1180.37	1778.79	911.06	1046.48	1599.48	1199.09	672.96	1422.35	885.37
10	1528.84	1734.14	1051.95	1945.75	2764.86	1889.03	1820.4	2493.72	2071.09	1072.27	2424.52	1616.02
Total	654.77	727.37	670.96	813.96	1141.72	906.85	746.75	998.06	811.87	483.36	936.27	598.52
Gini ratio (%)	26.25	28.50	26.95	28.33	31.68	30.73	28.20	32.80	30.50	25.70	32.50	32.40
Headcount ratio (%)	22.06	45.13	27.21	14.2	16.14	14.75	17.52	26.19	19.77	32.82	27.81	29.50

Notes:

1) 'Comb.' means 'Rural and Urban combined'.
2) Estimates of poverty are with reference to the poverty lines estimated by the Planning Commission for the agricultural year 2004-05; hence, they are approximate and could be overestimates to some extent. The poverty lines are as follows: Rs 430.12 (Rural Kerala), Rs 559.39 (Urban Kerala), Rs 356.30 (Rural Indian) and Rs 538.60 (Urban India) (GoI, 2007b).

Source: Tabulated from the NSS Unit record data (60^{th} Round)

Table 6: Percentage of spells of ailments treated (non-institutional) during 15 days and percentage distribution of treated spells of ailments by source of treatment in major states

MAJOR STATE	RURAL			URBAN		
	% Spells of ailments treated	Source of treatment (%)		% Spells of ailments treated	Source of treatment (%)	
		Govt.	Pvt.		Govt.	Pvt.
Andhra Pradesh	77	21	79	88	20	80
Assam	79	27	73	94	24	76
Bihar	81	5	95	88	11	89
Chattisgarh	89	15	85	90	20	80
Delhi	@	@	@	95	23	77
Gujarat	84	21	79	93	18	82
Haryana	94	12	88	95	20	80
Himachal Pradesh	94	68	32	92	86	14
Jammu & Kashmir	82	52	48	94	51	49
Jharkhand	92	13	87	96	24	76
Karnataka	78	34	66	87	16	84
Kerala	87	37	63	90	22	78
Madhya Pradesh	87	23	77	95	23	77
Maharashtra	88	16	84	92	11	89
Orissa	76	51	49	86	54	46
Punjab	94	16	84	96	18	82
Rajasthan	90	44	56	90	53	47
Tamil Nadu	78	29	71	87	22	78
Uttaranchal	89	18	82	98	35	65
Uttar Pradesh	77	10	90	88	13	87
West Bengal	80	19	81	83	20	80
India	82	22	78	89	19	81

Source: GoI (2006; p. 22).

Table 7: Percentage of treated ailments receiving non-hospitalised treatment from government sources

MAJOR STATES	RURAL			URBAN		
	2004	1995-96	1986-87	2004	1995-96	1986-87
Andhra Pradesh	21	22	12	20	19	16
Assam	27	29	40	24	22	26
Bihar	5	13	14	11	33	17
Chattisgarh	15	*	*	20	*	*
Delhi	@	*	*	23	*	*
Gujarat	21	25	28	18	22	18
Haryana	12	13	15	20	11	19
Himachal Pradesh	68	*	*	86	*	*
Jammu & Kashmir	52	*	*	51	*	*
Jharkhand	13	*	*	24	*	*
Karnataka	34	26	32	16	17	30
Kerala	37	28	32	22	28	33
Madhya Pradesh	23	23	24	23	19	28
Maharashtra	16	16	21	11	17	15
Orissa	51	38	37	54	34	43
Punjab	16	7	12	18	6	11
Rajasthan	44	36	46	53	41	52
Tamil Nadu	29	25	28	22	28	31
Uttaranchal	18	*	*	35	*	*
Uttar Pradesh	10	8	*	13	9	14
West Bengal	19	15	16	20	19	20
India	22	19	21	19	20	24

Source: GoI (2006; p. 23).

Table 8: Proportion (per 1000) of persons hospitalised in rural and urban areas and population per bed across states

MAJOR STATE	NO. PER 1000 HOSPITALISED		POPULATION PER HOSPITAL BED
	Rural	Urban	
AP	22	28	1057
Assam	11	16	1782
Bihar	10	10	3029
Chhattisgarh	12	27	-
Delhi	-	11	493
Gujarat	29	36	709
Haryana	32	31	3026
HP	32	31	
J & K	18	20	4790
Jharkhand	9	22	-
Karnataka	23	26	1319
Kerala	101	90	325
MP	18	29	5582
Maharashtra	30	36	920
Orissa	23	30	3064
Punjab	30	30	1623
Rajasthan	18	25	3175
Tamil Nadu	37	37	1135
Uttaranchal	17	19	-
UP	13	20	2647
West Bengal	23	35	1464
India	23	31	1503

Source: GoI (2006; p. 25).

Table 9: Percentage of hospitalised cases treated in public hospital and private hospital

MAJOR STATES	RURAL		URBAN		% OF BEDS IN GOVT. HOSPITALS
	Govt Hosp.	Pvt. Hosp.	Govt Hosp.	Pvt. Hosp.	
AP	27.23	72.77	35.80	64.20	40
Assam	74.20	25.80	55.40	44.60	84
Bihar	14.40	85.60	21.50	78.50	71
Chhattisgarh	53.50	46.50	49.30	50.70	-
Delhi	@	@	37.30	62.70	64
Gujarat	31.30	68.70	26.10	73.90	42
Haryana	20.60	79.40	29.00	71.00	75
HP	78.10	21.90	89.50	10.50	91
J & K	91.30	8.70	86.50	13.50	75
Jharkhand	46.60	53.40	31.20	68.80	-
Karnataka	40.00	60.00	28.90	71.10	74
Kerala	35.60	64.40	34.60	65.40	31
MP	58.50	41.50	48.50	51.50	-
Maharashtra	28.70	71.30	28.00	72.00	57
Orissa	79.10	20.90	73.10	26.90	98
Punjab	29.40	70.60	26.40	73.60	75
Rajasthan	52.10	47.90	63.70	36.30	-
TN	40.80	59.20	37.20	62.80	78
Uttaranchal	43.10	56.90	34.20	65.80	-
UP	26.93	73.07	31.40	68.60	72
WB	78.68	21.32	65.40	34.60	86
India	41.70	58.30	38.20	61.80	62

Source: Based on Statement 24.1 in GoI (2006; p. 28).

Table 10: Medical and Non-medical costs (per treated person) associated with non-hospitalised treatment: Kerala and All-India

(Rs during15days)

Major state	Medical expenses by source of treatment			Other expenses	Total expenditure	Loss of household income per treated person
	Govt.	Pvt.	All			
Rural Sector						
All-Kerala	3	179	182	16	198	72
All-India	11	246	257	27	285	135
Urban Sector						
All-Kerala	5	189	193	13	206	83
All-India	7	299	306	20	326	96

Source: GoI (2006; pp. 40-41)

Table 11: Average Medical and Total Expenditure per hospitalisation case by type of hospital and loss of household income due to hospitalization: Kerala and All-India

(Reference period: 365 days)

Major state	Medical exp. By source of treatment			Other expenses	Total expenditure	Loss of household income per treated person
	Govt.	Pvt.	All			
Rural Sector						
All-Kerala	2174	4565	3717	342	4059	431
All-India	3238	7408	5695	530	6225	636
Urban Sector						
All-Kerala	2600	6179	4954	247	5201	578
All-India	3877	11553	8851	516	9367	745

Source: GoI (2006; pp. 42-43)

Table 12: Incidence of Morbidity by Gender and Sector: Kerala and All- India (2004)

(per cent)

Gender	Northern Kerala			Southern Kerala			All-Kerala			All-India		
	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.
Male	18.34	15.81	17.77	28.48	27.72	28.26	24.28	23.56	24.09	8.36	9.11	8.56
Female	18.15	15.74	17.62	33.06	29.13	31.93	26.66	24.51	26.10	9.30	10.86	9.69
Total	18.24	15.77	17.69	30.86	28.46	30.18	25.53	24.06	25.15	8.82	9.95	9.11

Note: Comb. means 'Rural and Urban combined'.
Source: Tabulated from NSS Unit record data (60th Round)

Table 13: Number (per 1000) of Persons Reporting Ailment (PAP) and Number Reporting Commencement of any Ailment (PPC) during last 15 days, along with Infant Mortality Rate (IMR) for major states

Major States	Rural			Urban		
	PAP	PPC	IMR	PAP	PPC	IMR
Andhra Pradesh	90	36	71	114	47	35
Assam	82	58	73	83	48	38
Bihar	53	32	62	63	30	50
Chhattisgarh	69	38	-	72	31	-
Delhi	@	@	@	16	7	-
Gujarat	69	29	68	78	29	37
Haryana	95	48	65	87	43	51
Himachal Pradesh	87	26	-	59	19	-
Jammu & Kashmir	70	30	-	78	34	-
Jharkhand	33	21	-	50	21	-
Karnataka	64	32	65	57	20	25
Kerala	255	103	11	240	100	8
Madhya Pradesh	61	32	90	65	36	56
Maharashtra	93	44	52	118	50	34
Orissa	77	49	91	54	30	56
Punjab	136	61	55	107	44	35
Rajasthan	57	23	81	72	27	55
Tamil Nadu	95	54	50	96	49	32
Uttaranchal	52	31	-	65	25	-
Uttar Pradesh	100	55	83	108	55	58
West Bengal	114	56	52	157	62	36
India	88	45	69*	99	44	40*

Notes:

1. The data on Infant Mortality Rate (IMR) are estimates for 2002 obtained by the Sample Registration Scheme of the Registrar-General of India.
2. IMR values in brackets are averages of IMRs estimated for 1995 and 1996 by the Sample Registration Scheme of the Registrar-General of India.

Source: GoI (2006; p. 18).

Table 14: Incidence of Morbidity by Type of Rural Household: Kerala vs India (2004)

(per cent)

HOUSEHOLD TYPE	KERALA			INDIA
	North	South	All	
Self Employed (Non Agriculture)	15.90	31.05	26.06	9.16
Agriculture Labour	17.41	28.63	22.94	7.67
Other Labour	17.66	33.91	27.49	10.64
Self Employed (Agriculture)	21.92	28.95	26.08	8.14
Others	18.69	28.23	23.23	12.33
All Rural	18.27	30.86	25.54	8.83

Note: All means 'North and South combined'.
Source: Tabulated from NSS Unit record data (60th Round)

Table 15: Incidence of Morbidity by Type of Urban Household: Kerala vs India (2004)

(per cent)

HOUSEHOLD TYPE	KERALA			INDIA
	Northern	Southern	All	
Self Employed (Non Agriculture)	14.20	24.93	21.91	9.31
Regular Wage/Salary	12.56	30.50	25.95	9.89
Casual Labour	17.99	26.44	22.59	9.58
Others	17.59	45.39	30.58	15.60
All Urban	15.77	28.46	24.06	9.95

Note: All means 'North and South combined'.
Source: Tabulated from NSS Unit record data (60th Round)

Table 16: Incidence of Morbidity by Sector: Kerala and All India (2004)

(per cent)

MPCE DECILE GROUP	NORTHERN KERALA			SOUTHERN KERALA			KERALA			INDIA		
	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.	Rural	Urban	Comb.
1	15.02	16.23	15.38	31.30	21.54	28.98	22.40	17.10	20.60	6.10	7.80	6.20
2	16.76	13.95	16.81	21.73	26.65	27.79	19.70	19.40	20.00	6.30	8.50	6.50
3	15.46	13.38	16.67	35.31	24.93	27.37	22.60	18.80	23.10	6.60	8.20	7.30
4	17.46	15.78	19.50	25.04	24.71	29.19	27.10	23.20	24.90	7.70	8.50	8.00
5	21.18	11.44	17.92	24.29	27.28	36.32	21.30	21.50	21.40	8.00	9.50	8.70
6	19.77	20.38	18.86	34.67	24.69	34.58	23.80	21.50	24.80	8.80	9.90	9.10
7	16.26	12.70	18.39	37.65	31.19	29.93	28.70	22.90	28.50	9.30	9.70	9.10
8	18.15	16.53	21.79	35.91	36.15	27.34	29.10	30.10	28.10	9.40	10.60	10.60
9	18.99	16.31	15.30	29.79	35.15	26.51	30.70	34.70	28.30	11.10	12.60	11.70
10	23.36	21.06	16.29	32.90	32.35	33.80	29.80	31.60	31.90	14.90	14.10	13.70
Total	18.24	15.77	17.69	30.86	28.46	30.18	25.50	24.10	25.10	8.80	9.90	9.10
Pseudo-Gini	6.10	5.71	5.60	4.45	9.39	4.97	7.20	12.20	7.90	15.10	10.30	13.70

Note: Comb. means 'Rural and Urban combined'.
Source: Tabulated from the NSS Unit record data (60th Round)

Table 17: Morbidity Incidence for poor and non-poor by Sector: Kerala and All-India (2004)

(per cent)

Characteristic	Northern Kerala		Southern Kerala		Kerala		India	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Poor	15.51	14.47	29.31	23.18	21.97	17.98	6.47	8.17
Non-poor	19.01	16.84	31.11	29.48	26.28	26.22	9.97	10.61
Total	18.24	15.77	30.86	28.46	25.53	24.06	8.82	9.95

Source: Tabulated from NSS Unit record data (60th Round)

Table 18: Distribution of Morbidity by Illness and Sector (2004)

POPULATION SUB-GROUP	NORTHERN KERALA						SOUTHERN KERALA						KERALA						INDIA					
	Rural			Urban			Rural			Urban			Rural			Urban			Rural			Urban		
	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All
Diarrhoea/ dysentery	0.14	0.00	0.11	0.49	1.68	0.97	1.27	0.58	1.18	0.59	0.00	0.51	0.96	0.37	0.87	0.57	0.78	0.61	4.97	7.11	5.48	3.25	5.35	3.71
Gastric/ peptic ulcer	2.50	4.35	2.85	0.00	3.64	1.47	2.45	3.36	2.57	2.05	1.14	1.93	2.46	3.72	2.65	1.72	2.30	1.83	4.17	3.64	4.04	2.60	3.03	2.70
Worm infestation	0.00	3.31	0.62				0.25	0.00	0.21	0.91	0.00	0.79	0.18	1.20	0.33	0.76	0.00	0.62	0.45	0.44	0.45	0.34	0.44	0.37
Amoebiosis	0.00	1.32	0.25				0.37	0.00	0.32	0.15	0.00	0.13	0.27	0.48	0.30				0.44	0.47	0.44	0.22	0.22	0.22
Hepatitis/Jaundice																0.13	0.00	0.10	0.36	0.62	0.42	0.46	0.69	0.51
Heart disease	2.77	1.86	2.60	7.38	1.18	4.88	3.99	3.81	3.96	4.91	3.73	4.75	3.65	3.11	3.57	5.30	2.55	4.78	2.21	0.85	1.89	5.40	2.43	4.75
Hypertension	7.75	7.45	7.70	16.23	7.72	12.80	8.14	3.96	7.58	9.82	3.71	9.03	8.03	5.22	7.61	10.83	5.56	9.84	4.24	1.25	3.53	10.93	3.91	9.40
Respiratory (& ENT)	5.72	2.50	5.11	4.93	6.43	5.53	15.45	13.48	15.19	17.83	4.02	16.05	12.78	9.51	12.29	15.79	5.13	13.79	7.32	6.15	7.04	7.51	6.15	7.22
Tuberculosis	0.79	0.90	0.81	0.43	0.00	0.25	0.56	0.52	0.55	0.56	2.43	0.80	0.62	0.66	0.63	0.54	1.31	0.68	1.25	1.60	1.33	0.55	1.45	0.74
Bronchial asthma	5.45	5.63	5.48	2.56	3.81	3.06	4.99	5.66	5.08	2.97	5.74	3.33	5.12	5.65	5.20	2.91	4.84	3.27	4.08	2.95	3.81	3.14	3.19	3.15
Joints/bones	5.01	5.93	5.19	6.68	3.90	5.56	10.69	9.32	10.50	8.50	4.27	7.95	9.13	8.09	8.97	8.21	4.10	7.44	7.00	4.71	6.46	7.32	5.01	6.81
Kidney/urinary	0.97	0.00	0.79	1.16	1.12	1.15	0.57	1.51	0.69	1.09	2.82	1.31	0.68	0.96	0.72	1.10	2.03	1.27	1.01	0.65	0.92	1.24	0.69	1.12
Prostatic disorders							0.00	1.03	0.14				0.00	0.66	0.10				0.13	0.20	0.14	0.11	0.02	0.09
Gynaecological	0.91	0.00	0.74	2.25	1.59	1.99	0.76	0.51	0.72	1.14	0.29	1.03	0.80	0.33	0.73	1.31	0.89	1.23	1.28	1.36	1.30	0.97	0.90	0.95
Neurological disorders	3.14	2.30	2.98	3.39	2.12	2.88	2.45	2.30	2.43	3.44	1.20	3.15	2.64	2.30	2.59	3.44	1.63	3.10	2.04	1.50	1.91	2.41	2.01	2.32
Psychiatric disorders	2.56	1.58	2.37	1.02	0.00	0.61	1.14	1.90	1.24	0.32	3.88	0.78	1.53	1.79	1.57	0.43	2.09	0.74	0.66	0.81	0.70	0.60	0.74	0.63
Conjunctivitis	0.49	0.65	0.52				0.04	0.40	0.09	0.39	1.51	0.54	0.16	0.49	0.21	0.33	0.81	0.42	0.42	0.38	0.41	0.43	0.62	0.47
Glaucoma	0.42	0.00	0.34	0.95	0.00	0.56	0.15	0.00	0.13				0.22	0.00	0.19	0.15	0.00	0.12	0.21	0.33	0.24	0.32	0.34	0.32
Cataract	1.21	0.57	1.09	1.40	0.00	0.83	1.13	2.35	1.29	0.73	0.98	0.76	1.15	1.70	1.23	0.83	0.53	0.78	1.64	1.64	1.64	1.17	2.17	1.39
Diseases of skin	1.90	2.61	2.04	0.14	0.00	0.08	2.03	1.80	2.00	1.28	0.98	1.24	2.00	2.09	2.01	1.10	0.52	0.99	2.28	2.97	2.44	1.49	2.69	1.75
Goitre	0.00	0.29	0.05	2.12	0.00	1.26	0.37	0.00	0.32	0.08	0.00	0.07	0.27	0.10	0.24	0.40	0.00	0.32	0.13	0.07	0.11	0.13	0.10	0.13
Diabetes mellitus	9.04	3.09	7.91	10.16	7.39	9.04	5.43	3.06	5.11	8.92	4.62	8.37	6.42	3.07	5.92	9.12	5.90	8.52	2.71	0.81	2.26	7.95	2.75	6.82
Under-nutrition							0.05	0.00	0.04				0.03	0.00	0.03				0.11	0.10	0.11	0.26	0.11	0.22
Anaemia	0.77	0.89	0.79	0.00	2.28	0.92	0.06	0.00	0.05	0.00	0.52	0.07	0.25	0.32	0.26	0.00	1.33	0.25	0.40	0.67	0.47	0.37	0.95	0.50
STDs																			0.08	0.11	0.09	0.01	0.00	0.00
Malaria																			1.95	2.39	2.06	0.91	1.12	0.96
Eruptive	0.10	0.00	0.08				0.70	0.00	0.61				0.53	0.00	0.45				0.53	0.73	0.58	0.19	0.24	0.21
Mumps							0.11	0.00	0.10				0.08	0.00	0.07				0.25	0.41	0.29	0.16	0.45	0.22
Diphtheria										0.00	1.76	0.23				0.00	0.95	0.18	0.09	0.28	0.14	0.19	0.38	0.23
Whooping cough	0.52	1.00	0.61	0.41	0.00	0.25	1.23	1.06	1.21	1.53	0.00	1.33	1.04	1.04	1.04	1.35	0.00	1.10	2.53	2.76	2.59	2.19	2.46	2.25
Fever (Unknown)	15.23	16.47	15.46	16.86	16.78	16.83	15.00	17.74	15.37	16.51	25.34	17.65	15.06	17.28	15.40	16.57	21.38	17.47	19.34	24.42	20.55	13.65	19.82	15.00
Tetanus							0.09	0.00	0.08				0.07	0.00	0.06				0.05	0.01	0.04	0.02	0.00	0.02
Filariasis/Elephantiasis				0.00	0.40	0.16				0.00	2.81	0.36				0.00	1.70	0.32	0.11	0.13	0.12	0.10	0.26	0.13
Locomotor	3.17	2.18	2.98	1.88	5.51	3.35	0.91	0.46	0.85	0.73	1.48	0.83	1.53	1.09	1.46	0.91	3.34	1.37	1.88	2.35	1.99	1.48	2.00	1.60
Visual/blindness(no cataract)	0.71	0.29	0.63				0.99	0.00	0.85	0.19	0.51	0.24	0.91	0.10	0.79	0.16	0.28	0.19	1.12	1.59	1.23	0.64	1.15	0.75
Speech	0.36	0.00	0.29				0.23	0.51	0.27	0.00	2.58	0.33	0.27	0.33	0.28	0.00	1.38	0.26	0.18	0.39	0.23	0.41	0.22	0.37
Hearing	0.19	0.52	0.26	0.74	0.00	0.44	0.63	1.02	0.68	1.45	0.51	1.33	0.51	0.84	0.56	1.34	0.28	1.14	0.95	1.05	0.97	0.98	0.78	0.94
Mouth/Teeth/Gum	0.32	1.59	0.56	0.22	0.00	0.13	0.84	0.00	0.72	0.29	0.00	0.25	0.69	0.58	0.68	0.28	0.00	0.23	1.12	0.51	0.97	1.14	0.94	1.10
Fractures/Poisoning	1.68	5.25	2.35	2.49	3.30	2.81	2.06	1.18	1.94	1.49	6.99	2.20	1.95	2.65	2.06	1.65	5.28	2.33	2.69	2.84	2.73	2.36	3.48	2.60
Cancer/tumours	0.49	0.26	0.45	1.89	0.73	1.42	0.41	0.53	0.43	0.09	0.23	0.11	0.43	0.43	0.43	0.37	0.46	0.39	0.53	0.41	0.50	0.62	0.47	0.58
Other diagnosed	23.44	25.47	23.82	13.67	29.40	20.02	12.59	19.27	13.48	11.46	12.04	11.53	15.57	21.51	16.46	11.81	20.07	13.36	14.41	15.22	14.61	13.89	17.50	14.68
Other undiagnosed	2.25	1.75	2.16	0.56	1.03	0.75	1.90	2.67	2.00	0.59	3.92	1.02	1.99	2.34	2.04	0.58	2.58	0.96	2.70	3.11	2.80	1.89	2.76	2.08
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 19: Hospitalization (during the past 365 days) by type of Disease: An Economic Profile (2004)

(per cent)

POPULATION SUB-GROUP	NORTHERN KERALA						SOUTHERN KERALA						KERALA						INDIA					
	Rural			Urban			Rural			Urban			Rural			Urban			Rural			Urban		
	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All	NP	Poor	All
Diarrhoea/ dysentery	6.16	1.85	5.33	3.45	6.13	4.52	3.40	7.99	4.10	4.12	0.91	3.53	4.23	5.74	4.48	3.99	3.14	3.78	7.09	11.19	7.93	5.66	9.55	6.47
Gastric/ peptic ulcer	3.46	4.48	3.66	1.69	0.66	1.28	2.84	7.59	3.56	2.07	3.17	2.28	3.02	6.45	3.59	2.00	2.10	2.02	4.89	5.14	4.94	3.92	4.76	4.10
Worm infestation	0.47	0.00	0.38				0.29	0.00	0.25	1.02	0.00	0.83	0.35	0.00	0.29	0.81	0.00	0.61	0.39	0.46	0.40	0.44	0.55	0.46
Amoebiosis				0.00	0.66	0.26	0.72	0.85	0.74	0.12	1.56	0.39	0.50	0.54	0.51	0.10	1.18	0.35	0.31	0.33	0.32	0.36	0.47	0.38
Hepatitis/Jaundice	0.62	0.00	0.50				0.31	0.81	0.39	0.83	7.04	1.98	0.40	0.51	0.42	0.66	4.03	1.47	1.58	1.18	1.50	2.03	2.66	2.16
Heart disease	5.90	6.77	6.06	6.46	4.01	5.48	5.57	4.51	5.41	8.06	6.27	7.73	5.67	5.34	5.62	7.73	5.30	7.15	4.26	2.97	3.99	8.02	4.51	7.29
Hypertension	3.03	4.79	3.37	13.69	4.80	10.15	3.05	2.75	3.00	3.24	0.00	2.64	3.04	3.50	3.12	5.37	2.05	4.58	2.07	1.17	1.89	3.36	2.80	3.25
Respiratory (& ENT)	1.64	7.85	2.84	0.00	4.45	1.77	6.58	6.13	6.51	11.62	5.42	10.48	5.08	6.76	5.36	9.25	5.01	8.23	3.54	2.43	3.31	3.30	2.26	3.08
Tuberculosis	0.88	0.74	0.85	0.00	0.66	0.26	1.35	0.61	1.24	0.34	1.51	0.56	1.21	0.66	1.12	0.27	1.15	0.48	2.46	3.76	2.73	1.49	2.67	1.74
Bronchial asthma	3.17	4.19	3.37	5.35	5.63	5.46	4.25	5.33	4.42	6.00	3.44	5.53	3.92	4.91	4.09	5.87	4.38	5.51	3.29	2.77	3.18	2.98	3.35	3.05
Joints/bones	0.91	2.44	1.20	3.14	1.07	2.32	6.20	7.06	6.33	4.99	1.26	4.30	4.59	5.37	4.72	4.61	1.18	3.79	2.72	1.89	2.56	2.80	2.33	2.70
Kidney/urinary	2.33	2.75	2.41	4.40	1.04	3.06	2.49	2.10	2.43	5.39	0.89	4.56	2.44	2.34	2.42	5.19	0.95	4.17	3.79	3.43	3.72	5.50	2.79	4.94
Prostatic disorders				0.00	0.66	0.26				0.21	0.00	0.17				0.16	0.28	0.19	0.38	0.39	0.38	0.46	0.10	0.38
Gynaecological	3.67	1.88	3.33	3.03	7.61	4.86	2.64	3.02	2.70	5.40	1.46	4.67	2.95	2.60	2.89	4.92	4.09	4.72	5.60	4.72	5.42	5.33	4.98	5.25
Neurological disorders	3.13	2.69	3.05	2.33	1.58	2.03	2.13	5.64	2.66	1.18	0.41	1.04	2.43	4.56	2.78	1.42	0.91	1.30	3.32	2.59	3.17	3.08	2.82	3.02
Psychiatric disorders	1.99	1.02	1.80				1.58	0.00	1.34	0.13	0.53	0.21	1.70	0.37	1.48	0.11	0.30	0.15	1.09	0.90	1.05	0.65	0.36	0.59
Conjunctivitis																			0.21	0.16	0.20	0.15	0.44	0.21
Glaucoma	0.05	0.00	0.04				0.14	0.00	0.12				0.11	0.00	0.09				0.53	0.26	0.48	0.87	0.34	0.76
Cataract	0.85	2.21	1.11	1.09	1.28	1.17	1.44	0.00	1.22	0.52	0.00	0.43	1.26	0.81	1.18	0.64	0.55	0.62	2.90	3.35	2.99	2.52	2.47	2.51
Diseases of skin	0.96	0.32	0.84				0.20	1.31	0.37	2.07	1.94	2.05	0.43	0.95	0.52	1.65	1.11	1.52	0.62	0.61	0.62	0.66	0.51	0.63
Goitre	0.18	0.00	0.15							0.85	0.00	0.69	0.05	0.00	0.05	0.67	0.00	0.51	0.06	0.13	0.08	0.17	0.09	0.15
Diabetes mellitus	4.62	0.00	3.73	8.53	2.99	6.32	4.08	0.00	3.46	4.06	9.10	4.99	4.24	0.00	3.54	4.97	6.48	5.34	2.11	0.26	1.73	2.48	1.75	2.33
Under-nutrition							0.17	0.00	0.14				0.12	0.00	0.10				0.08	0.07	0.08	0.09	0.03	0.08
Anaemia	0.00	1.18	0.23							0.94	0.00	0.77	0.00	0.43	0.07	0.75	0.00	0.57	0.92	0.82	0.90	1.16	0.95	1.12
STDs																			0.17	0.09	0.15	0.07	0.03	0.06
Malaria							0.00	1.01	0.15				0.00	0.64	0.11				2.52	5.99	3.22	3.82	3.71	3.80
Eruptive	0.20	0.00	0.16				0.27	0.80	0.35				0.25	0.51	0.29				0.09	1.00	0.28	0.09	0.12	0.10
Mumps																			0.09	0.08	0.09	0.02	0.05	0.02
Diphtheria																			0.10	0.32	0.15	0.54	0.06	0.44
Whooping cough	0.65	0.00	0.52				0.94	0.72	0.90	0.17	0.00	0.14	0.85	0.46	0.78	0.14	0.00	0.10	0.70	0.59	0.68	0.66	0.39	0.61
Fever (Unknown)	19.02	18.49	18.91	18.28	16.48	17.56	17.59	22.56	18.34	13.69	21.02	15.04	18.02	21.06	18.52	14.63	19.07	15.69	8.35	7.28	8.13	6.51	8.73	6.97
Tetanus							0.37	0.00	0.31	0.12	2.68	0.59	0.26	0.00	0.22	0.10	1.53	0.44	0.21	0.64	0.30	0.19	0.26	0.21
Filariasis/Elephantiasis				0.00	0.82	0.33	0.12	0.00	0.10				0.08	0.00	0.07	0.00	0.35	0.08	0.14	0.11	0.14	0.11	0.20	0.13
Locomotor	1.10	0.25	0.93	0.00	1.85	0.74	0.21	0.00	0.18	0.09	0.00	0.07	0.48	0.09	0.42	0.07	0.79	0.24	1.47	1.05	1.38	0.86	1.05	0.90
Visual/blindness(no cataract)							0.24	0.00	0.21	0.90	0.00	0.74	0.17	0.00	0.14	0.72	0.00	0.55	0.32	0.90	0.43	0.35	0.17	0.31
Speech																			0.08	0.06	0.07	0.03	0.00	0.03
Hearing	0.16	0.00	0.13	0.00	1.71	0.68	0.23	0.00	0.20	0.15	0.00	0.12	0.21	0.00	0.18	0.12	0.73	0.27	0.16	0.25	0.18	0.04	0.22	0.08
Mouth/Teeth/Gum	0.00	0.75	0.15				0.21	0.00	0.17				0.14	0.28	0.16				0.25	0.28	0.26	0.20	0.11	0.18
Fractures/Poisoning	10.11	8.73	9.85	6.18	11.09	8.13	9.09	4.32	8.36	9.17	17.34	10.69	9.40	5.94	8.83	8.56	14.66	10.03	10.28	9.45	10.11	8.61	10.59	9.02
Cancer/tumours	2.89	6.41	3.57	5.83	1.49	4.10	2.83	2.12	2.72	1.22	0.00	1.00	2.85	3.69	2.99	2.17	0.64	1.80	2.64	1.89	2.49	3.00	1.43	2.67
Other diagnosed	21.40	20.20	21.17	14.89	23.32	18.25	17.97	11.48	16.98	9.83	11.95	10.22	19.01	14.67	18.29	10.86	16.82	12.29	16.83	16.31	16.72	16.51	17.20	16.66
Other undiagnosed	0.46	0.00	0.37	1.65	0.00	0.99	0.53	1.30	0.65	1.47	2.11	1.59	0.51	0.82	0.56	1.51	1.21	1.44	1.40	2.71	1.66	0.90	2.14	1.16
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 20: Morbidity and treatment: A Summary Profile

Spells of ailment	Past 15 days				Hospitalization during past 365 days			
Sector	Rural		Urban		Rural		Urban	
Economic category	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor
North-Kerala	HT, ENT, asthma, Bones, diabetes, Fever, OD	HT, asthma, bones, fever, fractures, OD	HD, HT, bones, diabetes, fever, OD	HT, ENT, diabetes, fever, locomotor, OD	Dirrahoea, HD, fever, fractures, OD	HD, ENT, fever, fractures, cancer, OD	HD, HT, asthma, diabetes, fever, fractures, cancer, OD	Dirrhoea, asthma, gynecological, fever, fever, fractures, OD
South-Kerala	HT, ENT, asthma, bones, diabetes, fever, OD	ENT, asthma , bones, fever, OD	HD, HT, ENT, bones, diabetes, fever, OD	Asthma, fever, fracture, OD	HD, ENT, bones, fever, fractures, OD	Diarrhoea, gastric, ENT, asthma, bones, neuro, fever, OD	HD, ENT, athma, bones, kidney, genaci, fever, fractures, OD	Jaundice, HD, ENT, diabetes, fever, fractures, OD
All-Kerala	HT, ENT, asthma, bones, diabetes, fever, OD	HT, ENT. Asthma, bones, fever, OD	HD, HT, ENT, bones, diabetes, fever, OD	HT, ENT, asthma, diabetes, fever, fractures, OD	HD, ENT, fever, fractures, OD	Diarrhoea, gastric, HD, ENT, asthma, bones, fever, fractures, OD	HD, HT, ENT, asthma, kidney, gynaeco, diabetes, fever, fractures, OD	HD, ENT, diabetes, fever, fractures, OD
All-India	Diarrhoea, ENT, bones, fever, OD	Diarrhoea, ENT, fever, OD	HD, HT, ENT, asthma, diabetes, fever, OD	Diarrhoea, ENT, bones, fever, OD	Diarrhoea, gastric, gynaeco, fever, fractures, OD	Diarrhoea, gastric, malaria, fever, fractures, OD	Diarrhoea, HD, kidney, gynaeco, fever, fractures, OD	Diarrhoea, gynaco, fever, fractures, OD

Notes:

- HD: heart disease
- HT: hypertension
- ENT: Respiratory & ENT
- Fever: Fever of unknown origin

OD: Other diagnosed

Table 21: Association between Morbidity Profiles for different Economic Categories by & across Sectors: 2004

(Outpatient scenario; reference period of 15 days)

Rank correlation for incidence of hospitalization across diseases between	Kerala			All-India
	North	South	All	
Poor and non-poor: Rural Sector	0.7095*	0.8396*	0.8644*	0.9361*
Poor and non-poor: Urban Sector	0.6426*	0.5141*	0.6373*	0.9421*
Poor: Rural and Urban	0.6550*	0.7687*	0.7679*	0.9275*
Non-poor: Rural and Urban	0.6430*	0.8527*	0.8480*	0.9548*

Note: * indicates p-value = 0.01

Table 22: Association between Morbidity Profiles for different Economic Categories by & across Sectors: 2004

(Hospitalization scenario; reference period of 365 days)

Rank correlation for incidence of hospitalization across diseases between	Kerala			All-India
	North	South	All	
Poor and non-poor: Rural Sector	0.7169*	0.7431*	0.8035*	0.9038*
Poor and non-poor: Urban Sector	0.6429*	0.5834*	0.6928*	0.9349*
Poor: Rural and Urban	0.4836	0.4888*	0.6546*	0.9090*
Non-poor: Rural and Urban	0.7581*	0.7890*	0.7840*	0.9611*

Note: * indicates p-value = 0.01

Table 23: Share of Public Sector in Treatment of Ailmenst during the Past 15 Days: North vs. South Kerala (2004)

MPCE Decile Group	Northern Kerala						Southern Kerala					
	Rural		Urban		Total		Rural		Urban		Total	
	Govt	Others	Govt	Others	Govt	Others	Govt	Others	Govt	Others	Govt	Others
1	53.17	46.83	24.03	75.97	47.07	52.93	64.15	35.85	52.14	47.86	60.62	39.38
2	43.58	56.42	22.37	77.63	36.88	63.12	58.95	41.05	25.84	74.16	52.88	47.12
3	16.55	83.45	39.52	60.48	28.86	71.14	50.49	49.51	30.40	69.60	53.21	46.79
4	37.44	62.56	51.67	48.33	19.98	80.02	54.70	45.30	15.74	84.26	41.57	58.43
5	18.70	81.30	8.79	91.21	18.26	81.74	38.41	61.59	35.22	64.78	45.04	54.96
6	18.65	81.35	41.36	58.64	23.24	76.76	48.12	51.88	35.05	64.95	41.37	58.63
7	21.78	78.22	11.41	88.59	15.77	84.23	40.89	59.11	10.99	89.01	22.75	77.25
8	20.96	79.04	23.73	76.27	17.19	82.81	44.09	55.91	9.38	90.62	25.93	74.07
9	16.04	83.96	33.91	66.09	32.65	67.35	23.36	76.64	19.72	80.28	27.87	72.13
10	15.88	84.12	1.58	98.42	19.63	80.37	20.23	79.77	17.15	82.85	14.34	85.66
Total	25.12	74.88	25.32	74.68	25.16	74.84	43.53	56.47	23.58	76.42	38.13	61.87

Table 24: Share of Public Sector in Treatment of Ailmenst during the Past 15 Days: All Kerala vs. All India (2004)

MPCE Decile Group	All-Kerala						India					
	Rural		Urban		Total		Rural		Urban		Total	
	Govt	Others	Govt	Others	Govt	Others	Govt	Others	Govt	Others	Govt	Others
1	61.57	38.43	40.01	59.99	56.37	43.63	33.03	66.97	25.57	74.43	30.78	69.22
2	44.82	55.18	33.99	66.01	44.80	55.20	28.74	71.26	29.83	70.17	29.32	70.68
3	43.96	56.04	32.42	67.58	45.14	54.86	29.96	70.04	24.02	75.98	24.79	75.21
4	48.65	51.35	27.73	72.27	36.31	63.69	22.49	77.51	27.80	72.20	25.38	74.62
5	28.75	71.25	14.21	85.79	33.32	66.68	24.55	75.45	18.18	81.82	25.44	74.56
6	35.65	64.35	34.47	65.53	34.69	65.31	24.36	75.64	22.38	77.62	22.93	77.07
7	43.18	56.82	34.57	65.43	35.61	64.39	22.59	77.41	21.94	78.06	24.56	75.44
8	37.25	62.75	13.72	86.28	37.20	62.80	24.13	75.87	15.10	84.90	21.62	78.38
9	30.25	69.75	9.15	90.85	21.02	78.98	22.56	77.44	17.17	82.83	22.13	77.87
10	16.61	83.39	18.87	81.13	16.00	84.00	21.27	78.73	12.56	87.44	16.37	83.63
Total	38.03	61.97	23.98	76.02	34.48	65.52	24.35	75.65	20.26	79.74	23.09	76.91

Table 25: Share of Public Sector in Hospitalised Treatment across Decile Groups by Sectors: North vs. South Kerala (2004)

(per cent)

MPCE DECILE GROUPS	NORTHERN KERALA						SOUTHERN KERALA					
	Rural		Urban		Total		Rural		Urban		Total	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
1	47.19	52.81	28.40	71.60	50.37	49.64	53.65	46.35	44.41	55.59	58.38	41.62
2	50.13	49.88	44.01	55.99	54.48	45.52	60.09	39.91	52.01	47.99	51.52	48.49
3	74.88	25.12	42.52	57.48	75.08	24.92	55.65	44.34	34.00	66.00	69.84	30.16
4	70.92	29.08	67.59	32.41	69.77	30.22	69.34	30.66	58.21	41.79	58.27	41.73
5	68.35	31.65	61.47	38.53	61.19	38.81	65.78	34.21	74.39	25.61	65.58	34.42
6	58.20	41.80	53.73	46.27	60.38	39.62	61.28	38.72	61.63	38.36	52.77	47.23
7	65.08	34.92	79.96	20.04	64.01	35.99	62.07	37.93	89.37	10.63	77.47	22.53
8	57.63	42.37	40.49	59.51	78.95	21.05	55.53	44.47	92.05	7.95	60.07	39.93
9	68.75	31.25	55.97	44.03	49.85	50.15	63.20	36.80	89.38	10.62	69.14	30.87
10	87.69	12.31	100.00	0.00	66.81	33.19	90.44	9.56	97.24	2.76	92.33	7.67
Total	64.98	35.02	56.21	43.78	63.25	36.75	64.30	35.69	68.51	31.49	65.33	34.67

Source: Tabulated from NSS Unit record data (60^{th} Round)

Table 26: Share of Public Sector in Hospitalised Treatment across Decile Groups by Sectors: Kerala and India (2004)

(per cent)

MPCE DECILE GROUP	KERALA						INDIA					
	Rural		Urban		Total		Rural		Urban		Total	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
1	54.30	45.70	39.44	60.56	52.16	47.84	39.11	60.88	42.55	57.45	40.00	60.00
2	57.82	42.18	42.86	57.14	56.04	43.97	47.14	52.86	47.82	52.18	49.15	50.85
3	59.47	40.54	66.01	34.00	54.84	45.16	50.70	49.30	47.24	52.76	49.34	50.66
4	65.90	34.10	38.55	61.45	71.45	28.55	51.67	48.32	59.60	40.40	49.24	50.77
5	66.88	33.12	67.99	32.01	50.56	49.44	48.96	51.05	57.34	42.65	54.41	45.59
6	61.96	38.04	61.86	38.14	65.84	34.16	56.24	43.77	60.83	39.17	55.20	44.79
7	60.33	39.68	61.11	38.89	61.53	38.47	56.33	43.67	62.58	37.42	59.32	40.68
8	57.17	42.83	93.48	6.52	61.29	38.71	60.10	39.90	69.51	30.49	63.86	36.14
9	67.14	32.86	89.33	10.67	74.33	25.67	66.48	33.52	73.59	26.41	65.15	34.85
10	85.73	14.27	98.28	1.72	91.50	8.50	72.49	27.51	84.00	16.00	76.97	23.03
Total	64.51	35.49	65.34	34.67	64.70	35.30	58.69	41.31	62.45	37.54	59.87	40.13

Source: Tabulated from NSS Unit record data (60^{th} Round)

Notes:

i. 'Public' refers to public hospital (including PHC/Sub centre/CHC), public dispensary (incl. CGHS/ESI); and
ii. 'Private' refers to private hospital.

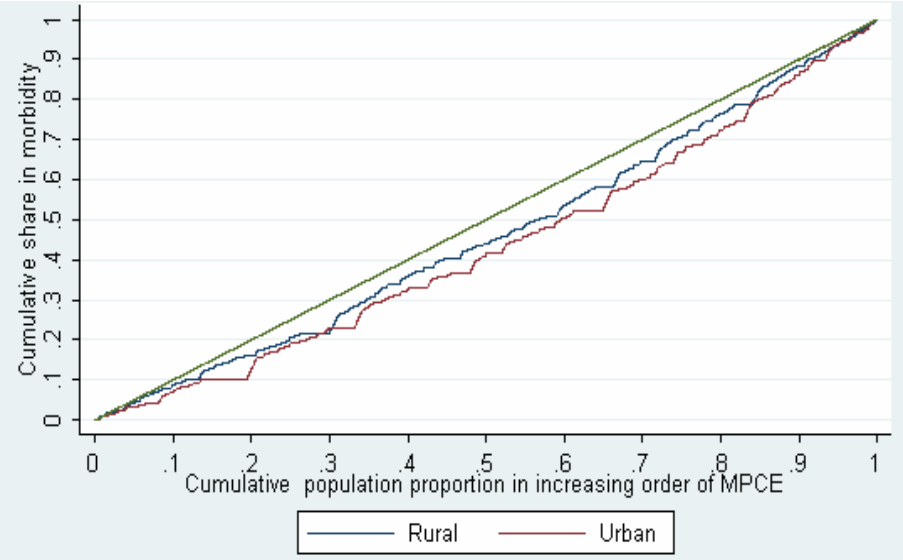

Figure 1: Pseudo-Lorenz Curve for Morbidity: All-Kerala

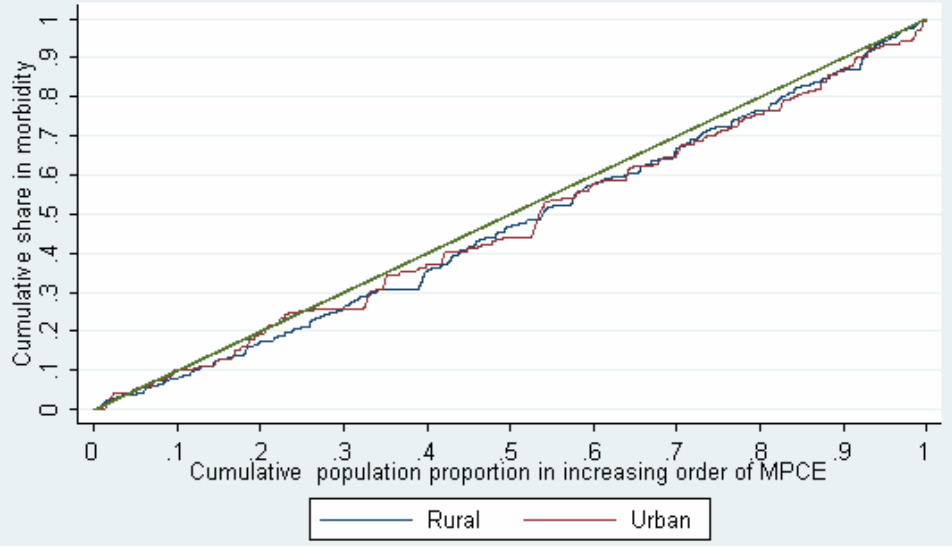

Figure 2: Pseudo-Lorenz Curve for Morbidity: North-Kerala

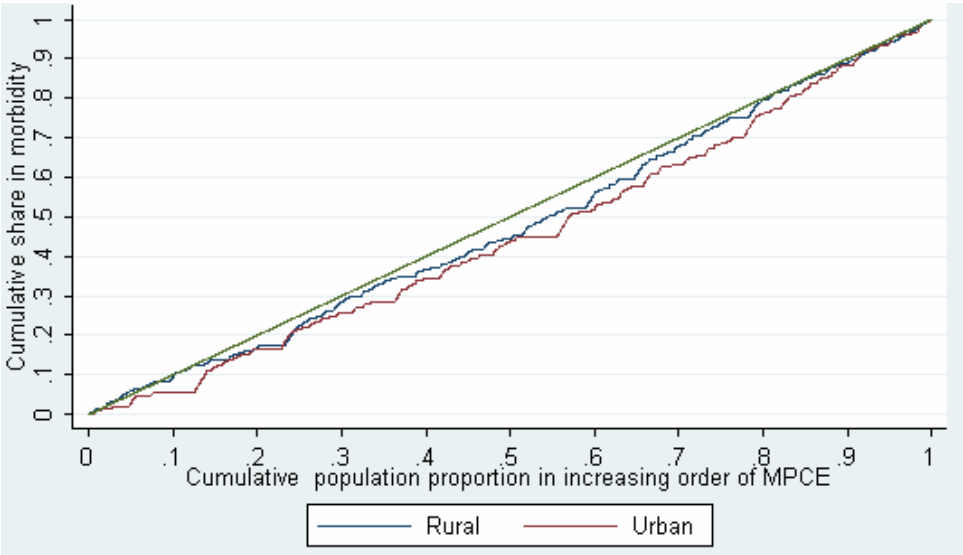

Figure 3: Pseudo-Lorenz Curve for Morbidity: South-Kerala

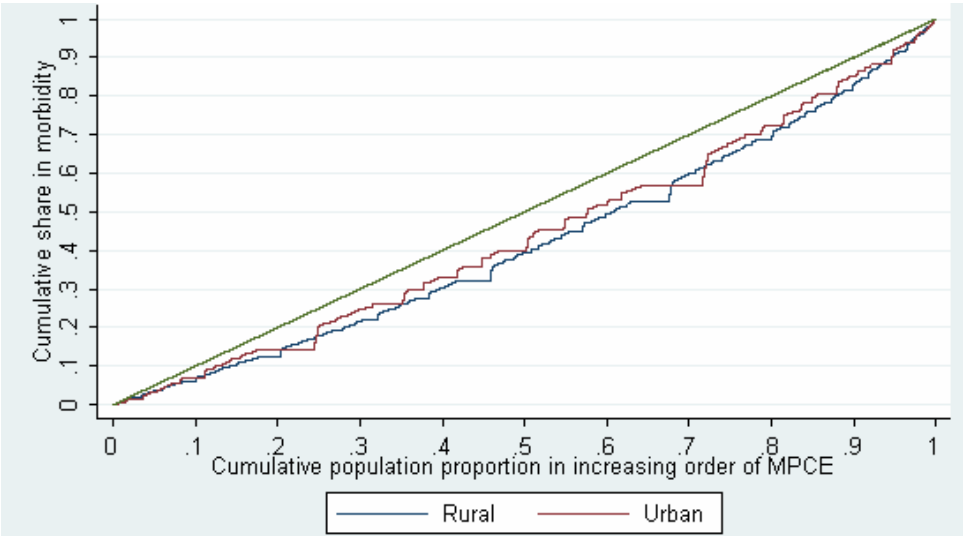

Figure 4: Pseudo-Lorenz Curve for Morbidity: All-India