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Health and Millennium Development Goal 1: Reducing out-of-pocket expenditures to reduce income poverty - *Evidence from India*

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Abstract

The first of the eight Millennium Development Goals is to halve extreme poverty and hunger by 2015. In India, thirty two and a half million people fall below the national poverty line by making out-of- pocket payments for health care in a single year. This paper shows how in a country with large out of pocket payments, targeting a few poor states, rural areas and urban poor could drastically bring down the number of people falling below the poverty line and also reduce the poverty deepening effect for those already below the poverty line. High expenditures on drugs are shown to be one of the main reasons for high out of pocket payments. Improved drug availability in public facilities and totally subsidizing the urban poor and rural areas are required for reducing the poverty impact of out of pocket payments.

Key words: Poverty, health care payments, Millennium Development Goals, Equity, India

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I. Introduction

The Millennium Development Goals (MDGs) have put health at the heart of development - three of the eight goals are directly related to improvements in health status. These goals and targets emphasize the importance of health as a dimension of poverty. Goal 1 focuses on halving the number of people with extreme poverty and hunger. This paper looks at one of the financing dimensions of health - out of pocket payments (OOP) - and goes on to show how reducing OOP could contribute substantially to this overarching goal of reducing income poverty.

OOP constitute the single largest component of total health expenditures in India. The proportion of OOP in India is approximately 97% of total private health expenditures and close to 80% of total health expenditures in India, which is much higher compared to many developing and most developed countries (www.who.int/nha).[1] [2] Out of the total 6% of GDP spent on health care, government spends just over 1% of the gross domestic product (GDP) for financing health care. Further, insurance systems are also extremely weak providing only partial coverage to less than 10% of the population (Garg, 2002) and finances less than 3% of health expenditures.

These direct out of pocket payments are made for utilization of health services and purchase of drugs. Various kinds of indirect costs (such as man days, wages or income lost) are not taken as part of the OOP. However, expenditure incurred on transportation for accessing health services may be considered a part of the OOP. These OOP can be highly erratic as demand for health care is unpredictable and any significant share of OOP in households' total consumption expenditure can have a disruptive impact on household consumption and ultimately an impoverishing effect on households. Higher public expenditures and better risk pooling mechanisms have been identified as important financing mechanisms to bring down the share of out of pocket expenditures and also catastrophic impact of these payments (Xu., *et al.* 2003; Musgrove, 1999; Kawabata, *et al*. 2002).[3]

Against this background, the present paper attempts to analyse 1) the magnitude and effect that out-of-pocket payments for health care have on the household spending pattern across income quintiles and regions (rural-urban), 2) the component of OOP that affect different income

[1] The other sources of private health financing are non-household private sector including companies, NGOs, community financing and so on.

[2] In many developed countries the share is approximately 25 to 50 per cent. As for example in the OECD countries the average OOP share has been approximately 15 to 20% (based on WHO National Health Accounts data).

[3] Catastrophic impact is assessed by examining the proportion of households with substantial part of their expenditures (normally greater than 25%) made for out of pocket payments.

quintiles and variations across rural and urban areas, 3) magnitude and dimension of OOP across states, 4) Magnitude and depth of poverty that occurs because of OOP along with rural-urban disparities in impoverishment and 5) State level variation in poverty because of OOP. This paper is an extension of All India results presented in the EQUITAP working paper (Doorslaer, et. al. 2005). Though country level results are important, regional and state level analysis provides important insights on how a single policy may not be effective in a country with wide variations at sub regional levels. Within India, it has been previously shown at the macro level that OOP share in total health expenditure varies considerably as evidenced from the study of two Indian states. OOP expenditure as a share of total health expenditure was estimated at 55% in Punjab as compared to 75% in Karnataka (Garg 2001a, 2001b).[4] In short, this paper provides sub regional analyzes of OOP and shows the impact of these OOP on impoverishment using household level data.

The next section (Section II) presents the description about data and the methods used. Sections III and IV present results and discussions. Section III presents a detailed analysis of the different components of OOP across incomes, states and regions. Section IV deals with the poverty impact of these payments across major states and regions. Section V presents an overview of the discussion and a brief policy recommendations emerging out of the foregoing discussions.

II. DATA AND METHODS

1. Data

The present paper is based on secondary source information on households' consumption expenditure collected by the National Sample Survey Organisation[5] (NSSO) for the year 1999-2000. This is the latest available large consumer expenditure survey (CES) with a sample of more than 120 thousand households covering approximately 71 thousand rural and 49 thousand urban households. While there is a possibility of OOP being slightly underestimated in the consumer expenditure surveys (CES) as compared to special health surveys[6], the OOP as a

[4] The comparison is for 1993-94 for Karnataka with the data for 1995-96 for Punjab. The relative shares of OOP in total health expenditures are not expected to change much within the states during the two comparison years

[5] National Sample Survey Organisation (NSSO) is a premier institution of the Government of India under the Ministry of Statistics and Programme Implementation, which collects household data on a regular basis.

[6] Consumer expenditure surveys (CES) for a small number of households are carried out every year (normally referred to as Thin Rounds of CES) with special thematic survey. In 1995-96, the year the last health round was

proportion to household expenditure is better reflected in exclusive CES. The CES captures OOP as a part of total household consumption, whereas health surveys concentrate more on measuring health expenditures exclusively. There is a tendency on part of the households to overstate the health expenditures when asked specifically for them rather than as a part of total consumption expenditures.

In CES, NSSO collects data on household expenditure on wide ranging items of household consumption, including expenditure on health services for institutional and non-institutional care. The distinction between institutional and non-institutional medical expenses lies in whether the expenses were incurred on medical treatment as in-patient of a medical institution or otherwise[7].

The available data at the unit level from the survey gives adequate information on household expenditure for inpatient (institutional) as well as outpatient (non institutional) care. In order to calculate the total payment by the household (OOP) for health care services, expenditures on these items were added together as well as separate analysis for total outpatient, inpatient and drugs has been done.

2. Method

The methods adopted are those proposed by Wagstaff and Doorslaer (Wagstaff and Doorslaer, 2003) in their investigation of changes in Vietnam over the period 1993-98[8].

This analysis is based on the share of OOP by the households to their total consumption expenditure, in general, and to non-food expenditure, in particular. Hence, if we define 'T' as OOP health payments and 'x' as total household consumption/expenditure, 'T/x' is defined as the 'share of OOP' (OOP_h) to consumption expenditure (x) of a household.

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undertaken; it was found that the OOP estimated by the health survey was approximately Rs. 300,000 million as compared to OOP in the small round of CES in the same year as Rs. 250,000 million. The corresponding figure from the 1999-2000 CES is approximately Rs. 450,000 million.

[7] Under institutional care, health expenditures are recorded under a) purchase of drugs and medicines; b) expenditure incurred on clinical tests such as pathological tests, ECG, X-ray etc c) professional fees of doctors, nurses, etc.; d) payments made to hospitals, nursing homes for medical treatment; and e) others. The heads of expenditure under non institutional care expenditures are the same for the first three items *i.e.* for a) medicines; b) pathological tests; and c) professional fees. The rest heads of expenditure recorded under this are d) family planning appliances including IUD (intra-uterine device), oral pills, condoms, diaphragm, spermicide etc. and e) others.

[8] More detailed technical notes on procedures used to generate these results are available from the World Bank's poverty website (http://www.worldbank.org/poverty/ impact/health).

Accordingly, the impact of OOP on household consumption is seen both by taking the share of OOP to total consumption expenditure as well as total non-food expenditure.

Poverty impact is defined as the average level of poverty in a country before and after health care payments. It is measured by comparing both the prevalence (head count ratio) and the intensity of poverty before and after OOP health payments. The pre-OOP poverty is calculated by comparing household's consumption expenditure gross of payments for health care with a poverty line that allows for health care needs. The proportion of poor are calculated as P_0, where

$$P_0 = 1/n \Sigma 1(x_i \leq PL)$$

1(.) is an indicator function, which takes the value 1, if $x_i \leq$ PL is true and 0 for otherwise. PL is official poverty line as defined by the Planning Commission (2001); [9] x_i is the consumption expenditure of the person and n is the number of persons in the sample.

Post–OOP poverty is computed by netting out health care payments (measured by actual OOP for all households) from household's consumption expenditure and then comparing with the poverty line. It is defined the same way as P_0, except x_i is the consumption expenditure after OOP have been netted out. . Headcount ratio (or Hp) is calculated by subtracting the number of households below the poverty line before and after the health payments are netted out.

Intensity of poverty or also known as poverty deepening is measured by calculating average poverty gap defined as:

$$G = 1/n \sum Pi\ (PL - x_i)$$

where PL is the poverty line and x_i is the prepayment expenditure of the household. $P_i = 1$ if $x_i \leq$PL and is zero otherwise. The poverty impact (PI) of health payments are estimated by the difference between the gap statistics gross and net of health payments.

To facilitate comparison of poverty gaps computed for different poverty lines (across different states), it is useful to express the mean gap as a multiple of the poverty line. This is known as the normalized poverty gap, NG=G/PL. The gap is also standardized with the headcount by taking the ratio of average poverty gap (G) to the head count ratio (MPG = G/Hp) – this is called the mean positive poverty gap and shows the average consumption shortfall because of OOP for people below the poverty line.

[9] In this analysis we have used official poverty lines, for calculating the both pre-OOP and post-OOP headcount. However, there are many reference groups - rural and urban in different states. Each of these has a different official poverty line, commonly known as state specific rural and urban poverty lines, which have been considered for this study.

III. RESULTS AND DISCUSSION

1. Magnitude and Distribution of OOP

In the following section, we discuss the impact of OOP across different consumption quintiles, in both rural and urban areas and for inpatient, outpatient and drug expenditures separately. We also look at the average share of OOP across the different states in India. On an average, the share of OOP payment to total consumption expenditure in India is 5%, which is equivalent to 11% of the total non-food expenditure (Table 1).

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Table 1: Average OOP Share by Quintile Groups for Rural, Urban and Combined, 1999-2000

While the combined share of total consumption expenditure continues to increase (with the slowing down in the top quintile), it declines in the top quintile for the non-food expenditure. An increasing OOP share with a declining rate is in accordance with literature on health being a 'normal' good (McGuire, Henderson and Mooney (1988), Gertler and van de Gaag (1990)). A decline in OOP share as a proportion of non food expenditure in the richest income quintile shows a declining marginal rate of substitution for health in the upper most income quintile in the urban areas. This is primarily due to very high average income share for non food expenditures in the upper most income quintile.

Rural-urban differentials: The share of rural OOP is more than the urban OOP as proportion of both total as well as non-food expenditure. In rural areas the OOP increases with income. In urban areas, this rising trend becomes weaker and in fact reverses at higher income levels if OOP is measured as a proportion of non-food expenditure. The difference in the intensity of OOP between rural and urban areas across the consumption expenditure groups also gets reflected by concentration curves of the OOP in rural and urban areas (Figure 1).

Figure 1: Concentration Curves of OOP in Rural and Urban India

The concentration curve of the payment variable (shown by the blue line) indicates the progressivity of the payment *i.e.* whether the poor or rich spend more in relation to the ability to pay (ATP). In Figure 1 the concentration curve is lower than the Lorenz curve both in rural and urban areas signifying that OOP increases with the ATP. However, the notable fact is that the concentration curve is very close to the Lorenz curve in the urban areas and is much lower in the rural areas. This implies that in the rural areas the OOP is highly concentrated among the rich while in the urban areas it is largely distributed across all consumption groups.

The rural urban disparity in OOP is much sharper among the higher than in the lower quintile groups reflecting, to some extent, the relation of user charges for public care to income or exempting the poor from such charges. But to a greater extent, this results from the fact that average incomes are lower in rural areas and a substantial share of OOP for private care are often made by better-off households purchasing a higher quantity and quality of health care. At the micro level the OOP as a share of households' income is determined by three important factors: a) health seeking behaviour of the population, b) availability and accessibility of health services, and c) extent of utilization of free or subsidized public services. While the relationship of the first two factors with OOP is direct, the third has an inverse relationship. There is also an interaction of these factors with the level of incomes. Normally underprivileged households have poor heath seeking behaviour (both because of lack of awareness as well as the risk of loss of income) and also the availability and accessibility to health services is meagre around the areas they reside. Households spend more in order to purchase higher quality as well as quantity of health services with increase in household income leading to increased share of OOP to total household income. However, the OOP increases at a decreasing rate with respect to increasing income in urban areas and also rural urban combined. In rural areas this decreasing rate of increase is not reflected mainly because of imperfections on account of access to health care services. Since, rural areas are not equipped with a higher quantity and quality of health care services, rural rich spend a higher share than their urban counterpart, in order to avail of the same quantity and quality of health services, which are mainly available in the urban areas.

These results are also supported by looking at the utilization pattern in both public and private facilities in rural and urban areas. From a survey of households in 1995-96 it was found that there were 17% of ailing patients who did not seek treatment in rural areas as compared to 9% in urban areas (Garg, 2000). Further, the utilization pattern of the households shown by the

average visits for outpatient and inpatient facilities in rural and urban areas by income quintiles confirms that higher income quintiles utilize more care for both public and private facilities and for both outpatient and inpatient care. (Figure 2-A and B)

Figure 2: Mean Utilization Levels by quintile Groups of Population – 1995-96

The distribution of OOP by inpatient, outpatient and drug expenditure shows that expenditure on medicines constitutes the single most important part (up to 90%) of the total OOP, both in rural and urban areas (Table 2). Expenditure on drugs is approximately three to four times higher than that on inpatient and outpatient taken together. The proportion on drugs may be slightly overestimated, because in many cases doctor charges and expenditure on medicines are not separated in the database and have been recorded under the medicine expenditure (particularly in the rural areas). In rural areas richer quintiles spend more on drugs as a share of their consumption as compared to poorer quintiles. On the other hand, the average share of OOP on drugs is the same for the urban poor as compared to the rich with highest shares concentrated in middle consumption expenditure quintile. In any case, drug expenditure still form a large burden on the household and appropriate policies may be required to lower the burden on the households.

Table 2: Percentage share of OOP expenditure on inpatient care, outpatient care and Medicines in rural and urban areas: 1999-2000

Distribution of OOP across States:

The average OOP share for 17 major states was found to be 4.8 % of total consumption expenditure. The relationship between share of OOP in total consumption expenditures of households and levels of economic development measured by per capita state domestic product (PCSDP) across the Indian states was found to have a direct relationship with the higher OOP share in richer states in comparison to poorer states (Figure 3). Punjab, Haryana, Maharashtra, and Kerala have higher share of OOP (more than 5 per cent) compared to 2% %to 4.5% %range in poorer states *viz.* Bihar, Jammu and Kashmir, Orissa, Rajasthan, West Bengal and Assam. Most of the middle income states like West Bengal, Andhra Pradesh, Karnataka and Himachal Pradesh have their shares of OOP between 4 and 4.5% of total expenditures. However, two

higher income states namely, Gujarat and Tamil Nadu and one lower income state Uttar Pradesh show a contrasting picture to the general trend. The state of Kerala, which stands at the highest rank of human development indicators, also has the highest OOP share (more than 7 per cent). In contrast to this, the states of Assam and Bihar, which are characterized by mass poverty, have almost the lowest OOP share (3.8 and 2% % respectively).

Poorer states such as Assam, Bihar, Jammu and Kashmir, West Bengal, Rajasthan etc. have a low OOP share mainly because people spend less on the health front on account of low health seeking behaviour as well as poor availability of health services. However, even a lower OOP share in the poorer states ranging from a low of 2% in Assam to a high of 6.5% in Uttar Pradesh is not a voluntary payment and has a serious repercussion on the overall consumption pattern of the households in these states. Moreover, because of the high share of food expenditure to total consumption expenditure in these poorer states, the OOP share of non-food expenditure varies from 10% in Bihar to as high as 15% in Uttar Pradesh .

Figure 3: Average OOP Share in Indian States Ranked by Per Capita SDP, 1999-2000

The lower OOP share in the states of Karnataka, Gujarat and Tamilnadu needs special mention in the present discussion. These are middle income states but the OOP share compares with some of the poorer states. One of the reasons of low OOP in the former states may be attributed to other sources of financing such as higher government expenditures, better risk pooling systems through insurance or more expenditure by non governmental agencies. In case of Gujarat, it has been shown that community based health insurance schemes help to protect poor households against uncertain risks of medical expenses (Ranson 2002). These states are known for a good performance of NGOs particularly in the areas of mid-day meal scheme, immunization of children and other health awareness programmes. This has certainly had a great impact on the living standards of people in these states and as a result the OOP share in total consumption expenditure is significantly lower than in other better off states.

Further, the wide variation in the OOP share in two poor states which have almost the same per capita levels but the share varying from 2% in Assam to over 6% in Uttar Pradesh can be explained due to availability of facilities in two states. Large numbers of workers in Assam

are plantation workers, who have their own facilities covering themselves and their families. On the other hand in Uttar Pradesh poor infrastructure, low utilization of public facilities (because of non availability of doctors and medicines, unsuitable PHC timings and long waiting lines), greater dependence on private facilities and doctors in both rural and urban areas, greater health seeking behaviour in cities in proximity of the capital city (Delhi), are some of the several factors that could lead to high OOP share in Uttar Pradesh.

In general, it can be argued that poorer states have low OOP because of low incomes, limited access to health care, which is due to lack of awareness (poor literacy rates) and poor infrastructure in these states (both in terms of the number of facilities and number of health workers). Conversely, richer states generally have high OOP mainly on account of greater provider choice and higher quality of public/private care.

The pattern of OOP across quintile groups was examined in four states of Haryana, Punjab, Uttar Pradesh and Kerala that have very high OOP share ranging from 6% to 7% but varied extensively in their level of development. In order to see the distribution of the OOP in these four states, the concentration curves of the payments are presented in Figure 4.

Figure 4: Concentration Curves of OOP in the Four High OOP States

In these four states, the concentration curves of the payment variable are lying below the Lorenz curve implying higher OOP among the richer income quintiles. The difference across these four states lies in terms of intensities of the gap between the rich and the poor as indicated by the difference between Lorenz and concentration curves. The inequalities in OOP are lowest in Kerala and highest in Uttar Pradesh. This may lead us to wrongly believe the progressivity of payments in Uttar Pradesh. The truth is far from this, as many poor people in Uttar Pradesh do not have the access to care coupled with low ability to pay and the little that they pay put them way below the poverty line as shown in the next section. On the other hand, in Kerala even though the poor pay almost the same share of OOP (as a percentage of their consumption expenditure) as their richer counterparts, with high average OOP, the utilization among the poorer group is also likely to be better. This is also a reflection of high health seeking behaviour of population in the state. This is reflected in the outcomes in the two states. Life expectancy

(2001-06) in Uttar Pradesh is 64 and infant mortality is 83 as compared to 74 and 14 in Kerala respectively.

In addition to the total OOP share, the average OOP on inpatient care is abysmally low in poorer states. In better-off states the high OOP is largely contributed by high share of OOP expenditure on inpatient care, which could largely be due to the better availability of facilities in these areas. Further, in the poorer states the share of expenditure on drugs have been as high as 90% or more, except Assam where less than 80% of OOP payment is on drugs implying higher proportion on inpatient or outpatient care. In figure 5, states are arranged by their state domestic products per capita. There is clearly a declining trend for the share of drug expenditure and an increasing trend for both outpatient and inpatient care. This can clearly be linked backed with the three micro factors that we hypothesized earlier that affect the OOP share. Better health seeking behaviour in better off states because of better availability and accessibility of facilities is reflected by more expenditure on inpatient and outpatient care. Higher drug expenditure share in poorer states call for better drug policies in these states.

Figure 5: Percentage Distribution of OOP by, outpatient care, inpatient care and medicines in major states: 1999-2000

IV. Poverty Impact

In India although the OOP share is high in developed states, which may be incurred voluntarily to procure higher quality and quantity of health care services, even the low OOP share in less developed states, has a serious implication in terms accentuating the poverty. In Table 3 we present the poverty headcount ratio, along with other statistics based on household consumption expenditure in 1999-2000 both gross and net of OOP health payments separately for rural and urban areas and combined for All India.

Table 3: Poverty Impact of OOP Payments – Poverty Headcounts and Poverty Gaps, 1999-2000

The pre OOP poverty headcount ratio in 1999-2000 was 26%. The total increase in the poverty headcount because of the OOP is 3.24% of the total population in the country or approximately

32.5 million persons plunged into poverty that year because of health care payments. (As per the Planning Commission estimates, these persons are not counted as poor because their expenditure on health pulls up their total monthly per capita expenditure above the official poverty line. This analysis is based on only one time period and there is no substantial evidence to prove why the households going below poverty line because of expenditure on health will not move up again above the poverty line in subsequent years. There are good reasons to expect the households falling below the poverty line because of health payments in a particular period t will jump above the poverty line in period t+1 because of better health. However there are reasons to believe that at the macro level that there would be new households making these payments and going below poverty line, so that the proportion of households plunging into poverty in a given year because of expenditure on health can be calculated quite correctly from the consumer expenditure survey of that year.

1. Rural-Urban Variations

The impact of OOP on poverty headcount is higher in rural areas than in the urban areas. The rural and urban break-up of the total increase in the poverty headcount because of OOP are 3.5 and 2.5 per cent as the poverty headcounts increase from 26.8 and 23.5 to 30.3 and 26.1 per cent in rural and urban areas respectively. Accordingly, the total additional numbers of persons plunging into poverty in rural and urban areas are 25.5 and 7.0 million respectively. In addition to these, the persons already below poverty line are further pushed down into acute poverty *i.e.* go deeper into poverty because of OOP. It may be noted that not only the households just above the poverty line but also many households well above the poverty line could be pushed down into poverty because of higher proportion of OOP. However, for those well above the poverty line there may be other sources of financing and savings from past period. So while we count them also in the number based on the current period consumption, the number of people who are more likely to have other sources of financing and would plunge into poverty based on current period consumption are likely to be very small. For households just above the poverty line even a small fraction of OOP brings them below it. The impact of OOP on poverty headcount as well as the poverty gap can best be viewed with the help of the pen parade graph (Figure 6).

Figure 6: Pre-payment and Post payment Consumption Expenditure, 1999-2000

The horizontal line to the X-axis in Figure 6 is the official poverty line (Rs. 361) below which all persons lying on the pen parade are poor. The X-axis measures the cumulative proportion of population while the Y-axis measures gross (expenditures before OOP represented by exppre) and net (expenditure after OOP represented by exppost) monthly per capita expenditure of households. The upper boundary of the shaded area is the pen parade for the household consumption level, gross of OOP, while the lower boundary of the curve gives the household expenditure net of OOP.

The OOP has an impoverishing impact on the living standards of households not only in terms of number of people falling below the poverty line (poverty headcount) but also on the intensity of poverty (poverty gap). Graphically in figure 6, the poverty gap is the area below the poverty line but above the lower boundary of the parade and gives the intensity of poverty deepening. The total poverty gap increases by approximately Rs. 3 per capita per month because of the OOP. However, in contrast to the poverty headcount, the poverty gap or poverty deepening is much stronger in urban areas than in the rural areas. In rural areas the increase in the poverty gap is on average Rs. 2.85 per capita per month (from Rs. 17.11 to 19.97) while in the urban areas, the increase is on average Rs. 3.21 per capita per month (from Rs. 23.35 to 26.56). Average consumption shortfall of the poor measured by the ratio of average poverty gap to the average head count ratio for those who are below the poverty line, called the mean positive poverty gap, showed similar results, but less marked than poverty gap. The mean positive gap, increased more in urban areas (2.67%) than in rural areas (2.03%). The intensity of this poverty deepening, measured the gap by standardizing for the poverty lines for rural and urban areas (called normalised poverty gaps) showed higher intensity of poverty gaps in rural areas as compared to the urban areas (87% as compared to 71%) (Table 4). To summarize the results above, showing the impact of OOP on poverty in rural and urban areas, it is clear that the greater number and proportion of people fall below the poverty line in rural areas, but in urban areas along with greater poverty deepening in general, those who are below the poverty line face a greater average consumption shortfall because of the OOP. This is because in rural areas greater number and proportion of persons are concentrated just above the poverty line and minor fraction of OOP brings down large number of persons below poverty line. In contrast to this, in urban areas most of the persons have their monthly per capita expenditure well above the poverty line and only a higher fraction of OOP makes person poor. The greater deepening effect in urban

areas also shows that if people in urban areas incur OOP, they normally have to pay a larger proportion of their consumption basket, which could be due to more expensive treatment in urban areas, or better health seeking behaviour in urban areas.

2. State Level Variations

The poverty impact of OOP shows interesting trends across the states. The impact is higher for poorer states in terms of both, incidence as well as intensity. Hence, poorer states have higher headcount and gap impact because of OOP compared to those in richer states. The state wise poverty impact of the OOP is depicted in Figure 7. The vertical bars show the percentage increase in head counts along with the average per capita per month increase (in Rs.) in poverty gap because of OOP.

Figure 7: Poverty Impact of Health Care Payment in Major Indian States: 1999-2000

Among all the major states Uttar Pradesh shows the highest poverty impact followed by three poorest states- Bihar, Orissa and Madhya Pradesh. High poverty impact in Maharashtra, which is a better off state, can largely be explained by large number of people in urban areas living close to the poverty line, going below the poverty line due to high OOP incurred mainly in urban areas. This is also supported by large poverty deepening in Maharashtra, (following only the four poorer states -Uttar Pradesh, Orrisa, Bihar and Madhya Pradesh). Maharashtra ranks second following closely behind Uttar Pradesh in terms of number of urban poor.[10] In Uttar Pradesh alone, a 6% increase in the poverty ratio implies more than 10 million persons or one-third of the total plunge into poverty because of OOP. Similarly in Bihar more than 4.6 million and in the states of Maharashtra and Madhya Pradesh more than 3 million and 2.7 million people respectively join the ranks of the poor as a result of out of pocket expenditure on health care. (Table 5). Among the poorer states Assam has the lowest number of people going below both the poverty line and has the lowest impact in terms of poverty deepening. This is largely due to low OOP share in Assam and also as explained earlier this could be due to better health protection for large number of plantation workers having their own facilities. Very low headcounts and gap measures in Jammu and Kashmir and Himachal Pradesh can be explained both due to the poor health seeking behaviour in these states and also smaller number of people below the poverty

[10] The urban poverty line for Maharashtra is the highest at Rs. 540 per month.

line. Among the middle income states, West Bengal stands out with both the high headcount and gap ratios. These are largely explained by large number of people close to the poverty line. Punjab, a high income state has among the lowest poverty deepening and poverty headcount (followed only by Assam, Himachal Pradesh and Jammu and Kashmir). As shown earlier, Punjab has among the highest OOP share in total consumption and low inequalities in health care payments, reflecting good heath seeking behaviour among the population. Further, large well to do rural population and smaller number of people close to poverty line could be some of the reasons explaining low headcounts and gaps in Punjab.

Table 4: Absolute Number of Persons Going Below Poverty Line because of OOP: 1999-2000

The rural urban break-up of the new poor in different states provides an interesting insight. About 79% of the new poor are from rural areas (more than the rural share of the total population) and 21 % are from urban areas. In most of the poorer states such as Assam, Orissa, Uttar Pradesh, Bihar, Himachal Pradesh, West Bengal and Jammu and Kashmir more than 85 % of the new poor belong to the rural areas. In richer states the proportion of the new poor in rural areas is much less compared to that in the poorer states. Except for Tamil Nadu (where the urban poor percent is only 17%) the percent of new poor in urban areas is close to 30% in top 5 income states. The five poorest states (Uttar Pradesh, Bihar, Orrisa, Madhya Pradesh and Assam) combined account for 59% of the new poor out of which the rural share for these states is 87 % and urban share is 13 %. On the other hand, in the 5 richest states, the combined share of new poor is 20% with 70 % in rural areas and 30% in urban areas. This clearly shows that OOP have a greater impact in driving poverty in rural areas in poorer states, in richer states while the impact is still higher in rural areas, in relative terms urban poor are affected more in richer states.

IV. SUMMARY AND CONCLUSIONS

The average OOP share (to total consumption expenditures) in India is 5% and is higher in rural areas as compared to urban areas. However, in rural areas the OOP payment is highly concentrated among the rich while in the urban areas it is fairly evenly distributed across all consumption quintiles. The higher OOP in richer quintiles is not a reflection of progressivity in payments, but is due to better utilization among the higher income groups. The OOP shares were

generally found to be positively correlated to state domestic product per capita. Generally poorer states have low OOP because of low incomes, limited access to health care, which is due to lack of awareness (poor literacy rates) and poor infrastructure in these states. Conversely, richer states generally have high OOP mainly on account of better health seeking behaviour on account of greater provider choice and higher quality of public/private care. Sometimes, governmental and/or non-governmental interventions in this regard may reverse the situation as in case of Gujarat and Tamil Nadu. Sometimes very poor government facilities and greater dependence on private facilities also leads to high OOP share as is likely in case of Uttar Pradesh.

It is noted that of the 5% of OOP share about 75- 80% is on drugs and only 25-20% (urban- rural variations) is on inpatient and outpatient care. While average expenditures share on inpatient and outpatient care are lower in rural areas, expenditures on medicines are higher. The share of expenditure on drugs is higher for higher income quintiles in rural areas but for the urban poor the share on drugs is as much as their richer counterparts. Again, in richer states, the high OOP is largely contributed by the higher shares of OOP on inpatient care while in poorer states the OOP payment is lower and higher share goes to expenditure on drugs. This needs to be immediately attended to by the drug policy makers in India. There is a need not only to improve the availability of drugs for the rural areas and in the poorer states, but also for a policy to subsidize the drug expenditure for the urban poor.

Out-of pocket have a severe impact on increasing the poverty ratios in the country. The estimate for 1999-2000 was 3.25 % of the total population, or approximately 32.5 million people plunged into poverty because of health care payments. These do not include those who were already poor and have plunged deeper into poverty. The incidence of poverty was higher in rural areas at 3.5% as compared to 2.5% in urban areas. Also the intensity of poverty in terms of poverty deepening when standardized by the poverty lines is higher in rural areas. However, in terms of the poverty gap, those below the poverty line face a larger average consumption shortfall in urban areas as compared to the rural areas.

Finally one can say that even though most of the poor states have on average low OOP (with the exception of Uttar Pradesh), the poverty impact of health payments is more on the poorer states, especially in the rural areas Hence government policies are required to replace even these low OOP shares among the poorer states, and more so in rural areas. In the five richest states, targeting is required among the urban poor to enable households to avoid going

below the poverty line. Targeted policies in just 5 poor states to reduce OOP can help to prevent almost 60% of the population going below the poverty line because of OOP. This can be an important contribution in achieving the first millennium development goal (which is halving the population below the poverty line) to which India is also a signatory. Almost free facilities (along with the availability of drugs) are required for people close to the poverty line. Better financing mechanisms such as community financing or dedicated good facilities for workers can also work to reduce the intensity of poverty both among the richer and poorer households. Further research needs be done to find out which households are going below the poverty line - those who have some form of risk protection or those who survive only on their own out of pocket payments. Also it will be interesting to look at the impact of OOP on poverty in a dynamic process, that is, do the households come out of poverty by making payments and seeking care and who are the new poor in the coming years.

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Figures used in the text

Fig. 1: Concentration curves of OOP payments in rural and urban India

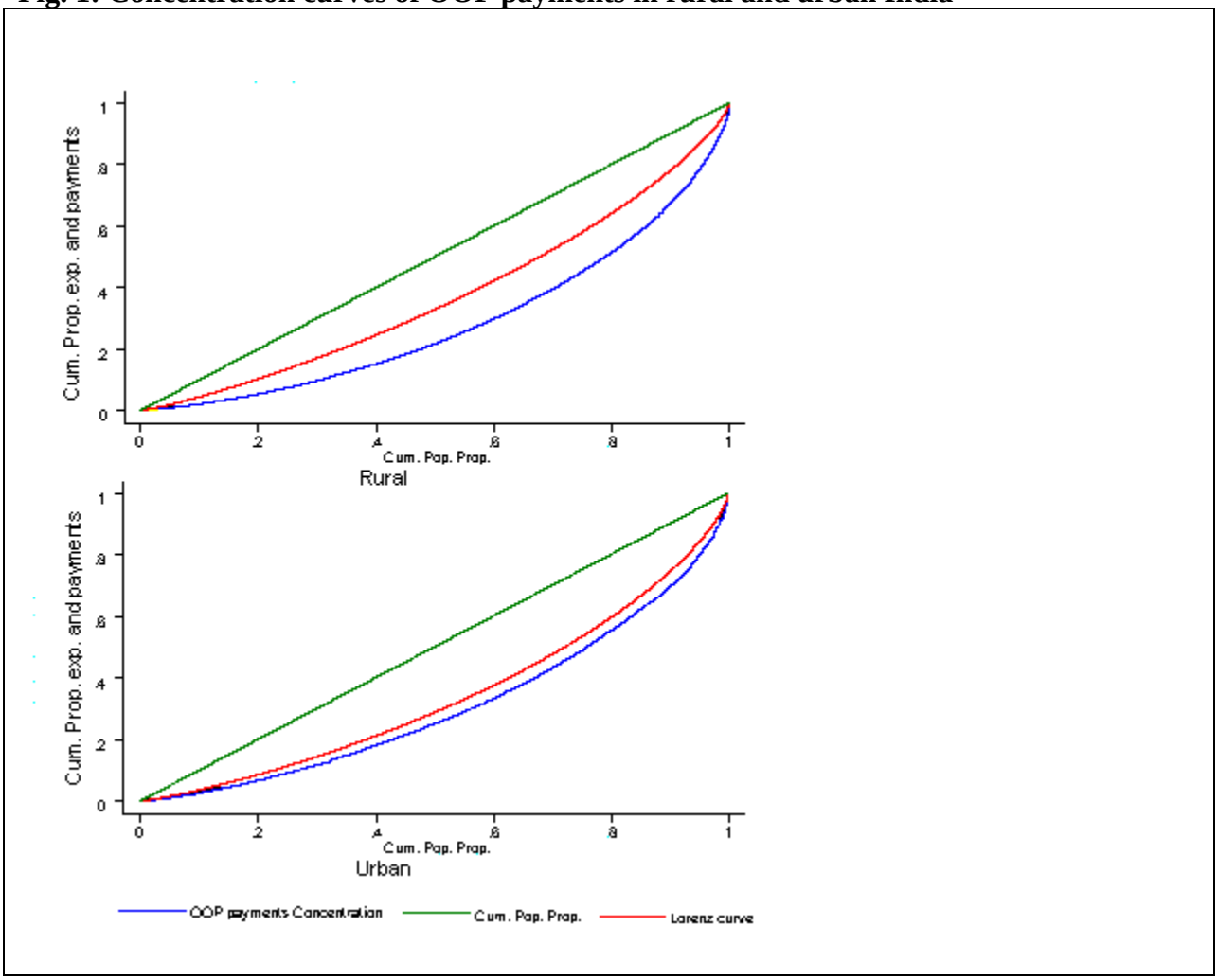


Figure 2: Mean Utilization Levels by quintile Groups of Population – 1995-96

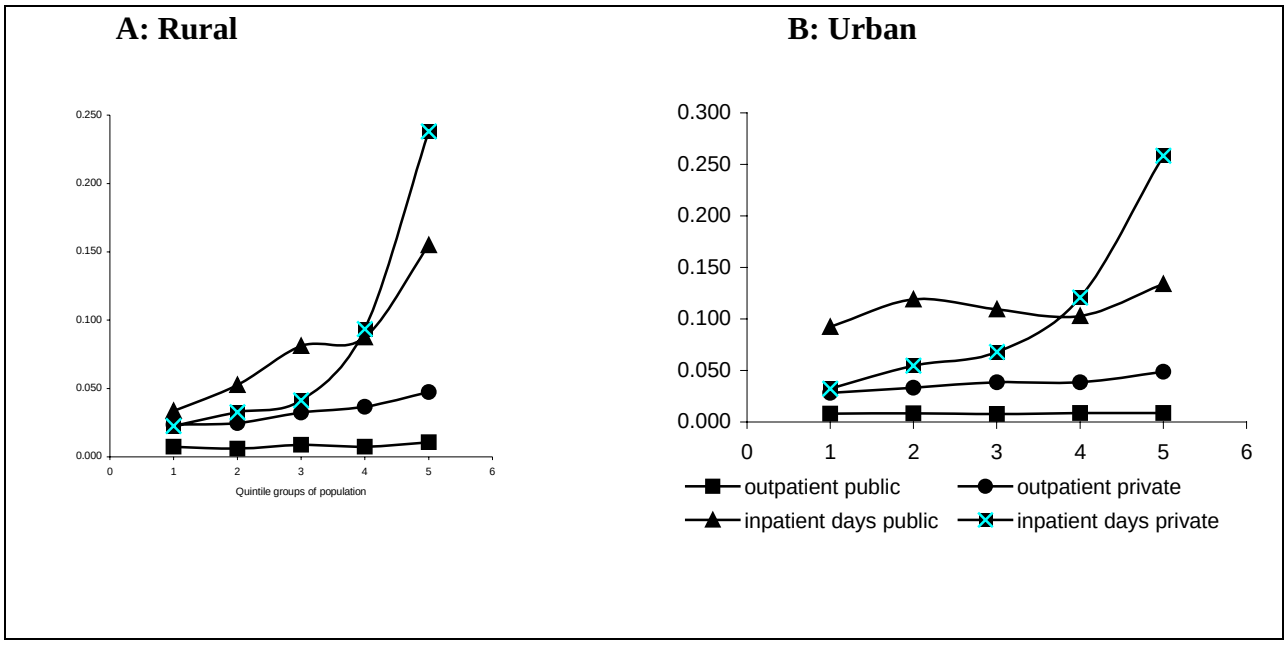
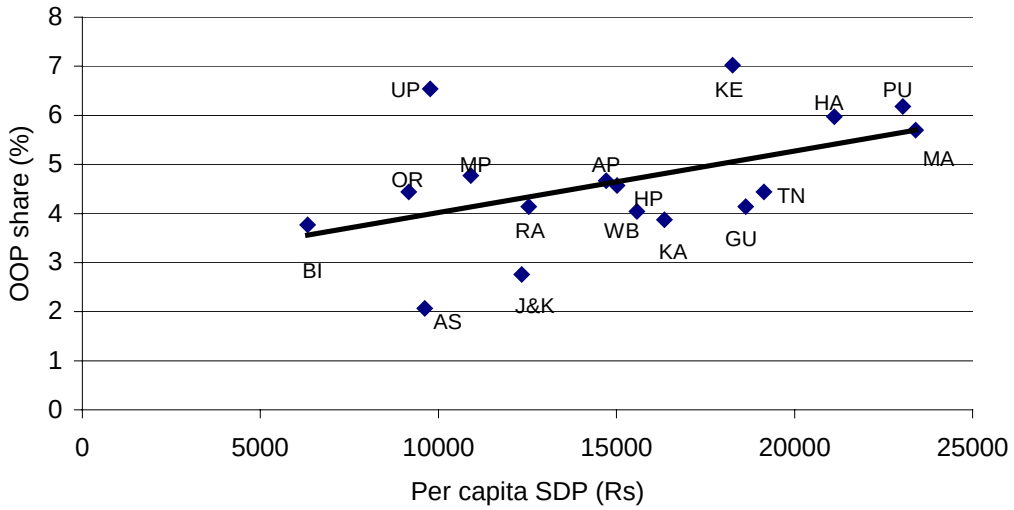


Figure 3: Average OOP Share in Indian States Ranked by Per Capita SDP, 1999-2000



Note: The analysis has been done for 15 major states. The acronyms for states are AP- Andhra Pradesh, AS- Assam, BI- Bihar, GU- Gujarat, HA- Haryana, HP- Himachal Pradesh, J&K- Jammu and Kashmir, KA- Karnataka, KE- Kerala, MA- Maharashtra, MP- Madhya Pradesh, OR- Orissa, PU- Punjab, RA- Rajasthan, TN- Tamilnadu, UP- Uttar Pradesh, WB- West Bengal.

Fig. 4: Concentration curves of OOP payments in the four high OOP states

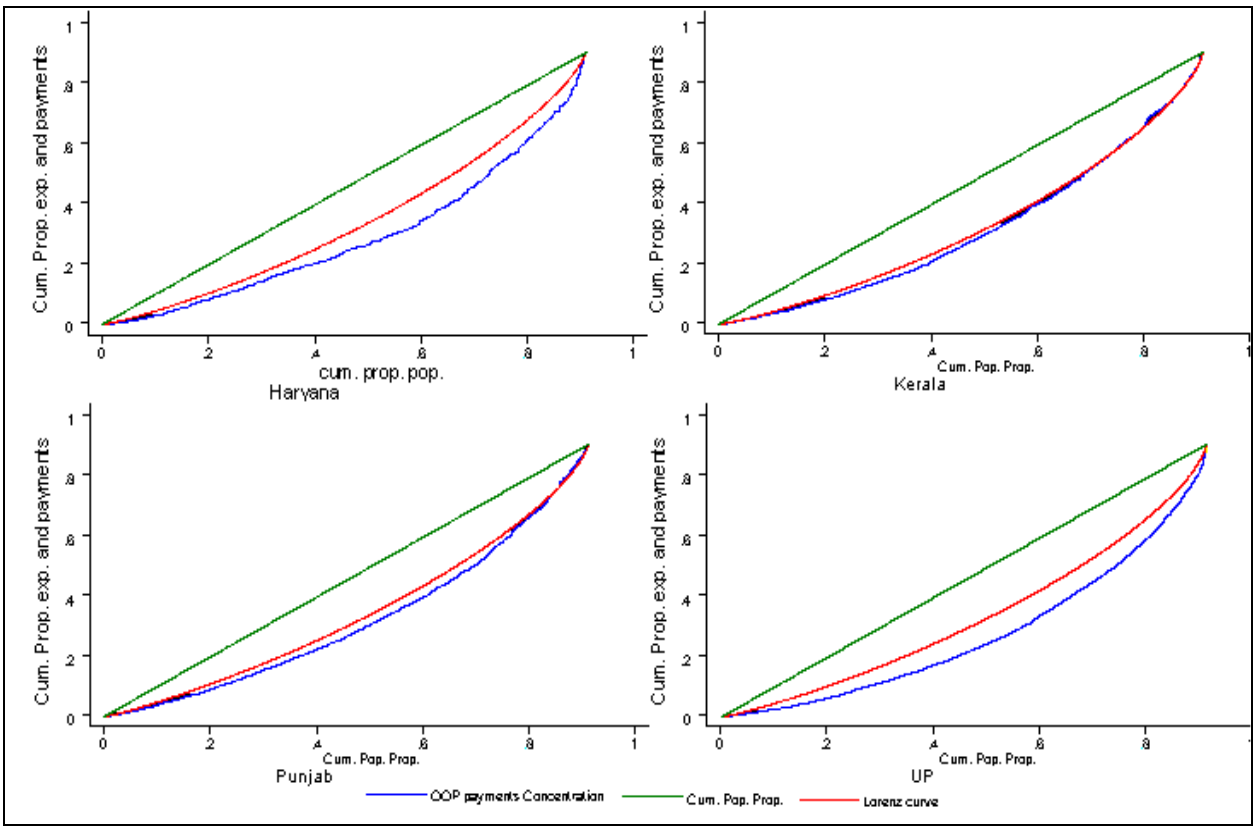
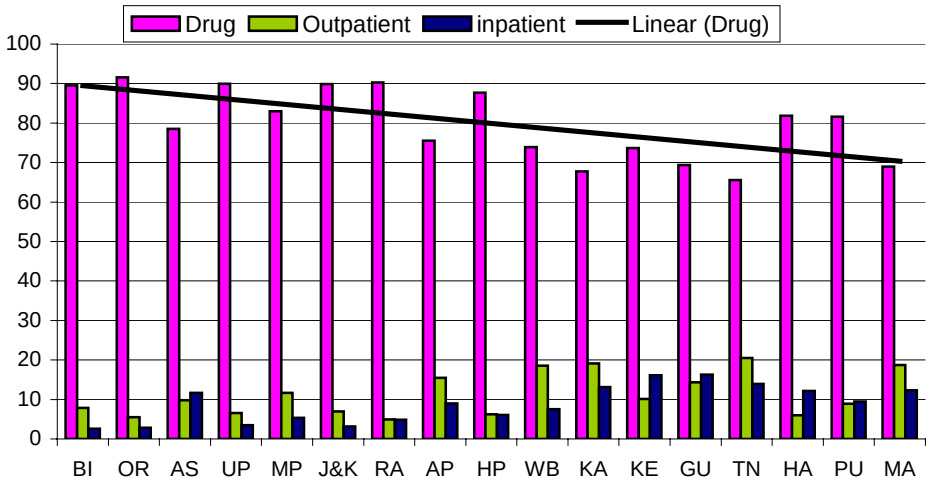
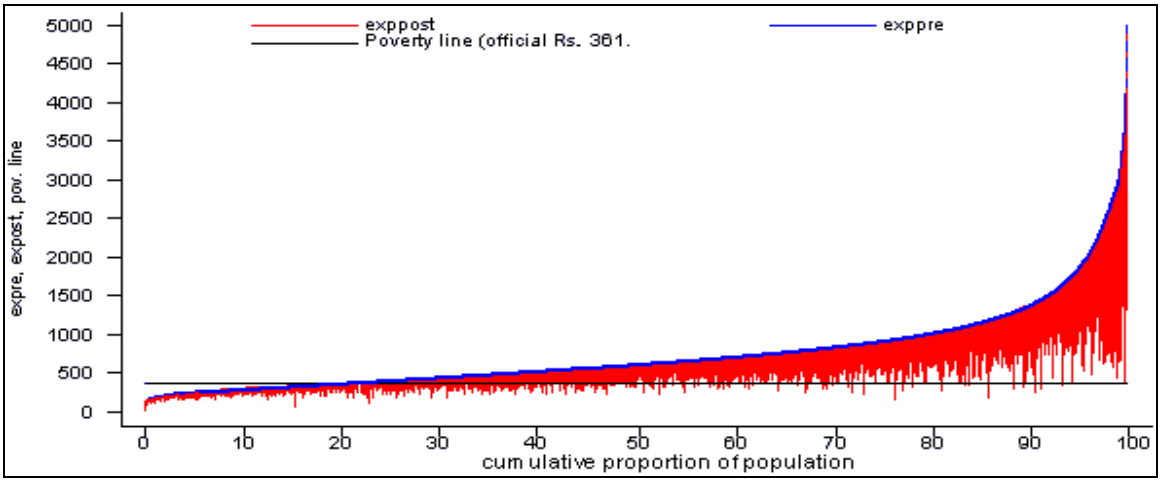


Figure 5: Percentage Distribution of OOP by, outpatient care, inpatient care and medicines in major states: 1999-2000



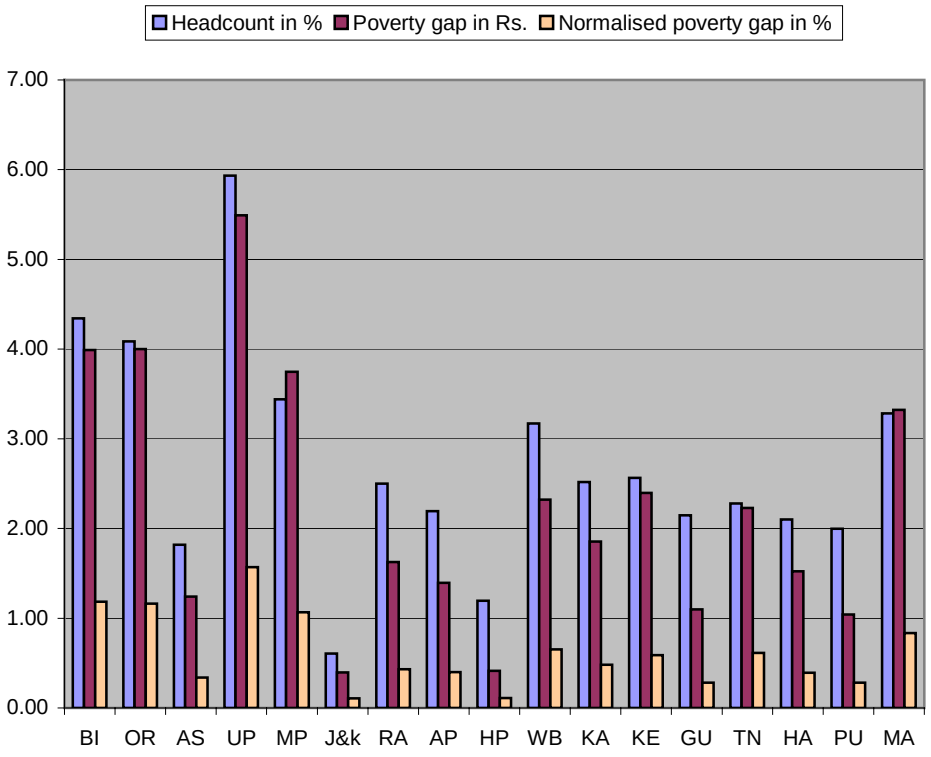
Note: States are arranged in ascending order of per capita state domestic product with acronyms as mentioned earlier.

Figure 6: Pre-payment and Post payment Consumption Expenditure, 1999-2000



Note: Expre – Shows monthly per capita expenditure before OOP.
Expost - Monthly per capita expenditure of households after OOP.

Figure 7: Poverty Impact of Health Care Payment in Major Indian States: 1999-2000



Note: States arranged in ascending order of per capita state domestic product with acronyms as mentioned earlier.

Tables used in the text

Table 1: Average OOP Share by Quintile Groups for Rural, Urban and Combined, 1999-2000

Consumption expenditure quintile*	Rural		Urban		Combined	
	Average of all OOP as % of					
	Total consumption expenditure	Non-food consumption expenditure	Total consumption expenditure	Non-food consumption expenditure	Total consumption expenditure	Non-food consumption expenditure
Poorest 20%	3.00	8.03	3.38	8.27	3.30	8.63
2nd poorest 20%	3.93	10.05	4.14	9.22	4.40	10.71
Middle	4.67	11.28	4.60	9.36	5.22	11.76
2nd richest 20%	5.54	12.59	4.61	8.71	6.16	12.53
Richest 20%	7.93	15.36	5.16	8.24	6.48	11.13
All households	5.01	11.46	4.38	8.76	4.84	10.72

Note: Quintile groups are made separately for rural and urban areas.

Table 2: Percentage share of OOP expenditure on inpatient care, outpatient care and Medicines in rural and urban areas: 1999-2000

	Rural			Urban		
Consumption expenditure quintile	Inpatient	Outpatient	Drugs*	Inpatient	Outpatient	Drugs*
Poorest 20%	3.0	10.3	86.7	5.0	10.9	84.0
2nd poorest 20%	4.3	11.4	84.3	6.8	12.6	80.7
Middle	5.6	10.7	83.8	10.7	13.5	75.9
2nd richest 20%	7.6	11.7	80.7	11.7	15.2	73.0
Richest 20%	11.9	12.9	75.3	17.4	17.8	64.7
All households	7.4	11.8	80.9	10.9	14.4	74.7

Table 3: Poverty Impact of OOP – Poverty Headcounts and Poverty Gaps, 1999-2000

Poverty Measures	Rural	Urban	Combined
Poverty headcounts*(in %)			
Pre-payment headcount (pre-Hp)	26.84	23.53	25.93
Post-payment headcount (post-Hp)	30.35	26.06	29.17
Poverty impact-headcount (post-Hp - pre-Hp)	3.51	2.53	3.24
Poverty gaps (in Rs.)			
Pre-payment gap (pre-G)	17.11	23.35	18.69
Post-payment gap (post-G)	19.97	26.56	21.63
Poverty impact - gap (post-G - pre-G)	2.85	3.21	2.94
Pre-payment mean positive gap (pre-MPG)	63.77	99.25	71.93
Post-payment mean positive gap (post-MPG)	65.80	101.91	73.91
Poverty impact (post-MPG - pre-MPG)	2.03	2.67	1.98
Normalised poverty gaps (in %)			
Pre-payment normalised gap (pre-NG)	5.22	5.14	5.00
Post-payment normalised gap (post-NG)	6.10	5.85	5.79
Normalised poverty impact (post-NG - pre-NG)	0.87	0.71	0.80

*Note: The estimates of poverty headcount are slightly lower than the official estimates of poverty (26.10%) by Planning Commission (2002); mainly because the estimates of poverty ratio based on unit level data in north eastern states is much lower than the official figures. The official poverty ratio takes a common figure for all north-eastern states which is that of Assam.

Table 4: Absolute Number of Persons Going Below Poverty Line because of OOP: 1999-2000

	Rural	Urban	Combined
Uttar Pradesh	8,687,364	1,380,407	10,067,770
Bihar	4,237,589	394,285	4,631,874
Maharashtra	2,099,686	959,098	3,058,784
Madhya Pradesh	2,087,177	633,988	2,721,166
West Bengal	2,040,840	347,735	2,388,574
Andhra Pradesh	1,137,159	492,382	1,629,542
Orissa	1,349,630	137,022	1,486,652
Tamil Nadu	1,059,630	229,966	1,370,761
Rajasthan	1,030,443	340,318	1,289,596
Karnataka	937,890	342,735	1,280,624
Gujarat	647,264	420,580	1,067,845
Kerala	564,087	244,252	808,339
Punjab	318,150	155,707	473,857
Assam	454,405	9,808	464,213
Haryana	307,542	121,806	429,348
Himachal Pradesh	66,268	4,778	71,046
Jammu & Kashmir	49,949	7,491	57,440
All India	25,528,693	6,992,610	32,519,910

Note: States are arranged in descending order of total number of persons going below poverty line