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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PATTERNS OF COSTS OF ILLNESS AND HEALTH CARE USE AND THE IMPACT OF COSTS OF ILLNESS ON HOUSEHOLD BEHAVIOUR. A LITERATURE REVIEW.

3.1 Patterns of costs of illness and health care utilisation in South and Southeast Asia.

The findings on health care use and direct user expenditure in South and Southeast Asia presented here were taken from papers published between 1987 and 1997 in two international journals (Health Policy and Planning, and Social Science & Medicine). This database was complemented by information from other international journals and data sources where appropriate, and from Bangladeshi journals. The relationship between costs of treatment and health care utilisation is examined below.

Tipping and Segall, in their 1995 extensive review of the literature on health care seeking behaviour in Africa, South and South-East Asia (Tipping G., Segall M., 1995), stated that the association between household economic status and health care use appears 'unambiguous'. Studies in Indonesia (Berman P. et al., 1987; Chernikovsky D., Meesok O., 1986) and India (Duggal R., Amin S., 1989) indicated that the poorer the people, the less use was made of (more expensive) modern formal health services, while cheaper alternatives were preferred, such as home-based and traditional care in Indonesia and publicly provided care in India. Some studies showed little or no effect of the health care price on the demand of particular services (Akin et al., 1986; Heller P., 1982). Others however, argued that this finding masked the effect of user fees on demand by vulnerable groups, such as the poor, women and children (Berman P. et al., 1987; Sauerborn R. et al., 1994). It was further argued that, in a situation of relative under-use of modern health care during severe illness, any further drop due to health care price may lead to exacerbation of the illness and consequent health care costs and negative externalities. Regarding gender, Gilson (Gilson L., 1988) in her review on health care use, pointed out that 'in many Asian countries there is a documented bias against females in the allocation of household resources, including the use of health care by women and girls.' In rural Bangladesh, female use, even where free non-profit services were concerned, was found to be lower, despite the fact that illness rates were similar to those of males (Bhuiya A., Streatfield K., 1995). Similar bias against women, when comparing health needs with health care use and cost (both indirect and direct), were reported from other countries in South-Asia, such as India (Tipping G., Segall M., 1995; Sharma V., Sharma A., 1991), where higher morbidity rates and longer disability in females neither resulted in higher health worker use rates nor in higher spending per episode. The literature further indicated that this pattern may be attributed to socio-cultural factors, such as the restricted mobility of women, to economic factors that limit the household ability to meet monetary and time costs (Key P., 1987), and to provider-related factors, such as the non-availability of female drug-vendors in the pharmacies. As far as infants and children were concerned, findings from Indonesia (Chernikovsky D., Meesok O., 1986) suggested that children tend to receive treatment.

Results of the studies reported in local Bangladeshi journals and socio-economic variables, such as household income, gender, and parents' educa.
child illness, as major determinants in the use of health care (Akter S.K., Hafez M.A., 1994). Local papers also described that non-use of health care was influenced by factors, such as payment of a fee, timing of services and behaviour of the healer (Ali S.M. et al., 1991; Roy S.R., Ahmed M.S., 1995; Rahman M.A., Bar B., 1992). The local literature further revealed the importance of the private modern health care sector and of traditional healers, and the extensive use of large hospitals as primary contacts (Das A.M. et al., 1991; Khutun M., 1991). An interesting study by Nessa et al. (Nessa F. et al., 1991) on rural Bangladesh showed that about one-fifth of the sick respondents did not receive any treatment. It highlighted the importance of the "wait-and-see" attitude and "self-care" as initial steps of health care seeking behaviour. The same study showed a sequence of steps taken in care-seeking: from the wait-and-see attitude over self-care to doctor/hospital care. When the latter in turn did not help, an equal choice for the three other options was observed. In the case of self-care, the type of treatment seemed to be specific for the type of disease.

Important national sources of information on health care seeking behaviour are the Bangladesh Health Finance and Expenditure study series, conducted by national institutions, such as the Bangladesh Institute for Development Studies (BIDS) and the Bangladesh Bureau of Statistics (BBS). The 1988 study (BIDS, 1988), for instance, found that about two-thirds of urban women (compared to less than 25% of rural women) with pregnancy-related complications visited government health centres or non-government clinics. One out of ten visited homeopaths, and a same proportion spiritual healers. Half of the deliveries took place at home, and only one-fourth at a clinic. Those attending deliveries were traditional birth attendants, called dais, in 40% of the cases, MB,BS (Medicine Bachelor, Bachelor in Surgery) doctors in about one-third, and relatives or neighbours in about one-fourth of the deliveries. These data applied to the whole of the urban female population and were, thus, not specific for the slum population. Other findings for the urban setting from the same 1988 study included the positive association between household expenditure and expenditure on health care at the household level, and, the considerably higher overall average consultation fee in urban areas with treatment cost patterns reflecting epidemiologic transition. Sources of health financing were predominantly savings, but also include loans and sale/mortgage of land, assets, or crops.

The same 1988 Health Finance and Expenditure study provided an insight in the average travel and waiting times for several categories of health care options. Table 3.1 indicates that the shortest average travel and waiting times were for home-care. Travel times for health care providers were the shortest for traditional healers, modern private-for-profit providers and homeopathy (9 to 13 min.), and the highest for publicly provided care (26 minutes). The shortest waiting times were for non-government care, unqualified practitioners and traditional healers.

<table>
<thead>
<tr>
<th>Health care option</th>
<th>Average(^1) travel time</th>
<th>Average(^1) waiting time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home-care</td>
<td>1.8</td>
<td>0</td>
</tr>
<tr>
<td>Modern private-for-profit</td>
<td>13.0</td>
<td>16.1</td>
</tr>
<tr>
<td>Publicly provided care</td>
<td>26.0</td>
<td>19.7</td>
</tr>
<tr>
<td>Non-govt (private not-for-profit)</td>
<td>23.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Unqualified</td>
<td>22.1</td>
<td>10.3</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>11.7</td>
<td>10.1</td>
</tr>
<tr>
<td>Traditional(^1)</td>
<td>8.8</td>
<td>12.3</td>
</tr>
</tbody>
</table>

\(^1\) Time in minutes. \(^2\) Data for Kobiraj and Hekim combined.

The most recent data were gathered from the Bangladesh Bureau of Statistics, based on the 1994 Morbidity and Health Status survey (Rabbani AKM. et al., 1997). Percentages of treatments received for the total Bangladeshi population were found to be 24% for self-treatment, 53% for unqualified physicians,
and 23% for qualified physicians, with small differences in regards to gender and season. Per capita expenditure in urban areas in the lowest household income groups was estimated between US$ 6.00 and 7.00. National data on direct expenditure per illness episode for those who received treatment was taka 225 (or US$ 5.5).

3.2 The financing of the costs of health care delivery

In Bangladesh, there are no organised health insurance or community financing schemes of any significant size. Some non-government organisations however, are experimenting with different forms of health insurance (Desmet M., Chowdhury AQ., 1997). Earmarked taxes, lotteries and betting are known in Bangladesh (for instance there was for several years in the recent past a tax on telephone bills earmarked for the construction of a huge bridge over the Jamuna river), but not used in the health care sector. Charity and voluntary contributions are at the national level not significant, but may be of any relevance for some areas or some population groups, such as in the urban setting for the poor or in some rural areas. Similarly, although employer-financed schemes are practised to some extent (for instance by some multinational companies, e.g. in tea plantations in the North-East of the country), its contribution to overall financing in the health care sector may be considered to be marginal.

Consequently, the substantial sources of financing health care in Bangladesh are thus government financing (through general tax revenue and deficit financing) and direct household expenditure. In 1987, their percentage contributions were estimated at 40% for government financing and 60% for household spending (BIDS, 1988). This represented 1.7% of that year's Gross National Product, which was the lowest in a comparative study on 12 Asian countries, while the percentage government contribution was in the same range as those for India, Indonesia and Myanmar, but lower than Bhutan, Sri Lanka and Nepal. Total spending was estimated at US$ 2.81, and private household spending thus US$ 1.68. Public spending represented 3.9% of the year's government budget (Griffin C., 1992). Since 1987 the financing picture has hardly changed. Recent figures on the relative contributions of the available sources to finance health care delivery show direct household expenditure at 63%, government financing at 33%, not-for-profit/non-government organisations (NGOs) finance at 4%, and other private sources less than 1% (Schwartz JB., 1998). Government spending in the fiscal years 1994/95 to 1996/97 oscillated between US$ 3.1 and 3.2, out of which about one-third was spent on population control, an estimated 50% on curative care, and the remainder on preventive and promotive care (BBS, 1998).

The likely effects on equity of tax systems is dependent on both the proportional burden of taxation and on the use which is made of the revenue raised (Mills A., Gilson L., 1988). Typically, duties on exports, taxes on domestic business transactions and profits, income tax, and property taxes are progressive taxation mechanisms (burdening the rich more than the poor). Retail sales taxes and duties on imports may be progressive (if levied on luxury goods), or, regressive (if imposed on goods and services consumed more evenly by all sections of the population, such as foodstuffs or recreational events). In Bangladesh, sales taxes and duties on imports are mostly levied on luxury goods. Recent estimates on the structure of government revenue show that the net effect of the Bangladesh' tax system tends to be progressive. Evasion of direct tax is accepted to be huge (the current level of receipts from direct taxes is estimated to represent less than 25% of what should be received).

One-fourth to one-third of total government receipts comes from foreign loans and grants (BBS, 1996). According to their mandates, donors preferably contribute in the health care sector to PHC activities, thereby favouring the poorer sections of the populations. They leave the government to cover the other expenditure levels, such as regional and national hospitals and Ministry of Health headquarters.
3.3 The impact of costs of illness on the behaviour of the sick, their families and communities.

The purpose of this literature overview is mainly to identify the coping strategies that studies have been considering and to indicate in qualitative rather than quantitative terms their relative strengths and weaknesses to compensate for the socio-economic consequences of illness.

There is a host of literature on how individuals, families and communities attempt to cope with the social and economic consequences of the HIV/AIDS epidemic. Some obvious reasons, as the very visible effects of the HIV/AIDS epidemic on the bare survival of socially, professionally and sexually active adults and all this entails for the survival of the other household members and the community at large may account for this phenomenon. Regarding other illnesses, few studies have been conducted on their socio-economic consequences for the sick and the healthy and on the strategies people adopt to cope with those consequences.

We will subsequently discuss findings from studies relating to HIV/AIDS, from a few studies in rural settings, and from the only two studies known to the author concerning urban slum households in Bangladesh.

3.3.1 Studies on the socio-economic consequences and coping mechanisms at individual and household level relating to HIV/AIDS

It is not the purpose here to provide a comprehensive overview of the literature on the issue of individual and household coping with the consequences of HIV/AIDS. As mentioned above, we will rather concentrate on the nature of the coping strategies adopted by individuals and households and give some indication of the ‘coping strength’ of each of them. The impact of HIV/AIDS on the household behaviour and economy in Africa are described by several authors as a ‘long-wave disaster’ (Barnett T., Blaikie P., 1992; Drinkwater M., 1993). Repeated expenditures for a sequence of several illness episodes in a period of a couple of years - a typical phenomenon for the clinical AIDS syndrome - may erode the household resource base and exhaust labour availability not only in the household with the AIDS patient, but also in ‘collateral’ households, such as those in the extended family structure. It has become apparent that AIDS is not only a disease stricto sensu, but as much a social phenomenon with a heavy stigma provoking changes in community dynamics and long-term social and economic consequences for the affected households, families and communities.

It follows that a wide variety of ways of how AIDS impacts on the household as well as community level may be expected, as well as the possible responses people adopt to cope with or compensate for this impact. In a conference on the socio-economic impact of HIV/AIDS on households (UNAIDS and WHO, 1997), the following changes in the organisation and functioning of households were reported: (1) a reduction of the number of household dependents; (2) cessation of paid employment, increased borrowing and the sale of possessions as the disease becomes more serious; (3) a noticeable drop in household income and increase in debt and mortgaging; (4) denial and resignation; and (5) low levels of care. It was further emphasized that responses to these consequences may be positive, for instance diversification of sources of income, and negative, such as withdrawal of children from school who subsequently enter early into the labour market. It was pointed out that existing traditional systems of coping with serious illness and death, such as social obligation in the extended family, community care for seriously ill persons, support of children who become orphaned, are breaking down because of the numbers and magnitude of the events. Interventions to support existing coping strategies aimed at enabling households to continue to support their sick family members; at assisting families in accepting rather than denying the existence of HIV/AIDS; at improving access to health care through community networks; at
providing targeted credit schemes to maintain levels of expenditure and school attendance; and at providing social and psychological support for people with HIV/AIDS and their families through counseling and community-based self-help groups.

In a review of household and community responses in the rural areas of sub-Saharan Africa (UNAIDS, 1999), it was noted that globally the effect of HIV/AIDS on households is devastating: surveys in Africa as well as Asia, indicated that families living with HIV/AIDS saw their income reduce by as much as 40-60%. Coping strategies included firstly, those aimed at maintaining food security to the greatest extent possible (such as substitution with cheaper alternatives, reliance on wild food, and reduced food consumption). Secondly, there were those strategies aimed at raising and supplementing income so as to maintain household expenditure patterns (such as income diversification, sale of agricultural produce and use of savings, loans, sale of assets). It also included the use of the extended family as safety net through the adoption of children. Although it remains in principle an adequate response to the HIV/AIDS crisis, this mechanism is, unfortunately, gradually disintegrating. A number of mechanisms intended to alleviate the loss of labour: for instance, intra-household labour re-allocation and taking children out of school, hiring labour, decreasing area cultivated, lengthening of working days, and changing household crop production and substitution of crops. All those responses attempted to re-adjust the household nutritional and expenditure levels up to the levels before AIDS started in the household.

3.3.2 Studies on the socio-economic consequences and coping mechanisms at household level relating to illnesses other than HIV/AIDS in rural areas

A study on household strategies to cope with the economic costs of illness in rural Burkina Faso found the following ‘coping sequence’: use of savings, sale of assets, taking loans, wage labour, community support, and finally the stage of calamity, if all the previous strategies were not successful to compensate for the costs (Sauerborn R. et al., 1996). It was noted that this sequence may be altered depending upon a number of determinants, such as the wealth status (possession of livestock) and access to resources, household size and composition, and ability of the community to provide support. It was further pointed out that strategies aimed at coping with time costs varied much less and were limited in most of the cases to intra-household labour substitution, and that only wealthy households could undertake alternative strategies. Conversely, it was observed that kin and community support, such as loans and gifts were generally not available to the poor households, a finding supported by other studies in Africa (Cher MA., 1991; Adams AM., 1993). The central role in coping of the affected households themselves was highlighted and the households’ general perception that coping strategies within the household have to be exhausted before economic support from outside (namely from kin and/or the community) can be solicited. The other studies referred to above showed that this is not only valid in the case of illness, but also with other causes of loss of income, such as drought and seasonality.

An important notion the study in Burkina Faso underlined for its policy implications was that of ‘households at risk’ of being pushed into poverty and calamity due to catastrophic illness. The study identified these households at risk as the small and/or asset-deprived households. Consequently, the policy implications of the study can be summarized into those initiatives aiming at increasing the asset/income base of the household, such as expanding opportunities of animal husbandry, and facilitation of income diversification, such as craft production or the provision of wage employment (an alternative particularly popular in India). For these initiatives to take place, credit schemes especially targeting the poor households are a valuable option. Furthermore, schemes to finance health services on a cost-sharing basis and seasonal pricing are suggested to increase the possibilities of households to cover health care costs. A study on coping with the costs of severe illness in rural China found that most of the 24 households investigated with large medical expenses were able to maintain production and income, and to avoid catastrophic opportunity costs (Wilkes A. et al., unpublished) (although other studies rater indicate the opposite (Bloom G. et al.1995). Resources outside the household were important sources of labour and
financial support, particularly those accessed through social networks, such as relatives helping with agricultural tasks or taking loans from relatives and friends. Most households were also found to be able to cope with subsequent non-anticipated expenses. However, those households who used core assets or lost access to social networks were found less able to cope with subsequent crises. Extremely poor households reported having great difficulties when confronted with the possibility of large medical expenses: or they had to forego care or to further deplete productive assets. The study suggested that more funding of hospital services for the very poor is needed for instance through higher public subsidies, social relief or medical fee exemption. As it was found that the household used a variety of mechanisms to cope with large medical expenditures, such as the use of savings, formal and informal loans and transfers from other households, they suggested that strategies to strengthen coping could include saving into health accounts (a reference was made to Singapore’s Medisave scheme), provision of emergency consumption loans, and prepayment schemes to facilitate inter-household risk sharing.

In a review of studies in rural areas of seven African countries, Russell (Russell S., 1996) found that the most important strategies to mobilize resources to pay for care, were making claims on kin and friends (such as through borrowing), delaying payment, and the sale of farm produce. The main area of household expenditure that was found to be under threat due to health care expenditure was education.

3.3.3 Studies in slum settings in Bangladesh in slum settings in Bangladesh on the socio-economic consequences and coping mechanisms at household level relating to ill-health

Only two studies could be identified that relate to this subject and provide useful insights in the analysis of coping with the costs of illness in the slums in Bangladesh.

An often cited study was the one conducted by Pryer in the early 1990’s (Pryer J., 1993) in an urban slum of Khulna, a middle-range city in Bangladesh. Pryer found that loss of income was 7 times higher than mean direct health care expenditure (namely 28% and 4% of household income in households with both a severely undernourished child and an incapacitated earner, all belonging to the lowest income group). She further pointed out that sale of assets was the initial response to a sudden need of a large medical expenditure.

In a case study on coping with ill-health due to tuberculosis (TB) in a rickshaw puller’s household in Chittagong, the main port city of Bangladesh, Carrin et al. discussed four coping mechanisms: selling off household assets, earning additional income, food reduction, and taking loans (Carrin et al., 1999). In simulation models they first analysed the effects of conventional treatment that is fully paid for by the household. Subsequently, three policy options for payment of Directly Observed Treatment Short Course (DOTS) treatment of tuberculosis were considered: full subsidy, full payment and partial payment under the form of a deposit at the start of the treatment episode. ‘Conventional treatment’, in this case 3 bouts of treatment and the base case scenario for the policy options, provides cure, but the patient is not fully physically recovered. DOTS treatment when properly taken over a 6-month treatment episode, provides full recovery. Several assumptions were accepted: firstly, that household assets were reduced in each period by the full amount of treatment purchase, secondly, that the savings rate for the studied household is zero so that all earned income is destined for consumption, thirdly, that there is a sequence of coping mechanisms to compensate for the rickshaw puller’s lost income from food reduction over intra-household labour substitution to taking loans.

An interesting feature of the simulation was the phenomenon of ‘overcompensation’. Indeed, in some cases, the income lost due to reduced earning capacity of the sick breadwinner was more than offset by the income gained by other household members. The paper notes that this short-term economic gain has to be confronted with the long-term consequences for the 9-year old daughter who was taken from school to work as a scavenger for food.
The results further clearly indicated that (1) the economic consequences were less severe when the more effective DOTS treatment is taken compared to the conventional one (even if fully paid for, although the cost is comparable to the conventional treatment), and (2) the risk for long-term indebtedness is considerable if loans can not be reimbursed in the first months after they were taken. The latter is mainly due to the extraordinarily high interest rates applied by moneylenders.

The choice of a base case scenario with so-called conventional treatment with relapses into two more bouts of disease cum treatment can only be explained, if one accepts that the health care system is not properly organised and responsive to the needs of the population it is supposed to take responsibility for. A properly organised health care system is a prerequisite to adequate and timely treatment of any illness and to reduce the socio-economic consequences of illness at the household level. TB control activities integrated in such a health care system should be preferred above DOTS (Dujardin et al., 1997).