

**AN EXPLORATORY  
ANALYSIS OF DEPRIVATION  
AND ILL HEALTH LED  
POVERTY IN URBAN INDIA:  
A CASE STUDY OF DELHI**

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## *Abstract*

This paper examines the multi-dimensional nature of urban poverty with special emphasis on ill-health led deprivation. As a driver of poverty, ill-health reduces the income earning potential and increases expenditure on medication, thereby causing asset depletion, increasing debt and worsening poverty. The bulk of ill-health related expenditure in India is borne by households themselves and almost all of this is in the form of out-of-pocket spending. Hence this paper attempts to explore the links between urban poverty and ill-health through a case study based on evidence from 150 households with a history of ailment, located in two slum clusters of Delhi. The paper explores the patterns of morbidity, health care utilisation and treatment cost within these households. It further estimates the economic burden of ill-health as measured by illness induced impoverishment, and also brings out its variation across select socio-economic and disease characteristics within the sample households. Using this evidence, it argues for explicitly raising existing poverty lines based on “norm based” expenditure required for meeting the direct and indirect costs of health shocks and their aftermath and for priority provisioning of substantial government resources for the health sector.

# An Exploratory Analysis of Deprivation and Ill-Health led Poverty in Urban India: A Case Study of Delhi

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## **1. Introduction**

This paper attempts to explore the links between urban poverty and ill-health through analyzing the situation of households that have a history of ailment and that are located in two slum clusters of Delhi. Why focus on slums and ill-health? There are two reasons. First, there is an increasing proliferation of slums in urban areas and many of them are un-notified. The Global Report on Human Settlements 2011 estimates that nearly 32.7 per cent of the urban population in developing countries lived in slums in 2010 (UN Habitat 2011). Second, the condition in which slum dwellers live in urban areas reflects deprivation of access to the most basic services that makes them prone to ill-health. Mercado *et al.* (2007) stress the need to address urban poverty “as an urgent public health issue affecting a billion people living in informal settlements or slums” as this is a critical pathway to ill-health and health inequities. They flag the question asked by the WHO Commission on Social Determinants of Health “Why do we keep treating people for illnesses only to send them back to the conditions that created illness in the first place?” Mitlin (2003) cites the findings of the Kabir, Rahman, Salway and Pryer (2000) study of low income settlements in Dhaka that “for the majority of households some kind of expenditure on health care each month is the norm...and healthcare was found to be the largest expenditure in most households after food and house rent.”

Revisiting the participatory work that was carried out in 12 slums

as part of an impact assessment study of ODA's/ DFID's Slum Improvement Projects in India, Amis (2002) identifies household assets, livelihoods, incomes, labour markets and security, dependence, lack of support and ill-health as important factors in explaining the "multi-dimensional and complex nature of urban poverty". Noting that he finds it surprising that ill-health as a shock dimension of urban poverty has not been taken up in the general urban poverty literature, he argues that ill-health related episodes are one of the main contributory factors to the incidence of chronic poverty. Additionally, using evidence from a very small panel data in Vijaywada in Andhra Pradesh he found that fully 50% of the vulnerable households had had serious health incidents between 1993 and 1997.

A brief overview of the extent of urbanization and urban poverty in India is presented in Section 2. Section 3 briefly discusses different aspects of urban poverty and highlights the deprivation faced by slum dwellers, as well as issues of homelessness and of ill-health. Section 4 presents results of estimates obtained from administering a questionnaire to households that have suffered ill-health and are located in two of the many slums in Delhi - Coolie Camp and Kusumpur Pahari. Among the questions that it seeks to address in the context of ill-health and poverty are: How much do the poor spend on health related costs? What is the impact of out of pocket expenses on outpatient services by the slum households on their poverty status? Does this differ across type of ailments? What are the reasons for the poor resorting to private sources of treatment? What are the indirect costs associated with ill-health? Section 5 concludes the paper and provides policy recommendations.

## **2. Estimates of Urban Population and Urban Poverty**

India has a population of 1210.19 million people with 31.16% living in urban and 68.8% in rural areas (Census 2011). While the level of urbanisation is low compared to global estimates of 47.2% (Mohan and Dasgupta 2005: 214 cited in Hashim 2009), 377 million people now live in urban India (Census 2011). Over the period from 1901 and 2011, there was a trebling of the proportion of India's population residing in urban areas and a four-fold increase in the number of towns (Table 1).

**Table 1: Estimates of Total Population and Urban Population in India, 1901-2011**

Year	Total Population (in million)	Percentage of population in Urban Areas	No. of Towns	Year	Total Population (in million)	Percentage of population in Urban Areas	No. of Towns
1901	238.40	10.84	1827	1961	439.23	17.97	2,365
1911	252.09	10.29	1815	1971	548.16	19.91	2,590
1921	251.32	11.18	1949	1981	683.33	23.34	3,378
1931	278.98	11.99	2072	1991	846.30	25.71	3,768
1941	318.66	13.86	2250	2001	1028.74	27.81	5,161
1951	361.09	17.29	2843	2011	1210.19	31.16	7,935

*Source:* Census of India, Calculations based on data available at [http://www.censusindia.gov.in/Census\\_Data\\_2001/India\\_at\\_glance/variation.aspx](http://www.censusindia.gov.in/Census_Data_2001/India_at_glance/variation.aspx) and Kundu (2007), cited in Hashim (2009) and Census of India (2011)

Increase in urbanization occurs due to three main factors - re-classification of rural settlements as urban settlements; higher natural population growth in urban relative to rural areas and migration from rural to urban areas (Jack 2006; Chandrasekhar 2005). All three factors have contributed to increased urbanization in India:

- i) During the period from 2001 to 2011 the number of towns increased by 2,774 (from 5,161 to 7,935), the number of Statutory Towns by 242 (from 3,799 to 4,041) and the number of Census Towns by 2532 (from 1,362 to 3,894).
- ii) Natural population growth in urban areas exceeded that in rural areas. The average annual percentage population growth rate was 3.2% in urban and 1.2% in rural areas during the period from 2001 to 2011 (Table 2).
- iii) Rural to urban net migration accounts for around one-fifth of the rate of growth of urban population (Mitra and Murayama 2008 and Table 2).

Migration occurs due to both push (out of the underdeveloped rural area, characterised by insufficient land to cultivate, insufficient or no employment, and declining demand for traditional skills and services), and pull factors related to better income and job opportunities that would help overcome deprivation faced by the migrants in the rural areas. While bigger cities are a natural choice

**Table 2: Average Annual Percentage Growth Rate of Population in India**

Population Growth	1961-71	1971-81	1981-91	1991-2001	2001-2011
Rural	2.2	1.9	2.0	1.8	1.2
Urban	3.8	4.6	3.7	3.1	3.2
Percentage share of Urban Population	18.7	19.9	22.6	21.1	
Growth due to Rural to Urban Net Migration					

*Source:* Census of India (various years); Mitra and Murayama (2008)

for the rural migrants because of their perception about the availability of job opportunities, the lack of amenities and affordable spaces in cities and towns contributed to the creation of an estimated slum population of 75.26 million in 2001 and a projected 93.06 million for 2011 (Government of India 2011; Agarwal *et. al.* 2007).

Most governments measure poverty narrowly and consider a person to be poor if his or her income or consumption level falls below a minimum level generally called the 'poverty line'. The poverty line varies across time and space depending on development and other standards. The most commonly used measure of incidence of poverty is the Head Count Ratio, which is the proportion of population whose income or consumption lies below the poverty line.

### ***2.1 Planning Commission estimates of Urban Poverty***

The Planning Commission estimates poverty in India at the national and state level for both rural and urban areas, on the basis of household consumer expenditure surveys conducted by the National Sample Survey Organisation. Six large sample consumer surveys have been conducted by the NSS on a quinquennial basis since 1973-74. The methodology used is based on the Task Force recommendations (1979). The Task Force defined the poverty line based on the level of per capita consumption expenditure that meets the average per capita daily calorie requirement of 2,400 kcal. in rural and 2,100 kcal. in urban areas and "some margin for non-food consumption needs" (Government of India 1993). Based on the observed consumer behaviour in 1973-74 it was estimated that, on an average, consumer expenditure of Rs. 49.09 per capita per month was associated with a calorie intake of 2,400 per capita per day in rural areas and Rs. 56.64

per capita per month with a calorie intake of 2,100 per day in urban areas (*ibid*). This poverty line though defined at the national level was also used for states and UTs. Poverty lines for later years were estimated by updating the 1973-74 line by selected price deflators. The methodology suggested by the Task Force for estimating poverty lines received criticism with respect to choice of deflators, uniform poverty lines for states, use of a fixed consumption basket across states and over time etc. In view of the criticisms, the Planning Commission constituted the Expert Group on Estimation of Proportion and Number of Poor in September 1989, to probe into the existing methodology and suggest refinements. The Expert Group adopted the poverty line defined by the Task Force but acknowledged the inter-state variation in prices. So they applied state-specific price indices to the national level poverty lines of the Task Force and obtained the state specific poverty lines and subsequently, percentage and number of poor. This, till 2004-05, has been the official methodology for arriving at the poverty lines and subsequently estimating the number of poor. The Planning Commission set the all-India poverty line at Rs. 538.60 for urban areas and Rs. 356.30 for rural areas for 2004-05. The gap between the all-India rural and urban poverty lines increased from about 14% in 1973-74 to about 51% in 2004-05 (Table 3). Criticisms regarding the methodology used to estimate the official poverty lines continued unabated during the last decade. The basic argument was that it was unrealistically low and was only fit to be called a 'starvation line'. Also, the gradual withdrawal of the state from provision of basic services like education and health rendered the poverty line inadequate since it did not explicitly incorporate these payments which were largely made out of pocket. Some studies (Patnaik 2007) in fact demonstrated that the current poverty line consumption expenditure did not even guarantee the normative minimum calorie levels, leave alone the non-food essentials. This led to the creation of an expert group on the methodology for estimating poverty under the chairmanship of Prof. Suresh Tendulkar in March 2009, which submitted its report in December, 2009. The revised poverty line set by the Tendulkar Committee (an additional Rs. 90 for rural and Rs. 40 for urban areas), led to a reduction in the rural-urban gap in poverty line to 29.6% (Table 3).

**Table 3: Poverty Line for India (Rs. per capita per month)**

Year	Rural	Urban	% Difference
1973-1974	49.63	56.76	14.4
1977-1978	56.84	70.33	23.7
1983	89.5	115.65	33.7
1987-1988	115.2	162.16	40.8
1993-1994	205.84	281.35	36.7
1999-2000	327.56	454.11	38.6
2004-05	356.30	538.60	51.2
2004-05 *	446.68	578.8	29.6

*Source:* Sharma, S. 2004. "Poverty Estimates in India: Some Key Issues", ERD Working Paper Series No. 51, Asian Development Bank and Government of India (2011)

\* Tendulkar Committee estimate

Juxtaposing the poverty lines on data obtained from the NSS consumption expenditure surveys, the Planning Commission estimated that around 54.9% of India's population was below the poverty line in 1973-74 and the incidence of poverty declined to 36% in 1993-94 and 27.5% in 2004-05 (see Table 4). Application of the updated poverty lines suggested by the Tendulkar Committee led to a 10% increase in the estimated population below the poverty line - from 27.5% to 37.2% for 2004-05.

In the 1970s, over 80% of the poor were located in rural areas and less than 20% in urban areas. Subsequently there was a change in the rural-urban distribution of poverty in that the proportion of the rural poor declined steadily from 80.4% in 1977-78 to 73.2% in 2004-05 with a corresponding increase in the proportion of urban poor. 26.8% of India's poor were located in urban areas in 2004-05 as per Planning Commission estimates prior to acceptance of the Tendulkar Committee Report. Since the Tendulkar Committee suggested an increase of Rs. 90 in the rural poverty line and only Rs 40 in the urban poverty line, this led to change in the ratio of rural-urban distribution of poverty to 80:20 for 2004-05 (Table 4).

### **3. Multi-dimensional Deprivation in Urban Areas**

Poverty can be defined broadly as deprivation of basic capabilities that provide a person with the freedom to choose the life he or she

**Table 4: Poverty Incidence and Rural-Urban Distribution in India, 1973-74 to 2004-05**

Year	Percent- age of Population below the Poverty in India	Total population below poverty line (in million)			Distribution of India's Poor	
		India	Rural Areas	Urban Areas	Rural Areas	Urban Areas
1973-74	54.88	321.3	261.3	60.0	81.33	18.67
1977-78	51.32	328.9	264.3	64.6	80.36	19.64
1983	44.48	322.9	252.0	70.9	78.04	21.96
1987-88	38.86	307.1	231.9	75.2	75.51	24.49
1993-94	35.97	320.3	244.0	76.3	76.18	23.82
1999-00	26.1*	260.2*	193.2*	67.0*	74.3	25.7
2004-05	27.5	301.7	220.92	80.8	73.22	26.78
2004-05**	37.2	407.6	326.7	80.8	80.2	19.8

Source: Press Information Bureau (2001), Press Information Bureau, (2007), Planning Commission based on NSS Rounds and own calculations

Note: \* = The estimates for 1999-2000 are based on the mixed recall period method and are not comparable with estimates for other years, which are based on uniform recall period method.

\*\* = estimate of poverty based on application of the poverty line set by the Tendulkar Committee

has reason to value (Sen 1999). These capabilities include good health, education, social networks, command over economic resources, and influence on decision-making. United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) recognises poverty as a condition with many interdependent and closely related dimensions that can be summarised into three broad categories:

- (a) Lack of regular income and employment, productive assets (such as land and housing), access to social safety nets
- (b) Lack of access to services such as education, health care, information, credit, water supply and sanitation
- (c) Lack of political power, participation, dignity and respect.

There are certain key characteristics that are specific to poor people residing in urban areas. Loughhead and Mittal (2001: 12) characterise urban poverty by the existence of “unsanitary living conditions, limited

or no access to services, a high dependence on labour markets, complex social relationships, and high levels of vulnerability”. Many basic services however do not necessarily cover slum areas, while access to services that do exist may be controlled by local patrons. Characterising services to slums as “patchy, poorly maintained, and severely under-resourced” Loughhead and Mittal (*ibid*) associate urban poverty with “poor quality housing, often in overcrowded unsanitary slum settlements, and with ill-health which is related to the spread of infectious diseases like tuberculosis (TB), and the constant threat of exposure to environmental hazards such as mosquito infested drains, and fires and floods that could destroy their homes altogether”. Jack (2006) lists inadequate income, problems of indebtedness, risky asset base, inadequate shelter and ‘public’ infrastructure provisioning, increased health burden and work burden, inadequate provision of basic services, limited or no safety net, voicelessness and powerlessness (Table 5).

**Table 5: The Different Aspects of Urban Poverty**

Inadequate income (and thus inadequate consumption of necessities including food and, often, safe and sufficient water, often problems of indebtedness, with debt repayments significantly reducing income available for necessities.)
Inadequate, unstable or risky asset base (non-material and material including educational attainment and housing) for individuals, households or communities.
Inadequate shelter (typically poor quality, overcrowded and insecure).
Inadequate provision of ‘public’ infrastructure (piped water, sanitation, drainage, roads, footpaths, etc.) which increases the health burden and often the work burden.
Inadequate provision of basic services such as day care/schools/vocational training, healthcare, emergency services, public transport, communications, law enforcement.
Limited or no safety net to ensure basic consumption can be maintained when income falls; also to ensure access to shelter and healthcare when these can no longer be paid for.

Inadequate protection of poorer groups' rights through the operation of the law: including laws and regulations regarding civil and political rights, occupational health and safety, pollution control environmental health, protection from violence and other crimes, protection from discrimination and exploitation.

Poorer groups' voicelessness and powerlessness within political systems and bureaucratic structures, leading to little or no possibility of receiving entitlements; of organizing, making demands and getting a fair response; and of receiving support for developing their own initiatives. Also, no means of ensuring accountability from aid agencies, NGOs, public agencies and private utilities and being able to participate in the definition and implementation of their urban poverty programmes.

*Source:* Jack (2006)

Three facets of urban poverty - multi-dimensional deprivation in urban slums, homelessness and ill-health led entry into poverty - are discussed below.

### ***3.1 Slum Dwellers and Deprivation***

NSSO defines a slum as “a compact settlement of at least 20 households with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions.” For Census 2001, The Registrar General of India defined a slum as areas in a town or city notified as a slum or recognized as a slum by the State or Local Administration or UT Administration with a population of around 300 or with 60 to 70 households in poorly built congested tenements in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities (Government of India 2010: 2). Clearly therefore estimation of slum population differs with NSSO including habitations with at least 20 households and the Census those with at least 60 households. In addition there are issues of lack of coverage of some of the smaller states as well as of cities and towns with population size 20,000 in some and 50,000 in others. While Census 2001 estimated 52.4 million people lived in slums in 1743 cities and towns, the Town and Country Planning Office (TCPO) estimated India's slum population to be 61.8 million in 2001. Meanwhile the UN Population Report suggested that India had 158.42 people living in slums in mid 2001 (*ibid*: 15).

NSSO (2003) estimated that about 52,000 slums were located in the urban areas of the country and about 8 million urban households lived in these slums. Further, 14% of the total urban households in the country or every seventh person in the urban areas is a slum dweller. Government of India (2010) estimates of slum population are for 5161 cities and towns in 35 States and UTs. The total slum population is estimated at 75.26 million and around 26.31% of the urban population lives in slums. State-wise estimates of urban population and population living in slums are given in Table 6 below.

**Table 6: State-wise estimated Slum Population for all 5161 Towns in India in 2001**

State/UT	Urban Population	Slum Population	% of Slum Population in Urban Population of state	% of State Slum Population in Total Slum Population of India
Andaman and Nicobar Islands	116198	20303	17.47	0.03
Andhra Pradesh	20808940	7254399	34.86	9.64
Arunachal Pradesh	227881	56538	24.81	0.08
Assam	3439240	805701	23.43	1.07
Bihar	8681800	1422155	16.38	1.89
Chandigarh	808515	208057	25.73	0.28
Chhattisgarh	4185747	1578285	37.71	2.1
Dadra and Nagar Haveli	50463	7653	15.17	0.01
Daman & Diu	57348	7420	12.94	0.01
Delhi	12905780	2318635	17.97	3.08
Goa	670577	100365	14.97	0.13
Gujarat	18930250	3708127	19.59	4.93
Haryana	6115304	2350269	38.43	3.12
Himachal Pradesh	595581	69310	11.64	0.09
Jammu & Kashmir	2516638	395696	15.72	0.53
Jharkhand	5993741	762025	12.71	1.01
Karnataka	17961529	2951441	16.43	3.92

Kerala	8266925	499498	6.04	0.66
Lakshadweep	26967	1683	6.24	0
Madhya Pradesh	15967145	5107505	31.99	6.79
Maharashtra	41100980	14319132	34.84	19.03
Manipur	575968	68967	11.97	0.09
Meghalaya	454111	172223	37.93	0.23
Mizoram	441006	87309	19.8	0.12
Nagaland	342787	73523	21.45	0.1
Orissa	5517238	1401973	25.41	1.86
Pondicherry	648619	92495	14.26	0.12
Punjab	8262511	2164649	26.2	2.88
Rajasthan	13214375	3118120	23.6	4.14
Sikkim	59870	9609	16.05	0.01
Tamil Nadu	27483998	7340271	26.71	9.75
Tripura	545750	104281	19.11	0.14
Uttar Pradesh	34539582	8527840	24.69	11.33
Uttaranchal	2179074	638467	29.3	0.85
West Bengal	22427251	7520116	33.53	9.99
India	286119689	75264040	26.31	100

*Source:* Government of India (2010), Report of the Committee on Slum Statistics/ Census

The States with the highest proportion of their population living in slums are Haryana (38.43%), Meghalaya (37.93%) and Chhattisgarh (37.71%). Andhra Pradesh, Maharashtra and West Bengal have between 33 and 35% of their population in slums. However, the States that house the highest proportion of India's slum population are Maharashtra (19.03%), Uttar Pradesh (11.33%), West Bengal (9.99%), Tamil Nadu (9.75%) and Andhra Pradesh (9.64%).

Rapid urbanisation and rapid population growth in urban areas put tremendous pressure on the existing physical and social infrastructure. The rate of creation of urban physical and social infrastructure lags behind the rate of growth of urban population. This leads to inadequacy of access to basic amenities for living in urban areas. The condition becomes more dismal for the homeless and slum population who are already living below the poverty line.

Table 7 presents data on access to basic services in both notified and non-notified slums of urban India.

**Table 7: Percentage of Slums with Access to Basic Services**

<b>Indicators</b>	<b>Notified Slums</b>	<b>Non-Notified Slums</b>
<b>Access to Road</b>		
Motorable Pucca	73	58
Motorable Kutcha	3	11
Non-Motorable Pucca	19	18
Non-Motorable Kutcha	6	13
<b>Electrification</b>		
Household and Street	76	53
Only Household	16	26
Only Street	7	15
No Electricity	1	7
<b>Garbage Clearance by</b>		
Municipality	75	55
Residents	6	8
Others	9	14
No Arrangement	10	23
<b>Drainage Facility</b>		
Underground	23	11
Covered Pucca	16	13
Open Pucca	39	30
Open Kutcha	12	24
No Drainage	10	23
<b>Latrine Facility</b>		
With Flush	68	47
Service Latrine	5	7
Other	13	20
Pit 4	7	
No Latrine	10	20

Source: NSSO (2010)

It is evident that the notified slums are in better position with respect to access to basic physical infrastructure services. Around 31% of non-notified slums are without any motorable road link and 42% without access to *pucca* road. Around 73% of notified slums have motorable *pucca* road connection to their slums. Around 76% of notified slums and 53% of non-notified slums have access to electricity in their dwellings as well as the adjoining streets.

The Municipality provides garbage clearance services in 75% of notified slums and 55% of non-notified slums while residents and others have made garbage clearance arrangements in 15% of notified and 22% of non-notified slums. However, no garbage clearance facilities are reported in 23% of non-notified and 10% of notified slums. Even in terms of drainage and latrine facilities, the notified slums are better off compared to the non-notified slums, as can be seen from Table 7.

The unhygienic living condition and inadequacy of basic services affect the health status of the poor and increase their vulnerability to diseases. There are frequent complaints regarding diarrhoea and other water borne diseases caused by poor water quality, poor drainage and sanitation. Among water borne diseases, diarrhoea disproportionately affects children under the age of five and causes mortality. Poor health among children adversely affects the attendance rate at schools. Poor and irregular electricity connection and road access from the locality to schools have direct impact on the education status of the slum children.

**Table 8: Access to Social services**

<b>Indicators</b>	<b>Notified Slums</b>	<b>Non-Notified Slums</b>
<b>Access to Government Primary Schools</b>		
Within 1 km	88	85
More than 1 km	12	15
<b>Access to Government Hospitals</b>		
Within 1 km	54	42
More than 1 km	46	58

*Source:* NSSO (2010)

NSSO data for 2010 shows that less than 50% of the non-notified slums had a government hospital with in one kilometer. Even the notified slums are not found to perform much better in this regard with just 54% of such slums having access to a public hospital within a kilometre distance. Access to a Government primary school is relatively better with more than 85% of both notified and non-notified slums having a primary school within 1 km (Table 8).

The Delhi Human Development Report (2006: 4) draws attention to the fact that an estimated “45% of Delhi’s population resides in

slums that include informal settlements – squatter settlements and illegal sub-divisions as also unauthorised colonies. In 2001, there were 1,087 *jhuggi* and *jhopdi* clusters with an estimated population of over 3 million – up from 20,000 in 1977. In most slums, housing and living conditions are appallingly poor”.

### 3.2 *Homelessness*

Homelessness is very strongly associated with unemployment, low incomes and poverty (Anderson *et. al.* 1993; Breugel and Smith 1999; Burrows 1997; Craig *et. al.* 1996; Evans *et. al.* 1994; Fitzpatrick *et. al.* 2000, cited in Anderson 2001). The processes determining homelessness are complex and may include for instance, sudden loss of job or physical illness that may lead to non-payment of rent, which in turn may result in eviction and homelessness. Many migrants become homeless after coming to a city or town. Pressures created by the need to send money to their families in the village often force the workers to live in slums, or ‘sleep rough’ instead of spending money on housing. This leads to ‘supplementary homelessness’ and ‘survival homelessness’ (Speak 2004: 470 cited in Gupta and Ghosh 2006).

As per the 2001 census, the total urban homeless population is 778,599 people. Delhi had 3.1 percent of the national level, and Bihar and Tamil Nadu had 1.6 percent and 7.3 percent respectively. Studies showed that the reason of choosing the streets is to save rent so as to send money back home. This implies the gap between paying capacity and the exorbitant rental of urban housing which also indicates the lack of adequate shelter in urban India. In Delhi, for over a 100,000 homeless people, there are 64 permanent shelters and 86 temporary shelters - of tents, maintained by the Delhi Urban Shelter Improvement Board (DUSIB) - but they only offer shelter to 12,000 people (Deccan Herald 2012). In the walled city of Delhi, private contractors called *thijawalahs* rent out quilts (winter) and plastic sheets (monsoon) for five rupees a night. Iron cots are rented for 15 rupees a night (UNDP 2009).

Homeless people are also prone to face problems such as limited access to health care, education and banking services, higher risk of violence, addiction to alcohols and drug, and abuse. Among slum and homeless population, women and children are more vulnerable

to domestic violence, attack, abuse and sexual harassment because of very limited support from the family and absence of safety net systems. Homeless families are beaten and driven away from their make-shift homes/shelters.

### ***3.3 Ill-Health and Entry into Poverty***

Poverty is often the cause as well as the consequence of poor health. Poverty undermines health by restricting access to medical services and healthy living conditions, thereby making the poor more susceptible to ailments. Shocks, such as those due to the onset of a long and expensive illness, are among the factors that can drive the poor and many who may have initially been better off into chronic or long-term poverty (Mehta and Shepherd 2004). Analysis of the only national rural panel data set for India shows that there is both substantial persistence and mobility into and out of poverty. More than half (52.61%) of the households that were poor in 1970-71 remained in poverty over a decade later. Further, 25% of households who were not poor in 1970-71 became poor a decade later (Bhide and Mehta 2004; Mehta and Bhide 2003). Poor health and illness are universally dreaded as a source of destitution, partly because of the direct costs of health care and also, the foregone income due to loss of man days.

Estimates show health expenditure as a percentage of annual income varying from 3 percent in the richest 20% of the households to 12% in the bottom 20% of the households (Gumber 2002). A study of 35 villages in Rajasthan, found that health and health expenses were one of the main causes that lie behind 85% of all cases of impoverishment. One-half to two-thirds of all households falling into poverty mentioned ill-health and health expenses as a contributory cause (Krishna 2004). Such impoverishment is of even greater concern given the evidence from another study in Rajasthan that shows that health care purchased is often of poor quality, even harmful (Banerjee *et. al.* 2004). Nationally, more than 37 million people in India went below poverty line in 1999-2000 as per the \$1 norm of the poverty line, because of out of pocket payments (O'Donnell *et. al.* 2005). This is in addition to those, who are already below poverty line and are further pushed into acute poverty because of out of pocket payments. A more recent study with NSSO data reports that after adjusting for the sources

(borrowings, contributions and sale of assets etc.) of out of pocket expenditure, 63.22 million individuals or 11.88 million households were impoverished due to healthcare expenditure in 2004 (Berman *et. al.* 2010). Chowdhury (2011) shows that treatment of even regular non-hospitalised morbidity leads to impoverishment of urban households, and calls for a refinement in the coverage of targeted health insurance schemes that are restricted to inpatient episodes.

The State has been gradually withdrawing from its role as a provider of basic services such as health and consequently poorer households have been left with the choice of forgoing treatment or falling prey to the essentially unregulated private sources of treatment. Government expenditure on health care in India is among the lowest in the world at only 19.67% of total expenditure while 71.13% is spent by households themselves (National Health Accounts 2004-05). In contrast, Government expenditure on health care is 87% of total expenditure in UK.

The budget of a typical household in India, broadly accounts for expenditure on food, fuel and lighting, clothing, bedding and footwear, education and medical care, rents, taxes, etc. Poor households are often forced to economise on the other components in order to protect their food expenditure. Household medical expenditure is often both unforeseen and unavoidable. For those who are poor, due to the casual nature of their work, ill-health is often associated with having to forego income due to inability to work. An economically vulnerable household facing a health shock therefore has to instantly devise its own strategy of coping with ill-health related expenses. If the magnitude of shock is large enough, the expenditure share of food in household budget is also reduced, raising serious questions of nutritional adequacy and the resultant vulnerability to diseases. A health shock of still higher magnitude may lead to indebtedness, debt trap and chronic poverty. So, while for some, access to health care is reduced considerably, others who opt for treatment face catastrophic burden of health care expenditures and are in consequent danger of becoming impoverished. This setting provides the motivation for looking into the economic burden of morbidity among the vulnerable segments (slum dwellers in this case) in urban India.

#### 4. Poverty and Ill-Health: The Case of Coolie Camp and Kusumpur Pahari in Delhi<sup>1</sup>

In order to explore the patterns of morbidity, health care utilisation, treatment cost and finally the economic burden of the same on the urban poor, a total of 150 households with at least one history of ailment during specified recall periods were selected from two slums in South Delhi. The first slum i.e., Vasant Vihar Coolie Camp is a non-notified *jhuggi-jhonpri* colony located close to an up market Cinema Complex, one of the busiest commercial establishments in South Delhi. The second, Kusumpur Pahari is a notified slum, located in interior Vasant Kunj, adjacent to a residential block consisting of Government quarters.

The non-notified *jhuggi-jhonpri* colony at Coolie Camp, Vasant Vihar is built on land owned by the Delhi Development Authority. The slum houses approximately 350 households, mostly migrants from the neighbouring states of Uttar Pradesh and Rajasthan. The slum is located along a *nullah* fed by sewerage from the nearby commercial and residential establishments. The major problem for the inhabitants of this colony is access to water. There are just two taps with very infrequent supply, for the entire slum. Supplementary arrangements of water tankers arrive at odd hours when the male members of the household are at work. It is often not possible for women to carry filled jerry-cans of water into their *jhuggi* from the main road where the tanker is parked. Many of the *jhuggis* are of the unserviceable *kutchra* variety and measure six by six feet, roughly. There is no toilet and the inhabitants defecate in the forest nearby. The community toilet that had been built ceased to function due to lack of water. The drains inside the slum are open, *kutchra* and filthy. Although there is electricity in all the *jhuggis*, the slum dwellers complain of disproportionately high meter (newly installed) readings. The nearest private hospital, doctor or chemist shop is located at a distance of 1.5 kms. However the nearest government hospital or health centre is relatively far from the slum.

Kusumpur Pahari is a slum cluster situated alongside the remnants of the endangered Delhi Ridge Area around Vasant Kunj and is more

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<sup>1</sup> This section of the paper is based on Samik Chowdhury, *The Economic Burden of Health Care Spending by Urban Households in India*, Unpublished Ph.D. Thesis submitted to Jawaharlal Nehru University in 2009.

in the nature of an urban village. It has a population of more than twenty thousand. The settlement came into being almost 35 to 40 years back and the first settlers were labourers who built the Jawaharlal Nehru University. The inhabitants are migrants from Uttar Pradesh, Punjab, Haryana and Madhya Pradesh, Himachal Pradesh, Bihar and even West Bengal. There exists substantial disparity in access to basic services especially water and the division is along the lines of political leaning, economic status and place of origin. However, there exists a *pucca* motorable road within the slum that allows water tankers and other vehicles to serve the farthest corner of the colony. The majority of the houses are of the serviceable *kutch* variety but without own toilet. Drainage within the clusters is of the open *kutch* type. The slum is self sufficient as far as services such as provision store, chemist shop, grocery shop, stationery shop, jewellery shop, tea stalls etc are concerned. However, medical facility available within the slum is of a rather dubious nature. There are a number of shady clinics run by “quacks” (locally known as the “*Bungali Daakter*”), who reportedly charge meagre amounts and are not adequately trained in medicine. The slum dwellers are aware of the limitations, inefficacies and in certain cases fatality of the treatment offered by these men. Still they approach them since the direct cost and opportunity cost incurred on treatment from their formal counterparts is often high and burdensome. However, the dearth of genuine medical facility, public or private has also allowed entry points to some NGOs who are doing a commendable job in this area.

A questionnaire designed to elicit responses on the cost (direct as well as indirect) of treatment as well as the coping mechanisms adopted to finance the same was canvassed within the sample. Responses were collected from 150 households with a history of ailment within specific recall periods (30 days for outpatient treatment and 365 days for inpatient treatment). Thus, this was a case of non-probabilistic purposive sampling whereby the detailed questionnaire was canvassed only to the households with ailment. The methodology adopted for selection of the sample was as follows. Firstly, a complete house listing of the slums was obtained from the local councilor in case of Kusumpur Pahari and from an NGO working on maternal health issues in the Coolie Camp slum. Both the slums were demarcated into blocks (five in the case of Kusumpur Pahari and two in the case of Coolie Camp) for administrative purposes. As is often the case,

the blocks were different from each other in terms of the place of origin of the residing households. For example, Block A in Kusumpur Pahari largely consisted of people from Haryana. Secondly, a total of 44 and 40 households were randomly identified from each block for Kusumpur Pahari and Coolie Camp respectively, which had a case of treated ailment within the specified recall period. Thus in effect, 300 households with ailments i.e., 220 from Kusumpur Pahari and 80 from Coolie Camp were isolated and numbered. Thirdly, every odd numbered household out of these 300 households was selected for canvassing the full questionnaire. So there were 150 households with at least one history of ailment, who were approached for details on general household characteristics as well as specific information on the type of morbidity, health service utilisation and treatment cost. Of the 150 households, 40 were from the smaller Coolie Camp and 110 from the larger Kusumpur Pahari. The details of the sample are given in Table 9.

**Table 9: Distribution of the selected sample**

	<b>Coolie Camp</b>	<b>Kusumpur Pahari</b>	<b>All</b>
No. of Households surveyed	40	110	150
No. of individuals surveyed	207	664	871
No. of Hospitalisation cases	14	39	53
No. of Non-hospitalised Ailment cases	47	111	158

*Source:* Chowdhury (2009)

For the purpose of the current analysis, only the cases requiring outpatient treatment in the month preceding the date of survey have been considered. This is because such cases were more frequent and the treatment cost incurred was lower and so had a relatively lesser influence of extreme values when compared to inpatient cases. Also, expenditure on outpatient treatment gives a picture of current economic burden unlike cases of hospitalisation that are predominantly financed by borrowing and other strategies that have rather long term implications on the economic well-being of a household. In the following sections, the salient characteristics of the sample followed by a disaggregated analysis of the patterns in household health expenditure on outpatient treatment across socio-economic and ailment categories have been discussed.

### ***4.1 Salient Characteristics of the Sample Population***

The households have been living in the selected slums for 18 years on an average. A majority (95%) of them have migrated from the rural areas of a different state, predominantly a neighbouring one. The average and modal household size was 5.66 and 5 respectively. The mean age of the respondents was 23 while 4.5% of the total population was more than 60 years old. 48% of the sample population was female and around 3% were infants (less than equal to one year of age). The married accounted for around 41% of the population while 4% were widowed or divorced. 30% were illiterate. The majority of the literate respondents had dropped out of school after the fifth standard. However, there was not a single reported case of child labour within the selected sample. Their economic condition notwithstanding, most of the children in the school going age were attending school. Out of the 871 individuals surveyed, 303 (around 35%) were currently employed, 58% of whom worked as daily wage earners. Only 14% of the working population was salaried employees.

A distribution of the households across expenditure classes show that majority of the sample households belonged to the per capita expenditure class of Rs. 500 to 1,000. Only 36% of the individuals in the sample were found to have monthly per capita consumption expenditure less than the official poverty line for urban Delhi, which is Rs. 612.91. Academic debates regarding poverty lines notwithstanding, a visit to these slums and a study of living standard of the inhabitants do raise concerns regarding the validity of official poverty estimates.

There were certain salient features of the morbidity pattern exhibited by the slum dwellers that have a bearing on the incidence of economic burden of illness among the urban poor. *Firstly*, the major share of ailment cases occurred for the highly productive age group 25 to 39. *Secondly*, casual wage labourers were the most vulnerable occupational group in terms of morbidity prevalence. *Thirdly*, fever, gastro-intestinal diseases and respiratory diseases including asthma were the three major illnesses, together constituting around 60% of all ailments.

There was a marked preference for private sources of treatment. In about 73% of the cases a private doctor was approached for treatment. Almost 15% of the ailing sample opted for treatment from an unregistered private practitioner. These are the quacks (or the

*Bungali Daakter*) who are quite conspicuous within slums. They attract a lot of patients owing to their locational advantage and low charges. Only 12% of the ailing individuals opted for treatment in public institutions.

#### 4.2 Methodology

The methodology used is an adaptation of Wagstaff and van Doorslaer’s (2003) attempt to estimate illness induced impoverishment for Vietnam at two points of time.

Consider a household ‘i’. Suppose,

‘ $S_i$ ’ = size of the  $i^{th}$  household

‘ $MPC_i$ ’ = monthly per capita total consumption expenditure of the  $i^{th}$  household

‘ $H_i$ ’ = monthly per capita health expenditure of the  $i^{th}$  household

Also let ‘L’ be the poverty line that the household faces. In order to measure poverty gross of health care payment, we define

$$P_i^{gross} = 1 \text{ if } MPC_i < L$$

$$= 0, \text{ otherwise} \dots\dots\dots (1)$$

Now if N is the number of households in the sample, an estimate of poverty headcount ratio gross of health payments is given by,

$$HC^{gross} = \frac{\sum_{i=1}^N S_i P_i^{gross}}{\sum_{i=1}^N S_i} \dots\dots\dots (2)$$

Again, individual poverty gap gross of health payment is given by,

$$G_i^{gross} = P_i^{gross} (L - MPC_i) \dots\dots\dots (3)$$

The mean of this gap in rupee terms is given by,

$$G^{gross} = \frac{\sum_{i=1}^N S_i G_i^{gross}}{\sum_{i=1}^N S_i} \dots\dots\dots (4)$$

In order to estimate poverty net of health payments we first define

$P_i^{net}$  such that,

$$\begin{aligned}
 &= 1 \text{ if } (MPC_i - H_i) < L \\
 &= 0, \text{ otherwise} \dots\dots\dots (5)
 \end{aligned}$$

Finally, the head count net of health payments is obtained by

replacing  $P_i^{gross}$  in equation (2) with  $P_i^{net}$  such that,

$$HC^{net} = \frac{\sum_{i=1}^N S_i P_i^{net}}{\sum_{i=1}^N S_i} \dots\dots\dots (6)$$

The individual poverty gap net of health payments is given as,

$$G_i^{net} = P_i^{net} \{L - (MPC_i - H_i)\} \dots\dots\dots (7)$$

The methodology used for calculating illness induced impoverishment is based on the following rationale. The poverty line consists of a food and non-food component. Household health expenditure forms a part of the non-food component. The level of poverty is calculated by comparing income or expenditure against a given poverty line such that persons with an income below the poverty line is considered to be poor. 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. Impoverishment due to out-of-pocket health expenditure is computed by counting the number of households (and subsequently individuals) who fall below the poverty line after paying for health care. In effect therefore, 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 poverty line on the distribution of consumption expenditure net of health care payments. This provides the post payment poverty head count ratio and gap. The difference between the post-payment and pre-payment head count ratio and gap gives us a measure of illness induced impoverishment or ‘medical poverty’.

It must however be noted that if a household had multiple cases of ailment, it becomes difficult to isolate the particular ailment case that might have driven that household into poverty. In the current study there were eight such cases. Therefore for such households, the more burdensome of the cases, as reported by the respondent or measured in terms of the total expenditure incurred, was considered for the current analysis on impoverishment. In effect therefore, the 150 households considered for the current exercise had just one ailment case each.

### ***4.3 Direct Cost of Outpatient Treatment***

The monthly average and median expenditure on treatment for the entire sample were Rs. 615 and Rs. 305 respectively. Medical expenditure and total expenditure on outpatient treatment was considerably higher for the Kusumpur Pahari slum as compared to the Coolie Camp. The average associated expenditure incurred, mostly on account of transport, amounted to Rs. 43 per capita per month (Table 10).

**Table 10: Average expenditure on outpatient treatment per treated case**

Slum	Medical Expenditure (Rs)		Associated Expenditure (Rs)		Total Expenditure (Rs)	
	Mean	Median	Mean	Median	Mean	Median
Coolie Camp	490	300	43	0	533	350
Kusumpur Pahadi	608	300	42	0	651	300
All	573	300	43	0	615	305

*Source: Chowdhury (2011)*

The average expenditure on outpatient treatment per treated case across occupation of the main earner of the household and expenditure quintiles to which the household belongs are presented in Table 11. The average total expenditure on outpatient treatment demonstrates a moderately positive income gradient. However, as a proportion of monthly consumption expenditure, health care costs were highly regressive with the poorest quintile spending as high as 20 percent of their income on treatment of non-hospitalised ailments. The average as well as the median expenditure was higher for the households whose main earner was salaried. But again, the average share of out-

**Table 11: Average expenditure on outpatient treatment per treated case by expenditure quintiles and occupation of the main earner of the household**

	Medical Expenditure (Rs)		Associated Expenditure (Rs)		Total Expenditure (Rs)		Average Out of Pocket Share (%)
	Mean	Median	Mean	Median	Mean	Median	
<b>Expenditure Quintile</b>							
Poorest	526	300	41	0	567	300	20.3
Lower Middle	656	375	38	0	693	425	20.2
Middle	384	250	34	0	417	300	13
Upper Middle	706	250	67	0	773	300	15.4
Richest	669	450	39	0	708	450	10.1
<b>Occupation of the main earner</b>							
Salaried	804	555	31	0	869	585	13.2
Casual and contractual labour	644	500	49	0	698	550	16.3
Others	481	280	78	0	559	400	13.1
All	573	300	43	0	615	305	15

*Source:* Same as Table 9

of-pocket (OOP) health expenses in total expenditure was highest for households whose main earner was a casual labourer.

A disease specific summary of treatment cost shows that persons with orthopaedic ailments incurred the highest average expenditure followed by gastro-intestinal and cardiological ailments. The most common ailment i.e., fever and Ear Nose Throat (ENT) infection accounted for an average cost of Rs. 252 (Table 12). The fact that a visit to a quack (“private unregistered”) costs around Rs. 80 on an average probably explains why the urban poor opt for treatment of such dubious quality, inspite of being aware of the often limited efficacy of the medicines sold by them. Even though this amount corresponds to a day’s earning of a casual labourer, the corresponding figures for the registered private and even the public counterparts are much higher.

**Table 12: Average expenditure (in Rs.) on outpatient treatment per treated case by disease category and treatment source**

	Medical Expenditure (Rs)		Associated Expenditure (Rs)		Total Expenditure (Rs)		Average OOP Share (%)
	Mean	Median	Mean	Median	Mean	Median	
<b>Ailment type</b>							
Anaemia and generalized weakness	404	465	0	0	404	465	8.3
Cardiological	697	500	3	0	700	500	12.2
Fever and ENT infection	243	198	10	0	252	198	6
Gastro-intestinal	887	450	69	0	956	500	17.3
Gynaecological and obstetric	612	300	40	0	652	300	17.5
Nervous system	517	500	115	75	632	550	16.2
Orthopaedic	960	260	75	100	1035	460	13.7
Respiratory including asthma	446	500	41	0	486	500	13.3
Skin disease and infection	308	200	40	50	348	300	5.7
Tuberculosis	400	500	133	100	533	700	11.5
Others	551	425	40	0	591	475	19.2
<b>Source of Treatment</b>							
Public	174	200	88	75	262	245	6.3
Private Registered	741	500	43	0	785	500	15.3
Private Unregistered	78	80	0	0	78	80	2.2
All	573	300	43	0	615	305	15

*Source:* Same as Table 9

Out-of-pocket expenditure on non-hospitalised treatment raised poverty levels within the slums by around 13%. The gap also rises by Rs. 51. An analysis across ailment categories and source of treatment makes for some interesting observations.

For individuals suffering from gynaecological ailments, the pre-payment headcount ratio of 62.86% changes to 100% post payment

**Table 13: Average Expenditure per Treated Case and Increase in Poverty due to Ill-Health related Expenditure**

Ailment categories	Head Count (%)			Gap (Rs)		
	Pre-Pay	Post-Pay	Difference	Pre-Pay	Post-Pay	Difference
Anaemia and generalized weakness (4.5)	52.94	52.94	0	128.4	150.95	22.55
Cardiological (4.4)	31.43	51.43	20	6.92	40.35	33.44
Fever and ENT infection (25.3)	31.28	36.49	5.21	25.84	60.49	34.65
Gastro-intestinal (22.2)	42.61	62.17	19.57	56.81	122.85	66.05
Gynaecological and obstetric (3.2)	62.86	100	37.14	56.69	168.91	112.22
Nervous system (3.8)	17.86	17.86	0	2.31	59.45	57.14
Orthopaedic (7.0)	25	59.09	34.09	50.95	113.54	62.58
Respiratory including asthma (10.8)	56.6	70.75	14.15	62.02	135.72	73.69
Skin disease and infection (7.0)	18.75	18.75	0	13.36	22.26	8.91
Tuberculosis (1.9)	44.44	83.33	38.89	50.18	124.65	74.46
Others (9.9)	37.25	37.25	0	83.04	130.1	47.06
Source of Treatment	Pre-Pay	Post-Pay	Difference	Pre-Pay	Post-Pay	Difference
Public (12.7)	38.46	38.46	0	53.04	78.62	25.58
Private registered (72.8)	39.85	55.77	15.91	49.95	110.82	60.87
Private unregistered (14.6)	29.09	32.73	3.64	28.3	40.32	12.01
All (100)	38.38	50.95	12.57	47.66	98.47	50.81

\*Figures in parentheses indicate percentage under each category

Note: Based on poverty line for urban Delhi equal to Rs. 612.91 according to the press release by the Perspective Planning Division, Planning Commission of India, March 2007.

Source: Same as Table 9

(Table 13). What this means is that while 62.86% of the individuals who had this ailment were poor even before payment, all of them were impoverished post payment. Although the headcount 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 of those suffering from anaemia, 52.94% 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. Individuals suffering from tuberculosis were the worst affected in terms of the impoverishing impact of health care payment due to the high cost of treatment associated with the disease. It seems little has changed in terms of burden of the disease inspite of the conscious effort of the Government to allocate resources and raise public awareness towards its eradication. The other burdensome diseases within the slums were gynaecological, orthopaedic, cardiological and gastro-intestinal ailments.

Private sources of treatment contributed largely to the impoverishing effects of out-of-pocket payments for health care. The worst condition is probably that of those who are impoverished after treatment from an unqualified private source. Apart from the adverse financial implications of the health shock, the quality of treatment meted out to them makes them more susceptible to future health shocks. Poverty headcount increased by around 16% for those individuals who availed of a private source for treatment of their ailments. The corresponding figures for the private unregistered source and the public source were 3.6% and 0% 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 burdened. 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 health care cost induced poverty within this group.

#### ***4.4 Indirect Cost and Coping Strategy: Inpatient and Outpatient Cases***

Indirect cost means foregone income due to days spent in indisposition as well as days spent in attending to the indisposed. The

question on workdays lost by the ailing as well as the attendant was posed to all the households with history of ailment. Information on work days lost was not collected separately for inpatient and outpatient cases. Also, the recall period was 365 days. Hence, Table 14 presents the descriptive statistics on the work days lost and income forgone by the sample households during the year preceding the day of survey, on account of hospitalisation as well as non-hospitalised treatment of their ailments, taken together. The indirect cost of treatment was computed for the ailing individuals as well as the attendant on the basis of number of days lost due to ailment and the daily income.

**Table 14. Indirect Cost of Illness**

Statistic	Ailing		Attendant	
	Days Lost	Annual Income Loss (in Rs)	Days Lost	Annual Income Loss (in Rs)
<b>Mean</b>	35	2,877	9	858
<b>Minimum</b>	2	133	1	67
<b>Maximum</b>	220	18,333	30	3,000

*Source: Same as Table 9*

On an average an ailing individual lost 35 working days owing to ailments of varying intensity and type (Table 14). The average income loss per illness episode amounted to Rs. 2,877. The median values for the same were 20 days and Rs. 1,500. The number of days lost due to ailment varied from 2 to 220 depending on whether the treatment was undertaken as an inpatient or outpatient. Attending to the ailing member of the household also involved loss of substantial income. The income loss ranged from Rs. 67 to Rs. 3,000 with an average loss of Rs. 858. Most of the studies on health financing tend to ignore the indirect cost of illness, especially that of the attendant. Notwithstanding the several methodological issues that are bound to arise with the measurement of indirect cost, the current analysis gives us a fair idea of why an illness episode is more debilitating than it seems to a poor household.

The case study also attempts a very elementary enumeration of the range of coping strategies adopted by the urban poor households in dealing with an unforeseen health shock that requires treatment. Here again the inpatient and outpatient cases of treatment are considered together. Table 15 below 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. Though the absolute amount of expenditure accounted for by each of these heads is beyond the scope of this study, the percentages corresponding to each strategy may be interpreted as the relative importance accorded to each, and collectively it reveals a sequence of coping strategies.

**Table 15. Coping Strategies adopted by Households**

Strategy	Percentage of Household	Strategy	Percentage of Household
From Income/ Savings	100	Sending Children to Work	5
Selling Assets	6	Asking for Financial Assistance	10
Taking Loans	54	Gifts and Help	10
Reduced Food Expenditure	44	Merging Households	11
Diversifying Income Source	8	Moving to Rural Home	1
Sending Women to Work	12	Others	3
Withdrawing Children from School	7		

*Source: Same as Table 9*

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 led to 44% of the affected households being forced to reduce their food expenditure to finance costs related to ill-health (Table 15). The severe adverse nutritional implication of this strategy also lends support to the ongoing debate on poverty measurement in India.

## **5. Salient Observations and Policy Recommendations**

There are two issues that need attention while estimating urban poverty. First, whether the level at which the poverty line is set is adequate for meeting the minimum requirements of food, shelter,

clothing, healthcare, education, transport, basic services etc. Second, the impact on public health and quality of life due to lack of access to basic services such as safe water, drainage, sanitation, clean air, garbage removal and health care - most of which are to be provided by the State. Around 81 million people are estimated to live below the poverty line in urban areas. These estimates are based on a poverty line of Rs. 578.80 for urban areas. If the 'poverty line' on the basis of which poverty is estimated is, as is widely believed, an underestimate and the poverty line is revised upwards, the numbers in poverty will increase significantly.

There are about 75 million persons living in urban slums (Government of India 2010). Slum dwellers live in congested spaces and unhygienic conditions. While some slum dwellers may not be income poor, all slum dwellers suffer deprivation due to overcrowding and filth that create health hazards. State provisioning of safe drinking water, sanitation, sewage and waste disposal and cleanliness are required on priority as these are basic rights of citizens. Additionally, these are urgent public health issues with massive public and private externalities.

The most deprived in urban areas are the homeless. In the short run adequate state provisioning for shelters and short stay homes in cities and towns is required to reduce the distress of migrants and those who are in difficulty while they locate sources of livelihood and places to stay. In the long run, reduction in distress migration requires generation of livelihood opportunities and development in rural areas.

Many of those who are poor are concentrated in the informal sector and work as casual labour, vulnerable to low returns and loss of employment at short notice. The right to livelihood must be made effective in urban areas so that decent work on demand is available for all those who are able-bodied.

Ill-health exacerbates the suffering of those who are already poor and drives many of those who are non-poor into poverty. The bulk of ill-health related expenditure in India is borne by households themselves and almost all of this is in the form of out-of-pocket spending. State provided health care is difficult to access, located at a distance, requires filling of forms and payment for tests and medication and is time and energy consuming. This creates strong

barriers to access and this must be rectified. Government expenditure on health care in India is among the lowest in the world at only 19.67% of total expenditure while 71.13% is spent by households themselves. In contrast, Government expenditure on health care is 87% of total expenditure in UK. Public provisioning for health care needs to be increased on priority and increased significantly.

For those who are poor, ill-health is often associated with having to forego income due to inability to work. An economically vulnerable household facing a health shock therefore has to instantly devise its own strategy of coping with ill-health related expenses. If the magnitude of shock is large enough, the expenditure share of food in household budget is also reduced, raising serious questions of nutritional adequacy and resultant vulnerability to diseases.

The following salient observations based on field work conducted in two slums in Delhi that have a bearing on the economic burden of illness among the urban poor. *Firstly*, out-of-pocket expenditure on non-hospitalised treatment raised poverty levels within the slums by around 13%. For individuals suffering from gynaecological ailments, the pre-payment headcount ratio of 62.86% increases to 100% post payment. *Second*, the major share of ailment cases occurred for the highly productive age group 25 to 39. *Third*, casual wage labourers were the most vulnerable occupational group in terms of morbidity prevalence. *Fourth*, the lowest two income classes accounted for almost 70% of all ailment cases. *Fifth*, gastro-intestinal diseases emerge as the major ailment among the sample of urban poor. *Sixth*, people preferred the easily accessible private sources of treatment in spite of the higher costs that this entailed. However, they were relying on a dangerous alternative of seeking treatment from unqualified doctors within the slum. Further, private sources of treatment contributed largely to the impoverishing effects of out-of-pocket payments for health care. *Seventh*, the high indirect costs of illness need attention as they might explain what prevents the ailing poor from seeking treatment from a public hospital or dispensary as the whole process is admittedly time consuming. *Finally*, the average expenditure on outpatient treatment for the sample of 150 households was estimated at Rs. 615.

Insurance and public private partnerships are being suggested as options to minimise the financial burden of health care. However,

insurance schemes have exclusion clauses and limited coverage. While public insurance schemes such as the Rashtriya Swasthya Bima Yojana (RSBY) do acknowledge the phenomenon of health care induced impoverishment, their coverage is restricted to hospitalisation episodes. Though hospitalisation entails higher treatment costs, non-hospitalised morbidity is generally the more prevalent form of indisposition and therefore potentially more debilitating for most poor households, notwithstanding the relatively lower cost of treatment vis-à-vis inpatient cases. Moreover, while the scheme provides financial protection to the poor in some way, it does not ensure quality of service. Additionally they require money and paper work that prevent the poor from getting access to medical care and create difficulties in enforcing reimbursement of expenditure.

In India the State has clearly failed to deliver quality public health services at affordable cost to its citizens and is also reluctant to revamp the system with a judicious mix of financing, regulation, monitoring and implementation. The State wants to withdraw from its historically contemplated role of a provider of public services and assume the role of a facilitator of these services. This has resulted in weak lower tier public health institutions and consequently a huge pressure on specialty hospitals and institutes of research in the urban areas. The urban masses who cannot afford the long waiting time in public institutions opt for the private providers who operate on a for-profit basis. Many of the private hospitals in urban areas are built on land acquired at a concessional rate from the Government on condition that a certain proportion of beds should be made available free of cost to the poor. However these institutions have been flouting these conditions.

The best way forward would be to invest significant financial and human resources in the ailing public health sector. A well functioning public health system that provides preventive as well as curative health care can reduce the direct and indirect costs of illness. The unchecked growth of the commercial private sector must be restrained through strict observance of standard guidelines for medical and surgical intervention and use of diagnostics and standard fee structure. In view of the variation in treatment seeking behaviour of the urban populace, support should be provided to traditional systems of medication too so that they can emerge as a low cost but equally effective alternatives. In other words, from a policy perspective, the

reasons for impoverishment or entry into poverty must be addressed.

This paper argues that morbidity and its treatment are key events that affect household economic solvency in the short run and can create impoverishment and indebtedness in the longer run for the slum dwellers. In the context of estimating poverty, this paper provides evidence to argue that policy makers must explicitly raise existing poverty lines based on adequate “norm based” expenditure required for meeting the direct and indirect costs of health shocks and their aftermath. This would enable more accurate estimation of the extent of multi-dimensional deprivation and poverty as well as create the foundation for allocating resources to enable access to health care for the deprived. The State is committed to providing essential health care service to people below poverty line based on their need and not on their ability to pay for the services. Hence, there is a need for priority provision of substantial government resources for the health sector.

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