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Rural-Urban Differences in Household Health Expenditure: An Analysis of NSSO 75th Round' Survey

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Introduction

The level and pattern of private health expenditure incurred by the individuals/households has been a focus of research in India because the treatment cost is one of the most important factors that influence actual utilization of health services. An analysis of linkages between demand/supply side of health services and income level of households is, therefore, of utmost important. The insights of these linkages will help the policy makers to formulate best policy options to regulate ever-rising costs of treatment. It also ensures whether the huge funds allocated to health sector are properly utilized and achieved the intended goals. Another rationale for analyzing out-of-pocket health expenditure is, whether the health expenditure is termed as providing 'care' as a luxury good or 'cure' as a necessity good. Many research studies agree on this point that there is a close relationship between the GDP and health care expenditure, but disagree on whether health care is a 'necessity' or a 'luxury' good (Bhat and Jain, 2006).

The present paper is based on the 75th round (July 2017-June 2018) of NSSO health survey. The 75th round (2017-18) survey interviewed a random sample of 1,13,823 households spread over rural and urban areas of every district in the country. The rural households belonged to 8,077 randomly selected villages and the urban households to 6,181 randomly selected urban blocks.

Objective of the Survey

The 75th round survey was aimed at generating basic quantitative information on the health sector. The survey was also designed to provide estimates of the incidence and nature of prenatal and post-natal care, place of childbirth, and expenditure incurred on childbirth and on maternal care, among women who had experienced pregnancy during the last one year.

This present paper describes how much health expenditure is being spent by the patients on consuming health related goods and services and how these expenses vary across various geographical areas, types of health facilities and treatment.

Sample Size and Geographical coverage

The survey conducted during July 2017 to June 2018 covered the whole of the Indian Union. It collected data from 5,55,114 persons (325883 from rural area & 229232 from urban area) spread over every district of the country. The rural households belonged to 8,077 randomly selected villages and the urban households to 6,181 randomly selected urban blocks. The figures in Table 1 show that total number of households selected for the study is 64552 for rural areas and 49271 for urban areas.

Table 1: No. of Village/Urban Blocks, Households and Persons Surveyed for NSS 75th Round Health Survey

No. of Surveyed	Rural	Urban	Total
Villages/Urban Blocks	8077	6181	14258
Households	64552	49271	113823
Person	325883	229232	555115

The main indicators presented in this paper are 1) average medical expenditure per case of hospitalisation by rural/urban and gender status of the sampled population. 2) Break-up of medical expenditure (hospitalisation cases) by major components, separately for rural and urban areas, gender status, and type of hospital. 3) Average medical expenditure per treated spell of ailment not involving hospitalisation based on geographical area and gender status. 4) Household expenditure class of hospitalised person, and nature of healthcare facility.

Proportion of Persons that Responded as Ailing (PRPA)

Proportion of persons that responded as ailing (PPRA) is defined as the 'estimated number of persons in the population reported ailing' as a proportion of 'estimated total population' obtained on the basis of the survey data. The proportion was expressed as percentage.

PPRA = 100 × (Estimated no. of persons in population reported as ailing ÷ Estimated population)

Table 2: PPRA by Gender, Age-Group and Location (Rural/Urban)

Age Group	Gender		Total
	Male	Female	
0-4	9.1	7.9	8.5
5-14	5.1	4.5	4.8
15-29	2.9	3.8	3.3
30-44	4.0	6.8	5.4
45-59	9.3	13.6	11.4
60+	27.5	27.9	27.7
Total	6.7	8.3	7.5
Location			
Rural	6.1	7.6	6.8
Urban	8.2	10.0	9.1
Total	6.7	8.3	7.5

Table 2 shows age-specific PPRA for six broad age-groups for male and female at all-India level. It also describes location-wise PPRA separately for male and female. The data in the table show that aged persons (27.7 percent of 60+ age group and 11.4 percent of 45-59 age group) responded more illness as compared to other age groups (5.4 percent of 30-44 age group, 3.3 percent of 15-29 age group and 4.8 of 5-14 age group). It is also noticeable that PPRA is more frequent in case of infants i.e. 0-4 age group (8.5 percent) than all other age groups except aged persons.

Break-up by Quintile Class of Household Expenditure

In order to study the variation in morbidity, health expenditure, choice of healthcare facility etc. across population at different levels of living, a measure of level of living was derived for each surveyed household based on information collected on its usual monthly consumer expenditure. The information on households' usual monthly consumer expenditure was collected through a single question and hence the same is not comparable with the monthly per capita consumer expenditure (MPCE) estimates compiled on the basis of the information collected either in a full-fledged survey on household consumer expenditure or in other NSS surveys where five questions was used. This allowed estimates to be generated separately for 5 different equal-sized classes of population at different quintile class of household expenditure. These classes were formed separately for rural and urban sectors of India as a whole.

Table 3 shows share of different quintile class of household expenditure in the total number of hospitalisation cases separately for rural and urban India, and also separately for male and female. The figures in the table show that the tendency of getting hospitalisation is more prevalent in the upper stratas (5^{th}, 4^{th} and 3^{rd} quintile class of household expenditure) of the population both in rural and urban areas. This trend found to be decreased as we move to lower stratas (2^{nd} and 1^{st} quintile class of household expenditure) of the population.

Table 3: Percentage break-up of Hospitalisation Cases in India by Quintile Class of Household Expenditure, separately for each Sector and Gender

Quintile Class of Household Expenditure	Percentage of Hospitalisation Cases			
	Rural		Urban	
	Male	Female	Male	Female
1st	11.6	14.1	16.2	16.2
2nd	14.3	13.6	17.7	20.2
3rd	19.1	18.6	21.6	21.2
4th	22.6	22.4	21.3	20.8
5th	32.3	31.3	23.1	21.6
Total	100.00	100.00	100.00	100.00

1st = lowest 20% of population
2nd = next 20% of population
3rd = next 20% of population
4th = next 20% of population
5th = top 20% of population

Break-up by Major Source of Financing of Expenditure

Households having persons who had been admitted to hospital during the last 365 days were asked about the major source of financing the hospitalization expenses. The key Indicators of Social Consumption in India were classified into five categories, namely, i) household income/savings, ii) borrowings, iii) sale of physical assets, iv) contribution from friends and relatives, and v) other sources. Table 4 shows the estimated percentage break-up of hospitalization cases by major source of finance of hospitalization expenditure. The data shows that about 80 percent of the respondents both from rural and urban areas meet their health expenses from their own household income/savings. It also depicts that a major proportion of hospitalised patients (13.4 percent from rural areas and 8.5 percent from urban areas) fulfil their health expenses from borrowings. A very few proportion (0.4 percent from both rural and urban areas) of hospitalised patients has to sell their physical assets.

Table 4: Percentage Break-up of Hospitalization Cases by Major Source of Finance of Expenses

Source	Rural	Urban
Household Income/Savings	79.5	83.7
Borrowings	13.4	8.5
Contribution from Friends/Relatives	3.4	3.8
Sale of Physical Assets	0.4	0.4
Other Sources	3.2	3.4
Total	100.00	100.00

Population Covered by Health Insurance

For every member of each surveyed household, it was ascertained whether the person was covered by any scheme for health expenditure support. If so, the broad category of scheme was also recorded. The categories were: government-sponsored (e.g. RSBY, Arogyasri, etc.), government/PSU as an employer (e.g. CGHS, reimbursement from govt. etc.), employer-supported (other than govt./PSU) health protection (e.g. ESIS),

insurance arranged by household with insurance companies, and other schemes. Table 5 depicts that a major proportion of sampled persons (85.9 percent in rural area and 80.9 percent in urban area) is not covered under any insurance scheme. Further, govt. Sponsored health insurance schemes covered 12.9 percent persons belonging to rural area and 8.9 percent people belonging to urban areas.

Table 5: Percentage Break-up of persons by Health Expenditure Coverage Type

Source	Rural	Urban
%age of Persons not Covered	85.9	80.9
Govt. Sponsored Insurance Schemes	12.9	8.9
Govt./PSU as an Employer	0.6	3.3
Employer supported Health Protection (Other than Govt./PSU)	0.3	2.9
Arranged by Household with Insurance Companies	0.2	3.8
Others	0.1	0.2
Total	100.00	100.00

Average Medical Expenditure during Hospital Stay by type of Hospital

Table 6 shows the average medical expenditure incurred during stay at hospital per case of hospitalisation (excluding childbirth), separately for Government/public hospitals, private hospitals, and all hospitals, including the charitable/NGO/trust-run types.

Medical expenditure, in a case of hospitalisation, was calculated including bed charges, doctor's/surgeon's fees, total amount paid for medicines, diagnostic tests, attendant charges, physiotherapy, personal medical appliances, and blood, oxygen, etc. during stay at the hospital. Expenses on transportation of the patient to or from the hospital were excluded, and so was expenditure on food. The data in the table show that on an average a rural patient incurred Rs. 4290 hospitalised in a govt. hospital and Rs. 27347 hospitalised in a private hospital. The figures are Rs. 4837 and Rs. 38822 in case of urban areas respectively. It shows that the in-patient treatment cost is very high in case of private hospitals compared to govt hospitals. The data also describes the cost differences in case of rural and urban areas as the treatment cost found to be higher in case of urban areas for both govt and private health institutions as compared to rural areas.

Table 6: Average Medical Expenditure per Hospitalisation Case by Type of Hospital

Type of Hospital	Average Medical Expenditure (Rs.) per Case		
	Rural	Urban	Rural+Urban
Government/Public	4290	4837	4452
Private	27347	38822	31845
All	16676	26475	20135

Medical Expenditure per Hospitalisation Case by Ailment Type

Table 7 show the average medical expenditure per case of hospitalisation for selected (broad) categories of ailments separately for public, private and all hospitals. It shows the estimates of average medical expenses for all categories of ailment except "infections", as this term covers too broad a category of ailments for the estimated average to be very useful. Note that infections of the respiratory tract are included in "respiratory ailments" and not in "infections".

So far as the average medical expenditure per case of hospitalisation by type of ailment is concerned the data depict that the treatment cost is very high in case of cancer disease compared to all other diseases, both in public (Rs. 22520) and private hospitals (Rs. 93305). Further, it is noticeable

that in-patient treatment cost is very high in private hospitals for all rest of the diseases as compared to public hospitals.

Table 7: Average Medical Expenditure (Rs.) per Hospitalisation Case for selected Categories of Ailments

Category of Ailment	Public Hospitals	Private Hospitals	All Hospitals
Cancers	22520	93305	61216
Psychiatric and Neurological	7235	41239	26843
Cardio-vascular	6635	54970	36001
Musculo Skeletal	5716	46365	32066
Genito-urinary	5345	33409	24770
Gastro-intestinal	3847	29870	19821
Respiratory	3346	24049	13905
Eye Ailments	2605	18767	10912
Infections	2054	15208	9064
Any Ailment	4452	31845	20135

Expenditure on Treatment of Ailments not involving Hospitalisation

Table 8 shows average medical expenditure incurred per spell of ailment not involving admission to hospital, separately for five levels of care: government/public hospitals, charitable/NGO/trust-run hospitals, private hospitals, private doctors or clinics, and informal healthcare

Table 8: Average Medical Expenditure (Rs.) per Treated Ailment by Healthcare Service Provider

Type of Healthcare Provider	Rural	Urban	All
Govt./Public Hospitals	325	344	331
Private Hospitals	1081	1038	1062
Trust/NGO Hospitals	624	863	732
Private Doctors/Clinics	566	714	624
Informal Healthcare Providers	487	1035	552
All	592	710	636

providers. The overall figures show that on an average a rural patient spends Rs. 592 per spell on treating ailment, whereas it is Rs. 710 in case of urban patient. As far as the type of healthcare provider is concerned, the major gap found in case of informal healthcare provider where the average expenditure is Rs. 487 and Rs. 1035 for both rural and urban areas respectively.

Expenditure on Hospitalised Childbirths by type of Hospital

Average expenditure on hospital childbirths (excluding abortion cases), separately for population in rural and urban areas, for public and private hospitals, and separately for normal and caesarean deliveries is explained in table 9. The overall picture in the table show huge differences in average expenditure on hospital childbirth among rural and urban areas as on an average, a rural patient incurred Rs. 6799 on a delivery whereas an urban patient incurred Rs. 16092 on it. In case of normal delivery, this figure is Rs. 3746 for rural areas and Rs. 8382 for urban areas.

Table 9: Average Expenditure (Rs.) on Childbirth in Private and Public Hospitals, separately for Normal and Caesarean Section Delivery

Type of Delivery	Rural			Urban		
	Govt. Hospitals	Private Hospitals	All Hospitals	Govt. Hospitals	Private Hospitals	All Hospitals
Normal	2084	12931	3746	2459	17960	8382
Caesarean	5423	29406	20200	5504	37508	28058
All	2404	20788	6799	3106	29105	16092

Main findings

The study gathered the basic quantitative information on the health sector i.e. morbidity, profile of ailments including their treatment, expenditure on medicines, expenditure on medical consultation and investigation, hospitalisation and expenditure thereon, childbirth, etc.

The figures in the table show that the tendency of getting hospitalisation is more prevalent in the upper stratas (5^{th}, 4^{th} and 3^{rd} quintile class of household expenditure) of the population both in rural and urban areas. This trend found to be decreased as we move to lower stratas (2^{nd} and 1^{st} quintile class of household expenditure) of the population.

Further, rural households primarily depended on their 'household income/savings' (79.5 percent) and on 'borrowings' (13.4 percent) for financing expenditure on hospitalisation. Dependence of the urban households on their 'income/savings' was slightly more (83.7 percent) for financing expenditure on hospitalisation, than on 'borrowings' (8.5 percent).

About 14% of the rural population and 19% of the urban population had health expenditure coverage. Among them, about 13% of rural and 9% of urban population was covered by Government sponsored health insurance.

The study analysed per patient expenditure incurred on treatment of diseases. On an average a rural patient incurred Rs. 4290 hospitalised in a govt. hospital and Rs. 27347 hospitalised in a private hospital. The figures are Rs. 4837 and Rs. 38822 in case of urban areas respectively. It describes the cost differences in case of rural and urban areas as the treatment cost found to be higher in urban areas for both govt and private health institutions as compared to rural areas. As expected, per patient expenditure on treatment of different diseases was found to be higher in the private health sector compared to public health sector.

Further, average medical expenditure per case of hospitalisation by type of ailment is found to be very high in case of cancer disease compared to all other diseases, both in public (Rs. 22520) and private hospitals (Rs. 93305). It is noticeable that in-patient treatment cost is very high in private hospitals for all rest of the diseases as compared to public hospitals.

As far as the average medical expenditure incurred per spell of ailment (not involving admission to hospital) is concerned it has been found a rural patient spends Rs. 592 per spell on treating ailment, whereas it is Rs. 710 in case of urban patient. A major gap found in case of informal healthcare provider where the average expenditure is Rs. 487 and Rs. 1035 for both rural and urban areas respectively.

Massive differences were found in average expenditure on hospital childbirth among rural and urban areas. About Rs. 2,404 in rural India and Rs. 3,106 in urban India were spent on an average for childbirth at Government hospitals and about Rs. 20,788 in rural and Rs. 29,105 in urban were spent for childbirth at private hospitals.

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