

# Financing for Health Coverage in India: Issues and Concerns

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सत्यमेव परमो धर्मः

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# Financing for Health Coverage in India: Issues and Concerns

## ABSTRACT

The paper explores the trends, composition, and incidence of out-of-pocket health expenditure (OOPHE) in India, which has been the predominant means of financing its health care needs. Unit-level data from the National Sample Survey on Household Consumer Expenditure for the years 1993–94, 2004–05, and 2011–12 are used. Results show that the burden of OOPHE has increased steadily over time, but more for the lower economic quintiles. Drugs remain the major component of OOPHE, but their share has declined over the years. Expenditure on diagnostics and non-medical items increased sharply, especially for in-patient care. The latter period, i.e., 2004–05 to 2011–12, has been relatively more regressive. Higher growth of diagnostics and other expenditures, especially at institutions, points toward the possibility of supplier-induced demand. The income effect may also have had some role in the increase in the share of OOPS in the total expenditure of households. Any design of a universal health coverage scheme must take these results into consideration—not only in the specifics of a package, but also around regulation and quality of health services.

Keywords: Household, Out-of-Pocket, Health, National Sample Survey

JEL code: I10, I14, I18



## 1 INTRODUCTION

India has seen significant changes in the health sector in the past two decades, especially after 1991. The two features that stand out are the growing presence of the private sector and a decline in the performance of public institutions in health care delivery (Sengupta et al. 2005). Despite a fairly robust macro-economic scenario in the recent past, India has been unable to allocate an adequate share of its GDP to health; it spends less than 5 per cent of its GDP on health, of which the government's share is only slightly more than 1 per cent. The major share of health expenditure is from private sources, especially out-of-pocket health expenditure (OOPHE) by households. Serious questions have, therefore, been raised about the progressivity of such a health financing system, and its equity and efficiency implications for the health seeker. The most significant fallout of such a health financing system has been the economic impact and possible impoverishment among households least able to cope with such economic shocks. There are numerous studies examining the phenomenon of financial distress due to high OOPHE in India (Krishna 2004; O'Donnell and Doorslaer et al. 2005; Garg and Karan 2005; Bonu et al. 2007; Gupta 2009; Berman et al. 2010). While both OOPHE as well as its share in total household consumption expenditure increases with increasing ability to pay (ATP), comparisons across groups (e.g., gender, class, social code, region, etc.) indicate horizontal inequities including differences in both degrees of progressivity and the redistributive effect (Roy and Howard 2006).

Recently, India has witnessed much debate and discussion around universal health coverage (UHC). The Planning Commission set up a High Level Expert Group (HLEG) to provide inputs for a comprehensive health strategy for the Twelfth Five Year Plan (2012–17). The HLEG recommended health service norms, under which a National Health Package was to be developed, that offers—as an entitlement—a package of essential health services at different levels of the healthcare delivery system to every citizen (Planning Commission 2011). The recommendations of the HLEG have sparked intense discussion and debate over the merits of the proposed approach, including the limited package of services to be universalised (Gaitonde 2012; Rao 2012). Subsequently, the newly elected government at the Centre has proposed the National Health Assurance Mission (NHAM), which promises to deliver assured health packages, including essential drugs and diagnostics. While treatment would be free for the poor, the remaining population might be covered with an insurance component. However, the details of the health assurance programme are yet to be worked out.

While such pronouncements are welcome, it is important to build a body of evidence that justify the contents of any proposed package: in particular, the focus should be on concerns around 'why', 'what', 'who', and 'how much' in the context of coverage. While evidence has established beyond doubt the prevalence of illness-induced alterations in standards of living in India due to high OOPHE, some questions remain unanswered: what

has been the trend in OOPHE? Which components of OOPHE have been contributing more and how have these trends changed over time? Who have been impacted the most in the changes in OOPHE over time? The answers to these questions are important for both the design of a package as well as other supportive policies that might be needed to fulfill the objective of financial protection for the most vulnerable.

In this context, the paper addresses four related sets of issues for India:

- (1) the trend in consumption and health expenditure;
- (2) trends in share of OOPHE health spending in consumption expenditure;
- (3) the changes in the composition of OOPHE spending; and
- (4) the distributional changes in the burden of OOPHE over time.

Three rounds of a nationally representative household survey data for India are used for this purpose covering a span of eighteen years.

## **2 MATERIALS AND METHODS**

The study is based primarily on the unit-level data from the three large rounds of the National Sample Survey (NSS) on household consumer expenditure: the 50<sup>th</sup>, 61<sup>st</sup>, and 68<sup>th</sup> rounds, corresponding to the years 1993–94, 2004–05, and 2011–12 respectively. The survey on consumer expenditure provides a time series of household consumer expenditure data, which is the prime source of statistical indicators of level of living, social consumption, and well-being, and inequalities therein. In all, these three surveys allow us to cover about 18 years, deemed sufficient to detect trends and changes.

For health expenses, the survey elicits responses for expenditure on medical goods and services separately for institutional and non-institutional health care episodes. The reference recall period is 365 days for in-patient or institutional care and 30 days for non-institutional care. For each of these categories, the survey poses questions on the components of medical expenditure, viz. medicines, diagnostics, consultations and other expenses.

## **3 RESULTS AND DISCUSSION**

### **3.1 Trends in Per Capita Consumption and OOPHE**

Over the entire period, consumption expenditure increased, and so did OOPHE (Table 1). Between the first and second time points, per capita real consumption increased annually by only 0.4 per cent, whereas between the second and third, it increased by 4.4 per cent. However, in both periods, per capita real health expenditure increased at a rate higher than consumption, at 3 per cent and 5.9 per cent respectively. Moreover, the growth in health

expenditure occurred across income quintiles, but clearly more so for the lower quintiles in the latter period.

**Table 1** Growth (CAGR) of per capita total consumption expenditure and per capita OOP

Consumption Quintiles	1993–94 to 2004–05		2004–05 to 2011–12		1993–94 to 2011–12	
	Total Consumption	OOP	Total Consumption	OOP	Total Consumption	OOP
Poorest	-0.3	0.8	3.8	10.3	1.3	4.4
Second	-0.3	1.1	4.0	7.8	1.3	3.6
Middle	-0.2	1.6	4.2	6.0	1.5	3.3
Fourth	0.0	2.4	4.3	6.1	1.7	3.8
Richest	1.1	3.9	4.6	5.2	2.5	4.4
All	0.4	3.0	4.4	5.9	1.9	4.1

Source: Computed from unit record data of the NSS for the years 1993-94, 2004-05 and 2011-12

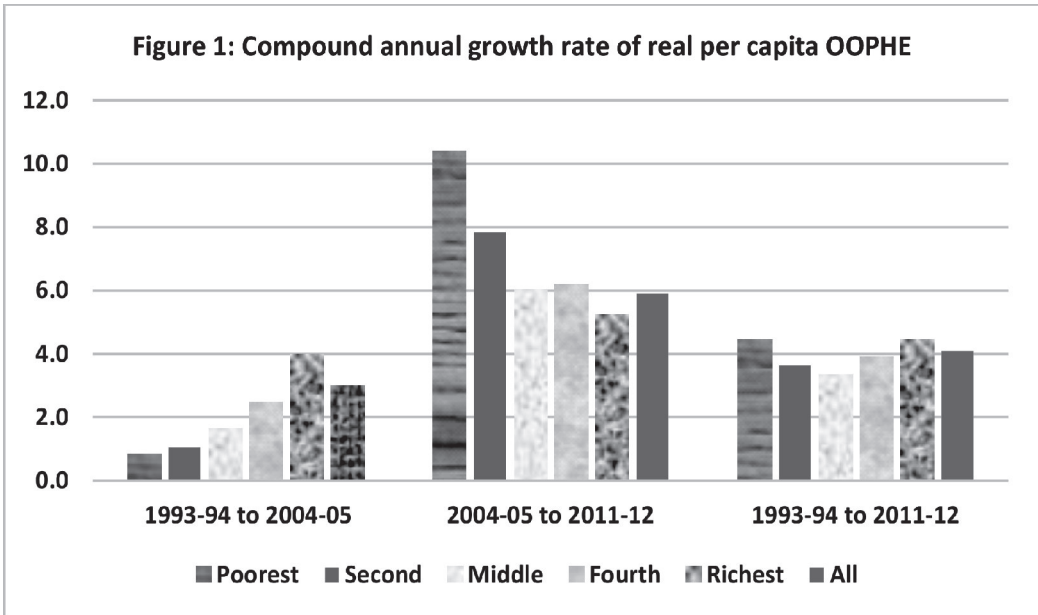
Note: All expenditure figures were converted to 2011-12 prices

The increase in per capita health expenditure could be due to more than one reason: increase in general population morbidity, increase in prices of health goods relative to other goods in the consumption basket, increase due to income effect if medical expenditure is treated as a normal good, and finally, due to supply-induced demand, which may have increased over the years due to technology-driven changes in provider behaviour. Studies based on data from developed countries (Newhouse 1992) indicate low income elasticity, but such results are not relevant for India, due to the low health insurance coverage. More recent research indicates that in both purely public and purely private payment systems, income elasticity first rises and then falls as income grows (Zhang 2013). In particular, very few studies from India estimate income elasticities for health goods, and one such study tentatively indicates that at relatively high levels of income, health services become necessities (Nayyar 2008). Suffice to say that health expenditure increased more than consumption expenditure, resulting in a greater share of OOPS in consumption expenditure. This is discussed in detail below.

#### 4 OOPHE AND ITS SHARE IN CONSUMPTION EXPENDITURE

Who is bearing the brunt of the increase in health's share in consumption expenditure? Figure 1 plots the compound annual growth rates (CAGR) of OOPHE corresponding to the entire period and the two sub-periods across expenditure quintiles.





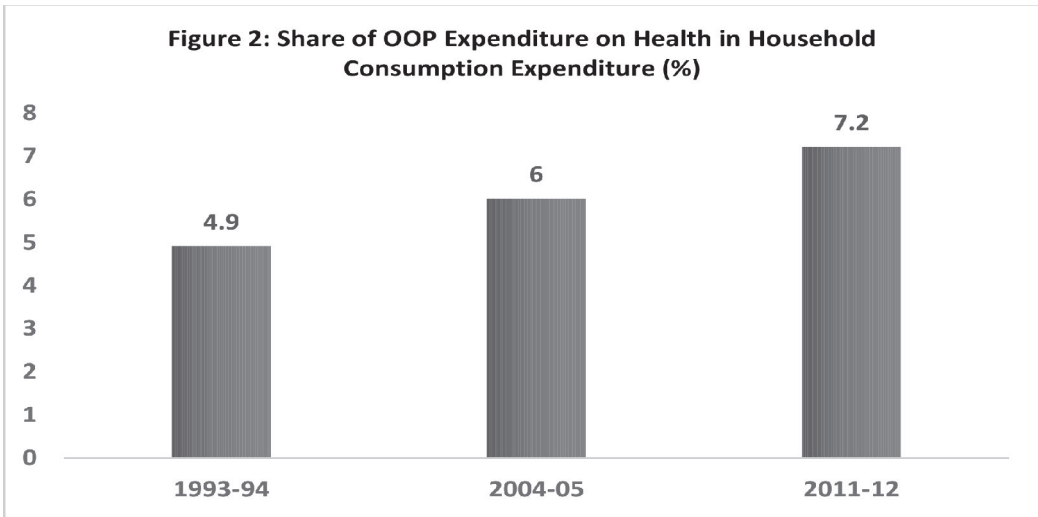
Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12

Note: All expenditure figures were converted to 2011–12 prices

For the entire 18-year period, the growth (average annual) pattern of OOPHE represents a 'U' across the income classes i.e., the growth of OOPHE has been the highest for the bottom and the top quintiles. In fact, the growth rate is exactly the same for the top and bottom quintiles followed by the fourth, second, and middle quintiles.

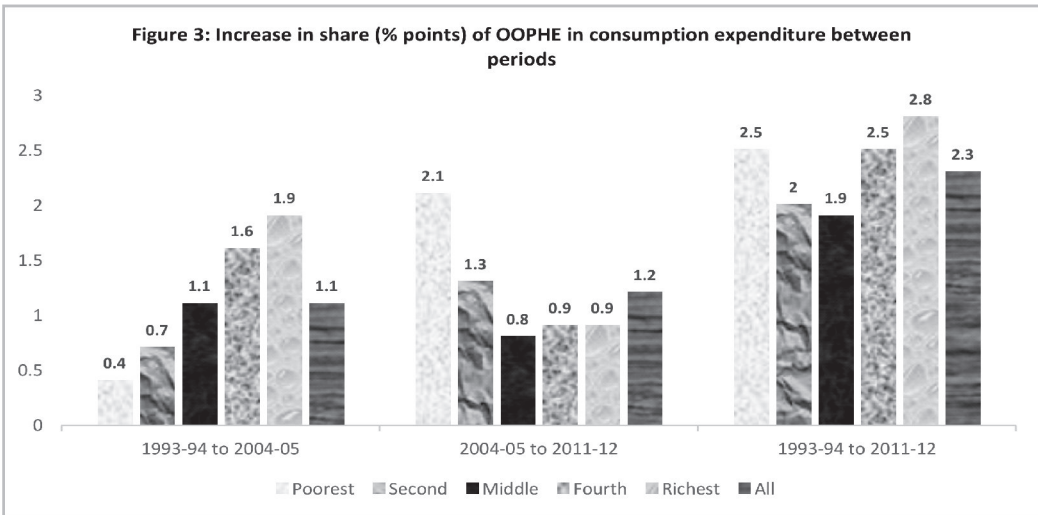
Figure 1 also shows that OOPHE was increasingly progressive during the earlier 11-year period (1993–94 to 2004–05), but turned increasingly regressive during the latter part of the period (2004–05 to 2011–12). The compound annual growth of OOPHE for the poorest quintile was double that of the richest quintile.

The next natural path of enquiry is about the share of OOPHE in total consumption expenditure of households (OOPSHRE). The literature usually interprets this share as the burden of OOPHE that can turn catastrophic for the household, once it crosses a predefined threshold (Wagstaff et al. 2003, Pradhan and Prescott 2002, Russell 2004, O'Donnell et al. 2008). The OOPSHRE increased from 4.9 per cent to 6 per cent, and then again to 7.2 per cent in the last period (Figure 2), indicating a steady increase. The increase in aggregate share of OOPHE in total household consumption expenditure (OOPSHRE) however does not tell us much about its distribution.



Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12

Figure 3 shows that the OOPSHRE increased for all expenditure quintiles during the entire period as well as the sub-periods. The pattern that we observe is very similar to Figure 1. For the entire 18-year period, OOPSHRE increased by 2.8 percentage points for the richest quintile, which was closely followed by a 2.5-percentage-point increase for the poorest quintile. The latter period saw greater regressivity because this period saw higher growth of OOPSHRE among the two lowest quintiles vis-à-vis the richer ones, in spite of rising incomes and declining poverty ratios during the same period (GOI 2014).

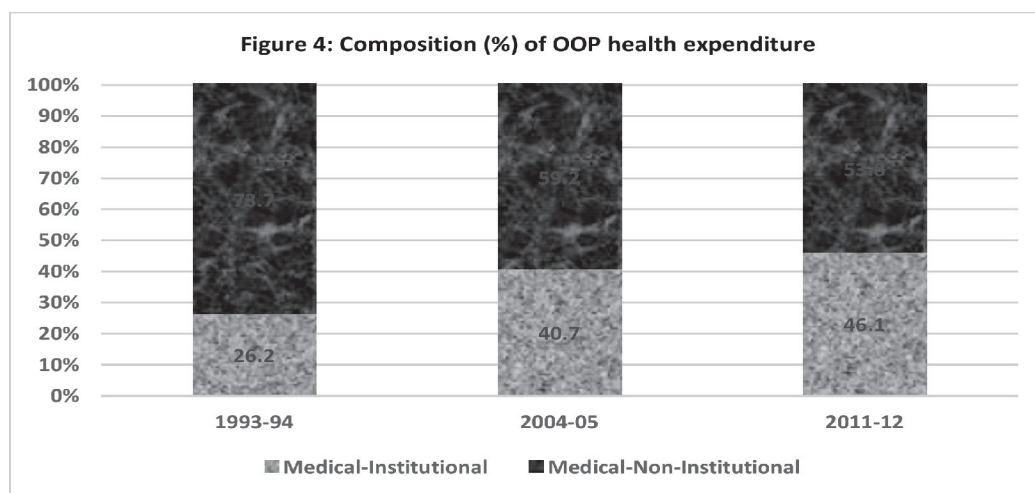


Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12

Whether this is because of changing values of income elasticity is not a question that can be answered with the current data, since it does not provide any control variable for health seeking behaviour. Suffice to say that in the absence of health coverage, these trends point towards increased vulnerability to health shocks for the poor. It is possible that in addition to non-zero values of income elasticity, technology is driving some of the increase in observed OOPS. While this would result in OOPHE increasing due to a mix of supply and demand factors, it does not take away from the conclusion that unprotected health expenditures undertaken by households would result in increasing burden and likely impoverishment of poor households.

## 5 DRIVERS OF OUT-OF-POCKET HEALTH EXPENDITURE

Hospitalisation is seen as the main driver of OOPHE and impoverishments, and most health schemes in India, therefore, are around institutional coverage (La Forgia and Nagpal 2012). In addition, there has been a lot of discussion around drugs being a major driver of OOPHE in India (Shahrawat and Rao 2011). The share of institutional expenditure in total expenditure has been going up over the years, as can be seen from Figure 4.

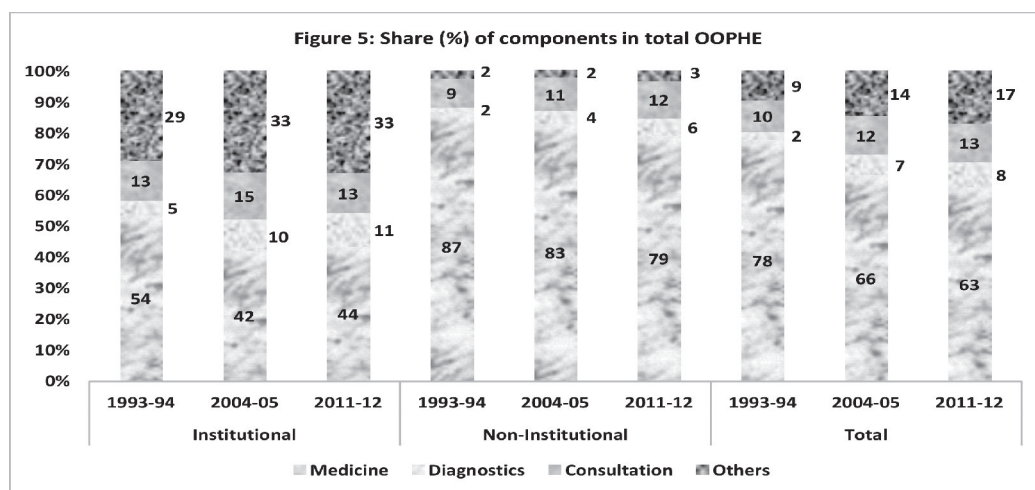


Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12.

The increase in this share has taken place primarily during the first period, and currently it is almost half the total health expenditure of households. This, in a way, explains rising OOPHE over the years, since expenditure on inpatient services is usually costlier than outpatient services, despite its being relatively infrequent. The NSS consumption expenditure data also allows for another level of disaggregation of OOPHE—by the type of services viz. medicines, diagnostics, consultation, and other miscellaneous expenses. Research on the composition of OOPHE over time is relatively sparse in the country.

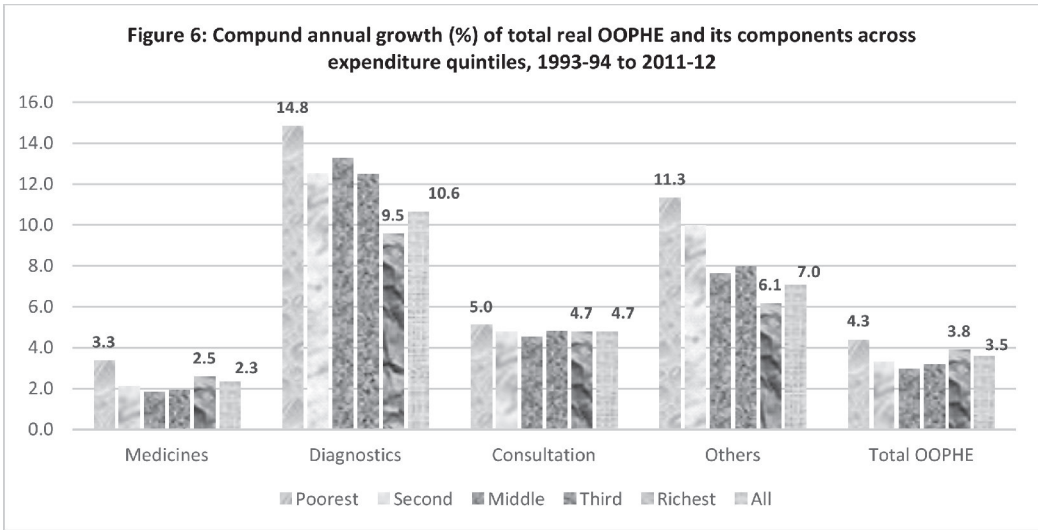
Figure 5 shows the percentage share of each component in total OOPHE for the three periods. There are certain common observations applicable to both the institutional and non-institutional components of OOPHE. First, expenditure on medicines forms the major part of total expenditure. Second, the share of medicines in total health expenditure has declined over the years. Third, this was compensated by a rise in the share of almost all the other components. Finally, the sharpest increase in share happened in the case of diagnostics. The share more than doubled between 1993–94 and 2011–12 for both inpatient and outpatient services. Another cause of concern is a significantly high share of other miscellaneous expenses for the inpatients. It would be safe to assume that this component comprises expenditure on transport, lodging, food and miscellaneous expenditures of the ailing and her escort(s), thereby raising questions about access, which need to be answered.

An analysis of growth in these components over the years (not shown here) indicate that expenditure on diagnostics has grown the most among all the components, and that this growth has been much higher in the earlier period (1993–94 to 2004–05). Moreover, the growth in expenditure for diagnostics has been higher for institutional expenditure than for non-institutional expenses (not shown here).



Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12.

Finally, what are the distributional implications of these trends? Figure 6 presents the annual percentage growth of real OOPHE (total) and its components across expenditure quintiles. While reconfirming the high growth in diagnostics, the results also indicate that higher growth has been experienced by the lower quintiles for both diagnostics and the category 'others'. In fact, for medicines and consultations, the increases are much more muted; and this is true even across expenditure quintiles.



Source: Computed from unit record data of the NSS for the years 1993–94, 2004–05 and 2011–12.

Note: All expenditure figures were converted to 2011–12 prices.

## 6 SUMMARY AND CONCLUSIONS

The paper was an attempt to understand the changes in level and composition of out-of-pocket health expenditure in India using three consumption rounds of the NSS.

The key findings indicate that OOPHE as well as OOPSHRE has indeed been steadily increasing over time, but more serious than that have been the distributional implications of such increases. The lower economic quintiles have been worse hit by increases in their share of OOPHE in total consumption expenditure. When we look at the composition of OOPHE, the trend is clear: while drugs remain an important and major part of OOPHE, it is a declining share, with expenditure on diagnostics increasing very sharply over the years. Also, the category 'others'—which presumably includes non-medical expenses while seeking care—has also increased sharply, especially for the economically vulnerable categories. For these classes, the worst period that has seen regressivity has been the latter one—between 2004–05 and 2009–10. Finally, growth in diagnostics and other expenditure have been sharper for institutional expenditure.

While empirically it is difficult to separate the income effect, the effect of technological change on medical services and provider behaviour inducing unnecessary supply, put together the results do indicate the possibility of drugs and diagnostics playing an important role in increasing OOPS. While drugs have always been recognised as a cost driver at the household level, diagnostics is an emerging area of concern that policymakers need to focus

on. Globally, the verdict is out that routine use of tests, screenings, and procedures are often wasteful and unnecessary (Haelle 2013). In India, too, there is now an increasing perception and movement to make consumers aware of unnecessary medical tests (Nagarajan 2014). While some spontaneous income effect due to rise in incomes might drive some of the increases in share of OOPS in household consumption, clearly this is only a small part of the story, and supplier-induced demand cannot be overlooked.

These results are typical of an increasingly inadequate public sector health delivery system, which has failed to make affordable and accessible health care available for large sections of the population, especially for the poor. While the new government's National Health Assurance Mission (NHAM) promises to deliver assured health packages, including essential drugs and diagnostics, the assurance has to go beyond merely tackling the outcome of an unfettered market. The new National Health Policy mentions free drugs and diagnostics as well, and emphasises the importance of quality public procurement system and logistics. It also brings out the need for health technology assessment in India and mentions the need in India for the kind of work carried out at the National Institute of Clinical Excellence in UK (MoHFW 2014). Finally, regulation remains a largely untouched area in India, and required urgently for the drugs as well as medical technology market. Until the time such processes including regulation is put in place, households will continue to spend on drugs and diagnostics of often questionable quality, unguided and under-informed. While the better-off households will probably not undergo any serious impact, the poorer households would experience significant reductions in well-being.

## REFERENCES

- Berman P, R Ahuja, L Bhandari (2010), 'The impoverishing effect of healthcare payments in India: new methodology and findings', *Economic & Political Weekly* 2010; 45:65-71.
- Bonu, S, I Bhushan and Peters H David (2007): "Incidence, Intensity, and Correlates of Catastrophic Out-Of-Pocket Health Payments in India", ERD Working Paper No 102, Asian Development Bank.
- Gaitonde R. 2012. Debating universal health coverage in India. Municipal Services Project <http://www.municipalservicesproject.org/blog/debating-universal-health-coverage-india>. Accessed on 16 July 2014
- Garg, C C and A K Karan (2005): "Health and Millennium Development Goal 1: Reducing Out-of-Pocket Expenditures to Reduce Income Poverty – Evidence from India", EQUITAP Project: Working Paper 15.
- Government of India (2014): "Poverty ratio declines to 21.9 per cent", Press Information Bureau release, 9<sup>th</sup> July, 2014
- Gupta, I (2009): 'Out-of-pocket Health Expenditures and Poverty: Estimates from NSS 61st Round'. Background paper (unpublished) for the Report of the Expert Group on Methodology for Estimation of Poverty, Planning Commission, Government of India.
- Haelle, T (2013) 'Putting tests to the test: many medical procedures prove unnecessary—and risky', *Scientific American*, 5 March <http://j.mp/3msciam>
- Krishna, A. (2004). "Escaping Poverty and Becoming Poor: Who Gains, Who Loses, and Why?" *World Development* 32(1): 121-136.
- La Forgia, Gerard, and Somil Nagpal (2012) *Government-Sponsored Health Insurance in India: Are You Covered? Directions in Development*. World Bank, Washington DC.
- Ministry of Health and Family Welfare, National Health Policy Draft, December 2014. <http://j.mp/5mohfw>
- Nagarajan, R (2014) 'AIIMS doctors lead the way, wage war on unnecessary medical tests', *The Times of India*, 29 June. <http://j.mp/daiims4>
- Nayyar, G (2008): *The Demand for Services in India*. Available at [http://www.isid.ac.in/~pu/conference/dec\\_08\\_conf/Papers/GauravNayyar.pdf](http://www.isid.ac.in/~pu/conference/dec_08_conf/Papers/GauravNayyar.pdf)
- Newhouse (1992): Medical care costs: How much welfare loss?.*Journal of Economic*

Perspectives, 6 (3): 3-21.

O'Donnell Owen, Eddy van Doorslaer, Adam Wagstaff, Magnus Lindelow (2008); *Analyzing health equity using household survey data: A guide to techniques and their implementation*, The World Bank, Washington DC.

Planning Commission. 2011. High level expert group report on universal health coverage for India. Planning Commission, Govt. of India. [planningcommission.nic.in / reports/genrep/rep\\_uhc0812.pdf](http://planningcommission.nic.in/reports/genrep/rep_uhc0812.pdf) Accessed on 16 July 2014.

Pradhan, M. and N. Prescott (2002). 'Social risk management options for medical care in Indonesia', *Health Economics* 11: 431-446.

Rao, Sujatha (2012): "Long on Aspiration, Short on Detail", *Economic and Political Weekly*, 47(6), 12-16.

Roy, K and David H Howard (2007): "Equity in out-of-pocket payments for hospital care: Evidence from India", *Health Policy*, 80 (2), 297–307.

Russell S. (2004) 'The economic burden of illness for households in developing countries: a review of studies focusing on malaria, tuberculosis, and human immunodeficiency virus/acquired immunodeficiency syndrome', *American Journal of Tropical Medicine and Hygiene*. 71 (Supp. 2): 147-155.

Sengupta, A and Samirun Nundy (2005): "The Private Health Sector in India", *British Medical Journal*, 2005;331:1157.

Shahrawat Renu, Krishna D Rao (2012) 'Insured yet vulnerable: out-of-pocket payments and India's poor', *Health Policy and Planning* 27:213–221.

Wagstaff, A. and E. van Doorslaer (2003) 'Catastrophe and Impoverishment in Paying for Health Care: With Application to Vietnam 1993-98', *Health Economics*, 12 (11): 921-933.

Zhang, Li (2013) 'Income growth and technology advance: the evolution of the income elasticity of health expenditure' <http://j.mp/2zhang>



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