India Studies in Business and Economics

Moneer Alam

Paying Out-of-Pocket for Drugs, Diagnostics and Medical Services

A Study of Households in Three Indian States

Springer

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A Study of Households in Three Indian States

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Affectionately dedicated to my wife,
Shahida Moneer

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New Delhi, India Moneer Alam

Contents

Abbreviations

APL	Above poverty line
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
BoD	Burden of diseases
BE	Budget estimates
BPL	Below poverty line
CHC	Community health centre
CPI	Consumer price index
CSS	Circular systematic sampling
CV	Coefficient of variation
DALYs	Disability-adjusted loss of years
DPCO	Drug Price Control Order
HDI	Human Development Index
IMR	Infant mortality rate
IPL	Intellectual Property Law
MBP	Market-based pricing
MDGs	Millennium Development Goals
MMR	Maternal mortality rate
MoHFW	Ministry of Health and Family Welfare
MPO	Mean positive overshoot
NCMH	National Commission on Macroeconomics and Health
NFHS	National Family Health Survey
NHP	National Health Policy
NLEM	National List of Essential Medicines
NPPP	National Pharmaceutical Pricing Policy
NREGA	National Rural Employment Guarantee Act
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organisation
OBC	Other backward caste
OOP	Out-of-pocket

ORS	Oral rehydration salt
PCMCE	Per capita monthly consumption expenditure
PG	Poverty gap
PHC	Primary health centre
PSU	Primary sampling unit
RBI	Reserve Bank of India
RE	Revised estimate
RKS	Rogi Kalyan Samiti
RSBY	Rashtriya Swasthya Bima Yojana
SC	Scheduled caste
ST	Scheduled tribe
SRS	Sample registration system
TRIPS	Trade-Related Aspects of Intellectual Property Rights
WPI	Wholesale Price Index
WHO	World Health Organization
WTO	World Trade Organization

List of Figures

List of Tables

List of Appendix Tables

About the Author

Moneer Alam has a Ph.D. in manpower planning and forecasting, is a professor of economics and the head of the Population Research Centre at the Institute of Economic Growth, Delhi. Professor Alam's research interests are the linkages between occupation and education, labour market issues, health financing and the economic and health issues of ageing in India and South Asia. He has published many books and a number of articles in peer-reviewed national and international journals. He consults with multilateral organisations (WHO, ILO, UNFPA) and serves on committees, boards and working groups (the Senior Citizens' Council, the Government of Delhi; the Committee on Social Security; the Committee on Health-Care Financing including Health Insurance; the Planning Commission; the Eleventh Five-Year Plan; and the Scientific Committee on Ageing in Developing Countries, IUSSP). He is a founder–member of the Asian Population Association and a life member of the Indian Econometric Society, the Indian Labour Economics Society and the Indian Association for the Study of Population.

Overview

Plagued by high morbidity and mortality, malnutrition, low standards of public health, short life expectancy and poor access to health-care services, the situation of an average person is dire. Despite a series of policy initiatives over the past decades and many attempts at various levels to build a healthy society on certain norms of equity and efficiency, health remains an issue of critical, increasing concern, with growing recognition that the country suffers because of an unacceptably high burden of diseases, premature deaths and public apathy. The Government of India constituted the National Commission on Macroeconomics and Health (NCMH) in March 2004; its report, made available in August 2005, highlighted this concern.[1]

[1] Addressing a joint parliamentary session on 4 June 2009, then President of India Pratibha Patil committed that the Ministry of Health, Government of India, will publish an Annual Report to the People on Health. So far, the Ministry has published two reports—one in September 2010 and the other in December 2011. These are two of the more recent attempts by the government to bring out the details of the health situation in the country. But neither report focuses largely on outcomes; instead, they underline various programmatic inputs and actions taken earlier by the government and presented details regarding (i) trends in health conditions of men, women and children; (ii) various health-care interventions by the government including National Rural Health Mission (NRHM); and (iii) a few of their achievements. The reports highlight improvements in several programmatic areas and health domains, including in key demographic parameters, and reduction in certain communicable and non-communicable diseases due to public intervention. The reports also detail the lack of various health-care infrastructure, especially the inadequacy of the financial resources provided to the health sector by governments and the shortage in medical and paramedical skills in the country. The discussion in this report on OOP health expenditure strongly backs our arguments, suggesting that drugs and medicines constitute the bulk of household expenditure on medical care. Similarly, a yearly Annual Health Survey (AHS) was also initiated since 2010–2011 on the recommendation of the National Commission on Population, Planning Commission and the Prime Minister Office to provide information on core vital and reproductive health indicators from nine demographically backward states including Uttarakhand, Rajasthan, Uttar Pradesh, Bihar, Assam, Jharkhand, Madhya Pradesh, Chhattisgarh and Orissa. The indicators covered in the survey are crude birth rate, crude death rate, infant mortality rate, neonatal mortality rate, under-five mortality rate, maternal mortality ratio, sex ratio at birth, sex ratio at 0–4 years and sex ratio at all ages.

The NCMH report drew upon inferences based on recent health surveys and is among the few public documents that agree that private out-of-pocket (OOP) health expenditure often pushes low-income households to face a catastrophe, forces many of them below the poverty line and often blocks intergenerational (young to old) flows, severely affecting family members including the co-residing old, especially women.

Health Situation

As poverty is still persistent in most rural areas and urban slums, reliance on private health providers is fraught with serious economic consequences, especially for low-income households engaged in the informal economy. There is now a realisation that the health situation in India is entrenched in widespread poverty, malnutrition and enormous disparities in almost every sphere of human life, particularly in rural areas where the per capita monthly consumption expenditure (PCMCE) is alarmingly low. Disease prevalence is in many cases large among low-income rural and urban households. The market plays an increasing role in delivering health and diagnostic services; consequently, health-care seekers incur very high OOP expenditure. Health services provided by the central, state and local governments face infrastructural bottlenecks that extend beyond physical or financial resources to cover all aspects of hospital administration, including large-scale deployment of doctors to non-clinical services, which forces public service users to avail private medical services and incur OOP expenses. All these issues are in direct contradiction of the tenets of the two most significant national policy documents—the National Population Policy (2000) and the National Health Policy (2002).

While recent studies have highlighted many physical, financial and manpower-related anomalies in Indian public health facilities, they have almost entirely neglected the effect on low-income households, particularly in backward districts of poor states, and the nature of households and the income level of those trapped in poverty or those who experience catastrophe as a result of losses suffered due to expenditure on various health-care services and components—especially drugs and medicines—in poverty-ridden rural and urban areas and sprawling slums.

The study that forms the basis of this book was conducted during March 2008 to June 2009 and used data from a uniformly designed household survey in selected districts of Uttar Pradesh (UP), Rajasthan and Delhi to highlight some of these neglected issues, and focuses largely on private expenditure on purchase of drugs and medicines for treatment of ailments both with and without hospitalisation.

In addition to very high coverage of sample units (census enumeration blocks in urban areas and villages in rural areas), another important feature of the survey is that it provides over time changes in core vital and reproductive health indicators.

None of these reports are however relevant for the analysis presented in this study.

Objectives

The study examined private household OOP expenditure after decomposition by various components of medical services, including drugs, diagnostics, consultations and other miscellaneous expenses. Attempts have also been made to assess the extent of household borrowings to finance medical expenditure and the effect on the basic food and nonfood requirements of their young and old.

The study focused on the following specific issues:

1. An analysis of the patterns of treatment of short (past 30 days) and long (past 365 days) duration morbidity under different socio-economic and ethnic settings. A part of the analysis was of the role of health expenditure in pushing households below the poverty line to face catastrophe—amounting to a significant decline in overall welfare of households and their nonfood consumption expenditure. There was also a concern with regard to the prevalence, intensity and causal risk factors associated with catastrophic health spending of households.
2. An assessment of the total and disaggregated expenditure incurred in the treatment of short- and long-duration ailments and the sources used to generate the requisite finances, including savings, asset liquidation, borrowing from moneylenders and assistance drawn from informal support networks.
3. A review of expenditure on the purchase of medical drugs (including life-saving drugs and general medicines) as a proportion of the total health budget for the treatment of short-duration ailments (without hospitalisation) and long-duration ailments (with hospitalisation). This analysis was conducted to derive a host of policy options required to reduce OOP health spending by households and its size. If drug expenses constitute the bulk of private (and often catastrophic) health spending, the government has to become more vigilant in terms of its drug pricing policy and TRIPS negotiations (including TRIPS Plus) by taking peoples' concern and implications of out-of-pocket expenditure on drugs into consideration. Overprescription of medicines and other malpractices may also need attention through advocacy or enforcement of law with tools necessary to eliminate such practices.
4. Resources mobilised by households to meet medical expenses, especially those on drugs, medicines and other services.
5. The contribution of the National Rural Health Mission 2005 (NRHM) in protecting poor households in rural areas from the adverse economic consequences of illness.

Study Area and Sample Design

This study was conducted in UP and Rajasthan, chosen because of their poverty and relatively weak demographic status. The capital city of Delhi was included to complete the regional configuration and examine the issues faced especially by slum

households and due to its wider representation of population from different parts of the country. The districts were chosen on the basis of poverty measurements derived by the Ministry of Rural Development through its 2002 survey to identify below-poverty-line (BPL) households. The circular systematic sampling procedure was adopted.

A multistage sampling procedure was adopted to collect field data from a predetermined sample size of 2,010 households—1,250 rural and 400 urban households in UP and Rajasthan. In addition, a total of 360 households were surveyed in Delhi—102 from slums and the remaining 258 from non-slums. The households were the primary sampling unit (PSU) in the study.

Survey Questionnaire

A comprehensive, structured and multipart questionnaire was used. From beginning to end, the entire protocol was divided into 14 different parts and 5 major groups of information. These include:

- Socio-economic details of the households and their members, including their three broad social categorisations (scheduled caste (SC), scheduled tribe (ST) and upper castes), age–sex profiles, relationship with the head of the household (usually the basic point of consultation), educational attainment, work status, residential characteristics (rural–urban), housing conditions, access to public health facilities, road links with the primary health centres, possession of consumer durables and landholdings for agricultural purposes (both arable and fallow).
- Households' access to selected government-run health and non-health facilities. Some questions included in this part of the questionnaire explore households' experience of any improvement in service delivery since the inception of the NRHM.
- Household food and nonfood consumption expenditure was collected on the basis of dual reference periods—past 30 days and past 1 year—as is usually followed by the National Sample Survey Organisation (NSSO). Attempts have also been made to examine the debt incidence among sample households, type of moneylenders they borrowed from and the purpose of borrowing differentiated by events such as health, education, investment and major consumption requirements including marriage. All this information was used to examine the poverty status of households and the prevalence of health catastrophe suffered.
- Disease episodes, both with and without hospitalisation, utilisation of public/private health facilities, choice of health providers and other related details including itemised health-care expenditure and share of money spent on medicines and diagnostics.
- Last few sections of the survey protocol were devoted to understand the views of households on measures required to improve the delivery of health-care services in the country by public bodies. These households were also asked for their views on the introduction of a universal and low-premium health insurance system and their participation in such a scheme.

Socio-economic and Demographic Profile of Households

There are more men than women in many sample households in all four districts in UP and Rajasthan. The slum households of Delhi are the only exception—women constitute over 52 % of the sample. These results might seem somewhat arbitrary in a situation of growing male migration. Hindus dominate the overall distribution of the sample population, followed by Muslims; Sikhs are visible only in Delhi.

In terms of social groups, the sample represents the low and backward castes (SC and OBC) fairly well; the former is over a fifth (22.6 %) of the total sample, while the latter is nearly double that (38.7 %). Higher-caste representation is relatively small. As a whole, the higher castes constitute around a fourth of the total sample.

Often considered highly traditional, UP and Rajasthan are becoming dominantly nuclear; families comprise parents and dependent children. UP appears more nuclear than Rajasthan; the average size of sample households is between five and six, with the lowest relating to the non-slum urban households in Delhi. The share of female-headed households is also relatively higher in Delhi, though a large majority of them come from loner (one-person) households.

Socio-economic Characteristics of Sample Population

The age distribution of the sample population in all the districts reinforces the pattern observed in most of the country where a very high share of population is in the 15–59 years age group. This implies a growing pressure of jobseekers in coming years on the labour market and its clearance mechanism. The higher proportion of this age group in the population in all the four urban locations also indicates a considerable degree of migration of working age rural people to cities with a baggage of their past and may act to cause growing demand for health-care services in coming years.

The educational distribution of the sample population in all the four districts of UP and Rajasthan turns out to be poor. The same is true for the slum households in Delhi. It underscores the general perception that a large percentage of people in smaller towns and low-income residential areas of places like Delhi are still illiterate or semi-literate; their educational attainments are inadequate to prevent poor health and poverty. Around a third of the total sample population (30–36 %) in most of these places was illiterate; illiteracy was highest among slum residents in Delhi. Another 50 % of them had not studied until Class 10; a large fraction had studied up to the primary level or even less. Only about 5 % of the total respondents held a degree from higher educational institutions. A very small fraction of respondents had a professional degree or diploma. The gender gap in education is considerably high. The usual rural–urban divide in educational status is clearly visible in our sample.

A little less than a third of the sample population is economically active; the gender differential is considerable. The share of working women is under 13 % of their total reported population except in Dungarpur, Rajasthan, where almost a

quarter of the women engage in some economic activity. Unlike gender, the place of residence does not apparently play a significant role in economic engagement. There are not many major differences in the activity status of rural and urban households from different districts/tehsils. Barring Dungarpur, where differentials in activity status between rural and urban areas are considerably large, there is no similar example in any other place covered in the study. In all other cases, the observed differentials remain marginal. This is true for the slums and non-slums in Delhi as well; the highest fraction of 'working' people belonged to the ST category over 35 % reported being economically active. The remaining three (in particular SC and OBC) were considerably behind, and the size of their working males and females was near 30–31 % of their respective populations.

About three-quarters (74.2 %) of working males have reported themselves as the main workers—implying they had paid employment for about 186 days or more during most of the preceding 12 months. The rest 25.8 % have however failed to meet this criterion and remained unemployed for a greater part of the year. They were, therefore, considered as marginal workers. Women, as usual, suffered from double jeopardy—only a fewer of them were economically active, and those active were largely in low-quality unskilled employment. A considerably large fraction of the unskilled employment created under the National Rural Employment Guarantee Act (NREGA, September 2005) to improve livelihood conditions of rural households has seemingly gone to women, especially in both the districts of Rajasthan—Dungarpur and Dausa. In addition to women, many of those engaged in lower-category employment invariably comprise persons from the lower echelons of the caste hierarchy including the scheduled caste (SC), scheduled tribe (ST) and other backward castes (OBC).

One of the most significant factors responsible for keeping a big majority of the younger population out of the workforce is their participation in educational activities. It turns out to be the case in all the districts including slums and non-slums. Also, this gap exists irrespective of the places under study and includes even households from the non-slum areas of Delhi. Another dominant reason for not being able to work is unemployment, especially among the people of Unnao in UP and the slums of Delhi. A significant proportion of people at both the places do not work for lack of employment. A more disturbing factor is the noticeable share of non-school-going children in almost every district and slum. While a large majority of those children (i.e. over three-quarters) were too young and under 4 years of age, almost a fifth of them were grown up and in higher ages as well. Those adding to the size of nonworking household population also include a fraction of persons comprising the mentally or physically challenged. A small number of persons have also reported to withdraw from active workforce because of post-sickness frailty or senescence. Males in most of these cases outnumber females, perhaps partly on account of reporting biases. Dausa in Rajasthan reports more such cases than UP or Delhi.

Quality of Life

The analysis brings out very clearly the poor economic background of most households in the sample. It indicates that a large majority of the respondents lived in poor environment, most of them residing in non-bricked (*kutcha*) dwellings without access to many of the basic amenities like better (smoke-free) cooking fuels, drainage system, toilet facilities and scavenging. The situation is far worse among the rural residents where almost nine out of ten houses are non-bricked and their residents survive without an in-house toilet or scavenging facility. These and most other facts clearly raise many big questions about the health prospects of rural people who are apparently torn between two basic issues—one being a more or less complete lack of preventive mechanism like drainage, regular scavenging, pit/flush toilets and smoke-free cooking fuels and the other arises from a lack of concern among health officials about the need for nonreproductive health-care services, leaving a big fraction of rural households in the clutches of private health-care providers. The former, i.e. lack of preventive mechanism, is also an issue that needs to be examined by keeping in mind the financial status of urban and rural bodies that are largely responsible for disease prevention services such as scavenging, waste disposal and creation of an all-weather drainage system. As most of the local governments/bodies are generally constrained because of poor governance and suffer from inadequate finances (partly because of their inelastic tax revenues), they usually remain non-functional in terms of services required to prevent many non-lifestyle-related diseases.

Urban areas, as expected, remain considerably better and are able to offer many of the basic facilities to a much bigger fraction of the sample population. And yet many respondents reported poor housing conditions and lack of civic services like chocked drainage and infrequent scavenging. There are inequalities in access to many of these facilities across socioreligious groups as well.

Barring to some extent in Delhi, house ownership in most places is either through inheritance or built and owned by the household head. Both the patterns jointly account for more than three-quarters of house ownerships in the sample. Inherited houses are found to be highest in UP (67.5 %), followed by Rajasthan (57.2 %). Delhi, in contrast, stands lowest on this criterion (merely 25.8 %). However, the percentage of houses owned by the family head is considerably large in Delhi. This is particularly true for slum dwellers (73.5 %). An inference that emerges—house ownership is decisive in holding the family reins—holds true for different social groups as well.

Distribution of sample households by size of landholding presents a worrisome picture. Even if we ignore Delhi, for obvious reasons, in the remaining two states that depend considerably on agriculture, almost half the rural households in both the states either are landless or own less than an acre of land. The fraction of households with a landholding size of over five acres is amazingly low in both the states—a little over 10 % in UP and over 4 % in Rajasthan.

While the slant in favour of relatively poor districts and households in our sample may have pulled some of our results down, these results may cause the concerned

departments some alarm and perhaps generate greater realisation about the health risks of people in these districts and their necessary health delivery infrastructure. Simply, a programme with much of its focus remaining directed to reproductive and (certain domains of) child health may not suffice. The situation does not improve if we look at the land ownership status of the upper-caste households in the sample—about two-thirds are landless, which is even worse than the other lower-caste categories. They are nevertheless slightly better when it comes to bigger landholdings; a little over 5 % of the total upper-caste households owned more than 10 acres of land. Conforming to the general perception, Muslims are found way behind the Hindus—more of them are landless and their landholdings are also relatively smaller.

Fewer of the population own a telephone connection than a bank account—the two quality-of-life services. Considering the growing penetration of mobile phone services in most of the country, including UP and Rajasthan, our results may not be accepted at their face value. A possible explanation of this underestimation may be found in certain confusion among survey teams between landline and mobile telephone connections. Disregarding this, the bank account data seems interesting, as it indicates that a good number of people in most areas, particularly in Delhi and Rajasthan, own a bank account. Muslims and rural UP and ST households are exceptions. Non-slum Delhi, where 86 % of the total respondents own a bank account, is far ahead of many other areas.

Consumption Level, Poverty and Inequalities Among Sample Households

The analysis reveals a large-scale poverty situation in the two districts of UP (Unnao and Jhansi) with 50 % of their sample households reporting a total of Rs. 500 or less as their total PCMCE including food, nonfood and health care. Even allowing for some margin of error in data, the fact that a large number of people in the state survive at Rs. 17 a day or less is scary. Rajasthan (Dausa and Dungarpur), though in a slightly better situation with a lesser fraction of people at Rs. 500 (or Rs. 17 a day) consumption band, also suffers from an equally alarming poverty situation. Another interesting point to notice in both of these states is the fact that almost 90 % of their households belong to the first two PCMCE categories. Delhi turns out to be considerably better than both of them. The rest of the estimates are mostly along expected lines, with the share of households in the lowest per capita consumption category being highest both in slums and in rural areas. This is true for tribal and low-caste households as well, and Muslims trail behind Hindus, as expected.

Besides low PCMCE, many households also suffer from serious inequality issues. There are considerable disparities between the minimum and the maximum consumption levels of households or their mean consumption levels in all the three states under reference. The max–min differences are found highest in Delhi.

Analysis suggests UP and its two districts (Unnao and Jhansi) are in a more distressing situation, with larger shares of households falling below the poverty

threshold level. This pattern is, however, true for rural UP alone. Urban UP and its districts have performed relatively better. They also perform better than Delhi slums. An interesting observation relates to a significant increase in the fraction of below-poverty households after netting out the health expenses. This is very clearly visible by comparing the two head count poverty levels—with and without expenses on medical care. The most visible effect of private spending on health may be found in rural and slum areas, where health services are scantier. While a certain marginal increase may be noticed in the fraction of poor after health-care expenses are deducted from the total PCMCE in most urban places, their magnitude is far less than those in villages and low-income slum areas. Even after so many years of NRHM, which had 7 years of life since its inception in 2005, rural health care is seen to hold a much significant place in cross movement of a big proportion of rural people from poverty to non-poverty and vice versa.

The measurements of poverty gap (PG) clearly reveal the negative impact of health spending on consumption standards of individuals and households. It also acts to drive low-income people deeper into poverty and may cause an added financial burden in lifting them above poverty level. Conforming to some of our earlier results, we observe rural parts of UP at a more disadvantageous position, though urban Rajasthan is no less problematic. Similarly, the tribal households are also in a difficult situation and health spending makes them suffer with greater PGs.

Health spending, which appears to constitute in many cases a much larger share of nonfood consumption expenditure, makes the situation worse. After dropping health spending from the consumption basket, a big fraction of households are left with deeper PGs. The situation compounds when the results are restricted to the poor households alone. Also, unlike the general perception, a slight modification in definition and composition of the consumption basket makes urban population—in particular its poor and tribal segments—look highly vulnerable. As a whole, two broad observations follow from most of the results. One, out-of-pocket (OOP) health spending remains a serious issue for a large number of people in both the states and also for the slum households in Delhi. Second, the poor remain highly vulnerable after they pay for their accessed health-care services themselves. What component (or components) of health spending brings greater vulnerability to the people is indeed a significant question.

A clear message emanating from the Lorenz curves and a series of Gini coefficients computed with or without OOP spending on health is that the consumption and health inequalities are severe at most places under study. All the Lorenz curves show steep gaps between the diagonal line of 45° and the area under the curve. At worst are the health inequalities, implying a group of households without any health-care expenditure. But there is perhaps nothing very surprising in these results. Based on the consumption expenditure survey for 2004–2005, almost a similar trend and loss of well-being was reported by the NSSO in its Report Number 508 (December 2006). If some of our results are a little different from that of the NSSO (2006), it may be largely because of certain minor technical differences or lack of conformity between the two samples.

Our results suggest fewer disparities in per capita consumption of nonfood items. However, there are disparities in mean expenditure on health care. Barring to a certain extent in Delhi, health inequalities are strikingly higher in most places, particularly in areas of UP. These results show that health care is accessed quite unevenly in most places, with almost no or negligible spending on health care by a group of people in both the states and slum dwellers of Delhi. It also works to generate a significant amount of inequalities in the total PCMCE.

Borrowings for Health Reasons: Prevalence and Sources

The analysis of data on the share of indebted households in our sample indicates that most rural households (52.4 %) are under cash debt in the villages of UP and Rajasthan. Urban households with cash debt obligations are, however, much lower in size, little over a quarter (26.7 %) of the total sample. Jhansi in UP and Dausa in Rajasthan in our sample are the most indebted areas—the latter shows the highest incidence of borrowings among the urban households, and the former counts highest in terms of rural indebtedness. Tribal households are the least indebted among the four social groups in rural areas for whatever reason. Of the remaining three, more than 50 % of each group has reported to be under debt at the time of the survey. Even the upper castes are no exception. Hindus and Muslims do conform closely to each other at least on this count.

Two broad reasons have been offered by the responding households to secure loans—medical and non-medical; the latter combines all categories of loans, including for consumption and for financing productive needs. With the exception of urban Dungarpur (Rajasthan), medical loans are quite prevalent in most areas under study. More than a quarter of indebted households in urban areas—and a little over 19 % in rural areas—have reportedly been driven to debt because of medical exigencies. Does it mean that public health-care facilities in urban areas are insufficient or that urban households can access loans more easily? While a categorical answer may not be possible based on the data available to us, these are indeed significant issues and need to be examined separately in all requisite detail.

Tribal and Muslim households are also ahead in loan borrowing in their respective categories. The role of private money lending appears to be especially large in rural areas where informal family sources appear to work less effectively, perhaps due to widespread poverty and cash flow constraints. A big majority of rural households had borrowed from private moneylenders. Interestingly, almost 52 % of urban households had to borrow from local moneylenders despite a growing emphasis in public pronouncements to improve medical care through involvement of remodelled watchdogs like Rogi Kalyan Samitis (RKSs).

The role of private moneylenders in medical borrowing is considerably high in most areas and population groups in question and indicates a very urgent need for an institutional mechanism to finance the health-care needs of low-income households. Apparently, antipoverty measures may not work to their real potential unless

health services are scaled up to a considerable extent in every domain, disease occurrence is minimised, and the health-care system is brought to bear the needs of persons forced to borrow from private moneylenders.

The analysis of data about loan repayment status of households, under both medical and non-medical debt, indicates that the number of households deficient in capabilities to initiate loan repayment process is disturbingly large across all the categories of responding households. This has been particularly true for most rural households in both the districts of UP and among the slum dwellers in Delhi. Muslims and most social groups including upper-caste categories also fall in this category. Rural–urban differentials in loan repayment reveal that many among rural households and most other economically backward households may not be able to initiate the loan repayment process immediately—a moratorium may be required, which may not be possible. How far micro-credit institutions could lend support under these circumstances has to be considered. In addition, whether the micro-credit institutions can lend small amounts to meet medical contingencies also needs detailed examination.

Differentials in Health-Care Utilisation

There is a significantly large share of women utilising hospitalised treatment. It is true for nonhospitalised care as well. The reasons for an excess of health-care access by women over men in this analysis are however not very difficult to identify. Our sample is inclusive of women in child-bearing ages as well, and the overall hospitalisation cases are based on all forms of ailments including pre- or postnatal care, delivery and gynaecological–obstetric problems with most other normal health-related issues and injuries. The same explanation holds for nonhospitalised cases as well. This point is reiterated further by a perusal of the distribution of women accessing health care (both hospitalised and nonhospitalised) across five broad age categories: 0–4, 5–14, 15–39, 40–49 and 60 or above. We notice from this distribution that the share of women in the 15–39 age group—normally considered as prime years in the reproductive life span of women—is highest, followed by those in the 5–14 and 40–59 age groups.

The survey results reveal that the utilisation of health-care services by below-poverty-line (BPL) households—with or without hospitalisation—is considerably less than the above-poverty-line (APL) or nonpoor households. However, the correctness of these findings may be compromised because of limitation in self-reported morbidity by poor, illiterate and less informed households. It simply underscores the general observation of positive links between economic status and a better sense of suffering or ill health, leading to a better reporting of ailments and utilisation of in- or outpatient health-care services.

Gender-wise differences in hospitalisation are considerably large in both the districts of Rajasthan. The highest rate of women's hospitalisation may, however, be noticed in Delhi slums. The non-slum women too are in good numbers though they

lagged behind their slum counterparts to a good extent. A possible inference may, therefore, be made that women at most of the places have begun to use institutional services for different reasons and their numbers may grow further with time, though such evidence is relatively weak in both the places of UP. Muslims and tribal women are also somewhat lagging.

A men–women comparison of health-care utilisation across comparable age brackets reconfirms the male bias, at least in early ages. The situation turns in favour of women in the 15–39 ages with higher child-bearing potential. Women in the 60+ age group are also prone to more hospitalisation than men. However, a generalisation of these results may need further evidence based on larger sample size from most other states of the country. Unfortunately, a study of this magnitude is apparently nonexistent.

The nonpoor utilise hospital care in greater proportions than the poor. But this is not decisively so in outpatient care; the poor outnumber the nonpoor in accessing physicians' care in certain areas. This may particularly be noticed in Rajasthan. In UP, however, the nonpoor appear to have greater access to nonhospitalised care as well and contribute to the general thinking that medical care and economic status go side by side.

As a whole, our results confirm the existing notion of gender bias in health-care utilisation, with females, in general, at a disadvantage. However, if disaggregated over different age spans, our results indicate that younger women in their prime child-bearing ages have accessed health care in higher percentages than their male counterparts. This is indeed interesting and needs to be re-examined with a bigger sample size and more focused survey instruments probing causes of health-care utilisation.

The issues relating to the access of health care by the poor and the nonpoor turned out to be more straightforward and on expected lines. It may be noticed from our results that the poor lag considerably behind the nonpoor in reported utilisation of health services—both in- and outpatient care. Similar results have been obtained in most of the literature on rich–poor differentials in consumption of health services, particularly in India and its neighbouring South Asian countries where public delivery of health care is both inadequate and inefficient.

Health-Care Utilisation and Disease Prevalence

Gender-wise differentials indicate a significantly large share of women in utilisation of hospitalised treatment. It happens almost across the board and is true, more or less, for nonhospitalised care as well. The reason for an excess of health care accessed by women is the fact that more women in child-bearing ages utilise health-care facilities for pre- or postnatal care, delivery and gynaecological/obstetric problems along with most other normal health-related issues and injuries. The same explanation holds for the nonhospitalised cases as well.

This point was further reiterated by a study of age distribution of women accessing health care (both hospitalised and nonhospitalised). We notice that the share of women in the 15–39 age group—normally considered prime years in the reproductive life span of women—is highest, followed by those in the 5–14 and 40–59 age groups. Gender-wise differences in hospitalisation are considerably large in both the districts of Rajasthan (2.8 for men and 3.2 for women in Dausa and 2.6 for men and 4.9 for women in Dungarpur). The highest rate of women hospitalisation may however be noticed in Delhi slums where it turns out to be 5.7 %. The non-slum women too are in good numbers, though they lag behind their slum counterparts. An inference is that women at most of the places have begun to use institutional services for different reasons and their number may grow further with time, though such an evidence is relatively weak in both the districts of UP.

Muslims and tribal women also somewhat lag behind. Health-care utilisation among males is comparatively higher in early ages. The situation turns in favour of women in the 15–39 age groups, who are of child-bearing age. Women in the 60+ age group are also prone to more hospitalisation than men. However, a generalisation of these results may need further evidence based on larger sample size. It may be noticed from the results that the fraction of BPL households reporting utilisation of health-care services—with or without hospitalisation—is considerably less than the nonpoor (APL).

Spending on Health Care

Examining the size of health-care expenditure by households in relation to their (i) total consumption budget comprising market goods and services and (ii) nonfood consumption expenditure, our results fail to compare with a few of the earlier studies suggesting an average of about 5 % of the total consumption budget (and 10 % of the nonfood consumption budget) on OOP health care in India. Our data indicate considerably higher OOP expenditure on medical bills in all the three states and their selected villages or towns. Also, this lack of comparison continues in relation to both the total and nonfood consumption budgets. This may partly be due to low-economic conditions of a large number of our sample households.

The mean OOP share of rural households is considerably large. Further, it exceeds the urban share as well. The mean OOP expenditure is, for example, 14–15 % of the total budget among rural households and 10.5–11 % in urban areas. People from slums have on average spent a much larger share of their consumption budget than those from the non-slums (14 % by the slum residents compared to only 9 % by those from non-slums). It strongly suggests a regressive nature of spending if we could assume that all the non-slum households are essentially more affluent. This also reflects a significant departure from the existing body of evidence that suggests that the poor pay less than the nonpoor.

We are nevertheless closer to the existing literature if we compare the mean OOP spending of households by consumption quintiles. While the magnitude of spending

remains large, the OOP shares of the rich and the poor differ significantly with the highest quintile (or top 20 % of households according to their PCMCE) spending almost a quarter of their total consumption budget on health. In contrast, the same for the bottom 20 % is about 10–12 % in rural and urban areas. The progressivism, as argued in the literature, is therefore maintained.

OOP differentials among four social (SC, ST, OBC and upper castes) and two religious groups—Hindus and Muslims—reveal that lower-caste communities incur a much higher OOP payment than their upper-caste counterparts. In terms of religion, the differentials are marginal, i.e. less than a percentage point (i.e. 13.5 % of the total consumption expenditure by the Hindus, while 12.3 % for Muslims). The progressivism among five consumption quintiles has also been maintained.

A very high variation around the mean OOP has been observed. At almost every quintile level or socioreligious grouping, the coefficient of variation is more than 100 %, which tends to indicate extreme values at almost every level, quintile or social group. It also suggests that there are households in each category with negligible spending on health services—inpatient or ambulatory.

The differences between the two sets of results—our own and those in the literature cited above—raise an interesting question: Do studies based on macro-data, often regarded as more policy friendly, really provide the realities faced by impoverished households from poor districts or geographical locations? In all fairness, perhaps both have their own merits and ought to be supplemented by each other.

With the mean of OOP expenditure being very high in relation to the total consumption expenditure, the same relation can easily be guessed for nonfood consumption expenditure. It touches around 30 % of the total in rural areas and 20 % in urban areas. In other words, the mean of OOP in relation to nonfood expenditure is likely to be double the total consumption expenditure. The rest of the results follow exactly the pattern exhibited above and, therefore, bear a similar explanation.

Catastrophic Health Expenditure by Households

Using multiple threshold levels for both the catastrophes—the total consumption budget (catastrophe 1) and nonfood consumption budget (catastrophe 2)—the results clearly indicate that an overwhelming share of sample households have been facing a serious catastrophic situation because of high OOP expenses on health. At the lowest threshold level (i.e. health budget is over 5 % of the total consumption expenditure), over 67 % of rural households and 51 % of urban households exceed this limit. The same at the 10 % threshold level, which is generally considered catastrophic health spending by most analysts, turns out to be 49.5 % in rural areas and 32 % in urban areas. Furthermore, our results indicate that almost a fifth (18.5 %) of the rural households and over a tenth (11.6 %) of urban households spend more than a quarter of their total consumption budget on health care. It reflects the inadequacy of health-care services provided by the government in rural areas. Lower-caste people, particularly the SC communities, are also in a quandary

for the same reason. Curiously, the share of Muslim households incurring catastrophic spending on health is marginally lower than the Hindus. How far does this happen? Is it because of their insensitivity towards poor health or because they lack access to health care? It could not, however, be judged on the basis of these results. Delhi slum residents are insulated to some extent because of better health-care infrastructure in and around the capital city, and, as a result, a lower fraction of them are found incurring catastrophic payments. Deviations around the mean are relatively smaller at the higher threshold levels and vice versa.

Catastrophe head count 2, computed on the basis of non-sustenance (nonfood) budgets of sample households, repeats the same grim reality and further reiterates that the rural households are worst affected due to inadequate government health-care infrastructure. The lower-caste SC households are at their worst. Very big percentages are shown to be incurring catastrophic payments, causing them to suffer from serious and highly disproportionate loss of well-being. Interestingly, the study areas chosen from both the major states (UP and Rajasthan) are mutually close to each other in terms of their population shares facing consumption catastrophe due to private health payments.

One of the more alarming observations stemming from the preceding results is that a considerably large fraction of households spend over 60 % of their nonfood budget on medical care. Can these households come out of this morass created by their OOP payments? It is indeed a serious issue and warrants contemplating immediate remedial action by policy institutions like the Planning Commission. It also requires enhancing existing health-care infrastructure, particularly in villages and low-income areas of UP and Rajasthan. Our results also indicate very high variation around the mean values.

Intensity of Catastrophic Payments: MPOs

Defined as the amount of excess payments (or overshoot) by which households exceed catastrophic threshold, the analysis suggests that those paying over 5 % of the total consumption expenditure on health care spent 20.6 % on an average (i.e. 5 % threshold level + 15.6 % overshoot). Similarly, those at threshold level of 15 % of nonfood budget actually spent 43 % (15 % + 28 %), which is indeed appalling. Interestingly, the mean overshoots turn out to be considerably large in most of the cases, irrespective of their residential pattern. This is true for households in non-slum areas of Delhi as well. While there are indications that the rural and slum households are exceeding their threshold limits considerably at a few specific values (e.g. at 15 and 25 % of nonfood budget shares and 25 % at the level of the total consumption expenditure), there is however no specific pattern to suggest a clear differential across households drawn from various states and socioreligious categories. Coefficients of variation indicate large intra-household variations. It also indicates a good number of households with no or a negligible amount of spending on health.

Drugs and Medical Services in OOP Health Spending: A Decomposition of Households' Medical Budget

The distribution of OOP spending on drugs and other health-care components shows the primacy of drugs in overall health-care budgets. This has been noticed across all the sample households—rural, urban, slum or non-slum—and irrespective of the districts or states they were located in. Our results confirm largely the earlier findings on the subject (Sakthivel 2005) suggesting that more than three-fourths of the money spent on health is invariably going to the allopathic drugs and medicines.

Almost a similar distribution pattern of health budgets is observed across all the study areas with around four-fifths of the total OOP expenditure going to drugs followed by another 5–10 % (depending upon rural–urban and in- or outpatient treatment) of the total expenses going to medical practitioners as their consultation fee. Expenditure on diagnostics remains in most cases between 5 and 7 % of the total budget, and almost an equal amount is devoted to meet other miscellaneous expenses including transportation.

Between the groups of households drawn from UP and Rajasthan, the share of money spent on consultation fee is much higher in the former, particularly in episodes requiring hospitalisation. Relatively, however, their expenses on drugs were much less. Both, however, followed almost a similar expenditure pattern in cases where hospitalisation was not required.

Moving to the OOP distribution for slum and non-slum households in Delhi, the former are almost at a competing edge with the latter in terms of their percentage expenditure on drugs and two major medical services, namely, consultation and diagnostics. Rather, their share of expenditure on consultation fee is relatively higher—2.7 % as against 0.5 % for the non-slum households. Also, they have shown to incur a larger share of expenditure on transportation than the non-slum households.

The results tend to portray certain degrees of equity between the slum and non-slum households in distribution of their health budgets. Two significant questions emerge from these results: (i) Does this equity represent certain peculiarities of Delhi alone or is it a wider phenomenon, and the poor in general encounter similar situation in other places as well, and (ii) is there a safeguard?

While a study comparing out-of-pocket expenditure on health by slum and non-slum populations is not available, a safeguard perhaps lies in pooling the risk and offering a certain form of health insurance mechanism—at least to the poor, if not to all. Another important safeguard derives from lowering inflation in the drug sector, raising the number of essential medicines and pro-poor negotiations in the World Trade Organization (WTO). Particularly, most generic medicines and formulations need protection from strict patenting and royalty laws. This is particularly essential because of a very large share of medicines in overall household health budgets.

Share of Drugs and Non-drugs in Health Expenditure: A Distribution by Consumption Quintiles

Analysis of data reveals that the poorest 20 % seeking outpatient treatment have spent a greater share of their health budget on medicines than any other quintile group. Further, it remains true for all the places covered in the study. The drug share of these households is 80–90 % of the total and remains particularly higher among slum and rural households. All other quintile groups spent a lesser share, although their differences in many cases remained marginal. The poorest groups in certain areas (slums and towns in UP and Rajasthan) spent a larger share of their health budget on medical consultation. The situation is however slightly reversed when it comes to hospitalised treatment. Nevertheless, the differentials are invariably small, and the richest appear to have drawn certain advantages over the lower-quintile groups.

A significant observation is that the poorer quintiles (poorest, next 20 % and middle) are not only spending heavily on drugs and medicines; they also spend a considerable part of their budget on consultation and diagnostics. It may be noticed even in cases of hospitalisation. A possible explanation may be that (i) people do not necessarily rely on public hospitals even if they require hospitalisation and (ii) many diagnostic services in public facilities are on payment basis. Also, doctors in public hospitals moonlight, especially in UP and Rajasthan.

Share of Drugs and Non-drugs in OOP Budget: Catastrophic Households

The results highlight drugs as the single expenditure item with the highest budget share (almost 80 % of the total and even more) followed by diagnostics and medical consultation. It is also interesting to note that in a few cases, the share of expenditure incurred by rural households on transportation is relatively higher than the shares on medical services. In other words, it is an indication of poor access to medical facilities closer to some villages.

Another interesting observation is that the poor and slum dwellers spend in many cases a much larger share of expenditure on drugs and other medical items than the nonpoor. And yet in no way do these results imply that the nonpoor do not spend on health. They largely follow a similar pattern with a maximum of their health budget going to drugs and diagnostics. How far they suffer in terms of their welfare losses due to these payments or to what extent their welfare losses differ with similar losses suffered by the poor may not be conjectured with the help of the data of the present study.

With all the differentials observed across households, a point of major policy concern that emerges from the underlying discussion is: How can the OOP health-care budget be reduced and poor households shielded from high costs of drugs and medical services? Besides risk pooling and universal health insurance coverage, two

other solutions may follow. First is a strict drug control policy coupled with a judicious demand–supply management of pharmacy products and second, an improved health-care delivery mechanism in public hospitals and facilities. A well-designed strategy is required to deploy medical personnel at different medical units, places, hospitals and dispensaries. Currently, physicians and medical personnel are deployed for several non-clinical activities as well. They are in many cases governed by the district administration and pushed regularly to serve politicians or day-to-day political events. All this makes their availability to essential clinical activities or designated hospitals scarce and forces ailing people to rely on private practitioners.

Correlates of Catastrophic Health Spending: A Probit Regression Analysis

Drawing upon the results, which indicate a very high incidence of catastrophic health spending by households in most of our study areas, we tried an econometric exercise based on a probit analysis to examine some of the major risk factors likely to turn into perils of such eventualities. The exercise was designed to highlight the latent characteristic(s) of households that can turn into a catastrophe owing to a certain beyond-a-point spending—in our case, this spending relates to health. To ensure brevity, we have confined our estimations to only catastrophe 1, defined in relation to the total (food and nonfood) consumption expenditure of households. In addition, we have also restricted this exercise to only the lowest ($z=5$ %) and the highest ($z=25$ %) catastrophe thresholds. It may inter alia help us to examine if there are differences in factors related to the probabilities of having lower and higher catastrophic events.

The results indicate the effects of individual variables on the probability of having catastrophic spending by households in events of sickness episodes requiring in- or outpatient care. Among all the variables, the per capita household consumption expenditure, which is generally considered as representing the economic status of the households, turns out to be one of the most significant correlates of catastrophic spending. Although household size does not prove to be significant, the sign of the variable clearly indicates that the probability of making catastrophic payments increases with increase in household size. Households with brick-made *pucca* houses have greater probability of making catastrophic payment at only five per cent threshold level but have strong lower probability of such payments at higher thresholds such as 25 % or more. In general, better living conditions in terms of drinking water and sanitation facilities lead to reduced probability of making catastrophic payments by households.

The socio-economic and religious background of households reflects a mixed picture, with a strong indication that secondary level education leads to lowering the probability of catastrophic payments. Higher worker ratio in households (i.e. lower burden of economic dependency) leads to the lowering of the probability. It may as well be because of some sort of contributions from employers to health expenditure

of households. However, unlike those who do not participate in the MGNREGS, employers of casual workers in social employment programmes such as the MGNREGS do not contribute to social security, and therefore, casual workers run higher risks of making catastrophic payments. Further, the results clearly indicate that households belonging to lower-caste and non-Hindu categories run a higher probability of catastrophic expenditure.

With an increase in the average age of family members, the probability of catastrophic payment increases at the 5 % threshold level but becomes insignificant at higher thresholds. Households with infants and children under 14 years have higher risk of making catastrophic payments at the 5 % threshold, while most of these demographic variables are insignificant at the higher threshold of 25 %. The locational factors such as state and region indicate a comparatively vulnerable situation of households living in the remote and poorer regions or areas. As compared to the non-slum areas of Delhi, households in all other places in our sample show a strong and positive association with probability of falling into catastrophic payments. The relationship becomes even stronger with the higher threshold of 25 %.

Utilisation of Public Health Facilities

The analysis shows a very high dependence of households on private facilities, despite the creation of a vast public-financed health-care infrastructure in most rural and urban areas. Alarmingly, this dependence holds for most rural and low-income areas covered in the study. Moreover, a considerable share of poor population from the lowest quintile also appears to have relied on private providers. Catastrophic households follow a similar pattern. Furthermore, even hospitalised treatment, where the public sector had an edge, is losing its earlier sheen.

The share of private providers is particularly high in UP, where almost three-quarters of both rural and urban health-care seekers have relied on private practitioners for their routine outpatient care. Interestingly, this share has turned out to be relatively smaller in the remaining states with the lowest in Rajasthan followed by Delhi. Nevertheless, nowhere the share of private practitioners in outpatient care drops below 50 %. It would be imperative for all stakeholders, in particular health administrators, to raise the level of health-care utilisation in the public sector.

Contrary to outpatient services, public facilities appear to have a greater role in providing hospital care at most places under reference. The utilisation of government hospitals is invariably higher among tribal, low-caste and low-income people, especially from slums and rural areas. Unfortunately, however, it does not prove to be conclusively so, as quite a large fraction of inpatient care accessed by the people from non-slum and urban areas of Delhi and UP has been delivered by private hospitals and nursing homes. This is true for upper-caste groups in the sample as well. These variations apart, public hospitals not only serve a big fraction of people from different stratums and residential areas; they also serve to regulate the overall functioning of the private providers in more ways than one including offering a tangible substitute to the private facilities.

Distribution by Quintile Groups

A majority of the outpatient care seekers, even from the bottom two consumption quintiles (i.e. comprising the lowest 40 %), largely rely on private providers. It may imply that no amount of economic hardship makes even the poorest to feel adamant to use the private facilities. The other observation, though reconfirms the primacy of public facilities when it comes to hospitalisation, underlies the fact that even the poorest may not be able to rely solely on government-run health-care facilities. The results clearly suggest that a good fraction of people from the two lowest consumption quintiles had to access care from private providers. Admittedly, while such fractions may not be used conclusively to vindicate certain line of arguments, they however make out a case to go into such instances further and deeper. These are also the issues to be taken up for consideration by the RKS or such other patient welfare bodies currently working at the district and subdistrict levels.

Distribution by Catastrophic Households

Interestingly, it emerges from the profile of recipients of medical care with or without hospitalisation that catastrophe is not entirely the outcome of private hospitals or private medical practitioners—it occurs to patients of public facilities as well. In nonhospitalisation cases, it results mainly because of private providers, from a little less than 67 % to over 73 % of the total cases. In addition, it holds alike for both the rural and urban areas. In contrast to this, it is also revealed that hospitalisation-driven catastrophe is also generally higher among patients treated in public hospitals. This is particularly true for the low-income households. Somewhat disappointing, but public medical facilities are shown to have pushed a good majority of rural and slum households to catastrophe. Besides, these results also indicate that a fraction of public hospital patients have also ended up with the most oppressive form of catastrophe ($z=25$ %) presumably because many of the services in public hospitals are now on payment basis. These are over and above the cost of drugs and medicines—some of them may not be essential.

While some of these results are constrained by a limited number of observations, they appear to be useful for drawing a few policy-level inferences. Two issues are apparently more significant on policy considerations and may need to be discussed at length. First, why could even those treated in public hospitals and other facilities not save themselves from catastrophe? Second, why do many low-income slum and rural people not go to public facilities and rely on private providers? In other words, what makes many of them wary of public facilities? These questions need to be probed further.

Factors for Non-utilisation of Public Health Facilities: Respondents' Views

Those who preferred not to access public hospital facilities found justification in four commonly known reasons: (i) public facilities are too far, (ii) public hospitals are inefficient, (iii) most drugs prescribed by the in-house doctors are either out of stock or for self-purchase, and (iv) public hospitals are invariably very crowded. While most of these factors are fairly known and oft repeated, it may be noted that medicines and efficiency in service delivery by public facilities are the two major expectations that need to be ensured by the government and its health apparatuses.

Another point to be noted in this context is that despite these perceptions, a very small fraction of respondents had complained against doctors' behaviour or growing burden of paid hospital services. Apparently, efficiency in service delivery and subsidised (if not free) drugs may bring substantial relief to a large number of low-income health seekers in public hospitals.

Similarly, patients needing non-ambulatory (or outdoor) care have also held three major constraining factors responsible for non-utilisation of consultation services provided by primary or secondary health centres or city hospitals. These are (i) misbehaviour by hospital staff, including doctors and paramedics; (ii) distant locations of public facilities; and (iii) overcrowding and non-availability of drugs. It implicitly suggests that the users of health-care facilities tend to substitute public health care in favour of private providers owing to some of these basic constraints. Particularly, non-availability of drugs and a drag on time are the two serious issues for many low-income health-care seekers. And yet it seems that the time factor remains diluted when it comes to hospitalisation. Yet another interesting observation relates to the affordability as a criterion to access private medical care. Many of those who decided not to utilise the public facilities were able to afford private consultation. In other words, there is a possible trade-off between the private and public health-care facilities—largely because of the latter's inefficient service delivery, non-availability of medicines and cost of transportation.

Role of the National Rural Health Mission (NRHM)

The survey revealed a low level of awareness about the NRHM as only smaller fractions of people from both the states, in particular from Rajasthan, knew about it or the priorities attached to improved child health and institutional delivery. Between the two states, residents of Unnao and its villages appear to be better informed about the NRHM. About a fifth of the total respondents in Unnao have reported their awareness about the mission. The same in Rajasthan was below 10 %. People from upper-caste categories and economically better-off respondents (e.g. above-poverty or higher-quintile households) have however shown greater awareness about this programme and a couple of its intended objectives, although even their shares do

not exceed beyond a fifth or a quarter of their respective numbers. Interestingly, however, despite so much unawareness about the NRHM or its basic concerns, a much bigger fraction of respondents not only have reported satisfaction with the services provided by the primary health units but have also reported visible improvements in delivery of health services over the preceding 2 or 3 years. To be more specific, they further confirmed improvements in services covering reproductive and child health. On the flip side, these responses have remained considerably large across all the households distributed according to their socio-economic (social groups, quintile groups, etc.) characteristics. Even the two categories of catastrophic households, mild and severe, have also felt the same way. Some other interesting NRHM-related observations derived from the survey data include:

- Primary health-care centre (PHC) doctors visit regularly; it was reported by more than 80 % of the respondents.
- Accredited social health activists (ASHAs) already in place, confirmed by almost three-quarters of the sample households.
- Between 30 and 64 % of households from different socio-economic and religious categories have received help from the ASHAs. Interestingly, shares of low-income and catastrophic households among them were considerably large.
- As for vitamin tablets, oral rehydration therapy (ORT) or some other common medicines, respondents agreed to have received them from the health workers and their PHCs.
- Barring a sample of households from Dungarpur (Rajasthan), economically better-off and higher-caste households, very small fraction of respondents have used Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) services. The share of AYUSH users remains invariably below 20 % of the respective samples. Muslims and residents of Unnao are the worst off on this count.

From the findings of the survey relating to NRHM, which may have partly suffered because of a limited time gap between its initiation and this study, two diametrical messages are emerging. On the one hand, a large share of responding households (even a majority in many cases) do not find it worthwhile to rely on facilities provided by the government, particularly for non-ambulatory or outpatient care. On the other, we notice that rural people did appreciate the services provided by the primary health units. They also report favourably about the PHC doctors, ASHA and certain qualitative improvements in rural health-care services since the NRHM. The question then is: Why are service users so apathetic towards much of public facilities and towards health-related catastrophe? Answers appear to lie at two levels: First, rural health care has largely been confined to a particular age segment. Second, it restricts to a particular health domain as well. A number of diseases falling beyond the reproductive health and its domains have remained poorly managed. As those diseases cause catastrophe to a very large extent, the government will have to consider ways to bring significant improvements in delivery of secondary and tertiary health-care services as well.

Conclusions of the Study and Policy Directions

Major Findings

Most of this analysis was broadly directed to focus on the following concerns: (i) OOP health payments and attendant issues of poverty and inequality, (ii) catastrophic health payments and some of its correlates, (iii) decomposition of health payments and share of drugs/medicines in the total health expenditure, (iv) share of public health services in hospitalisation and outpatient care, (v) public health-care utilisation and catastrophic payments, (vi) extent of untreated ailments mainly because of high health-care costs and (vii) attention generated by the NRHM among the rural households and their views on recent improvements in delivery of health services.

A number of observations have been drawn centred on the issues noted above. One of the more critical, perhaps, was the role played exclusively by OOP health payments in adding to the overall poverty level and bringing vulnerability to a significant fraction of rural and slum households. It was also noticed that health payments may easily push households below poverty level from above it. An analysis of household indebtedness in Chap. 3 shows that more than a quarter of indebted urban households had borrowed to meet medical exigencies. The same in rural areas turns out to be a little over 19 %. Chapter 3 also indicates a big share of private moneylenders in those borrowings. Does it mean to suggest that a significant percentage of households cannot afford health-care services in the country in their present form? While a categorical answer to this question may need further and more in-depth studies, this is indeed an issue that needs greater consideration, especially from health policy mandarins.

Moving to the issues of catastrophic health payments, this analysis indicates that catastrophe cut-off levels, as frequently used in the international literature, make no sense for the observed sample of households or very limited sense. This is to a greater extent true at the higher cut-off levels. With the share of nonfood consumption expenditure in many cases as low as observed in the present analysis, any fraction of OOP health expenditure may not only look catastrophic; it would rather overshoot the defined catastrophe limit. Yet another significant observation in this context was that even the users of public health-care facilities are not able to save themselves from catastrophic payments.

These results ultimately raise a very basic question: What component(s) of health spending drives the households to face a catastrophe? Intuitively, this question may have a role in pinning down a few policy interventions to minimise the catastrophic incidences. In response to this question, it was attempted to compute the shares of (i) consultation fees, (ii) expenditure on drugs and medicines, (iii) expenses on diagnostics and (iv) cost incurred on commutation and other related expenses in the total health expenditure of households under study. In a large number of cases, our computations reveal drugs as the biggest expenditure, and in some cases it turns out to be around 90 % of the total health budget. Even in normal situations, drugs and medicines account for over 75 % of the total OOP spending on health. This result is

in consonance with some other studies recently conducted at the all India level. This raises many serious issues from the viewpoint of policy. Two factors need to be seriously considered. First, most public medical facilities do not provide medicines to their patients including the poor patients. Even in many cases, these facilities expect service users to provide sundry items like cotton or bandages. These are in addition to items such as registration fee, costs of various diagnostic tests and transportation. Besides being a push factor to catastrophe, it also dissuades even poor service users to use public facilities, especially in nonhospitalisation cases. The second relates to the drug pricing, and growing concerns have already been raised in many national and international literature regarding the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). These negotiations and agreements have clearly set minimum standards for the protection of intellectual property. It has also helped to generate considerable gains for pharmaceutical companies.

Where does the solution lie? This is a complex issue and requires deft TRIPS negotiations, along with a serious policy makeover on making medicines available to the patients at subsidised prices. Can the government find enough resources to provide medicines? While this analysis cannot answer this question clearly, OOP health expenditure, most attendant issues and drug pricing are interlinked, and none of them may be decided independently.

Somewhat alarming but a fairly known issue in the context of health delivery is the poor utilisation of public health-care facilities by health seekers—both ambulatory and non-ambulatory. Reasons remain oft repeated and primitive: long hours of wait, non-availability of drugs, poor outreach, lack of emergency services in local (village level) health centres and improper behaviour by the medical staff. And yet, a number of respondents have been disposed of fairly well and have started taking note of the NRHM and its services. There has especially been a positive response towards the role played by the ASHAs, availability of PHC doctors and distribution of certain medicines required by women during pregnancies and small children. How far the mission is able to cover the health-care needs of those in nonreproductive ages is not clear from this study and, therefore, an area worth of exploration in future research. The incidence of catastrophic health spending raises doubts about the versatility of the NRHM. Also, there appears to be very limited utilisation of consultation facilities provided by AYUSH practitioners in many health-care centres.

Respondents' Views on Critical Policy Issues

Survey respondents were asked to comment mostly on issues on which they were expected to have a better understanding. A few of those respondents, especially in rural areas, were also given certain background information, particularly on operational aspects of health insurance. Some of the more important questions included: (a) Do you feel that the health services have become costlier over the past 1 year? (b) Do you think doctors generally overprescribe medicines/diagnostic tests?

(c) In your opinion, would a low-premium health insurance be a workable solution? (d) If required, would you be willing to subscribe to such an insurance scheme? The last two questions were asked against the backdrop of a recent initiative by the government to launch a Rashtriya Swasthya Bima Yojana (RSBY) for the below-poverty households.

A large number of respondents, almost 8–9 out of 10, agreed that health services have become expensive by more than 50 % over the preceding 12 months. Those with better access to health care do not usually subscribe to the idea of buying an insurance product. We notice from the discussion in Chap. 8 that (i) the richest quintile, (ii) Delhi respondents and (iii) upper-caste persons have favoured such a scheme in much smaller fractions. Those who endorsed the health insurance idea were however in majority among other categories of respondents, including the rural and urban households of UP and Rajasthan. Almost a similar response has emerged from the last question: Would you be willing to join an insurance system on self-payment basis? Following from the earlier question, those with better access or affordability to health care largely showed disinterest. Others have, however, favoured it. But still it may be surmised that a self-paid health insurance is a strong possibility if the government is able to regulate the system well, particularly against the menaces of exclusions and cartelisation among medical professionals, service providers and major pharmaceutical companies.

Policy Directions

The results indicate that the supply-side management of the health market in India remains mired because of health-care seekers' growing dependence on private providers. In several cases, public sector facilities do not prove to be a close substitute to private providers. This is particularly true for outpatient services. Even in hospital services, a large segment of people depend on private providers. All these affect private medical services and their price determination system. This has aptly been summarised by respondents, when they report over 50 % escalation in their medical budget over the past 12 months—a brief period. A related point may be noticed from the perception that doctors overprescribe medicines. Does it reflect a certain laxity in administration of medical rules? Also, there is a serious problem with medical ethics. The medical profession is now largely guided by corporate practices, with the core objective being to maximise profit through increased occupancy rates or patients' consultation. An apprehension is that the RSBY may further aggravate the situation, particularly for uncovered families. Health policymakers may have to consider some of these factors to bring down the cases of catastrophe. Public facilities will have to become efficient, client responsive and a close substitute to private services. The recent initiative to appoint RKSs will have to be strengthened.

Patients of public hospitals facing catastrophe need to be examined. Drug pricing and availability of essential drugs to patients in public facilities warrant serious consideration. Deployment of manpower and management of public hospitals need

considerable fine-tuning. Especially, there is a need to minimise non-clinical responsibilities of medical doctors in most public facilities. If at all viable, certain hours may be fixed in a week for every medical doctor to devote to their clinical responsibilities. Patient–doctor or patient–health worker relationship is a perennial issue and needs serious consideration. Medical ethics, particularly in allocation of scarce services like intensive care units or ventilators, prescription of medicines or diagnostic procedure, informed consent, confidentiality, etc., is another area requiring serious consideration.

Beyond all this, perhaps a most potent issue for consideration is to work on a comprehensive risk-pooling arrangement, covering both in- and outpatient treatments. While the RSBY is apparently a good initiative, it covers a very small segment of the poor population (roughly 12 million). In addition, it is directed only at the hospitalisation (including day care) cases. Given a very high prevalence of ailments requiring non-ambulatory care—around 15 % as against 2.5–3 % requiring hospitalisation—the noncoverage of outpatient care may leave most problems unresolved. Moreover, our study has highlighted that expenses on outpatient care have been equally catastrophic in nature, which is worth covering under schemes like the RSBY.

Intellectual patenting rights (IPRs), Trade-Related Intellectual Property Rights (TRIPS) and TRIPS Plus negotiations require understanding the health status of the country's population, which in turn needs a series of micro-level studies to know the health status of poor and low-income people, especially from economically low-performing districts and states.

Chapter 1
Introduction

For over past 60 years or even more, health has perhaps been among the few issues in India that has received unceasing attention from planners, policy makers, intellectuals and the political leadership. One of the earliest attempts in this direction was initiated years before the country gained independence from British rule in 1947. A committee—Health Survey and Development Committee—was constituted under the chairmanship of Sir Joseph Bhore[1] as far back as 1943 to suggest measures for improvements in delivery of health care to a vast populace in the country, especially in rural areas. The network of primary and community health centres that exists now in most of the rural areas draws its origin from the recommendations of the Bhore Committee (1943–1946).

The Bhore Committee was followed in subsequent years by a series of other high-power committees and commissions[2] and, more recently, by the two National Health Policies (NHPs)—the former was adopted by the government in 1983 with a focus on health for all by 2000, while the latter was legislated in 2002 with an explicit recognition of strong linkages between health and the overall growth objectives of the economy. Despite these concerns and a series of policy initiatives over the past decades, health remains a critical issue with growing concern in recent years about the high burden of diseases, premature deaths and functional incapacitations; all of these cost the nation dearly both socio-economically and in terms of its international rankings.

Some of these concerns have further been highlighted in a detailed report prepared by the National Commission on Macroeconomics and Health (NCMH), constituted by the Government of India under the chairmanship of Mr. P. Chidambaram and Dr. A. Ramadoss, then Union Ministers of Finance and Health, respectively. The Commission submitted its report in 2005 with a comprehensive review of major health issues and the contemporary situation in the country. The major issues raised by the report include

[1] For details of various other committees, see http://nihfw.org/NDC/DocumentationServices/Committe_and_commission.html.

[2] A few of these Committees include Mudaliar Committee (1959–1961), Chadha Committee (1963), Mukherjee Committee (1966), Kartar Singh Committee (1975) and subsequently the first National Health Policy adopted by the Parliament in 1983 with a focus on health for all by 2000.

M. Alam, *Paying Out-of-Pocket for Drugs, Diagnostics and Medical Services: A Study of Households in Three Indian States*, India Studies in Business and Economics,
DOI 10.1007/978-81-322-1281-2_1, © Springer India 2013

inadequate health expenditure by the centre and state governments, inefficient delivery and poor utilisation of health services delivered by most public health-care services and demand–supply mismatch of medical professionals, especially paramedics and grass-root health workers. The other issues highlighted include rising drug prices which are expected to increase further under the new patent and Trade-Related Aspects of Intellectual Property Rights regime (TRIPS Plus), disproportionate burden of health cost on poorer households with far-reaching implications for their economic security and levels of consumption expenditure—both food and non-food. Drawing upon inferences based on recent health surveys, the Commission's report is among the few public documents which have clearly agreed that private OOP health expenditure often pushes low-income households to face catastrophe and forces many of them below the poverty line. In many situations, it may as well clog intergenerational (i.e. from young to old) flows with severe implications for the coresiding old, especially women.[3]

1.1 Existing Health Situation: A Few Stylised Facts

Of late and with the resurgence of the market forces in countries like India, health has increasingly been considered as one of the causal factors with a decisive role in fostering growth and development (Casanovas et al. 2005). This recognition has also promoted

[3] Ministry of Health and Family Welfare, Government of India, has been publishing since 2010 an 'Annual Report to the People on Health' with a view to provide:

1. Trends in core demographic parameters and recent developments in availability of various reproductive and child health services
2. Prevalence of selected communicable and non-communicable diseases
3. Public health-care interventions and achievements

In all, the Ministry has published two reports highlighting improvements in several programmatic areas and health domains including improvements in key demographic parameters. There has also been a brief discussion in the reports about the paucity of certain health-care infrastructure, especially inadequate financial resources provided to health sector by the governments and shortages of medical and paramedical skills in the country. Discussing out-of-pocket expenditure on health, these reports have mentioned drugs and medicines as a single component causing most of health-care expenditure by households.

The Ministry has started publishing this report annually on the advice of the President Mrs. Pratibha Patil at a joint session of parliament on 4 June 2009. As noted, the Ministry has so far published two reports, first in September 2010 and the second in December 2011. As usual, both the reports largely dealt with various programme inputs without going sufficiently into their outcomes.

Like the people's report by the Ministry of Health and Family Welfare, an Annual Health Survey (AHS) was also initiated by the Registrar General and Census Commissioner on the recommendation of the National Commission on Population, Planning Commission and the Prime Minister Office in 2010–2011 to provide information on core vital and reproductive health indicators from a group of demographically backward states including Uttarakhand, Rajasthan, Uttar Pradesh, Bihar, Assam, Jharkhand, Madhya Pradesh, Chhattisgarh and Orissa. The indicators covered in the survey are crude birth rate, crude death rate, infant mortality rate, neonatal mortality rate, under-five mortality rate, maternal mortality ratio, sex ratio at birth, sex ratio at 0–4 years old and sex ratio at all ages.

None of these reports are however relevant for the analysis presented in the underlying study.

a wider debate among health professionals and economists by linking health with individuals' overall economic well-being and, in particular, with their poverty status. As an offshoot, this debate has led to a question: Does poor health lead to poverty or is it a symptom?

Although the health–poverty nexus and its surrounding debate has never been without its takers in India (Dreze and Sen 1995; Fuchs 2004; Behrman and Deolalikar 1988; Osmani 1992), it came to greater visibility, especially at the policy level, only after the Cairo International Conference on Population and Development (ICPD, September 1994). This recognition was reiterated further in two subsequent policy documents of the Government of India—namely, the National Population Policy (2000) and the National Health Policy (2002).

From these accounts, it may not be very implausible to infer that human health has hardly ever lacked attention in India as a broader policy concern. And yet, a number of significant issues have either missed attention, especially at micro-level, or remained on the sidelines for one or the other reason. It may, for example, be noticed that a great deal of the health infrastructure in India, especially in most rural areas, has largely been directed to achieve fertility reduction, improve contraception level and make people aware about the needs of smaller families. More recently, a few additional, but interlinked, activities have also been added with an objective to fulfil a few of the Millennium Development Goals (MDGs) such as reduction in maternal, infant and child mortality and improvement in level of institutional deliveries. In the process, however, general or post-50 health care, required by a large percentage of poor in rural and urban areas, is left to market providers—a large fraction of them consists of quacks. As poverty is still persistent in most rural areas and urban slums, reliance on private health providers is fraught with serious economic consequences, especially for low-income households engaged in the informal economy.

Another significant issue, which dissuaded analysts to examine the health–poverty nexus, especially at the micro-level, relates to lack of adequate data and information. Admittedly, the NSSO does provide data on health spending at the household level as part of its (annual and quinquennial) consumption surveys; these are generally considered reliable at the state level. The same at the district or the subdistrict level may cause problems peculiar to studies suffering from a limited number of observations. More recently, there have been attempts by the Ministry of Health and Family Welfare (MoHFW) to supplement the data sources on major health issues, particularly on access to and utilisation of health services both in the public and private sectors—most of them, however, are once again confined to reproductive health.[4]

[4]More prominent among these data sources with a cross-country coverage and large sample size are the three different rounds of the National Family Health Survey (NFHS – 1, 1992–1993; NFHS – 2, 1998–1999; and NFHS – 3, 2005–2006), and the District Levels Health Surveys (generally known as the RCH surveys) designed to assess various population parameters including utilisation of health services required during the pre and postnatal phases along with the nutritional details and immunisations of children against certain early life diseases. Much of these information and data sources however concentrate on programme variables without making explicit concerns about the outcome variables.

Against this backdrop, there is now a realisation that the health situation in India is seriously entrenched in the following. First, despite its rising economy, India is still a country with widespread poverty, malnutrition and enormous disparities in almost every sphere of human life including health; women and the old suffer the most. This is particularly true for the rural areas where the per capita monthly consumption expenditure (PCMCE)—an important indicator of poverty—is alarmingly low (Alam 2008). Moreover, there is hardly any significant change in real per capita consumption level of rural households over the past decade (Alam 2008). Second, disease prevalence—both communicable and non-communicable—is invariably large among the low-income rural and urban households for poor socio-economic conditions and inadequate access to public health facilities. Third, the growing role of market in delivery of health and diagnostic services with a very high out-of-pocket (OOP) expenditure by seekers of health care, many of them, as has already been noted, at the lowest deciles of consumption levels. Fourth, the major contributory factor resulting into severity of health issues in India relates to various infrastructural bottlenecks suffered by health services provided by the centre, state or local governments. These bottlenecks go beyond the physical or financial resources and cover whole aspects of hospital administration including large-scale deployment of medical doctors to non-clinical services due to the interference of the local bureaucracy. Such deployments not only cause a considerable amount of dissatisfaction among users of public services but also force a shift to private medical services and incur OOP expenses.

Clearly, all these issues are not only detrimental to the economic well-being of a large number of poor households or their family members; they are also in direct contradiction to the National Population Policy (2000) and the National Health Policy (2002). In addition, these are in contradiction to the country's new economic regime as well.

1.2 Health Indicators and Underlying Issues

Three issues are often reported to have largely clouded the health indicators of the country and bring them directly in contradiction to the stated objectives of the country's population and health policies.[5] These are:

1. High prevalence of communicable and non-communicable diseases in the country causing premature deaths and loss of healthy life.
2. Inadequate public health expenditure, especially if judged by using the price-adjusted expenditure data.
3. Increasing role of private sector in health-care delivery causing very high OOP expenses on drugs (both common and life-saving) and other components, borne out disproportionately by the low-income households with grave risks of being

[5] See National Population Policy (2000) and National Health Policy (2002).

Table 1.1 Major health indicators: all India

Annual growth of GDP per capita: 2008–2012 (%)	5.4[a]
Annual growth of population: 2001–2011 (%)	1.64[b]
IMR per 1,000 live births, 2011	44[c]
Life expectancy: M/F (projected for 2006–2010)	65.8/68.1[d]
MMR per 100,000 live births, 2007–2009	212[e]
TFR: 2009	2.6[f]
Crude death rate per 1,000 population, 2009	7.3[g]
Average population served per government allopathic doctor, 2011	12,005[h]
Nurses per 1,000 population, 2011	1.6[h]
Pharmacists per 1,000 population, 2011	0.54[h]
Total hospital beds/population served per hospital bed (government sector), 2011	7,84,940/1512[h]
Non-institutional deliveries, 2005–2006	59.3[i]
Public expenditure on health as per cent of GDP: India, China and Sri Lanka, 2009	1.1[j] 1.9[j] 2.0[j]
Public expenditure as % of the total expenditure on health	20 %[j]
Anaemic children aged 6–35 months (%): NFHS-2/NFHS-3	74.2/78.9[i]
Pregnant anaemic women aged 15–49 (%): NFHS-2/NFHS-3	49.7/57.9[i]

Sources:
[a]World Bank National Accounts Data. World Development Indicator (2008) (Accessed January 2013: http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG/)
[b]Census of India, 2011
[c]SRS Bulletin, October 2012
[d]Report of the Technical on Population Projection, May 2006, MoH&FW
[e]SRS Bulletin, June 2011
[f]SRS Estimates, July 2011
[g]Family Welfare Statistics in India, 2011, MoH&FW
[h]National Health Profile, 2011
[i]NFHS-2 and NFHS-3 for the years 1998–1999 and 2005–2006
[j]International Human Development Indicators, World Development Indicators, World Bank, 2011

pushed to (i) serious welfare losses, (ii) catastrophic conditions and (iii) indebtedness. It also creates a divide between the health-care allocations by the government and the private needs.

We will deal briefly with some of these issues in the following discussion and provide a few corroborating evidences; a few of them have already been produced by the Commission on Macroeconomics and Health in its report.

1.2.1 Selected Health Indicators: All India

A perusal of Table 1.1 reveals that the annual population growth rate in the country is gradually declining over the preceding decades. It grew at the rate of 1.64 % per annum during the preceding two censuses—2001–2011. The infant mortality rate (IMR) at 44 per 1,000 live births is comparatively at a higher level and registered

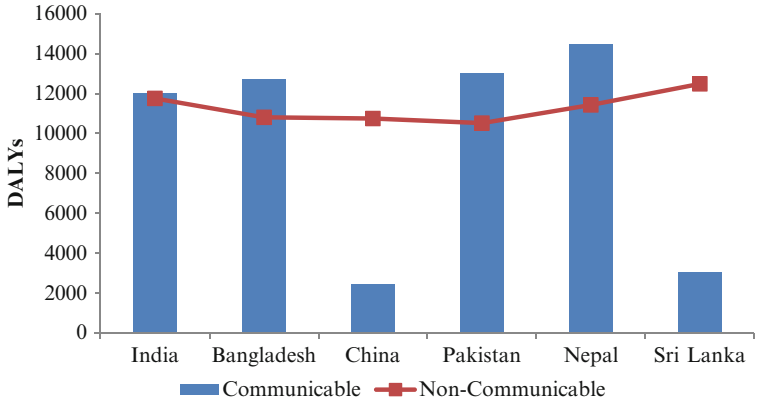

Fig. 1.1 Estimated DALYs (per 100,000 persons of all ages) by communicable and non-communicable diseases: India, China and neighbouring South Asian countries, 2004 (*Source*: WHO Department of Measurement and Health Information), December 2004, http://www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html (Accessed October 2012)

only a marginal decrease during the recent decade. The maternal mortality ratio (MMR) at 212 per hundred thousand live births is quite high in international comparison. The Millennium Development Goals (MDGs) that were officially adopted by India on the instance of United Nations in 2000 have included reduction in IMR and MMR on priority basis. The NRHM has also laid stress on increase in institutional deliveries for reduction of IMR and MMR, but still the percentage of domiciliary deliveries is quite high. Another cause of concern is the high level of anaemia among children and pregnant mothers; it was 78.9 % in case of children in the age group of 6–35 months and 57.9 % in case of women in the age group of 15–49 years as per the National Family Health Survey-3 (NFHS-3), 2005–2006. Some other major indicators of health in India may be noted from Table 1.1. Most of them appear least promising.

1.2.2 Disease Burden and Deaths: WHO Estimates (DALYs Rates and Death Rates)

A comparison of the World Health Organization (WHO) estimates of disability-adjusted loss of years (DALYs) in Fig. 1.1 reveals that the burden of communicable diseases in India is considerably higher than China or Sri Lanka, although it is lower than Pakistan, Nepal and Bangladesh. As regards the non-communicable diseases, it is equal to the level in Sri Lanka, but quite lower than in many other countries of South Asia and China.

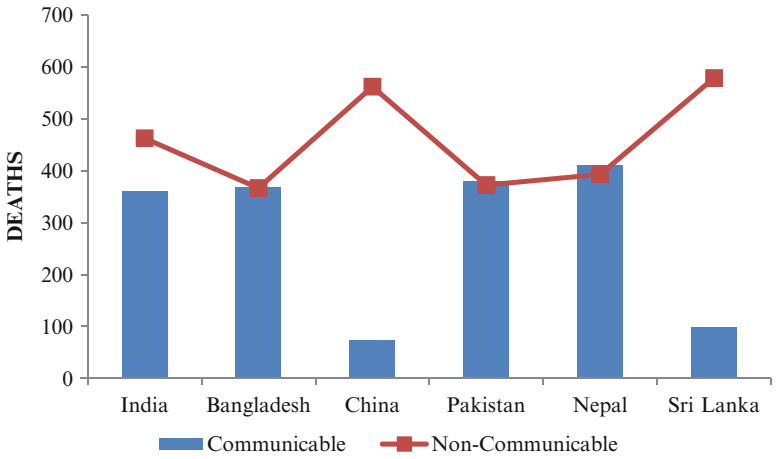

Fig. 1.2 Estimated deaths (per 100,000 persons of all ages) by communicable and non-communicable diseases: India, China and neighbouring South Asian countries, 2008 (*Source*: WHO, Department of Measurement and Health Information, (December 2008). http://www.who.int/healthinfo/global_burden_disease/estimates_country/en/index.html (Accessed October 2012))

The estimated deaths per hundred thousand by communicable diseases in India, China and a few other South Asian countries (Fig. 1.2) reveals that India is the second highest, the highest being Pakistan. India is more or less equal to Nepal. The other three countries including Bangladesh, Sri Lanka and China have lower estimated deaths in that order. The deaths by non-communicable diseases are the highest in Sri Lanka, followed by China, India, Nepal, Pakistan and Bangladesh. These statistics clearly suggest a high burden of diseases (BoD) and a high incidence of deaths by communicable diseases.

1.3 Health Financing by the Centre and States

Aggregate public expenditure on health (revenue and capital) as a percentage of GDP showed a rising trend; from merely 0.40 % in 1990–1991, it increased to a little over 0.60 % in 2000–2001. It again started declining and reached to its highest level of over 0.90 % in 2008–2009 (Fig. 1.3). It remained well below the trend line during the years starting from 2002 to 2003 to 2007–2008, i.e. the years during which Indian economy risen impressively. The capital expenditure has been at a very low level; it was virtually remained almost flat below 0.1 % up to 2002–2003 and increased to its highest level at little over 0.1 % in 2008–2009. The trend of revenue expenditure has matched the general trend as the share of revenue expenditure has been very high in the total expenditure (Fig. 1.3).

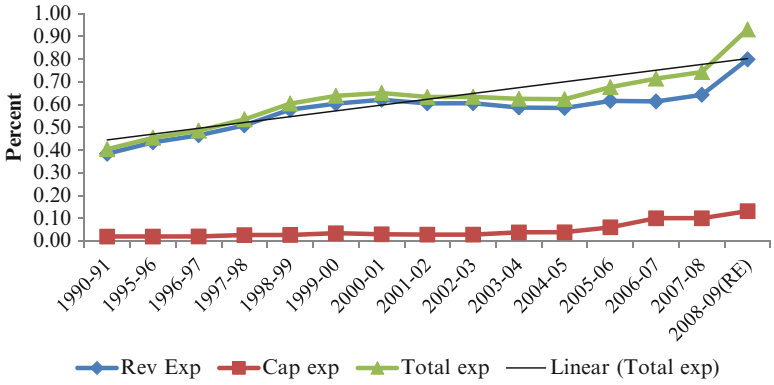

Fig. 1.3 Public expenditure on health as per cent of GDP: all India (*Source*: RBI's *Handbook of Statistics on State Government Finances*, 2004)

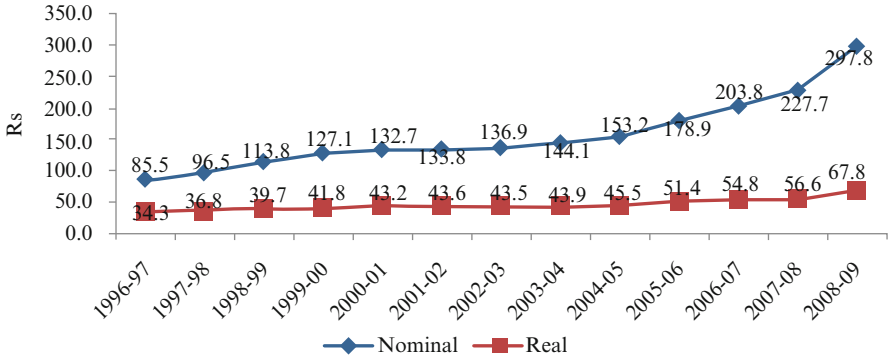

Fig. 1.4 Post-reform increase in per capita health expenditure: all India (nominal and real) (Base year: 1986–1987 = 100) (*Source*: RBI's *Handbook of Statistics on State Government Finances*, 2004. *Note*: Per capita health expenditure was adjusted by using consumer price index)

1.3.1 Per Capita Health Expenditure During Post-reform Period

The per capita aggregate health expenditure of the centre and state governments has risen continuously at nominal prices from 1996 to 1997 to 2008–2009. It rose from Rs. 85.5 in 1996–1997 to Rs. 297.8 in 2008–2009 (Fig. 1.4). At the real price level, however, the increase is not very substantial—i.e. only from Rs. 34.3 in 1996–1997 to Rs. 67.8 in 2008–2009. But the trend remains more or less the same.

Table 1.2 Percentage share of health in revenue budget of the centre and states: 1991–1992 to 2011–2012

	1991–1992	1995–1996	1999–2000	2003–2004	2007–2008	2011–2012 (RE)
AP	5.8	5.7	6.1	4.0	3.8	4.4
Assam	6.6	6.1	5.3	3.4	4.4	4.1
Bihar	5.7	7.8	6.3	3.7	4.2	3.7
Gujarat	5.4	5.3	5.2	3.5	3.3	3.8
Haryana	4.2	3.0	4.1	3.0	2.7	3.6
Karnataka	5.9	5.9	5.7	3.7	3.4	4.0
Kerala	6.9	6.8	6.0	4.6	4.4	5.3
Maharashtra	5.3	5.2	4.6	3.8	3.7	3.7
MP	5.7	5.1	5.2	3.6	3.8	4.0
Orissa	5.9	5.4	5.0	3.6	3.5	3.4
Punjab	4.3	4.6	5.3	3.5	3.0	4.1
Rajasthan	6.9	6.2	6.4	4.3	4.0	4.9
Tamil Nadu	4.8	6.4	5.5	4.0	3.4	4.1
UP	6.0	5.7	4.4	2.8	4.0	3.6
W. Bengal	7.3	7.2	6.3	4.6	4.0	4.2
All India	5.7	5.7	5.5	3.8	3.8	4.1

Source: RBI's *Handbook of Statistics on State Government Finances*, 2004 (State Finance Budgets)

1.3.2 Share of Health in Revenue Budget: Centre and States

The share of health expenditure in the revenue budget at the all-India level continuously declined from 5.7 % in 1991–1992 to little over 4 % in 2011–2012 (see Table 1.2). The states also represented more or less the all-India pattern. However, there were marginal variations in the case of Bihar, Punjab, Tamil Nadu, Kerala and West Bengal. The share of health in the revenue budget of Bihar increased to 7.8 % in 1995–1996 from 5.7 % in 1991–1992, but again came down to 6.3 % in 1999–2000 and further to 3.7 % in 2011–2012. In the case of Haryana, the share went down to as low as 3.0 % in 1995–1996 from 4.2 % in 1991–1992 and went up to 4.1 % in 1999–2000 and again to a low of 3.6 % in 2011–2012. In Tamil Nadu, the share of health went down drastically from 6.4 % in 1995–1996 to 3.4 % in 2007–2008 and slightly increased again in 2011–2012 (see Table 1.2). Figure 1.5 displays this trend very clearly. It is also clearly visible from the figure that the share allocated to health in revenue budget has fallen substantially in Gujarat, Haryana, Orissa and West Bengal over the years under reference. It may be interesting to note that the share of health has declined almost in every state during 2003 and 2008 and increased marginally thereafter. It may also be noticed that the share of health in revenue budget has remained depressed in recent years if compared to the 1990s when the country has started moving to economic liberalisation with pro-market reforms.

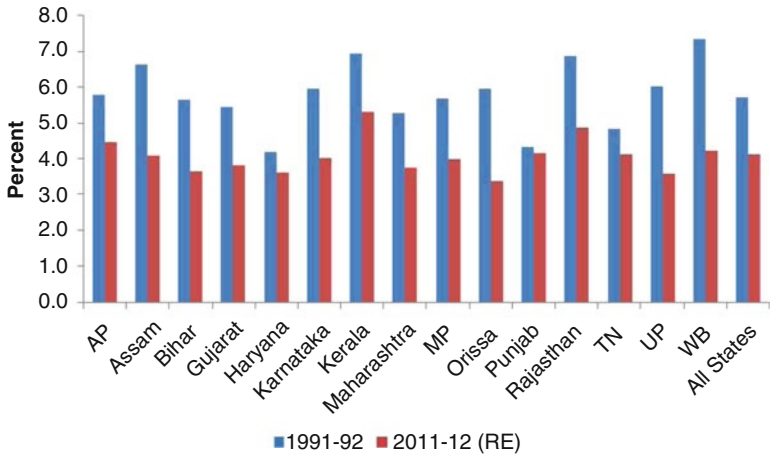

Fig. 1.5 Declining share of health in revenue budget of major states: 1991–1992 and 2011–2012 (*Source*: Table 1.2)

1.3.3 Utilisation of Public and Private Health Facilities

A perusal of Table 1.3 reveals that the countrywide share of the total cases treated in private hospitals was 58.3 % in rural areas, while the same for the urban areas was given as 61.7 %. State-level differentials reveal that rural Bihar had the highest share of treatment in private hospitals; over 85.6 % of the total cases in rural areas were treated in private facilities. This is followed by 79.4 % in Haryana, 72.7 % in Andhra Pradesh and 71.3 % in Maharashtra. Contrary to this, Orissa, West Bengal and Himachal Pradesh were at the other end with a greater share of the total cases going to the public hospitals. Is it a reflection of better health-care delivery by public hospitals in these states? We refrain from commenting on that as it goes beyond the scope of this book.

In the urban areas as well, the highest percentage of 78.5 % is in Bihar, followed by 73.9 in Gujarat and 73.6 in Punjab. On the other hand, the lowest percentage of the cases (10.5 %) was treated in private hospitals in Himachal Pradesh, 13.5 % in Jammu and Kashmir and 26.9 % in Orissa. The lower utilisation of private hospitals in many cases and particularly in Orissa may be due to widespread poverty.

The trend of the utilisation of public and private facilities in hospitalisation cases can be seen in Fig. 1.6. In this figure, the share of public and private facilities in hospitalisation cases is given over three points of time from the National Sample Surveys (NSS) conducted during 1986–1987 (42nd round), 1995–1996 (52nd round) and 2004 (60th round). A clear declining trend is visible, both for urban and rural areas, as far as utilisation of public facilities is concerned. In rural areas, the share of utilisation of public facilities has declined from 56.7 % in

Table 1.3 State-wise share of public and private hospitals in treated cases: 2004

	Rural (%)		Urban (%)	
States	Govt. hospital	Pvt. hospital	Govt. hospital	Pvt. hospital
AP	27.2	72.7	35.8	64.2
Assam	74.2	25.8	55.4	44.6
Bihar	14.4	85.6	21.5	78.5
Delhi	–	–	37.3	62.7
Gujarat	31.3	68.7	26.1	73.9
Haryana	20.6	79.4	29	71
HP	78.1	21.9	89.5	10.5
J & K	91.3	8.7	86.5	13.5
Karnataka	40	60	28.9	71.1
Kerala	35.6	64.4	34.6	65.4
MP	58.5	41.5	48.5	51.5
Maharashtra	28.7	71.3	28	72
Orissa	79.1	20.9	73.1	26.9
Punjab	29.4	70.6	26.4	73.6
Rajasthan	52.1	47.9	63.7	36.3
Tamil Nadu	40.8	59.2	37.2	62.8
UP	26.9	73	31.4	68.6
WB	78.6	21.3	65.4	34.6
India	41.7	58.3	38.2	61.8

Source: NSS 60th Round (January–June 2004), Statement 24.1

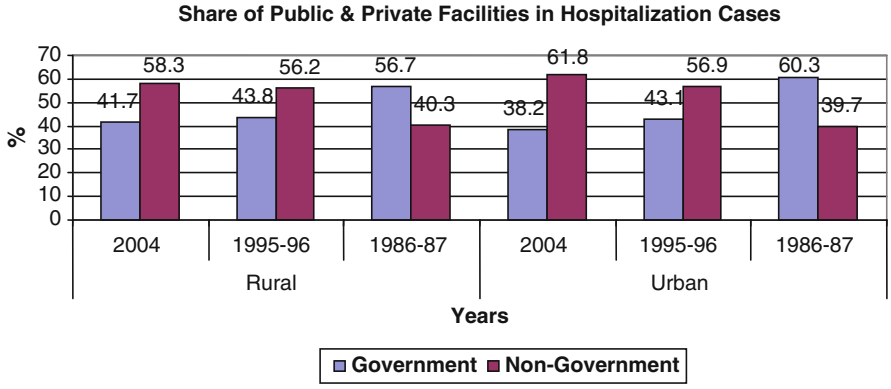

Fig. 1.6 Utilisation of public facilities in hospitalised care: rural–urban distribution (*Source*: NSS 60th Round (January–June 2004), Statement 24)

1986–1987 to 41.7 % in 2004, while in urban areas the share has declined from 60.3 % in 1986–1987 to 43.1 % in 1995–1996 to only 38.2 % in 2004. The declining utilisation of public facilities in hospitalisation cases has quite serious implications on OOP expenses on medical care.

Clearly, the preceding discussion underscores the argument that despite its persistent efforts and inputs received from a number of specially constituted bodies, India is critically lagging behind in terms of its long-standing commitments towards building a healthy society based on certain norms of equity and efficiency. The country, as may be noticed from the data presented above, is turning out to be much severely constrained due to high proportions of immature deaths as well as diminution in healthy life caused by a distressing combination of both communicable and non-communicable diseases. A more or less similar observation follows from the rest of the figures. The country has especially failed to enhance health sector finances in real terms. It has also failed to ensure health-care access for as many households—forcing many to shift eventually from the public to the private deliverers and face serious economic and financial consequences due to rising cost of privately delivered health services and out-of-pocket expenses.

While a great deal of these facts are now beginning to emerge from the studies conducted in recent years to highlight a range of physical, financial and manpower anomalies suffered by the public health facilities in India, how these anomalies have affected the low-income households, particularly in backward districts of high-poverty states, remains almost completely neglected. Many of these studies have also failed to examine the nature of households and their income level who are trapped into a poverty syndrome or experience catastrophe as a result of losses suffered due to expenditure on health-care services—especially drugs and medicines—in poverty-ridden rural and urban areas of the country. This study is basically designed to highlight some of these neglected issues using data from a uniformly designed household survey in selected districts of three states—namely, UP, Rajasthan and Delhi.

1.4 Out-of-Pocket Health Spending in India: A Brief About Some Existing Literature

Despite recognition of declining public sector share in overall health services and rising burden of private out-of-pocket expenditure on health in India, which in many cases result into severe financial issues to a large number of low-income households, there have been very few empirical studies that have investigated this issue or gone into some of their important correlates. To be more precise, there is perhaps no or very limited literature to show the implications of health-care expenditure on finances of low-income households in backward areas of economically less-performing states. The present book was written with this particular aspect at the centre stage. The book particularly emphasises the role of drugs and medicines (life-saving or otherwise) in escalating the overall health-care expenditure of a family or household.

Out-of-pocket health expenditure—defined by the WHO[6] as any exchange of cash or kind directly made by households to public or private health practitioners and suppliers of pharmaceuticals, therapeutic appliances or other goods and services—has often been viewed as a basis for examining two important, but mutually interconnected, issues in most of the developing world. One is essentially linked with health inequities due to lack of access to health services by many, and the second relates to rising inflation in health sector and its implications on low-income (or low consumption) households. Several developing countries including India have remained a victim to most of these issues and are now trying to implement a health insurance system financed by tax revenue for low-income households. In 2008, India has launched a public-funded Rashtriya Swasthya Bima Yojana (RSBY) to ensure access to hospitalisation facilities required by state-defined below-poverty households to protect them from health-related impoverishment. A few of the studies reviewing these insurance facilities,[7] which are currently moving towards gradual improvement in one way or the other, have recently appeared in prestigious journals like *Lancet*. Notably, a study by Lagomarsino, et al. (2012) and another by Kumar et al. (2011) may be cited for their comprehensive discussions on the health financing and insurance practices both in India and a group of nine other developing countries from Asia and Africa. The study by Kumar et al. (2011), based on public and private health spending obtained from India's National Health Accounts for 2001–2002 and 2004–2005, is exclusively devoted to describe limitations of health financing system in India. The study inter alia concludes that the health insurance in India is still premature and hardly covers a total of about 10 % population.

Driven by growing drug prices and escalations in other health-care expenses, out-of-pocket spending on medical treatment was also considered by many as a pathway to serious economic insecurities causing large-scale erosion in overall well-being of households. These spending may as well end up into a catastrophic poverty situation with considerable decline in size of basic consumption expenditure of low-income families. This line of approach was adopted in host of recent Indian studies based on household consumption expenditure surveys conducted by the National Sample Survey Organization (NSSO) at the all-India level. A few of these studies with considerable insight on poverty implications of OOP heath expenditure in India include Sakthivel and Karan (2009), Garg and Karan (2004, 2005, 2009) and Bonu et al. (2007). A similar study by O'Donnell et al. (2005) has tried to explain variations in the incidence of catastrophic

[6]For the most recent updates, see http://apps.who.int/nha/database.

[7]RSBY, a brainchild of the Ministry of Labour and Employment (MoL&E), Government of India, does not cover more than fivemembers of a household nor does it cover expenses requiring non-hospitalised treatments of an ailing member in a household. The size restriction often leaves older members of a family/household uncovered.

spending on health care across households of six Asian countries including India, Bangladesh, Sri Lanka, Thailand, Hong Kong and Vietnam. This study by O'Donnell and others (2005) inter alia indicates that the correlation of catastrophic payments with risk factors might vary with the development level of a country and nature of its health financing. The study also suggests a positive correlation between the total consumption of households and incidence of catastrophic payments. It further suggests that households make health payments either by using past savings or rely on borrowings. In certain conditions, they go for liquidation of assets as well.

The studies based on consumer expenditure surveys in India have in many cases tried to examine the factors raising possibilities of catastrophic health-care payments. These studies were generally conducted either at the all-India level or by states (Sakthivel and Karan 2009; Garg and Karan 2004, 2005, 2009; Bonu et al. 2007). As noted, there is no or very limited amount of literature available at the micro-level examining some of these issues faced by urban slum dwellers or those from rural areas of economically backward states or districts. The study presented by us in this book is perhaps one of the most comprehensive attempts to fill up this void and provide health spending of households by decomposing them into a well-identified drug and non-drug components and examine how even a small expenditure on those components leads households to a highly insecure or even catastrophic situation.

Despite a smaller geographical coverage of this study, there are some important commonalities between the results presented in this book and the studies cited earlier on the basis of the NSSO's consumption data. Both suggest socio-economic and demographic characteristics of households as important determinants of OOP health expenditure. They also suggest catastrophic threshold level of households in India as much lower than many other Asian countries.

On the question of the threshold limit of catastrophic expenditure, the available literature has no standard limit. It varies from OOP health expenditure above 10 % of the total household expenditure to 0 % in case of the below-poverty households. In our study, we have tried to follow a flexible threshold limit instead of relying on an arbitrary level of either 10 % or more or less.

1.5 Objectives of the Study and Spatial Coverage

As is evident, despite being a country with high economic potential and impressive GDP growth over the recent past, India remains seriously confronted with malfunctioning of its health system with serious implications for low-income rural and urban households, particularly in states and districts where the poverty situation is acute and the shares of population below the designated poverty line have been large. This is largely corroborated from a number of recent studies (Alam 2007; Chaudhury 2005; World Development Report 2004; Berman and

Khan 1993) and surveys with focus on delivery of services in various health domains (NFHS-3, 2005–2006; NSS 60th round, January–June 2004; NSS 52nd round, July 1995–June 1996). These studies also suggest a gradual decline in utilisation of public sector facilities, often on account of dissatisfaction with the service quality (Ager and Pepper 2005; Misra et al. 2003; Babu et al. 2000). This slippage, in other words, implies a growing dependence of households on private medical facilities resulting into disproportionately higher out-of-pocket expenses on diagnostics and other components of medical care. Studies reveal that the poorest 10 % of the country's population rely on sale of their assets or on borrowings to access and meet the cost of medical services (Dilip and Duggal 2002).

Besides generating a whole range of debate around the paucity of public health financing and market failure risks (see the edited volume by Preker and Guy 2004), this whole phenomenon has a number of other important social dimensions as well as significant implications for the well-being of individuals from low-income households. The entire issue becomes further complicated if other medical expenses, in particular the costs of drugs and medicines, are also accounted for.[8] There are apprehensions that the cost of medical drugs is likely to grow further with ongoing changes in drug pricing mechanism (alteration in list of essential drugs and changes in nature of disease mix) and also under the complex regime of patenting and TRIP rights.[9]

Two important documents—the 60th round of the National Sample Survey on Morbidity, Health Care and the Conditions of the Aged (January–June 2004) and the report of the NCMH (September 2005, Ministry of Health and Family Welfare, Government of India)—bring out some of these facts in considerable details. To illustrate, the 60th round of the National Sample Survey (electronic version) clearly reveals very poor utilisation of the health-care facilities provided by the government. Contrasted with earlier findings, these results indicate a significant decline even in utilisation of inpatient facilities offered by the state-run hospitals. The NCMH (September 2005) too has made more or less similar observations,[10] suggesting a disproportionately higher OOP spending on health services by the low-income rural and urban families.

Despite the reverberating nature of these apprehensions and their contributions towards the growing debate on the need for a greater and more effective role of public sector in delivery and financing of health services, the emerging literature has however largely failed to decompose the effects of health expenditure by some of its

[8] Reportedly, households in India spend 50 % of their total health expenditure on drugs.

[9] Many believe integration with the global pharmaceutical market will help in acquiring latest technology. It may however increase prices and hinder many from accessing a number of essential drugs, especially in a situation when over 75 % of the drugs in India are outside the price control regime.

[10] See, for example, the Financing and Delivery of Health Care Services in India, National Commission on Macroeconomics and Health, Ministry of Health and Family Welfare, Government of India (August 2005).

major components—diagnostics, medical consultations, drugs or medicine, etc.—on the coping up strategies of rural and urban households in general and those engaged in low-paid casual employment in particular. Several of these issues may be aggravated further if the households are located in high-poverty districts with inadequate income-generating opportunities.

This study was drawn on some of these considerations and designed to examine private household expenditure on treatment of ailing family members by its various components—drugs/medicines, diagnostics and other expenditure items including consultations. In addition, attempts were made to assess the extent of borrowings used to finance medical expenditures and their consequences for households' abilities to meet the basic food and non-food requirements of the family or household members. Opaquely, though, one of the important value additions of this study may also be noticed if judged from the viewpoint of an ever-growing debate in the public policy arena on drug pricing and enlisting of essential medicines commonly used by low-income rural and urban households in the country.

The study focuses more conclusively on the following specific issues:

1. An analysis of the patterns of treatment of short- (past 30 days) and long- (past 365 days) duration morbidity under different socio-economic and ethnic settings. A part of the analysis was also devoted to examine the role of health expenditure in pushing households to fall below the poverty line and face catastrophe—amounting to a significant decline in overall welfare and non-food consumption expenditure of households. There was also concern with regard to the prevalence, intensity and causal risk factors associated with catastrophic health spending of households.
2. An assessment of the total and disaggregated expenditure incurred in treatment of short- and long-duration ailments and the sources used to generate the requisite finances including past savings, asset liquidations, borrowings from moneylenders and assistance drawn from informal support networks.
3. A review of expenditure on the purchase of medical drugs (including life-saving drugs and general medicines) as a proportion of the total health budget for the treatment of short- (without hospitalisation) and long- (hospitalisation) duration ailments. This analysis was basically conducted to derive host of policy options required to reduce OOP health spending and its size. If drug expenses constitute the bulk of private health spending, leading many to face catastrophe, the government has to become more vigilant in terms of its drug pricing policy. Overprescription of medicines and other malpractices may also need attention.
4. Resources mobilised by households to meet medical expenses, especially those on drugs, medicines and other services.
5. If the NRHM has in any way helped in protecting poor households from the adverse economic consequences of illness episodes in rural areas.

The study specially attempted to identify policy interventions to help the low-income rural, urban and slum households during disease episodes and reduce the OOP expenses.

1.5.1 Spatial Coverage

Considering the inadequacy of secondary data sources to examine in depth the nature of health-care services accessed by households of smaller cities or villages at the time of disease incidence and what means do they adopt to meet the cost of these health services, this study was conducted with the help of a comprehensive survey conducted in selected districts of UP and Rajasthan. An attempt was also made to include Delhi as one of the study areas for its wider representation of population from different parts of the country. Further, coverage of Delhi was also considered to help in broadening the scope of this study by a brief review of the situation faced by slum dwellers in a city as significant as Delhi.

The choice of UP and Rajasthan as the states to examine some of the issues highlighted in the preceding section was made on two specific considerations: (i) their higher poverty levels (the real PCMCE in Rajasthan was Rs. 165 in 1995–1996 and grew to Rs. 177 in 2004; the same for UP turns out to be Rs. 143 and Rs. 163, respectively) and (ii) a relatively weaker demographic status (CBR, CDR and e^0 for Rajasthan: 29.0, 9.1 and 63 years in 2001, while for UP it was reported as 31.7, 10.9 and 60.4, respectively). The former has particularly been among the states with weak socio-demographic indicators and many of its districts with a very large fraction of people below the poverty level.

Yet another consideration in selection of these two states was their locational proximity, making data collection and associated logistics simpler. There was also no insurmountable language problem.

1.6 Collection of Primary Data: Survey Design and Selection of Households

This study was conducted largely through a survey in selected districts of UP and Rajasthan considering the inadequacy of town- or village-level data to examine in depth the nature of health-care services accessed at the time of disease incidence by households of different socio-economic denominations, what means they adopt to meet the cost of these health services and the economic ramifications. As was noted, both of these states have not only suffered from higher poverty ratios but they were also stymied because of their poor demographic

performance. To complete the regional configuration and also to examine the issues faced especially by the slum households, it was subsequently decided to include the capital city of Delhi as well.

1.6.1 Selection of Study Areas and Sample Design

Confining somewhat narrowly in scope to only the country's northern belt (UP, Rajasthan and Delhi) and also to a predetermined sample size of 2010 rural and urban households, a multistage sampling procedure was adopted for the collection of field data. The PSU remains the household. To begin with, it was decided to select two districts each from both the major states. These districts were chosen on the basis of poverty measurements derived by the Ministry of Rural Development on the basis of its 2002 BPL Survey, using a set of about 13 critical attributes indicating level of deprivation and poverty at the unit level.[11] The same criterion and data source were used to select the districts in both the states.

Of the two districts, one was drawn from the high-poverty population, i.e. from the cluster of districts with more than 50 % population or families above the officially defined poverty norm. The reverse was followed to decide on the second district. To be more precise, the criteria adopted for selection of districts were as below:

District 1:	Selected from the group of districts with more than 50 % population (or families) below officially defined poverty level
	All the districts ranked in descending order and a median district chosen
District 2:	Selected from the group of districts with less than 50 % population (or families) below officially defined poverty level
	All the districts ranked in descending order and a median district chosen

Appendix Tables 1.A.1 and 1.A.2, respectively, provide a list of districts in each state and their corresponding below-poverty populations arranged in descending order. Based on this criterion, a total of four districts were selected from UP and Rajasthan:

UP	High-poverty district:	Unnao (59.5 % below-poverty population)
	Low-poverty district:	Jhansi (29.2 % below-poverty population)
Rajasthan	High-poverty district:	Dungarpur (57.1 % below-poverty families)
	Low-poverty district:	Dausa (17.6 % below-poverty families)

[11] Unlike the NSSO, the poverty estimates provided by the Ministry of Rural Development are based on total count data and therefore considered more reliable for application at district or sub-district levels. There are however questions about the adequacy of the deprivation indicators used to decide poverty. Further changes in the list of poverty indicators and methodology are currently in progress.

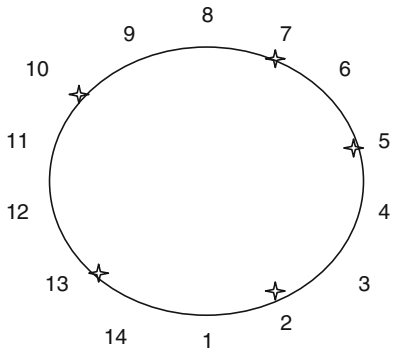

Fig. 1.7 Circular systematic sampling procedure

Second stage of the sampling was to select a tehsil (or town) from each of the four identified districts in both the states. These tehsils were later used for selection of villages and urban blocks from where the PSUs of households were drawn.[12] The tehsils were chosen purposively to ensure easier access to the PSUs as the survey was conducted during the peak summer months—April to June 2007—to avoid rains or busy agricultural season and also to minimise the risks of high seasonal diseases.

At the third stage, a set of villages and urban municipal wards was selected from every town by employing a circular systematic sampling (CSS).[13] A total of 5 urban wards and 15 villages from UP and 3 urban wards and 10 villages from Rajasthan were considered to derive the sample households (or PSUs). Finally, a sample of 50 households from each of these villages and urban ward were selected—again by using the CSS method. Figure 1.7 summarises this entire sampling procedure.

1.6.2 Selection of Sample Households: Delhi

Using district-wise shares of population in all the nine Census districts of Delhi, we have distributed a predetermined sample of 360 urban households across the city by covering a little over 28 % of them from the Census-identified slums. The remaining non-slum households combined a mix of all the income categories, social groups and residents from different localities.

[12]Towns and villages were drawn on the basis of 2001 Census records.

[13]The circular systematic sampling (CSS) method was suggested as part of the NSS instructions to field workers in 1952 and the NSSO has been using the CSS method since then. This method regards total (N) units of wards, villages or households as arranged around a circle, and consists in choosing a random start from 1 to N instead of from 1 to k, where k is the integral value nearest to N/n, where n is number of sample units. To illustrate, let $N=14$, $n=5$, and k (i.e. N/n) be taken as 3. If random start r ($1 \leq r \leq 14$) is 7, then the sample units with serial numbers 7, 10, 13, 2 and 5 are included. The CSS has two principle advantages: (1) It provides constant sample size; and (2) sample mean remains unbiased estimator of population mean (Murthy 1967). Diagrammatically, this method may be represented as below.

1.6.3 Distribution of the Total Sample

A final distribution of sample households across three different states and identified districts, towns, villages, slums and non-slums is given in Table 1.4 (also see Fig. 1.8). It may be noticed that the biggest share of the predetermined sample of households was assigned to UP because of its size followed by Rajasthan and Delhi. Rural households have received primacy as was expected because of the rural complexion of both the states. The reverse is true for Delhi.

In addition to our own unit-level data from high- and low-poverty districts of the selected states, several secondary data sources, in particular the 60th and 61st rounds of NSS and town and village directories of the Census 2001, were used for the analysis. The NSS reports and the household data obtained from them were used primarily to understand the broader picture and also to check for the accuracies of our own results. We nevertheless agree that the NSS data do not hold for making comparisons at the district or the subdistrict levels.

1.7 Research Questions and Profile of Study Areas

1.7.1 Survey Protocol and Its Issues

A comprehensive, structured and multi-part questionnaire was prepared to collect information from selected rural and urban households (PSUs) in UP, Rajasthan and Delhi. From beginning to end, the entire protocol was divided into 14 different parts, covering almost five major groups of information. These include:

- Socio-economic details of the households and their members including their age–sex profiles, relationship with the head of the household (usually the basic point of consultation), educational attainments, work status, residential characteristics (rural–urban), housing conditions, access to public health facilities, road links with the PHCs, possession of consumer durables and landholdings for agricultural purposes (both arable and fallow).
- Access of households to selected health and non-health facilities run by the government. Some of the questions included in this part of the questionnaire have also been directed to explore—although cursorily—any improvements in delivery of services experienced by households since the inception of the NRHM and the National Rural Employment Guarantee Scheme (NREGS).
- Food and non-food consumption expenditure of the households based on dual reference periods, namely, past 30 days and past 1 year as was usually followed by the NSSO. Attempts have also been made to examine the debt incidence among the sample households, type of moneylenders accessed by them and purpose of borrowings differentiated by taking into consideration events such as health, education, investment and major consumption requirements including

Table 1.4 Distribution of sample households: UP, Rajasthan and Delhi

UP: sample households—1,000				Rajasthan: sample households—650			
250 urban and 750 rural				150 urban and 500 rural			
Urban sample: Unnao		Urban sample: Jhansi		Urban sample: Dungarpur		Urban sample: Dausa	
Unnao town (MB)	Sample wards = 3	Mauranipur town (MB)	Sample wards = 2	Sagwara town (MB)	Sample wards = 2	Bandikui town (MB)	Sample wards = 2
Municipal wards = 25	CSS *N*/*n* = 25/3 *K* = 8 Sample HHDs = 150	Municipal wards = 25	CSS *N*/*n* = 25/2 *K* = 13 Sample HHDs = 100	Municipal wards = 20	CSS *N*/*n* = 20/2 *K* = 10 Sample HHDs = 100	Municipal wards = 15	CSS *N*/*n* = 15/1 *K* = 15 Sample HHDs = 50
Rural sample: Unnao		Rural sample: Jhansi		Rural sample: Dungarpur		Rural sample: Dausa	
Unnao tehsil	Sample villages = 9	Mauranipur tehsil	Sample villages = 6	Sagwara tehsil	Sample villages = 5	Baswa tehsil	Sample villages = 5
Total villages = 288	CSS *N*/*n* = 288/9 *K* = 32 Sample HHDs = 450	Total villages = 152	CSS *N*/*n* = 152/6 *K* = 25 Sample HHDs = 300	Total villages = 203	CSS *N*/*n* = 203/5 *K* = 41 Sample HHDs = 250	Total villages = 211	CSS *N*/*n* = 211/5 *K* = 42 Sample HHDs = 250

Delhi: no. of sample households by Census districts—total HHDs 360 (all urban)

Census districts	Pop. share (%)	No. of slum HHDs	Non-slum HHDs	District total
1. North-West District	18.6	15	52	67
2. North Delhi	5.5	6	14	20
3. North-East District	12.8	14	32	46
4. East Delhi	12.8	18	28	46
5. New Delhi	1.1	1	3	4
6. Central Delhi	4.7	5	12	17
7. West Delhi	15.0	17	37	54
8. South-West Delhi	9.4	1	33	34
9. South Delhi	20.0	25	47	72
Total	100.0	102	258	360

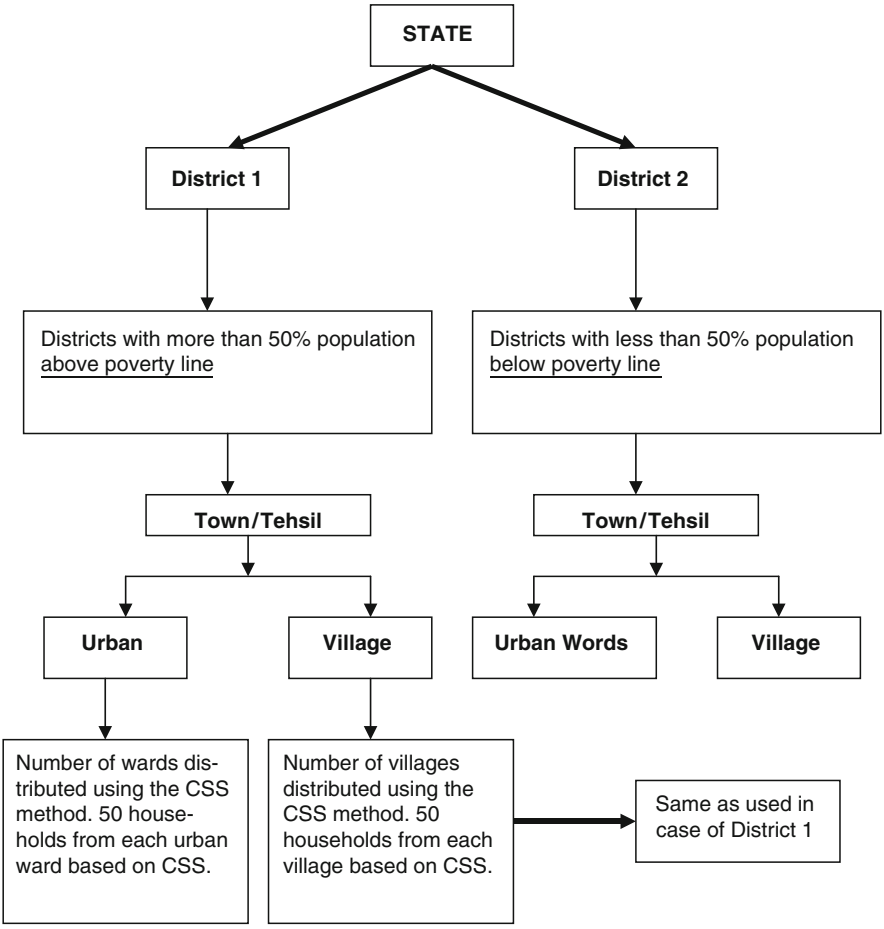

Fig. 1.8 Selection of PSUs in UP and Rajasthan

marriages. All the information was used to examine the poverty status of the households and health catastrophe suffered by them over the period of study. Some attempts have also been made to examine the household transfers to meet the health-care needs of the elderly (65 years or more) family members by sex.

- Disease episodes, both with and without hospitalisation, utilisation of public/private health facilities, choice of health providers and other related details including itemised health-care expenditure and share of money spent on medicines, diagnostics and so on.
- Last few sections of the survey protocol were devoted to understand the views of the households on measures required to improve the health delivery mechanism in the country by public bodies. These households were also asked to give their views on introduction of a universal and low-premium health insurance system and their participation in such a scheme.

1.7.2 Districts' Profile

1.7.2.1 District Unnao

Situated between the two important cities—Lucknow, a cultural centre, and Kanpur, an industrial city—and flanked by rivers Ganga and Sai, Unnao is a part of central UP with a total population of 27,00,426 in 2001. The district is divided into five tehsils—Unnao, Hasanganj, Safipur, Purwa and Bighapur—and 16 development blocks including Ganj Moradabad, Bangarmau, Fatehpur Chaurasi, Safipur, Miyanganj, Auras, Hasanganj, Nawabganj, Purwa, Asoha, Hilauli, Bighapur, Sumerpur, Bichia, Sikandarpur Sirausi and Sikandarpur Karan. Primarily sustaining on agriculture, about 92 % of the district area is under cultivation.

The district is roughly a parallelogram in shape and lies between latitude 26°8′ N and 27°2′ N and longitude 80°3′ E and 81°3′ E. It is bound on the north by district Hardoi, on the east by district Lucknow, on the south by district Rae Bareli and in the west by the sacred river Ganga which separates it from districts Kanpur and Fatehpur.

1.7.2.2 District Jhansi

Jhansi is another historically significant district of UP and the gateway to economically backward and drought-prone region of Bundelkhand. The area grew in popularity during the reign of the Maratha rulers and its valiant queen Rani Lakshmibai who fought against the Britishers during the 1857 revolt.

Jhansi is the administrative seat of the entire Bundelkhand Division. The famous national highway project of the central government resulted in good economic progress and a reduction in the overall poverty level of the region and the Jhansi district by the end-1990s, but serious drought conditions and the slower pace of the highway project have restored poverty and severe economic strain to the entire region. It was decided to include this district in our analysis because of the rising concern expressed by planning bodies about its poor economic conditions and growing poverty levels.

1.7.2.3 Dausa District

A district of Jaipur Division in north-eastern Rajasthan, Dausa district has a total population of over 1.32 million according to the 2001 Census. Almost a third of this population is completely illiterate. Dausa is bound by several important districts including Alwar, Bharatpur, Karauli and Jaipur—most of them are among the famous tourist destinations of Rajasthan. The entire district is divided into five tehsils—Baswa, Dausa, Lalsot, Mahwa and Sikrai. The Sawa and Ban Ganga rivers run through the district.

Agriculture is the main occupation of the local people, and the main crops grown in the district are wheat, bajra, rapeseed, mustard and groundnuts.

1.7.2.4 Dungarpur District

Dungarpur is situated in the southernmost part of Rajasthan. On the eastern and northern sides of the district are Banswara and Udaipur, respectively. The southern and the western sides adjoin the state of Gujarat. Dungarpur is the smallest district of Rajasthan with a population size of about 1.11 million; more than half this population (i.e. 51.4 %) is illiterate. Most of the district is hilly with poor soil quality. The overall land productivity in the district is, therefore, rated very low with more than 50 % of the families living below the poverty level. The economic situation is slightly better in areas adjoining Gujarat state.

1.7.2.5 Delhi and Its District

The capital city of Delhi, which in many ways holds the status of a full state, is situated in the northern part of India and stands on the west bank of river Yamuna. The city is bound on one side by UP and on the north, west and southern sides by Haryana. Delhi is spread over an area of 1,483 km^2 and has an urban population of about 12.9 million as shown in 2001 Census. A very large proportion of this population is constituted by migrants from nearby states with a sizeable share of them engaged in low-income informal economic activities and residing in scattered slums all across the urban parts of the city.[14] Most of them are without adequate civic facilities, in particular water, power and sewage. Delhi is also the fifth most populated urban area in the world.

As was noted earlier, the entire state of Delhi has officially been divided into nine administrative districts.[15] These districts, further divided into 27 subdivisions, include North, Central, New Delhi, North-East, South, East, North-West, West and South-West; New Delhi (1.1 %) and South Delhi (20 %) are the smallest and the largest in terms of population size, respectively. The survey conducted for this study has attempted to cover all the nine districts and their slums; however, due to very small sample size for a few smaller districts, it was decided to combine them with neighbours to avoid null cells.

Delhi has the advantage of a mixed population originating not only from the neighbouring states but also from most of the country and its regions. The people from neighbouring states however outnumber the rest. This makes Delhi multiethnic, multicultural and multilinguistic.

[14] Around 16 % of the total population in urban Delhi was residing in slums as reported by the Census 2001 (Census of India 2001, Slum Population, Series – 1, Statement 1.1).

[15] More or less the same geographical distribution was followed for Census purposes as well.

Appendix

Table 1.A.1 Districts by size of BPL population: UP (rural), 2002 (%) used to decide study areas in UP

Districts by share of BPL population: descending order							
BPL: 50 % and more		BPL: below 50 %					
1. Kaushambi	74.65	18. Kanpur (Nagar)	49.93	39. Gonda	36.95	60. Hathras	17.91
2. Hardoi	74.00	19. Pratapgarh	49.09	40. Kannauj	35.85	61. Etah	17.26
3. Bahraich	72.11	20. Lucknow	49.06	41. Balrampur	35.69	62. Mathura	16.24
4. Mirzapur	68.38	21. Ghazipur	48.50	42. Azamgarh	32.87	63. Aligarh	14.64
5. Sonbhadra	64.53	22. Jalaun (Orai)	48.34	43. Farukkhabad	32.64	64. Firozabad	13.61
6. Kanpur Dehat	60.87	23. Faizabad	48.22	44. Rampur	31.83	65. Budaun	12.24
7. Shravasti	60.53	24. Basti	47.64	45. Maharajganj	30.76	66.Muzaffarnagar	11.68
8. Unnao	**59.51**	25. Etawah	46.34	46. Lalitpur	30.47	67. Deoria	11.67
9. Ambedkar Nagar	59.15	26. Barabanki	46.15	**47. Jhansi**	**29.19**	68.Bulandshahar	10.34
10. Rae Bareli	57.78	27. S. K. Nagar	45.99	48. Gorakhpur	28.24	69. Meerut	8.38
11. Sitapur	57.46	28. Hamirpur	45.32	49. Allahabad	28.17	70. Ghaziabad	7.12
12. Chitrakoot	55.13	29. Pilibhit	45.23	50. Bareilly	27.50	71.Baghpat	6.66
13. Sultanpur	54.62	30. Jaunpur	43.65	51. Saharanpur	24.56		
14. Shahjahanpur	54.11	31. Mau	43.34	52. J.P. Nagar	24.45		
15. Ballia	51.55	32. Orraiya	43.23	53. Varanasi	24.24		
16. Lakhimpur Kheri	51.01	33. Chandauli	43.10	54. Bijnor	23.67		
		34. Fatehpur	42.77	55. S.R. Nagar	22.74		
		35. Siddharthnagar	42.74	56. Mahoba	21.33		
		36. Kushinagar	42.66	57. Moradabad	19.77		
		37. Mainpuri	42.52	58. Agra	19.43		
		38. Banda	40.85	59. G.B. Nagar	19.00		

Sources: Ministry of Rural Development, Government of India, BPL Survey (2002a); http://www.ansiss.org/doc/seminar2007July20-22/a_k_singh.doc

Table 1.A.2 Share of BPL families by districts: a criterion used to decide study areas in Rajasthan (rural–urban combined), 2002

S. No.	Districts	Percentage of BPL families
District with more than 50 % BPL families		
1	**Dungarpur**	**57.05**
Districts with less than 50 % BPL families		
1	Banswara	45.30
2	Barmer	36.45
3	Udaipur	36.27
4	Bikaner	32.56
5	Jalor	31.59
6	Karauli	27.17
7	Rajsamand	26.10
8	Jaisalmer	25.49
9	Baran	24.09
10	Ganganagar	21.01
11	Sawai Madhopur	18.93
12	Bundi	18.54
13	Hanumangarh	18.10
14	Dhaulpur	17.94
15	Bhilwara	17.92
16	**Dausa**	**17.59**
17	Churu	17.48
18	Jodhpur	17.22
19	Jhalawar	17.09
20	Chittaurgarh	15.73
21	Pali	13.55
22	Sirohi	13.52
23	Bharatpur	13.22
24	Nagaur	11.90
25	Tonk	10.89
26	Kota	10.22
27	Alwar	8.26
28	Jaipur	6.99
29	Sikar	6.31
30	Ajmer	6.03
31	Jhunjhunu	3.39

Source: Ministry of Rural Development, Government of India, BPL Family Survey (2002b)

Cut-off income to decide the BPL population

State	Rural	Urban
Delhi	410.38	612.91
UP	365.84	483.26
Rajasthan	374.57	559.63

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Chapter 2
Population Size and Composition of Sample Households

Characteristically, perhaps there may not be too many commonalities to make the three underlying states—UP, Rajasthan and Delhi—mutually comparable. Among the few that make them to a certain extent comparable is that each of these states belongs mostly to the northern belt of the country and they largely remain monolingual with Hindi as the dominant language of daily usage. In most other cases, all the three states are mutually far apart with Delhi being the smallest in terms of population size and UP the largest. Compared to UP and Rajasthan, Delhi provides much better socio-economic opportunities to its residents and has a considerably higher per capita income with better access to medical and public health-care services. These interstate differences are expected to embody the socio-economic and health conditions of individuals and households described in the rest of this or in subsequent chapters.

2.1 Sample Households and Composition of Sample Population

Distribution of households in all the three states and their respective districts is given in Table 2.1. Three locational categories of households have been analysed in the rest of the analysis for their OOP spending on diseases with or without inpatient care. These are, as noted earlier, a total of 1,250 rural and 400 urban households from UP and Rajasthan and 360 households from Delhi. Delhi households were further broken into slums and non-slums with the latter numbering 258 and the remaining 102 were drawn from the identified slums. In all, rural households constituted over 62 % of the total sample while the rest came from slums and non-slums of the urban locations.

Population size, sex and religious composition of the households covered in the study are provided in Table 2.2. While all other distributions in this table are on expected lines, the share of women in the sample of all the four districts in UP and Rajasthan is smaller—implying more men in many of the sample households than

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Table 2.1 Distribution of sample households by three reference states and districts

Sample districts and states	Rural		Urban		
	No. of villages	No. of HHDs	No. of urban wards	No. of HHDs	
Unnao	9	450	3	150	
Jhansi	6	300	2	100	
1. UP	*15*	*750*	*5*	*250*	
Dausa	5	250	1	50	
Dungarpur	5	250	2	100	
2. Rajasthan	*10*	*500*	*3*	*150*	
			Slums	**Non-slums**	**Total HHDs**
West Delhi	–	–	17	37	54
Central Delhi	–	–	5	12	17
South Delhi	–	–	25	47	72
East Delhi	–	–	18	28	46
New Delhi	–	–	1	3	4
North-West	–	–	15	52	67
North Delhi	–	–	6	14	20
South-West	–	–	1	33	34
North-East	–	–	14	32	46
3. Delhi	–	–	*102*	*258*	*360*

Table 2.2 Size and religious composition of sample households

States/ districts	No. of HHDs	Size and sex composition of sample population			Average HHD size	Religion-wise distribution of sample population (%)				
		Persons	Male	Female		Hindu	Muslim	Sikh	Christian	Others
Unnao	600	3,436	53.3	46.7	5.7	92.17	7.67	0.00	0.17	0.00
Rural	450	2,635	53.2	46.8	5.9	91.56	8.44	0.00	0.00	0.00
Urban	150	801	53.8	46.2	5.3	94.00	5.33	0.00	0.00	0.00
Jhansi	400	2,167	52.6	47.4	5.4	83.00	16.75	0.25	0.00	0.00
Rural	300	1,601	52.5	47.5	5.3	84.67	15.33	0.00	0.00	0.00
Urban	100	566	52.8	47.2	5.7	78.00	21.00	1.00	0.00	0.00
UP	*1,000*	*5,603*	53.0	47.0	*5.6*	88.5	11.3	0.10	0.10	0.00
Dausa	300	1,704	52.7	47.3	5.7	91.67	8.33	0.00	0.00	0.00
Rural	250	1,394	52.8	47.2	5.6	94.80	5.20	0.00	0.00	0.00
Urban	50	310	52.3	47.7	6.2	76.00	24.00	0.00	0.00	0.00
D. Pur	350	1,819	52.4	47.6	5.2	92.00	3.71	0.00	0.00	4.29
Rural	250	1,311	52.3	47.7	5.2	99.60	0.40	0.00	0.00	0.00
Urban	100	508	52.8	47.2	5.1	73.00	12.00	0.00	0.00	15.00
Rajasthan	*650*	*3,523*	52.6	47.4	*5.4*	*92.00*	*3.71*	*0.00*	*0.00*	*4.29*
Slum	102	569	47.5	52.5	5.6	74.50	24.50	0.00	1.00	0.00
Non-slum	258	1,368	52.3	47.7	5.3	89.53	4.65	3.49	1.94	0.39
Delhi	*360*	*1,937*	50.9	49.1	*5.4*	*85.27*	*10.28*	*2.50*	*1.67*	*0.28*

Table 2.3 Share of different social groups in sample population (%)

	Social groups				
Districts/states	SC	ST	OBC	Others	Total
UP	*23.90*	*2.60*	*51.70*	*21.80*	100
Unnao	23.00	0.17	55.50	21.33	100
Jhansi	25.25	6.25	46.00	22.50	100
Rajasthan	*20.46*	*33.08*	*29.23*	*17.23*	100
Dausa	29.67	30.00	34.67	5.67	100
Dungarpur	12.57	35.71	24.57	27.14	100
Delhi	*23.06*	*2.22*	*19.44*	*55.28*	100
Slums	35.29	3.92	21.57	39.22	100
Non-slum	18.22	1.55	18.6	61.63	100
Total sample	22.64	12.39	38.66	26.32	100

women. The slum households of Delhi are however the only exception where women constitute over 52 % of the sample. In a situation of growing male migration, these results may look somewhat arbitrary. They however match fairly closely with the Census figures for 2001.

Hindus dominate the overall distribution of the sample population followed by the Muslims. Sikhs are only visible in Delhi. No other religion seems to have any significant presence in study areas selected from UP and Rajasthan. In terms of social groups, the sample represents the low and the backward castes (SC and OBC) fairly well; the former, for example, turns out to be over a fifth (22.6 %) of the total sample while the latter is nearly double of that (38.7 %) (see Table 2.3). The share of upper castes in the sample is relatively much smaller in Dausa (Rajasthan) due to the primacy of the lower castes and STs in the region. As a whole, however, the upper castes constitute around a fourth of the total sample (Table 2.3).

2.2 Age–Sex Distribution of Sample Population, Average Household Size and Nuclearisation of Families: Rural and Urban Areas

Age distribution of the sample population in all the districts (Table 2.4, panel 1) reinforces the pattern observed for most of the country with very high share of working age populations in the 15–59 years age group, implying a large-scale pressure of jobseekers in the coming years on the clearance mechanism of the labour market. As the current economic regime in the country is either incapable of creating adequate employment opportunities for such a high proportion of a billion plus population or capable of creating new opportunities only in low-wage informal economy, the issues of poverty, working poor and income inequalities are likely to be more commonly

Table 2.4 Age distribution of sample population by districts and states (%)

Districts/state	0–4	5–14	15–24	25–39	40–59	60 and more	Total
Panel 1: age distribution by districts							
UP	9.46	23.93	20.92	21.22	17.15	7.32	100.0
Unnao	9.14	24.56	21.57	20.58	17.05	7.10	100.0
Jhansi	9.97	22.93	19.89	22.24	17.31	7.66	100.0
Chi2 (6) = 6.615; Pr. = 0.358							
Rajasthan	9.42	24.55	20.92	22.17	16.80	6.13	100.0
Dausa	8.57	25.35	22.59	20.25	17.14	6.10	100.0
Dungarpur	10.23	23.80	19.35	23.97	16.49	6.16	100.0
Chi2 (6) = 14.240; Pr. = 0.027							
Delhi	8.42	20.39	21.48	22.20	19.51	8.00	100.0
Non-slum	7.16	18.13	19.96	23.90	21.35	9.50	100.0
Slum	11.42	25.83	25.13	18.10	15.11	4.39	100.0
Chi2 (6) = 52.577; Pr. = 0.000							
Panel 2: age distribution of sample population by rural and urban							
Unnao (*UP*)							
Rural	9.94	26.41	21.25	19.77	15.94	6.68	100.0
Urban	6.49	18.48	22.6	23.22	20.72	8.49	100.0
Total	9.14	24.56	21.57	20.58	17.05	7.1	100.0
Chi2 (5) = 38.904; Pr. = 0.000							
Jhansi (*UP*)							
Rural	9.93	23.92	19.80	21.61	17.05	7.68	100.0
Urban	10.07	20.14	20.14	24.03	18.02	7.60	100.0
Total	9.97	22.93	19.89	22.24	17.31	7.66	100.0
Chi2 (5) = 3.969; Pr. = 0.554							
Dausa (*Raj*)							
Rural	8.25	25.47	22.96	19.44	17.50	6.38	100.0
Urban	10.00	24.84	20.97	23.87	15.48	4.84	100.0
Total	8.57	25.35	22.59	20.25	17.14	6.10	100.0
Chi2 (5) = 5.445; Pr. = 0.364							
Dungarpur (*Raj*)							
Rural	10.60	24.41	19.76	22.88	15.64	6.71	100.0
Urban	9.25	22.24	18.31	26.77	18.70	4.72	100.0
Total	10.23	23.80	19.35	23.97	16.49	6.16	100.0
Chi2 (5) = 8.515; Pr. = 0.130							
Social groups	Panel 3: age distribution of sample population by social groups						
SC	9.56	24.85	22.09	20.23	16.59	6.67	100.0
ST	10.29	28.36	20.28	21.09	15.14	4.85	100.0
OBC	9.43	23.91	21.66	21.59	16.9	6.5	100.0
High caste	8.24	19.33	19.4	23.47	20.22	9.34	100.0
Total	9.27	23.51	21.02	21.69	17.45	7.06	100.0
Chi2 (15) = 105.604; Pr. = 0.000							

prevalent in many of the areas under study.[1] OOP expenses on health and inadequate health provisioning obviously are of a much serious concern under these settings. Some of these issues are examined in the next few chapters of this study.

[1]For interesting discussions on some of these issues, see Rodgers (2007), Chakravarty and Mitra (2009), Carr and Chen (2004), and RoyChowdhury (2007), etc.

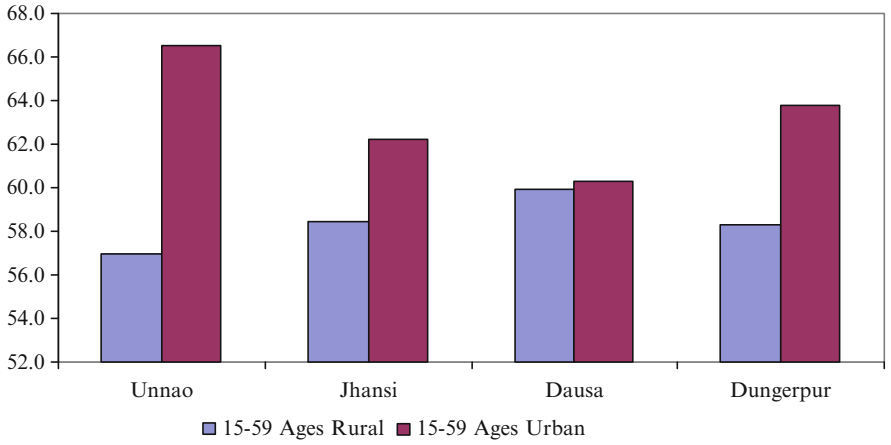

Fig. 2.1 Rural–urban differences in shares of working age population (*Source*: Table 2.4, panel 2)

Another notable observation stemming from panel 2 of Table 2.4 (see also Fig. 2.1) relates to the differentials in rural–urban age composition of populations. The higher proportions of 15–59 populations in all the four urban locations (Fig. 2.1) are indicative of the following: (i) There appears to be quite a high degree of migration to cities by working age rural people of the areas under review, and (ii) the pattern of age distribution given in Table 2.4 (panel 2) is indicative of the pattern of health-care services required in areas under study. A higher proportion of 15–59 population may, inter alia, bring greater demand for reproductive and childcare services. Similarly, a growing proportion of the older persons (considered in this analysis as those aged 60 or over) may press for geriatric services required for treatment of older persons. Significance of χ^2 in several cases indicates location (i.e. rural/urban) and caste (see panel 3 of Table 2.4) as influencing factors to bring differentials in age composition of populations.

From the viewpoint of living arrangement, India is fast moving towards becoming a nuclear household society, and this has emerged from various data sources including the National Family Health Survey (NFHS-3) conducted across the country in 2005–2006 (National Family Health Survey 2007). The NFHS-3 revealed that 60.5 % of the households at the all-India level were nuclear and only the remaining 40.5 % were either multigenerational or constituted by other forms of households. What was, however, to some extent surprising is that states like UP and Rajasthan, generally considered as traditional with older values still in practice, are also becoming dominantly nuclear with families comprising parents and dependent children. This may be noticed from Table 2.5 and its two graphs shown in Figs. 2.2 and b. UP appears to be more nuclear than Rajasthan, though a more definitive argument cannot be made based on this data. On hindsight, however, it appears that irrespective of location, families are changing their traditional roles and turning to participate more in income-generating

Table 2.5 Type of sample households (%)

	Unnao			Jhansi			Dausa			Dungarpur			Delhi		
Type of households	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Slum	Non-slum	Total
Single member	2.2	3.3	2.5	1.0	0.0	0.8	2.4	0.0	2.0	4.0	1.0	3.1	2.3	1.0	1.9
Nuclear	70.4	59.3	67.7	64.7	75.0	67.3	62.4	52.0	60.7	61.6	66.0	62.9	59.7	81.4	65.8
Multigenerational	24.4	36.0	27.3	30.7	20.0	28.0	32.0	44.0	34.0	32.4	32.0	32.3	36.4	16.7	30.8
Multifamilies	2.9	1.3	2.5	3.7	5.0	4.0	3.2	4.0	3.3	2.0	1.0	1.7	1.6	1.0	1.4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Chi2(3) = 9.193			Chi2(3) = 5.572			Chi2(3) = 3.788			Chi2(3) = 2.686			Chi2(3) = 15.336		
	Pr. = 0.027			Pr. = 0.134			Pr. = 0. 285			Pr. = 0. 443			Pr. = 0.002		
Female-headed HHDs (%)	7.0	8.7	7.5	4.7	4.0	4.5	8.0	6.0	7.7	7.2	7.0	7.1	10.8	10.9	10.8

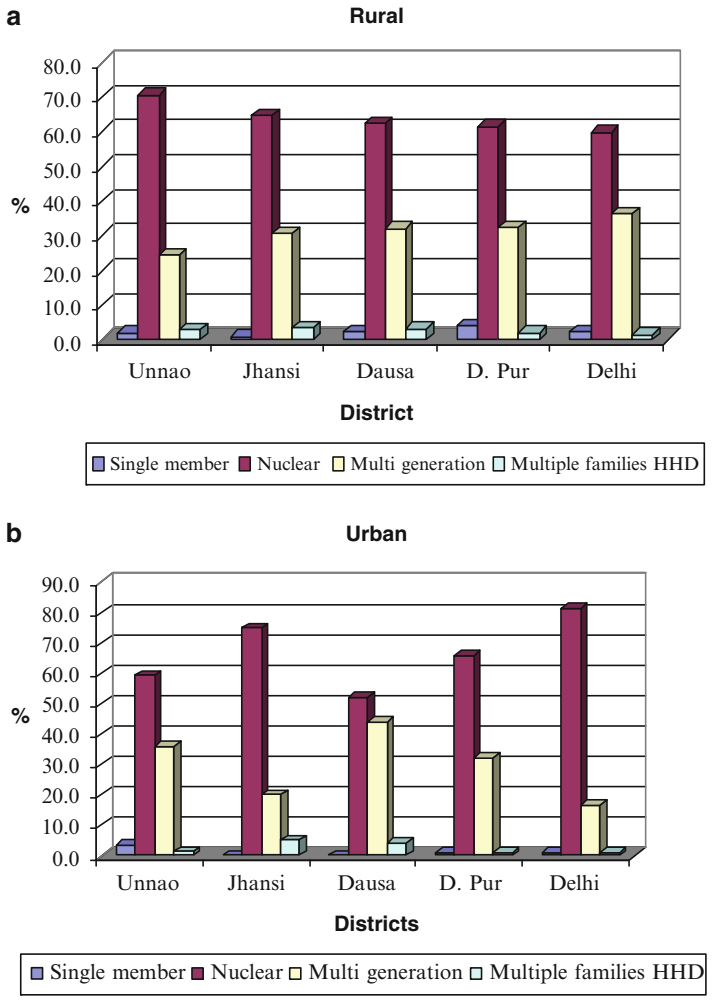

Fig. 2.2 (**a**) Type of households: rural (*Source*: Table 2.5). (**b**) Type of households: urban (*Source*: Table 2.5)

activities. This may however pose many serious questions including the one that arises from the growing need for elderly care or caring for the sick and disabled family members.

Average size of the sample households stood between five and six with the lowest (5.3) relating to the non-slum urban households in Delhi (Table 2.2). The share of female-headed households is also relatively higher in Delhi (Table 2.5), though a big majority of them come from the loner (or one person) households.

Appendix

Table 2.A.1 Distribution of sample populations in Delhi: slum and non-slum households

	Sample population: non-slum			Sample population: slums		
Districts	Male	Female	Total	Male	Female	Total
West Delhi	14.0	14.3	14.1	15.9	12.0	13.9
Central Delhi	4.9	4.4	4.7	5.9	3.0	4.4
South Delhi	18.0	17.6	17.8	24.8	24.4	24.6
East Delhi	11.3	11.3	11.3	17.0	18.7	17.9
New Delhi	1.0	1.2	1.1	1.1	1.3	1.2
North-West Delhi	20.5	21.0	20.8	13.3	14.0	13.7
North Delhi	6.3	5.5	5.9	7.0	9.4	8.3
South-West Delhi	10.1	11.3	10.7	1.1	0.7	0.9
North-East Delhi	14.0	13.2	13.6	13.7	16.4	15.1
Total Delhi (Nos.)	716	652	1,368	270	299	569

Source: Author's Survey on OOP Health Expenditure (2008)

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Chapter 3
Socio-economic Variations, Consumption Poverty and Health-Generated Inequalities in Sample Population

3.1 Socio-economic Characteristics of Sample Population

The preceding chapter has highlighted a few socio-demographic attributes of the sample households drawn from selected districts or subdistricts (also known as tehsils) in UP, Rajasthan and Delhi. It was noticed from the analysis of these attributes that the capital city of Delhi has certain advantages over the rest, although there appear to be some notable differences between its slum and non-slum households. The two, for example, differed largely in terms of sex distributions. To be more specific, of all the locations and districts covered in the study, a higher fraction of female population may only be noticed in the slum households in Delhi. In addition, the share of their youth population in the 15–24 age groups is also relatively higher, indicating certain differentials in their fertility behaviour with the rest of the sample.

All along these spatial differentials, there is another interesting phenomenon emanating from the same discussion, i.e. a large spread and abounding nuclearisation of families even in villages of UP and Rajasthan where many traditional values are still in vogue. This phenomenon of fast-growing changes in family norms and erosion of traditional forms of living may cause difficulties to many, especially while coping with serious family matters such as prolonged ailments or long-term care provisioning for the aged, diseased or functionally disabled. There may be added complexities if the households and its members are also goaded with poor literacy levels, lack of participation in remunerative economic activities and poor consumption levels and forced to rely on their own to meet expenses arising out of unexpected events like ailments and medications. We try to examine some of these issues focusing on sample of populations described in the preceding chapter. A great deal of this chapter is particularly devoted to discuss overall and health-driven poverty among the sample population.

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3.1.1 Educational Status of Sample Population

The educational distribution of sample population in Table 3.1 does in no way contribute to the feelings of any marked improvement over past few decades in social status of populations in districts of both the major states under consideration. The same may as well be true for the slum households in Delhi.

Admittedly, while none of these samples are representative in character and may not therefore be used to make generalisations, there is indeed an indication that a very large percentage of people in smaller towns and low-income residential areas of places like Delhi are either illiterate or semi-literate with their educational attainments perhaps not adequate to prevent poor health and poverty. Table 3.1 brings out these facts very clearly. Broadly, about a third of the total sample population (i.e. between 30 and 36 %) in most of these places is shown as completely illiterate with the highest level of illiteracy being found among the slum residents in Delhi. Another 50 % of them are below matriculate with a large fraction being simply educated up to the primary level or even less. Only about a twentieth of the total respondents were holding a degree from higher educational institutions. There was also a very small fraction of respondents in all the three states with a degree or diploma in professional courses (Table 3.1).

Another significant but a long-drawn observation stemming from Table 3.1 relates to a considerably higher gender gap in levels of educational attainment. That the sex of an individual does have a role in educational attainment is clearly evident from the chi2 test as well (see χ^2 values in Table 3.1).

The usual rural–urban divide in terms of educational status of populations has remained clearly visible from our sample as well, with residents living in urban areas being better educated than their rural counterparts. These details are given in an Appendix Table both for the entire sample and for two major states under consideration. Like sex, individuals' place of residence is also an important source of differentials in educational status, and the χ^2 values in Appendix Table 3.A.1 reflect this significantly.

Indeed, while most of what has been described in the preceding discussion may not look different from many other studies or help to find an out-of-the-box solution to these long-drawn and well-recognised issues (see, e.g. Probe Team Report 1999; Shah and Rani 2003; Dreze and Murthi 2001), they may nevertheless prove as a marker to substantiate the argument that the country and its planning bodies may not be able to do much in terms of health as long as states like UP and Rajasthan—with a considerably high weightage in country's overall population—remain educationally weak. In addition, the current regime of the NRHM, believed to work wonders in improving the health status of rural people, may or may not go beyond a certain limit. A more holistic regime covering postprimary education and all other health domains beyond reproductive health may need to be developed.

Table 3.1 Literacy level of sample populations (%)

	Unnao			Jhansi		
Educational level	Male	Female	Total	Male	Female	Total
Panel 1: UP						
Illiterate	23.7	41.7	32.1	22.9	45.0	33.4
Lit. without formal education	2.1	2.0	2.0	2.4	1.0	1.7
Up to 5th standard (primary)	34.5	27.8	31.4	28.4	28.3	28.4
7th–8th standard (middle)	17.7	13.7	15.8	23.8	13.7	19.0
Matriculate	9.7	6.1	8.0	8.7	5.1	7.0
Higher secondary	5.7	4.9	5.3	6.5	3.7	5.2
Graduates and above	5.6	3.2	4.5	6.0	3.0	4.6
Diploma/certificate	0.6	0.2	0.4	1.1	0.2	0.7
Degree in technical/professional education	0.4	0.4	0.4	0.2	0.0	0.1
Total literacy level	76.3	58.3	67.9	77.1	55.0	66.6
Literate + illiterate	100.0	100.0	100.0	100.0	100.0	100.0
Chi-sq. (9)	Chi-sq. (9) = 136.421; Pr. = 0.000			Chi-sq. (9) = 153.224; Pr. = 0.000		
	Dausa			Dungarpur		
	Male	Female	Total	Male	Female	Total
Panel 2: Rajasthan						
Illiterate	21.2	49.4	34.5	22.9	38.8	30.5
Lit. without formal education	1.0	1.0	1.0	1.6	2.4	2.0
Up to 5th standard (primary)	28.6	28.6	28.5	30.3	28.2	29.3
7th–8th standard (middle)	27.3	15.4	21.7	19.3	14.7	17.1
Matriculate	11.8	4.5	8.3	10.1	7.9	9.0
Higher secondary	5.5	0.9	3.3	6.9	4.2	5.6
Graduates and above	4.5	0.3	2.5	6.6	3.0	4.9
Diploma/certificate	0.1	0.0	0.1	0.4	0.0	0.2
Degree in technical/professional education	0.2	0.1	0.2	2.0	0.8	1.4
Total literacy level	78.8	50.6	65.5	77.1	61.2	69.5
Literate + illiterate	100.0	100.0	100.0	100.0	100.0	100.0
Chi-sq. (9)	Chi-sq. (9) = 212.086; Pr. = 0.000			Chi-sq. (9) = 74.900; Pr. = 0.000		
	Non-slum			Slum		
	Male	Female	Total	Male	Female	Total
Panel 3: Delhi						
Illiterate	9.5	19.6	14.3	25.9	44.5	35.7
Lit. without formal education	0.4	1.4	0.9	1.5	1.3	1.4
Up to 5th standard (primary)	25.2	20.7	23.1	43.3	39.2	41.1
7th–8th standard (middle)	13.0	11.5	12.3	15.2	9.4	12.1
Matriculate	15.5	13.0	14.3	9.3	4.4	6.7
Higher secondary	11.9	12.0	11.9	3.3	1.0	2.1
Graduates and above	16.8	16.7	16.7	1.5	0.3	0.9
Diploma/certificate	1.0	1.5	1.2	0.0	0.0	0.0
Degree in technical/professional education	6.8	3.5	5.3	0.0	0.0	0.0
Total literacy level	90.5	80.4	85.7	74.1	55.5	64.3
Literate + illiterate	100.0	100.0	100.0	100.0	100.0	100.0
	Chi2 (9) = 41.068; Pr. = 0.000			Chi2 (7) = 38.386; Pr. = 0.000		

3.1.2 Work Status of Sample Population

Functional status of the sample population has been obtained by going into the following details. Initially, all the respondents were asked to provide their activity status, namely, working or nonworking. Those who reported working were again classified into 'main' and 'marginal' workers—with the former including men and women engaged physically or mentally in certain income generating activities for most of the year (those with a lesser duration of paid work were categorised as marginal workers). Finally, all the workers were regrouped into (i) regular workers, (ii) casual workers with uncertain length of employment, (iii) those working on their own or engaged in small family enterprises and (iv) persons employed under the centrally administered National Rural Employment Guarantee Scheme (NREGS).

Drawing upon the criteria noted above, functional status of the sample population is described in the rest of this discussion with two specific points to be highlighted clearly. First, the results of this analysis suggest a somewhat lower activity status of the population under reference; however, in several cases, it matches fairly closely with the Census figures obtained for corresponding districts in 2001 Census (see Appendix Table 3.A.2). And second, the female activity status in our case appears to be at a lower side and may therefore be an underestimate. Such issues however arise in surveys focusing on nonlabour issues.

It appears from the figures given in Table 3.2 that less than a third of the total sample population in majority of cases is economically active with considerable gender differentials. Barring Dungarpur in Rajasthan, nowhere the shares of working women exceed over 13 % of their reported total population. With almost a quarter of the total women engaged in one or the other economic activities, Dungarpur has indeed remained distinct from all other districts under the study (Table 3.2). The χ^2 values also indicate gender as an important distinguishing factor between men and women in their functional status.

Unlike gender, place of residence apparently plays hardly any significant role in pushing families and households to become economically more engaged. The figures given in Table 3.3 do not show too many major differences in activity status of rural and urban households recruited from different districts/tehsils. Barring Dungarpur where differentials in activity status between rural and urban areas are considerably large (see panel 1 of Table 3.3), there is no similar example from any other places covered in the study. In all other cases, the observed differentials remained marginal. This is true for the slums and non-slums in Delhi as well.

A distribution of sample population into four social groups—SC, ST, OBC and high castes—reveals that the highest fraction of 'working' people belonged to the ST category with more than 35 % of them having reported themselves as economically active (panel 3, Table 3.3). The rest three (in particular SC and OBC) were significantly behind, and the size of their working males and females was in the vicinity of 30–31 % of their respective populations.

Table 3.2 Activity status of sample population ($N = 11{,}063$) (%)

	UP (Unnao + Jhansi)			Unnao			Jhansi		
Activity status	Male	Female	Total	Male	Female	Total	Male	Female	Total
Working	49.1	7.7	29.6	48.3	7.0	29.1	50.2	8.9	30.6
Not working	50.9	92.3	70.4	51.7	93.0	71.0	49.8	91.2	69.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N (number)	2,972	2,631	5,603	1,833	1,603	3,436	1,139	1,028	2,167
Chi2	1.1E+03	Pr.	0.0E+00	709.444	Pr.	0.000	435.442	Pr.	0.000
	Rajasthan (Dausa + Dungarpur)			Dausa			Dungarpur		
Activity status	Male	Female	Total	Male	Female	Total	Male	Female	Total
Working	48.2	16.3	33.1	45.6	8.1	27.8	50.6	24.1	38.0
Not working	51.8	83.7	66.9	54.5	91.9	72.2	49.4	76.0	62.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N (number)	1,852	1,671	3,523	898	806	1,704	954	865	1,819
Chi2	402.014	Pr.	0.000	297.182	Pr.	0.000	136.084	Pr.	0.000
	Delhi (slum + non-slum)			Slum			Non-slum		
Activity status	Male	Female	Total	Male	Female	Total	Male	Female	Total
Working	48.4	11.7	30.4	49.3	10.0	28.7	48.0	12.4	31.1
Not working	51.6	88.3	69.6	50.7	90.0	71.4	52.0	87.6	68.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N (number)	986	951	1,937	270	299	569	716	652	1,368
Chi2	3.1E+02	Pr.	0.000	106.802	Pr.	0.000	202.194	Pr.	0.000

About three-quarters (74.2 %) of the working males have reported themselves as the main workers—implying they had paid employment for about 180 days or more during most of the preceding 12 months. The rest however failed to meet this criterion and reported being unemployed for a greater part of the year. They were therefore considered as marginal workers (Table 3.4, panel 1). Women, as usual, suffered from double jeopardy; only a fewer of them were working, and those working were mostly in low-quality unskilled employment (panel 2, Table 3.4).

A considerably large fraction of the unskilled employment created under the NREGA September 2005 to improve livelihood conditions of rural households has seemingly gone to women, especially in both districts of Rajasthan. In contrast, however, a bulk of employed women in UP is engaged in highly unsecure casual employment. In addition, they were also reportedly working in small home-based activities as self-employed or were own-account workers. Both underscore the earlier argument, suggesting women being a lower partner in economic well-being.

In addition to women, many of those engaged in lower category employment invariably comprise persons from the lower echelons of the caste hierarchy including the SC (29.7 % in regular employment and the rest as casuals, self-employed or NREGS-created activities), ST (16.6 % in regular employment) and OBC (23 % in regular employment) (Table 3.4, panel 3).

Table 3.3 Activity status of sample population by rural–urban and social groups

Analytical variables	Working (%)	Not working (%)	Row total (%)	*N* (number)	Chi2 Value	Chi2 Pr.
Panel 1: rural–urban						
Unnao						
Rural	28.7	71.3	100.0	2,635	0.550	0.458
Urban	30.1	69.9	100.0	801		
Jhansi						
Rural	31.4	68.6	100.0	1,601	1.668	0.197
Urban	28.5	71.6	100.0	566		
UP total	29.6	70.4	100.0	5,603		
Dausa						
Rural	28.2	71.8	100.0	1,394	0.538	0.463
Urban	26.1	73.9	100.0	310		
Dungarpur						
Rural	40.6	59.4	100.0	1,311	13.386	0.000
Urban	31.3	68.7	100.0	508		
Rajasthan total	33.07	66.93	100.0	3,523		
Delhi slum	28.7	71.3	100.0	569	1.114	0.291
Delhi non-slum	31.1	68.9	100.0	1,368		
Delhi total	30.4	69.6	100.0	1,937		
Panel 2: total sample (*UP, Rajasthan and Delhi*) *by sex and rural–urban*						
Male	48.7	51.3	100.0	5,810	1.8e+03	0.000
Female	11.2	88.8	100.0	5,253	DF (1)	
Male–female combined	30.9	69.1	100.0	11,063		
Rural	31.5	68.5	100.0	6,941	3.202	0.074
Urban	29.8	70.2	100.0	2,185		
Rural–urban combined	30.9	69.1	100.0	11,063		
Panel 3: social groups						
Scheduled caste (SC)	30.2	69.8	100.0	2,531	17.687	0.001
Scheduled tribe (ST)	35.5	64.5	100.0	1,361	DF (3)	
Other backward (OBC)	29.6	70.4	100.0	4,367		
Upper caste (HC)	31.2	68.8	100.0	2,804		

DF degrees of freedom

3.1.3 Nonworking Population

Table 3.5 presents a few important underlying factors responsible for a big majority of the respondents to be out of the workforce. One of the most significant factors keeping a big majority of the younger population out of workforce is the participation in educational activities. It turns out to be the case in all the districts including slums and non-slums. It may however be interesting to note a big gender gap in reporting education as a reason for non-participation in labour force activities. Also, this gap exists irrespective of the places under study and includes even households from the non-slum areas of Delhi. Another dominant reason for not being able to

Table 3.4 Categorisation of workers and nature of activities: gender, rural–urban and social groups

Analytical variables	Type of workers			Nature of work			
	Total workers	Main workers	Marginal workers	Regular	Casual	Own account[a]	NREGS[b]
Panel 1: total sample							
Total sample	3,414	74.2	25.8	29.1	35.6	7.7	27.7
Male	2,827	80.4	19.6	29.5	38.3	30.3	1.9
Female	587	44.3	55.7	26.9	22.2	15.3	35.6
Rural	2,184	63.4	36.6	18.5	45.0	24.6	12.0
Urban	1,230	93.4	6.6	47.9	18.8	33.3	0.1
Panel 2: distribution by gender and place of residence							
Unnao							
Male	886	73.1	26.9	24.5	35.3	2.3	37.9
Female	112	49.1	50.9	29.5	42.0	0.0	28.6
Chi2	27.576	Pr.	0.000	Chi2 (3)	7.082	Pr.	0.069
Rural	757	64.9	35.1	17.8	40.4	39.1	2.6
Urban	241	88.0	12.0	47.7	22.4	29.9	0.0
Jhansi							
Male	572	75.9	24.1	12.2	56.3	30.4	1.1
Female	91	46.2	53.9	17.6	61.5	17.6	3.3
Chi2	34.246	Pr.	0.000	Chi2 (3)	9.544	Pr.	0.023
Rural	502	67.3	32.7	10.8	64.7	22.7	1.8
Urban	161	85.7	14.3	19.9	32.9	47.2	0.0
Dausa							
Male	409	74.8	25.2	20.8	56.5	22.3	0.5
Female	65	23.1	76.9	10.8	20.0	6.2	63.1
Chi2	68.685	Pr.	0.000	Chi2 (3)	266.832	Pr.	0.000
Rural	393	64.1	35.9	19.3	54.5	15.3	10.9
Urban	81	85.2	14.8	19.8	37.0	43.2	0.0
D. Pur							
Male	483	85.9	14.1	40.2	32.5	22.4	5.0
Female	208	18.3	81.7	12.0	3.4	5.3	79.3
Chi2	294.697	Pr.	0.000	Chi2 (3)	406.866	Pr.	0.000
Rural	532	56.9	43.1	25.9	25.9	12.6	35.5
Urban	159	94.3	5.7	50.9	16.4	32.7	0.0
Slum							
Male	133	96.2	3.8	45.9	27.8	25.6	0.8
Female	30	100.0	0.0	43.3	13.3	43.3	0.0
Total	163	96.9	3.1	45.4	25.2	28.8	0.6
Chi2 (1)	0.164	Pr.	0.281	Chi2 (3)	4.983	Pr.	0.173
Non-slum							
Male	344	99.4	0.6	60.2	7.0	32.9	0.0
Female	81	98.8	1.2	79.0	3.7	17.3	0.0
Total	425	99.3	0.7	63.8	6.4	29.9	0.0
Chi2 (1)	0.399	Pr.	0.528	Chi2 (3)	10.070	Pr.	0.007

(continued)

Table 3.4 (continued)

Analytical variables	Type of workers			Nature of work			
	Total workers	Main workers	Marginal workers	Regular	Casual	Own account[a]	NREGS[b]
Panel 3: distribution by social groups							
Social group							
SC	764	72.0	28.0	29.7	44.6	19.5	6.2
ST	483	53.2	46.8	16.6	49.1	9.1	25.3
OBC	1,292	73.3	26.7	23.0	38.2	33.8	5.0
UC	875	89.0	11.0	44.3	16.3	36.1	3.2
Total	3,414	74.2	25.8	29.1	35.6	27.7	7.7
Chi2 (3)	214.143	Pr.	0.000	Chi2 (9)	598.717	Pr.	0.000

[a]Including those working in family businesses
[b]Persons employed under the NREGS

Table 3.5 Distribution of nonworking population by states and districts (%)

	Unnao			Jhansi		
	Males	Females	Both	Males	Females	Both
Retired	4.5	1.9	2.9	1.6	0.1	0.7
Weak, frail, disabled, mentally weak	4.0	2.3	3.0	6.9	2.8	4.3
Students	57.1	30.9	41.1	58.1	27.4	39.0
Unemployed	11.9	8.5	9.8	8.5	4.9	6.3
Housewives	0.2	44.3	27.2	0.2	48.5	30.3
Non-school-going children	21.5	11.5	15.4	21.7	13.3	16.5
Others/voluntarily unemployed	0.6	0.6	0.6	3.0	3.0	3.0
N	947	1,491	2,438	566	937	1,503
Chi2 (8)	577.408, Pr. 0.000			406.016, Pr. 0.000		
	Dausa			**Dungarpur**		
Retired	1.6	0.4	0.9	3.0	0.2	1.3
Weak, frail, disabled, mentally weak	6.6	4.5	5.3	4.3	4.0	4.1
Students	66.6	30.9	45.1	59.7	35.2	45.4
Unemployed	5.1	6.9	6.2	5.9	4.0	4.8
Housewives	0.2	46.4	28.1	0.0	40.8	23.8
Non-school-going children	19.3	10.1	13.8	27.0	13.4	19.1
Others/voluntarily unemployed	0.6	0.8	0.7	0.2	2.6	1.6
N	488	741	1,229	471	657	1,128
Chi2 (8)	340.051, Pr. 0.000			284.681 Pr. 0.000		
	Delhi slum			**Delhi non-slum**		
Retired	1.5	0.4	0.7	8.6	2.1	4.67
Weak, frail, disabled, mentally weak	4.3	1.9	2.7	1.9	0.4	1.0
Students	54.4	28.6	37.4	64.8	30.1	43.8
Unemployed	15.9	9.7	11.8	5.1	4.0	4.5
Housewives	0.7	33.8	22.6	0.3	44.0	26.7
Non-school-going children	21.0	19.0	19.7	13.2	8.8	10.5
Others/voluntarily unemployed	2.2	6.7	5.2	6.2	10.7	8.9
N	138	269	407	372	571	943
Chi2 (8)	71.772, Pr. 0.000			259.581, Pr.0.000		

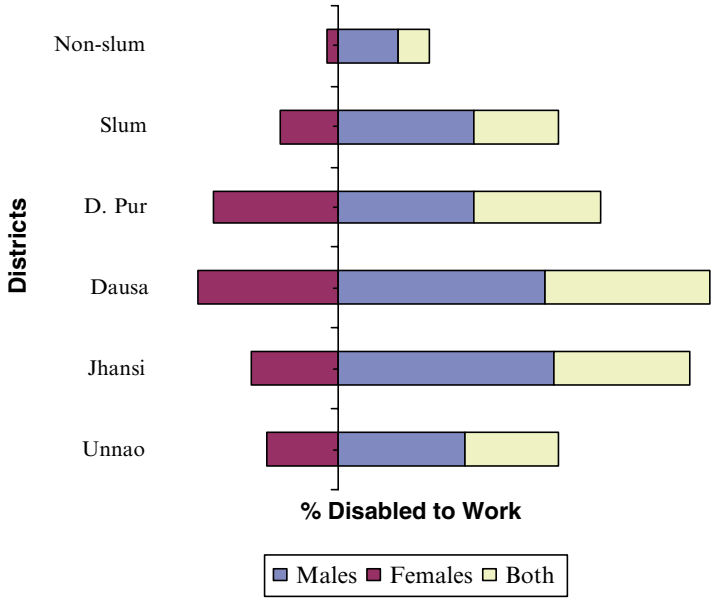

Fig. 3.1 Men and women with work disability: district-wise share

work is unemployment, especially among the people of Unnao in UP and slums of Delhi. A significant proportion of people at both the places do not work for lack of employment.

A more disturbing factor to notice from Table 3.5 is the share of non-school-going children in almost every district and slums. While a big majority of those children (i.e. over three-quarters) were too young and below 4 years of age, almost a fifth of them were grown up and in higher ages as well.[1] Their not attending schools, that too in most places, may look problematic. At stake in a situation like this may be the future of the demographic bonus India is expected to harness in coming years to add to its economic prospects.

Those adding to the size of nonworking household population also include a fraction of persons who are mentally or physically challenged. A small number of persons have also reported to withdraw from active workforce because of post-sickness frailty or senescence. Males in most of these cases outnumber females (Fig. 3.1), perhaps partly on account of the reporting biases. Dausa in Rajasthan reports such cases more than UP or Delhi.

[1] A further scrutiny of this data reveals that around 80 % of them were in the 0–4 age group. The rest were however between 5 and 14 years of age.

3.2 Quality of Life, Consumption Poverty and Inequalities Among the Sample Households

Three broader issues are subjected to a brief examination in the underlying discussion. First is the quality of life of households in terms of selected physical assets owned by groups of people under study and their access to various services relevant on health considerations including domestic power, cooking fuel, sources of water for drinking purposes, toilet system, nearby ponds/river/*nullah* causing dampness and mosquito breeding, scavenging, waste disposal, drainage facilities through public means, telephone communication and access to banking facilities. The other two issues to be examined in the underlying context include the levels and differentials in per capita consumption expenditure of the sample households, which are later used to draw inferences about existing inequalities, consumption poverty and health outcomes of households drawn specifically from high-poverty locations and states. To the extent possible, most of these issues are examined by allowing for differentials between the rural–urban and the slum–non-slum households. Interpretation of our results must however be within the constraints imposed by a small and purposive sampling procedure.

3.2.1 Quality of Life: Housing Conditions, Possessions and Access to Basic Services

Given the broader concerns of this study—which inter alia require examining the size and burden of self-paid health care accessed by households from low-income rural, urban and slum areas of three selected states—it may not be very unlikely to expect a slant in favour of households with poor or moderate living conditions. This comes out very clearly from the bivariate tables given in most of this section to highlight the quality of houses and the facilities availed by the sample population. Table 3.6 and its two sub-tables (Tables 3.6a and 3.6b) bring out very clearly the poor economic background of most households under consideration. Each of these three tables indicates a very modest living by a big majority of the respondents, most of them residing in non-bricked (*kutcha*) dwellings and without most of the facilities required for a healthy living.

The three preceding tables have clearly revealed that a very large number of families in rural and urban areas still reside in *kutcha* or semi-*kutcha* houses without many of the basic amenities like better (smoke-free) cooking fuel, drainage system, toilet facilities and scavenging to their access (see Tables 3.6a and 3.6b). The situation is far worse among the rural residents where almost nine out of ten houses are non-bricked and their residents survive without an in-house toilet or scavenging facilities. These and most other facts emanating from Table 3.6a clearly raise many big questions about the health prospects of rural people who are apparently torn between two basic issues. First is a more or less complete lack of preventive

Table 3.6 Quality of houses and access to daily life services and amenities: total households (%)

				Lighting arrangement		Cooking fuel		Toilet					Scavenging		
Variables	*N*	*Kutcha* and semi-kutch	*Pucca* house	Electricity	Kerosene others	LPG	Coal, firewood, kerosene	Flush toilet	Pit toilet	Field and others	Drainage (*kutcha nali*)	Safe drinking water	Weekly	Monthly	Rarely
Total sample	2010	60.3	39.7	53.6	46.4	30.9	69.1	14.6	25.9	59.5	12.8	96.3	46.9	5.8	47.3
UP	1,000	74.8	25.2	28.8	71.1	19.9	79.1	10.5	17.3	72.2	50.5	97.4	29.8	10.7	59.5
Unnao	600	70.3	29.7	28.8	71.0	24.7	74.3	17.5	12.7	69.8	51.3	96.7	22.7	13.1	64.1
Jhansi	400	81.5	18.5	28.8	71.3	12.8	86.3	0.0	24.3	75.8	49.3	98.5	43.8	6.0	50.3
Rajasthan	650	62.2	37.9	66.6	33.1	20.3	78.8	0.0	29.1	70.9	24.0	92.5	55.1	10.1	34.8
Dausa	300	65.7	34.3	60.7	39.0	10.7	88.7	0.0	21.7	78.3	20.0	96.3	61.3	8.1	30.7
Dungarpur	350	59.2	40.9	71.7	28.0	28.6	70.3	0.0	35.4	64.6	27.4	89.1	51.0	11.5	37.5
Delhi	360	16.7	83.3	99.2	0.8	80.3	8.9	40.3	44.2	15.6	48.6	100.0	73.4	8.3	18.3
Slums	102	46.1	53.9	97.1	2.9	46.1	22.6	0.0	64.7	35.3	76.5	100.0	50.0	7.3	42.7
Non-slum	258	5.0	95.0	100.0	0.0	93.8	3.5	54.3	36.1	9.7	37.6	100.0	80.9	8.6	10.6
Religion															
Hindu	1,789	61.1	38.9	52.8	47.0	29.7	67.5	12.3	24.2	63.5	39.1	95.9	47.0	10.4	42.6
Muslim	188	62.8	37.2	53.2	46.8	30.3	66.5	9.0	36.7	54.3	63.3	98.9	37.8	7.4	54.8
Social group															
SC	455	65.9	34.1	48.4	51.7	21.8	73.4	7.5	22.4	70.1	56.7	97.1	100.0	0.0	0.0
ST	249	85.1	14.9	37.8	61.9	6.4	92.0	1.2	6.8	92.0	4.8	85.9	0.0	0.0	100.0
OBC	777	69.0	31.0	45.1	54.7	23.9	74.4	6.7	24.5	68.9	49.2	97.2	38.9	5.6	55.6
Upper caste	529	31.0	69.0	78.3	21.7	60.3	36.7	30.4	40.1	29.5	42.7	99.1	33.3	11.9	54.8

Table 3.6a Quality of houses possessed by rural households and their access to daily services or amenities (%)

Instrumental variables	Sample households (*N*)	*Kutcha* and semi-*kutcha* house	*Pucca* house	Lighting arrangement		Safe[a] drinking water	Cooking fuel			Toilet			Drainage	Scavenging	
				Electricity	Kerosene and others		LPG	Firewood	Others	Flush toilet, inside	Pit toilet	Field and others	*Kutcha nali*	Frequently	Rarely
Total rural	1,250	81.4	18.6	28.8	71.2	94.2	6.2	93.0	0.8	3.6	9.7	86.7	30.1	4.4	95.6
UP	750	87.3	12.7	9.6	90.4	96.8	4.3	94.9	0.8	3.5	6.4	90.1	44.9	7.2	92.8
Unnao	450	85.8	14.2	8.2	91.8	95.6	6.7	92.7	0.7	5.8	3.8	90.4	52.4	8.5	91.5
Jhansi	300	89.7	10.3	11.7	88.3	98.7	0.7	98.3	1.0	0.0	10.3	89.7	33.7	4.0	96.0
Rajasthan	500	72.4	27.6	57.6	42.4	90.2	9.2	90.0	0.8	0.0	14.6	85.4	7.8	4.9	95.1
Dausa	250	69.6	30.4	54.0	46.0	95.6	5.6	94.0	0.4	0.0	12.4	87.6	7.2	10.0	90.0
Dungarpur	250	75.2	24.8	61.2	38.8	84.8	12.8	86.0	1.2	0.0	16.8	83.2	8.4	0.0	100.0
Religion															
Hindu	1,152	81.3	18.8	29.3	70.7	93.8	6.2	93.0	0.9	1.7	9.5	88.8	28.2	8.0	92.0
Muslim	98	82.7	17.4	22.5	77.6	99.0	7.1	92.9	0.0	6.1	12.2	81.6	52.0	0.0	100.0
Social group															
SC	291	82.8	17.2	23.0	77.0	96.2	3.1	95.9	1.0	0.3	8.3	91.4	35.1	2.8	97.2
ST	231	88.3	11.7	33.3	66.7	84.9	3.0	96.1	0.9	0.0	3.5	96.5	1.7	0.0	100.0
OBC	527	84.1	15.9	23.5	76.5	95.8	5.5	93.7	0.8	2.7	7.4	89.9	37.4	7.8	92.2
Upper caste	201	64.2	35.8	45.8	54.2	97.5	16.4	83.1	0.5	5.5	24.9	69.7	36.3	11.0	89.0

[a]Includes piped water and water from hand pumps and covered well

Table 3.6b Quality of houses possessed by urban households and their access to daily services and amenities (%)

Instrumental variables	Sample households (*N*)	*Kutcha* and semi-*kutcha* house	*Pucca* house	Lighting arrangement		Safe[a] drinking water	Cooking fuel			Toilet			Drainage	Scavenging	
				Electricity	Kerosene and others		LPG	Firewood	Others	Flush toilet, inside	Pit toilet	Field and others	*Kutcha nali*	Frequently	Rarely
Total urban	760	25.7	74.3	94.5	5.5	99.7	71.3	22.8	5.9	32.8	52.6	14.6	60.5	85.9	14.1
UP	250	37.2	62.8	86.4	13.6	99.2	66.8	31.6	1.6	31.6	50.0	16.4	67.2	94.0	6.1
Unnao	150	20.7	76.0	90.7	9.3	100.0	78.7	19.3	2.0	52.7	39.3	6.0	48.0	91.9	8.1
Jhansi	100	57.0	43.0	80.0	20.0	98.0	49.0	50.0	1.0	0.0	66.0	32.0	96.0	97.0	3.0
Rajasthan	150	28.0	72.0	96.7	3.3	100.0	57.3	41.3	1.3	0.0	77.3	22.7	78.0	87.2	12.8
Dausa	50	46.0	54.0	94.0	6.0	100.0	36.0	62.0	2.0	0.0	68.0	32.0	84.0	97.6	2.4
Dungarpur	100	19.0	81.0	98.0	2.0	100.0	68.0	31.0	1.0	0.0	82.0	18.0	75.0	81.3	18.7
Religion															
Hindu	637	24.7	75.4	95.3	4.7	99.8	72.4	21.5	6.1	31.4	50.9	17.7	58.7	89.1	10.9
Muslim	90	41.1	58.9	86.7	13.3	98.9	55.6	37.8	6.7	12.2	63.3	24.5	75.6	73.8	26.2
Social group															
SC	164	36.0	64.0	93.3	6.7	98.8	54.9	33.5	11.6	20.1	47.6	32.3	69.5	84.1	15.9
ST	18	44.4	55.6	94.4	5.6	100.0	50.0	38.9	11.1	16.7	50.0	33.3	44.4	91.7	8.3
OBC	250	37.2	62.8	90.4	9.6	100.0	62.8	33.6	3.6	15.2	60.4	24.4	74.0	86.5	13.5
Upper caste	328	10.7	89.3	98.2	1.8	100.0	87.2	8.2	4.6	45.7	49.4	4.9	46.7	89.0	11.0

[a]Includes piped water and water from hand pumps and covered well

Table 3.7 House ownership status of sample households by states

States/districts	House ownership: total sample			House ownership: rural			House ownership: urban		
	Ancestral house	HHD owned	Others	Ancestral house	HHD owned	Others	Ancestral house	HHD owned	Others
Total sample	56.7	35.1	8.2	70.5	27.2	2.3	34.1	48.0	17.9
UP	67.5	26.0	6.5	73.6	23.5	2.9	49.2	33.6	17.2
Unnao	58.7	32.2	9.1	67.1	28.4	4.4	33.3	43.3	23.4
Jhansi	80.7	16.8	2.5	83.3	16.0	0.7	73.0	19.0	8.0
Rajasthan	57.2	39.3	3.5	65.8	32.8	1.4	28.7	60.7	10.6
Dausa	68.3	30.3	1.4	72.0	27.2	0.8	50.0	46.0	4.0
Dungarpur	47.7	46.9	5.4	59.6	38.4	2.0	18.0	68.0	14.0
Delhi	25.8	52.8	21.4	–	–	–	–	–	–
Slums	13.7	73.5	12.8	–	–	–	–	–	–
Non-slum	30.6	44.6	24.8	–	–	–	–	–	–
Religion									
Hindu	57.3	34.9	7.8	70.1	27.9	2.0	34.1	47.7	18.2
Muslim	54.8	34.6	10.6	74.5	20.4	5.1	33.3	50.0	16.7

mechanism like drainage, regular scavenging, pit/flush toilets and smoke-free cooking fuels. The other significant issue arises due to lack of concern among health officials about the need for nonreproductive health-care services, leaving a big fraction of rural households in the clutches of private health-care providers. The former, which indicates a lack of preventive mechanism, is also an issue that needs to be examined by keeping in mind the financial status of urban and rural bodies which are largely responsible for disease preventive services like scavenging, waste disposal and creation of all weather drainage system. As most of the local governments/bodies are generally constrained because of poor governance and suffer from inadequate finances (partly because of their inelastic tax revenues), they usually remain non-functional in terms of services required to prevent many non-lifestyle diseases.

Urban areas, as expected, remained considerably better and have been able to offer many of the basic facilities to a much bigger fraction of the sample population. Yet, many of the respondents did report poor housing conditions and lack of civic services like chocked drainage and infrequent scavenging (Table 3.6b). Inequalities in access to many of these facilities may as well be noticed across socioreligious groups.

Barring to some extent in Delhi, house ownership in most places is either through inheritance or built and owned by the head of household. Both the patterns jointly account for more than three-quarters of house ownerships in the sample (Table 3.7). Inherited houses are found to be the maximum in UP (67.5 %) followed by Rajasthan (57.2 %). Delhi, in contrast, stands the lowest on this criterion (merely 25.8 %). However, the percentage of houses owned by the head of family is considerably large in Delhi. This is particularly true for the slum dwellers (73.5 %). An inference may therefore be made that the house ownership acts decisively in holding the rein of the family. It holds true for different social groups as well (Figs. 3.2 and 3.3).

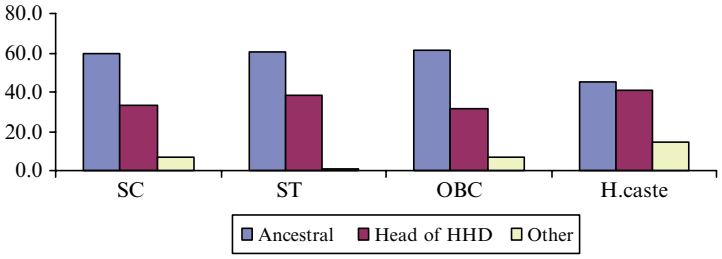

Fig. 3.2 House ownership status by social groups: total sample

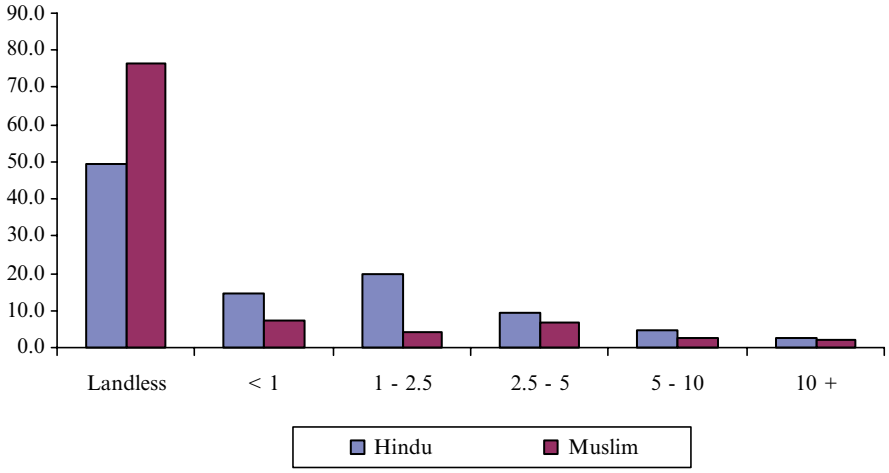

Fig. 3.3 Landholdings by Hindus and Muslims: total sample

Distribution of sample households by size of landholding is given in panels A, B and C of Table 3.8. A point to notice from this distribution is the size of landless households. Even if we ignore Delhi for obvious reasons, the remaining two states—with considerable dependence on agriculture—present a worrisome picture. Almost half of the rural households in both the states are either landless or own a small piece of land measured below an acre in size (Table 3.8, panels A and B). The fraction of households with landholding size over five acres is amazingly low in both the states, for example, little over 10 % in UP and over 4 % in Rajasthan. While it needs to be admitted that the slant in favour of relatively poor districts and households in our sample may have ended up in pulling some of our results down, it may as well be recognised that these results may help to cause some alarm among concerned departments with perhaps a greater realisation about the health risks of people in these districts and their necessary health delivery infrastructure. Simply, a programme with much of its focus being directed to reproductive and (certain domains of) child health may not suffice.

Table 3.8 Landholdings by sample households

Size of landholding (in acres)[a]	UP	Rajasthan	Delhi	Combined
Panel A: distribution by study areas				
Landless	42.6	42.8	98.1	52.6
<1	15.7	18.6	0.0	13.8
1–2.5	20.4	23.7	0.6	17.9
2.5–5	11.2	10.6	0.6	9.1
5–10	6.1	3.5	0.6	4.3
10 +	4.0	0.8	0.3	2.3
N	2,010	1,000	650	360
	UP		Rajasthan	
	Rural	Urban	Rural	Urban
Panel B: distribution by place of residence: rural–urban				
Landless	30.3	79.6	27.4	94.0
<1	19.5	4.4	23.6	2.0
1–2.5	24.8	7.2	30.4	1.3
2.5–5	13.7	3.6	13.2	2.0
5–10	6.8	4.0	4.4	0.7
10 +	4.9	1.2	1.0	0.0
N	750	250	500	150
	SC	ST	OBC	Upper caste
Panel C: distribution by social groups				
Landless	56.5	27.3	50.6	64.1
<1	14.5	21.3	16.6	5.7
1–2.5	19.1	35.3	15.4	12.3
2.5–5	6.8	12.9	9.9	8.1
5–10	3.1	2.8	5.3	4.5
10 +	0.0	0.4	2.2	5.3
N	455	249	777	529

Source: IEG Survey on OOP Expenditure on Health, April–June 2008
[a]1 acre = 1.6 bigha

The situation does not improve either even if we look at the land ownership status of the upper-caste households in the sample. It may be observed from panel C of Table 3.8 that about two-thirds of them are landless, which is even worse than the other lower-caste categories. They are nevertheless slightly better off when it comes to bigger landholdings; more than 5 % of the total higher-caste households owned land above 10 acres in size.

Conforming to the general perception, Muslims are found way behind Hindus; more of them are landless and their landholdings are also relatively smaller.

Of the two other quality-of-life services—the telephone connection and a bank account—the former appears to be much less commonly possessed by the population under study than the latter (Fig. 3.4). Considering the growing penetration of mobile phone services in most of the country including UP and Rajasthan, our results may not be accepted at their face value. A possible explanation of this underestimation may be found in certain confusion among survey teams between the

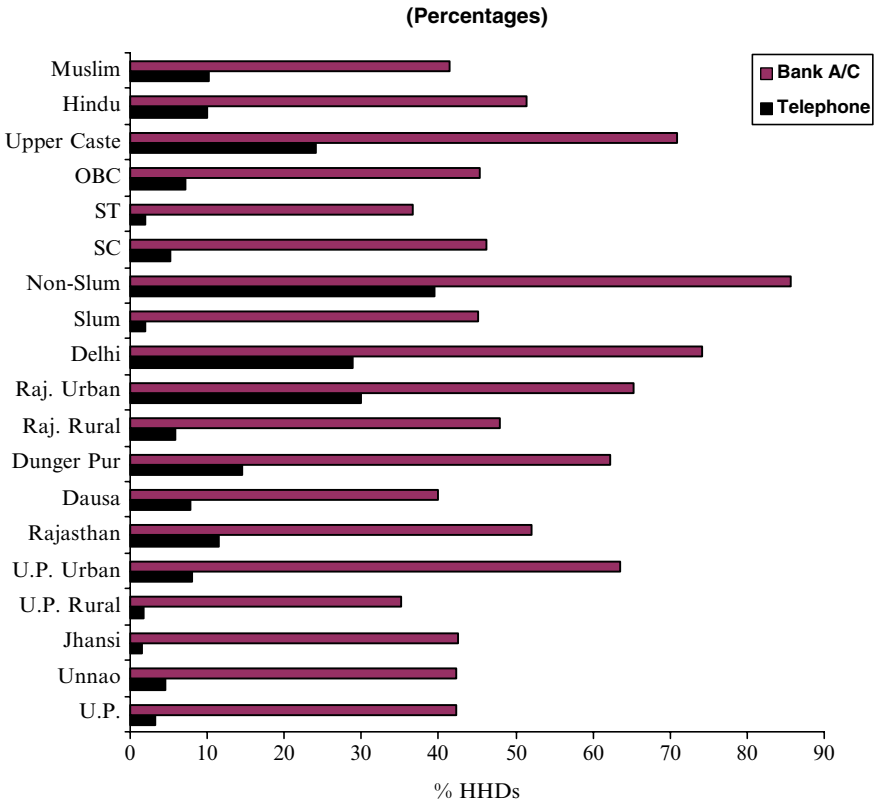

Fig. 3.4 Households with telephone and bank account (percentages) (*Source*: IEG Survey on OOP Expenditure on Health, April–June 2008)

landline and the mobile telephone connections. Disregarding this, the bank account data seems interesting as it indicates a good number of people in most areas, particularly in Delhi and Rajasthan, holding a bank account. Muslims and rural UP and ST households are the exceptions. With 86 % of the total respondents having a bank account, non-slum Delhi is obviously far ahead than many others.

3.3 Households' Consumption Level, Poverty and Inequality: Empirical Findings

This section brings two critical issues under investigation. First, it attempts to provide the socio-economic status of sample households determined on the basis of their food and nonfood consumption expenditure—with and without health care. This may inter alia help us to identify the share of those below an officially designated cut-off poverty level. A part of this discussion is also directed at examining

certain forms of inequalities prevalent among the responding households in rural and urban areas under consideration. The other issue relates to the OOP health spending of households. This issue—one of the critical concerns of the study—is likely to shed some light on the question: How does the OOP spending on health affect the overall socio-economic status of households? In other words, how does this spending push many of the borderline nonpoor households in different states below the threshold level of poverty? There must however be a word of caution. The analysis bears two important data caveats:

1. Most of our data used to analyse poverty and other related issues are obtained on the basis of a compressed consumption schedule (see Appendix Table 3.A.3). This lends us to the risks of some underestimation in the overall consumption level of the respondents. It may in certain cases tend to inflate the poverty level.
2. Given the micro-level of our survey, that too with a tilt in favour of the poor households in relatively high-poverty districts of economically less developed states, our poverty estimates may not be comparable strictly with studies drawn on the basis of the National Sample Survey or other similar data sources. Also, the poverty lines in our analyses are not district specific and relate to the state as a whole.

A part of the analysis in this section is also devoted to making assessments about the households facing a catastrophic situation due to OOP spending on treatment of disease episode(s) in the family. A more decomposed analysis of OOP health-care spending is taken up in subsequent chapters.

In all, four interlinked issues are discussed below:

- First, we briefly present the share of households in each of the five (arbitrarily chosen) PCMCE categories, i.e. from the lowest category of Rs. 500 or below a month to the highest of Rs. 10,001 and above in each of the three states under discussion.
- This is followed by a discussion on sample households below or above the official cut-off levels of poverty (hereafter denoted by *Z*). Two alternative formulations are used to measure poverty levels among the sample households. Poverty type 1 was considered at the combined level after taking into consideration the overall consumption in the household including food, nonfood and all health-related OOP expenses (PCMCE – *Z*).[2] The other (poverty type 2) relates to the households' expenditure after deducting their OOP spending on health. The latter was inter alia computed with a view to make assessments as to how the OOP expenditure on health brings nonpoor households to a poverty situation or, in other words, pushes them into poverty from a non-poverty position.
- Thereafter, we move to the inequalities among the sample households both with and without spending on health care.

Households facing indebtedness because of health and non-health expenses are discussed at the end.

[2] All yearly nonfood data have been converted into monthly format before calculating the PCMCE.

3.3.1 Consumption Levels of Sample Households

A simple distribution of households into five broad levels of monthly per capita consumption expenditures is given in Table 3.9. This table reconfirms a large-scale poverty situation in the two districts of UP (Unnao and Jhansi) with 50 % of its sample households reporting a total of Rs. 500 or less as their total PCMCE including food, nonfood and health care. Even allowing for some overestimation due to data limitations, the fact that a large number of people in the state survive at Rs. 17 a day or less is a scary picture. Rajasthan (Dausa and Dungarpur) is however in a slightly better situation with a lesser fraction of people in Rs. 500 (or Rs. 17 a day) consumption band; its poverty situation is no way less alarming. Another interesting point to notice in both of these states is the fact that almost 90 % of their households belong to the first two PCMCE categories. Delhi turns out to be considerably better than both of them (Table 3.9). The rest of the estimates are mostly on the expected lines with the share of households in the lowest per capita consumption category being the highest both in slums and in rural areas. This is true for the tribal and low-caste households as well. Muslims trail behind the Hindus.

Apart from low PCMCE, a large number of households also suffer from serious inequality issues. While this issue will be considered independently in the next section, Fig. 3.5 clearly brings out considerable disparities between the minimum and the maximum consumption levels of households or their mean consumption levels. This is true for all the three states under reference. The max–min differences are found to be the highest in Delhi (see also Appendix Table 3.A.4).

3.3.2 Poverty Level and Its Measurements

3.3.2.1 Poverty Head Count Ratios

The discussion to follow in the next few sections uses two most commonly derived poverty measures to bring out the points in argument: (i) poverty head count and (ii) poverty gap (PG). Both the measures are applied differently. One is by taking the overall per capita monthly consumption expenditure (PCMCE) as it is and the second after netting out the health-care expenses from it. The latter, as was explained earlier, is expected to highlight the fraction of additional households slipping below the poverty level due to private expenses on health.[3] These measures may also help to judge differences in head count ratios of below-poverty households (H) in different states or by rural–urban and socioreligious groups. The fact that all of these measures are drawn at a micro-level adds to some of the value additions of this study and may also serve in drawing useful insights for making evidence-based policy interventions at the local level. A brief note on both the measures of poverty is in order.

[3] It ought to be pointed out that this study has nowhere tried to differentiate between emergency and nonemergency health-care items or expenditure.

Table 3.9 Distribution of households by PCMCE categories: UP, Rajasthan and Delhi

Household consumption items	Distribution of households by PCMCE levels (%)					*N* row-wise
	<Rs. 500	Rs. 500–1,500	Rs. 1,501–5,000	Rs. 5,001–10,000	Rs. >10,000	
a. Total consumption						
UP[a]	50.1	43.9	5.7	0.3	0.0	1,000
Rajasthan[a]	42.6	46.6	10.6	0.0	0.2	650
Delhi[b]	3.6	48.6	37.5	9.4	0.8	360
Combined states	39.4	45.6	13	1.8	0.2	2,010
b. Food exp.						
UP[a]	88.4	11.4	0.2	0.0	0.0	1,000
Rajasthan[a]	85.54	14.31	0.15	0.0	0.0	650
Delhi[b]	28.61	58.06	13.33	0.0	0.0	360
c. Nonfood exp.[e]						
UP[a]	83.1	14.2	2.6	0.1	0.0	1,000
Rajasthan[a]	75.7	19.4	4.8	0.0	0.2	650
Delhi[b]	40.3	30.3	25.6	3.6	0.3	360
d. Health exp.						
UP[a]	95.1	4.1	0.7	0.1	4.1	1,000
Rajasthan[a]	95.7	3.1	1.2	0.0	3.1	650
Delhi[b]	88.9	8.3	2.8	0.0	8.3	360
e. Place of residence						
Rural[c]	54.3	40.7	4.8	0.1	0.1	1,250
Urban[d]	14.7	53.7	26.5	4.7	0.4	760
Delhi slum	10.8	77.5	11.8	0.0	0.0	102
Delhi non-slum	0.8	37.2	47.7	13.2	1.2	258
f. Social groups (*total consumption*)						
SC	41.8	51.0	7.0	0.2	0.0	455
ST	65.1	29.7	4.4	0.4	0.4	249
OBC	45.6	45.7	8.5	0.3	0.0	777
Upper castes	16.1	48.4	28.7	6.2	0.6	529
f1. Social groups (*health exp.*)[f]						
SC	93.1	5.2	1.5	0.3	0.0	404
ST	97.3	2.7	0.0	0.0	0.0	221
OBC	94.5	4.1	1.3	0.0	0.0	677
Upper castes	89.9	7.9	2.2	0.0	0.0	456
g. Religion (*total consumption*)						
Hindu	39.5	45.7	12.7	2.0	0.2	1,789
Muslim	44.2	46.8	8.5	0.5	0.0	188

Notes:
[a]Rural–urban combined
[b]Combined slum and non-slum households
[c]Combined rural from UP and Rajasthan
[d]Including slums and non-slums
[e]Including health expenditure
[f]Excluding HHDs without any health expenditure during the reference period

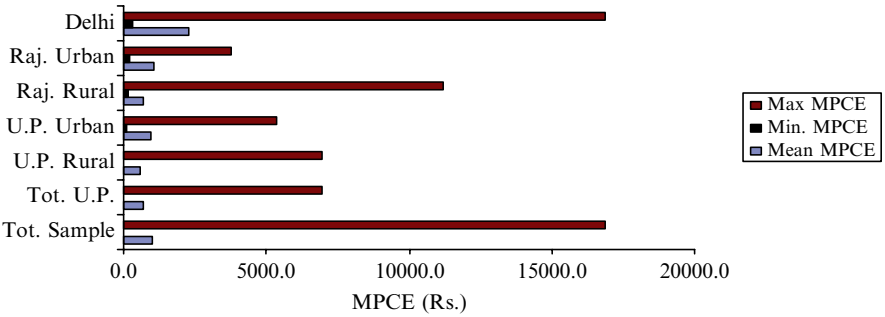

Fig. 3.5 Maximum, minimum and mean consumption level of sample population: UP, Rajasthan and Delhi

3.3.2.2 Poverty Head Count Index (*H*)

As was described before, this measure (hereafter referred to as *H*) provides the share of population below a defined poverty line (*Z*).[4] In other words, it provides the share of population or households below a defined income or consumption level (in our case, $H = Z - \text{PCMCE}$). Going by this definition of poverty, the head count index (*H*) is *q*/*n* where *q* is number of persons with $\text{PCMCE} < Z$ and *n* is the size of the total population (also see Box 3.1). Two measures of *H* are brought under discussion; one is with and the other is without OOP expenses on health.

3.3.2.3 Poverty Gap (PG)

PG, which is generally considered a measure representing the severity of poverty or poverty deficits, is the mean distance separating any population from the poverty line (*Z*). Also it assumes the nonpoor or above-poverty individuals (i.e. PCMCE > poverty line *Z*) at a zero poverty deficit. Like in the case of poverty head count ratios (*H*), here also we make two separate computations, i.e. with and without the households' spending on health. Algebraically, the PG may be expressed as

$$\text{PG} = 1/n \sum_{i=1}^{q} \left[\frac{Z - \text{PCMCE}_i}{z} \right]$$

[4]The defined poverty line for the three states were: UP, rural = 365.24 and urban = 483.26; Rajasthan: rural = 374.57 and urban = 559.63; and Delhi, urban = 612.91 (poverty estimates given by the Planning Commission for 2004–2005, released by Press Information Bureau, Government of India).

Box 3.1: Estimation of Poverty with and Without OOP Expenditure on Health

Consumption poverty head count = q/n

where q is the number of poor households defined as: PCMCE – poverty line Z

If PCMCE < Z, HHD is poor, and 'n' is the number of sample households.

Consumption poverty 1 = MPCE (monthly per capita household consumption expenditure) < Z.

Consumption poverty 2 = (MPCE – OOP health exp) < Z (Fig. 3.6).

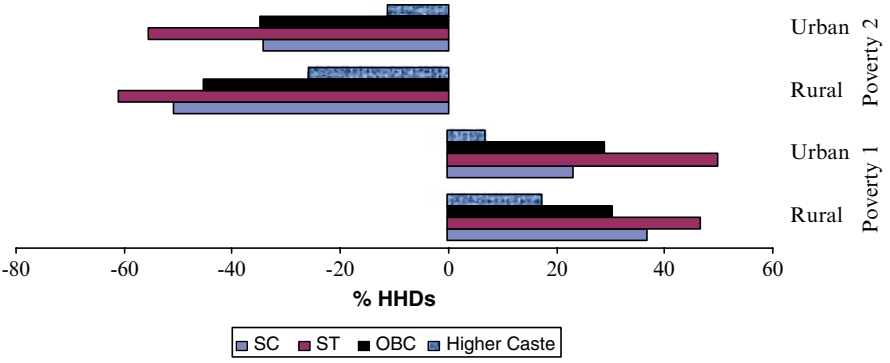

Fig. 3.6 Type 1 and type 2 poverty by social groups

where Z denotes the poverty line of individual states, q is below-poverty households (i.e. households with Z > PCMCE), and n is the number of persons in the sample.[5] At the policy level, PG serves to provide estimates of financial resources required to remove consumption (or income) poverty under a perfectly designed targeting framework. The PGs are calculated to represent both the total and the below-poverty populations.[6] While the former is termed as the *Average PG*, the latter is known as the *Mean Positive Gap*. These measures were bifurcated further by using (i) the total PCMCE and (ii) the PCMCE–OOP (also see Box 3.2).

[5] Poverty gaps are generally measured at the household level, but individual income or consumption can also be used as it is drawn as the mean household income or consumption and remains equal for the entire household.

[6] In one case, n includes poor and nonpoor both, and in another it simply comprises persons or households with Z > PCMCE.

Box 3.2: Estimation of PG with and Without OOP Expenditure on Health

PG: 1a	*PG: 1b*
$\sum(Z-\text{MPCE})/(\text{HHD}_{\text{Poor}}+\text{HHD}_{\text{Non-poor}})$ where, HHD_{Poor} = No. of HHDs with MPCE < Z $\text{HHD}_{\text{Non-poor}}$ = No. of HHDs with MPCE > Z Z = poverty line given by the Planning Commission	$\sum(Z-\text{MPCE})/\text{HHD}_{\text{Poor}}$ where, HHD_{Poor} = No. of HHDs with MPCE < Z Z = poverty line given by the Planning Commission
PG: 2a	*PG: 2b*
$\sum[Z-(\text{MPCE}-\text{OOP})]/\Sigma\ \text{HHD}_{\text{Poor}}$ $+\Sigma\ \text{HHD}_{\text{Non-poor}}$ where, Poor HHD = (MPCE − OOP) < Z HHD_{Poor} = No. of HHDs with MPCE < Z $\text{HHD}_{\text{Non-poor}}$ = Number of non-poor HHDs (MPCE > Z) Z = poverty line given by the Planning Commission	$\sum[Z-(\text{MPCE}-\text{OOP})]/\text{HHD}_{\text{Poor}}$ where, Poor HHD = (MPCE − OOP) < Z HHD_{Poor} = Number of poor HHDs Z = poverty line given by the Planning Commission

3.3.2.4 Poverty Head Count and Poverty Gap: Estimation Results

Table 3.10 provides head count consumption poverty in all the three states and their districts including slum and non-slum households surveyed in the capital city of Delhi. It also gives poverty incidence by social and religious groups. Repeating broadly the pattern represented by the previous table, Table 3.10 also suggests UP and its two districts in a more distressing situation with larger shares of households falling below the poverty threshold level (Z). This pattern is however true for rural UP alone. Urban UP and its districts have performed relatively better. They also perform better than Delhi slums (see Table 3.10).

An interesting observation stemming from this and a few of the forthcoming exercises relates to a significant increase in the fraction of below-poverty households (and poverty deepening may also be noticed from subsequent tables) after netting out the health expenses. This is clearly visible by making a comparison between the two head count poverty levels, i.e. with and without expenses on medical care. 'Consumption poverty 1' and 'Consumption poverty 2' in Table 3.10 provide these details. A comparison between the two indicates that the latter increases the share of below-poverty households to a considerable extent in all the three states—though the magnitude of households falling below poverty level varies from one state to another. The most visible effect of private spending on health may be found in rural and slum areas where the health services are either missing

Table 3.10 Head count of consumption poverty with and without OOP expenditure on health: UP, Rajasthan and Delhi samples (percentage)

Households characteristics	Consumption poverty: 1 (with the total consumption expenditure)		Consumption poverty: 2 (without OOP expenditure on health)	
	Rural	Urban	Rural	Urban
a. UP total	36.0	25.6	49.60	29.60
Unnao	34.7	20.0	48.89	22.00
Jhansi	38.0	34.0	50.67	41.00
b. Rajasthan total	28.4	28.6	41.80	38.00
Dausa	21.6	38.0	34.00	56.00
Dungarpur	35.2	24.0	49.60	29.00
c. Delhi total	–	10.0	–	16.11
Delhi slums	–	26.5	–	41.18
Delhi non-slums	–	3.4	–	6.20
Social groups				
SC	37.1	23.2	50.9	34.2
ST	46.8	50.0	61.0	55.6
OBC	30.6	29.2	45.5	34.8
Upper caste	17.4	7.0	25.9	11.0
Religion				
Hindu	32.6	18.1	46.1	24.0
Muslim	37.8	30.0	51.0	38.9

Calculated on the basis of state-specific poverty line given by the Planning Commission, 2004–2005

or inefficient. This may as well be noticed from the poverty head count results for the urban and non-slum households in Table 3.10. While certain marginal increase may be noticed in the fraction of poor after health-care expenses are deducted from the total PCMCE in most of the urban places, their magnitude is far less than those in villages and low-income slum areas. Even after 3 years of the NRHM, rural health care is seen to hold a much significant place in cross movement of a big proportion of rural people from poverty to non-poverty statuses and vice versa.

PG or the poverty gap, as already described, helps to measure the depth or severity of poverty at different levels. It also provides an important and complementary measure to examine further poverty or its incidence among different population groups and also by taking into consideration alternative ways of defining the PG. The results presented in Table 3.11 are expected to work on some of those lines and help calculating changes in poverty depth by altering the overall (or per capita) consumption expenditure of households with or without OOP health spending—the former was described as PG 1 and the latter was given as poverty gap 2 in tables containing those results. In addition, our results also include calculations based on *Average PG* (total households in the sample including poor and nonpoor) as well as *mean positive poverty gap* (partial sample with only poor households) (see Box 3.2 for more details). Both the sets of calculations may help further in digging into the role of health spending or letting people sink deeper into poverty.

Table 3.11 gives PGs drawn on the basis of both the alternative definitions of consumption expenditure, i.e. with and without OOP spending. It clearly reveals the

Table 3.11 Poverty gap by states, districts, religion and social groups (in rupees)

States and districts	PG 1(including OOP health exp.)				PG 2 (excluding OOP health exp.)			
	PG: 1a (Average PG) Total HHDs		PG: 1b (Mean positive PG) Below-poverty HHDs		PG: 2a (Average PG) Total HHDs		PG: 2b (Mean positive PG) Below-poverty HHDs	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
UP	35.4	34.0	88.7	123.4	47.45	40.48	118.80	146.78
Unnao	37.1	21.3	93.3	108.5	48.75	24.67	122.68	125.88
Jhansi	32.7	52.1	81.1	134.1	45.32	62.85	112.50	161.70
Rajasthan	28.9	48.8	96.4	153.0	36.73	66.53	122.36	208.52
Dausa	19.9	48.6	87.2	124.5	26.44	74.84	115.90	191.74
Dungarpur	38.6	49.0	102.4	177.7	47.68	61.46	126.52	223.02
Delhi	–	12.2	–	103.3		16.95		143.97
Slums	–	31.7	–	103.7		44.17		144.43
Non-slums	–	4.0	–	102.3		5.63		142.49
Social group								
SC	35.9	27.6	87.5	117.5	47.8	38.3	116.5	163.1
ST	49.4	109.8	101.6	189.1	62.5	141.4	128.4	243.5
OBC	30.5	38.5	90.0	123.9	40.9	49.9	120.7	160.5
Upper caste	15.7	12.3	78.2	127.8	20.6	14.6	102.8	151.7
Religion								
Hindu	32.6	25.6	91.7	127.6	42.8	33.4	120.5	166.7
Muslim	36.3	40.2	86.3	124.4	48.3	50.8	114.6	156.9

Note: Calculated on the basis of poverty line (Z) for respective states, Planning Commission (2004–2005)

negative impact of health spending on consumption standards of individuals and households. It also acts to drive low-income people deeper into poverty and may cause an added financial burden to lift them above their fallen position of poverty. Conforming to some of our earlier results, we observe rural parts of UP to be at a more disadvantageous position, though Urban Rajasthan is no less problematic. Similarly, the tribals are also in a difficult situation and health spending makes them suffer with greater PGs (Table 3.11).

The more interesting observations however arise while making a comparison between PGs 1 and 2. The relevance of these results increases when the two PGs are again divided into *average poverty gap* and *mean positive poverty gap*; the latter essentially relies on non-health (i.e. only food and nonfood items) consumption expenditure and also relates to below-poverty households ($Z - \text{PCMCE}_{\text{food+non-food-health exp.}} > 0$). The former has no similar restrictions. Table 3.11a summarises these results with columns 4, 7 and 8 representing the differences between the PGs obtained by making alternative consumption baskets and with or without nonpoor. Without making too many assertions, it may easily be noticed from Table 3.11a that the health spending—which appears to constitute in many cases a much larger share of nonfood consumption expenditure—makes the situation worse. It may be noticed from this table (or even from the previous tables) that the results drawn after dropping the health spending from consumption basket leave a big fraction of households

Table 3.11a Differentials in PGs with and without health spending in PCMCE: total and below-poverty HHDs in sample areas of UP, Rajasthan and Delhi

States and districts	PG 1: total consumption expenditure			PG 2: excluding OOP expenditure on health			
	PG 1a	PG 1b	Diff.: 1a and 1b	PG 2a	PG 2b	Diff.: 2a and 2b	(1a–1b)/ (2a–2b) (%)
Panel 1: rural							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UP	35.4	88.7	53.3	47.5	118.8	71.4	74.6
Unnao	37.1	93.3	56.2	48.8	122.7	73.9	76.0
Jhansi	32.7	81.1	48.4	45.3	112.5	67.2	72.0
Rajasthan	28.9	96.4	67.5	36.7	122.4	85.6	78.9
Dausa	19.9	87.2	67.3	26.4	115.9	89.5	75.2
Dungarpur	38.6	102.4	63.8	47.7	126.5	78.8	81.0
Delhi	–	–	–	–	–	–	–
Slums	–	–	–	–	–	–	–
Non-slum	–	–	–	–	–	–	–
SC	35.9	87.5	51.6	47.8	116.5	68.7	75.1
ST	49.4	101.6	52.2	62.5	128.4	65.9	79.2
OBC	30.5	90.0	59.5	40.9	120.7	79.8	74.6
Upper caste	15.7	78.2	62.5	20.6	102.8	82.2	76.0
Panel 2: urban							
UP	34.0	123.4	89.4	40.5	146.8	106.3	84.1
Unnao	21.3	108.5	87.2	24.7	125.9	101.2	86.2
Jhansi	52.1	134.1	82.0	62.9	161.7	98.9	82.9
Rajasthan	48.8	153.0	104.2	66.5	208.5	142.0	73.4
Dausa	48.6	124.5	75.9	74.8	191.7	116.9	64.9
Dungarpur	49.0	177.7	128.7	61.5	223.0	161.6	79.6
Delhi	12.2	103.3	91.1	17.0	144.0	127.0	71.7
Slums	31.7	103.7	72.0	44.2	144.4	100.3	71.8
Non-slum	4.0	102.3	98.3	5.6	142.5	136.9	71.8
SC	27.6	117.5	89.9	38.3	163.1	124.8	72.0
ST	109.8	189.1	79.3	141.4	243.5	102.1	77.7
OBC	38.5	123.9	85.4	49.9	160.5	110.6	77.2
Upper caste	12.3	127.8	115.5	14.6	151.7	137.1	84.2

with deeper PGs. The situation compounds when the results are restricted to the poor households alone. Also, unlike the general perceptions, a slight modification in definition and composition of consumption basket makes urban population—in particular its poor and tribal segments—look highly vulnerable (see columns 3 and 6 of Table 3.11a, panel 2).

As a whole, two broad observations follow from most of these results. One, OOP health spending still remains a serious issue for a large number of people in both the states and also for the slum households in Delhi. Second, the poor remain highly vulnerable after they pay for their accessed health-care services themselves. What component (or components) of health spending brings greater vulnerability to the people is indeed a significant question, and we will revert to this later.

3.4 Health Payments, Poverty and Inequality

3.4.1 Inequality Concept and Its Measurement

Inequality is generally considered as a much broader concept than the measures adopted to calculate head count poverty indices or a set of PGs using alternative definitions. An important distinction embedding the concept of inequality is that it relates to the entire population and not only to those below a certain predefined poverty level (Coudouel et al. 2002). In addition, generally inequality measures do not rely on mean of a distribution. Instead, they remain mostly concerned with the overall distribution of certain welfare augmenting factors and therefore considered as one of the most relevant issues in debates on distributional outcomes of various public policies or programmes initiated by governments (Atkinson 1983; Cowell 2000; Gwatkin 2000; Sen 1973, etc.). Presented below are a few preliminary (Lorenz curve and Gini Indices based) inequality exercises using the preceding sets of consumption data and making a few smaller changes in overall consumption basket as before, i.e. with and without OOP expenditure on health. The underpinnings behind these exercises are twofold. One is simply required to know about the level of inequalities suffered by the groups of people drawn from different states and also to check whether these inequalities broadly follow the pattern observed by the NSS 61st round (July 2004–June 2005). The second objective obviously is to know the additional inequalities generated by the OOP spending on health across different groups of households. To calculate the latter, it is proposed to follow the expenditure decomposition procedure used to compute poverty 1 and 2 in Table 3.11 (also see Box 3.2).

Methodologically, the Lorenz curve is a graphical representation of the 'cumulative distribution function of a probability distribution'. It is generally drawn to represent income or consumption distribution (in our case the latter) of a population, where the horizontal axis gives the cumulative share of population ranked by increasing share of per capita consumption expenditure. The vertical axis on the other hand provides the share of consumption enjoyed by the corresponding percentages of population. The Gini coefficient, in most cases, is measured as twice the surface between the Lorenz curves and a hypothetical line of perfect equality or a perfectly egalitarian distribution (i.e. 45° line).[7]

An attempt is made below to provide a set of Lorenz curves drawn by using a continuous cumulative distribution of PCMCE for the populations drawn from the rural and urban areas of all the three states under review. These curves are drawn

[7] In its simplest way, Gini is mathematically derived as the covariance between the consumption c of an individual (or household) and the F rank that the individual or household occupies in the distribution of consumption (this rank assumes 0 for the poorest to 100 for the richest). Denoting the per capita monthly consumption expenditure by $\overline{c}$, the standard Gini index is defined as $=2$ cov $(y, F)/\overline{c}$. We have used STATA to obtain these results (Klugman 2002, Technical Note A.7, p. 415). Computationally, it matters whether or not the consumption (or income) is weighted by household size, since households with lower income or consumption may be larger in size. To avoid this problem, we have followed a weighted HHD system in the entire analysis.

Table 3.12 Gini coefficients based on decomposed monthly consumption expenditure

States	PCMCE on: Gini 1: food, nonfood and health	Gini 2: food and nonfood	Gini 3: OOP health expenditure
UP and Rajasthan (rural)	0.367	0.350	0.706
UP and Rajasthan (urban)	0.374	0.358	0.775
UP districts (rural)	0.339 (0.287)	0.312	0.707
UP districts (urban)	0.379 (0.370)	0.343	0.806
Rajasthan districts (rural)	0.395 (0.248)	0.388	0.705
Rajasthan districts (urban)	0.357 (0.367)	0.366	0.704
Delhi (slums)	0.250	0.221	0.680
Delhi (non-slums)	0.417	0.430	0.696
Delhi (slum + non-slum)	0.386 (0.326)	0.375	0.698

Source: NSSO (2006a, Report No. 508, Statement 1)
Note: Figures in brackets show Gini coefficients computed on the basis of NSS 61st round (2004–2005) for the rural and urban areas of UP and Rajasthan and urban Delhi

only on the basis of the total consumption expenditure. A further extension of these exercises has also been attempted by decomposing the total household expenditure into (i) food and nonfood and (ii) OOP health spending. For the brevity of space, however, we refrain providing Lorenz curves based on the decomposed consumption data. Rather, a separate table (Table 3.12) has been added to give the Gini coefficients for all the three consumption baskets. Gini 1 relates to the total PCMCE, while Gini 2 and 3 relate to the decomposed distribution of PCMCEs, namely, $PCMCE_{food+non\text{-}food}$ and $PCMCE_{OOPexp}$.

A very clear message emanating from all the exercises—either Lorenz curves or a series of Gini coefficients obtained with or without OOP spending on health—goes to suggest that the consumption inequalities are severely higher at most of the places under the study. All the Lorenz curves show steep gaps between the diagonal line of 45° and the area under the curve (see Lorenz curves 3.1–3.7). But perhaps there is nothing very surprising in these results. Based on the consumption expenditure survey for 2004–2005, almost a similar trend and loss of well-being were reported by the NSSO in its Report Number 508 (December 2006). If some of our results are a little different from that of the NSSO (2006a), it may largely be on account of certain technical differences or lack of conformity between the two samples.

Table 3.12 clarifies some of these issues further. More specifically, it helps to make two points. One is the resemblance between the Gini coefficients drawn by our own data and the NSS 61st round. This is particularly true for the urban populations in UP and Rajasthan (NSSO 2006a). Undoubtedly, while such a comparison draws no or limited justification on theoretical reasoning, at least they are mutually close in terms of size (Table 3.12). Coefficient for urban Delhi is also not very far apart. The rural Gini however differs quite considerably, and this is true for both the states.

Our results suggest lesser disparities in per capita consumption of nonfood items. In most cases, the Gini 2 in Table 3.12 assumes smaller values. A point however to notice is the disparities shown in mean expenditure on health care (Gini 3 in

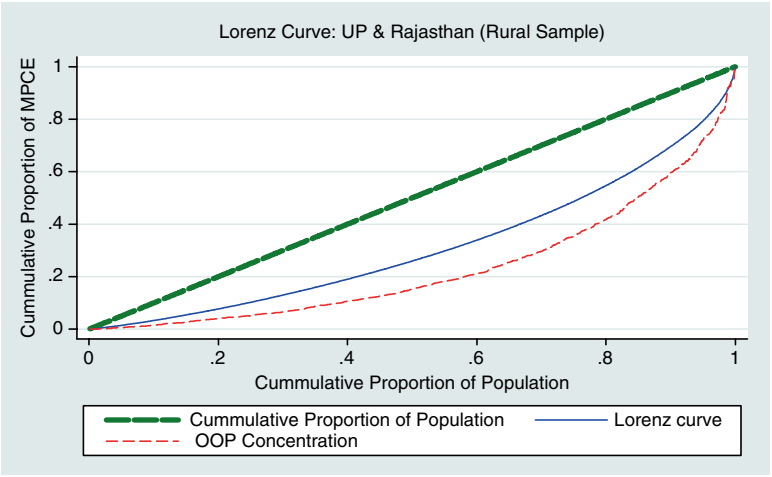

Fig. 3.7 Inequalities in PCMCE: sample HHDs of UP and Rajasthan (rural) (Gini 1 = 0.367; Gini 2 = 0.350; Gini 3 (OOP) = 0.706)

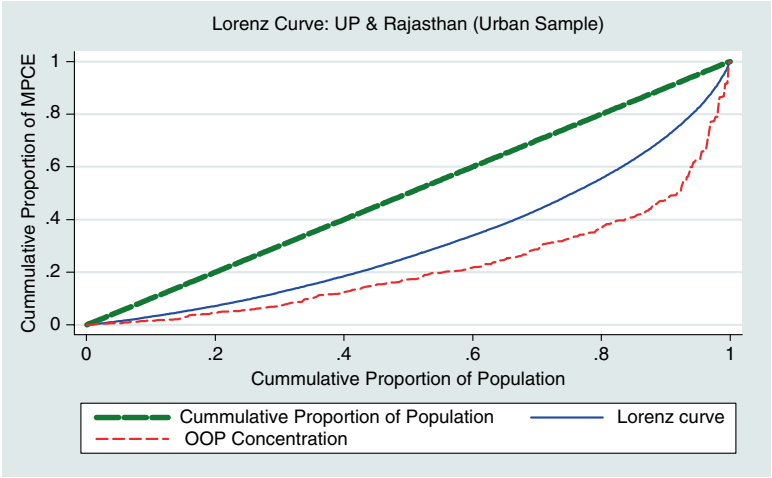

Fig. 3.8 Inequalities in PCMCE: sample HHDs of UP and Rajasthan (urban) (Gini 1 = 0.374; Gini 2 = 0.358; Gini 3 (OOP) = 0.775)

Table 3.12). Barring to a certain extent in Delhi, health inequalities are strikingly higher in most places, particularly in areas of UP. A tentative inference to draw from these results may be that health care is accessed quite unevenly in most of the places, with almost no or negligible amount of spending on health by a group of people and vice versa. It also works to generate a significant amount of inequalities in the total PCMCE (Figs. 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, and 3.13).

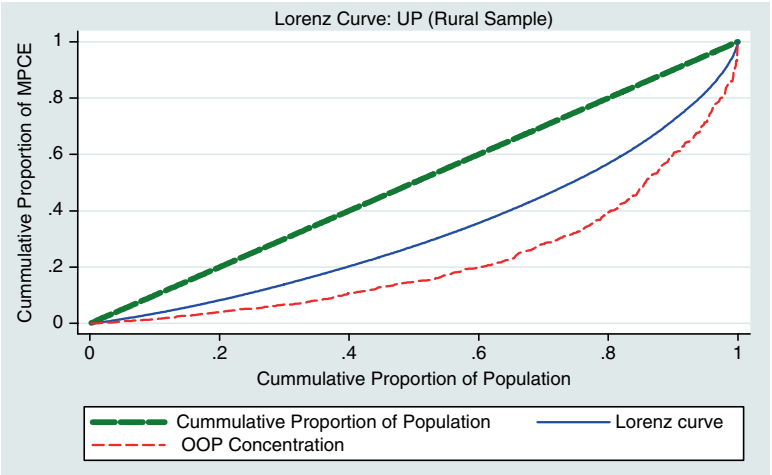

Fig. 3.9 Inequalities in PCMCE: sample HHDs of UP (rural) (Gini 1 = 0.339; Gini 2 = 312; Gini 3 (OOP) = 0.707)

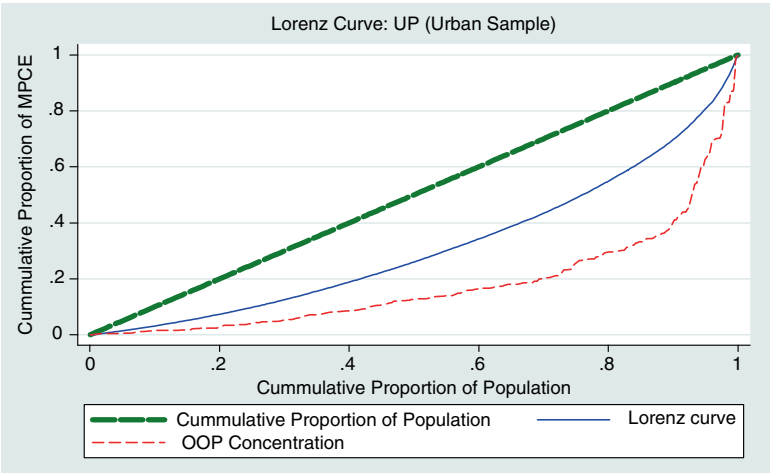

Fig. 3.10 Inequalities in PCMCE: sample HHDs of UP (urban) (Gini 1 = 0.379; Gini 2 = 343; Gini 3 (OOP) = 0.806)

3.5 Prevalence, Sources and Levels of Health-Related Loans and Borrowings

In addition to the total or per capita consumption level, another important criterion to judge the economic status or well-being of a household is to know about its financial obligations; one of them is the borrowings from external sources against certain interest payment. Borrowings are obviously for variety of reasons. Some are purely

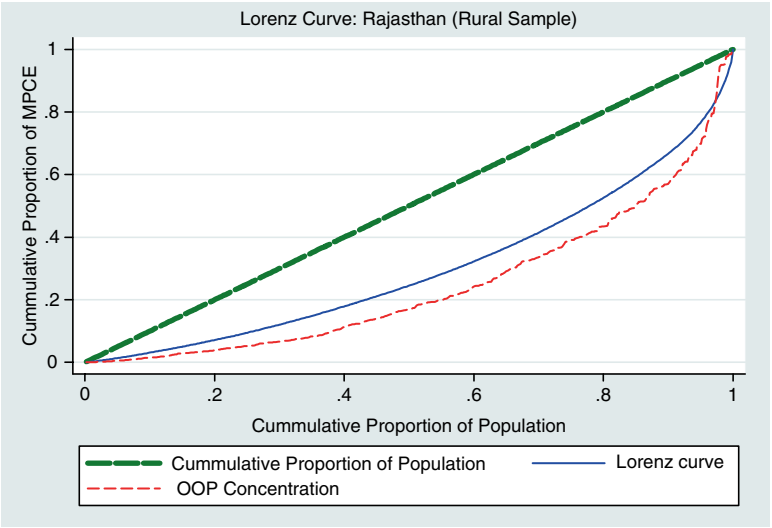

Fig. 3.11 Inequalities in PCMCE: sample HHDs of Rajasthan (rural) (Gini 1 = 0.395; Gini 2 = 388; Gini 3 (OOP) = 0.705)

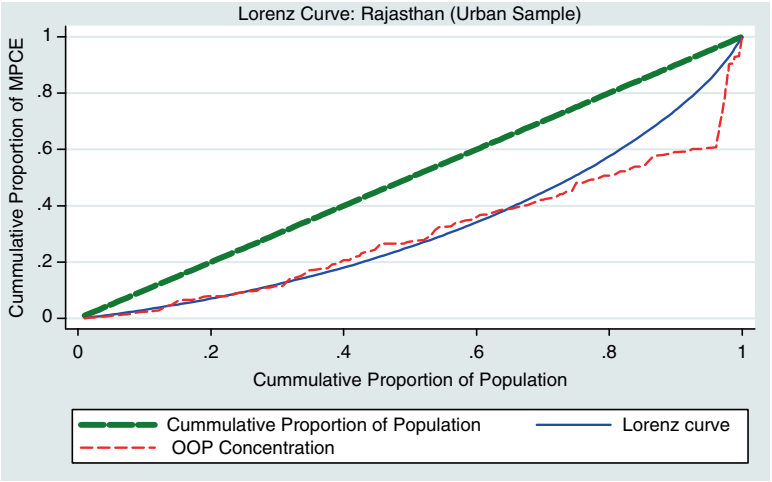

Fig. 3.12 Inequalities in PCMCE: sample HHDs of Rajasthan (urban) (Gini 1 = 0.357; Gini 2 = 366; Gini 3 (OOP) = 0.704)

for consumption purposes including OOP spending on treatment of a family member, and others arise due to financial needs of households to meet their socio-familial commitments, purchase of assets and consumer durables or even to repay their previous loans. But in many cases, an average household borrows out of duress to bridge the gap between income and expenditure. Our focus in this part of the analysis remains very limited and broadly confines to knowing the prevalence of cash

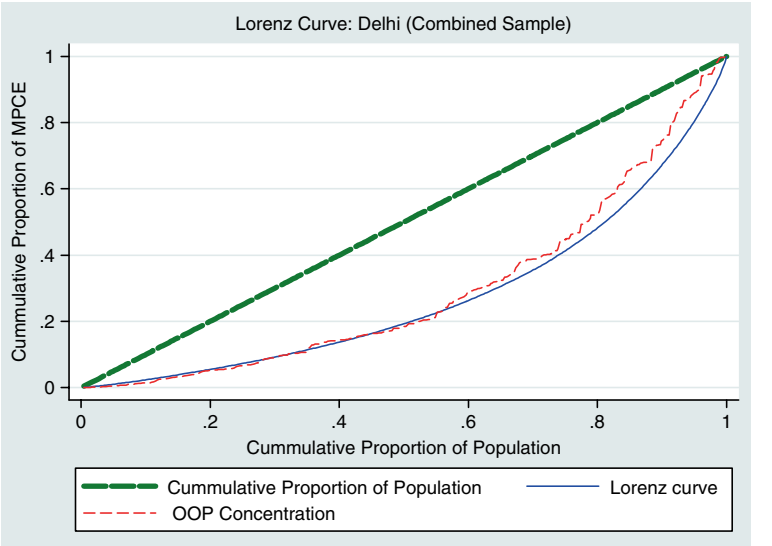

Fig. 3.13 Inequalities in PCMCE: sample HHDs of Delhi (Gini 1 = 0.86; Gini 2 = 0.375; Gini 3 (OOP) = 0.698)

borrowings for health purposes and its attendant details including the share of indebted households in the sample and how these households differ across places and so on. To be precise, three broader issues have been examined:

- Share of households with cash borrowings and purpose of loans: health or non-health? If for health, is it for treatment of an earning member, a child or an elderly person?
- Source of loans: relatives or nonrelatives, traditional lender or a banking institution?
- Source of loan repayment: sale of family asset, new loan, past savings or existing income sources?

We begin by examining the fraction of indebted households in the total sample, their rural–urban differentials and purpose of loans—in particular health-related cash loans.

3.5.1 Loans and Borrowings for Health and Non-Health Purposes

As mentioned, borrowings are made either to circumvent distress conditions due to unforeseen events in the family including ailments or to raise required finances by the households to meet their socio-investment goals. Therefore, an attempt was made to collect information from the households by asking them if they have any ongoing debt obligations at the time of the survey. The next set of questions included purpose

Table 3.13 Share of indebted households in the total sample

	Indebted households: rural and urban samples					
	Rural		Urban		Total	
Characteristics	*N*	Indebted HHDs (%)	*N*	Indebted HHDs (%)	*N*	Indebted HHDs (%)
Total sample	1,250	52.4	760	26.7	2,010	42.7
UP	750	56.3	250	26.0	1,000	48.7
Unnao	450	49.8	150	20.7	600	42.5
Jhansi	300	66.0	100	34.0	400	58.0
Rajasthan	500	46.6	150	31.33	650	43.1
Dausa	250	56.8	50	52.0	300	56.0
Dungarpur	250	36.4	100	21.0	350	32.0
Delhi	–	–	–	–	360	25.3
Delhi slums	102	37.3	–	–	–	–
Delhi non-slum	–	–	258	20.5	–	–
Social group						
SC	291	55.3	164	31.1	455	46.6
ST	231	41.1	18	27.8	249	40.2
OBC	527	55.4	250	29.2	777	47.0
Upper caste	201	53.2	328	22.6	529	34.2
Religion						
Hindu	1,152	52.3	637	26.5	1,789	43.1
Muslim	98	54.1	90	28.9	188	42.0

of loans, sources and other requisite details. The share of indebted households in our sample is given in Table 3.13. This table adds to the observation stemming from the All India Debt and Investment Survey of the NSSO (January–December 2003) suggesting a very large proportion of the total cash borrowings by the rural households. Table 3.13 indicates majority of rural households (52.4 %) under cash debt in combined villages of UP and Rajasthan. Urban households with cash debt obligations are however much lower in size, little over a quarter (26.7 %) of the total sample. Jhansi in UP and Dausa in Rajasthan in our sample are the most indebted areas—the latter shows the highest incidence of borrowings among the urban households, and the former counts the highest in terms of rural indebtedness. For whatever may be the reason, tribals are shown to be the least indebted among the four social groups in rural areas. Of the remaining three, more than 50 % of each group reported being in debt at the time of the survey. Even the high-caste population is no exception. Hindus and Muslims do conform closely to each other at least on this criterion.

Reasons given by responding households to secure loans are furnished in Table 3.14. Two broad reasons are presented: medical and non-medical. The latter combines all categories of loans including those for purely consumption purposes as also those required to finance productive needs of the families. With the exception of urban Dungarpur (Rajasthan), we notice from this table that medical loans are quite prevalent in most of the areas under study. More than a quarter of indebted households in urban areas (26.6 %) have reportedly been driven to take loan because of certain medical contingencies. The same in rural areas turns out to be little over

Table 3.14 Distribution of medical and non-medical loans (%)

Study groups and study areas	Number of indebted households (*N*)	Purpose of loans	
		Medical	Others (consumption and productive combined)
Total indebted HHDs	858	21.0	79.0
Total rural	655	19.2	80.8
Total urban	203	26.6	73.4
Unnao	255	25.1	74.9
Rural	224	22.3	77.7
Urban	31	45.2	54.8
Jhansi	232	18.5	81.5
Rural	198	18.7	81.3
Urban	34	17.6	82.4
UP	487	22.0	78.0
Rural	422	20.6	79.4
Urban	65	30.8	69.2
Dausa	168	18.4	81.6
Rural	142	16.9	83.1
Urban	26	26.9	73.1
Dungarpur	112	14.3	85.7
Rural	91	16.5	83.5
Urban	21	4.2	95.2
Rajasthan	280	16.8	83.2
Rural	233	16.7	83.3
Urban	47	17.0	83.0
Slums	38	47.4	52.6
Non-slums	53	15.1	84.9
Delhi combined	91	28.6	71.4
SC	212	26.4	73.6
ST	100	27.1	72.9
OBC	365	19.7	80.3
Upper caste	181	8.8	91.2
Hindu	771	19.6	80.4
Muslim	79	25.3	74.7

19 %. Does it mean that public health-care facilities in urban areas are insufficient or is it a reflection of easier loan accessibility to urban people through different sources? While a categorical answer to both of these questions may not be possible with the data available to us, these are indeed significant issues and need to be examined separately with necessary details. The following discussion may however give some idea about the intake of medical loans from private moneylenders.

Differentials in loan intake by various household categories are evident from Fig. 3.14 as well. This figure reconfirms a much bigger fraction of urban households under medical debt at different places (see, e.g. urban Unnao or Dausa). Perhaps the more disturbing evidence from this figure relates to the slum households in Delhi. They are the biggest borrowers of money for medical reasons. Tribals and Muslims are also ahead in their respective categories.

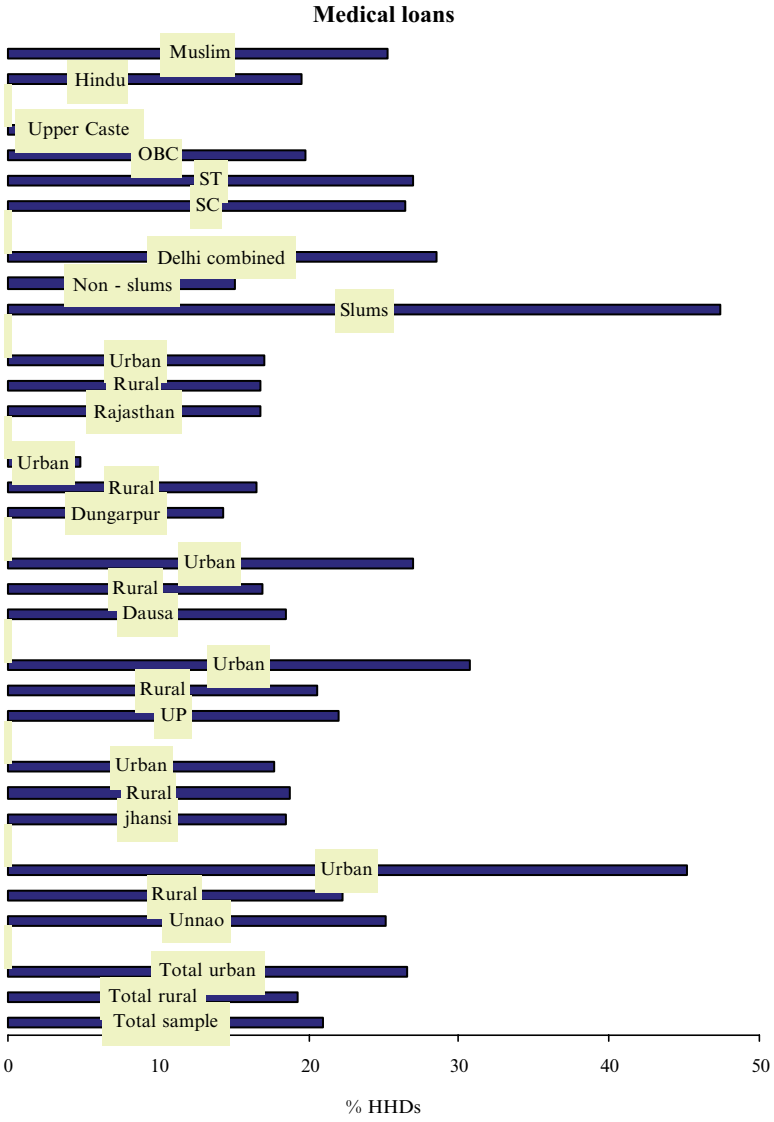

Fig. 3.14 Medical to the total loans by socioreligious groups and study areas

3.5.2 Sources of Loans and Borrowings

Seeking loans to meet contingencies may not be as much catastrophic. The worst perhaps lies with the source of borrowings. Unfortunately, due to no or limited access to modern banking facilities and complex lending rules even by public sector banks, most poor and low-income households may have no other option but to rely on private moneylenders with stringent repayment conditions including high

interest rates. The details given in Table 3.15a clearly reveal private lending as the most commonly accessed method to meet medical expenses followed by a small percentage of households raising money from informal network of close family (mostly sons and daughters), friends or neighbours. The share of banks is obviously the lowest, rather minuscule, due to procedural difficulties.

The role of private lending appears to be especially large in rural areas where informal family sources appear to work less effectively—perhaps due to wider poverty and cash flow constraints. Table 3.15a indicates a big majority of rural households (about 71 % of those borrowed to access medical care) with borrowings from private moneylenders. Interestingly, urban households are not very far behind either. Almost 52 % of them had to borrow from local moneylenders despite growing emphasis in public pronouncements to improve medical care through involvement of remodelled watchdogs like RKSs.

Tables 3.15a and 3.15b are presented inter alia to compare the penetration of private moneylenders into medical and non-medical borrowing markets. As was expected, the presence of private moneylenders in medical borrowings is considerably big. Also, it turns out to be the case in most of the areas and population groups in question. Clearly, these figures indicate a very urgent need for an institutional mechanism to finance the health-care needs of low-income households in the country. Apparently, antipoverty measures may not work to its real potential unless health services are scaled up to a considerable extent in every domain, disease occurrences are minimised, and the health-care system is brought to bear to the needs of persons forced to borrow from private moneylenders.

3.5.3 Loan Repayment Status of Sample Households

Loan repayment status of households under both medical and non-medical debts is given in Table 3.16. Two straightforward observations may be made on the basis of this table. First, the size of households deficient in capabilities to initiate loan repayment process is disturbingly large across all the categories of responding households. This has been particularly true for most rural households in both the districts of UP and among the slum dwellers in Delhi. Muslims and most social groups including high-caste categories also fall in line. How or what happens to these households when they eventually start repaying their loans would indeed be an important issue to be examined with more detailed and focused data. Second observation relates to the rural–urban differentials in loan repayment as may be noticed from Fig. 3.15. It appears that rural and most other economically backward households may not be able to initiate the loan repayment process immediately. A cooling period may be required by many of them. This may or may not be possible depending upon the source of loan. How far the micro-credit institutions may lend support under these circumstances has to be considered. In addition, whether the micro-credit institutions can lend small amounts to meet medical contingencies also needs detailed examination.

Table 3.15a Sources of borrowings: households with medical loans (%)

	Total sample		UP		Rajasthan		Delhi		Social group				Religion	
	Rural	Urban	Rural	Urban	Rural	Urban	Slums	Non-slums	SC	ST	OBC	High caste	Hindu	Muslim
Banks[a]	9.5	9.3	11.5	20.0	5.1	0.0	5.6	0.0	7.8	7.4	9.3	14.8	10.2	0.0
Pvt. moneylenders	70.6	51.9	63.2	30.0	87.2	100.0	50.0	62.5	66.7	74.1	72.0	33.3	64.5	71.4
Relatives	19.8	38.9	25.3	50.0	7.7	0.0	44.4	37.5	25.5	18.5	18.7	51.9	25.3	28.6
Col. total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Includes loans from cooperative and private banks

Table 3.15b Sources of borrowings: households with non-medical loans (%)

	Total sample		UP		Rajasthan		Delhi		Social group				Religion	
	Rural	Urban	Rural	Urban	Rural	Urban	Slums	Non-slums	SC	ST	OBC	High caste	Hindu	Muslim
Banks[a]	43.9	32.9	53.4	28.9	27.3	43.6	0.0	42.2	35.4	28.8	42.4	52.0	43.0	24.6
Pvt. moneylenders	47.8	40.3	34.9	35.6	70.1	48.7	50.0	33.3	51.6	67.1	44.8	33.1	46.0	52.3
Relatives	8.3	26.9	11.6	35.6	2.6	7.7	50.0	24.4	13.0	4.1	12.8	14.9	11.1	23.1
Col. total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Includes loans from cooperative and private banks

Table 3.16 Loan repayment status of sample households

	Rural HHDs		Urban HHDs	
	Payment	Non-payment	Payment	Non-payment
Unnao	35.3	64.7	64.5	35.5
Jhansi	32.8	67.2	50.0	50.0
UP	34.1	65.9	56.9	43.1
Dausa	66.2	33.8	88.5	11.5
Dungarpur	63.7	36.3	66.7	33.3
Rajasthan	65.2	34.8	78.7	21.3
Delhi	–	–	46.2	53.9
Slums	–	–	31.6	68.4
Non-slums	–	–	56.6	43.4
SC	43.5	56.5	45.1	54.9
ST	61.1	39.0	60.0	40.0
OBC	42.5	57.5	71.2	28.8
Upper caste	41.1	58.9	51.4	48.7
Hindu	45.4	54.7	58.0	42.0
Muslim	43.4	56.6	46.2	53.9

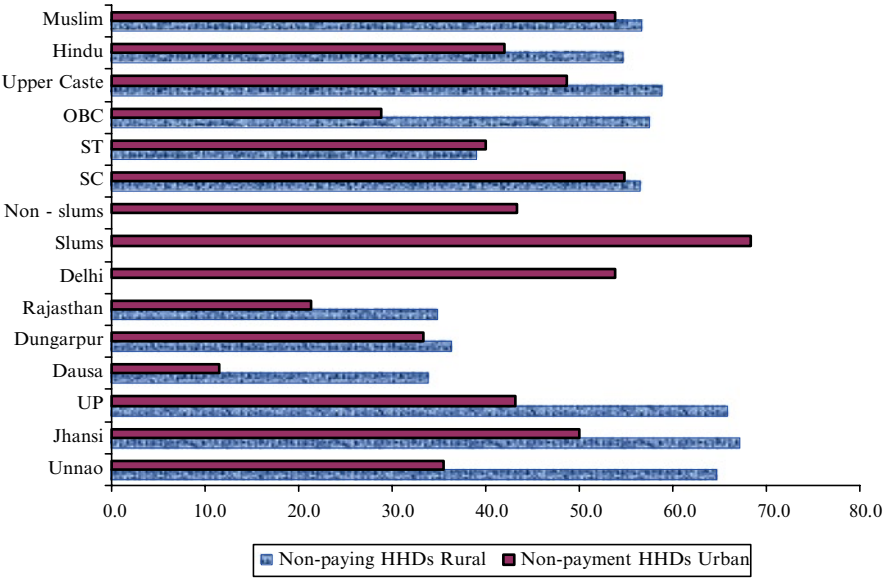

Fig. 3.15 Differentials in repayment of loans by rural and urban households

Appendix

Table 3.A.1 Distribution of sample population by education: rural and urban

Educational level	Combined sample			UP			Rajasthan		
	Rural[a]	Urban[b]	Total	Rural	Urban	Total	Rural	Urban	Total
Illiterate	36.1	20.9	30.4	36.7	20.0	32.6	35.3	22.9	32.4
Lit. without formal education	2.0	1.1	1.6	2.2	0.9	1.9	1.5	1.5	1.5
Up to 5th standard (primary)	30.7	27.3	29.5	31.9	25.1	30.2	29.0	28.7	28.9
7th–8th standard (middle)	18.0	15.1	16.9	17.1	17.0	17.1	19.5	18.6	19.3
Matriculate	6.7	12.1	8.7	6.0	12.7	7.6	7.9	11.3	8.7
Higher secondary	3.6	9.1	5.7	3.7	10.0	5.3	3.5	7.7	4.5
Graduates and above	2.3	11.2	5.6	2.1	12.0	4.5	2.6	7.6	3.7
Diploma/certificate	0.2	1.0	0.5	0.2	1.4	0.5	0.0	0.5	0.1
Degree in technical or professional education	0.3	2.3	1.1	0.1	0.9	0.3	0.7	1.3	0.8
Total literacy level	63.9	79.1	69.6	63.3	80.0	67.4	64.7	77.1	67.6
Literate + illiterate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Chi2 (9) 959.970, Pr. 0.000			Chi2 (9) 522.245, Pr. 0.000			Chi2 (9) 118.430, Pr. 0.000		

Source: Author's Survey on OOP Health Expenditure (2008)
[a]Including slum population
[b]Including non-slum population

Table 3.A.2 Main and marginal workers by sample districts

	Total population (Nos.)	Main workers (%)	Marginal workers (%)	Total workers (%)
Unnao				
Person	2,700,324	25.4	8.9	34.3
Male	1,422,509	43.1	6.9	50.0
Female	1,277,815	5.6	11.1	16.8
Jhansi				
Person	1,744,931	26.8	10.3	37.02
Male	932,818	42.2	7.0	49.13
Female	812,113	9.1	14.0	23.12
Dausa				
Person	1,317,063	31.7	9.51	41.2
Male	693,438	41.3	4.47	45.8
Female	623,625	21.0	15.12	36.1
Dungarpur				
Person	1,107,643	24.6	23.4	48.0
Male	547,791	36.8	14.5	51.3
Female	559,852	12.6	32.1	44.7

Census of India. 2001. *District Census Handbook (for respective states)*, New Delhi: Ministry of Home Affairs, Government of India (http://www.censusindia.net/)

Table 3.A.3 Block 5: questions on households' food and nonfood consumption items

S. No.	Items	Past 1 year (Rs.)	Past 30 days (Rs.)	Past 7 days (Rs.)
1.1	Cereals and cereal products (flour, maida, suji, rice)			
1.2	Pulses/pulses products (dals, gram and products)			
1.3	Milk			
1.4	Milk products (baby food, ghee, butter, ice cream)			
1.5	All edible oils, vanaspati, refined oil			
1.6	Vegetables			
1.7	All kinds of fruits, nuts, dry fruits, etc.			
1.8	Eggs, meat, poultry, fish, sea food			
1.9	Sugar, gur, candy, misri, honey, khandsari			
1.10	Salt and spices (chilli powder, curry masala, seeds)			
1.11	Other food items (tea, coffee, biscuit, processed food, pickles, sauce, cooked meal, cake, chocolate)			
1.12	Any other food item			
2	Expenditure on bidi/cigarette/tobacco/gutka/pan			
3	Expenditure on liquor, wine			
4	Primary or secondary level education			
5.	Higher education (BA/B.Sc/B.Com and above)			
6.	Professional education: medical, Engg., IT, MBA			
7.	Expenditure on house: rent/tax/house loan			
8.	Expenditure on fuel and lighting			
9.	Clothing, bedding, shoes/footwear			
10	Social, religious expenditure or festival expenses			
11.	Health expenditure (self-medication/chemists)			
12	Health expenditure on doctor's advise (report only nonhospitalisation cases)			
13.	Health expenditure due to hospitalisation			
14.	Therapeutic appliances (eye glasses, hearing aids)			
15.	Jewellery, ornaments, other ladies' items			
16	Personal transport (car, motor bike, scooter, cycle)			
17.	Household electrical/other appliances, clock, TV			
18.	Crockery, utensils, furniture			
19.	Computer, mobile, wrist watch and misc. items			
20.	Any other including repair and maintenance			
21	*Total household expenditure*			

Interviewers: *Please ask these details for the entire household* (*including expenditure on pets*)

Table 3.A.4 Descriptive statistics: PCMCE of sample populations

	N	Mean MPCE	Std. dev	Min. MPCE	Max. MPCE
Total sample	**2,010**	**996.8**	**1264.2**	**79.1**	**16,885.4**
UP sample	1,000	663.2	594.6	79.1	6,958.3
UP rural	750	571.4	470.6	79.1	6,958.3
UP urban	250	938.6	806.7	120.0	5,356.5
Rajasthan sample	650	793.7	778.1	143.0	11,189.1

(continued)

Table 3.A.4 (continued)

	N	Mean MPCE	Std. dev	Min. MPCE	Max. MPCE
Rajasthan rural	500	715.6	774.5	143.0	11,189.1
Rajasthan urban	150	1,054.0	734.5	186.7	3,750.4
Delhi sample	360	2,290.2	2,191.6	328.2	16,885.4
Slums	102	903.8	455.7	328.2	2,869.3
Non-slum	258	2,838.3	2,358.6	339.1	16,885.4
Social groups					
SC	455	737.2	637.5	79.1	6,958.3
ST	249.0	644.2	986.1	143.0	11,189.1
OBC	777.0	731.0	653.3	117.4	6,987.5
Upper caste	529.0	1,776.5	1,954.0	147.3	16,885.4
Religion					
Hindu	1,789.0	994.3	1,263.9	79.1	16,885.4
Muslim	188.0	753.3	808.8	166.2	9,556.3

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Chapter 4
Self-Reported Ailments and Hospitalisation: Differentials in Utilisation of Health Care

This chapter brings two interesting issues into focus. And both of them have been treated with considerable interest in the contemporary literature on utilisation of health services (Rahman and Rao 2004; Kumar 2001; Fernandez et al. 1999; Ganatra and Hirve 1994; Koenig et al. 2001, etc.). First, the gender differentials in health-care access including hospitalisation and outpatient care. The second follows from the first and relates to similar differentials between the rich and the poor[1] or, as we have been terming in this analysis, above-poverty (APL) and below-poverty (BPL) populations.[2] In the remainder of this chapter, it is attempted to provide a few empirical details covering both of these issues, and once again our value addition lies in our focus on high-poverty areas of two major states and an exclusive, though small, sample of slum households in Delhi. Alongside, it may also be noted that self-reported data on health, morbidity and utilisation of health care require cautious interpretation because of variations in perceptions about one's own health, suffering and healing by individual respondents (Rahman and Barsky 2003; Sen 2002).

4.1 Interstate and Gender-Wise Differentials in Health Care

Despite years of hard work and long-drawn conviction to raise an inclusive society, India continues to remain a country with all forms of inequities and socio-economic divides. In health too, it is common to observe such divides. Preferential treatment given to males is particularly high in medical care, and there are studies by doctors to reveal that boys receive more prompt attention than girls in medical contingencies and cases of hospitalisation (Kumar 2001). It may however be interesting to

[1] With tremendous improvement in health status of populations all over the world, there are some who believe that this debate is losing its relevance. We however refrain from taking a position either way.

[2] The z values and the methodology used to derive below- and above-poverty populations remained as was in Box 3.1 (i.e. consumption poverty 1).

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Table 4.1 Hospitalised and nonhospitalised care by gender and socioreligious groups ($N = 11,063$)

Operational variables	Sample population (N) (numbers)			Hospitalisation (%) (recall period: past 365 days)			Nonhospitalised treatments (%) (recall period: past 30 days)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Tot. sample	5,810	5,253	11,063	2.2	3.8	3.0	14.6	16.9	15.7
UP	2,972	2,631	5,603	1.9	3.4	2.6	15.2	17.6	16.3
Unnao	1,833	1,603	3,436	2.1	3.4	2.7	15.1	17.2	16.1
Jhansi	1,139	1,028	2,167	1.5	3.4	2.4	15.3	18.2	16.7
Rajasthan	1,852	1,671	3,523	2.7	4.1	3.3	13.2	14.2	13.7
Dausa	898	806	1,704	2.8	3.2	3.0	14.6	16.5	15.5
Dungarpur	954	865	1,819	2.6	4.9	3.7	11.8	12.0	11.9
Delhi	986	951	1,937	2.3	4.6	3.5	15.5	19.8	17.6
Non-slum	716	652	1,368	2.0	4.1	3.0	15.6	20.4	17.9
Slum	270	299	569	3.3	5.7	4.6	15.2	18.4	16.9
SC	1,315	1,216	2,531	2.4	3.8	3.1	15.4	17.3	16.3
ST	705	656	1,361	2.6	2.9	2.7	15.2	15.2	15.2
OBC	2,314	2,053	4,367	2.2	3.9	3.0	13.3	15.9	14.5
Upper caste	1,476	1,328	2,804	1.9	4.2	3.0	15.7	18.8	17.2
Hindu	5,152	4,643	9,795	2.2	3.9	3.0	14.9	16.7	15.8
Muslim	578	534	1,112	2.1	3.6	2.8	12.5	17.4	14.8
BPL	1,705	1,665	3,370	0.6	1.9	1.2	13.0	13.9	13.4
APL	4,105	3,588	7,693	2.9	4.7	3.7	15.3	18.3	16.7

note that the results drawn in this study supplant a few of these arguments and portray a reverse picture. Table 4.1 indicates a significantly large share of women in utilisation of hospitalised treatment. In addition, it happens almost across the board. More or less the same is true for the nonhospitalised care as well. The reason why we draw an excess of health care by women over men in this analysis is however not very difficult to identify. Our sample is inclusive of women in child-bearing ages as well, and the overall hospitalisation cases are based on all forms of ailments including pre- or postnatal care, delivery and gynaecological problems along with most other normal health-related issues and injuries. The same explanation holds for the nonhospitalised cases as well. This point is reiterated further by Fig. 4.1 that gives a distribution of women accessing both hospitalised and nonhospitalised health care across five broad age categories, i.e. 0–4, 5–14, 15–39, 40–49 and 60 years or above. We notice from this figure that the share of women in the 15–39 age group—normally considered as the prime years in the reproductive lifespan of women—is the highest followed by those in the 5–14 and 40–59 age groups.

Gender-wise differences in hospitalisation are considerably large in both the districts of Rajasthan (2.8 % for men and 3.2 % for women in Dausa and 2.6 % for men and 4.9 % for women in Dungarpur). The highest rate of women hospitalisation may however be noticed from Delhi slums where it turns out to be 5.7 %. The non-slum women too are in good numbers although they lag behind their slum counterparts to a good extent. A possible inference may therefore be that women at most of the places

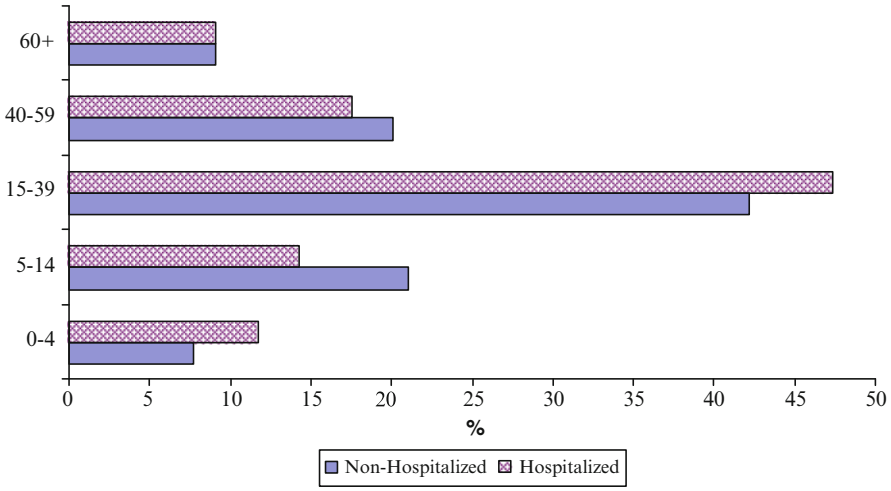

Fig. 4.1 Age distribution of women using hospital and nonhospital care (%)

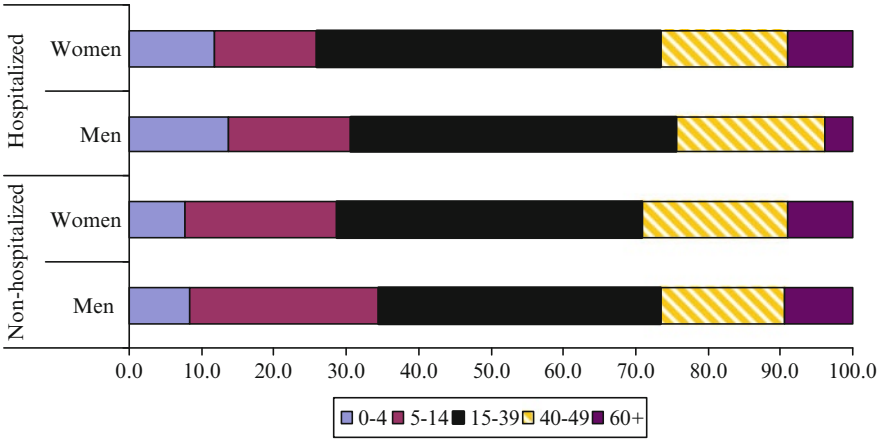

Fig. 4.2 Users of hospital and nonhospital care by age and sex (%)

have begun to use institutional services for different reasons and their number may grow further with time, though such an evidence is relatively weak in both the districts of UP. Muslims and tribal women are also somewhat lagging behind.

A men–women comparison of health-care utilisation across comparable age brackets in Fig. 4.2 reconfirms the male bias at least in early ages. The situation turns in favour of women in the 15–39 age group with higher child-bearing potential. Women in the 60+ age group are also prone to more hospitalisation than men (Fig. 4.2). However, a generalisation of these results may need further evidence based on larger sample size.

As a whole, our results do confirm the existing notion of gender biases in utilisation of health care with females, in general, at a disadvantageous position. However, if disaggregated over different age spans, our results indicate that younger women in their prime child-bearing ages have accessed health care in higher percentages than their male counterparts. This is indeed a somewhat interesting indication and needs to be re-examined with bigger sample size and more focused survey instruments detailing the causes of health-care utilisation.

4.2 Poor and Nonpoor Differentials in Utilisation of Health Care

There are positive links, as many analysts believe, between economic status and a better sense of suffering or ill health leading to a better reporting of ailments and utilisation of in or outpatient health-care services (Sen 2002). There are contrary views as well (Smith 2004; Crossley and Kennedy 2002). We have relied on the latter.

The poor and nonpoor in this analysis are defined as in Box 3.1 and configure with above-poverty and below-poverty populations. The details provided in Table 4.2 give a sex-wise distribution of health-care utilisation by poor and nonpoor in rural and urban areas of the states under consideration. This table lends support to the growing perception that the nonpoor utilise hospital care in greater proportions than the poor.

Table 4.2 Utilisation of health care by poor and nonpoor (%)

	Rural				Urban			
	Below poverty		Above poverty		Below poverty		Above poverty	
	Male	Female	Male	Female	Male	Female	Male	Female
Sample areas of UP								
Hospitalised	0.7	1.3	2.4	4.6	0.5	2.7	3.0	4.2
Nonhospitalised	13.5	15.3	18.1	20.0	6.8	8.1	13.4	19.3
N	867	825	1,375	1,169	192	185	538	452
Sample areas of Rajasthan								
Hospitalised	0.3	1.2	3.8	4.5	1.5	4.7	2.7	6.9
Nonhospitalised	14.0	13.8	13.4	14.6	13.5	10.9	11.1	15.0
N	406	406	1,016	877	133	128	297	260
	Slums and non-slums: Delhi							
	Slums				Non-slums			
	Below poverty		Above poverty		Below poverty		Above poverty	
	Male	Female	Male	Female	Male	Female	Male	Female
Hospitalised	1.2	3.2	4.2	6.8	0.0	3.6	2.0	4.2
Nonhospitalised	17.3	18.3	14.3	18.5	7.7	14.3	15.9	20.7
N	81	93	189	206	26	28	690	624

But this is not decisively so in outpatient care, and in certain areas, the poor outnumber the nonpoor in accessing physicians' care. This may particularly be noticed in Rajasthan. In UP, however, the nonpoor appear to have greater access to nonhospitalised care as well and contribute to the general thinking that medical care and economic status go side by side.

Notwithstanding these differences, it may be noticed from the results that a fraction of poor (BPL) households reporting utilisation of health-care services—with or without hospitalisation—is considerably less than the nonpoor (APL). However, it may not be easy to comment on the correctness of these findings because of limitations in self-reported morbidity by poor, illiterate and less informed households. There are some other issues also surrounding this entire debate that are delved later in this analysis.

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Chapter 5
Catastrophic Spending on Health by Sample Households: Some Results

As was noted in Chap. 1, a good amount of literature at the all India or by states now already exists to suggest that health expenditure in India and some other low-income countries in Asia is considerably large (Bonu et al. 2007; Gottret and Schieber 2006; O'Donnell et al. 2008; Xu et al. 2003, etc.). A great deal of this expenditure—almost three-quarters or in some cases even more—is borne privately by households in many of these countries, in particular those with inadequate health-care systems. In a large number of cases, OOP spending on health causes serious implications for low-income households and affects their sustained living by affecting their normal expenditure pattern, particularly on a host of important nonfood items. A number of these issues have begun to receive much wider attention in India over the past few years, particularly after the seminal report by the NCMH (Ministry of Health and Family Welfare 2005). There has also been a growing concern over these years regarding major policy failures on the part of the centre and state governments in providing adequate resources—physical, financial and human—to meet health-care needs of the people, in particular the poor and the needy.[1] This Commission has also explicitly recognised in its report the prevalence of a very high OOP spending on health in several low-income states—in particular by the households in lowest income deciles—and its role in pushing a significant fraction of households to face poverty and debt trap (see Section 2 of the Commission's Report, 2005). More or less, a similar inference was drawn in Chap. 3 of this study indicating a large fraction of households sliding below poverty level after incurring OOP expenses on health. Many of them had to borrow from private moneylenders with high repayment liabilities leading to asset divestments.

Recently, India has received considerable attention from the world community for its potential to sustain high growth over the coming years. Alongside, however, there has also been a growing concern about serious disparities and unequal distribution of the nation's wealth (Asian Development Bank 2007). Health disparities and asymmetrically higher burden of health-care expenditure on poorer households have, in particular, remained a major concern in many of the recent studies with

[1] See reports cited in footnote 3, Chap. 1.

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focus on issues relating to poverty and unequal sharing of welfare strategies initiated by the governments. The NCMH (2005) has clearly stated in its report that the 'inequity in the access to and distribution of public health services has been a concern because of the extent of impoverishment households face on account of ill-health and catastrophic illness in particular' (page 71).

As was highlighted in Chap. 1, over the past one decade or so, there have been several studies based on Indian data to examine catastrophic spending by poor and low-income households on health and some of its correlates (Bonu et al. 2007; Roy and Howard 2007; Ranson et al. 2006; Garg and Karan 2009; Peters et al. 2002). Most of these studies are, however, based on earlier rounds of the National Sample Surveys on household consumption or health expenditure. The study by Bonu et al. (2007) has however relied on most recent NSS (61st round conducted during the 12 months of July 2004 to June 2005) to investigate the incidence, intensity and important correlates of catastrophic health-care payments in India (NSSO 2006a, b). None of these studies have however tried to make use of data drawn from smaller towns and villages like the one collected by us with a particular focus on economically low-performing states and the slum community. An attempt is therefore made in the rest of this chapter to examine the catastrophic nature of spending made by a cross-section of households from the low-income districts of two major states and the capital city of Delhi. The focus of this chapter is largely directed towards three critical issues. These are:

- Size of health expenditure by households in relation to their (i) total consumption budget comprising goods and services purchased from market and (ii) nonfood consumption expenditure.
- Catastrophic health expenditure by households based on multiple cut-offs or threshold norms. Both total and nonfood consumption expenditures are used to define catastrophe.
- Correlates of catastrophic expenditure.

A limitation encountered by studies using head count of catastrophic spending on health ought not to be overlooked. In many cases, this otherwise very useful concept does not include the households unable to access health-care services due to extreme poverty or lack of understanding about certain ailments. There may also be households with a trade-off between OOP health-care spending and the risks of falling into impoverishment. A few may decide to bargain medical treatment against the risk of any further slippage into living standard or long-term consumption poverty. Catastrophe analyses unfortunately exclude all such factors.

5.1 Share of OOP Health-Care Spending in Total and Nonfood Consumption Budget

As noted, this section summarises the magnitude and distribution of OOP health-care spending by a sample of households drawn from selected rural and urban areas of UP (total 1,000 households—750 rural and 250 urban), Rajasthan (650—500 rural and 150 urban) and Delhi (360—102 from identified slums and 258 from non-slums).

Table 5.1a OOP health expenditure as a percentage of the total consumption expenditure: sample households (%)

OOP payments as % of HHDs' total PCMCE	Total sample		UP		Rajasthan		Delhi	
	Rural	Urban	Rural	Urban	Rural	Urban	Slums	Non-slum
Panel 1								
N	1,250	760	750	250	500	150	102	258
Mean	14.9	10.6	15.2	10.5	14.5	11.3	13.8	9.0
SD	0.1635	0.1446	0.1674	0.1552	0.1575	0.1449	0.1586	0.1251
CV	109.6	136.7	110.0	148.5	108.9	128.5	115.0	138.8
Panel 2								
Quintile means								
Poorest 20 %	9.4	7.9	9.7	6.3	8.9	12.2	5.9	7.3
2nd quintile	10.2	9.6	10.6	7.4	9.4	14.4	12.7	8.8
3rd quintile	13.8	9.6	13.2	9.4	14.7	9.4	12.2	9.3
4th quintile	17.5	12.6	18.3	19.0	16.4	6.4	13.0	11.8
Richest 20 %	23.7	13.1	27.2	29.9	20.0	19.8	25.6	8.0

There are two basic underpinnings that have helped to evolve this entire chapter. First, it tries to highlight further the cascading role played by the OOP payments in squeezing finances available to lower-quintile households and tamper with their budget allocations to different goods and services consumed by the family. Given the asymmetrical nature of intra-household (intra-family) distribution of resources, there are strong possibilities that the aged, women and other weaker members in the family with poor bargaining strength may get disproportionately affected (Agarwal 1990). The second objective obviously is to bring further evidence in support of an emerging consensus among analysts favouring added public resources to improve health care in order to cushion low-income households and bring down the risks of their falling below poverty threshold. Risk pooling measures a bigger proportion of population that must also be paid serious attention with measures to ensure a quicker implementation (Joglekar 2008). Yet another important issue relates to growing drug prices and cascading effect of patenting laws that make medicines simply unaffordable to people in many poor and low-income countries including India.

Tables 5.1a, 5.1b, 5.2a and 5.2b distribute households by the mean of their OOP health share in monthly consumption expenditure—both total and nonfood.[2] These

[2]The following steps were taken to derive the mean share of OOP in households' total (or per capita) consumption budget:

Step 1: $OOP_{share_i} = OOP_i / T_{c_i}$ where i = 1, 2, …, N

OOPi is the health payments of the ith HHD i = 1, 2, …, N (where N is 2,010 for total sample).

T_{c_i} stands for total household consumption expenditure for the ith household.

As noted, N is the number of total households, by states, rural–urban or socioreligious characteristics.

Step 2: Mean = $\sum_{i=1}^{N} OOP_{share_i} / N$

A similar procedure was used to calculate OOP share in nonfood consumption expenditure.

Comparing shares of OOP spending separately on hospitalisation and outpatient care in total or nonfood consumption expenditures was not attempted because of certain data limitations and also to avoid the risks of recall lapses by households.

Table 5.1b OOP health expenditure as a percentage of the total consumption expenditure: socioreligious groups (%)

OOP payments as % of HHDs' total PCMCE	Social groups				Religions	
	SC	ST	OBC	Upper caste	Hindu	Muslim
Panel 1						
N	455	249	777	529	1,789	188
Mean	15.8	13.8	13.4	10.7	13.5	12.3
SD	0.1742	0.1355	0.1614	0.1440	0.1588	0.1559
CV	110.3	98.4	120.6	134.5	117.8	126.5
Panel 2						
Quintile means						
Poorest 20 %	9.3	9.2	9.0	8.9	9.3	7.6
2nd quintile	10.8	14.5	11.6	7.4	11.2	12.1
3rd quintile	17.6	20.1	13.7	10.2	14.9	10.3
4th quintile	18.4	19.6	16.1	11.1	15.8	14.6
Richest 20 %	26.9	14.5	20.2	11.7	16.4	19.0

Table 5.2a OOP health expenditure as a percentage of nonfood expenditure: sample households (%)

OOP payments as % of HHDs' nonfood exp.	Total sample		UP		Rajasthan		Delhi	
	Rural	Urban	Rural	Urban	Rural	Urban	Slums	Non-slums
N	1,250	760	750	250	500	150	102	258
Mean	31.2	19.8	32.6	20.0	29.1	21.2	27.9	15.5
SD	0.2540	0.2208	0.2615	0.2323	0.2411	0.2329	0.2461	0.1784
CV	81.4	111.7	80.2	116.3	82.9	109.9	88.1	115.2

Table 5.2b OOP health expenditure as a percentage of nonfood expenditure: socioreligious groups (%)

OOP payments as % of HHDs' nonfood exp.	Social groups				Religions	
	SC	ST	OBC	Upper caste	Hindu	Muslim
N	455	249	777	529	1,789	188
Mean	32.0	30.2	27.4	20.1	27.1	26.7
SD	0.2599	0.2324	0.2550	0.2193	0.2490	0.2490
CV	81.2	77.1	93.1	108.9	91.7	93.1

bivariate tables are further extended to highlight differentials across the observed socioreligious groups including SC, ST, OBC and upper castes as well as the two dominant religious categories in most survey areas, namely, Hindus and Muslims (see Tables 5.1b and 5.2b). As before, these results are presented without going into further desegregations to avoid small-sample biases and ensure sufficient number of observation within each response category.

Tables 5.1a and 5.1b provide the share of OOP health spending in total consumption budget—the latter furnishes similar information separately with a break-up by two religious and four social groups. Our results in many cases fail to compare with a few of the earlier studies, suggesting an average of about 5 % of the total

consumption budget (and 10 % of the nonfood consumption budget) on OOP health care in India (van Doorslaer et al. 2007; Bonu et al. 2007). Our data indicate a considerably higher OOP mean spending on medical bills in all the three states and their selected villages or towns. Also, this lack of comparison continues in relation to both total and nonfood consumption budgets.

Table 5.1a (panel 1) gives the average share of OOP spending on health in total consumption of households located in rural and urban areas of both the states. Curiously, the mean OOP share of rural households is considerably large. Further, it exceeds the urban share as well. Among the rural households, for example, the mean OOP expenditure varies between 14 and 15 % of the total budget. The same in the urban areas is drawn between 10.5 and a little over 11 %. It may also be noticed from these results that the people from slums, on an average, spend a much larger share of their consumption budget than those from the non-slums (14 % by the slum residents compared to only 9 % by those from non-slums). It strongly suggests a regressive nature of spending if we could assume that all the non-slum households are essentially more affluent. This also reflects a significant departure on our part from the existing body of evidence that suggests that the poor pay less than the nonpoor.

We are nevertheless closer to the existing literature if we compare the mean OOP spending of households by consumption quintiles. While the magnitude of spending remained large, the OOP shares of the rich and poor differ significantly with highest quintile (or top 20 % of households according to their PCMCE) spending almost a quarter of their total consumption budget on health (Table 5.1a, panel 2). In contrast, the same for the bottom 20 % is about 10–12 % in rural and urban areas. The progressivism, as argued in the literature, is therefore maintained.

Table 5.1b provides OOP differentials among four social (SC, ST, OBC and upper castes) and two religious categories—Hindus and Muslims. Judged by social groupings, the lower-caste communities incur much higher OOP payments than their upper-caste counterparts. In terms of religion, though the two respective groups mutually differ, their differences at best remained marginal, i.e. less than a percentage point (Hindus 13.5 % of their total consumption expenditure, while for the Muslims it is given as 12.3 %). The progressivism among five consumption quintiles is also maintained.

Yet another important point to notice from Tables 5.1a and 5.1b is very high variations around the mean OOP. At almost every quintile level or socioreligious grouping, the coefficient of variation is more than 100 %, which tends to indicate extreme values at almost every level, quintile or social groups. It also amounts to suggest that there are households in each category with negligible spending on health services—inpatient or ambulatory.

The differences between the two sets of results—our own and those in the literature cited above—raise an interesting question: Do studies based on macrodata, often regarded as more policy friendly, really provide the realities faced by impoverished households from poor districts or geographical locations? In all fairness, perhaps both have their own merits and ought to be supplemented by each other.

With the mean of OOP payments as high in relation to total consumption expenditure as shown in Tables 5.1a and 5.1b, the same in relation to nonfood

consumption expenditure can easily be guessed. It touches around 30 % of the total in rural areas and 20 % in urban areas (Tables 5.2a and 5.2b). In other words, mean of OOP in relation to nonfood expenditure is likely to stand double to that of the total consumption expenditure. The rest of the results follow exactly the same pattern exhibited above and therefore bear more or less similar explanation.

5.2 Catastrophic Health Spending: An Examination

With the mean of OOP health budget in total or nonfood consumption expenditure as high as was demonstrated in the preceding discussion, there is indeed every possibility that a large fraction of the low-income sample households must be facing a catastrophic situation, depending upon how the catastrophe is defined. Using the criterion employed in recent literature on catastrophic health spending—in particular by the WHO—this section is basically designed to examine a couple of these issues.[3] It also provides a head count of households faced with a catastrophic situation by both their place of residence and socioreligious characteristics. Intensity of catastrophic health spending, described in the literature as mean payment overshoot (MPO), is also discussed based on our sample data.

5.2.1 Computation of Catastrophic Health Spending: Methodology

Catastrophic health-care payments are defined by analysts as a fraction of total or nonfood consumption expenditure exceeding a certain threshold level. A higher health-care share often severely endangers the consumption level of the entire family and brings it to an economic quandary (Garg and Karan 2009; Bonu et al. 2007; Kawabata et al. 2002). Two levels of threshold OOP spending are generally used to define the catastrophe:

- Catastrophe 1: cut-off share of OOP health spending up to or beyond 10 % of the total family or household consumption budget.
- Catastrophe 2: OOP health share up to or beyond 40 % of the total family or household nonfood consumption budget.

To simplify the argument, we have slightly deviated from the general practice and used a set of multiple threshold levels (z) for both types of catastrophes—5, 10, 15 and 25 % of the total consumption budget for catastrophe 1 and 15, 25, 40 and 60 % of nonfood consumption budget for catastrophe 2. Algebraically, the following steps are taken to obtain the head count of households with health-care budget share exceeding z:

[3] See, for example, a comprehensive methodological note on catastrophic expenditures prepared by Xu (2004). It may also be noted that the OOP expenditure in this analysis does not include any form of reimbursement—insurance or noninsurance.

Step 1: $O_{hhd_i} = \left(O_{hhd_i} / hhd_i^{tot\_con}\right) - \left(z \times hhd_i^{tot\_con}\right)$

Step 2: $\bar{O}_{hhd} = \frac{1}{N}\sum_{i=1}^{N} O_{hhd_i}$ (where $N = 1, 2, \ldots, 2{,}010$ for the total sample and z (assigned with multiple values) denotes the threshold levels of both total and non-food consumption expenditure). Similarly, O_{hhd_i} stands for out-of-pocket health payment budget of ith household ($\bar{O}_{hhd_i}$ is the mean OOP budget), and $\text{hhd}_i^{\text{tot\_con}}$ refers to total consumption expenditure of the same household. Barring changes in z values, an identical procedure was adopted to measure catastrophe based on non-food expenditure.

The entire calculations were made on the basis of the total and nonfood per capita monthly consumption expenditure (PCMCE).

5.2.2 *Head Count of Catastrophic Spending: Some Results*

Table 5.3 gives the socioreligious and state-wise distributions of households exceeding OOP thresholds in relation to their total consumption budget.[4] The results are indeed alarming at their face value and pose major challenges for the health planners and institutions engaged in delivery of health-care services. These results clearly indicate that an overwhelming share of households in study areas is facing a serious catastrophic situation because of high OOP expenses on health. To illustrate, at the lowest threshold level, i.e. at 5 % level of total consumption expenditure, there are more than 67 % of the rural and 51 % of the urban households exceeding this limit. The same at the 10 % threshold level—which is generally considered as a catastrophic health spending by most of the analysts—turns out to be 49.5 % in rural areas and 32 % in urban areas. Moreover, our results further indicate that almost a fifth (18.5 %) of the rural households and over a tenth (11.6 %) of the urban households spend more than a quarter of their total consumption budget on health care.

How far it would be plausible to a make a generalisation of these results is indeed an issue on which opinion may differ; it nevertheless vindicates the views commonly held that countries with higher incidence of OOP health-care financing are pregnable with a greater risk of catastrophe (van Doorslaer et al. 2007).

Yet another significant observation arising from Table 5.3 is the higher fractions of rural households in both the states with catastrophic health payments (also see Fig. 5.1). The same for the urban areas is turning out to be much less. In other words, it tends to supplement the point suggesting inadequate rural health-care services provided by the government. Low-caste people, particularly the SC communities, are also in the quandary for the same reason. Curiously enough, the share of Muslim households incurring catastrophic spending on health is marginally lower than of the Hindus. How far is this responsible due to their insensitivities towards poor health or how far does it indicate their lack of resources to access health care

[4]Note that the incidence of catastrophic payment declines with every successive increase in z values.

Table 5.3 Catastrophic payment 1: households incurring OOP spending exceeding chosen threshold of the total consumption budget

Catastrophe payments	Sample size (*N*)	Catastrophe 1: overall consumption thresholds Multiple *z* values *z*=5 %	*z*=10 %	*z*=15 %	*z*=25 %	CV (sd/mean)* 100 *z*=5 %	*z*=10 %	*z*=15 %	*z*=25 %
Total sample	2,010	61.1	42.9	29.9	15.9	79.82	115.43	153.34	230.30
Rural	1,250	67.2	49.5	34.7	18.5	69.89	101.01	137.17	210.11
Urban	400	51.1	32.0	21.8	11.6	97.98	145.96	189.29	276.52
Slum	102	60.8	38.2	27.5	19.6	80.72	127.73	163.37	203.48
Non-slum	258	48.4	30.2	18.6	6.2	103.35	152.21	209.57	389.66
UP	1,000	62.2	44.6	32.2	17.6				
Rural	750	66.8	49.5	35.5	19.5	70.55	101.14	134.98	203.53
Urban	250	48.4	30.0	22.4	12.0	103.46	153.06	186.50	271.34
Rajasthan	650	64.5	46.0	31.1	16.5				
Rural	500	67.8	49.6	33.6	17.0	68.98	100.90	140.72	221.18
Urban	150	53.3	34.0	22.7	14.7	93.85	139.79	185.33	242.02
Delhi	360	51.9	32.5	21.1	10.0	96.32	144.32	193.58	300.42
Social groups									
SC	455	67.5	50.3	35.6	20.9	69.51	99.45	134.63	194.88
ST	249	69.9	50.6	34.1	16.1	65.79	99.00	139.18	229.04
OBC	777	60.1	42.6	30.1	16.0	81.53	116.15	152.43	229.63
Upper caste	529	52.9	33.3	22.5	11.3	94.39	141.76	185.79	279.85
Religious groups									
Hindu	1,789	62.0	43.7	30.5	16.3	78.23	113.51	150.92	226.49
Muslim	188	55.9	38.8	27.7	13.8	89.15	125.85	162.15	250.28

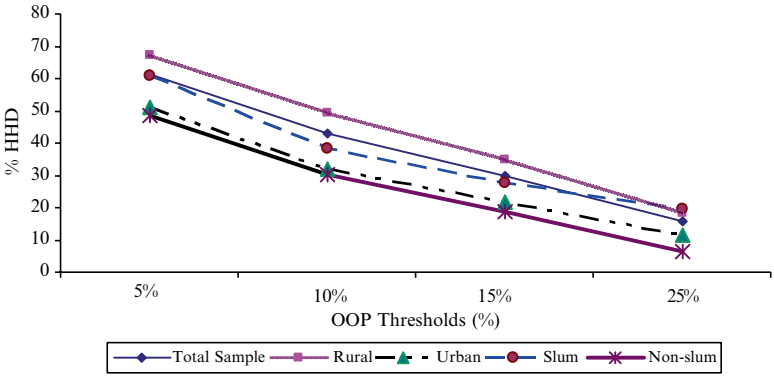

Fig. 5.1 Catastrophe head count: total consumption expenditure $N = 2{,}010$ (total sample)

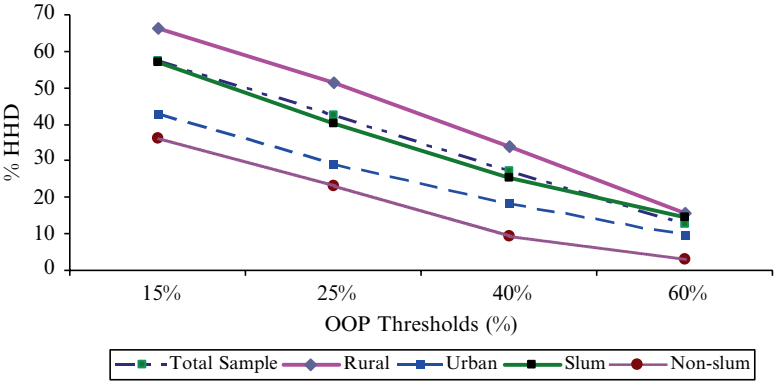

Fig. 5.2 Catastrophe head count: nonfood consumption expenditure $N = 2{,}010$ (total sample)

may however not be judged on the basis of these results. Delhi slum residents are to some extent insulated because of better health-care infrastructure in and around the capital city, and as a result, a lesser proportion of them are found incurring catastrophic payments (Table 5.3). Deviations around the mean are relatively smaller at the higher threshold (z) levels and vice versa.

Catastrophe head count 2, computed on the basis of non-sustenance (nonfood) budgets of sample households, repeats the same grim reality and reiterates further that the rural households are worst affected due to inadequate health-care infrastructure of the government (see Fig. 5.2). The lower-caste SC households are at their worst. Their big percentages are shown to incur catastrophic payments, causing them to suffer from serious and highly disproportionate loss of well-being (Table 5.4). Interestingly, the study areas chosen from both the major states (UP and Rajasthan) are mutually close to each other in terms of their population shares facing consumption catastrophe due to private health payments.

Table 5.4 Catastrophic payment 2: households incurring OOP health spending exceeding chosen threshold of nonfood consumption budget

Catastrophe payments	Sample size (*N*)	Catastrophe 2: nonfood consumption thresholds Multiple *z* values *z*=15 %	*z*=25 %	*z*=40 %	*z*=60 %	CV (sd/mean)* 100 *z*=15 %	*z*=25 %	*z*=40 %	*z*=60 %
Total sample	2,010	57.3	42.6	27.2	12.7	86.41	116.02	163.58	262.41
Rural	1,250	66.3	51.3	33.9	15.5	71.29	97.51	139.63	233.40
Urban	400	42.8	29.0	18.3	9.5	116.71	158.80	227.72	338.73
Slum	102	56.9	40.2	25.5	14.7	87.53	122.58	171.81	242.02
Non-slum	258	36.0	22.9	9.3	3.1	133.46	184.01	312.86	560.10
UP	1,000	61.6	47.4	31.5	15.5				
Rural	750	68.0	53.6	36.1	17.6	68.65	93.10	133.04	216.52
Urban	250	42.4	28.8	17.6	9.2	116.79	157.55	216.81	314.79
Rajasthan	650	59.1	43.5	28.0	11.8				
Rural	500	63.8	47.8	30.6	12.4	75.40	104.61	150.75	266.06
Urban	150	43.3	29.3	19.3	10.0	114.74	155.73	204.95	301.01
Delhi	360	41.9	27.8	13.9	6.4	117.81	161.47	249.34	383.31
Social groups									
SC	455	66.4	51.6	35.4	18.0	71.26	96.86	135.28	213.51
ST	249	68.7	51.0	32.9	12.4	67.67	98.21	143.00	265.72
OBC	777	56.6	43.2	27.5	13.5	87.57	114.64	162.30	253.15
Upper caste	529	45.0	30.1	17.0	7.0	110.68	152.69	221.07	365.00
Religious groups									
Hindu	1,789	58.0	43.3	27.8	13.0	85.18	114.42	161.28	258.49
Muslim	188	55.3	42.0	26.1	11.2	90.11	117.78	168.88	282.75

One of the more alarming observations stemming from the preceding results is a considerably large fraction of households paying more than 60 % of their nonfood budget on medical care. Further, barring certain number of non-slum households in Delhi, the MPO shares are considerably large in all other sample groups covered in the study (Fig. 5.2). In a situation like this, would it be possible for these households to come out of the morass created by their OOP payments? It is indeed a serious issue and warrants contemplating immediate remedial action by policy institutions like the Planning Commission. It also requires enhancing existing health-care infrastructure, particularly in villages and low-income areas of UP and Rajasthan. Our results also indicate very high variation around the mean values (see coefficients of variation (CVs)).

5.3 Intensity of Catastrophic Payments: Mean Positive Overshoot (MPO)

5.3.1 Computation of MPO

Besides catastrophic payments head count, another significant issue in the underlying context is the intensity of catastrophic payments, defined as the amount of excess payments (or overshoot) by which households exceeds catastrophic threshold z. The earlier set of results given in Tables 5.3 or 5.4 does not provide any idea about the amount paid in excess to z or intensity of overshoot occurring in our sample. A measure, known in the literature as catastrophic payment overshoot (C_{po}), has therefore been used to obtain the average degree by which health payments (as proportion of total or nonfood consumption budget) exceed the threshold z.

Algebraically:

$$C_{po}^{hhd_i} = E_i \left(\left(\frac{O_{hhd_{ii}}}{hhd_i^{tot\_con}} \right) - z \right)$$

where C_{po}^{hhd} is the catastrophic payment overshoot of ith household ($i = 1, 2, \ldots N$), E_i is the overshoot (or the amount exceeding z) paid by ith household, $O_{hhd_i} / hhd_i^{tot\_con}$ is the share of OOP payment in households' total consumption budget and z is the catastrophe threshold level with multiple values.

Average (or mean) positive overshoot is:

$$\bar{C}_{po}^{hhd} = \frac{1}{N} \left(\sum_{i=1}^{N} O_{hhd_i} \right)$$

where N is the number of persons whose health expenditure overshoots beyond the threshold level z.[5] By way of interpretation, this measure amounts to suggest that

[5] For an elaborate discussion on these concepts, see the WBI Learning Resources Series Analyzing Health Equity Using Household Survey Data: A Guide to Techniques and Their Implementation by O'Donnell et al. (2008).

those paying 5 % of their total consumption expenditure on health care (i.e. one of the values assigned to z) are actually spending 5 % of their consumption budget plus on an average another Rs. 15.6 as overshoot. This may be noticed from Table 5.5. Similarly, those at $z = 15$ % of their nonfood budget are actually paying 15 % plus Rs. 28 (see Table 5.6).

5.3.2 *Discussion of the Results*

The results providing excess payments by households over the z values (i.e. z + the overshoot amount) are presented in Tables 5.5 and 5.6. The former table, as was explained earlier, relates to households' total consumption budget, and the latter was drawn on the basis of their nonfood consumption shares. Both the results are indeed disturbing and reveal a large amount of excess payments (overshoots) beyond the catastrophic threshold (z) limit. Interestingly, the mean overshoots are turning out to be considerably large in most of the cases, irrespective of their residential pattern. This is true for households in non-slum areas of Delhi as well. While there are indications that the rural and slum households are exceeding their threshold limits considerably at a few specific z values (e.g. $z = 15$ % and 25 % of nonfood budget shares and 25 % at the level of total consumption expenditure), there is however no specific pattern to suggest any clear-cut differentials across households drawn from various states and socioreligious categories. Another notable observation relates to the CV presented in the right-hand side of each table. These coefficients remain considerably large in most of the tables, implying large intra-household variations in health payments. It also indicates a good number of households with no or negligible amount of spending on health.

5.4 Correlates of Catastrophic Health Spending: A Probit Regression Analysis

5.4.1 *Formulation of the Model*

Drawing upon the results presented in Sect. 5.3, which indicate a very high incidence of catastrophic health spending by households in most of our study areas, it is perhaps important to examine some of the major risk factors that are likely to build into perils of such eventualities. We therefore tried to carry out an econometric exercise based on a probit analysis, which follows a cumulative normal probability distribution of an S-type sigmoid curve (Maddala 2005). The exercise is basically designed to highlight the latent characteristic(s) of the households that may potentially be able to germinate into a catastrophe owing to certain *beyond-a-point* spending; in our case, this spending relates to health. To estimate our model, we assume to have a regression of the following specification:

Table 5.5 Intensity of catastrophic health payments: mean positive overshoot in total consumption budget

Place of residence and sociorelig. attributes	Sample size (*N*)	MPO (excess over *z* thresholds)				CV (sd/mean)* 100			
		z = 5 %	*z* = 10 %	*z* = 15 %	*z* = 25 %	*z* = 5 %	*z* = 10 %	*z* = 15 %	*z* = 25 %
Total sample	2,010	15.6	16.2	17.3	18.5	105.62	102.80	96.28	84.23
Rural	1,250	16.3	16.3	17.2	18.3	101.54	102.13	96.38	84.80
Urban	400	14.0	16.1	17.5	18.9	115.26	104.73	96.29	83.20
Slum	102	16.1	19.2	20.6	16.9	103.85	84.77	71.85	74.52
Non-slum	258	11.6	12.5	14.0	23.1	123.64	123.46	119.21	72.56
UP	1,000	16.5	17.1	17.8	18.8	103.09	100.17	95.49	85.00
Rural	750	16.9	17.0	17.8	18.6	100.03	99.40	93.76	82.92
Urban	250	15.1	17.9	18.2	20.0	117.15	103.97	103.86	94.32
Rajasthan	650	15.2	15.4	16.7	17.6	104.59	104.71	96.86	86.83
Rural	500	15.4	15.2	16.3	17.9	103.78	106.47	100.95	88.60
Urban	150	14.5	16.4	18.7	16.3	108.73	97.52	79.20	79.29
Delhi	360	13.1	14.7	16.4	19.6	116.63	108.36	98.84	74.79
Social groups									
SC	455	17.5	17.6	19.0	19.2	100.84	100.25	90.80	83.17
ST	249	13.9	13.4	13.7	13.9	94.29	96.71	92.08	83.36
OBC	777	16.1	16.7	17.7	19.5	104.83	101.60	96.08	79.67
Upper caste	529	13.6	15.4	16.6	18.6	117.56	109.57	104.02	92.94
Religious groups									
Hindu	1,789	15.6	16.2	17.3	18.4	105.06	102.24	95.69	84.09
Muslim	188	15.5	16.3	16.8	19.2	108.19	105.44	104.22	89.63

Table 5.6 Intensity of catastrophic health payments: mean positive overshoot in nonfood consumption budget

		MPO (excess over z thresholds)				CV (sd/mean)* 100			
	N	z=5 %	z=10 %	z=15 %	z=25 %	z=5 %	z=10 %	z=15 %	z=25 %
Total sample	2,010	28.0	26.0	21.4	15.4	75.60	72.14	72.33	66.05
Rural	1,250	29.3	26.5	21.2	15.5	72.10	70.43	72.99	67.54
Urban	400	26.3	26.5	22.7	14.8	84.93	77.45	70.33	61.54
Slum	102	28.3	27.6	24.7	15.9	79.00	72.85	59.71	45.20
Non-slum	258	19.2	18.0	17.0	17.1	89.90	89.23	98.13	60.59
UP	1,000	29.7	27.3	22.2	15.7	73.26	70.46	71.45	67.88
Rural	750	30.5	27.5	22.1	15.7	71.07	69.74	71.04	66.96
Urban	250	25.9	26.0	22.4	15.6	84.51	75.08	74.68	74.61
Rajasthan	650	27.3	25.3	20.1	14.6	74.50	70.80	72.70	67.09
Rural	500	27.4	24.9	19.5	14.8	73.41	71.29	76.37	69.21
Urban	150	26.9	27.3	23.2	13.5	80.39	68.59	55.05	56.62
Delhi	360	22.7	21.9	21.0	16.3	87.24	83.70	76.28	50.34
Social groups									
SC	455	30.5	27.7	21.8	14.8	70.76	68.28	72.00	70.45
ST	249	26.6	24.1	18.1	11.1	71.06	66.88	68.88	82.68
OBC	777	29.3	26.8	22.7	16.6	74.34	72.50	69.80	58.64
Upper caste	529	23.6	23.2	20.3	17.1	87.00	80.50	79.83	64.05
Religious groups									
Hindu	1,789	28.1	25.9	21.3	15.3	75.37	72.32	72.75	66.30
Muslim	188	28.7	26.4	22.1	16.8	74.02	70.55	69.85	65.79

$$Y_i^* = \beta_0 + \sum_{i=1}^{n} \beta_i X_{ij} + u_i$$

where Y_i^* is not observed but remains latent. What is actually observed is a dichotomous (dummy) variable defined as $Y_i = 1$, if the ith household suffers from an OOP-driven catastrophic situation, otherwise 0. Similarly, the u_i follows a normal probability distribution,[6] and X_{ij} is a vector of socio-economic variables. Since the observed Y_i are just a realisation of a binomial process and vary from case to case depending on (X_{ij}), the log likelihood function of the probit may be written as

$$L = \prod_{y=1_i} P_i \prod_{y_i=1} \left(1 - P_i\right)$$

Since β follows a normal distribution, probit coefficients need to be interpreted in the Z (normal quintile) metric. The interpretation of a probit coefficient β may not be as straightforward and implies that one-unit increase in explanatory variable leads to increasing the probit score by β standard deviation. It indeed makes it difficult to interpret probit coefficients, and therefore, we mainly use our estimations to find (i) the direction of relationship between the explained (i.e. catastrophic payments) and the explanatory variables (i.e. sets of household or other characteristics) and (ii) significance of β—coefficients.

To ensure brevity, we have confined our estimations to only catastrophe 1, defined in relation to total (combined food and nonfood) consumption expenditure of households (see Sect. 5.3). In addition, we have also restricted this exercise to only the lowest (i.e. $z = 5$ %) and the highest ($z = 25$ %) catastrophe thresholds. It may inter alia help us to examine if there are differences in factors related to the probabilities of having lower and higher catastrophic events. Both the results are given in Table 5.7.

The correlates of catastrophic expenditures were examined by taking into consideration a set of socio-economic and demographic variables, grouped into five major categories.[7] These are:

- Households' size and per capita consumption expenditure
- Living condition of household members
- Socio-economic and religious background of the households
- Age–sex composition of household members
- Locational characteristics—e.g. rural, urban, slum and non-slum

Both non-slum residents and women in the age group 60 and above were the comparison groups. A detailed list of variables is given in Table 5.7.

[6] For a detailed discussion on distribution of ui and other related details of the probit model, see Maddla (2005, pp. 322–325).

[7] An exercise to estimate elasticities is currently in progress.

Table 5.7 Estimation of probit regression: list of variables

Variable names	Form of variables	Construction variables
A. HHD characteristics		
ln_mpce	Log of MPCE	Natural log
ln_size	Log of HHD size	Natural log
loghhdsize ~ q	(Log of HHD size)^2	Natural log
Pucca/kutcha or a non-*pucca*	1 = pucca house, 0 otherwise	–
B. Living conditions		
Light	1 = electricity, 0 = no electricity	–
Water	1 = safe (tape/covered well), 0 = otherwise	–
Cooking fuel	1 = LPG, coal, electricity 0 = all others (firewood, kerosene, etc.)	–
Toilet	1 = flush or pit toilet 0 = field and all others	–
Drainage	0 = *kutcha nali*, 1 = *pucca nali*	–
Nala	1 = no open drain or *nala* near house 0 = open drain near house (breeding mosquito)	–
C. Socio-economic and religious		
Working	Share of working to nonworking members in a HHD	Number of workers/size of a HHD
Casual_NREGS	Share of persons in a household working as casual or NREGS worker*	Number of persons working as casual, NREGS/size of a HHD
Primary	Proportion of persons in a household educated above primary	Number of persons educated up to primary level/size of a HHD
Middle	Proportion of persons in a household educated above middle level	Number of persons educated up to middle level/size of a HHD
Secondary	Proportion of persons in a household educated up to secondary level	Number of persons educated up to secondary level/size of a HHD

Religion	1 = Hindu, 0 = all others	–
Caste	1 = SC,ST; 0 = all others	–
OBC	1 = other backward castes, 0 = all others	–
D. Demographic profile		
mean_age	Average age of a household	Total age/size of HHD
sq_mean_age	Square of average age of a HHD	(Total age/size of HHD)^2
m0_4	Proportion of males aged 0–4 in a HHD	Males in 0–4 ages/size of HHD
m5_14	Proportion of males aged 5–14 in a HHD	Males in 5–14 ages/size of HHD
m15_40	Proportion of males aged 15–40 in a HHD	Males in 15–40 ages/size of HHD
m41_59	Proportion of males aged 41–59 in a HHD	Males in 41–59 ages/size of HHD
m60_above	Proportion of males aged 60 or more in a HHD	60+ males/size of HHD
f0_4	Proportion of females aged 0–4 in a HHD	Females in 0–4 ages/size of HHD
f5_14	Proportion of females aged 5–14 in a HHD	Females in 5–14 ages/size of HHD
f15_40	Proportion of females aged 15–40 in a HHD	Females in 15–40 ages/size of HHD
f41_59	Proportion of females aged 41–59 in a HHD	Females in 41–59 ages/size of HHD
f60_above	Proportion of females aged 60 or more in a HHD	60+ females/size of HHD
E. Residential character		
up_r	1 = rural HHDs (UP), 0 = others	–
up_u	1 = urban HHDs (UP), 0 = others	–
raj_r	1 = rural HHDs (Rajasthan), 0 = others	–
raj_u	1 = urban HHDs (Rajasthan), 0 = others	–
del_slum	1 = slum HHDs (Delhi), 0 = others	–

Explained variable = sample households with catastrophic payments (z = 5 and 25 % of the total consumption expenditure)

5.4.2 Highlights of Probit Analysis

The results given in Table 5.8 indicate the effects of individual variables on the probability of having catastrophic spending by households in events of sickness episodes requiring inpatient or outpatient treatment. Among all the variables, it may be noticed from the results that the per capita household consumption expenditure, which is generally considered as representing the economic status of the households, turns out to be one of the most significant correlates of catastrophic spending with '*z*' values as high as 6.1 at 5 % and 12.0 at 25 % thresholds, respectively. In both the scenarios, the variable is significant at 99 % confidence interval. The positive sign of the household expenditure is on expected lines implying that economically better-off households are running the greater risks of making catastrophic payments. A direct relationship between the per capita household consumption expenditure (mpce) and catastrophic payments should however be understood by keeping two perspectives into consideration: (i) the likely endogeneity between household expenditure and catastrophic payments and (ii) lower ability to pay (ATP) by the poor for health.

Although household size does not prove to be significant, the sign of the variable clearly indicates that the probability of making catastrophic payments increases with increase in household size. This essentially implies that economies of scale do not hold true for catastrophic payments. Larger households are in greater risk of making catastrophic payments. However, the probability of catastrophic payments *increases at a declining rate* with increase in the household size as indicated by the negative sign of the variable 'square of household size'. This may be because one or the other ailing members in large families may receive lesser attention for treatment.

Households with brick-made *pucca* houses have greater probability of making catastrophic payment at only 5 % threshold level but have strong lower probability of such payments at higher thresholds such as 25 % or more.

In general, better living conditions in terms of drinking water and sanitation facilities lead to reduced probability of making catastrophic payments by households. This is reflected by the negative signs linked with most of the variables used to characterise living conditions of sample households. It is important to note that among others, the availability of safe drinking water and improved cooking fuel turn out to be highly significant in reducing the probability of bigger catastrophes at the higher threshold of 25 %.

Socio-economic and religious background of households reflects a mixed picture, with a strong indication that secondary level education leads to the lowering of the probability of catastrophic payments. Even households with primary level education may find themselves protected to a certain extent. As compared to households with higher proportion of its members as illiterate, households with higher education are able to lower the risk of catastrophic payments. Similarly, higher worker ratio in households (i.e. lower burden of economic dependency) leads to the lowering of the probability. It may as well be because of some sort of contribution from employers to health expenditure of households. However, the households with

Table 5.8 Correlates of catastrophic health spending: probit analysis

Catastrophe threshold (z) = 5 %	**Catastrophe threshold (z) = 25 %**					
No. of obs. 2,010	No. of obs. 2,010					
Wald chi2(34) = 173.60	Wald chi2(34) = 203.33					
Prob > chi2 = 0.000	Prob > chi2 = 0.000					
Pseudo R^2 = 0.0751	Pseudo R^2 = 0.1761					
	Panel A—catastrophe 1: z = 5 %			**Panel B—catastrophe 1: z = 25 %**		
Variables	**Coefficient**	**St. error**	z	**Coefficient**	**St. error**	z
A. HHD characteristics						
ln_mpce	0.399***	0.065	6.130	1.066***	0.089	12.000
ln_size	−7.737	67.621	−0.110	165.531*	101.356	1.630
loghhdsize ~ q	3.978	33.889	0.120	−82.739*	50.780	−1.630
B. Living conditions						
Pucca/kutcha or non-*pucca*	0.002	0.089	0.020	−0.237***	0.107	−2.210
Light	−0.180*	0.098	−1.840	−0.076	0.119	−0.640
Water	−0.094	0.166	−0.570	−0.453***	0.170	−2.670
Cooking fuel	−0.224**	0.108	−2.080	−0.423***	0.135	−3.140
Toilet	−0.158	0.104	−1.520	−0.071	0.123	−0.580
Drainage	0.121	0.119	1.020	0.014	0.178	0.080
Nala	−0.162*	0.091	−1.770	−0.130	0.106	−1.220
C. Socio-economic and religious characteristics						
Working	−0.365	0.226	−1.620	−0.831***	0.301	−2.760
Casual_NREGS	0.682***	0.216	3.160	0.924***	0.270	3.420
Primary	−0.118*	0.190	−0.620	0.149	0.238	0.630
Middle	0.291	0.201	1.450	−0.243	0.276	−0.880
Secondary	−0.915***	0.200	−4.570	−1.214***	0.284	−4.270
Religion	0.141	0.098	1.430	0.109	0.131	0.830
Caste	0.171*	0.092	1.870	0.230***	0.117	1.970
OBC	0.033	0.084	0.390	0.097	0.111	0.880
D. Demographic profile						
mean_age	0.063***	0.019	3.210	−0.004	0.024	−0.180
sq_mean_age	−0.001***	0.000	−2.490	0.000	0.000	0.650
m0_4	2.940***	0.835	3.520	0.845	1.018	0.830
m5_14	1.073	0.676	1.590	−0.518	0.843	−0.610
m15_40	0.261	0.587	0.440	−0.211	0.741	−0.290
m41_59	0.070	0.471	0.150	−0.321	0.673	−0.480
m60_above	0.018	0.443	0.040	−0.098	0.602	−0.160
f0_4	2.867***	0.853	3.360	1.083	1.038	1.040
f5_14	1.429*	0.689	2.080	0.108	0.844	0.130
f15_40	0.695	0.578	1.200	−0.244	0.725	−0.340
f41_59	0.711	0.452	1.570	0.153	0.570	0.270
E. Residential character						
up_r	0.292*	0.159	1.840	1.065***	0.239	4.470
up_u	0.201	0.133	1.510	1.064***	0.217	4.900
raj_r	0.312***	0.151	2.070	0.853***	0.231	3.700
raj_u	0.268*	0.155	1.720	1.036***	0.246	4.220
del_slum	0.338**	0.174	1.940	0.927***	0.256	3.630
Constant	−4.620	1.104	−4.180	−7.726	1.420	−5.440

Dependent variable = catastrophe threshold at 5 and 25 % of the total consumption budget

***p < 0.001; **P < 0.05; *P < 0.10

casual workers in social employment programmes such as NREGA, as compared to those who do not participate in the NREGA scheme, do not enjoy the facilities of employer's contribution and therefore run higher risks of making catastrophic payments. As far as social background of households is concerned, the results clearly indicate that households belonging to lower castes and non-Hindu run higher probability of catastrophic expenditure.

Age of the family members has important implications for catastrophic payments. With increase in the average age of family members, the probability of catastrophic payment increases at the 5 % threshold level but becomes insignificant at the higher thresholds. Further, households with infants and children below the age of 14 years have higher risk of making catastrophic payment at 5 % threshold, while most of these demographic variables are not significant at the higher threshold of 25 %.

Like the per capita consumption expenditure, the locational factors such as state and region also play an important role in the underlying context. It indicates a comparatively vulnerable situation of households living in the remote and poorer regions. As compared to non-slum areas of Delhi, households in all other areas in our sample show a strong and positive association with probability of catastrophic payments. The relationship becomes even stronger with the higher threshold of 25 %.

5.4.3 Concluding Observations

To cap a few of the critical observations arising from the preceding exercises, this whole chapter was mainly directed to examine three significant policy issues: (i) share of OOP health spending by households in their consumption budget, (ii) the extent to which these spending result in a catastrophe and force households to face serious vulnerabilities and (iii) a set of socio-economic, demographic and ethnic correlates liable to bring such catastrophic spending by households. The observations drawn from this entire analysis are rather worrisome as they reveal that in large number of cases, even a small share of consumption budget going to health care ended with catastrophe and loss of well-being. In particular, the head count of catastrophic payments in most of the study areas, particularly among rural and slum households, is turning out to be considerably large. The MPOs, computed to examine the intensity of OOP health spending exceeding a certain catastrophic threshold, also prove to be equally discouraging. Unfortunately, it happens without too many exceptions—geographical, place of residence or otherwise. Among the significant correlates of catastrophic spending are economic status of households surrogated by per capita consumption expenditure, their living conditions including access to sanitation and safe drinking water, nature of work, educational level, number of children in 0–4 age group and place of residence. Households living in remote and poorer regions are expected to face a much bigger risk of catastrophic spending. It vindicates the general perception that rural households seriously lack in terms of

health-care facilities. Despite a few data limitations and caveats, these observations are expected to prove useful in framing appropriate policy responses.

Appendix

Table 5.A.1 Descriptive statistics: variables used in probit regression analysis

Variables	Obs.	Mean	Std. dev.	Min	Max
catcount5	2,010	0.611	0.488	0	1
ln_mpce	2,010	6.519	0.789	4.370	9.734
lnsize	2,010	1.619	0.440	0	2.773
loghhdsize ~ q	2,010	3.241	0.877	0.020	5.546
Pucca	2,010	0.397	0.489	0	1
Light	2,010	0.536	0.499	0	1
Water	2,010	0.963	0.190	0	1
Cooking	2,010	0.310	0.463	0	1
Toilet	2,010	0.405	0.491	0	1
Drainage	2,010	0.128	0.334	0	1
Nala	2,010	0.858	0.349	0	1
Working	2,010	0.333	0.182	0	1
Casual_NREGS	2,010	0.145	0.190	0	1
Primary	2,010	0.518	0.307	0	1
Middle	2,010	0.389	0.311	0	1
Secondary	2,010	0.129	0.228	0	1
Religion	2,010	0.890	0.313	0	1
Caste	2,010	0.350	0.477	0	1
OBC	2,010	0.387	0.487	0	1
Mean_age	2,010	27.653	10.936	11.200	84.500
sq_mean_age	2,010	884.257	819.541	125.440	7,140.250
m0_4	2,010	0.047	0.094	0	0.6
m5_14	2,010	0.119	0.144	0	0.667
m15_40	2,010	0.242	0.154	0	1
m41_59	2,010	0.080	0.117	0	1
m60_above	2,010	0.044	0.116	0	1
f0_4	2,010	0.038	0.087	0	0.600
f5_14	2,010	0.097	0.133	0	0.625
f15_40	2,010	0.220	0.135	0	1
f41_59	2,010	0.072	0.115	0	1
up_r	2,010	0.373	0.484	0	1
up_u	2,010	0.124	0.330	0	1
raj_r	2,010	0.249	0.432	0	1
raj_u	2,010	0.075	0.263	0	1
del_slum	2,010	0.051	0.220	0	1

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Chapter 6
Decomposing Out-of-Pocket Health Spending: Share of Drugs, Medical Services and Other Components

The preceding discussion has perhaps clearly underscored the fact that ailments and poor health conditions contribute heavily in exposing households to serious economic issues, press them hard to make OOP expenses, push a number of them to slip below the threshold poverty level (see the last two columns in Appendix Table 6.A.1) and render many to meet with serious catastrophic situations—amounting to curtailments in their normal consumption pattern and forcing them in certain cases to borrow from private moneylenders. All these make analysts to ask an obvious question: Why is there so much of OOP health spending, and what and where public policy interventions could be directed to ameliorate the situation? In certain countries, the answer to these questions rests with demographically mediated age structure changes and rapid population ageing (Dormont and Huber 2006; Dormont et al. 2006; Getzen 1992). Given the fact that in many cases health-care expenses are determined by the progressing age of the older adults, the growing share of 60 or 65+ is expected to increase the size of health expenditure both in a society and in a household. With ageing in India yet to reach the level achieved by many developed countries, a great deal of health expenditure in this or similar other countries may not be simply considered as age-driven or caused by the ailing olds. Components of health care, in particular, high costs of medicinal drugs and diagnostics, may as well play a role and make families incur a much greater spending on health. This has also been argued by the studies conducted on the initiative of the government including NCMH (2005, Sec. II) or the Annual Report to the People on Health (Ministry of Health & Family Welfare, Government of India, December 2011, Chapter VII).

This chapter is therefore designed to decompose the expenses on health by households into four broader components: (i) fee paid to physician or medical consultant, (ii) cost of drugs and medicines (both prescription and self-medicated), (iii) expenses on diagnostic tests and (iv) money spent on transportation and stay. Most likely, the results of this analysis would help in identifying areas of major public concern and see if there are possible ways for the government to reduce the expenses incurred by households on items costing most to their health budget. Three interconnected exercises are presented. These include:

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- A detailed distribution of OOP health-care expenditure by sample household into four broad categories listed above
- A similar distribution of households regrouped into five quintile groups, ranging from the poorest 20 % to the richest 20 %
- Decomposition of OOP expenses into four broad expenditure items incurred by households facing lowest ($z=5$ %) and highest ($z=25$ %) levels of catastrophe based on the total (i.e. food + nonfood) consumption criterion (refer to the discussion in Chap. 5 on z values)

All the results are presented separately for households drawn from rural and urban areas of both the districts in the two major states of UP and Rajasthan.[1] The same for Delhi was described by making a distinction between slum and non-slum households. The small-sample bias must nevertheless be kept in mind while interpreting the results.

6.1 Decomposition of Health-Care Expenditure: Share of Spending on Drugs, Diagnostics and Other Components

A great deal of literature on private financing of health care in India suggests drugs forming almost three-quarters or even more of the total private spending on health. This has particularly been noticed for the rural households (Sakthivel 2005).[2] Obviously, with such a huge share of drugs and medicines in the total OOP budget, any policy intervention to reduce the cost of health care may not be considered without capping the drug prices and reducing their weight in the overall health spending of rural or urban households. Despite a growing realisation of this fact (Rane 1999), it may not be easy to implement any significant price reduction in India or elsewhere due to changes in drug policy regime, adopted in compliance with a mix of external and internal forces including demand for liberalisation in drug control policies,[3] product patent regime, WTO patenting obligations and TRIPS.[4] Some recent studies have already raised concern about these changes followed by substantial increase

[1] These include Unnao and Jhansi in UP, and Dausa and Dungarpur in Rajasthan.

[2] Based on unit-level data from 55th round of the National Sample Survey (1999–2000), a study by Sakthivel (2005) has reported the share of drugs and medicine in total OOP expenditure of rural households as 77 %. The same for the households in urban areas has turned out to be 70 % of their total health budget.

[3] An example may be the demand for changes in Drugs Price Control Order (1995) under which a total of 74 bulk drugs and their formulations are controlled. The proposed modifications are however currently under legal scrutiny.

[4] After India joined the WTO and became a signatory to the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), it was obligatory on the part of Indian government to introduce patent protection for any invention including medicine and its manufacturing process. TRIPS agreement, effective from January 2005, makes it difficult for the Indian pharmaceutical industries to freely continue with the production of generics (*see next page*) of the new patented molecules without licence or payment of royalty to the innovator. Obviously, the negative impact

Table 6.1 Shares of drug and non-drug expenses in OOP expenditure on health: hospitalised and nonhospitalised care (%)

	Nonhospitalisation				Hospitalisation			
	UP	Rajasthan	Delhi	Total	UP	Rajasthan	Delhi	Total
Panel A: rural HHDs								
Doc. fee	6.3	7.0	–	6.5	6.8	4.8	–	5.8
Drugs	81.5	81.3	–	81.4	80.5	83.2	–	81.8
Transport	7.4	6.9	–	7.2	6.7	6.5	–	6.6
Diagnostics	4.9	4.8	–	4.9	6.1	5.5	–	5.8
Total	100.0	100.0	–	100.0	100.0	100.0	–	100.0
Panel B: urban HHDs								
Doc. fee	9.5	10.1	–	9.7	19.8	4.1	–	16.0
Drugs	77.7	77.3	–	77.5	67.4	87.5	–	72.2
Transport	5.7	6.8	–	6.0	3.7	5.0	–	4.0
Diagnostics	7.2	5.8	–	6.8	9.2	3.5	–	7.8
Total	100.0	100.0	–	100.0	100.0	100.0	–	100.0
Panel C: slums HHDs								
Doc. fee	–	–	1.7	1.7	–	–	2.7	2.7
Drugs	–	–	84.1	84.1	–	–	86.7	86.7
Transport	–	–	6.6	6.6	–	–	3.0	3.0
Diagnostics	–	–	7.7	7.7	–	–	7.6	7.6
Total	–	–	100.0	100.0	–	–	100.0	100.0
Panel D: non-slum HHDs								
Doc. fee	–	–	5.4	5.4	–	–	0.5	0.5
Drugs	–	–	83.1	83.1	–	–	88.8	88.8
Transport	–	–	4.5	4.5	–	–	1.3	1.3
Diagnostics	–	–	7.0	7.0	–	–	9.4	9.4
Total expenditure	–	–	100.0	100.0	–	–	100.0	100.0
Panel E: total HHDs								
Doc. fee	7.0	7.6	4.8	6.3	13.5	4.6	1.1	7.4
Drugs	80.6	80.6	83.3	81.6	73.7	84.3	88.2	80.9
Transport	7.0	6.8	4.8	6.2	5.1	6.1	1.7	4.3
Diagnostics	5.4	5.0	7.1	5.9	7.7	5.0	9.0	7.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

in drug prices causing escalations in OOP expenses and erosion in health-care affordability (Kamiike and Sato 2011; Watal 2000; Srinivasan 1999).

Against this backdrop, we present in Table 6.1 the distribution of OOP spending on drugs and other health-care components to reiterate further the primacy of the former in overall health-care budgets. This has been noticed all across the sample of

of this law would not only affect India and make access to health care more expensive, it would also affect many other countries where Indian pharmaceutical products are exported to ensure availability of reasonably priced medicines. Globally, almost 60 developing countries do not have capacity to produce medicines and another 87 are only partially capable (Cullet 2005). Most of them rely on exports from India.

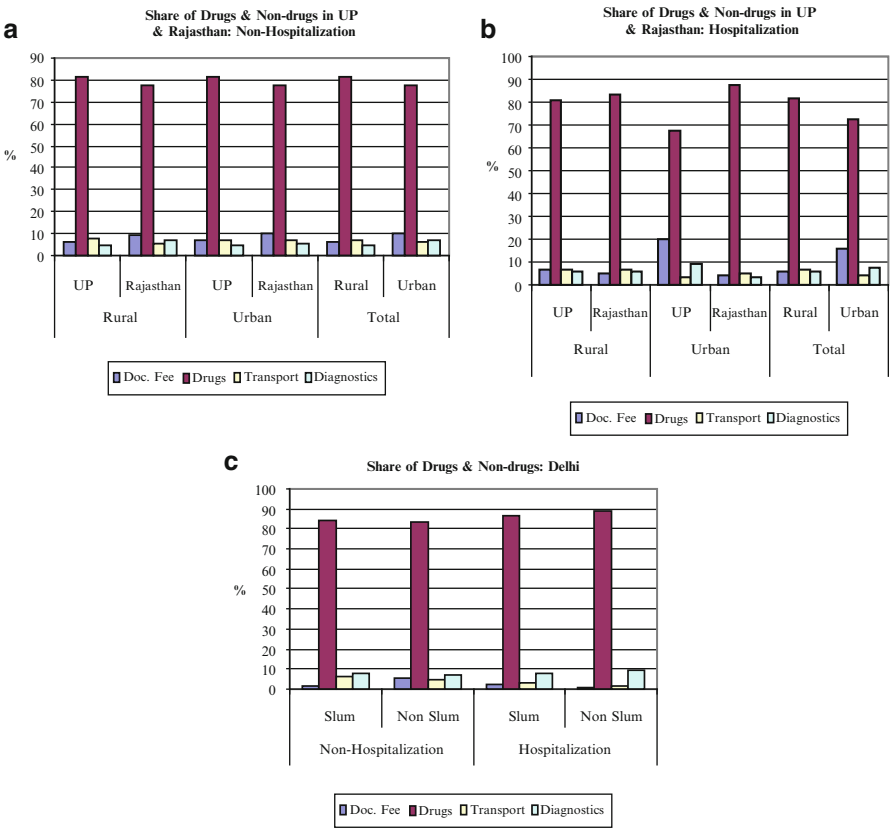

Fig. 6.1 Share of expenses on drugs, medical services and transportation in hospitalised and nonhospitalised care: rural–urban and slum–non-slum households (%) (*Source*: Table 6.1)

households—rural, urban, slum or non-slum and irrespective of the districts or states they were located in. Our results are also to a large extent in the vicinity of the earlier findings (Sakthivel 2005; Bonu et al. 2007), suggesting that more than three-fourths of the money spent on health care invariably goes to allopathic medicines. Share of other forms of treatment—and hence medicines—is minuscule as may be noticed from the discussion in the next chapter.

Without too much of variations, Table 6.1 indicates almost a similar distribution pattern of health budgets across all the study areas (see also Fig. 6.1) with around four-fifths of the total OOP expenditure going to drugs followed by another 5–10 % (depending upon rural–urban and inpatient or outpatient treatment) of the total expenses going to medical practitioners (both qualified and others) as their consultation fee. Expenditure on diagnostics remains in most cases between 5 and 7 % of the total budget, and almost an equal amount (between another 5 and 7 %) is devoted to meet a few sundry expenses, especially transportation (see Fig. 6.1a–c).

Between the two samples of households drawn from UP and Rajasthan, the share of expenditure gone to consultation fee is shown to be much higher in the former, particularly in sickness episodes requiring hospitalisation. Relatively, however, their expenses on drugs are much less. Both of them however follow almost a similar expenditure pattern in cases where hospitalisation was not required.

Moving to the OOP distribution for slum and non-slum households in Delhi, it is clear both from Table 6.1 (panels C and D) and Fig. 6.1c that the former are almost at a competing level with the latter in terms of their percentage expenditure on drugs and two other major medical services, namely, consultation and diagnostics. However, the share of expenditure on consultation fee is relatively higher for slum households, i.e. 2.7 % as against 0.5 % for the non-slum households (Table 6.1, panels C and D). Also, they are shown to incur a larger share of expenditure on transportation than the non-slum households.

From these results, which tend to portray certain degrees of equity between the slum and non-slum households in distribution of their health budgets, follow two significant questions: (i) Does this equity represent certain peculiarities of Delhi alone or is it a wider phenomenon and the poor in general encounter a similar situation in other places as well, and (ii) is there a safeguard to protect them?

Regarding the second question, safeguard perhaps lies in pooling the risk and offering certain form of health insurance mechanism—if not to all, at least to the poor.[5] Another important safeguard derives from lowering inflation in the drug sector and pro-poor negotiations in the WTO. Particularly, most generic medicines and formulations need protection from strict patenting and royalty laws. This is particularly essential because of a very large share of medicines in overall household budgets on health. Reverting to the first question, we extend this analysis, as was already noted in the beginning, by briefly describing the OOP budget distributions at two levels: (i) by five consumption quintile groups (poorest 20 %, next 20 %, middle, rich and the richest) and (ii) by two catastrophic groups ($z = 5$ and 25 %).

6.2 Share of Drugs and Non-drugs in OOP Budget: Households by Consumption Quintiles

Using unit-level consumption data, Table 6.2 distributes the health-care expenditure of sample households arranged in ascending order into five quintile groups—from the poorest 20 % to the richest 20 %. Expenditure items in all the calculations remain identical.

[5] Rashtriya Swathya Bima Yojna (i.e. National Health Insurance Programme) was launched by the Government of India in October 2007 to insure below-poverty-line (BPL) households against diseases requiring almost 700 inpatient medical procedures. Covering a total of 5 members—husband, wife and up to three children—the scheme mostly fails to cover elderly family members. The scheme enables eligible households to receive inpatient cover up to Rs. 30,000.

Table 6.2 Shares of drug and non-drug expenses in hospitalised and nonhospitalised care: households by consumption quintiles (%)

	OOP expenditure: nonhospitalised care					OOP expenditure: hospitalisation cases				
Consumption quintiles	Doc. fee	Drugs	Transport	Diagnostic	Total	Doc. fee	Drugs	Transport	Diagnostic	Total
Panel A: rural UP and Rajasthan										
Poorest 20 % households	4.9	85.1	8.1	1.9	100.0	3.1	77.6	18.8	0.5	100.0
Next	5.6	83.0	8.8	2.6	100.0	4.9	79.8	9.2	6.2	100.0
Middle	8.2	82.2	7.3	2.3	100.0	4.7	85.5	7.2	2.5	100.0
Rich	9.2	77.6	7.9	5.3	100.0	9.9	78.1	5.2	6.8	100.0
Richest 20 % households	5.3	81.9	6.5	6.3	100.0	4.4	82.9	6.8	5.9	100.0
Total sample	6.5	81.4	7.2	4.9	100.0	5.8	81.8	6.6	5.8	100.0
Panel B: urban UP and Rajasthan										
Poorest 20 % households	10.4	80.6	4.9	4.2	100.0	1.3	85.5	5.0	8.2	100.0
Next 20 %	11.8	74.6	8.2	5.4	100.0	8.1	85.0	4.9	2.0	100.0
Middle	11.0	80.2	3.6	5.2	100.0	9.3	80.9	2.9	6.9	100.0
Rich	7.8	79.6	6.1	6.5	100.0	1.1	86.8	4.0	8.1	100.0
Richest 20 % households	9.8	75.5	6.2	8.5	100.0	20.0	67.8	3.9	8.4	100.0
Total sample	9.7	77.7	5.9	6.8	100.0	16.0	72.2	4.0	7.8	100.0
Panel C: Delhi slum										
Poorest 20 % households	8.7	90.4	0.9	0.0	100.0	0.0	81.3	6.3	12.5	100.0
Next 20 %	2.6	80.7	8.7	8.0	100.0	3.4	84.0	5.3	7.3	100.0
Middle	1.1	87.2	9.5	2.2	100.0	0.0	77.9	1.1	21.0	100.0
Rich	4.3	77.3	2.6	15.8	100.0	5.6	90.9	2.7	0.8	100.0
Richest 20 % households	0.2	85.0	6.9	7.8	100.0	0.0	92.4	5.6	2.1	100.0
Total sample	1.7	84.1	6.6	7.7	100.0	2.7	86.7	3.0	7.6	100.0
Panel D: Delhi non-slum										
Poorest 20 % households	4.8	90.5	3.4	1.3	100.0	10.1	84.6	4.1	1.2	100.0
Next 20 %	5.0	87.2	6.7	1.2	100.0	0.0	89.5	1.6	8.9	100.0
Middle	4.3	84.7	2.7	8.2	100.0	0.6	81.8	2.7	14.9	100.0
Rich	5.7	81.4	4.6	8.3	100.0	0.0	89.7	0.9	9.4	100.0
Richest 20 % households	5.9	82.0	5.0	7.2	100.0	0.1	91.9	0.4	7.5	100.0
Total sample	5.4	83.1	4.5	7.0	100.0	0.5	88.8	1.3	9.4	100.0

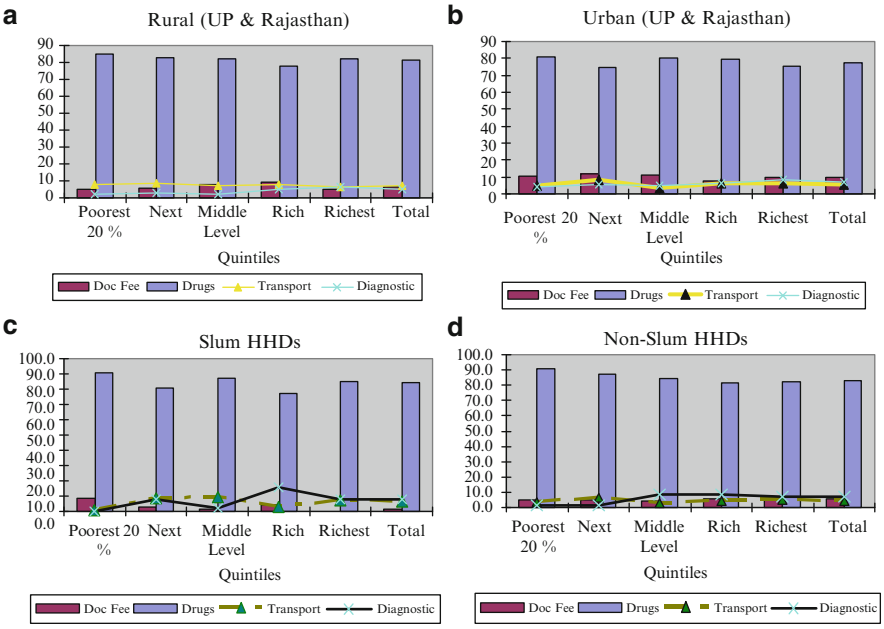

Fig. 6.2 Share of expenses on drugs, health services and transportation in OOP health budget: quintile groups (%) (*Source*: Table 6.2)

Replicating largely the pattern represented by Delhi, we notice from this table that the poorest 20 % seeking outpatient treatment have spent a greater share of their health budget on medicines than any other quintile group (see Fig. 6.2a–d). Further, the same remains true for all the places covered in the study. Drug share of these households varies between 80 and 90 % of the total and remained particularly higher among the slum and rural households (Table 6.2, panels A and C). All other quintile groups spent a lesser share, although their differences in many cases remained marginal. Poorest groups have also spent in certain areas (slums and towns in UP and Rajasthan) a larger share of their health budget on medical consultation. The situation is however slightly reversed when it comes to the hospitalised treatment. Nevertheless, the differentials are invariably small and the richest appear to have drawn certain advantages over the lower quintile groups.

A significant observation arising on the basis of Table 6.2 and its first three panels is that the poorer quintiles (poorest, next 20 % and middle) are not only spending heavily on drugs and medicines, they also spend their considerable budget shares on consultation and diagnostics. It may be noticed even in cases of hospitalisation (see the latter half of Table 6.2). A possible explanation may be drawn from two possibilities. First, people do not necessarily rely on public hospitals even if they require hospitalisation. Second, many diagnostic services in public facilities are on payment basis. Also, there are instances of doctors in public hospitals going for private practices, especially in UP and Rajasthan.

6.3 Share of Drugs and Non-drugs in OOP Budget: Households with Catastrophic Spending

Two exercises are reported in Tables 6.3a and 6.3b. Both are drawn on the basis of the total consumption budget of the households facing catastrophe due to spending on medical care, with or without hospitalisation. Two levels of catastrophe have been used: one, with a lower threshold of $z=5$ % or more and the other with a z value fixed at 25 % and beyond. The heads of medical expenditure remained as before.

Conforming closely to the patterns visible in the two preceding analyses, these results also highlight drugs as the single expenditure item with highest budget share (almost 80 % of the total and above) followed by diagnostics and medical consultation.

Table 6.3a Shares of drug and non-drug expenses in nonhospitalisation cases: catastrophic households (%)

	Nonhospitalisation cases: catastrophic HHDs ($z=5$ %)					Nonhospitalisation cases: catastrophic HHDs ($z=25$ %)				
	Rural	Urban	Slum	Non-slum	Total HHDs	Rural	Urban	Slum	Non-slum	Total HHDs
Panel A										
UP										
Doc. fee	6.3	8.8	–	–	6.9	6.9	7.0	–	–	6.9
Drugs	81.3	78.2	–	–	80.7	81.4	80.6	–	–	81.2
Transport	7.3	5.6	–	–	7.0	6.1	5.9	–	–	6.1
Diagnostic	5.0	7.3	–	–	5.5	5.6	6.5	–	–	5.8
Total	100.0	100.0	–	–	100.0	100.0	100.0	–	–	100.0
Panel B										
Rajasthan										
Doc. fee	6.7	9.4	–	–	7.2	4.9	6.6	–	–	5.2
Drugs	81.3	77.5	–	–	80.6	82.3	73.4	–	–	80.8
Transport	6.9	6.7	–	–	6.9	6.1	10.2	–	–	6.8
Diagnostic	5.0	6.5	–	–	5.3	6.7	9.8	–	–	7.2
Total	100.0	100.0	–	–	100.0	100.0	100.0	–	–	100.0
Panel C										
Delhi										
Doc. fee	–	–	1.4	4.9	4.2	–	–	0.0	2.5	1.8
Drugs	–	–	84.4	83.5	83.7	–	–	81.1	83.1	82.5
Transport	–	–	6.4	3.7	4.2	–	–	7.8	3.1	4.4
Diagnostic	–	–	7.8	8.0	7.9	–	–	11.1	11.3	11.3
Total	–	–	100.0	100.0	100.0	–	–	100.0	100.0	100.0
Panel D										
Total households										
Doc. fee	6.5	9.0	1.4	4.9	6.1	6.2	6.9	0.0	2.5	5.1
Drugs	81.3	78.0	84.4	83.5	81.7	81.7	78.2	81.1	83.1	81.5
Transport	7.2	5.9	6.4	3.7	6.0	6.1	7.3	7.8	3.1	5.8
Diagnostic	5.0	7.1	7.8	8.0	6.3	6.0	7.5	11.1	11.3	7.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6.3b Shares of drug and non-drug expenses in hospitalisation cases: catastrophic households

	Hospitalisation cases: catastrophic HHDs ($z=5$ %)					Hospitalisation cases: catastrophic HHDs ($z=25$ %)				
	Rural	Urban	Slum	Non-slum	Total HHDs	Rural	Urban	Slum	Non-slum	Total HHDs
Panel A										
UP										
Doc. fee	6.9	19.9	–	–	13.7	6.9	22.8	–	–	15.5
Drugs	80.3	67.5	–	–	73.6	81.9	64.3	–	–	72.3
Transport	6.7	3.4	–	–	5.0	5.4	3.1	–	–	4.2
Diagnostic	6.2	9.2	–	–	7.8	5.8	9.8	–	–	8.0
Total	100.0	100.0	–	–	100.0	100.0	100.0	–	–	100.0
Panel B										
Rajasthan										
Doc. fee	4.5	4.1	–	–	4.4	4.6	2.7	–	–	4.2
Drugs	83.6	87.4	–	–	84.6	83.0	87.4	–	–	83.9
Transport	6.4	4.9	–	–	6.0	6.8	5.9	–	–	6.6
Diagnostic	5.6	3.6	–	–	5.1	5.7	4.1	–	–	5.3
Total	100.0	100.0	–	–	100.0	100.0	100.0	–	–	100.0
Panel C										
Delhi										
Doc. fee	–	–	2.8	0.4	1.0	–	–	0.0	0.0	0.0
Drugs	–	–	86.7	89.6	88.8	–	–	89.6	87.9	88.4
Transport	–	–	2.8	1.1	1.5	–	–	2.3	0.7	1.3
Diagnostic	–	–	7.7	9.0	8.6	–	–	8.1	11.4	10.3
Total	–	–	100.0	100.0	100.0	–	–	100.0	100.0	100.0
Panel D										
Total households										
Doc. fee	5.7	16.2	2.8	0.4	7.4	5.8	19.6	0.0	0.0	8.5
Drugs	81.9	72.2	86.7	89.6	81.1	82.4	67.9	89.6	87.9	79.5
Transport	6.5	3.7	2.8	1.1	4.2	6.1	3.5	2.3	0.7	4.0
Diagnostic	5.9	7.9	7.7	9.0	7.3	5.7	8.9	8.1	11.4	7.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

It may also be interesting to note that in a few cases, the share of expenditure incurred by rural households on transportation is relatively higher than the shares on medical services (see Fig. 6.3a-1, a-3 and b-1, b-3). In other words, it is an indication of poor access to medical facilities closer to some villages.

Another interesting result to notice from these tables is the expenses borne by the slum households in Delhi. There is clear evidence that the poor and slum dwellers spend in many cases a much larger share of expenditure on drugs and other medical items than the nonpoor. Despite that, these results in no way imply that nonpoor do not spend on health. They largely follow a similar pattern with a maximum of their health budget going to drugs and diagnostics. How far they suffer in terms of their welfare losses due to these payments or to what extent their welfare losses differ with similar losses suffered by the poor may not be conjectured with the help of the results reported here.

With all those observed differentials across the households, a point of major policy concern stemming from the underlying discussion is how to reduce the size

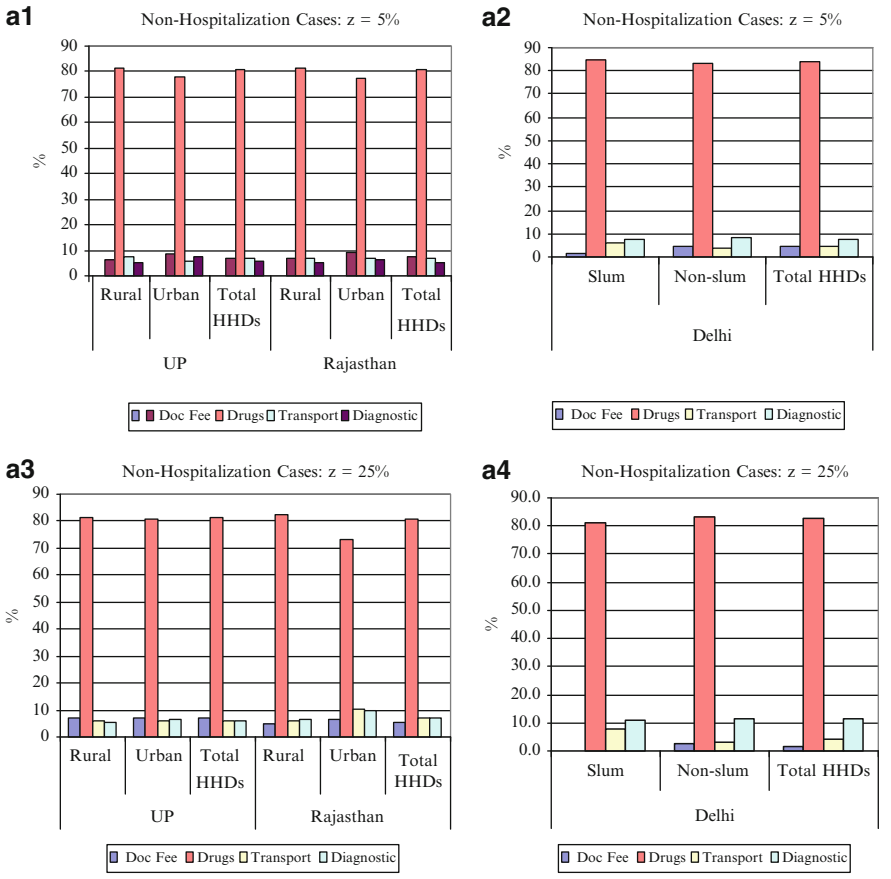

Fig. 6.3 (**a**) Share of expenses on drugs, health services and transportation in OOP health budget: catastrophic households ($z=5$ % of the total consumption) (*Source*: Table 6.3a). (**b**) Share of expenses on drugs, health services and transportation in OOP health budget: catastrophic households (Hospitalised episodes, $z=5$ and 25 % of the total consumption) (*Source*: Table 6.3b)

of the OOP health-care budget and shield poor household's from high costs of drugs and medical services. Besides the risk pooling and universal health insurance coverage, two other solutions may follow from the following: firstly, strict drug control policy coupled with a judicious demand–supply management of pharmaceutical products and, second, an improved health delivery mechanism in public hospitals and facilities. It requires a well-designed strategy to deploy medical personnel at different places, medical units, hospitals and dispensaries. Currently, physicians and medical personnel are deployed for several of non-clinical activities as well. They are in many cases governed by the district administration and pushed regularly to serve politicians or day-to-day political events. All this makes their availability to required clinical activities or designated hospitals scarce, thereby forcing ailing people to rely on private practitioners.

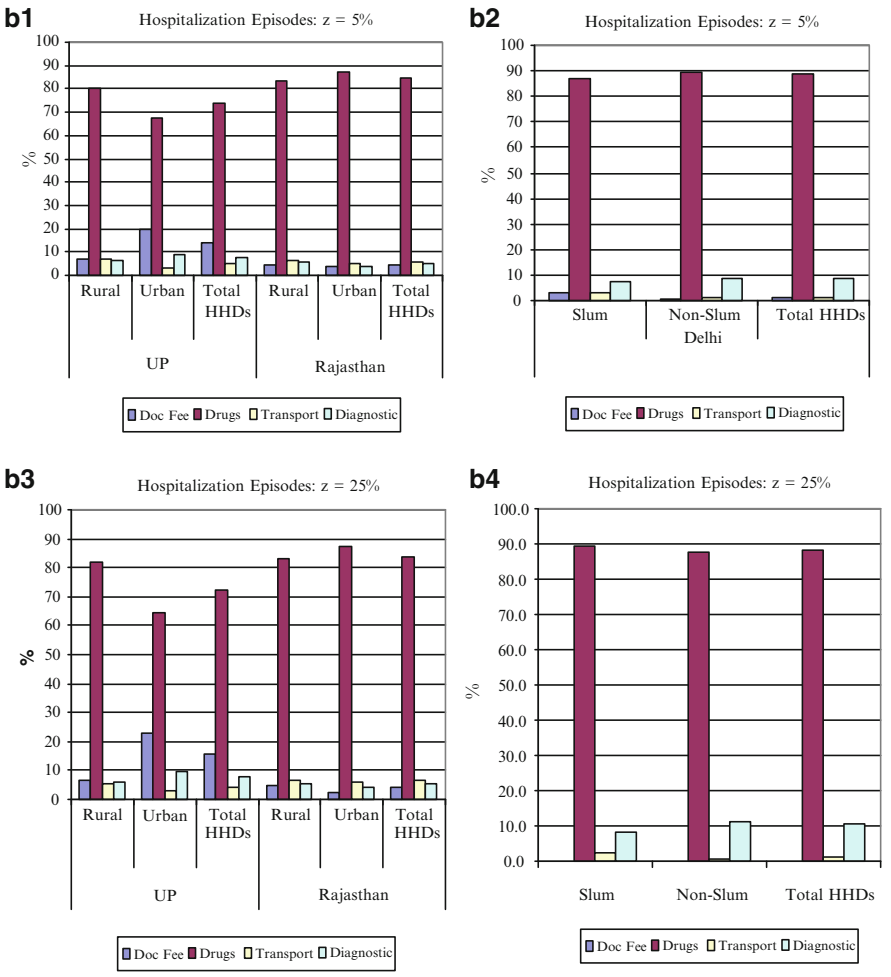

Fig. 6.3 (continued)

6.4 Government Policies Towards Drug Pricing: A Brief Overview

Of the many issues in availing health-care services in India, two are far more critical and mutually interconnected: the low level of public health expenditure, which has been hovering around 1 % of the country's GDP for the past few years, and high own-source spending by users of health services, particularly on purchase of drugs and medicines. With any increase in drug prices, the share of private out-of-pocket spending on health is bound to increase and worsen inequity and the inaccessibility of health services and might cause many more households economic hardship or

push them below the poverty line.[6] All this happens although India ranks very high in the world in advanced life sciences and its pharmaceutical industry holds a top position in the international generics market (Narayan 2007).

6.4.1 Drug Pricing Policies in India

India has for long been producing pharmaceutical products to meet its domestic needs and has also been controlling the prices of selected non-innovative essential drugs for the past four decades and more. An effective drug price control regime came into existence in India in 1970 when the government issued a Drug Price Control Order (DPCO) under its Essential Commodities Act. The DPCO (1970) let the government control drug prices and complement these with the licencing system prevailing across the country, although at the expense of diluting intellectual property rights. There have, however, been several changes in subsequent years, and price control has been reduced successively—almost all drugs under price control in 1970 to a select list of 347 in 1979, to 142 bulk drugs in 1987 and to 76 in 1995, when India had to make major changes in its drug control regime as part of its economic liberalisation policies. After 1995, the government was willing to cut the number of essential drugs further to meet its WTO obligations but could not due to a pending Public Interest Litigation, initially in Karnataka High Court and later in the Supreme Court of India. It had to wait until 2005, when Trade-Related Intellectual Property Rights (TRIPS) rules and product payment for drugs became operational. During most of this period, India followed a cost-based pricing system.

6.4.2 Drug Price Policy: 2012

The evidence is growing of rising (non-essential) drug prices in recent years (Chaudhury 2005) that increase the very high financial burden on households with members with ailments. To alleviate this, and also because of certain relaxations—e.g. compulsory licencing—available under the TRIPS agreement,[7] the Government of India has rolled out a new National Pharmaceutical Pricing Policy (NPPP) on December 7, 2012 and increased the number of essential drugs from 74 (as determined by the 1995 Drug Price Control Order) to 348, almost the same given in the National List of Essential Medicines (NLEM) prepared in June 2011 by the Ministry of Health and Family, Government of India. These essential drugs, relying on a

[6] A recent study by Lalitha (2011) has cited the National Sample Survey on Consumer Expenditure (55th Round) to argue that OOP expenditure on health pushes more than 2 % of the people below-poverty line in 1 year. Our own results, presented in this book, show a similar result.

[7] India and some other developing countries have negotiated hard in WTO meetings to keep Intellectual Property Law (IPL) separate from the WTO. Finally, it was decided to follow Trade-Related Intellectual Property Rights (TRIPs) with certain relaxations like provisions of compulsory licences, although this right was pruned in effect.

Market-Based Ceiling Pricing (MBCP) system to determine final prices, are expected to cover almost 30 % of the total drugs sold in the country.[8]

Despite all these efforts and the purported objective of making drugs more accessible to low-income households, health analysts are sceptical (Selvaraj and Farooqui 2012) because (1) the NPPP excludes over three-quarters of medicines and (2) drug prices may not decline perceptibly because of the MBCP, designed to cover all 348 essential medicines. This may particularly be true for molecules (drugs) with high price variations. In such cases, mean prices will accompany high standard deviation and observed mean may exceed the prices of cheaper brands.[9]

Given these apprehensions and scepticism, would all these changes—e.g. enlarging the list of essential medicines or shifting from a cost-based pricing mechanism to a market-based system—help people to get affordable health care in India and avoid serious economic issues due to ailments? Answers to these questions need studies much deeper than the one conducted by us in this book. However, this analysis established an important point: Health care in India is a major cause of poverty among low-income rural and urban households and among the key policy areas for future governments, both central and state, given that health is a state subject and one of the biggest responsibilities of state governments.

Appendix

Table 6.A.1 Increase in poverty due to OOP health payments (%)

	Poverty 1[a]		Poverty 2[b]		Increase in below-poverty HHDs due to OOP	
	Rural	Urban	Rural	Urban	Rural	Urban
Total sample	33.0	18.8	46.5	24.9	13.5	6.1
UP	36.0	25.6	49.6	29.6	13.6	4.0
Unnao	34.7	20	48.89	22	14.2	2.0
Jhansi	38.0	34.0	50.7	41.0	12.7	7.0
Rajasthan	28.4	28.6	41.8	38.0	13.4	9.4
Dausa	21.6	38.0	34.0	56.0	12.4	18.0
Dungarpur	35.2	24	49.6	29.0	14.4	5.0
Delhi	–	10.0	–	16.1	–	6.1
Slum	–	26.5	–	41.2	–	14.7
Non-slum	–	3.4	–	6.2	–	2.8

[a]Poverty 1: Monthly per capita household consumption expenditure (MPCE) including OOP health care below defined poverty line (z), i.e. MPCE$<z$

[b]Poverty 2: MPCE excluding OOP health care below defined poverty line (z), i.e. (MPCE – OOP)$<(z)$

[8]Some projections suggest that the total market covered under this law would be around 18 %.

[9]The MBCP may be drawn by averaging the price of all the brands under a particular therapeutic (drug) area. Suppose a particular drug D has n number of brands and these brands are sold at price p such that D_p1, D_p2, …, D_pn. The market-based ceiling price under this formula would be the arithmetic mean computed on the basis of n numbers of brands and their p prices. If price variations across all these brands are high (i.e. a few p_s are very low and others are high), the ceiling price may not help and consumers may end up paying more.

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Chapter 7
Utilisation of Public Health Facilities: A Situational Assessment

The preceding three chapters have lent considerable evidence to suggest that people in backward regions of UP and Rajasthan are severely pressured by OOP expenditure on health care. Almost a similar result was presented for the slum residents in Delhi as well. These results have also lent credence to the fact that a bulk of these households is marred by varying levels of catastrophe with possibilities of major curtailments in their living conditions. A probit regression analysis in Chap. 5 further indicates that the poor, economically less secured, lower caste, moderately educated, poor sanitation, lack of access to potable drinking water, low levels of living without proper lighting or cooking fuel and *kutcha* houses are among the factors making people susceptible to enhanced risks of health catastrophe. However, a question that needs to be examined in the context of these findings is: what happens to the public health facilities and despite high financial burden, why do people go to private practitioners? A related question may arise with regard to the utilisation of added services created in rural areas since the inception of the NRHM in April 2005. Do people even know about these facilities and their intended objectives to provide an added package of services including sanitation, potable drinking water, better childcare with timely vaccination and assistance to pregnant rural women with basic medicines and institutional deliveries? We will try to examine a few, if not all, of these issues in the rest of this chapter.

As was noted, two issues form the basic concern of this chapter. First is to examine the utilisation of public health-care facilities by households cross-classified according to: (i) rural–urban and slum–non-slum, (ii) consumption quintiles and (iii) catastrophe status. The second issue to be examined is as regards the reasons for non-utilisation or poor utilisation of the public facilities including primary health centres (PHC) or CHCs.[1] The focus of discussion in this part of analysis concerns the non-availability

[1] Primary health-care facilities created over the years by the government in rural areas have evolved on the basis of certain population norms. These include subcentres for every 3,000–5,000 population, primary health centres (PHCs) for a total of 20,000–30,000 population and community health centres (CHC) for 80,000–120,000 population. Lower population norms have been used for the tribal and hilly areas (Ministry of Health & Family Welfare, Government of India 2006). Most of these services have however been driven to a considerable extent by the family planning objectives of the government.

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of doctors, particularly in rural areas, which may inter alia be an indication of (a) deficient manpower planning in government-run medical facilities and (b) poor management and/or deployment of available human resources by authorities and health-care planners. In between, we will also discuss about the NRHM and if people access the services provided under this scheme to a considerable extent.

7.1 Utilisation of Public Sector Facilities by Rural–Urban and Socioreligious Groups: Hospitalisation and Outpatient Care

Like the share of expenditure on drugs and medicines as observed in the preceding chapter, another significant issue in the context of health-driven poverty relates to a very high dependence of households on private facilities despite creation of a vast publicly financed health-care infrastructure in most rural and urban areas. Alarmingly, this dependence holds for most rural and low-income areas covered in the study. Moreover, a considerable share of poor population from the lowest quintile also appears to have relied on private providers. Catastrophic households follow a similar pattern. Furthermore, even in hospitalised treatment where it has an edge, the public sector is losing its earlier sheen. Tables 7.1a, 7.1b, 7.2a, 7.2b, 7.3a and 7.3b provide these details both for the hospitalised and outpatient treatments cross-classified by the sample areas and socioreligious groups. Major highlights of these tables are also represented graphically in figures drawn on the basis of the three tables mentioned above.

Tables 7.1a and 7.1b give the distribution of hospitalised (inpatient) and nonhospitalised (outpatient) cases treated in public or private facilities in rural and urban areas of the states under consideration. Two recall periods have been used—365 days for the former and 30 days for the latter (see also Fig. 7.1a, b). As has been noted, one of the most visible highlights of both the tables relates to the dominance of private facilities in the delivery of health services at all the places covered in the study. This pattern has been highlighted very sharply by Fig. 7.1b (and also Table 7.1b) with the help of a bivariate distribution of public–private shares in non-ambulatory (or outpatient) care across most of the survey areas and socioreligious groups. The share of private providers is particularly higher in UP where almost three-quarters of both rural and urban health-care seekers have relied on private practitioners for their routine outpatient care. Interestingly, this share has turned out to be relatively smaller in remaining states with the lowest in Rajasthan followed by Delhi (see the painted column in Table 7.1b). Nevertheless, at no place the share of private practitioners in outpatient care drops below 50 %. What does this lack of interest mean for the 11th Five-Year Plan (2007–2012) and its health objectives? The current Plan sets out to provide special attention to the health of marginalised groups like adolescent girls, women of all ages, children below the age of three, older persons, disabled and primitive tribal groups (Planning Commission 2008). However, a limited utilisation of health facilities, especially by the poor and

Table 7.1a Hospitalisation incidence and utilisation of public or private medical facilities: sample population (reference period: past 12 months)

States/socioreligious categories	Size of sample population (*N*)	Hospitalisation share (%)	Utilisation of facilities		Hospitalisation cases (number)
			Private (%)	Public[a] (%)	
UP	5,603	2.6	52.1	48.0	146
Rural	4,236	2.5	45.7	54.3	105
Urban	1,367	3.0	68.3	31.7	41
Rajasthan	3,523	3.4	40.2	59.8	117
Rural	2,705	3.1	37.8	62.2	82
Urban	818	4.2	45.7	54.3	35
Delhi	1,937	3.5	41.8	58.2	67
Slum	569	4.6	26.9	73.1	26
Non-slum	1,368	3.0	51.2	48.8	41
All social group	11,063	3.0	45.8	54.2	330
SC	2,531	3.1	46.2	53.9	78
ST	1,361	2.7	27.8	72.2	36
OBC	4,367	3.0	46.6	53.4	131
Upper caste	2,804	3.0	51.8	48.2	85
All religions	11,063	3.0	45.8	54.2	330
Hindu	9,795	3.0	45.6	54.4	294
Muslim	1,112	2.8	45.2	54.8	31
Total sample	11,063	3.0	45.8	54.2	330

[a]Includes city hospitals, CHCs and PHCs

Table 7.1b Outpatient treatment and utilisation of public or private medical facilities: sample population (reference period: past 30 days)

States/socioreligious categories	Number of persons	Nonhospitalised cases (%)	Type of medical doctor consulted:		Total outpatient cases (number)
			Private (%)	Public (%)	
UP	5,603	16.3	75.1	24.9	913
Rural	4,236	17.1	75.9	24.1	726
Urban	1,367	13.7	72.2	27.8	187
Rajasthan	3,523	13.7	58.4	41.6	481
Rural	2,705	13.9	57.6	42.4	377
Urban	818	12.7	61.5	38.5	104
Delhi	1,937	17.6	62.5	37.5	341
Slum	569	16.9	61.5	38.5	96
Non-slum	1,368	17.9	62.9	37.1	245
All social group	11,063	15.7	68.0	32.0	1,735
SC	2,531	16.3	70.6	29.4	412
ST	1,361	15.2	53.6	46.4	207
OBC	4,367	14.5	71.9	28.1	634
Upper caste	2,804	17.2	66.8	33.2	482
All religions	11,063	15.7	68.0	32.0	1,735
Hindu	9,795	15.8	67.8	32.2	1,544
Muslim	1,112	14.8	69.7	30.3	165
Total sample	11,063	15.7	68.0	32.0	1,735

Table 7.2a Utilisation of public and private hospitals: quintile groups

	Rural		Urban[a]		Slum		Non-slum		Total hospitalisation	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Poorest 20 %	12.5	87.5	42.9	57.1	0.0	100.0	42.9	57.1	18.5	81.5
2	20.0	80.0	40.0	60.0	12.5	87.5	40.0	60.0	37.8	62.2
3	35.3	64.7	50.0	50.0	60.0	40.0	50.0	50.0	36.6	63.4
4	43.2	56.8	47.2	52.8	50.0	50.0	37.5	62.5	49.5	50.5
Richest 20 %	53.1	46.9	68.8	31.3	16.7	83.3	87.5	12.5	58.8	41.2
	42.3	57.8	50.4	49.7	26.9	73.1	51.2	48.8	45.8	54.2
Chi2(4)	Pr. = 0.021		Pr. 0.182		Pr. = 0.189		Pr. = 0.238		Pr. = 0.001	

Number of Hospitalisation Cases = 330

[a]Including households from slum and non-slum areas of Delhi

low-income households, may bring an element of contradiction between the ground realities and Plan objectives. It would therefore be imperative for all the stakeholders, in particular the health administrators, to raise the level of health-care utilisation in the public sector.

Contrary to the outpatient services, public facilities appear to have a greater role in providing hospital care at most of the places under reference. Table 7.1a summarises these details. This table shows that the utilisation of government hospitals is invariably higher among the tribal, low-caste and low-income people, especially from the slums and rural areas (see the coloured numbers in Table 7.1a; also see Fig. 7.1a). Unfortunately, however, it does not prove to be conclusively so as quite a bigger fraction of inpatient care accessed by the people from non-slum and urban areas of Delhi and UP has been delivered by the private hospitals and nursing homes. This is also true for those belonging to the upper-caste groups in the sample (see the coloured numbers in the table).

These variations apart, it needs to be admitted that the public hospitals not only serve a big fraction of people from different stratums and residential areas, they also serve to regulate the overall functioning of the private providers in more ways than one.

7.1.1 Distribution of Hospitalised and Nonhospitalised Care by Quintile Groups

Tables 7.2a and 7.2b distributes the users of public and private health-care services from different residential areas according to their consumption quintiles. Like before, this table has also been divided into two parts—7.2a and 7.2b—with the latter relating to the nonhospitalisation or outpatient cases with a reference period of

Table 7.2b Utilisation of public and private facilities: outpatient cases by quintile groups

	Rural		Urban[a]		Slum[b]		Non-slum[b]		Total cases	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Poorest 20 %	62.1	37.9	49.5	50.5	59.1	40.9	59.1	40.9	61.1	38.9
2	69.0	31.0	65.9	34.2	52.6	47.4	72.1	27.9	65.5	34.5
3	62.3	37.7	66.4	33.6	61.5	38.5	60.4	39.6	67.6	32.4
4	75.0	25.0	76.1	23.9	52.4	47.6	61.1	38.9	71.8	28.3
Richest 20 %	79.3	20.8	63.8	36.2	81.0	19.1	62.8	37.3	73.6	26.4
Total	69.6	30.4	65.2	34.8	61.5	38.5	62.9	37.1	68.0	32.0
Chi2 (4)		Pr. = 0.000		Pr. = 0.001		Pr. = 0.311		Pr. = 0.727		Pr. = 0.003

Number of cases = 1,735

[a]Including households from slum and non-slum areas of Delhi

[b]Very few observations

Table 7.3a Utilisation of public–private hospitals by catastrophic households: $z=5$ and 25 %

Catastrophe levels	Place of residence									
	Rural		Urban[a]		Slum		Non-slum		Total hospitalisation	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Catastrophe 1: 5 %	41.1	58.9	56.0	44.0	35.0	65.0	62.1	37.9	47.2	52.8
Chi2(1)	Pr. = 0.334		Pr. 0.005		Pr. = 0.090		Pr. = 0.031		Pr. = 0.197	
Catastrophe 2: 25 %	41.8	58.2	64.3	35.7	75.0	25.0	57.1	42.9	48.9	51.1
Chi2(1)	Pr. = 0.895		Pr. 0.032		Pr. = 0.000		Pr. = 0.731		Pr. = 0.351	

Number of Cases = 330
[a]Including households from slum and non-slum areas of Delhi

30 days, while the former provides a similar distribution for the hospitalisation episodes using a recall period of 12 months. Figure 7.2a and b give a graphical presentation of the two tables, respectively.

While both the tables, Tables 7.1a and 7.2b, broadly represent a similar pattern as was discussed before, the following two observations are expected to be of significance both for the present discussion as well as for the objectives of the 11th Five-Year Plan cited earlier. First, a big majority of the outpatient care seekers, even from the two poorest consumption quintiles (bottom 20 % and the next 20 %), largely rely on private providers. It may, in other words, imply that no amount of economic hardship makes even the poorest feel compelled to use private facilities. The other observation, though reconfirms to a large extent the primacy of public facilities when it comes to hospitalisation, underlies the fact that even the poorest may not be able to rely solely on public hospitals. Table 7.2a, for example, indicates that a good fraction of persons from the two lowest consumption quintiles received care from private providers (see coloured numbers in Table 7.2b). Admittedly, while such fractions may not be used conclusively to vindicate certain line of arguments, they however make out a case to go into such instances further and deeper. These are also the issues to be taken into consideration by the RKSs or such other patient welfare bodies currently working at the district and subdistrict levels.

7.1.2 Distribution by Catastrophic Households: Hospitalisation and Nonhospitalisation Care

As in the previous two sections, herein also we cite a distribution of public and private medical facilities utilised by two sets of households and their ailing family members, differentiated on grounds of mild and severe catastrophe. The former was characterised on the basis of health expenditure at 5 % of normal consumption budget ($z=5$ %), while the latter with an acute form of catastrophe was represented

Table 7.3b Utilisation of outpatient public and private facilities by catastrophic households: $z = 5$ and 25 %

	Place of residence									
	Rural		Urban		Slum		Non-slum		Total cases	
Catastrophe levels	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
Catastrophe 1: 5 %	68.9	31.2	70.2	29.8	68.2	31.8	69.9	30.1	69.3	30.7
Chi2(1)	Pr. = 0.216		Pr. = 0.000		Pr. = 0.045		Pr. = 0.006		Pr. = 0.045	
Catastrophe 2: 25 %	73.4	26.6	70.6	29.4	66.7	33.3	64.7	35.3	72.7	27.3
Chi2(1)	Pr. = 0.136		Pr. = 0.261		Pr. = 0.579		Pr. 0.870		Pr. = 0.038	

Number of cases = 1,735

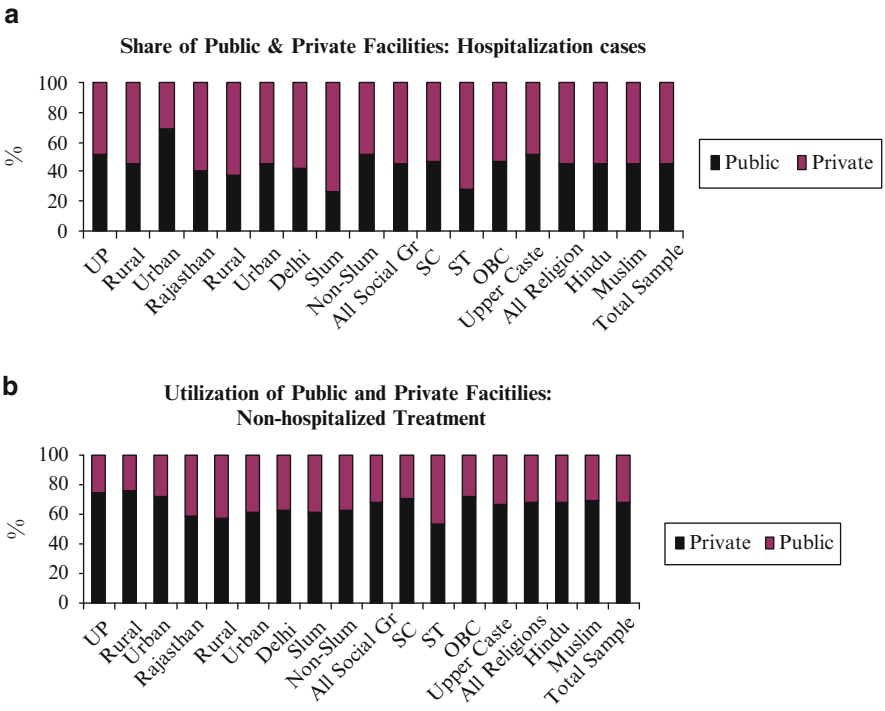

Fig. 7.1 Inpatient and outpatient treatment: utilisation of public and private medical facilities (*Source*: Table 7.1a, 7.1b)

with health budget exceeding almost a quarter of the total consumption expenditure (z=25 %). Tables 7.3a and 7.3b provide these details. For better illustration, these tables were also converted into Fig. 7.3a and b.

It may be interesting to note in both the tables, which profile recipients of medical care with or without hospitalisations, that catastrophe is not entirely the outcome of private hospitals or private medical practitioners. It occurs to patients of public facilities as well (Tables 7.3a and 7.3b; Fig. 7.3a, b). Although in nonhospitalisation cases, it mainly results because of private providers, i.e. from little less than two-thirds to over 73 % of the total cases (Table 7.3b). In addition, the case is the same for both rural and urban areas. Contrasting this, Table 7.3a indicates that hospitalisation-driven catastrophe is also generally higher among the patients treated in public hospitals. This is particularly true for the low-income households. While somewhat disappointing, public medical facilities are shown to have pushed a good majority of rural and slum households to face catastrophe (see coloured numbers in Table 7.3a). Besides, these results also indicate that a fraction of public hospital patients have also ended up with most of the oppressive forms of catastrophe (z=25 %),

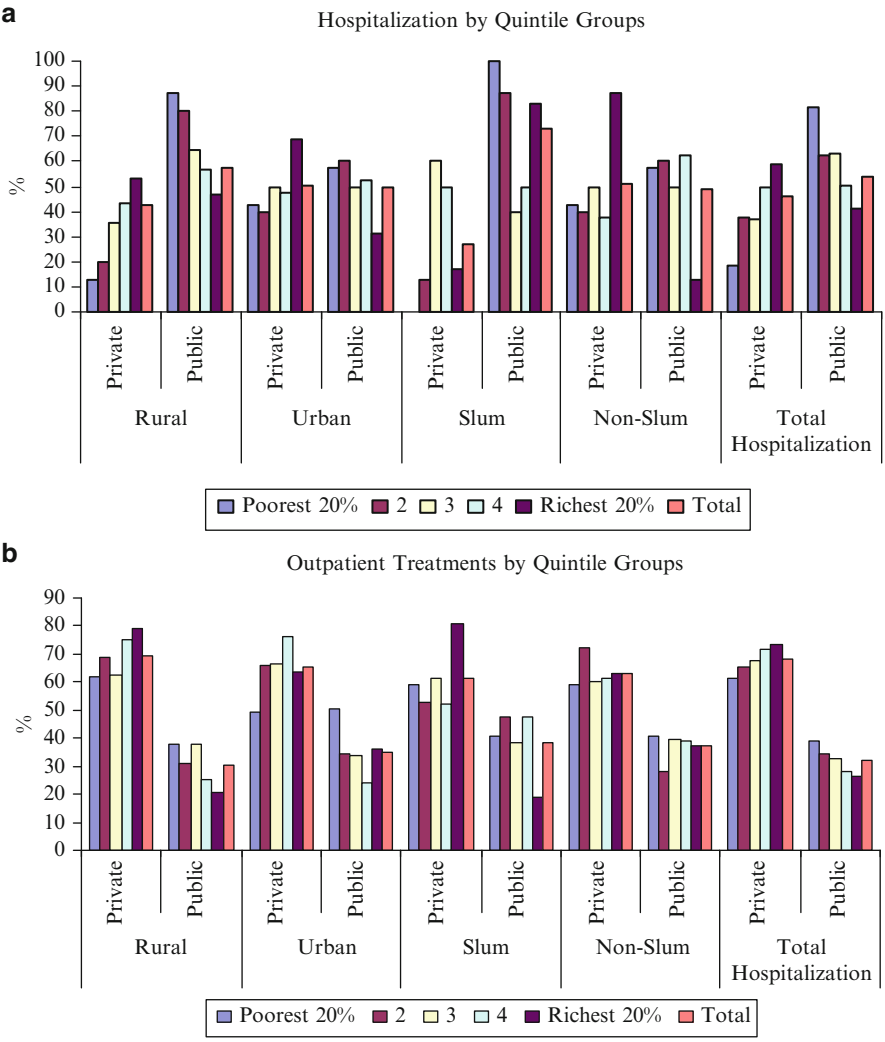

Fig. 7.2 (**a**) Types of health-care facilities utilised by sample inpatients (*Source*: Table 7.2a). (**b**) Types of health-care facilities utilised by sample outpatients (*Source*: Table 7.2b)

presumably because many of the services in public hospitals are now available on payment basis. These are over and above the cost of drugs and medicines; some of them may not be essential.

While some of these results are constrained by a limited number of observations, they appear to be still useful for drawing a few inferences at the policy level. Two issues are apparently more significant as regards policy considerations and

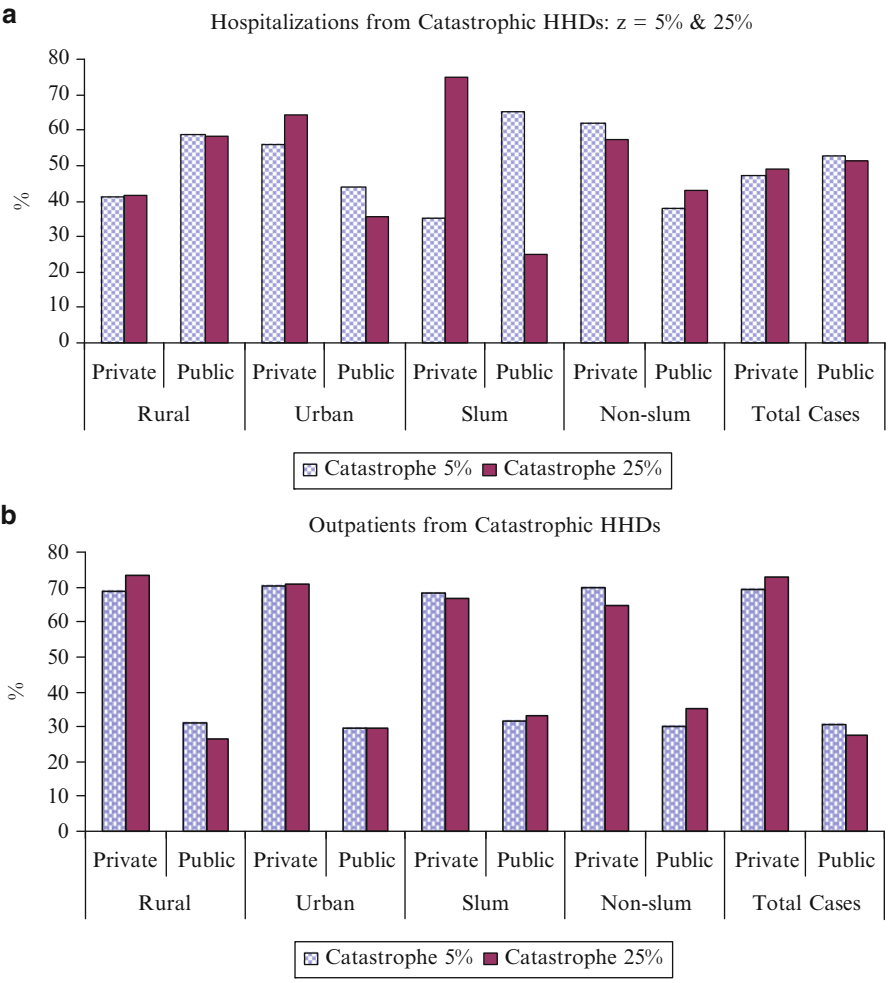

Fig. 7.3 (**a**) Inpatients treated in public and private facilities: catastrophic households (*Source*: Table 7.3a). (**b**) Outpatients treated in public and private facilities: catastrophic households (*Source*: Table 7.3b)

may need to be discussed at length. Firstly, why even those who were treated for ailments in public hospitals and other facilities could not save themselves from catastrophe? Secondly, why do not many low-income slum and rural people go to public facilities? In other words, what makes many of them wary of public facilities? A related question may as well be: Why is the NRHM, April 2005, which is believed to fill many of the voids in rural health-care system, unable to induce people to rely more on public facilities? The discussion to follow seeks to explore the last two issues more explicitly. Catastrophe–public facility linkages need a separate examination with additional data.

7.2 Factors in Non-utilisation of Public Health Facilities: Respondents' Views

One lead question and another two sets of eight questions each were asked at the time of the survey to identify factors responsible for the apathetic attitude of health-care users towards public medical facilities.[2] The lead question asked to the household head was: Have you used public health-care services during ailments requiring hospitalisation as against outpatient care? Those who replied 'no' were asked to check for possible reasons from the relevant sets. A slightly different set of questions was used to probe the reasons linked with indoor (hospitalised) as against outdoor (nonhospitalised) treatment.

The options prompted to health seekers as possible reasons for not accessing public facilities—both outpatient and hospitalisation—included the following:

Reasons for: Non-utilisation of consultation facilities	Reasons for: Non-utilisation of hospital facilities
1. Financially comfortable, can afford private doctor	1. Govt. facilities too far and not easily accessible
2. Easy to access a private doctor at emergencies	2. Govt. hospitals charge for most services
3. PHC/CHC or government hospital refused to treat	3. PHC/CHC and government hospitals inefficient
4. PHC/CHC/government doctor not available	4. Doctors and staff in government hospitals rude
5. Govt. doctors and staff are generally rude	5. Govt. hospitals are mostly used by rich
6. Govt. doctors want patients to consult at home	6. Poor do not have easy access to govt. hospital
7. PHC/CHC or public hospital too far from home	7. No drugs or medicines in government hospital
8. Others (no medicines, non-available at odd hours)	8. Others (e.g. hospitals overcrowded)

A simple frequency distribution of responses drawn from both the categories of service users is presented in Tables 7.4a and 7.4b (also see the attached figures). It may be noted from both these tables that the factors that generally dissuade people to utilise public services remain more or less traditional. To illustrate, those who preferred not to access public hospital facilities found justification in four commonly known reasons: (1) public facilities too far, (3) public hospitals inefficient, (7) most drugs prescribed by the in-house doctors are either out of stock or for self-purchase and (8) public hospitals are invariably very crowded (see Fig. 7.4a). While most of these factors are fairly known and oft repeated, it may be noted that

[2]It ought to be mentioned that the debate on disassociating factors making people indifferent towards the public health facilities is decades old. There have been several studies directed to this issue in the past (see, e.g. Bose and Tyagi 1983: 104–122). What is however interesting is that the inferences drawn in those earlier studies match closely with our own. In other words, the public sector, despite major attempts, has not been able to shed many of its past limitations.

Table 7.4a Reasons for non-utilisations of public hospitals/facilities: respondents' views

States/Socio-religious categories	Non-utilisation of public hospitals: reasons								
	1	2	3	4	5	6	7	8	N*
UP (R+U)	9.2	1.4	31.6	5.3	0.0	3.9	36.8	11.8	76
Rural	8.3	0.0	35.4	4.2	0.0	6.3	33.3	12.5	48
Urban	10.7	3.6	25.0	7.1	0.0	0.0	42.9	10.7	28
Rajasthan (R+U)	0.0	2.1	44.7	0.0	2.1	0.0	27.7	23.4	47
Rural	0.0	3.2	45.2	0.0	3.2	0.0	35.5	12.9	31
Urban	0.0	0.0	43.8	0.0	0.0	0.0	12.5	43.7	16
Delhi (NS+S)	35.7	0.0	25.0	0.0	0.0	7.1	28.6	3.6	28
Non-slum	38.1	0.0	23.8	0.0	0.0	9.5	23.8	4.8	21
Slum	28.6	0.0	28.6	0.0	0.0	0.0	42.8	0.0	7
SC	19.4	0.0	33.3	0.0	2.8	0.0	22.2	22.3	36
ST	20.0	0.0	40.0	0.0	0.0	10.0	30.0	0.0	10
OBC	4.9	0.0	36.1	3.3	0.0	1.6	37.7	16.4	61
Upper caste	11.4	4.5	31.8	4.6	0.0	6.8	34.1	6.8	44
Hindus	11.9	1.5	33.6	1.5	0.7	3.7	32.8	14.2	134
Muslims	7.1	0.0	28.6	14.3	0.0	0.0	35.7	14.3	14

[a]N gives number of persons responding to a particular question from each study area and socio-religious groups. Small number of observations needs to be borne in mind while interpreting the results

Reasons for non-utilisation of Public Hospitals:

1. Public facilities too far. 2. Govt. Hospitals charge for most services. 3. Inefficient. 4. Doctors/Staff rude. 5. Govt. facilities used mostly by richer people. 6. Poor do not have easy access. 7. No drugs or medicine. 8. Others, which mostly include overcrowded facilities

medicines and efficiency in service delivery by public facilities are the two major expectations that need to be ensured by the government and its health apparatuses. Another point to be noted in the context of this discussion is that despite perceptions, a very small fraction of respondents had complained against doctors' behaviour or

Table 7.4b Reasons for non-consultation of public facilities/medical doctors: respondents' views

States/Socio-religious	Reasons for Non-consultation								
Categories	1	2	3	4	5	6	7	8	N*
UP (Total)	22.3	8.3	2.0	6.0	14.9	3.4	22.9	20.3	686
Rural	16.2	8.7	2.2	6.4	15.8	2.4	27.8	20.7	551
Urban	47.4	6.7	1.5	4.4	11.1	7.4	3.0	18.5	135
Rajasthan (Total)	21.0	8.2	2.8	3.6	1.8	1.1	17.1	44.5	281
Rural	17.1	9.2	1.8	3.7	1.8	1.4	22.1	42.9	217
Urban	34.4	4.7	6.3	3.1	1.6	0.0	0.0	50.0	64
Delhi (Total)	21.6	5.6	0.9	8.0	37.1	0.5	8.9	17.4	213
Non-Slum	24.7	3.2	1.3	9.7	36.4	0.6	5.8	18.2	154
Slum	13.6	11.9	0.0	3.4	39.0	0.0	16.9	15.3	59
SC	13.1	6.2	2.1	5.2	20.6	1.7	21.3	29.9	291
ST	11.7	9.9	1.8	0.0	3.6	0.9	34.2	37.8	111
OBC	24.1	9.0	2.6	6.6	12.1	2.4	19.3	23.9	456
Upper Caste	30.1	6.8	1.2	7.1	20.8	3.1	11.2	19.6	322
Hindu	21.4	8.0	1.9	5.3	15.5	2.6	19.3	26.1	1,047
Muslim	21.7	7.0	3.5	9.6	17.4	0.0	18.3	22.6	115

*N gives number of persons responding to a particular question from each study area and socio-religious groups. Small number of observations needs to be borne in mind while interpreting the results.

Reasons for non-utilisation of Public Hospitals:

1. Public facilities too far. 2. Govt. Hospitals charge for most services. 3. Inefficient. 4. Doctors/Staff rude. 5. Govt. facilities used mostly by richer people. 6. Poor do not have easy access. 7. No drugs or medicine. 8. Others, which mostly include overcrowded facilities

growing burden of paid hospital services. Apparently, efficiency in service delivery and subsidised drugs may help in bringing substantial relief to a large number of low-income health seekers of public hospitals.

Similarly, patients needing non-ambulatory (or outdoor) care have also held three major constraining factors responsible for non-utilisation of consultation services provided by primary or secondary health centres or city hospitals (Table 7.4b). These are: (5) misbehaviour by hospital staff including doctors and paramedics, (7) distant locations of public facilities and (8) others, which largely included overcrowding and non-availability of drugs. It implicitly suggests that the users of health-care facilities tend to substitute public health care in favour of the private providers owing to some of these basic constraints; non-availability of drugs and drag on time are the two particularly serious issues for many low-income health-care seekers. Yet it seems that

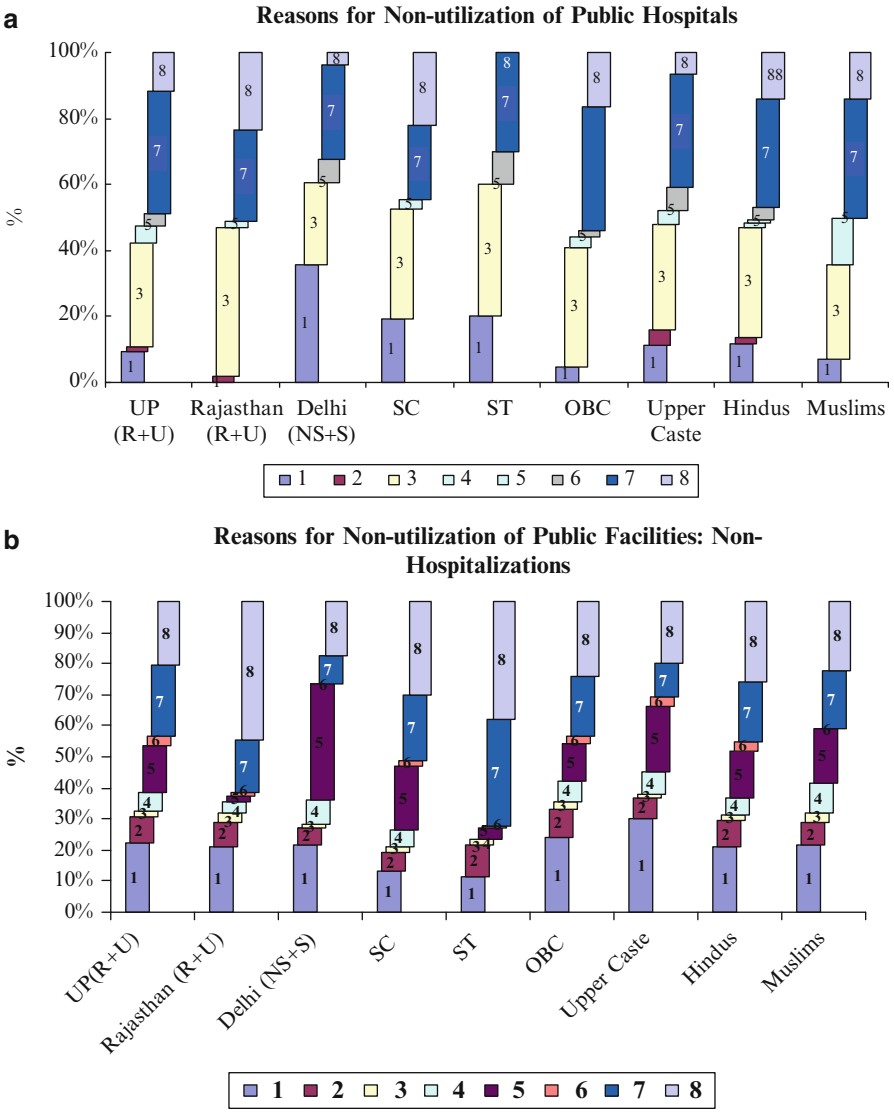

Fig. 7.4 (**a**) Reasons for non-utilisation of public hospitals/facilities (% respondents) (*Source*: Table 7.4a). (**b**) Reasons for non-utilisation of public outdoor facilities (% respondents) (*Source*: Table 7.4b)

the time factor remains diluted when it comes to hospitalisation. Another interesting observation relates to the affordability as a criterion to access private medical care. Many of those who decided not to utilise the public facilities were able to afford the cost of private consultation. In other words, there is a possible trade-off between the private and public health-care facilities—largely because of the latter's inefficient service delivery, non-availability of medicines and cost of transportation.

7.3 National Rural Health Mission: A Cursory Analysis

The Millennium Development Summit, which was perhaps among the most important meetings of world leaders convened by the United Nations, had adopted a Millennium Declaration on 8 September 2000 in committing all the member countries including India to achieve the following by the end of 2015:

(i) Eradicate extreme poverty.
(ii) Achieve universal primary education.
(iii) Promote gender equality and empower women.
(iv) Reduce child mortality.
(v) Improve maternal mortality.
(vi) Combat HIV/AIDS, malaria and other diseases.
(vii) Ensure environmental sustainability.
(viii) Develop a global partnership for development.

In pursuance of these MDGs, India has initiated in the preceding few years a number of programmes in the realms of education, employment and primary health care. The NRHM, April 2005, was essentially designed to achieve the specific objectives of improving child survival and reducing maternal mortality (i.e. objectives iv and v). Both the objectives are set to be fulfilled by the end of the current Plan period (2007–2012). Since its very inception, the NRHM has tried to differentiate itself from earlier programmes by working to integrate the key determinants of health outcomes including nutrition, drinking water, hygiene and sanitation facilities together with the components of rural health services; all of these were in a gender perspective with an emphasis on poor women and children. The NRHM has also tried to decentralise the health programmes by involving panchayats and other local bodies at district and subdistrict levels along with an easier access to financial resources.

Confining largely to its supply-side measures, a certain number of review articles have tried to bring out many of the key elements embodying this programme: provision for a completely new brand of health personnel like ASHA, greater role of practitioners trained in AYUSH, improved functioning of block level hospitals and ease in mobilisation of physical and financial resources (Sinha 2009; Kumar 2005). Contradicting to a large extent the views expressed by Sinha (2009) and Kumar (2005), Ashtekar (2008) tried to bring out several limitations—financial, skill-related and limited prospects of integrating sectors—that largely help to determine most health outcomes.

Unfortunately, a great deal of the ongoing debate on this programme—both in favour and against—has failed to make observations on the basis of certain outcome variables. We therefore try to present below a few simple facts with an objective to make inferences about the following:

1. The extent to which the NRHM has caught the attention of rural people from different socio-economic stratums including those suffering catastrophe due to disproportionate spending on health.

2. Post-NRHM improvements (if any) in availability of health-care services, PHC doctors and other health workers. Respondents' views on distribution of medicines/vitamins being given to women during pregnancies, utilisation of doctors trained in Indian systems of medicine (AYUSH) and ASHA.

Reponses collected from a total of 1,250 selected rural households from UP and Rajasthan are summarised in Tables 7.5a and 7.5b. The two tables, as was mentioned, broadly reflect the awareness, utilisation and satisfaction with rural health-care facilities post-NRHM. Unfortunately, however, to what extent these facilities have been able to perform better from their pre-NRHM level (or have been able to attain a better outcome) may not be discussed with the help of the data available to us. In addition, the time gap involved between the launch of this programme and our own study appears to be too limited to derive more conclusive observations.

Table 7.5a describes the availability of primary health services in the survey areas. It also highlights the fraction of sample households aware about the NRHM and its objectives such as the role of ASHAs or the services being provided by primary health units to ensure institutional delivery. Respondents have also reacted to certain qualitative questions like improvements in delivery of services during the past few years (or since the introduction of NRHM). Nonetheless, risks of subjectivity while interpreting those responses ought not to be ignored.[3]

On the awareness issue, Table 7.5a does not seem to be very encouraging as very small fractions of people from both the states, in particular from Rajasthan, knew about the NRHM or the level of priorities attached to improved child health and institutional delivery. Between the two states, residents of Unnao and its villages appear to be better informed about the NRHM. About a fifth of the total respondents in Unnao have reported their awareness about the mission. The same in Rajasthan was below 10 %. People from upper-caste categories and economically better-off respondents (e.g. above poverty or higher quintile households) have however shown a greater awareness about the rural health mission and a couple of its intended objectives, although even their shares do not exceed far beyond a fifth or a quarter of their respective numbers. Interestingly, however, despite so much of ignorance about the NRHM or its basic concerns, a much bigger fraction of respondents have not only reported satisfaction with the services provided by the primary health units but have also reported visible improvements in the delivery of health services over the preceding 2 or 3 years. To make it more specific, they further confirmed improvements in services covering reproductive and child health (Tables 7.5a and 7.5b). Also there are reports that these services have improved further and ASHAs have done well to enhance utilisation of maternal and child health services by taking women to health centres for pre- and postnatal care.

On the flip side, these responses have remained considerably large across all the households distributed according to their socio-economic (social groups, quintile

[3] In addition to subjectivity, it must also be confessed that the survey designed to undertake this study and most of its questions were not framed with the NRHM as the central issue. Hence, a further and more in-depth analysis of the issues raised here would require a separate study and database.

Table 7.5a Awareness about the NRHM and availability of primary health facilities: responses from rural households (%)

Percent

Households' Characteristics: States, Districts, Socio-religious, Consumption Quintile & Catastrophe Levels	Knowledge about NRHM	Village with a health centre including PHC/CHC	Developed PHC in the village	Satisfied with the delivery of services	Improvement in health services over past few years	Role of Panchayat/ Municipal Bodies in primary health services
	Share with Affirmative Responses					
A. District Sample						
Unnao	20.0	58.2	21.3	67.2	42.2	18.4
Jhansi	8.0	64.7	6.3	76.3	40.0	13.0
UP	15.2	60.8	15.3	71.1	41.3	16.3
Dausa	7.2	56.0	3.6	87.9	41.2	10.8
Dungarpur	8.4	74.8	4.8	90.4	66.4	10.8
Rajasthan	7.8	65.4	4.2	89.3	53.8	10.8
B. Economic Characteristics						
Below Poverty (BPL)	4.1	59.2	6.8	87.7	53.2	12.4
Above Poverty (APL)	16.2	64.3	12.9	74.6	43.0	14.9
Con. Quintiles						
Lowest 20%	2.4	62.4	5.6	89.1	56.0	11.6
2	7.6	58.8	8.8	83.7	47.6	14.0
3	9.6	67.7	11.6	73.5	44.2	15.1
4	14.9	59.0	11.2	73.5	41.8	13.3
Richest 20%	26.8	65.2	17.2	74.2	42.0	16.4

(continued)

Table 7.5a (continued)

Catastrophic HHDs						
Mild: z = 5%	12.3	63.7	11.3	77.9	47.0	13.3
Acute: z = 25%	13.4	59.7	9.5	73.9	38.1	13.4
C. Social Characteristics						
Social Groups						
SC	14.1	66.0	15.5	77.6	42.6	15.5
ST	2.6	57.6	0.9	87.2	45.9	9.1
OBC	12.7	58.1	11.8	77.5	45.5	12.9
Upper Caste	19.4	75.6	13.4	75.0	54.2	20.9
D. Religious Characteristics						
Religion						
Hindu	12.1	60.9	10.6	80.1	46.4	13.8
Muslim	14.3	82.7	14.3	66.7	44.9	17.3
E. Total Sample (N = 1250)	12.2	62.6	10.9	78.7	46.3	14.1

Table 7.5b Utilisation and perceived improvements in service delivery since NRHM: responses from rural households (%)

Households' characteristics: states, districts, socioreligious, consumption quintile and catastrophe levels	Improvement in reproductive and child health services over past 3 years	Regular visit by the PHC doctor(s)	ASHA in place	Recipients of ASHA service(s)	Distribution of certain medicines, vitamin tablets and ORT from PHCs	Users of traditional Indian system (AYUSH)
	Share with affirmative responses					
A. District sample						
Unnao	69.3	80.4	61.3	30.4	55.3	27.3
Jhansi	92.7	85.7	93.3	47.7	85.0	11.0
UP	78.7	82.5	74.1	37.3	67.2	20.8
Dausa	96.4	94.0	72.8	33.6	75.6	9.6
Dungarpur	98.8	91.6	88.8	43.6	68.8	53.2
Rajasthan	97.6	92.8	80.8	38.6	72.2	31.4

(continued)

Table 7.5b (continued)

Households' characteristics: states, districts, socioreligious, consumption quintile and catastrophe levels	Improvement in reproductive and child health services over past 3 years	Regular visit by the PHC doctor(s)	ASHA in place	Recipients of ASHA service(s)	Distribution of certain medicines, vitamin tablets and ORT from PHCs	Users of traditional Indian system (AYUSH)
	Share with affirmative responses					
B. Economic characteristics						
Below poverty (BPL)	86.7	90.8	81.1	59.6	73.8	21.1
Above poverty (APL)	86.0	84.6	74.7	43.8	66.9	27.0
Consumption quintiles						
Lowest 20 %	86.4	89.6	82.0	63.9	75.6	20.8
2	87.6	89.6	78.8	54.8	72.0	21.2
3	87.6	90.4	77.7	43.6	68.9	26.7
4	85.1	82.7	73.5	45.9	65.5	21.7
Richest 20 %	84.4	80.8	72.0	36.1	64.0	34.8
Catastrophic HHDs						
Mild: $z=5$ %	86.1	84.9	76.3	53.5	66.9	26.5
Acute: $z=25$ %	82.7	86.1	71.0	43.3	57.1	22.9
C. Social characteristics						
Social groups						
SC	84.5	86.3	79.4	41.6	71.1	23.0
ST	97.0	91.3	84.9	42.4	68.4	26.0
OBC	82.5	85.6	68.9	33.4	67.9	21.1
Upper caste	86.1	84.6	84.6	38.8	70.6	37.3
D. Religious characteristics						
Religion						
Hindu	85.8	86.5	76.6	49.5	68.1	26.3
Muslim	91.8	87.8	78.6	46.8	81.6	10.2
E. Total sample (N=1,250)	86.2	86.6	76.8	37.8	69.2	25.0

groups, etc.) characteristics. Even the two categories of catastrophic households, mild ($z=5$ %) and severe ($z=25$ %), have also felt the same way. Some other interesting observations stemming from both the tables include:

- PHC doctors visit regularly. It was reported by more than 80 % of the respondents.
- ASHA already in place, confirmed by almost three-quarters of the sample people.
- Between 30 and 64 % of households from different socio-economic and religious categories has received help from the ASHA. Interestingly, shares of low-income and catastrophic households among them were considerably large (Table 7.5a).

- As for the vitamin tablets, ORT or some other common medicines, respondents admitted to have received them from the health workers and their PHCs.
- Barring sample of persons from Dungarpur (Rajasthan), economically better-off and upper-caste households, a very small fraction of respondents have used AYUSH services. The share of AYUSH users remains invariably below 20 % of the respective samples. Muslims and residents of Unnao are the worst off on this count.

Finally, to cap some of the discussions, it must be noted that the two diametrical messages are emerging from the analysis presented in this chapter. On the one hand, we observe that a large percentage of responding households (even a majority in many cases) do not find it worthwhile to rely on facilities provided by the government, particularly for non-ambulatory or outpatient care. On the other, we notice that the NRHM has caught recognition of a good number of rural people in a short span of 3 years (i.e. time gap between this study and the inception of NRHM in May 2005), and they did appreciate the services provided by the primary health units. They also report favourably about the PHC doctors, ASHA and certain qualitative improvements in rural health-care services since the NRHM. The question may therefore be: Why is there so much of health-related catastrophe or apathetic attitude among the service users towards public facilities? Answers appear to lie at two levels. First, rural health care has largely been confined to a particular age segment. In addition, it is restricted to a particular health domain as well. A large number of diseases falling beyond the reproductive health domains have remained poorly managed. As those diseases cause catastrophe to a very large extent, the government will have to consider ways to bring significant improvements in the delivery of secondary and tertiary health-care services as well.

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Chapter 8
Broad Conclusions and Policy Directions

Drawing upon a set of comprehensive field-based data and an in-depth analysis of the OOP health payments by a cross-section of households from selected rural and urban areas of three different states—UP, Rajasthan and Delhi—there appear to be major challenges ahead for both the planners and administrators of health-care services. This can easily be noticed from the discussion so far. While this chapter however does not intend to replicate most of that discussion or its underlying messages in a conventional setting, it does attempt to cull out briefly a few of the major observations after piecing them together from different chapters as reference points.[1] As regards directions of policy, this chapter sets out to provide scores of considered opinion given by the respondents on issues of critical concerns, e.g. recent increase in health-care charges, overprescription of medicines and/or diagnostics by medical professionals and role of drugs in making health care expensive. This will be followed by another set of respondents' reactions covering issues in a policy framework such as health insurance and the extent respondents would be willing to go for such a product on a payment basis. Most of these questions and their responses are expected to help in deriving a host of policy recommendations based on considered judgments of those who really matter. It may nevertheless be noted that in no way these recommendations may be treated as out of the box.

Most of the analysis was broadly directed to focus on the following concerns:

1. OOP health payments and attendant issues of poverty and inequality
2. Catastrophic health payments and some of its correlates
3. Decomposition of health payments and share of drugs/medicines in the total health expenditure
4. Share of public health services in hospitalisation and outpatient care

[1] A summary of the major findings is already presented at the beginning of this study.

M. Alam, *Paying Out-of-Pocket for Drugs, Diagnostics and Medical Services: A Study of Households in Three Indian States*, India Studies in Business and Economics,
DOI 10.1007/978-81-322-1281-2_8, © Springer India 2013

5. Public health-care utilisation and catastrophic payments
6. Extent of untreated ailments mainly because of high health-care costs
7. Attention generated by the NRHM among the rural households and their views on improvements in delivery of health services over the past few years, etc.

8.1 Highlights of Major Findings

As has already been pointed out, a number of observations have been cited in the preceding chapters, and barring a few, most of them have not been repeated here to ensure brevity. Among the notables, one of the more critical observations perhaps relates to the role played exclusively by the OOP health payments in adding to the overall poverty level. We have culled a table on the basis of certain earlier exercises to show the role of health payments in poverty enhancements. Table 8.1 gives poverty levels both before and after the OOP health expenditure. This table clearly shows the vulnerability of a significant fraction of the rural and slum households to health payments. In addition to deepening poverty of those who are already below the poverty line, health payments, for instance, bring an additional 10–14 % of households under the poverty net (see last two columns in Table 8.1). In addition, there appears to be another significant policy message from this table—households at the fringe of poverty level may easily experience a shift in their economic status from above to below poverty level due to no or very limited affordability in terms of health payments. It may further be construed that the declining poverty in many situations remains deceptive as a good fraction of fringe level households, both rural and urban, may remain vulnerable to situations like self or family ailments. An analysis of household indebtedness in Chap. 3 (Sect. 3.3) has shown that more than a quarter of indebted urban households had borrowed to meet medical exigencies. The same in rural areas turns out to be little over 19 %. Chapter 3 also indicates a big share of private moneylenders in those borrowings. Does it mean to suggest that the health-care services in the country are not affordable in their present form for a significant percentage of households? While a categorical answer to this question may need further and more in-depth studies, this is indeed an issue that warrants a greater consideration, especially from health policy mandarins.

A related point in the underlying context that arose from the preceding discussion is that antipoverty measures in the country, and particularly in areas under study, may not work to their real potential unless the health services are scaled up to a considerable extent—that too in every health domain. It also requires taking into account the needs of persons or households forced to borrow money from private sources on coercive conditions at the time of ailments. Could there be a role for the community-based micro-credit institutions to lend small amounts to the poor and needy during certain health emergencies? This is indeed a significant issue and may be considered from its different perspectives. A major stumbling block in raising such institutions would be the intra-regional diversities requiring appropriate changes in organisational matters. To be precise, perhaps a perfect replication of a

particular system or mode of organisational structure may not be possible across different places. Civil society institutions may have to be propped up to work on a system amenable with local conditions and environment.

An interesting point to note from most of our poverty analysis is the non-emergence of a well-specified target group that could become most eligible for health subsidies. In the context of poverty and inequality, for example, health expenses remain critical to most of the sample households—irrespective of their residential or socio-economic and religious characteristics. While these factors, particularly caste and place of residence, do matter in many ways, it cannot be argued conclusively that a particular segment or group of households must bear an overriding public concern over others. When it comes to health, a great deal of both rural and urban populations suffers from serious issues and faces inequalities. In many cases, a fraction of even higher-income people suffer from non-affordability (or lack of capacity to pay) problems. Despite that, our results do indicate the worsening state of the rural and slum households. A couple of Lorenz curves separately for the rural (UP and Rajasthan) and the urban (UP, Rajasthan and Delhi including the slums and non-slums) areas (Figs. 8.1 and 8.2 respectively) illustrate the points argued here. Health payments clearly bring inequality issues more sharply in urban areas, and logically the slum households bear most of the brunt. Certain higher-income categories also appear to pay for health care in excess of their affordable limit. In case of the rural sample, OOP inequality is seemingly less sharp (OOP Gini = 0.707), though the differences between the two are marginal. Two points may therefore be made. First, inequalities and critical nature of health issues remain more or less of

Table 8.1 Increase in poverty due to the OOP health expenditure: sample households (%)

	PCMCE 1		PCMCE 2 = PCMCE 1 – OOP		Increase in poverty due to OOP health payments	
	Poverty head count: 1[a]		Poverty head count: 2[b]			
	1(a): Rural	1(b): Urban	2(a): Rural	2(b): Urban	Rural: 2(a) – 1(a)	Urban: 2(b) – 1(b)
Total sample (n = 2,010)	33.0	18.8	46.5	24.9	13.5	6.1
UP (n = 1,000)	36.0	25.6	49.6	29.6	13.6	4.0
Unnao (n = 600)	34.7	20	48.89	22	14.2	2.0
Jhansi (n = 400)	38.0	34.0	50.7	41.0	12.7	7.0
Rajasthan (n = 650)	28.4	28.6	41.8	38.0	13.4	9.4
Dausa (n = 300)	21.6	38.0	34.0	56.0	12.4	18.0
Dungarpur (n = 350)	35.2	24	49.6	29.0	14.4	5.0
Delhi (n = 360)	–	10.0	–	16.1	–	6.1
Slums (n = 102)	–	26.5	–	41.2	–	14.7
Non-slum (n = 258)	–	3.4	–	6.2	–	2.8

[a]Poverty head count 1 = PCMCE of a household—state-wise poverty line (z) given by the Planning Commission (for details, see Chap. 3)

[b]Poverty head count two deducts the OOP health expenditure from the PCMCE before computing poverty

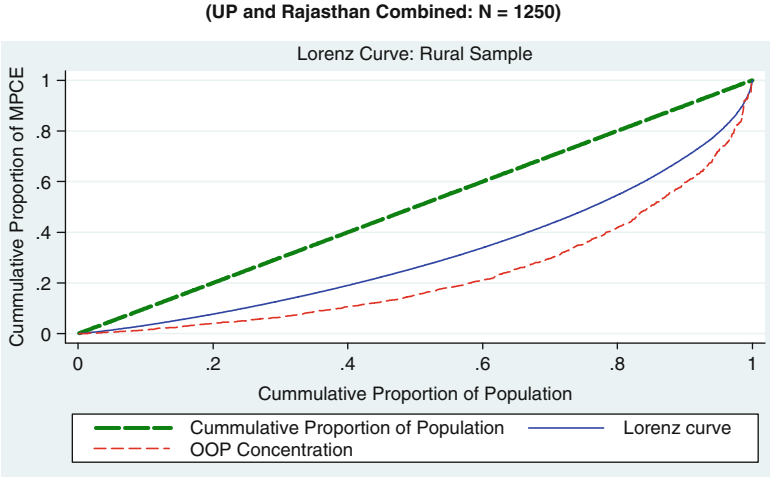

Fig. 8.1 Ability to pay and health inequalities: rural households (UP and Rajasthan combined: $N = 1{,}250$) (Gini coefficient: ATP = 0.367, OOP Gini: inequality in health payments = 0.707)

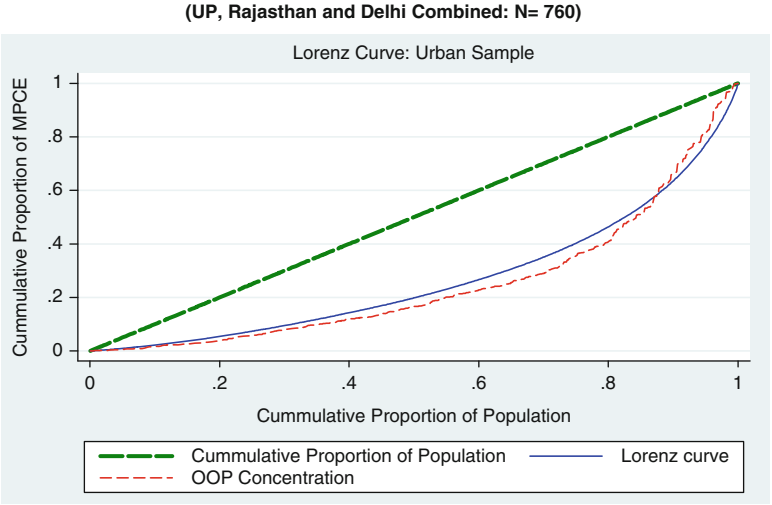

Fig. 8.2 Ability to pay and health inequalities: urban households (UP, Rajasthan and Delhi combined: $N = 760$) (Gini coefficient (ATP) = 0.473, OOP Gini: inequality in health payments = 0.742)

equal importance for the households, irrespective of their place of residence. Second, inequalities in health payments are much larger than the consumption inequalities, implying inaccessibility of health services for a number of the poorest rural and urban households. A third point may be made that a segregation between the above- and the below-poverty households as claimants of public subsidies may not work as in many situations, both remain vulnerable to an equal measure.

Moving to the issues of catastrophic health payments, our results appear to indicate that the catastrophe cut-off levels, as frequently used in international literature, make no or a very limited sense for the observed sample of households. This is to a greater extent true at the higher cut-off levels. With the share of nonfood consumption expenditure as low as observed in the present analysis, any fraction of OOP health expenditure may not only look catastrophic, it would rather overshoot the defined catastrophe limit. There is thus no wonder that we are getting very high incidence of catastrophe (along with higher MPO values),[2] and its correlates mostly include the socio-economic and public health deficits. Stretching this argument little farther would imply that even a small amount of OOP spending on health may push a large number of households into some degree of consumption catastrophe. Also, it applies to both the rural and the urban households. Yet another notable observation in this context may be the fact that even the users of public health-care facilities are not able to save themselves from catastrophic payments. This is partly because of the systematic withdrawal of subsidies on drugs and diagnostics by the government.

All this boils down to a basic question: What component(s) of health spending drives households to face a catastrophe? Intuitively, this question may have a role in pinning down a few policy interventions to minimise the catastrophic incidences. In response to this question, we tried to compute the shares of: (i) consultation fee, (ii) expenditure on drugs and medicines, (iii) expenses on diagnostics and (iv) cost incurred on commutation and other related expenses in the total health expenditure of the sample households. In a large number of cases, our computations reveal drugs as the biggest expenditure and in some cases, it turns out to be around 90 % of the total health budget. Even in normal situations, drugs and medicines account for over three-fourths of the total OOP spending on health. This result is in consonance with some other studies recently conducted at the all-India level. This raises many serious issues from the policy viewpoint. Two of them bear serious considerations. First, most public medical facilities do not provide medicines to their patients including the poor patients. Even in many cases, these facilities expect service users to provide sundry items like cotton or bandages. These are in addition to items such as registration fee, costs of various diagnostic tests and commutations including attendant's stay. Besides being a push factor to catastrophe, it also dissuades even poor service users from using public facilities, especially in nonhospitalisation cases.

The second issue relates to drug pricing and there are growing concerns already in much national and international literature regarding the WTO's agreement on TRIPS.[3] These negotiations and agreements have clearly set minimum standards for the protection of intellectual property. It has also helped to generate considerable

[2] See Sect. 5.3.

[3] TRIPS agreement was drawn in January 1995 with a view to bring global minimum standards for the protection of intellectual property, including a minimum 20 years' patent protection on pharmaceuticals. The compliance of the agreement was however deferred until 2005 for the developing countries and 2016 for least developed countries (Smith et al. 2009a).

Table 8.2 Indian pharmaceuticals and health-care sector

	2006	2007
Generic market (US $ billions)	3.1	3.3
Generic market as % of total market	30	30
Market share: imports (%)	35	35
Market share: domestic output (%)	65	65
Health expenditure (US $ billions)	41.3	44.0
Hospital sector (US $ millions)	16,300	16,400

Source: Smith et al. (2009a, Table 3)

gains for the global pharma companies. Commenting on a study by Smith et al. (2009b) in favour of TRIPS and its trade-related advantages, Stiglitz (2009) has noted certain fundamental problems with the system as it restricts the use of knowledge, brings (temporary) monopoly power and gives rise to enormous economic inefficiencies.

In India, despite the use of generic drugs, the share of non-generic market is as high as 70 % of the total. In addition, the generic market has suffered a static growth over the past few years. Table 8.2, cited in a study by Smith et al. (2009a), brings out the significance of non-generic medicines in the context of the Indian health scenario which is marred in many cases by the overprescription of drugs and diagnostics. Two significant points follow from this table. As the non-generic products account for 70 % of the domestic market, an inference may therefore be made that the drug prices may not be completely in accord with the Indian poverty scenario. Market forces would operate and influence the health budget with a disproportionate effect on the poor and the deprived. The effects of increase in drug prices may also be felt because of its share in the total health spending. Persons and households with degenerating diseases, especially the aged, may suffer their worst. Growing roles of TRIPS and patenting linked drug prices may also have a bearing on availability of medicines in government facilities.

Where does the solution lie? This is perhaps a complex issue and requires a deft handling of TRIPS negotiations along with a serious policy makeover with regard to making medicines available at subsidised prices to patients. To be precise, would it be possible for the government to find enough resources and to provide subsidy on medicines? While a clear-cut answer to this question may not be found in this analysis, it may however be pointed out that all the three, i.e. the OOP health expenditure, most of its attendant issues and drug pricing, are mutually interconnected. Therefore, none of them may be decided independently.

Negotiations to make TRIPS less painful apparently involve a sustained and evidence-based advocacy to sensitise the world community about the issues and the catastrophic nature of health spending with the largest share of health budget being allocated to buying medicines. Especially the TRIPS Plus may be far more difficult and is expected to bring further complexities to the issues of poverty and OOP health expenditure. Besides the evidence-based advocacy and policy dialogues, health policy officials may also use the in-built flexibilities in patenting rights and make use of the life-saving drugs clause to introduce compulsory licencing for a

maximum number of drugs. It may however require a deeper understanding about the disease profile and bulk drug requirements at regional and subregional levels along with the socio-economic background of those who suffer from these diseases. A small team of multidisciplinary experts may work in the MoHFW or in the Planning Commission exclusively on these issues by keeping the TRIPS Plus in perspective.

Somewhat alarming but a fairly known issue in the context of health delivery is the poor utilisation of public health-care facilities by health seekers—both ambulatory and non-ambulatory. Reasons remain primitive: long hours of wait, non-availability of drugs, poor outreach, lack of emergency services in local (village level) health centres and improper behaviour by the medical staff. Still a number of respondents have been disposed off fairly well and have started taking note of the NRHM and its services. There has especially been a positive response towards the role played by the ASHA, availability of PHC doctors and distribution of certain medicines required by women and children. How far the mission is able to cover the health-care needs of those in nonreproductive ages is not clear from this study and, therefore, an area worth of exploration in future research. The incidence of catastrophic health spending raises doubts about the versatility of the NRHM. Also, there appears to be very limited utilisation of consultation facilities provided by the AYUSH practitioners in many health-care centres. This is largely true for the low-income rural people. In contrast, while certain fractions of upper castes and economically better-off segments consult these doctors, their numbers remain small.

Given some of these major observations which only represent a part of the entire analysis, four issues appear to be critical at policy level:

1. Delivery of health services is of paramount importance if India is to succeed in its attempts to minimise poverty—although the current definition of poverty is oversimplistic.
2. Making drugs available at a subsidised price appears to be the most critical factor for any policy intervention as expenditure on drugs accounts for most of the health spending.
3. Prevalence of health catastrophe appears to be quite high and forces many households to face considerable loss of well-being.
4. Public health-care facilities do not insulate people from the risks of catastrophe.

The obvious question would then be: What interventions are likely to bring some respite? A number of earlier studies have already been grappled with this question with a plethora of suggestions. Many have, for instance, recommended improving the quality of health services, expanding the outreach of public facilities, bringing top-down planning approach, generating additional finances to introduce greater facilities, enhancing the role of community and charting community leaders as the watchdog, etc. Instead of making a remix of the earlier suggestions, we collected households' responses on certain key questions with considerable policy contents.

8.2 Respondents' Views on Critical Policy Issues

Survey respondents were basically asked to comment mostly on issues on which they were expected to have a better understanding. A few of those respondents, especially in rural areas, were also given certain background information, particularly on operational aspects of health insurance. Some of the more important questions included: (a) Do you feel that the health services have become costlier over the past 1 year? (b) Do you think doctors generally overprescribe medicines/diagnostic tests? (c) In your opinion, would a low-premium health insurance be a workable solution? (d) If required, would you be willing to subscribe to such an insurance scheme? The last two questions were asked against the backdrop of a recent initiative by the government to launch a RSBY for a segment of the below-poverty households.[4]

Table 8.3 summarises respondents' views on all the major questions. It may be noted that a very large number of respondents, almost 8–9 out of 10, have agreed that the health services have become expensive by more than 50 % over the preceding 12 months.

However, a smaller percentage of them have also agreed that their incomes grew almost in the same proportion simultaneously. Interestingly, however, such respondents were lowest in Delhi. Upper-caste respondents, Muslims and slum households have also largely disagreed to the 'proportional growth in income' idea. Another interesting observation arising from this table relates to the overprescription of medicines and diagnostic tests by medical doctors. Barring Delhi slum dwellers, most others felt the same way. Almost a similar response was drawn in case of the drug prices as well. Particularly, the catastrophic households (both mild and severe) and respondents from Rajasthan have agreed to the view that the drug prices play spoilsport and contribute to a significant extent in escalating the level of OOP expenditure on health.

When asked about health insurance, it may be interesting to note that those with better access to health care do not mostly subscribe to this suggestion. Table 8.3 shows that in the richest quintile, Delhi respondents as well as upper-caste people have favoured such a scheme in much smaller fractions. Those who endorsed the health insurance idea were however in majority among other categories of respondents including the rural and urban households of UP and Rajasthan. Almost a similar response has emerged from the last question, namely, would you be willing to join an insurance system on self-payment basis? Following from the earlier

[4]The government is currently in the process to launch three important insurance covers to fulfil some of its social security obligations: (i) the Aam Aadmi Bima Yojana to provide death and disability cover to the poor, (ii) the Janashree Bima Yojana with an objective to cover health and life risks and finally (iii) the Rashtriya Swasthya Bima Yojana (RSBY) in order to cover the medical risks. An interesting feature of the RSBY is that it proposes to remain without any exclusion clause. With an annual premium of Rs. 600, paid by the centre and states jointly on 75:25 basis, the below-poverty policyholders and their family will be authorised to avail hospitalisation benefits worth Rs. 30,000 a year.

Table 8.3 Respondents' views on critical policy issues

Household characteristics	Health services become costlier by more than 50 % during the past 1 year	Has income also grown almost at a similar pace?	Drugs have a maximum role in escalation of OOP expenditure on health	Doctors mostly overprescribe medicines	Doctors mostly overprescribe diagnostic tests	Low-premium health insurance may be a possible option for the poor	Would you be willing to join an insurance system on self-payment basis?
	Share of respondents in agreement (%)						
UP	79.2	45.2	46.8	63.6	52.8	55.7	51.6
Rural	80.0	48.0	48.5	64.5	52.7	54.7	51.7
Urban	76.8	36.8	41.6	60.8	53.2	58.8	51.2
Rajasthan	86.0	57.5	59.1	76.9	59.7	77.8	71.7
Rural	86.8	55.2	61.8	75.6	60.0	75.4	69.2
Urban	83.3	65.3	50.0	81.3	58.7	86.0	80.0
Delhi	92.5	21.9	28.1	38.6	48.9	30.6	28.3
Slum	90.2	16.7	29.4	35.3	31.4	38.2	36.3
Non-slum	93.4	24.0	27.5	39.9	55.8	27.5	25.2
Social groups							
SC	84.0	42.0	49.0	63.1	52.3	53.4	49.5
ST	82.3	51.0	55.8	66.7	50.6	69.9	65.5
OBC	81.2	45.3	48.4	66.5	55.5	63.1	58.3
Upper caste	88.1	44.4	40.6	57.7	56.1	50.3	45.9
Religious group							
Hindu	84.0	46.0	48.3	63.8	55.1	58.7	54.2
Muslim	81.4	34.6	44.7	60.6	48.9	57.4	53.2
Consumption quintiles							
Poorest 20 %	74.1	45.3	40.0	61.4	51.5	57.7	51.5
2	78.6	51.7	49.8	65.4	46.5	68.7	64.4
3	84.8	41.8	50.5	68.7	55.5	58.7	54.5

(continued)

Table 8.3 (continued)

Household characteristics	Health services become costlier by more than 50 % during the past 1 year	Has income also grown almost at a similar pace?	Drugs have a maximum role in escalation of OOP expenditure on health	Doctors mostly overprescribe medicines	Doctors mostly overprescribe diagnostic tests	Low-premium health insurance may be a possible option for the poor	Would you be willing to join an insurance system on self-payment basis?
	Share of respondents in agreement (%)						
4	87.8	45.0	54.5	68.4	58.5	61.2	57.2
Riches 20 %	93.5	41.3	42.3	53.2	59.7	45.5	42.0
Catastrophic HHDs							
Mild (z=5 %)	91.8	47.1	61.7	74.6	60.7	57.0	54.6
Acute (z=25 %)	94.7	45.1	83.7	82.1	66.8	58.3	57.7
Total sample	83.8	45.0	47.4	63.4	54.3	58.4	53.9

question, those with better access or affordability to health care largely showed disinterest. Others have however favoured. Still it may be surmised that a self-paid health insurance is a strong possibility if the government is able to regulate the system well, particularly against the menaces of exclusions and cartelisation among medical professionals, service providers and major pharma companies.

8.3 Broad Policy Directions

Now, where do we go from here? Perhaps the respondents' views underscore three significant points. Besides the couple of those which have already been discussed earlier, there is an indication that the supply-side management of the health market remains mired because of the growing dependence among health seekers on private providers. In several cases, public sector facilities do not prove a close substitute to private providers. This is particularly true for outpatient services. Even in hospital services, a large segment of people depend on private providers. All this affects the private medical services and their price determination system. This has aptly been summarised by the respondents when they report over 50 % escalation in their medical budget over a brief period of the past 12 months. A related point may be noticed from the perception that doctors overprescribe medicines. Does it reflect certain laxity in administration of medical rules? Also, there is a serious problem with the medical ethics in the country. Medical profession is now largely guided by corporate practices with core objective to maximise profit through increased occupancy rates or patients' consultation. An apprehension has also been made that the RSBY may further aggravate the situation, particularly for the uncovered families. Health policymakers may have to take some of these factors into consideration to bring down the cases of catastrophe. Public facilities will have to become efficient, client responsive and a close substitute to private services. The recent initiative to appoint RKSs will have to be strengthened.

Patients of public hospitals facing catastrophe need to be examined. Drug pricing and availability of essential drugs to patients in public facilities warrant serious consideration. Deployment of manpower and management of public hospitals need considerable fine-tuning. There is especially a need to minimise non-clinical responsibilities of medical doctors in most public facilities. If at all viable, certain hours may be fixed in a week for every medical doctor to devote to their clinical responsibilities. Poor patient–doctor or patient–health worker relationship is a perennial issue and needs serious consideration. Medical ethics is another area to minimise complaints such as overprescriptions.

Beyond all this, perhaps a most potent issue for consideration is to work on a comprehensive risk-pooling arrangement, covering both in- and outpatient treatments. While the RSBY is apparently a good initiative, it simply covers a very small segment of poor population (roughly 12 million). In addition, it is directed only at hospitalisation (including day care) cases. Given a very high prevalence of ailments requiring non-ambulatory care—i.e. around 15 % as against 2.5–3 % requiring

hospitalisation—the noncoverage of outpatient care may leave most of the problems unresolved. Moreover, our study has highlighted that expenses on outpatient care have been equally catastrophic in nature and therefore worth covering under schemes like the RSBY.

Patenting rights and TRIPS negotiations require very serious understanding about the health status of the country's population. To achieve some of these objectives, there is a very strong need to undertake a series of micro-level studies to know about the health status of poor and low-income people, especially from economically low-performing districts and states.

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