Chapter VI

Economic Burden of Illness among the Urban Poor: A Case Study of Selected Slums in Delhi

The previous chapter made a descriptive presentation of the socio-economic characteristics, pattern of morbidity and its variation and expenditure incurred on treatment of ailments by the urban poor, on the basis of a primary survey conducted on 150 households with a history of ailment, in two slums of South Delhi. Our primary hypothesis being whether treatment cost constitutes an economic burden on the household, we now delve deeper into the household expenditure component of morbidity treatment.

6.1 Illness and the Urban Poor

The budget of a typical household broadly accounts for expenditure under the following heads— food (cereals, pulses, milk, edible oil, vegetables/fruits, meat/fish/egg, others), pan, tobacco and intoxicants, fuel, light, clothing, bedding, footwear, education, medical, rents, taxes, premiums, purchase/construction and maintenance of durable goods and other miscellaneous items. While expenditure on food that ensures a basic minimum level of nutrition is or should be of a non-discretionary nature, the same is arguably not applicable to the rest. This is more so when the case in question is that of the poor and vulnerable sections of the society. In order to protect their daily minimum requirement of two square meals they are often forced to economise on the other components. The impact of this might vary between deterioration in the standard of living in the short run, to sub-optimal human capital formation and loss of productivity and income generating

1 The expenditure components correspond to those considered in the 61st Round of the National Sample Survey on Household Consumption Expenditure.
opportunities in the long run, depending on the components they choose to economise on. However one particular component, that of household medical expenditure is probably the most difficult to conserve on. This is because of its unforeseen and unavoidable nature and the very obvious and extreme question of life and death associated with it. Even if we exclude the extreme situation in which a member of the household succumbs to her ailment, an incidence of work-disabling morbidity to the household head might also lead to similar consequences albeit over a period of time and through a dissimilar channel of income loss and insolvency. Thus more often than not a poor household would go for treatment of its members who are visibly indisposed. The term visibly indisposed assumes importance because a poor household might consult a physician only when the external manifestations of the ailment are too stark to bear or ignore.

However, treatment incurs cost, and given our health financing arrangements, almost all of it is in the form of out-of-pocket expenses. An economically vulnerable household facing a health shock therefore has to instantly devise its own strategy of coping with the related expenses. The immediate response of the household is to sacrifice the expenditure shares of other discretionary components of the household budget. One has to remember though that one of the so called discretionary components of household expenditure is education expenditure that has got tremendous implications from an economic as well as a human development perspective. However if the magnitude of shock is large enough, the expenditure share of food in household budget is also tampered with, raising serious questions of nutritional adequacy and the resultant vulnerability to diseases. A health shock of still higher magnitude lead to the well documented issue of indebtedness and intergenerational poverty traps.

The fundamental inference that can be drawn from the above discussion is that morbidity is a shock and its treatment is potentially catastrophic particularly to a poor household. In what follows we therefore make an attempt to test this proposition with the help of data obtained from the survey. Apart from general socio-economic characteristics the survey also took a detailed account of the pattern of morbidity and the expenditure incurred on the same both for inpatient as well as outpatient treatment. Although the intention was to take a detailed account of all the components of medical expenditure, in majori
cases the respondents failed to recall details at such levels of disaggregation. However the total expenditure incurred on each ailment episode could be retrieved. Health shock or for that matter any type of shock is generally dealt with at the household level. The burden is often shared between the members.

6.2 Measuring Economic Burden of Illness among Urban Poor: Scope and Structure of the Study

In order to measure the economic burden of illness we consider only those households which had a case of outpatient treatment in the month preceding the date of survey. This is because such cases were more frequent and the treatment cost incurred had a relatively lesser influence of extreme values when compared to inpatient cases. Also expenditure on outpatient treatment gives a more realistic picture of current economic burden unlike cases of hospitalisation that is predominantly financed by borrowing and other strategies that have rather long term implications on the economic well-being of a household. The unit of analysis in the current chapter is mostly the household unlike the previous one where the unit was the ailing individual. The rationale behind this is that health shock is dealt with at the household level. The treatment cost of an ailing member is generally paid from a pool of household resources notwithstanding the employment or earning status of that member. The consequent adjustment in spending on other essential commodities affects all members of the family. In other words, economic burden of illness per se is borne by the entire household and not just the ailing member. However when we discuss the economic burden of illness across ailment categories or type of service providers, once again our unit of analysis becomes the ailing individual due to obvious reasons\(^2\). We measure economic burden of illness using the two established measures that have already been calculated for the secondary data in Chapters III and IV.

\(^2\) For this analysis we leave out households who had multiple cases of ailments such that the ailment or the service provider that induces economic burden can be distinctly isolated.
They are as follows:

A. Catastrophic burden of health care spending, and
B. Impoverishment effects of health care spending

6.2.1 Summary Statistics of Relevant Income and Expenditure Variables

In all there were 152 cases of ailments from 124 households. 99 households had a single case, 22 households had two cases while 3 households had 3 cases of non-hospitalised ailment each. On an average, an ailing household spent Rs. 132 per capita per month on outpatient treatment. The median expenditure came to around Rs. 83 per capita per month. Out of pocket expenditure on treatment of ailments, not as inpatient of a hospital amounted to around 15 per cent of household income. The median was 10 per cent which implies that the middlemost member (household) in terms of share of health expenditure in household budget did spend 10 per cent of his income on treatment of morbidity. Such degrees of health care payments are bound to be catastrophic for the household and the consequent adjustments they had to make in their household budgets or their general “doing” and “being” is an important issue. Out of pocket expenditure on medical needs when expressed as a percentage of total household income represents the economic burden of treatment. It is not unusual to assume that the low income households bear a disproportionate brunt of this burden in a relative sense. Interestingly our data bears out this assumption.

Table 6.1: Descriptive statistics of relevant expenditure variables among the slum households.

<table>
<thead>
<tr>
<th>Expenditure Quintiles</th>
<th>Monthly Total Expenditure</th>
<th>Monthly Per capita Expenditure</th>
<th>Monthly Total OOP Expense</th>
<th>Monthly Per Capita OOP Expense</th>
<th>OOP exp as % of Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>I</td>
<td>3135</td>
<td>3000</td>
<td>430</td>
<td>433</td>
<td>604</td>
</tr>
<tr>
<td>II</td>
<td>3931</td>
<td>3600</td>
<td>587</td>
<td>583</td>
<td>758</td>
</tr>
<tr>
<td>III</td>
<td>3934</td>
<td>4000</td>
<td>776</td>
<td>750</td>
<td>508</td>
</tr>
<tr>
<td>IV</td>
<td>6138</td>
<td>5700</td>
<td>1082</td>
<td>1083</td>
<td>994</td>
</tr>
<tr>
<td>V</td>
<td>8878</td>
<td>8000</td>
<td>1854</td>
<td>1600</td>
<td>744</td>
</tr>
<tr>
<td>All</td>
<td>5309</td>
<td>4000</td>
<td>985</td>
<td>800</td>
<td>700</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study.
Table 6.1 also gives the share of out of pocket health expenses in household income across household monthly per capita consumption expenditure quintiles\(^3\). The mean and the median OOP share in household income are found to generally decline as we move up the economic ladder. This observation coupled with the fact that utilisation of medical facilities is largely biased towards private institutions clearly indicate the failure of the state in its role of being a provider of essential health care to the poor population. Even if we ignore provision, the state has also failed to regulate the cost of treatment charged by the private service providers by inculcating a social responsibility dimension in their mode of operation.

### 6.2.2 Methodology for Measuring Catastrophic Impact of Household Health Care Payments

The methodology used for measuring the catastrophic impact of out of pocket health care payment is similar to that used in Chapter III. We add up the expenditure components over all the ailment cases of the household to arrive at the total health expenditure of the household. Deduct reimbursement if any, from the total health expenditure. This net health expenditure was paid out-of-pocket and it is expressed as a percentage of total consumption expenditure. Next we enumerate the households whose net health expenditure as percentage of total consumption expenditure exceeds specified thresholds. This gives the extent of burden. Depth of the burden at each threshold is examined by computing the average overshoot of the share of health expenditure in household budget from the specified thresholds. Health expenditure generates a burden for the households whose share of medical bills in total budget exceeds the threshold. Finally we examine how the number of such households and the average gap varies across groups characterized by socio-economic attributes.

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\(^3\) Each specified quintile implies a value of per capita income below which 20 per cent of the cases fall. Thus the first (I) quintile in our analysis implies lowest 20 per cent of the household in terms of per capita income.
Although the methodology is simple there is a need to clarify certain conceptual issues regarding the ensuing analysis. When we consider households as the unit of analysis, out of pocket health expenditure means the total (or per capita) expenditure incurred on all ailment cases within the households. Catastrophic burden is defined as this expenditure expressed as a percentage of total (or per capita) household expenditure. However when we look into the economic burden of illness across disease categories or type of service providers it is the ailing individual who becomes the unit of analysis and not the household per se. Also the expenditure that forms the denominator is the total (and not per capita) consumption expenditure of the household. This is intuitively agreeable since expenditure on morbidity treatment is made out of the total financial resources at the disposal of the household and is obviously independent of the occupational or earning status of the ailing member. So if a household has multiple cases of ailments we consider each case separately and compute the burden.

6.2.3 Discussion of Results

Economic burden of illness across socio-economic categories

Applying the methodology discussed above, an attempt has been made to compute the incidence and intensity of households for which treatment expenditure is of a catastrophic nature. There were a total of 124 households with at least one case of ailment requiring treatment as an outpatient, in the preceding month. It might be recalled that the sample of households/individual is said to have incurred catastrophic payments on healthcare when the fraction of out of pocket (OOP) health expenditure in total consumption expenditure exceeds a pre-specified threshold. The percentages of such cases are given by the catastrophic payment headcount. The catastrophic gap on the other hand reflects the amount by which the households exceed or overshoot the threshold. The thresholds selected were not entirely arbitrary. The median and mean of the share of out of pocket health expenditure to total income was 10 per cent and 15 per cent respectively. Again, since our focus is on the urban poor it is not unnatural for a household to spend still higher (20%, 40% or even more) proportions of their income on health care.
Table 6.2: Catastrophic impact of out-of-pocket payments within the sample households

<table>
<thead>
<tr>
<th>Catastrophic Threshold (more than)</th>
<th>10% (Median)</th>
<th>15% (Mean)</th>
<th>20%</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Households</td>
<td>62</td>
<td>48</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Head-count (%)</td>
<td>50.0</td>
<td>38.7</td>
<td>26.6</td>
<td>6.5</td>
</tr>
<tr>
<td>Mean Gap (%)</td>
<td>7.9</td>
<td>5.6</td>
<td>3.9</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

Table 6.2 presents the aggregated results of the analysis. Half of the surveyed households spent 10 per cent or more of their income on healthcare, which also happens to be the median for the entire sample of households with at least one treated ailment. The average overshoot amounted to 8 per cent of total income which means that the 62 households which spent more than one-tenth of their income on health care exceeded the threshold by 8 per cent on an average. Although the headcount and gap decreases significantly for higher thresholds, what is alarming is that it is not unnatural for a household to have spent 40 or even 50 per cent of its monthly income on treatment of morbidity not as inpatient of any hospital.

A limitation of Table 6.2 is that it is not distribution sensitive i.e. we are unable to make any judgement on whether the economic burden of disease is disproportionately more for the poor or for the rich. Also, it is unable to portray the variation of this burden across household characteristics. Capturing this variation is extremely important especially from a policy perspective since it would allow us to make certain crucial generalizations required to identify the truly vulnerable lot. Therefore our next exercise is to find out the distribution of catastrophic headcount and gap across expenditure quintiles and other relevant household characteristics. As is evident from Table 6.3, the burden of disease or the catastrophic headcount declines as we move from a lower to a higher quintile for the 10 percent threshold. At the highest threshold (40%) however the households belonging to the second poorest and the second richest expenditure quintiles demonstrate higher catastrophic headcount compared to the other groups. The depth of burden presents a more or less similar picture. The average overshoot was consistently higher for the lower expenditure quintiles across all thresholds and it declined subsequently except for the second richest class.
Table 6.3: Catastrophic headcounts and gaps at different thresholds across expenditure quintiles

<table>
<thead>
<tr>
<th>Income quintiles</th>
<th>Average OOP Share</th>
<th>Household Out of Pocket Expenditure as Percentage of Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average OOP Share</td>
<td>10% (Median)</td>
</tr>
<tr>
<td></td>
<td>OOP Share</td>
<td>Head Count</td>
</tr>
<tr>
<td>I</td>
<td>20.3</td>
<td>79.2</td>
</tr>
<tr>
<td>II</td>
<td>20.2</td>
<td>66.7</td>
</tr>
<tr>
<td>III</td>
<td>13.0</td>
<td>43.8</td>
</tr>
<tr>
<td>IV</td>
<td>15.4</td>
<td>38.1</td>
</tr>
<tr>
<td>V</td>
<td>10.1</td>
<td>31.0</td>
</tr>
<tr>
<td>All</td>
<td>15.2</td>
<td>50.0</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

Table 6.4: Catastrophic headcounts and gaps at different thresholds across sex and occupation of household head

<table>
<thead>
<tr>
<th>Household Characteristics</th>
<th>Average OOP Share</th>
<th>Out of Pocket Expenditure on Treatment as Percentage of Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average OOP Share</td>
<td>10% (Median)</td>
</tr>
<tr>
<td></td>
<td>OOP Share</td>
<td>Head Count</td>
</tr>
<tr>
<td>Sex Of Household Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15.3</td>
<td>49.6</td>
</tr>
<tr>
<td>Female</td>
<td>14.2</td>
<td>54.6</td>
</tr>
<tr>
<td>Occupation of Main Earner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Employee</td>
<td>13.2</td>
<td>40.7</td>
</tr>
<tr>
<td>Casual and contractual labour</td>
<td>16.3</td>
<td>53.2</td>
</tr>
<tr>
<td>Others</td>
<td>13.1</td>
<td>50.0</td>
</tr>
<tr>
<td>All</td>
<td>15.0</td>
<td>50.0</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

Thus generally a person belonging to the lower rungs of the consumption expenditure ladder bears a disproportionately higher burden of medical treatment. Table 6.4 makes a similar comparison across sex of household head and occupation of the main earner. In order to make a significant comparative analysis we have reclassified the six occupational categories into three. Thus, "others" include the self-employed, domestic servants, shop owners and pensioners.
More female headed households incur a health expenditure of 10 and even 15 per cent of total income in percentage terms, vis-à-vis male headed households. For still higher thresholds however male headed households dominate. The catastrophic gap is also consistently higher for the male headed household at all thresholds. The average share of out-of-pocket (OOP) health expenses in total income is highest for households whose main earner is a casual labour. They were also found to bear a disproportionate economic burden of illness both in terms of headcount as well as gap at almost all thresholds. These observations are particularly alarming and needs to be considered appropriately while designing any targeted affirmative policy involving the urban poor. It is not only a question of mere number of burdened households but also the depth of their burden and vulnerability that often undermine their resilience.

Economic burden of illness across disease categories and source of treatment

It might be recalled that a hundred years back, tuberculosis was referred to as the "raaj­rog" or the royal disease implying an ailment that only the royal ones could afford to suffer from. The reason behind such a nomenclature was an intensely high cost of treatment associated with the disease. This was a time when research on tuberculosis was nascent and consequently the price of drugs and the associated necessities were sky-high. With the passage of time and devotion of resources however, tuberculosis treatment made tremendous progress and the costs fell to an affordable level. The Government in many countries had also played an important role by recognizing the disease as a public epidemic and accordingly allocated huge sums of public money towards its mitigation. However that did not bring an end to diseases requiring expensive medical interventions. Tuberculosis might have been replaced by some other disease but the travails of the poor and ailing continues unabated. Thus the cost of treatment among other things crucially depends on the nature of ailment.

Again, the source of treatment has a direct relation with the burden of treatment. It might be generally assumed that treatment from a public source costs relatively less as compared to a private source. This assumption however might be untenable if we consider the indirect cost of treatment in terms of foregone man days and hence income. Cost of treatment has been found to be a fundamental but not the only determinant of
health seeking behavior and provider choice among people in general and the poor in particular. In what follows therefore we attempt a repeat of the previous analysis but under a different context of ailment categories and source of treatment. One needs to be aware that a particular household may have had multiple cases of different ailments and the sources of treatment might also be dissimilar. Thus, in the current exercise the unit of analysis is the individual instead of a household. Table 6.5 shows the incidence and depth of burden across ailment categories. Fever and ENT infection and gastrointestinal disorders were the most common form of ailments within the slum. A look into the disease wise average OOP share shows that treatment of accidents and injuries required the highest financial resources as proportion of income. This was closely followed by orthopaedic and gynaecological ailments. The case of higher OOP share in case of gynaecological and obstetric ailments is not unnatural since pre-natal and post-natal checkups are included in the mentioned category that involves expensive and unavoidable diagnostic tests and prolonged medication.

Table 6.5: Catastrophic impact of treatment cost across nature of ailments

<table>
<thead>
<tr>
<th>Ailments Category</th>
<th>Average OOP Share</th>
<th>Out of Pocket Expenditure on Treatment as Percentage of Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Head count Gap</td>
<td>10%</td>
</tr>
<tr>
<td>Accident and injury</td>
<td>38.46</td>
<td>60.00</td>
</tr>
<tr>
<td>Anaemia and generalized weakness</td>
<td>8.32</td>
<td>28.57</td>
</tr>
<tr>
<td>Cardiological</td>
<td>12.19</td>
<td>28.57</td>
</tr>
<tr>
<td>Fever and ENT infection</td>
<td>6.04</td>
<td>22.50</td>
</tr>
<tr>
<td>Gastro-intestinal</td>
<td>17.26</td>
<td>51.43</td>
</tr>
<tr>
<td>Gynaecological and obstetric</td>
<td>17.54</td>
<td>40.00</td>
</tr>
<tr>
<td>Nervous system</td>
<td>16.17</td>
<td>33.33</td>
</tr>
<tr>
<td>Ophthalmological disorder</td>
<td>5.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Orthopaedic</td>
<td>35.57</td>
<td>54.55</td>
</tr>
<tr>
<td>Respiratory including asthma</td>
<td>13.32</td>
<td>58.82</td>
</tr>
<tr>
<td>Skin disease and infection</td>
<td>5.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>11.52</td>
<td>66.67</td>
</tr>
<tr>
<td>Others</td>
<td>19.20</td>
<td>50.00</td>
</tr>
<tr>
<td>Total</td>
<td>14.42</td>
<td>38.61</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study
People suffering from these ailments had to spend around 18 per cent of their household income on treatment. More than half the ailing individuals with cases of tuberculosis, respiratory diseases including asthma, gastro-intestinal, orthopaedic diseases, and accidents and injury spent more than 10 percent of their total income on treatment. The average depth of financial burden was high in cases of accidents and injuries, orthopaedic ailments and tuberculosis. The issue of major concern is therefore that even the most common and apparently inexpensive diseases such as fever and diarrhoea are imposing a major financial burden on the lives of the urban poor. Average OOP share across treatment sources exhibit wide disparity. Share of health expenditure in household budget was highest for people who opted for treatment from a registered private source. The average share was more than double in comparison to those who opted for a public mode of treatment i.e. a government hospital or dispensary.

Table 6.6: Catastrophic impact of treatment cost across source of treatment

<table>
<thead>
<tr>
<th>Source of Treatment</th>
<th>Average OOP Share</th>
<th>10%</th>
<th>15%</th>
<th>20%</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Head count</td>
<td>Gap</td>
<td>Head count</td>
<td>Gap</td>
</tr>
<tr>
<td>Public</td>
<td>6.34</td>
<td>15.00</td>
<td>0.72</td>
<td>5.00</td>
<td>0.17</td>
</tr>
<tr>
<td>Private Registered</td>
<td>18.26</td>
<td>50.43</td>
<td>10.31</td>
<td>37.39</td>
<td>8.04</td>
</tr>
<tr>
<td>Private Unregistered</td>
<td>2.24</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>All</td>
<td>14.42</td>
<td>38.61</td>
<td>7.59</td>
<td>27.85</td>
<td>5.88</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

Those who were treated by the unregistered or unqualified private practitioners i.e. the quacks within the slum had predictably incurred the lowest OOP share. In terms of extent and depth of catastrophic burden too, people who went for private medical treatment had to bear a relatively greater economic burden of illness. Ailing persons who were treated by unqualified medical practitioners were not found to experience economic burden of illness as per our definition. This only goes to show that the possibility of impoverishment via treatment cost is forcing the urban poor to opt for treatment of dubious quality which might be having a long term impact on their health status and future earning potential.
6.3 Illness and Impoverishment among Urban Poor

Treatment cost therefore unleashes a substantial economic burden on the urban poor. It might be argued however that the term urban poor is quite loosely used in the present context. This is so when we compare the per capita income of the individuals in the sample with the official poverty line. With respect to the latest official poverty line for Delhi (Rs. 612.91) as given by the Planning Commission of India, around 38 percent of the households within the selected sample could be categorised as poor and the rest, non-poor. However a visit to these slums and an account of the status of basic necessities vindicate and accentuate the understanding of poverty as a case of multidimensional deprivation where income probably plays a minimalistic role of ensuring command over resources if there are any resources, in the first place. The debates regarding official poverty lines notwithstanding, it might be hypothesised that exorbitant cost of treatment pushes household into poverty. Conversely, there might be cases were households are considered non-poor simply because high out of pocket health expenditure inflates their total consumption expenditure beyond the poverty line. These form the cases of illness induced impoverishment and the process has often been termed as the ‘medical poverty trap’.

6.3.1 Methodology for calculating impoverishment effects of health care cost

The methodology used for calculating illness induced impoverishment is similar to that used in Chapter IV. The poverty line consists of the food and non-food component. Household health expenditure forms a part of the non-food component. This implies that a non-poor household may cease to remain so once we deduct the health expenditure component that is paid out-of-pocket. This forms the basis of the current analysis on treatment cost and impoverishment. Impoverishment due to OOP health expenditure is computed by enumerating the number of individuals who fall below poverty line after paying for health care. However the fact that the poverty line also consists of an implicit health component raises a methodological problem. We address this problem by reconstructing the poverty line first by deducting the average per capita outpatient health
expenditure of the expenditure class that includes the poverty line. Thus while poverty line for urban Delhi was Rs. 612.91\(^4\), per capita expenditure on outpatient treatment of the MPCE class containing the poverty line was found to be Rs. 4.11\(^5\). Thus the revised poverty line for urban Delhi amounts to Rs 608.80. The reconstructed poverty line is applied on the monthly per capita consumption expenditure of the sample households to ascertain the head count and gap. This is termed as the pre-payment head-count and pre-payment gap. Next, monthly per capita out of pocket expenditure on treatment as outpatient is deducted from monthly per capita total consumption expenditure of each household. Poverty head count and gap is then recalculated by applying the adjusted poverty line on the distribution of consumption expenditure net of health care payments. This provides the post payment poverty head count and gap. The difference between the post-payment and pre-payment head count and gap gives us a measure of illness induced impoverishment or ‘medical poverty’.

6.3.2 Discussion of Results

Illness induced impoverishment across socio-economic categories

Table 6.7: Illness induced impoverishment across household characteristics

<table>
<thead>
<tr>
<th>Sex of Household Head</th>
<th>Pre-Pay</th>
<th>Post-Pay</th>
<th>Difference</th>
<th>Pre-Pay</th>
<th>Post-Pay</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>36.31</td>
<td>48.41</td>
<td>12.10</td>
<td>41.20</td>
<td>92.00</td>
<td>50.79</td>
</tr>
<tr>
<td>Female</td>
<td>59.26</td>
<td>76.54</td>
<td>17.28</td>
<td>95.34</td>
<td>140.56</td>
<td>45.22</td>
</tr>
<tr>
<td>Occupation of the main earner</td>
<td>Pre-Pay</td>
<td>Post-Pay</td>
<td>Difference</td>
<td>Pre-Pay</td>
<td>Post-Pay</td>
<td>Difference</td>
</tr>
<tr>
<td>Permanent Employee</td>
<td>46.14</td>
<td>58.46</td>
<td>12.32</td>
<td>52.48</td>
<td>115.09</td>
<td>62.61</td>
</tr>
<tr>
<td>Casual and contractual labour</td>
<td>42.48</td>
<td>59.29</td>
<td>16.81</td>
<td>81.61</td>
<td>122.47</td>
<td>40.86</td>
</tr>
<tr>
<td>Others</td>
<td>9.04</td>
<td>19.77</td>
<td>10.73</td>
<td>1.36</td>
<td>15.30</td>
<td>13.94</td>
</tr>
<tr>
<td>All</td>
<td>38.38</td>
<td>50.95</td>
<td>12.57</td>
<td>46.08</td>
<td>96.37</td>
<td>50.29</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

Table 6.7 shows that out-of-pocket expenditure on health raised poverty levels within the sample by around 13 per cent. In absolute terms this means that out of the 871 individuals

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\(^4\) Press Release, Perspective Planning Division, Planning Commission of India, March 2007

\(^5\) Estimated on the basis of unit record data of NSS 60\(^\text{th}\) Round on Morbidity and Treatment of Ailments.
surveyed 110 became poor exclusively due to household expenditure incurred on
treatment of ailments as an outpatient. The gap also rises by Rs. 50. This implies that
apart from the number of poor, the depth of their poverty also rises from Rs 46 to Rs. 96
on an average, on deducting OOP payments from total consumption expenditure.
Individuals belonging to a female headed household were relatively more vulnerable in
terms of impoverishment due to health payment. While impoverishment due to treatment
cost among female headed household increased by 17 percent among the selected sample,
for the male headed households the corresponding figure was 12 percent. The depth of
poverty however was more pronounced in case of the male headed households. The
difference between pre-payment and post-payment poverty gap was found to be higher by
Rs.5.57 among individuals belonging to the male headed households vis-à-vis the female
headed ones in the sample.

Illness induced impoverishment across disease categories and source of treatment

Table 6.8 presents a disease specific distribution of illness induced impoverishment.
Alarmingly, individuals suffering from tuberculosis were the worst affected in terms of
the impoverishing impact of health care payment. The other burdensome diseases within
the slums were gynaecological, orthopaedic, cardiological and gastro-intestinal ailments.
For individuals suffering from gynaecological ailments, the pre-payment headcount of
62.86 percent changes to 100 percent post payment. What this means is that while 62.86
percent of the individuals who had this ailment were poor even before payment, all of
them were impoverished post payment. Although the head-count remained unchanged for
individuals suffering from certain kind of ailments, poverty gap increased post-payment
for all the ailment categories. For example in the case with anaemia, 52.94 percent of
individuals suffering from the ailment were poor even before incurring treatment cost
(i.e. on the basis of their consumption expenditure). After paying for treatment the
absolute number of anaemia patients who are poor remains unchanged (no new entrant
into poverty due to treatment cost). However the net income (income net of treatment
cost) of the poor anaemia patients is lower with respect to the poverty line. Hence the
post payment gap is more than the pre-payment gap.
Table 6.8: Illness induced impoverishment across disease categories and source of treatment

<table>
<thead>
<tr>
<th>Ailment category</th>
<th>Head Count (%)</th>
<th>Gap (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Pay</td>
<td>Post-Pay</td>
</tr>
<tr>
<td>Accident and injury</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Anaemia and generalized weakness</td>
<td>52.94</td>
<td>52.94</td>
</tr>
<tr>
<td>Cardiological</td>
<td>31.43</td>
<td>51.43</td>
</tr>
<tr>
<td>Fever and ENT infection</td>
<td>31.28</td>
<td>36.49</td>
</tr>
<tr>
<td>Gastro-intestinal</td>
<td>42.61</td>
<td>62.17</td>
</tr>
<tr>
<td>Gynaecological and obstetric</td>
<td>62.86</td>
<td>100.00</td>
</tr>
<tr>
<td>Nervous system</td>
<td>17.86</td>
<td>17.86</td>
</tr>
<tr>
<td>Orthopaedic</td>
<td>25.00</td>
<td>59.09</td>
</tr>
<tr>
<td>Respiratory including asthma</td>
<td>56.60</td>
<td>70.75</td>
</tr>
<tr>
<td>Skin disease and infection</td>
<td>18.75</td>
<td>18.75</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>44.44</td>
<td>83.33</td>
</tr>
<tr>
<td>Others*</td>
<td>37.25</td>
<td>37.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Treatment</th>
<th>Head Count (%)</th>
<th>Gap (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Pay</td>
<td>Post-Pay</td>
</tr>
<tr>
<td>Public</td>
<td>38.46</td>
<td>38.46</td>
</tr>
<tr>
<td>Private registered</td>
<td>39.85</td>
<td>55.77</td>
</tr>
<tr>
<td>Private unregistered</td>
<td>29.09</td>
<td>32.73</td>
</tr>
<tr>
<td>All</td>
<td>38.38</td>
<td>50.95</td>
</tr>
</tbody>
</table>

Source: Estimated from data collected from the case study

* The category "Ophthalmological disease" have been included in the "Others" category as it had only a single case.

Private sources of treatment contributed largely to the impoverishing effects of out of pocket payments for health care. Poverty headcount increased by around 16 percent for those individuals who availed a private source for treatment of their ailments. The corresponding figures for the private unregistered source and the public source were 3.6 percent and zero percent respectively. One interpretation of this result may be that preference for the public source was largely prevalent among those who are already poor and therefore there were no new entrants into poverty on account of treatment cost incurred. However once we consider the indirect cost of such treatment in terms of workdays lost, they might ultimately prove to be more burdensome. On the other hand individuals who opted for a private registered source were those who were predominantly above the poverty line. Given the higher expenditure incurred in case of treatment from a
private source, there were more cases of medical poverty within this group. Individuals who could not protect their living standards (in terms of the poverty line) after visiting an unqualified medical practitioner for treatment of their ailments actually formed the marginal cases. They were neither able to bear the direct and the indirect costs associated with treatment from a qualified private source nor from a public source. Again, since they were marginally above the poverty line, the relatively lower expenditure they incurred on treatment from an unqualified source could not prevent 3.64 percent of this category from falling into poverty.

6.4 Coping Strategies

The urban poors’ struggle for survival comprises of strategies they need to adopt at the household level that would eventually assist them in coping with a variety of shocks, health being the foremost. The coping strategies they adopt against unforeseen income shocks determine their current as well as future well-being. The case study therefore tried a very preliminary enumeration of the range of coping strategies adopted by the urban poor households in dealing with an unforeseen health shock that requires treatment.

Table 6.9 presents the range of coping strategies employed by the households burdened with disproportionate medical expenditure. In most of the cases however the households used multiple strategies instead of a single one. After the initial shock was met from income or savings the households resorted to borrowing. Personal communication with the respondents reveals that these borrowings mostly took place within the slum at a high interest rate. The strong social network within the inhabitants ensured that they could arrange for money when they needed most. However, this apparently simple account of the range of coping strategies is disturbing because it reveals that the burden of illness can extend well beyond economics.
Table 6.9: Household coping strategies against treatment cost

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Per cent of Household</th>
<th>Strategy</th>
<th>Per cent of Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Income/Savings</td>
<td>100</td>
<td>Sending Children to Work</td>
<td>5</td>
</tr>
<tr>
<td>Selling Assets</td>
<td>6</td>
<td>Asking for Financial Assistance</td>
<td>10</td>
</tr>
<tr>
<td>Taking Loans</td>
<td>54</td>
<td>Gifts and Help</td>
<td>10</td>
</tr>
<tr>
<td>Reduced Food Expenditure</td>
<td>44</td>
<td>Merging Households</td>
<td>11</td>
</tr>
<tr>
<td>Diversifying Income Source</td>
<td>8</td>
<td>Moving to Rural Home</td>
<td>1</td>
</tr>
<tr>
<td>Sending Women to Work</td>
<td>12</td>
<td>Others</td>
<td>3</td>
</tr>
<tr>
<td>Temporary Withdrawal of Children From School</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Estimated from responses collected from the case study

As high as 44 percent of the affected households had to reduce their food expenditure to finance health. The severe adverse nutritional implication of this strategy also lends support to the ongoing debate on poverty measurement in India. Non-food expenditure, especially of such unavoidable nature as medical costs, has been on one hand eating into food share of household budget and on the other, inflating the total consumption expenditure thereby rendering such households as non-poor.

### 6.5 Concluding Remarks

This chapter provides a detailed account of the economic burden of illness by applying two measures largely used in health expenditure analysis—catastrophic burden of out-of-pocket health expenses and impoverishment effect of health care payments to the data collected from a case study of selected urban slums in Delhi. Out of pocket payments for medical care are found to be highly regressive in nature with the poorest quintile accounting for 18 percent of their total consumption expenditure on health. Half of the sample households spent more than 10 percent of their resources on health. It might be noted in this regard that NSS consumption expenditure data regularly puts the health share in the household budget of urban India at a meagre 5 percent. Even on the basis of NSS 60th Round on Morbidity, the health share in the household budget of urban Delhi for the lowest expenditure quintile was found to be around 1.2 percent that happens to be
the lowest in the country. Though the possibility of sampling errors in the current case study cannot be undermined it seems extremely unlikely that the spending proportion of the households on health can be that low especially in view of the clear preference for the private sources of treatment. The female headed and more importantly the casual labour households within the sample were disproportionately burdened by the financial ramifications of out of pocket expenses. The relatively lower financial burden associated with unqualified sources of treatment explains the treatment seeking behaviour among the slum dwellers. The problem of economic burden of illness among the poor can be approached in two distinct ways—enhancing public investment in health and regulating the operational anomalies of the private sector or/and designing an efficient insurance mechanism for the general population. Independent of the path followed, the current analysis identifies the urban poor as well as the groups within them who need to be specially focused upon.