

# Out-of-pocket health expenditure and debt in poor households: evidence from Cambodia

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## Summary

**OBJECTIVES** To document how out-of-pocket health expenditure can lead to debt in a poor rural area in Cambodia.

**METHODS** After a dengue epidemic, 72 households with a dengue patient were interviewed to document health-seeking behaviour, out-of-pocket expenditure, and how they financed such expenditure. One year later, a follow-up visit investigated how the 26 households with an initial debt had coped with it.

**RESULTS** The amount of out-of-pocket health expenditure depended mostly on where households sought care. Those who had used exclusively private providers paid on average US\$103; those who combined private and public providers paid US\$32, and those who used only the public hospital US\$8. The households used a combination of savings, selling consumables, selling assets and borrowing money to finance this expenditure. One year later, most families with initial debts had been unable to settle these debts, and continued to pay high interest rates (range between 2.5 and 15% per month). Several households had to sell their land.

**CONCLUSIONS** In Cambodia, even relatively modest out-of-pocket health expenditure frequently causes indebtedness and can lead to poverty. A credible and accessible public health system is needed to prevent catastrophic health expenditure, and to allow for other strategies, such as safety nets for the poor, to be fully effective.

**keywords** catastrophic health expenditure, out-of-pocket expenditure, dengue, Cambodia, private providers, poverty, health system

## Introduction

Disease and ill health not only cause suffering and death but also have an important cost. Indeed in most societies disease not only creates out-of-pocket expenditures for patients and their families (Uplekar *et al.* 2001), but also undermines income generation, and as a consequence jeopardizes future economic welfare (Gertler & Gruber 2002). This was one of the drives for European nations to set up social welfare systems or national health services. In the 1990s, health economists dedicated much effort to document the impact of user fees on access to health care in developing countries (Gilson 1997). Yet, the impact of out-of-pocket health expenditure on welfare has received little attention. It is only recently that the subject appeared on the research agenda (Whitehead *et al.* 2001), and that the World Health Organization estimated the importance of catastrophic health expenditure (Xu *et al.* 2003). This new interest may be because reality is changing fast in developing countries. Indeed, over recent years, liberalization and marketization in many developing countries are

leading to higher health services fees and higher liquidity of assets, creating a situation known in the US, where catastrophic health expenditure was identified as a serious problem decades ago (Schwartz *et al.* 1978; Birnbaum *et al.* 1979; Berki 1986; Wyszewianski 1986). Another reason for this recent focus may be new insights into the consequences of 'shocks' on the household economy, as the literature on famine and poverty by Sen and Drèze became more widely known (Sen 1981, 1990; Drèze & Sen 1989), and is being applied now to 'shocks' other than famine. Whatever the reason, the effect of illness on welfare is now considered to be an important issue (Commission on Macroeconomics and Health 2001; WHO 2001; Wagstaff 2002a,b). Until recently, most information available concerned aggregate data, such as national average per capita health expenditure whereas health expenditure is very unevenly distributed among regions and among households. Thus, aggregate data on health expenditure may conceal the impact on individual households that carry the highest burden. The work of the WHO on catastrophic health expenditure partly addresses this problem (Xu *et al.*

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2003). However, it only presents macro-economic data, with little insight into the underlying mechanisms (Van Damme *et al.* 2003).

Under the stress and anxiety of disease some people have no choice but to pay the fees requested by health providers even if the money is more than they can afford (Russell 1996). Households accept to trade future welfare of all its members against access to health care for one of them, perceived as essential for survival. Thus future welfare is put at risk by incurring debts, selling off productive assets, or sacrificing investment in future productivity, for example by curtailing children's education (Whitehead *et al.* 2001). Such coping mechanisms can trigger a vicious circle of impoverishment and more indebtedness (Wilkes *et al.* 1998); although access to informal networks of social support may prevent this (Morduch 1999; Dercon 2002). There is a growing body of evidence that payments for health care thus can easily become a catastrophic health expenditure (Kawabata *et al.* 2002; Pradhan & Prescott 2002; Ranson 2002), especially when the public health care system is weak or unattractive, and poor people have to make use of private services (Uplekar 2000; Meessen *et al.* 2003). Such mechanisms are quite universal, but their incidence may vary widely (Xu *et al.* 2003), as do the individual paths leading from illness to poverty. Collecting more evidence in various situations seems a prerequisite for defining policies to tackle the problem.

We studied out-of-pocket health expenditure during a dengue epidemic in a poor rural area in Cambodia. We looked at how health-seeking behaviour influenced expenditure, how families financed such expenditure, and how they tried to cope with incurred debts. We conclude by discussing how the problem of catastrophic health expenditure can be reduced in a country like Cambodia.

### Methods

Cambodia is one of the poorest countries in South-East Asia. It is still recovering from decades of conflict that profoundly disturbed the entire social fabric. Total health expenditure is around US\$30 per capita per year. Some 90% of total health expenditure is estimated to be out-of-pocket (Uplekar *et al.* 2001; WHO 2001), one of the highest proportions in the world.

The study took place in Banteay Meanchey, a rural province bordering Thailand. Some 70% of people live on less than one dollar per person per day. Even many households of five to six persons live on less than one dollar per day. The government health system in the province consists of four hospitals and some 40 health centres. It received intensive support from various non-governmental organizations and UN agencies over the last decade.

During the time of the study, Thmar Pouck hospital received support from *Médecins sans Frontières* (MSF). It was managed in a rational and transparent way, complementing the scarce government subsidies with income generated through user fees, and through a system of performance-related cash subsidies paid by MSF. This 'Cambodian New Deal', a system allowing the hospital to pay incentives to its local staff, was introduced in 2000 (Meessen *et al.* 2002). In this hospital patients paid a one-off lump sum for the entire hospitalization, including all drugs and services, and unofficial fees were effectively abolished (Van Damme *et al.* 2001; Meessen *et al.* 2002). Linked to the hospital was a 'Health Equity Fund', managed by the local non-governmental organization, *Cambodian Association for Assistance to Families and Widows*. This organization identified the poorest patients and paid their hospital fees with a budget donated by MSF. Since the introduction of these initiatives in late 2000, the number of hospitalizations in Thmar Pouck hospital more than doubled. The three other public hospitals – Mongol Borei, Sisophon and Preah Net Preah – were functioning less well. Service was less reliable, parallel fees widespread, and fee exemptions for the poor rare.

Between April and December 2001, a dengue epidemic struck Banteay Meanchey province, with 673 cases recorded in Thmar Pouck hospital, and many more cases cared for in other public health facilities or by private health providers. Cases were almost exclusively children below 15 years of age (Van Leemput & Van Damme 2002). Given the poor reputation and low attractiveness of public health services in Cambodia in general, many people continued to use informal private providers, especially drug vendors, as a first choice when in need of health care. When the disease was considered severe, or when oral treatment failed, patients often purchased ambulatory care from more or less qualified caregivers, many without formal qualifications. They mostly use injections and infusions, often at the home of the patient (Collins 2000).

Seventy-two households with a dengue patient were interviewed in three surveys, to gain qualitative and semi-quantitative insight into out-of-pocket health expenditure. The first survey was carried out in August 2001 in Thmar Pouck, among 42 households living in the area covered by the public hospital. Of these 42 households, all accessed professional health care. Thirteen had used only the public hospital, 15 had first sought private care and then went to the public hospital, and 14 had used private providers exclusively. To gain further insight into out-of-pocket expenditure in private practices, the second survey in May 2002 included an additional 30 households with a dengue patient living further away from Thmar Pouck hospital, which had only consulted private providers. In both

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surveys, an in-depth interview elucidated all out-of-pocket expenses the household made to deal with the dengue episode of their child, how the household managed to cover these costs and whether they still had outstanding debts caused by the health care expenditure. In the second survey, we added questions to allow us to analyse the type of debt people incurred. A follow-up survey in June 2002 investigated how the 26 households from the first survey with an initial debt had coped with it 1 year later. All interviews were held in Khmer by qualified social scientists. Cambodian riel, Thai baht and US dollars are used quite often in the region. All amounts were converted to US dollars, using the exchange rates at the time of the surveys.

## Results

### Out-of-pocket health expenditure

Table 1 shows how much households spent out-of-pocket for dengue treatment. The 44 households who had used exclusively private providers paid on average US\$103. This amount consisted entirely of the costs of medical treatment and fees for the private providers. All 15 households who had combined the private and public systems bought private services first before going or being transferred (one case) to the hospital. Of the average total amount spent (US\$32), 81% was paid in the private sector and 19% at

the public hospital. The 13 households who went directly to the hospital spent on average US\$8 out-of-pocket. Ten received support from the Health Equity Fund. These people paid only US\$6 out of their own pocket. The three households who did not receive support from the Health Equity Fund paid on average US\$13 per admission. These amounts include expenses such as transport to and from the hospital and food.

The survey also revealed an important variation in the amounts paid to private providers from different localities (Table 2). Although the surveys did not collect exact data on what type of care patients received, anecdotal evidence suggests that poor people received a higher bill for the same service, especially when credit was given.

### How did people finance this out-of-pocket expenditure?

As in other developing countries (Sauerborn *et al.* 1996a,b), Cambodian households used a combination of different sources, such as use of savings, selling consumables, selling assets, and borrowing money to finance out-of-pocket health expenditure (Table 3). Especially the latter was very common and households borrowed from relatives, neighbours or moneylenders. We also considered as in debt those families who had to ask their private health care provider for delayed payment. After the treatment, 45 of 72 households (63%) were in debt.

**Table 1** Out-of-pocket health expenditure for dengue treatment in Thmar Pouk, 2001; Surveys 1 and 2

Health care providers used	No. of households	Average out-of-pocket expenditure	Median (range)
Private providers only	44	US\$103	US\$77 (9–460)
Combination of private provider and public hospital	15	US\$32	US\$29 (6–97)
Public hospital only	13	US\$8	US\$5 (0–28)

**Table 2** Out-of-pocket health expenditure for dengue treatment in private services, Banteay Meanchey, 2001

Locality	Public hospital	No. of households	Average amount spent for treatment by private providers	Median (range)
Thmar Pouck	Well functioning: good staff discipline and no informal payments	5	US\$52	US\$46 (9–108)
Sisophon and Mongol Borei	Less well functioning: less staff discipline, and informal payments are widespread	20	US\$73	US\$46 (12–460)
Svaey Check	No public hospital	19	US\$148	US\$115 (28–460)
Total		44	US\$103	US\$77 (9–460)

W. Van Damme *et al.* III health gets families in debt in Cambodia**Table 3** Sources used to cover out-of-pocket expenditure for dengue treatment, 2001

Health care provider used	No. of households	Sources of income used to cover health expenditure <i>n</i> (%)				Debt after treatment	
		Used savings	Sold consumables*	Sold assets†	Borrowed money	Households in debt <i>n</i> (%)	Average debt
Private providers only	44	15 (34)	4 (9)	13 (30)	26 (59)	31 (70)‡	US\$58
Combination	15	4 (27)	3 (20)	1 (7)	11 (73)	11 (73)	US\$43
Public hospital only	13	3 (23)	2 (15)	0	5 (38)	3 (23)§	US\$13

Many households combined various sources of income to cover health expenditure.

\* Rice or firewood. † Land, cows, or water buffalo. ‡ Including people who purchased care on credit. § Two families could pay back money borrowed before end of treatment.

People who used a private provider had to borrow money or sell assets more often. Even more important is the difference in the proportions of people who remained in debt after the treatment. Of the households who had used the private system, either exclusively or in combination with the public hospital, over two-thirds were still in debt, compared with only 23% of those who used only the public hospital. In the latter group, the average debt after hospitalization was only US\$13, compared with triple or quadruple this amount for those who utilized private providers.

Table 4 presents the analysis of the type of loan the households of the second survey obtained to fund their

out-of-pocket expenditure. Twenty out of 30 households interviewed had taken a loan or obtained credit. Most loans (13) were on a commercial basis, with a median interest of 6% per month. Five households obtained credit from the private provider, with no or relatively low interest. Only two households obtained soft loans, one from a grandmother, the other from an NGO.

**Debt after 1 year**

Table 5 summarizes the findings of the follow-up survey among the 26 indebted households of the first survey. Only 10 (38%) of them had been able to completely settle their

**Table 4** Type of loan obtained to pay out-of-pocket expenditure, 2001

Type of loan	<i>n</i> (%)	Amount median (range)	Interest
Commercial loan from money lender	13 (43)	US\$75 (10–175)	Median: 6% per month (range: 2.5–15%). Only 10 of 13 households paid a monthly interest. One household paid three bags of rice per year as interest; one had to pay labour during the harvest season, and one did not pay interest, but had given a land title as guarantee
Credit from private providers	5 (17)	US\$38 (20–50)	Four people did not have to pay interest on the credit. One had to pay 3% per month, and allow his land be used by the private provider
Soft loan	2 (7)	US\$30 and 50	One from grandmother, without interest. One from an NGO, with 2% interest per month
No loan	10 (33)	NA	NA
Total	30 (100)		

Health care provider used	No. of households with an initial debt	One year later <i>n</i> (%)		
		Total debt repaid	Debt partially repaid	Still 100% in debt
Private providers only	12	7 (58)	3 (25)	2 (17)
Combination	11	3 (27)	5 (45)	3 (27)
Public hospital only	3	0	2 (67)	1 (33)
Total	26	10 (38)	10 (38)	6 (23)

**Table 5** Debt situation 1 year later, Thmar Pouk

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debts after 1 year. Sixteen (62%) still had not been able to do so, of which six (23% of the total) still had outstanding debts for the total amount of money they had borrowed or received credit for.

The ability to settle the debts was much lower among households who had used public services, despite the considerably lower amounts of these debts (Tables 3 and 5). Of the households who had used exclusively the public hospital, none of them had been able to repay completely their debts. Among the households who either used only the private system or combined both systems, 58% and 27%, respectively, were able to settle their debts completely. Of the households with outstanding debts, monthly interest rates ranged between 2.5 and 15% per month! Two households also explained that, although they had no debts left, they had to sell all their land in order to settle these debts. The surveyors had the impression that poorer families had to pay higher interest rates than less poor families.

## Discussion

### Principal findings

Out-of-pocket payments during a dengue epidemic for people seeking private health care were very high (Table 1), often over 50% of yearly per capita income. Such expenditure was considerably lower for people using the public hospital in combination with private providers, and still lower for those using exclusively the public hospital. This is not surprising as in Thmar Pouck the public service is highly subsidized, and the fees charged in the public hospital cover only 15% of the actual cost. Moreover, poor people can get exemption of fee payment through the Health Equity Fund. Nevertheless, the amounts involved in the Health Equity Fund are relatively small, only some US\$6 per patient supported. This direct financial contribution being relatively minor, the main impact of the Health Equity Fund seems to be attracting the poor to the public health system, and prevent them from having to borrow money for care by private providers. However, for a variety of reasons, such as geographical distance, lack of knowledge of or lack of trust in the public service, many poor people continue to use private providers, especially those who provide service in the patients' homes.

Out-of-pocket payments for dengue treatment in private services differed widely between localities (Table 2). Our surveyors thought this revealed mainly different levels of competition between providers. In Thmar Pouck private providers had to compete with a public hospital with a good reputation, thanks to the Cambodian New Deal and

the Health Equity Fund. This resulted in the lowest average out-of-pocket payment (US\$52). In Sisophon and Mongol Borei, out-of-pocket payments were considerably higher (US\$73). These places have a high number of private providers who have to compete with public hospitals, although these are not working very well. Svaey Check had the highest average expenditure (US\$148), there is less competition, especially no public hospital.

In many families faced with disease, the need for medical help clearly exceeds their ability to pay for it. People use a variety of ways to finance unforeseen health expenditure (Table 3 and 4). As a first choice, people use savings or sell consumables. However, most households interviewed also had to sell assets or borrow money. Some people sold productive assets, such as land, which comprises their future income-generating abilities. Most people borrowed money or purchased health care on credit, leaving them with a debt. Only a small minority could obtain soft loans from relatives or an NGO. Many people could obtain loans only from moneylenders and had to pay exorbitant interests on these debts, between 2.5 and 15% per month (Table 4). Interest payments result in a constant drain on their resources, and when people are unable to continue to pay interests, they may have to sell productive assets to settle their debts.

Poor people have to pay higher fees to private providers: they get a higher bill when they ask for credit, or have to pay higher interest rates on their debts. This may be because the care provider or moneylender includes the risk of not being repaid, which is considered higher when the patient is poorer. This also seems related to poor people's lack of assets for collateral to the loan, and their lack of social connections to access more affordable loans. In the province, several micro-credit schemes are operating, but they typically exclude health care expenditure, as this is not considered a productive investment.

### Strengths and weaknesses of the study

The dengue epidemic created the opportunity to study the negative impact of out-of-pocket payments among a number of people who faced a similar episode of disease during the same period. If so for a short episode of dengue fever, needing a relatively simple treatment, the picture will certainly be gloomier for chronic diseases, such as TB and AIDS, or more complex conditions, such as road accidents.

However, this study has several limitations. First, the survey did not attempt to find a truly representative sample of dengue patients, nor was the sample stratified by income level or disease severity. It is quite likely that patients who received care in the public hospital differed from patients who received care from private providers. Indeed, it seems

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probable that hospitalized patients were on average poorer, and had more severe disease. However, the objective of the study was mainly to gain some qualitative and semi-quantitative understanding of how out-of-pocket payments for health care may affect poor people's livelihoods.

Secondly, the in-depth interviews did not always manage to clarify all health expenditure in a strictly comparable way. People whose child was hospitalized tended to include expenditure for food as health expenditure, while people who stayed at home did not. In fact, the study elucidated direct health expenditure paid for in cash, without accounting opportunity cost or indirect cost in a systematic way.

Thirdly, there may have been other inaccuracies, as total health expenditure declared did not always match total savings used, income gained from selling goods and assets, amount borrowed and credit taken. This is understandable as people may borrow more than they have to spend, or credit received may not always be accounted for as money spent. In addition, cash left at home for food expenditure during hospitalization of the child in company of the income earner may consume part of the money borrowed, but not be declared as health expenditure. However, we estimate that such inconsistencies did not amount to more than 10% of total health expenditure declared, hence did not jeopardize the overall conclusions.

Finally, the situation in Cambodia is probably not entirely comparable with other countries. In addition, we did not find households reporting to have foregone treatment, as is often reported among the poorest elsewhere (Xu 2003). Also, the trust of the Cambodian people in their public health system is notoriously poor and estimated proportion of out-of-pocket health expenditure of total health expenditure is among the highest in the world (Uplekar *et al.* 2001). Therefore, the evidence found on health-care induced debts in Cambodia may illustrate a situation that is worse than in many other developing countries. However, it seems likely that the patterns are similar.

### Meaning of this study

Despite its limitations, this study clearly shows how in Cambodia a disease episode, even a relatively short one such as dengue in a young child, frequently causes catastrophic health expenditure leading to debt in households with precarious livelihoods. The study also shows that a credible and well-functioning public health system accessible to the poor can make a huge difference. Indeed, catastrophic health expenditure is not necessarily related to the disease – treatment of dengue is in fact quite basic and affordable – but can be mostly the consequence of a poorly

functioning health system. This is especially the case in countries where private medical practice is unregulated, as it is in Cambodia, and unscrupulous practices by health providers are widespread. During an episode of illness, people may fear the worst, and seem to be willing to pay whatever amounts private providers are asking for.

This study points to several possible ways of mitigating the impact of out-of-pocket health expenditure on livelihoods. First, to regulate private practice is an obvious track. However, Cambodia made a fast transition from a socialist system to a market economy, with little time for the legal and judiciary systems to adapt. In such an environment, establishing regulation and enforcing these regulations remains problematic. At this stage, there even is no registration or accreditation system for health providers and many of them have no formal qualifications.

Second, consumer education is often advocated. This supposes that after objective information, the population will be able to make better decisions about which health service to access and pay for when in need of health care. However, such initiatives may underestimate the anxiety involved in sickness and the related irrational decision-making. Their impact may also remain limited if there is no rational and accessible offer of care available to the population, as is the case in a market-driven unregulated private health care system.

Such strategies still neglect that 'catastrophic health expenditure' may occur because, for the short-time care of one of their children, households have to jeopardize their productive assets and hence their livelihoods. This depends on the ability to trade productive assets. Not all societies do allow that (e.g. collective ownership of land in many African societies). We think that the emergence of 'catastrophic health expenditure' is a direct consequence of the increased marketization of entitlements (Meessen *et al.* 2003). The picture is particularly clear in Asian countries, such as India (Ranson 2002), Indonesia (Pradhan & Prescott 2002) and China (Wilkes *et al.* 1998). However, it seems likely that also in other countries without well-established national health services or social welfare systems catastrophic health expenditure may be widespread, as well as the resultant impoverishment.

If we recognize this, a third way emerges: the institutionalization of new welfare entitlements. Indeed, if access to health services, including public health services, is becoming more expensive, pre-payment schemes or social health insurance systems are undoubtedly the best long-term solutions for protecting health and welfare of the citizens of a nation (Kawabata *et al.* 2002). However, in a country like Cambodia, where mutual trust between citizens has been profoundly undermined, and where trust in the public system is very poor, such solutions may take

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many years to develop. Moreover, the poorest are often the last to participate in any such risk-sharing systems.

Safety nets – e.g. third-party payer systems to pay health care costs for the poor, such as Health Equity Funds – will then have to play an important role. However, such initiatives may be difficult to set up and finance if the health service is not regulated with transparent fee systems. It is worthwhile to notice that the major impact of the Health Equity Fund in Thmar Pouck came from making the public health system more attractive and accessible, and preventing poor people from spending in the private system.

Therefore, several arguments highlight the need of building a credible and accessible public health system, if one wants to mitigate the economic impact of health care expenditure on poor households. Although this may seem a huge task in a country like Cambodia, requiring major investment, this also seems to be an absolute necessity. The example of the Cambodian New Deal and the Health Equity Fund in Thmar Pouck show that with a concerted approach, big improvements can be made at a modest cost (Meessen *et al.* 2002; Van Leemput & Van Damme 2002). Indeed, only in the presence of a quality public health system, other strategies – such as improved regulation of the private sector, demand-side interventions, safety nets for the poor, pre-payment systems or social health insurance – can yield good results. In fact, a combination of various strategies is needed to give people access to quality health care, and to prevent people from falling into poverty through out-of-pocket payments for health care.

All this clearly points to the fact that the role of health services in a society should not only be seen in terms of reducing morbidity, mortality or human suffering. Health care is also an economic reality, and health systems should aim at financial protection to decrease the economic impact of health care costs on poor people, especially in economies in transition, where health care is fast becoming a commodity open to market forces with a resultant cost escalation.

#### Unanswered questions and future research

If one wants to prevent health care expenditure from causing impoverishment, we need more in-depth understanding of out-of-pocket health expenditure. For many countries aggregate data are available, but little analysis has been done on what this means for individual households confronted with ‘catastrophic expenditure’, nor on the exact mechanisms that lead to poverty. A whole field of research lies fallow here.

We suspect that upcoming research will also contribute to work out clearer definitions of what constitutes ‘catastrophic health expenditure’. The only definition found in

the literature is ‘health expenditure should be called catastrophic whenever it is  $\geq 40\%$  of the capacity to pay, which in turn is defined as household non-subsistence effective income. The subsistence spending is defined as one dollar a day per person according to WHO methodology on fairness in financial contribution’ (Kawabata *et al.* 2002). According to this definition, most patients included in this study faced catastrophic health expenditure. Indeed, any unforeseeable expenditure in people living on less than one dollar per day would automatically be catastrophic. A more operational definition should be found and field-tested.

Eventually this knowledge shall allow designing the mechanisms best fitted to tackle the intricate relationship between illness and poverty. More than universal coverage in a distant future, the poor of today need safety nets now.

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