

The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings

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High private healthcare spending as well as high out of pocket spending in India are placing a considerable financial burden on households. The 60th national morbidity and healthcare survey of the National Sample Survey Organisation provides an opportunity to examine the impoverishing effect of healthcare spending in India. This paper presents an analysis of the NSSO survey data with some new approaches to correcting some of the biases in previous assessments of the “impoverishing” effect of health spending. Despite these corrections, the results suggest that the extent of impoverishment due to healthcare payments is higher than previously reported. Furthermore, outpatient care is more impoverishing than inpatient care in urban and rural areas alike. The analysis of the extent of impoverishment across states, regions (urban and rural areas), income quintile groups, and between outpatient care and inpatient care yields some interesting results.

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In India, not only is the private healthcare spending much higher than government spending in comparison to what is observed in many developing countries, but also within the private health spending, the share of out-of-pocket (OOP) health spending in India is much higher (Table 1, p 66). The share of OOP in total expenditure on health is the highest in India in comparison to the selected developing countries, except Pakistan.

The high share of private healthcare spending, which is mainly OOP spending, reflects on considerable financial burden on households. Indeed, the healthcare costs are believed to be one of the important causes of impoverishment in India – a country that is home to the largest number of the world’s poor.¹

In this paper we measure the “impoverishing” effect of healthcare payments. This is done by calculating the number of households below the poverty line (BPL) before and after healthcare payments. The underlying idea in this measure (and indeed, in other measures as well) is that the healthcare payments are involuntary or non-discretionary and that in the absence of these payments household’s non-medical consumption would go up by the same magnitude as the healthcare payments. Since non-health spending is assumed to be equivalent with household welfare, this increase is deemed to be an increase in household welfare. This idea, however, is untenable if a household is able to finance some or all of its health expenditure by running down its stock of financial and physical assets, or by borrowings. In such cases, household expenditure is higher (than its current income) when medical expenses are incurred than when they are not. In estimation of poverty, disregarding these other funding sources in meeting healthcare costs would lead to an overestimation of impoverishing effect of healthcare payments. Uncorrected measures would make households with high OOP spending appear to be better off than those without such expenditure, other things being equal. Therefore, while measuring the impoverishing effect, household expenditure must be “corrected” for dis-savings or borrowings due to healthcare. With the exception of Flores et al (2008), the previous studies that have examined the impoverishing effect of healthcare payment in India have ignored the effect that “Financial Coping Mechanisms (FCMs)”² may have on household expenditure, and hence, on the extent of the impoverishment. The present study corrects for this measurement error and comes up with new results.

In this paper, using the National Sample Survey Organisation’s (NSSO) recent morbidity, healthcare survey, we estimate that around 63.22 million individuals or 11.88 million households were pushed to BPL due to healthcare expenditure in 2004. This

Table 1: Share in Healthcare Spending in 2005 (%)

Selected Countries	Private Expenditure of Total Expenditure on Health	Out-of-Pocket of Private Expenditure on Health	Out-of-Pocket of Total Expenditure on Health
Bangladesh	70.9	88.3	62.6
Brazil	55.9	54.6	30.5
Chile	48.6	54.3	26.4
China	61.2	85.3	52.2
India	81.0	94.0	76.1
Indonesia	53.4	66.4	35.5
Malaysia	55.2	75.7	41.8
Mexico	54.5	93.9	51.2
Pakistan	82.5	98.0	80.9
Philippines	63.4	80.3	50.9
Sri Lanka	53.8	86.0	46.3
Thailand	36.1	76.6	27.7
South-east Asia	71.0	90.4	64.2
South Africa	58.3	17.4	10.1
Vietnam	74.3	86.1	64.0

Source: World Health Statistics 2008, WHO.

1999-2000 collected by the NSSO,³ had estimated a much lower number without correcting for the FCMS. As per their calculations, around 3.25% of total population or approximately 32.5 million plunged into poverty because of healthcare payments in 2001. Similarly, Bonu, Bhushan and Peters (2007), using more recent household consumption expenditure data from 2004 to 2005 collected by the NSSO, estimate an increase in poverty headcount by 3.5%, which corresponds to around 39.5 million individuals, due to healthcare payments.⁴ They did not correct for the FCMS. However, these results are based on a general household consumption expenditure survey. Such surveys typically give lower estimates of health spending than dedicated household health surveys.

Furthermore, analysing the impoverishing effect of OOP health spending across states, regions (urban and rural areas), income quintiles, and between types of care (outpatient and inpatient care) yields some interesting results. The burden of healthcare financing affects households differentially along each of these dimensions. For example, we find that much of this impoverishment (79.3%) is due to outpatient care which involves relatively small but more frequent payments, and only 20.7% of impoverishment is due to inpatient care.

The paper is structured as follows: in Section 1, we discuss the methodology followed in estimating the impoverishment figures; in Section 2, the main findings of the analysis, both at the aggregate and disaggregate levels are presented; and Section 3 concludes the paper with some important policy issues emerging from the findings of the paper.

1 Methodology

The measures of financial protection developed in the literature compare consumption expenditure, gross and net of OOP spending on healthcare, to a certain income threshold. The idea behind these measures is that OOP health spending is largely involuntary or non-discretionary and does not contribute to household well-being in the same way as household spending on other goods and services does. There are two broad approaches to measuring

estimate is obtained after correcting for “financial coping mechanisms”. In the absence of this correction the impoverishment rate is significantly higher – around 73.9 million individuals or 13.9 million households. In other words, the extent of overestimation is around 17% both in terms of individuals and households.

Garg and Karan (2005), using household consumption expenditure data of

financial protection. One approach classifies medical spending as “catastrophic”, if household medical spending exceeds a certain fraction of household income. Another approach classifies the spending as impoverishing depending on whether it is sufficiently large to make the difference to the household being above or BPL (for an excellent discussion on the methodology, see Wagstaff 2008). For each of these approaches, one could do “headcount” (incidence) analysis as well as “gap” (intensity) analysis, and each of these approaches has its own strengths and weaknesses. From a poverty perspective, it is the impoverishing effect of healthcare payments that is more interesting to analyse. In this paper we do headcount analysis of impoverishment by looking at household consumption expenditure before and after OOP health spending and compare it with a poverty threshold. Algebraically, this is explained below:

Let X_i be the total consumption expenditure of household i . An estimate of the poverty headcount *gross* of healthcare payment, but after correcting for FCMS for health F_i is:

$$H_g = \sum G_i, i = 1 \text{ to } N$$

where $G_i = 1$ if $[(X_i - F_i)/S_i < PL]$ and is 0 otherwise, S_i is the size of household, N is the number of households in the sample, and PL is the per capita poverty threshold.

An estimate of the poverty headcount *net* of healthcare payments is:

$$H_n = \sum G_i, i = 1 \text{ to } N$$

where $G_i = 1$ if $[(X_i - F_i - h_i)/S_i < PL]$, where h_i = own healthcare payment by household i

The difference between $H_n - H_g$ gives the impoverishing effect (headcount).

A recent study by Flores et al (2008) that corrects for the FCMS, uses previous NSSO (52nd round) morbidity, healthcare survey conducted in 1995-96. In their analysis, they decompose the impoverishment effects of healthcare payments into “transient poverty” (poverty due to households diverting consumption of other basic needs to healthcare) and “hidden poverty” (households that are poor on the basis of their sustainable level of consumption not being recognised as poor by conventional measures because of their use of savings, assets or borrowing to pay for large healthcare costs that temporarily raises their total spending above poverty threshold). However, their analysis is confined to the expenditure on inpatient care only, and also to only the non-insured households.

We use the recent NSSO (60th round) morbidity, healthcare survey conducted in 2004. Our analysis covers outpatient care as well as inpatient care, and includes insured as well as uninsured households. However, we are not able to decompose the “transient poverty” and “hidden poverty” due to the limitations of the survey that clubs household income and savings together as one of the financing sources. Therefore, in our analysis, FCMS include borrowings, contributions from friends and relatives, and other sources such as sale of assets.

The NSSO (60th round) survey covered 47,302 and 26,566 rural and urban households, respectively. A two-stage stratified sampling design was followed with census villages and urban blocks as the first-stage units for the rural and urban areas, respectively, and households as the second-stage units. The survey period was

January to June 2004, which was split up into two sub-rounds of three months each.⁵

In morbidity, healthcare survey detailed itemwise consumption expenditure is not collected. We tried various methods to ensure comparability among the poverty estimates from the morbidity, healthcare survey and the conventionally reported poverty estimates. This was best achieved by simply using the reported monthly per capita consumption expenditure in the morbidity, healthcare survey and the updated poverty line.

For calculating the number and share of households falling BPL due to healthcare payments, we need two pieces of information: the poverty line estimate and total household expenditure before and after healthcare payments. To calculate these we proceed as follows:

Step 1: For calculating poverty line, we use the official (standard Planning Commission) methodology.⁶ The poverty line numbers for the year 1999-2000 were updated for 2004 by inflating the 1999-2000 numbers at the state level separately for rural and urban areas. The updating was done by using time series consumer price index data for agricultural labourers for rural areas and urban non-manual employees for urban areas for each state. The updated poverty line is for each region (rural and urban) and for each state.

For calculating household consumption expenditure before and after healthcare payments, we proceed as follows.

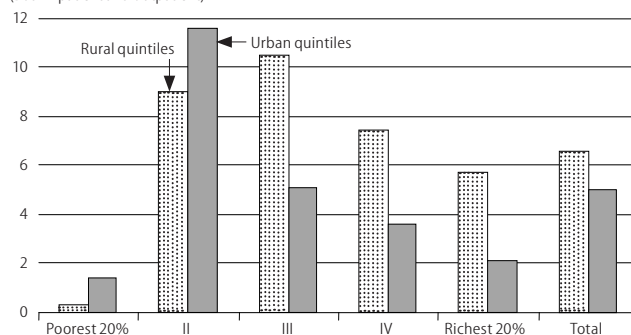
Step 2: In the NSSO morbidity, healthcare survey, part of health expenditure that comes from sources of funds such as borrowings, funds from friends and relatives and others (including sale of assets) has been calculated (F) and then subtracted from the overall consumption expenditures (E) to arrive at *overall current* consumption expenditures (Ec) without any spending on health. The *overall current* consumption expenditure (Ec) is the amount that the household would have had from its current flows, had there been no health problem. This is then compared with the poverty benchmarks (calculated in step 1) to arrive at poverty levels without the impact of health expenditure.⁷

Step 3: The reported health expenditure on inpatient care and related incidentals⁸ (h_1) is subtracted from Ec to arrive at overall current consumption expenditure (Ep_1) after spending on inpatient care and related incidentals, i.e., $Ep_1 = Ec - h_1$ where, h_1 = inpatient health expenditures including incidentals related to inpatient care + health insurance premium – reimbursements – expenditure equivalent of borrowings, funds from friends, and sale of assets (F).

Ep_1 can be thought of as the amount the household has left over to purchase essentials such as food and clothing after spending on inpatient care (including incidentals). Ep_1 can then be compared with the poverty benchmark (calculated in step 1) to estimate poverty levels due to the impact of expenditure on inpatient care.

Comparison of the poverty levels in steps 2 and 3, gives us the percentage of households falling BPL due to expenditure on inpatient care, after correcting for the effect of “financial coping mechanisms”.

Figure 1: Percentage of Households Falling BPL Due To Health Expenditure (Both Inpatient and Outpatient)



Step 4: Similarly, for the outpatient and inpatient care combined.

Step 5: Using the above methodology, we calculate percentage of BPL households separately for rural and urban areas, across all states and across income quintiles. We then use 2001 Census figures to convert percentage of households falling BPL into the number of households as well as the number of persons falling BPL. For this, we use statewide and regionwise (rural and urban areas) household size figures as reported in the 2001 Census.

2 Main Findings

2.1 Aggregate Impoverishing Effect of Health Expenditure Corrected for Financial Coping Mechanisms

The analysis of NSSO's latest (60th round) national morbidity, healthcare survey data suggests that around 6.2% of total households (6.6% in rural areas and 5% in urban areas) fell BPL as a result of total healthcare expenditure in 2004. Around 1.3% of total households (1.3% in rural areas and 1.2% in urban areas) fell BPL as a result of expenditure on inpatient care, while 4.9% of households (5.3% in rural areas and 3.8% in urban areas) fell BPL as a result of outpatient care. That non-hospital expenditure has greater impoverishing effect than expenditure on hospitalisation is also reported in other countries. For example, Wagstaff and Doorslaer 2003 found that in Vietnam, the increase in headcount from non-hospital expenses was almost six times the increase

Table 2: Households Falling BPL

	Number of Households Falling BPL (in million)		
	Inpatient Spending Only	Outpatient Spending Only	Inpatient and Outpatient Combined
Rural households	1.79	7.30	9.09
Urban households	0.67	2.12	2.79
Total	2.46	9.42	11.88
	Percentage of Households Falling BPL in Rural and Urban Areas		
	Inpatient Spending Only	Outpatient Spending Only	Inpatient and Outpatient Combined
Rural households	72.8	77.5	76.5
Urban households	27.2	22.5	23.5
Total	100.0	100.0	100.0
	Percentage of Households Falling BPL due to Inpatient and Outpatient Care		
	Inpatient Spending Only	Outpatient Spending Only	Inpatient and Outpatient Combined
Rural households	19.70	80.30	100.00
Urban households	24.00	76.00	100.00
Total	20.71	79.29	100.00

Table 3: Individuals Falling BPL

	Number of Persons Falling BPL (in million)		
	Inpatient	Outpatient	Both
Rural	9.64	39.31	48.95
Urban	3.42	10.84	14.27
Total	13.07	50.15	63.22
	Percentage of Individuals Falling BPL in Rural and Urban Areas		
	Inpatient	Outpatient	Both
Rural	73.8	78.4	77.4
Urban	26.2	21.6	22.6
Total	100.0	100.0	100.0
	Percentage of Individuals Falling BPL due to Inpatient and Outpatient Care		
	Inpatient	Outpatient	Both
Rural	19.70	80.30	100.00
Urban	24.00	76.00	100.00
Total	20.67	79.33	100.00

of impoverishment is due to inpatient care. Furthermore, much of the impoverishment (76.5% of households or 77.4% of individuals) occurs in rural areas. According to 2001 Census, 27.8% of India's population lives in urban areas, whereas only 22.6% of total healthcare related impoverishment occurs in urban areas.

To find out how significant is the role of the "correction" on account of financial coping mechanisms, we deduct all healthcare payments (inpatient and outpatient care and the incidentals) from the overall consumption expenditures (E) (instead of deducting from overall *current* consumption expenditures (EC)) and compare this with the updated Planning Commission's poverty line numbers. We find that 7.6% of households (8% in rural areas and 6% in urban areas) fall BPL due to healthcare payments. This number is higher than the number (6.2% of households) obtained after the correction. Thus, estimates, uncorrected for financial coping mechanisms, lead to an overestimation of percentage of BPL households due to healthcare payments.

Instead of using updated Planning Commission poverty benchmark, we use alternate poverty benchmark which is international standard of \$1.08 per head per day. We convert this into local currency using 1993 purchasing power parity (PPP) and then update poverty line numbers with suitable inflation figures according to the year 2004. Using alternate poverty benchmark, we again find that 7.2% of households (8% in rural areas and 5% in urban areas) fall BPL due to healthcare payments.

Thus, not correcting for the financial coping mechanisms yields higher estimates of impoverishment, irrespective of the poverty line benchmark used: whether the standard Planning Commission benchmark or the international poverty benchmark of \$1.08 per head per day.

Our corrected estimates are significantly higher than previously reported using household consumption expenditure surveys. Flores et al (2008), analysing earlier morbidity, healthcare survey and correcting for FCMS, report increases in the poverty headcount by only 0.5% and 0.6% points in rural and urban areas, respectively. Our estimates which are based on more recent survey data suggest an increased impoverishing effect of healthcare payments for inpatient care between the two survey periods: 1996 and 2004. A part of this increase may be due to the fact that our FCMS do not include savings due to data limitations.⁹

from hospital expenses in 1998.

In absolute terms, around 63.22 million individuals or 11.88 million households were pushed BPL due to healthcare expenditure in 2004 (see Table 2, p 67 and Table 3). Moreover, much of this impoverishment (79.3%) is due to outpatient care which involves relatively small but more frequent payments, and only 20.7%

Figure 2: Percentage of Rural Households Falling BPL Due To Health Expenditure

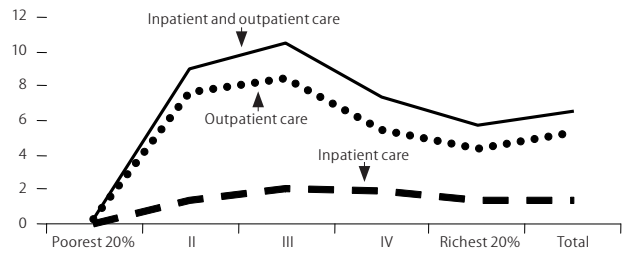
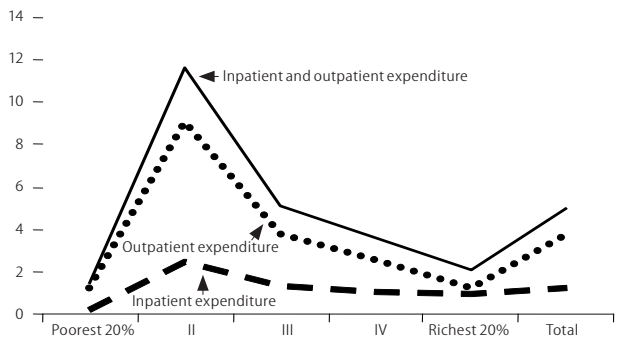


Figure 3: Percentage of Urban Households Falling BPL Due To Health Expenditure



Analysing household consumption expenditure survey, Garg and Karan (2005) show an increase in poverty headcount due to OOP by 3.24% of total population in the country or approximately 32.5 million. Likewise, Bonu, Bhushan and Peters (2007), using the consumption expenditure data from 2004 to 2005 collected by NSSO, estimate an increase in poverty headcount by 3.5% which corresponds to around 39.5 million individuals. The reason for their estimates being lower than what one would expect because of the "non-correction" for FCMS is the use of different survey data pertaining to different time periods. The consumption expenditure survey captures OOP as a part of total household consumption as opposed to the national morbidity, healthcare survey that concentrates on measuring health expenditure exclusively. Each of the two surveys (consumption expenditure survey and morbidity, healthcare survey) has its own biases and limitations. While there is a possibility of OOP on health being underestimated in the consumer expenditure surveys as compared to morbidity, healthcare surveys, the reported monthly consumption expenditure in morbidity, healthcare surveys is likely to be biased downwards from those reported in the larger NSSO consumer expenditure survey from which poverty is normally estimated.

Although this analysis pertains to a specific time period and there is always a reason to believe that households pushed below poverty level due to healthcare payments will be able to move above the poverty line in the subsequent periods just as many more new households may fall BPL in subsequent periods.

2.2 More Disaggregated Estimates of Impoverishing Effects with Corrections

As a percentage of rural and urban population respectively, impoverishment is higher in rural than in urban areas (see Figure 1, p 67).

Examining the effect of healthcare-related expenses across income quintiles, we find that the impoverishing effect of

healthcare-related expenses is the highest in the middle income quintile in rural areas, whereas in urban areas the impoverishing effect is felt the most by the second poorest quintile group (see Figure 1). It may be surprising to find some extent of impoverishment even among the poorest quintile group who, prima facie, should be BPL. Actually, based on income, all households in the sample were arranged in ascending order and then categorised into five groups/quintiles. All corrections and deductions were applied subsequently. Therefore, we find some impoverishment happening even in lowest income quintile.

Another point that emerges is that the population in the higher income quintiles is affected more in rural than in urban areas.

Flores et al (2008) provide some important insights into this. In their analysis they found that in rural areas borrowing is the main FCMS, financing almost 34% of OOP expenditures, whereas in urban areas saving is the main source of funding but borrowing still accounts for 22% of health expenditures. Furthermore, they found that the main consequence of health payments for the measurement of poverty is not the temporary diversions of consumption from basic needs to healthcare (the transient poverty) but the inflation of total household expenditures by the exercise of coping strategies adopted to pay for healthcare (the hidden poverty).

Figures 2 and 3 (p 68) show impoverishment across income quintiles in rural and in urban areas according to inpatient and outpatient care. The impoverishing effect is concentrated in the second income quintile in urban areas, whereas in rural areas the effect is spread out among quintiles groups. For all expenditure quintiles, outpatient care accounts for a significantly

larger share of the impoverishing effect. This finding has also been reported by Dror et al (2008) and others. It raises important issues for the development of health insurance benefit package in India, most of which only cover inpatient care and sometimes only high cost inpatient care. It is likely that the shock to households of inpatient care is larger for any given event, but our data suggest that the overall financial burden and aggregate impoverishing effect is larger from outpatient care. The actual welfare implications of this finding need further investigation.

Figures 4, 5, and 6 show the variability in impoverishing effects across major states for rural, urban, and the whole population of each state in comparison with the national average.

The states are arranged in ascending order (from left to right) of their per capita state domestic product. Each state's population is compared to a state-specific poverty line, so these are relative measures of impoverishments. There is some significant variation between states. Some anomalous findings raise important questions about the causes of health-related impoverishment. For example, Kerala shows the highest effect. This may reflect Kerala's relatively low levels of household consumption combined with higher education and propensity to use healthcare. In contrast, Madhya Pradesh shows a relatively low rate of health-related impoverishment. This may reflect high levels of base poverty, low education, and lower access to healthcare overall. Further investigation is needed to explain state-specific differences. Also these differences and their different causes may require different state-level health policy responses to reduce health-related impoverishment. The figures also show clearly that

Figure 4: Percentage of Rural Households Falling BPL Due To Healthcare Costs

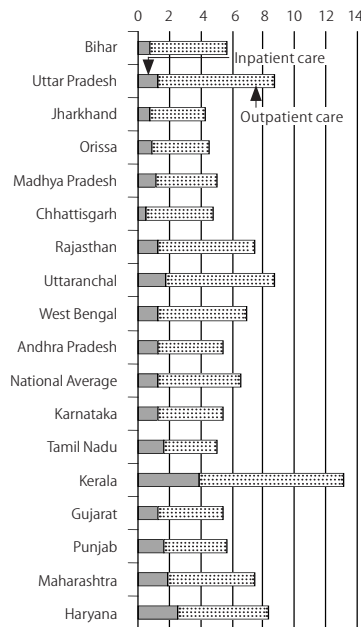


Figure 5: Percentage of Urban Households Falling BPL Due To Healthcare Costs

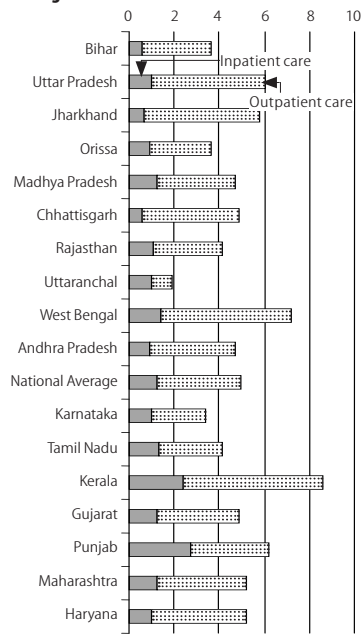


Figure 6: Percentage of All Households Falling BPL Due To Healthcare Costs

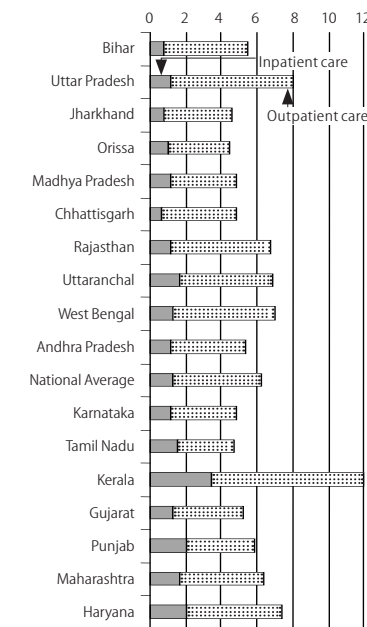
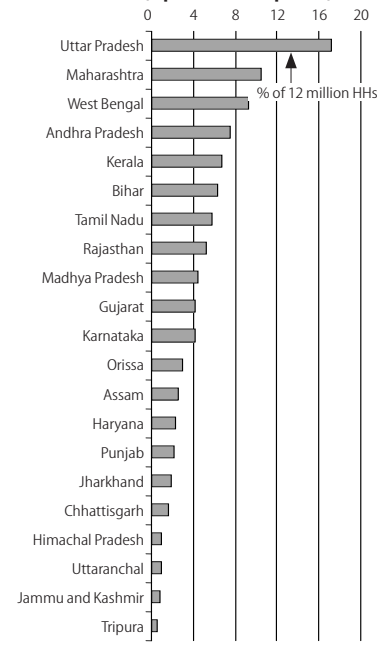


Figure 7: Percentage of Households Falling BPL Due To Healthcare (Inpatient and Outpatient) Costs



the importance of outpatient expenditure across states is a consistent finding.

In Figure 7 (p 69), we look at only those states that significantly contribute to the total impoverishment due to healthcare payments in the country. The figure shows the states' share in the 12 million households that get impoverished in the subset of states considered. Statewise analysis of impoverishment suggests that just two states, Uttar Pradesh (UP) and Maharashtra, account for over 25% of total impoverishment and five states (UP, Maharashtra, West Bengal, Andhra Pradesh and Kerala) account for over 50% of impoverishment.

Looking at the impoverishing effect of only inpatient care, we find that Maharashtra tops that list with about 12.5% of total impoverishment. The same five states as noted above account for over 50% of impoverishment when it comes to inpatient care alone, implying significant scope for some kind of risk pooling arrangement in these states.

We also explored the importance of different sources of FCM. Insurance premium and contribution to health schemes do not seem to be having any effect in checking impoverishment. There is almost no change in poverty levels after we take an account of the effect of insurance and contribution to health schemes. This may be because coverage remains low or the current set of insurance plans is not well-targeted or well-designed to impact health-expenditure related impoverishment.

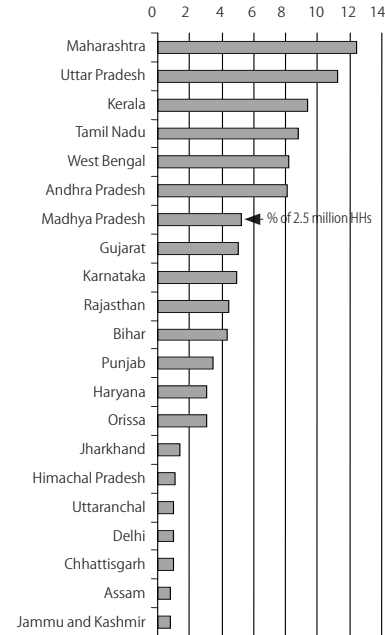
3 Conclusions

In recent years, protecting populations from large financial risks associated with healthcare expenditures has been accepted as one of the core goals of health systems (Roberts et al 2004; WHO 2000; Baeza and Packard 2006). While the problem can be easily understood in a generic sense, there is still work to be done to understand better in what ways OOP spending is associated with financial risk to households and the negative consequences to households of such risks. In addition, to design protection instruments, we need to understand better how different types of OOP health spending cause the negative consequences of unprotected financial risk and the relative magnitude of these risks.

This paper contributes some new evidence and estimation methods to calculate impoverishment related to OOP health expenditure in India, a large poor country with a very high level of unprotected financial risk related to healthcare. We link household OOP spending on health with India's poverty line and calculate the increase in poverty headcount related to health spending and correcting for an important source of bias – household financial coping which results in an artificial increase in household expenditure levels and distorts the estimates of health-related impoverishment.

It is important to note that the analysis of cross-sectional surveys on household spending is not adequate for measuring the

Figure 8: Percentage of Households Falling BPL Due to Healthcare (Inpatient Care Only) Costs



longer-term effects on household impoverishment of health spending. This would better be done with longitudinal data on households which could represent to effects on household welfare of dissaving in previous periods. However, such data are much more difficult to collect and unlikely to be available to represent an environment as large and diverse as India. Cross-sectional data like India's National Sample Survey are often used as a second-best approach, but such data still need to be corrected for some of the biases we have cited.

Our results indicate that health expenditure related impoverishment in India is quite high. There is substantial variation across the states of India, with a few states accounting for most of the health expenditure related impoverishment. Rural rates are higher than urban and outpatient services account for a much larger share of the financial burden on households than inpatient services, even though the latter are

typically more costly per service consumed. These and other findings improve understanding of the magnitude of the problem (large), but perhaps more importantly, support suggestions of how to design strategies to reduce such impoverishment. Financial risk protection for health in India through health insurance still has very low coverage and our evidence suggests it is not very successful in providing that protection.

There is an increasing interest in developing government programmes to address health-related financial risk in India. The main policy strategy for addressing this problem has, for decades, been government financing of free or highly subsidised public delivery of services. The evidence shows that these policies have not been successful and that health-related impoverishment remains high. Health insurance – formal third-party funding for healthcare consumption – is another strategy gaining attention. In 2007, the national Rashtriya Swasthya Bima Yojana (RSBY) scheme, a highly subsidised hospitalisation insurance for the poor was launched. Schemes like RSBY have typically been designed based on strong assumptions and little evidence about the risks faced by poor households and the best approaches to addressing them. More analysis is needed to examine these assumptions to improve the effectiveness of risk protection schemes and this paper provides some steps in that direction.

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NOTES

- 1 A cross-country study by Doorslaer et al (2006), that included 11 Asian countries found the burden of OOP to be highest in Vietnam, Bangladesh, India and China. A study of villages in three Indian states (Rajasthan, Andhra Pradesh and Gujarat) showed that ill-health and healthcare expenses lead the list of common reasons for falling into poverty (Krishna 2007).
- 2 FCMS mean sources other than current income such as past savings, sale of assets, borrowings and contributions from friends and relatives.
- 3 This is a large consumer expenditure survey with a sample of more than 1,20,000 households covering 71,000 rural and 49,000 urban households.
- 4 They apply the increase in poverty headcount per cent to the population of 2006 to obtain the number of individuals.
- 5 For the sample design of the NSSO 60th round morbidity, healthcare survey see NSSO March 2006 report.
- 6 As per this methodology, the poverty lines in India vary by state and rural/urban areas and are set at the monthly per capita expenditures estimated as required to consume 2,400 calories per day in rural areas and 2,100 calories per day in urban areas plus an allowance for basic non-food (clothing) needs. This threshold takes little account of healthcare needs. The extent of poverty is generally calculated based on overall expenditure (which includes all types of expenditures) and whether that is above or below the poverty line.
- 7 As in Garg and Karan (2005), we too use standard Planning Commission methodology for calculating poverty line. But Garg and Karan's study did

not require any updating of poverty line numbers since they used 1999-2000 monthly consumption expenditure data.

- 8 These incidentals include transport (other than ambulance), lodging charges of ailing person and escort(s), and others.
- 9 We are also concerned that there may be other differences between the two surveys related to non-sampling (reporting) errors which make trend analysis suspect and we hope to publish a paper on that separately.

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