Coping with the costs of illness in slum households in Bangladesh. An empirical analysis of the relationship between income distribution and household behaviour
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Summary

The basic rationale for this study on costs of illness and how slum households cope with these costs (Chapter 1) lies in the linkages between poverty, health and health systems development, and the view that reducing poverty is a moral obligation for all those who believe that the world should be governed by social justice and policies addressing the needs of populations, particularly the most vulnerable among them. Poverty is multi-dimensional and can be defined as a lack of access to and control over resources to meet basic needs with dignity, and as a lack of opportunity or of choice, powerlessness and fear of oppression. International events and policies, such as the debt burden, structural adjustment, and more recently, the globalization trends of national economies, further resulted in growing disparities among and within countries.

It is now widely accepted that poverty and health are intricately related. However, health may improve without significant increases in GDP, if national wealth is more equally distributed and consistent, long-term social policies are pursued with the involvement of households and communities in their implementation, and if, inter-sectoral approaches to poverty reduction are followed.

There is since more than a decade growing international interest in cities and the urban poor in the South, because of their contributions to the national economy and to the urban socio-economy. Rural poverty continues to determine massive urban in-migration. Dhaka-City is believed to grow at about 5% a year, and may have 20 million inhabitants in 2025.

Based on literature data, Chapter 2 provides an overview of Bangladesh, describes the characteristics of slum areas and their dwellers in general, and of Dhaka-City in particular, and of the health care delivery in urban Bangladesh.

Bangladesh, independent from Pakistan in 1971 after a bloody civil war, is the world’s eighth most populous country with a total population of 121 million in 1993, and also one of the most densely populated country. 85% is Moslem, while Hindus constitute most of the remainder. Bangladesh is almost entirely a delta formed by the Ganges and Brahmaputra rivers. The Gross National Product is estimated at US$ 260. The economy is still largely rural, with agriculture accounting for 50% of GDP, and manufacturing for about 10%. The garment and textile industry experienced an explosive growth over the past 15 years. The country has a parliamentary democracy, and is administratively subdivided in 4 divisions (in 1993,94; since 1996, there are 5 divisions), 64 districts, about 500 thanas, and 4500 unions.

Overall education levels are still low, and for women worse still, and the country’s health indicators are typical for least developed countries; cholera is still endemic. Health care is delivered through a network of Union and thana-based health facilities, built up in the past two decades with major assistance from a World Bank led donor consortium. However, they suffer from serious operational inefficiencies. The Ministry of Health has two separate wings, the ‘Family Planning’ and the ‘Health’ wing, which are the result of the country’s priority for Family Planning and related services. In the beginning of the eighties, the country developed and enacted an Essential Drugs Policy.

In slum areas in Bangladesh and other countries, many projects, often with very active involvement of
the slum people themselves, have attempted to improve the conditions of the slum dwellers. They usually had multi-sectoral approaches, and recently aimed at improved social integration in a city-wide planning effort. Dhaka-City had in 1993/94, the time of the study, an estimated population of 4-5 million, was subdivided in 14 thanas and each thana, in 7 wards, covering on average 350,000 and 50,000 population respectively. The slum population in Dhaka-City was at that time estimated at 1 million, and most slums had less than 40 households, 5% had 200 households, and a few slums several thousand households.

The population density in the slums is extremely high (over 900 persons per acre, and in some areas up to 2000-2500). There is a ‘floating’ population living on the pavements, and alongside settlements. They are believed to migrate frequently, the reason why they were not included in the study population. Kinship and geographical origin are the bases for strong networks in the slums, particularly during initial settlement and for getting a job. The slum ‘landlord’, often an illegal occupant himself, collects ‘rent’ and is protected by his musclemen, called mastans, who often terrorise the slum dwellers. Prostitution under its various forms, and violence, particularly against women, are not uncommon in the slum communities. Most slum dwellers are employed in the informal sector, which accounts for 65% of the employment in Dhaka-City. Sanitation is appallingly poor. However, water connections are often found, whether they be legal or illegal.

Health care is delivered in Dhaka-City through a variety of providers. The most prominent ones are pharmacies and drug shops, often associated with a general practitioner. Over-prescribing is rampant, partially induced by the business-type relation between the latter two. There are also private clinics which are concentrated in the richer areas of the city, while non-government not-for-profit health facilities and services are concentrated in the poorer areas. The latter typically provide one ‘package’ or another of services, frequently centred around family planning and mother-and-child care. The Ministry of Health and the Dhaka-City Corporation have networks of doorstep mainly family planning workers, and of ward-based health workers and EPI clinics, including 20 dispensaries. There are a number of large mostly public hospitals, many of them are specialised, and concentrated in the Southeastern and Central parts of the city. There are many homeopaths, unqualified modern practitioners, and traditional healers, and the use of home-remedies is widespread.

Chapter 3 gives an overview of the literature on patterns of costs of illness and health care use, and, on the impact of costs of illness on household behaviour.

Regarding patterns of costs of illness and health care utilisation in South and Southeast Asia, an unambiguous association was found between household economic status and health care use, although some studies showed little or no effect of the health care price on the demand of particular services by vulnerable groups. In many Asian countries, including those in South-Asia, a bias was found against females in the allocation of household resources, including the use of health care. However, findings from a study in Indonesia suggested that children tend to receive favourable treatment.

The above findings were reflected in the literature from Bangladesh, with factors such as household income, gender, and parents’ education level in the case of childhood illness, as major determinants in the use of health care. The importance of the non-use of services was highlighted, as well as of private modern care and traditional healers, and the extensive use of hospitals as primary contacts, and sequences in the use of options starting from the wait-and-see attitude. Two-thirds of all urban women compared to less than 25% of rural women with pregnancy-related complications were found to visit government or NGO facilities. Forty percent of the deliveries were attended by traditional birth attendants, and one-third by MB,BS doctors. Positive associations were found between expenditure on health care and overall household expenditure, with as sources of health financing mainly savings, but also loans and sale/mortgage of land, assets, or crops. Average travel times in urban Bangladesh were the highest for publicly provided care, NGO facilities and unqualified healers (between 26 and 22 minutes) compared to about half or less than half these times for modern private-for-profit providers, homeopaths and traditional healers.

Per capita expenditure on health care in the lowest household income groups in the urban areas was
estimated in the 1994 Morbidity and Health Status Survey between US$ 6.- and 7.-. The substantial sources of health care financing were (and still are) direct household expenditure (about 60% of the total) and government financing (40% of the total). Government spending on health care stood at slightly more than US$ 3.- in 1994/5 and 1996/7, out of which one-third was spent on population control, 50% on curative care, and the remainder on preventive and promotive care.

Studies on responses to the socio-economic consequences of HIV/AIDS revealed among the changes in the dynamics of the affected households, a reduction of household dependents, cessation of paid employment, increased borrowing and hiring labour, a noticeable drop in household income and increase in debt and mortgaging, and the break-down of the traditional support systems. More 'positive' changes, such as diversification of sources of income, may, however, be associated with children dropping out of school and taking on tasks in the household.

Sequences in coping with illnesses other than HIV/AIDS in rural areas were found (from the use of savings, over sale of assets, taking loans and wage labour, and community support, to the final stage of calamity, if the previous strategies were not successful). Sequences can be altered by the wealth status of the household and access to resources, household size and composition and the level of community support (the latter usually not available to the poor households). Coping with time costs were much less variable, mostly limited to intra-household labour substitution. In general, coping within the household had to be exhausted before support from kin or community was sought. Particularly the poor to very poor households were found to forego health care or deplete productive assets to cope with large medical expenses.

A study conducted in the slums in Bangladesh revealed that loss of income due to illness was far greater than the direct health care expenditure, and that sale of assets was the initial response to a sudden need of a large medical expenditure. A simulation in which four mechanisms (selling of assets, earning additional income, food reduction, and taking loans) were compared to cope with the costs of illness (those of DOTS compared with those of a conventional treatment), revealed that the economic consequences were less severe when the more effective DOTS treatment was taken, and that the risk for long-term indebtedness was considerable if loans could not be reimbursed in the first months after they were taken. However, a properly functioning health care system should (1) prevent TB patients from taking 'conventional' treatment regimens that are not effective, and (2) render DOTS strategy not necessary if TB control activities are properly integrated and taken care of in such health care system.

Chapter 4 discusses the aims and objectives of the study and provides details on the design and methodology.

The general aims of the study were (1) to get a better understanding of firstly, the spending patterns and the strategies slum households apply to cope with the economic consequences of illness, and, secondly, of the socio-economic determinants of health care seeking in the slum population of a mega-city in the South; (2) to reflect upon institutional improvements in health care delivery and financing in urban Bangladesh; (3) with the findings gathered, to contribute to the development of more appropriate health policies in Bangladesh and in other countries with similar socio-economic and/or cultural characteristics. The specific objectives were related to investigations into (1) the economic and socio-demographic profile of the slum population, its reported illness pattern, and the health care options it perceived to be available; (2) patterns of direct user expenditure on health care and of health care option utilisation; (3) loss of income due to illness, and time dimensions of travel and waiting time; (4) the reasons and constraints operating in health care choice making; and (5) how slum households cope with the direct costs of illness and loss of income due to illness.

The research strategy combined qualitative and quantitative methods and consisted of four consecutive phases. The first phase, a cognitive study (January - March 1993) described popular disease classification, health care options the slum population perceived to be available in the case of illness, the criteria and constraints, and decision makers operating in health care choice making. The findings were used to
prepare the next phase, a 6-month longitudinal survey in 1050 households, partly covering the dry and
drained seasons to capture seasonal variations in illness occurrence and the household economy (May -
November 1993). Preceded by an extensive baseline survey, it comprised of two concurrent surveillance
systems: one on all occurring illness episodes in the households under investigation through a fortnightly
data collection, and the other on selected socio-economic and demographic variables of the households
under investigation on a monthly basis. The third phase (January - April 1994) comprised 196 case studies
on delivery practices, hospitalisation cases, death cases, and selected chronic illness cases. A number of
focus group discussions (September 1994 - June 1995) concluded the study to discuss study findings with
slum communities.

The variables of the study were grouped by study phase. Those of the cognitive study have been listed in
the previous paragraph. The key explanatory variables of the illness surveillance were grouped into illness
characteristics, and, for each health care option used, features of the decision-making process, patient
satisfaction, and economic aspects (direct costs and how they were covered, and travel and waiting time).
In the socio-economic surveillance the main categories were demographic, socio-cultural, and economic
variables. The explanatory variables selected for the analysis of the costs of illness and household coping
with these costs were economic (household income, expenditure, and occupation characteristics); age and
gender were also considered where appropriate. Education was not considered, because of its close
relationship with household income, its relative homogeneity within each income quintile, and the fact
that it was our purpose to establish a first structure for the massive amount of data gathered, focusing on
the role of income and poverty levels.

The longitudinal survey had a stratified, two-stage sampling procedure, conducted from January to March
1993, which was based on an existing database of the slum areas. The sample size of 1050 households was
calculated with as unit of analysis an illness case, and ensuring that half of the sample consisted of
households with pregnant women to allow for proper examination of pregnancy-related complications and
delivery practices. For the analysis, 905 households were selected.

Coping with economic consequences of ill-health was studied using the entitlement and endowment theory
of Amartya Sen, which was adapted by Russell, and which we further developed to come up with the
following list of 6 potential household entitlements and resources to cope with costs of illness: (1)
exchange entitlements of household land and assets; (2) exchange entitlements of labour; (3) extended
entitlements, referring to social networks within kin relationships and with friends and employers, and
resulting in receiving grants or loans; (4) government provision of free health care; (5) forego
consumption of essential commodities other than health care; and (6) changes in health care seeking
behaviour, such as delaying the use of health care or switching from more expensive, adequate health care
to cheaper or less adequate options.

Direct costs of illness were defined as out-of-pocket expenses for treatment and transport. The indirect
costs of illness included in the study concerned in monetary terms the time lost from work due to ill-health
which included time lost from work to seek treatment, and in time terms travel and waiting time. Several
bases were taken to analyse direct costs: total spending on illnesses, expenditure per household and per
capita, expenditure per illness episode, and expenditure per type of contact. As direct user health care
expenditure per non-chronic illness case typically showed a non-normal distribution, two measures of
central tendency, namely the mean and the sum of the average of percentile 10 and percentile 90, were
chosen.

Loss of income was derived as follows: in every survey-month, we gathered for each household member
the number of working days she/he was unable to work, and the reason for this reduced earning
capability. Subsequently, we computed for the daily wagers the income forgone during these days by
multiplying the number of days by the reported taka earned a day. For the monthly and weekly wagers,
we computed the value of the loss of income by dividing the monthly and weekly income by 26 and 6
Data on household income were gathered individually for every household member, for maximum three occupations, and according to ‘wage-unit’, i.e. monthly, weekly, or daily. To this data were added a small percentage of loans and grants, and savings from previous months. Thus the total income was a good measure for the capacity of households to pay. Mean monthly household income was used as the measure of central tendency. Data on household expenditure was collected through nine cost categories.

Utilisation of health care options was based on the probability of contact with a health care option, and measured as the total number of contacts with that health care option divided by the total number of contacts with all health care options. We categorised the 12 health care options found in the study into 9 operational typologies for analysis purposes, namely, the wait-and-see attitude; home-care (narrowly defined as proper body-care and food); pharmacies (including drug shops); the 3 modern ‘qualified’ providers: modern private-for-profit care (MB, BS soloists, private clinics), publicly owned facilities, non-government (not-for-profit) facilities; modern unqualified healers/practitioners; homeopathy; and traditional practitioners.

Part II of the document, consisting of Chapters 5 to 9, describes the study findings consecutively on the profile of the slum residents on study (Chapter 5), the direct costs of illness (Chapter 6), household coping with direct costs of illness (Chapter 7), the indirect costs (Chapter 8), and household coping with indirect costs (Chapter 9).

Chapter 5 describes the main features of the slum households under investigation. The slum population was young with variable household composition and an average household size of 5.2 (but only 3.7 in the lowest income quintile). The slum dwellers were highly mobile. Education levels of slum household heads and spouses were appallingly low, and associated to household income. Limited household income - hardly a monthly equivalent of US$ 70.- per household or US$ 13.5 per capita - was earned through semi- and unskilled labour. Females represented about 25% of the income-earners, and about 47% of the labour force was composed of daily wagers, such as rickshaw pullers of which the proportion was higher in lower income categories. Total estimated value of land and assets owned was low: for land on average only 10% higher than a monthly household income, and for assets 50% higher.

Contrary to what is commonly believed, slum dwellers were found to be a heterogeneous population group for a number of socio-economic factors, such as (1) occupations for income-earning, (2) household income and total values of land and assets owned, which were 4.5, 4.7 and 5.2 times higher respectively in the highest income quintile than in the lowest quintile, (3) education levels of household heads and spouses, (4) house structure, and (5) household size.

However, whatever the extent of diversity among slum households, they overall must be classified as poor, with food consumption representing nearly 50% of total average monthly expenditure even in the highest income quintile, and 82% of the families living in just one room with a bamboo wall, and a same percentage lacking a table. Only about 20% of the households were living above the absolute poverty level defined by a package of basic requirements.

The ‘poorest of the poor’ households - the estimated 20% to 40% ‘hard core’ poor in the lowest two income quintiles - showed several socio-economic indicators that were different from all other households, including the proportion of female headed households, the household size, living space and house structure.

The situation of females and children was precarious. Women were less educated, they faced more often desertion by their spouse and were more often widowed. More than 40% of the female adolescents were married against less than 2% of the males. Although females constituted one fourth of the labour force, they received a lower income than their male counterparts from similar jobs (only in the category of child
labour, the income was similar). Ten to 15% of the 6 to 12 year old children were working, only about one third of them attended school. Income-earning rose to 50% and school attendance dropped to 20% among the 13 to 15 years old.

The overall low socio-economic conditions, and insecurity and violence in the slums, were reflected in the non-chronic illness profile, largely dominated by communicable diseases, with injuries ranking as the fifth health problem. Chronic illnesses, while in children mainly of an infectious origin, were in adults more non-infectious. The poorer clearly had a greater non-chronic illness burden.

Chapter 6 provides an insight in the direct costs of illness or out-of-pocket expenditure.

Total out-of-pocket spending in the case of illness in the slum households under investigation was illness-severity sensitive, with more spending on severe and chronic illnesses (59% and 20%, respectively), while they represented relatively less cases (37% and 9%, respectively). Nearly half of the total out-of-pocket expenditure was spent on modern private-for-profit care, and another 17% on pharmacies. Traditional care, public and non-government care each accounted for 10 to 7%.

Annual per capita out-of-pocket health care expenditure in the slums stood at taka 185 or US$ 4.60 in the case of illness, nearly two times higher than government spending on curative care. Total annual per capita expenditure rose to US$ 5.5 when total health care expenditure was considered. This figure included besides direct costs of illness, other expenses, such as for delivery cases.

Drugs were by far the main cost item in the cost structure (between 60% and 75% of the total cost structure), the only exception being non-government care (only about one-third of the cost per contact). Consultation and admission fees were the highest for modern private-for-profit care. Transport costs were the highest for public and non-government care and correlated with the reasons for their use and non-use.

Expenditure per illness episode was four times higher in non-chronic severe episodes compared to minor ones, and related to illness category. Given a selection of common illness categories, mean expenditures per non-chronic illness episode was lower for children than for adults, and for females than for males in all age-groups (pointing at the lower social status of females in the society). It was further lower for daily wagers than for monthly wagers, and for female workers compared to their male counterparts. Mean expenditures per illness episode and per capita were statistically significantly associated with household income. Several proximate indicators for socioeconomic status showed the same trend, related to their association with household income.

The trends in chronic illness cases were described elsewhere by the author and showed some particularities, such as traditional and non-government care making greater relative contributions to total spending; an increasing contribution from diagnostic tests in the cost structure (between 10 and 30% in modern institutional health care options); and a mean expenditure per chronic illness phase only slightly increasing from the first to the fourth income quintile. As for many chronic illnesses, such asthma, diabetes, high blood pressure, patients, may 'know' their chronic illness, including the frequencies of check-ups and their costs, they may be able to 'prepare' themselves to cover these costs, resulting in a fairly similar out-of-pocket spending per illness phase.

Modern private-for-profit care and publicly provided care clearly had the highest mean expenditures per contact in severe illness: taka 140 and 96 respectively (the standard error for publicly provided care was high, and its median expenditure low, reflecting a distribution of observations skewed to the right). In minor illness episodes, only modern private-for-profit care had a clearly higher per contact expenditure. In contrast to direct costs per illness episodes, the expenditure per contact showed no trends for virtually all health care options, when household income was considered. Consequently, using only expenditure per contact in the analysis would have missed out the important conclusion that the capacity to spend on health care did increase with increasing household income.
Mean monthly household expenditure on health care was similar in relative terms from the lowest to the fourth income quintile (i.e. 3 to 4% of monthly household expenditure), and increased to 5.5% in the highest quintile. In absolute terms, however, there was a clear increase in average monthly household health care expenditure with increasing income level. (from taka 48 in the lowest quintile to taka 206 in the highest one). Applying quintile-wise average household sizes, the annual per capita expenditures (unadjusted for occurrence of health problems) showed the same trend (from taka 152 in the lowest quintile to taka 355 in the highest one).

Applying the framework described in Chapter 4, Chapter 7 analyses the strategies and mechanisms households applied to cope with direct costs of illness.

The contribution of cash/savings in covering health care costs decreased with increasing health care expenditure per illness episode, and the contribution of loans increased accordingly. Cash/savings covered up to 90% of the expenditure in the lowest expenditure category (taka 1 - 100 per illness episode), and about 50% in the highest category (more than taka 500 per illness episode). The contributions of grants and sales/mortgage of assets were minimal (less than 1% to 5%, depending upon the expenditure category), most likely related to (1) the limited household assets to exchange in times of economic crises (it was found that this was the more so, the poorer the households), and, (2) the difficulty to rapidly mobilize cash from sales of assets or land. The use of these four modes of expenditure recovery (cash/savings, loans, grants, sales/mortgage of assets) was associated with household income: the higher the income, the more the relative contribution of cash/savings, and the less use of the other three modes was observed. However, in the highest health care per episode expenditure category, loans were taken, virtually irrespective of income level, but the highest loans were only taken by households from the highest income quintile.

How households may manage to reimburse the loans taken appeared to differ according to household income levels. Households in income quintiles 3 to 5 may be able to reimburse loans by future savings, as the mean monthly household income was in the months without health care expenditure greater than the total mean monthly household expenditure, and remained so in the months with health care expenditure (however dependent upon the level of household income and of health care expenditure). For the lowest two income quintiles (categorised as the hard-core poor), reimbursement of loans was not possible through future savings, because reported monthly household income was systematically lower than household expenditure, irrespective of the presence or absence of health care expenditure. This may lead in the long run to chronic borrowing and reimbursements, making these households extremely vulnerable for long-term indebtedness and socio-economic impoverishment.

‘Affordable’ levels of user payment per illness episode by household income level were defined as the level of expenditure per illness episode for each income quintile that was covered for more than 95% with cash and savings. They ranged from taka 1-10 in the lowest quintile to taka 61-70 in the highest one.

Regarding the fourth coping mechanism, foregoing of other essential commodities than health care, no particular pattern could be identified for all commodities other than food. Data on food consumption were separate for ‘staple food’ and ‘other food items’, and compared with theoretical absolute minimal consumption levels by income quintile during the months ‘without’ and ‘with’ health care expenditure. Consumption of ‘staple food’ was not forgone when there was health care expenditure, most probably due to the fact that the theoretical levels considered were already the absolute minimal levels. The real consumption of ‘other food items’ was only forgone by 5 to 10%, depending upon the income quintile. However, it was, irrespective of health care expenses, at least double the theoretically estimated absolute minimal levels (and rising with household income to a factor 2.5/2.6 in the highest income quintiles). This indicated that, even the hard-core poor households, when faced with health care expenditure, prefer to keep some quality in their food., However, this level of consumption was still 25% short of the 1600 calories per capita per day at the hard-core poverty level, estimated by the World Bank.
The analysis of the fifth coping strategy, namely the use of free government health care, showed that publicly provided care was only free on paper. Its high out-of-pocket expenditures per contact, combined with the highest travel and waiting times, and low perceived service quality, resulted in its very low use (the lowest of the three modern qualified providers). It follows that slum people did not prefer to use (or better did not have the opportunity to use) publicly provided health care as a means to avoid the direct costs of illness.

To study shifts in health care use, the sixth coping mechanism, we tested the hypothesis that at least in severe illness qualified modern health care was used. The study findings revealed that slum households primarily turned to effectively free or nearly free options (wait-and-see and home-care, or to pharmacies, the cheapest modern health care option, but hardly qualified to judge and treat severe illness cases.

The findings on the fifth and sixth strategies were not equally distributed in the population. Poorer households, children and women, used less one or more types of modern care. Conversely, particularly the poor and women used more wait-and-see. Poorer households used wait-and-see substantially more for economic reasons (such as non-availability of cash or the recognition of the status of poverty), and refrained from using private-for-profit care for another economic reason (the high direct costs).

Chapter 8 describes the indirect household expenditure on illness under two aspects: loss of income due to illness (in monetary terms) and travel and waiting time (in time terms).

Loss of income due to illness was observed in only a fraction of the illness cases. Some health problems, such as injuries, caused relatively more often loss of income compared to their contribution in illness occurrence. The number and percentage of household-months with reported loss of income due to illness were more than halved between the lowest income quintile (12%) and the highest quintile (5%). The mean monetary value of loss of income represented 24% of the mean income in the months with such loss and was income-sensitive (from 38% in the lowest quintile down to 17% in the highest one); in absolute terms, however, it rose with increasing household income. Loss of income was on average 5 times higher than the out-of-pocket expenditure for health care in the months with such loss; again this result was associated with household income (7 times in the lowest, and 3 times in the highest quintile). The total value of loss of income due to illness was half the total value of direct health care expenditure in the case of illness.

The mean travel time was the highest for publicly provided care (about 30 mins.), followed by non-government care (about 23 mins.), modern private care (about 19 mins.), homeopathy (about 16 mins.), and pharmacies (about 10 mins): these mean travel times were all a few minutes higher in severe illness cases. Waiting time was by far the highest for publicly provided care and for non-government care (almost one hour). Modern private-for-profit care, homeopathy and traditional healers had waiting times between 16 and 8 mins. Only unqualified modern practitioners and pharmacies had very short waiting times (2 to 5 mins.). The reported waiting and travel times for publicly provided and non-government care were reflected in their reasons for non-use.

Chapter 9 analyses household coping with the loss of income due to illness. A deductive method based on the identification of, and the changes in, the household income and occupation pattern related to the nature of the reduction in earning capacity (cause and duration) was used. 80% of all the cases concerned periods of maximum 10 days.

The mean household incomes in the months with and without loss of income due to illness for the households reporting such loss, were similar for each income quintile. The choice of the coping mechanisms was related to the duration of reduced income-earning capacity and to the type of wage-unit.

In the cases of income-earning incapacity of 1 to 5 days, by far the main coping strategy for daily wagers (80% of the cases) was sacrificing holidays or leisure time (it is known that daily wagers in 'normal'
circumstances do take 1 to 2 days holiday), whereas for monthly wagers, 80% of the cases were sick leave without effect on the pay level and thus an indirect employer contribution. Other mechanisms were accepting a (slight) drop in household income, and less frequently, exchange of labour (intra-household labour substitution).

In cases of 6 to 10 days of reduced earning capacity due to illness, sacrificing holidays, exchange of labour, and reductions in household income were of similar importance in the case of daily wagers. For monthly wagers, the picture was similar as for shorter periods of reduced earning capacity. However, for both daily and monthly wagers, exchange of labour clearly became the main coping mechanism for periods of loss of income of beyond 10 days. In 50% of those cases of exchange of labour concerned intra-household labour substitution with spouses or children taking on extra work.

Related observations included firstly, the existence of combinations of two coping mechanisms in rather long-term (more than 10 days) reduction of earning capacity (mostly a combination of a temporary decrease in income with sacrificing holidays or leisure time, with either exchange of labour or with taking a loan). Secondly, the labour market open to slum dwellers for daily or monthly earning appeared flexible enough to provide job opportunities on a daily or monthly basis to the sick income-earner as a second occupation, or to previously non-income-earning household members. Thirdly, daily wagers were much more vulnerable than monthly wagers in terms of the economic consequences for household income of a reduction in income-earning capacity due to illness, particularly when its duration did not exceed 10 days. They also reported 13 times more months with loss of income than monthly wagers, with environmental factors, such as rains and floods, and not illness, as the main cause of earning incapacity. Fourthly, long-term effects, such as on education opportunities of children taking on (temporary) work may be substantial and should therefore, be studied over longer periods than the duration of the study.

Part III of the document provides a re-assessment of the main study results (Chapter 10), their policy implications (Chapter 11), and some lessons for health systems research as concluding remarks (Chapter 12).

The main results on the costs of illness and health care utilisation included that the non-use of any type of health care provider was preponderant, with pharmacies by far the most used ‘modern’ health care option. The latter equalled the use of all modern qualified health care providers combined (private-for-profit, non-government (private not-for-profit), and publicly provided health care). Hospitals were far more used as a primary level contact than as a referral-level facility. The anticipated high costs of modern qualified health care options were the main deterrent for their use. Despite their high levels of poverty, slum people spent on curative care about twice as much as the government. Drugs were by far the main cost item in the contacts with private-for-profit and publicly provided care. Only a small proportion of illness cases caused loss of income. The total monetary value of this loss was half the total direct health care spending in the case of illness. In the months with loss of income due to illness, the monetary value of this loss was much larger than direct health care expenditure. The duration of reduced earning capacity did not exceed 10 days in the majority of the cases. Illness affected the monthly wagers relatively more than the daily wagers. The slum population is a poor, though heterogeneous micro-society, in which economic status is associated with illness occurrence, health care use and direct and indirect costs of illness. The economic reasons why slum households selected some health care options and others not, were also strongly related to the household economic status. Direct and indirect costs were also associated with the income level of the slum households. Expenses per illness episode were lower for females, regardless of the age-group. Overall, modern health care was overall less used by women, except non-government care; wait-and-see was more used. Homeopathy and non-government care were popular health care providers to treat children. Expenses for comparable illness cases were lower for children than for adults.

The main results of the analysis of coping with direct and indirect costs of illness included that (1) direct and indirect costs generated different sets of mechanisms at household level, and, (2) factors determining
the choice of coping mechanisms also appeared to differ according to the type of costs: household income for coping with direct costs; duration of the period of reduced earning capacity due to illness and the type of occupation in the case of indirect costs.

Coping with direct costs provided the following key results: At the household level, sources of financing during illness episodes with lower direct costs were primarily cash outlays and savings, while loans gradually became more prominent with rising direct expenditure. Foregoing consumption of essential commodities, other than health care, could hardly be established. The use of publicly provided free health care was only a virtual entitlement for slum households to cope with direct health care costs. Slum households also coped with the direct costs of illness by ‘avoiding’ them through the use of no- or low-cost alternatives. Income-related analysis could demonstrate - as for illness occurrence, health care use and costs of illness - several trends in the ability of slum households to use entitlements and strategies to cope with direct health care costs.

Relating to coping with loss of income due to illness, the main results were that for daily wagers “sacrificing holidays or occasionally leisure time” by the sick income-earner was by far the commonest strategy to cope with short-term (1 to 5 days) loss of income due to illness. It remained the main coping strategy for periods of reduction in income-earning capacity between 6 and 10 days. When the period exceeded 10 days, intra-household labour substitution became the most prominent coping mechanism, followed by accepting (slight) drops in household income. Other coping mechanisms, such as taking loans, were not important. In contrast, monthly wagers benefited in the vast majority of the cases from sick leave without effect on their pay, if the duration of earning incapacity did not exceed 10 days. Intra-household labour substitution, and accepting a slight drop in income of monthly wagers were the two other mechanisms of some importance, and became more prominent when the duration went beyond 10 days. Daily wagers were much more vulnerable than monthly wagers, particularly with regards to periods of loss of income of less than 10 days. Child labour, widespread in the slums, was reinforced by the illness of the household income earners. Spouses took on extra work in a limited number of cases.

There were two key findings about the ‘dynamics’ of coping. There was a sequence in the coping strategies with indirect costs of illness, but it was absent in the case of coping with direct costs. The uneven burden of costs of illness according to household income points at permanent structural imbalances in the command over endowments and entitlements, which in turn lead to differences in the capacity to cope with the costs of illness.

Chapter 11 describes the policy implications of the study. They were subdivided in four main categories: policy implications relating to health care organisation; levels of financial contribution to cover direct health care costs; protecting the household socio-economy against the effects of the economic costs of illness; and the role of the state in policy formulation and implementation.

The main issues concerning health care organisation included (1) that modern qualified health services should be organised so as to become more responsive to the needs of the slum dwellers; (2) existing services particularly public and non-government mother-and-child-health care services should be redirected to all household members, including the income-earners; and (3) health messages should emphasize the need to use services ‘appropriately’ (first community-based services, and when required referral, home-care), risk signs during pregnancy and delivery, and messages specially directed towards men on the social status of women and the right of women and children to equal access to care.

Such re-organisation of health care delivery was expressed in the feed-back on the study findings form the slum communities. They basically requested for the establishment of a rationally organised 2-tier health care system (the so-called ‘Health District’), consisting of a network of functional community-based facilities, where curative, preventive and promotive activities are integrated, and a general referral hospital. Such system functions within a permanent dialogue and participation between communities and health professionals; it would produce several savings on direct and indirect costs.
In view of the importance of drugs in the costs structure, strategies to further improve the Essential Drug Policy were recommended, aiming at rationalising prescribing practices, and making drugs economically affordable to poor people (particularly those that may be life-savings if properly prescribed and taken, such as antibiotics).

With regards to the levels of financial contribution to cover direct costs, it was emphasized that ‘affordable’ levels of contribution for the poorest were near symbolic. However, such contributions signal that also the very poor belong to those who contribute to cover health care costs and prevents them from being socially excluded, if for instance exemption mechanisms are applied. Other forms of community-financing, such as labour and contributions in kind, need also to be considered as contributions of households and communities in health care financing policies.

The third category of issues relates to the protection of household socio-economies against the effects of the economic costs of illness. For developing countries, such as Bangladesh, the first issue is to rationalise the health care services into a functional health care system as described above. Income-generating activities that can increase available household income, and more equitable mechanisms to share the direct costs - an expression of solidarity - , are initiatives that may further reduce the burden of the economic costs of illness on the households. What is to be managed in solidarity depends upon the opinions of the communities concerned and often targets the purchase of household equipment, starting up a small business, or covering funeral costs. Most of these associations are based on mutual savings schemes. As the savings capacity may be limited among the poor, particularly the poorest, such as illustrated in our study where the latter had chronic shortfalls in the household economy, micro-credit schemes are a more appropriate option.

Direct costs of illness are far less the subject of mutual aid schemes, despite the positive features ascribed to health insurance schemes and which are linked to their potential of spreading the economic burden across subgroups in the population. This low-level interest is related to technical-managerial issues (such as adverse selection, moral hazard, and possible administrative and health care costs escalation) and to communities’ perceptions of the importance of ill-health in poor households and the payment for health care at times when one is not ill. However, community-financing modes, other than the insurance type, can introduce some notion of solidarity across sub-groups in payment of direct costs of illness. These are a flat fee-per-episode of illness or of risk (solidarity between the more and less sick, or between those with more and less risk), and a graduated fee-per-episode (additional solidarity between the poor and the rich). Their comparative advantages are their technical/administrative simplicity (which make these modes more adapted for self-management by local communities), and the fact that they do not require the understanding and acceptance of paying at times when one is not ill. They may therefore be initially preferred above social insurance to introduce the notions of solidarity. The extent to which direct costs of illness can be recovered through community-financing is virtually limited to the costs of community-based services. Therefore, all revenue from community-financing is better concentrated at that level of health care where it can also best be self-managed by the community. This principle clarifies that higher levels of care need to be subsidized, including for their role in supervising and supporting community-based health facilities.

In view of the above, there is a ‘natural link’ and synergism between the initiatives to tackle the effects of direct and indirect costs of illness on the household economy, namely savings and micro-credit schemes supporting alternative income-generating activities, re-organisation and rationalization of health care delivery, and proper health care financing arrangements.

The fourth issue is about the role of the state in policy formulation and implementation.

The first area is in the field of health care organisation and financing. The public hospitals in Dhaka-City have a unique role to play in providing higher level specialised referral services, but not as first-level contact. There are four other major tasks that may be attributed to the state: (1) the design and regulation
of a functional 2-tier health care system, and ensuring within this system equity, rationality in the use of resources, quality of service delivery, and participation of and interaction between all concerned; (2) interventions in the building of new infrastructure at the community level and at the first referral level and ensuring a fair geographical distribution; (3) subcontracting health care services in order to increase access to services, remove possible duplication, and to implement the 2-tier health care system; and (4) funding health care delivery. Subcontracting of a health facility or of an entire 2-tier health care system is envisaged. The greatest potential lays with the non-government not-for-profit sub-sector, that in principle shares with the public sub-sector the same ‘public purpose’. Shifts in health care seeking from the modern private-for-profit and from the traditional healers may be expected. The fourth role of the state is as funding source to ensure that (1) subsidies are provided to referral levels of care and for supervision of and support to the community-based health facilities, and (2) co-funding is provided to construct new facilities (with the local communities for community-based facilities, and with international development partners for referral-level facilities).

The second area is in the field of initiatives, such as micro-credit schemes and community-financing schemes through the establishment of legal frameworks and acting as an active promoter and awareness-builder of the idea of mutual help associations and co-operatives to NGO’s and the communities at large. The state can also provide technical support and initial capital. As most of the community-financing initiatives are small, the state could directly or indirectly pool the risks of these schemes through a system of social re-insurance, or ensure that severe cases that need more sophisticated technical input and referral care are treated free or virtually free of charge.

The illness burden in the slum population was inextricably related to socio-economic status. Reducing this burden will require an improvement in the overall socio-economic status of the slum residents in general and of the poorest in particular, through interventions inside and outside the health care sector, such as in water supply and sanitation, education and socio-economic policies linking health and social urban policy and sharing resources between the more and less vulnerable groups of the urban society.

The final Chapter 12 provides concluding remarks as a number of lessons for health systems research.

Our study demonstrated that a comprehensive community-based research on health care seeking issues is required to properly study costs of illness and household coping with these costs. In addition, the combination of qualitative and quantitative research methods was indispensable.

National health surveys currently do not investigate aspects of household coping with costs of illness. Because of the specific features of such national surveys, it is preferable to investigate household coping with specially designed protocols similar to our study design.

Finally, we suggest an agenda of complementary research to link the findings of our study on a specific sub-population and a specific topic with the broader context of health systems research. This agenda ranges from studies on health care seeking and coping with the costs of illness in other sub-groups of the population over studies on health care provision patterns, particularly on the gaps and overlaps in service delivery, and studies on health care financing and expenditure at national, intermediate, and micro- or household levels, and on the modes of payment in relation to the mechanisms of health care provision and management. Other studies concern action-research on the functioning of health services within a health care system, and on initiatives, such as community-financing schemes and micro-credit and savings schemes. Policy-oriented research is required to analyse to what extent the findings of all the above mentioned groups of studies are instrumental in influencing the process and content of relevant policy formulation, implementation and evaluation.