Access to health care for all?

User fees plus a Health Equity Fund in Sotnikum, Cambodia.

Wim Hardeman[1]

Wim Van Damme[1,2]

Maurits Van Pelt[1,3]

Ir Por[1]

Heng Kimvan[4]

Bruno Meessen[2]

[1] *Médecins sans Frontières*, Phnom Penh, Cambodia

[2] Department of Public Health, Institute of Tropical Medicine, Antwerp, Belgium

[3] Department for International Development (UK), Beijing, China

[4] Centre for Advanced Studies, Phnom Penh, Cambodia

Biographies of authors

WIM HARDEMAN, BA in economics has worked in Nicaragua as volunteer financial and administrative advisor to micro-enterprises, and in Cambodia as financial co-ordinator with *Médecins sans Frontières*. In 2001, he obtained an MA in Development Studies from the Institute of Social Studies (The Hague), where he developed a strong interest in the relation between health care and poverty reduction. In 2002, he returned to Cambodia, to work with *Médecins sans Frontières* as project co-ordinator in Sotnikum. (wim_hardeman@hotmail.com)

WIM VAN DAMME, MD, MPH, PhD has worked with *Médecins sans Frontières* in Peru, Sudan & Guinea. In each of these countries, he set to work in primary health care programmes, but because of political problems, the programmes shifted towards emergency medical assistance. He wrote a PhD thesis: "Medical Assistance to Self-settled Refugees in Guinea, 1990-96". He teaches "Humanitarian Assistance & Development" at the University of Antwerp, and Public Health at the Institute of Tropical Medicine, Antwerp. Until end 2002, he worked as medical co-ordinator for *Médecins sans Frontières* in Cambodia, piloting a "New Deal" way to improve public health services. Since early 2003, he again joined the Institute of Tropical Medicine, as professor of Public Health. (wvdamme@itg.be)

MAURITS VAN PELT, MSc, LL.M. has worked since 1987 with *Médecins sans Frontières* in several conflict and post-conflict areas. His longest stay was in Cambodia, from 1989 until 2000. After obtaining a masters degree in Health Policy, Planning & Financing in London, he went back to the field with *Médecins sans Frontières*, as interim-Head of Mission for Afghanistan. In April 2002, he joined the Department for International Development (UK) in Beijing to work in the Chinese Ministry of Health's Foreign Loan Office as an adviser on rural health programmes. (maurits@vip.163.com)

IR POR, MD, worked as chief of a Quality Improvement Programme at the Siem Reap Provincial Health Department, Cambodia. Since late 1997, he has worked with *Médecins sans Frontières* in Cambodia, first in

health district development and STI/HIV-related programmes, then as a member of the medical coordination team, presently as deputy medical coordinator. (depmed@msf.org.kh)

HENG KIMVAN, MA in Lao literature and linguistics (Vientiane University) has been a literature lecturer at the Royal University of Phnom Penh since 1992 and a socio-cultural researcher with the Center for Advanced Study in Phnom Penh since 1995. He has research experience in the fields of ethnic and indigenous people, human rights, democracy and health. He has conducted several qualitative and anthropological field studies on health-seeking behaviour and health systems for WHO and Uppsala University, Sweden. (cas@forum.org.kh)

BRUNO MEESSEN, MA in economics, worked with *Médecins sans Frontières* from 1993 till 1999. He developed his expertise in health care financing in Africa and Asia. In 1999 he joined the Department of Public Health of the Institute of Tropical Medicine, Antwerp, as a research fellow in health economics. Presently his main interests are performance contracting, social assistance and new institutional economics. (bmeessen@itg.be)

Summary

User fees in health services are a source of much debate because of their potential risk of negative effects on access to health care for the poor. A Health Equity Fund that identifies the poor and pays on their behalf may be an alternative to generally ineffective fee exemption policies.

This paper presents the experience of such a Health Equity Fund, managed by a local NGO, in Sotnikum, Cambodia. It describes the results of the first two years of operations, investigates the constraints to equitable access to the district hospital and the effects of the Health Equity Fund on these constraints.

The Health Equity Fund supported 16% of hospitalised patients. We found four major constraints to access: financial, geographical, informational and intra-household. The results of the study show that the Health Equity Fund effectively improves financial access for the poor, but that the poor continue to face many constraints for timely access. The study also found that the Health Equity Fund as set up in Sotnikum was very cost-effective, with minimal leakage to non-poor.

Health Equity Funds managed by a local NGO seem to constitute a promising channel for donors who want to invest in poverty reduction. However, further research and experimentation are recommended in different contexts and with different set-ups.

Introduction

Many low-income countries have introduced user fees for publicly provided health services, often as part of structural adjustment programmes. User fees are usually only one element in a broader package of health sector reform measures (McPake *et al.* 1993; Uzochukwu *et al.* 2002; World Bank 1993). However, user fees have an obvious drawback: their potential negative effect on access to health care, especially for women (Nanda 2002). In many cases, partly because of poor implementation, utilisation decreased significantly after user fees were raised, affecting the poor in particular (Creese 1991; McPake 1993; Gilson *et al.* 2001). However, in some cases where fee revenues were used for quality improvements, studies have shown increased utilisation, in particular by lower income groups (Audibert & Mathonnat 2000; Litvack & Bodart 1993; Levy-Bruhl *et al.* 1997). On the other hand, other costs - such as transport, time, food, informal charges and drugs - may constitute even higher barriers for the poor than the user fees themselves (Abel-Smith & Rawal 1992; Hjortsberg & Mwikisa 2002; Khe *et al.* 2002).

The official policy in many countries is to exempt the poor from payment. In practice, however, exemption mechanisms are often ineffective and generally fail to protect the poor (Creese 1991; Gilson 1997). Their major failure is in the targeting. Good targeting consists in limiting inclusion errors and exclusion errors (Willis & Leighton 1995; Gilson *et al.* 1995). Most exemption systems in developing countries suffer from at least one of these two errors. Inclusion errors, which lead to leakage of resources to better off people, are due to the pressure of authorities and relatives, the absence of clear criteria or the low accountability of the persons granting the exemption. Two factors cause exclusion errors. First, where health staff find themselves in a market-oriented setting, a conflict of interest may arise between granting exemptions and raising income, especially when user fees serve to top up health workers' incomes. Each exempted patient is a loss of revenue for facilities already under financial stress. Second, health staff usually do not have the expertise or time to assess objectively the patient's ability to pay (Huber 1993). This requires the skills of a welfare worker.

Any institutional solution really aiming at assisting the poor in their access to health care should then have two basic features. First, there must be an earmarked budget. It must be in line with the poverty profile of the covered population. Second, the fund must be entrusted to a body the interests of which do not

conflict with the mission to organise effective targeting of the poor. A purchasing body, or third-party payer, able to identify the poor and to pay on their behalf (Nyonator & Kutzin 1999), may be a good solution. However, there are few reports in the literature about such schemes.

In Sotnikum Operational District, Siem Reap province, Cambodia, we negotiated with the Cambodian Ministry of Health (MoH) a health-financing scheme in 1999. Informal user fees became official and the proceeds used to improve the quality of health services to the population. No exemptions are granted. In September 2000, to improve access for the poor, a local non-governmental organisation (NGO) was contracted to manage a *Health Equity Fund* that identifies the poor and pays user fees on their behalf. Health staff are thus entirely relieved from the responsibilities of identifying and financing poor patients. This paper describes (1) the results of two years of functioning of the Health Equity Fund in Sotnikum, along with (2) the results of an investigation in August 2001 into the constraints to equitable access to the district hospital, and the effects of the Health Equity Fund on these constraints.

Context

Health sector reform in Cambodia

The Cambodian society has suffered from decades of international conflict, and especially from the 1975-79 Khmer Rouge government. To create a so-called egalitarian socialist rural society, and to destroy the past, cities were evacuated, formal health care and education abandoned, and money abolished (Chanda 1986). Over 1,000,000 people died, and educated human capital was deliberately targeted for elimination. It is only after the Paris Peace Accords and 1993 elections, that Cambodia has gradually become more stable and peaceful. The country is beginning to recover from its loss of qualified human resources and the destruction of its infrastructure. Facing the challenge of rebuilding the health system while having to coordinate extensive foreign aid contributions (Lanjouw *et al.* 1999), the Cambodian Ministry of Health (MoH), heavily supported by the donor community, has been implementing a Health Coverage Plan since 1996. The Plan divides the country into 69 newly created Operational Districts, each covering between 100,000 and 200,000 people. Each operational district consists of a network of health centres that provide basic health care for 10,000 to 12,000 inhabitants, one district hospital and a district office. In 1997, the

National Charter on Health Financing officially introduced user fees. By 2001, thanks to the funding of international banks and donors, most facilities had been constructed or renovated, and supplied with medical equipment. Moreover, the system enjoyed a regular supply of essential drugs through a Central Medical Store.

However, structural constraints prevent the Plan's realisation in terms of accessibility and quality of care, and public health facilities remain under-utilised. Government expenditure on health is growing but remains very low, at around US$3 per capita per year in 2001. A fundamental constraint is the extremely low salary of civil servants in Cambodia (US$10-15 per month in 2001). Consequently, as elsewhere, government health staff is forced into coping strategies, such as charging informal fees, and diverting drugs, equipment and patients to their private practices (Bloom *et al.* 2000; Killingsworth *et al.* 1999; McPake *et al.* 1999; Roenen *et al.* 1997; Van Lerberghe *et al.* 2002). Households are left to private providers who aim at maximising profits by selling whatever people are willing to pay for. Because of the unregulated health care market, household 'out-of-pocket' expenditure on health is very high and inequitable, estimated at US$20-30 per capita per year. As in other countries (Wagstaff 2002), also in Cambodia catastrophic health expenditure is identified as a major cause of indebtedness and destitution among the rural poor (Kassie 2000).

In this context, many multi-actor initiatives have tried to improve the quality and accessibility of public health care in rural areas. Several of them share common features: (1) the pursuit of a higher performance of public facilities; (2) the injection of external funding for improving the staff income; and (3) the utilisation of performance contracts to establish a higher accountability of the staff (Meessen *et al.* 2002; Van Damme *et al.* 2001; Soeters & Griffiths 2003; Ministry of Health *et al.* 2002).

Sotnikum Operational District and its New Deal

Sotnikum is a poor rural area, with 220,000 inhabitants, at 30 kilometres from Siem Reap town, in the province where the historic temples of Angkor are located. Sotnikum Operational District is divided into 17 health areas, each of them having one health centre. The district hospital is in the small town of Damdek. It provides the full complementary package of activities foreseen by the national policy: internal medicine, paediatrics, obstetrics-gynaecology and surgery. An operating theatre functions since mid-2000.

In Sotnikum, Ministry of Health, *Médecins sans Frontières* (MSF), and UNICEF agreed in 1999 on a common approach at district level. The entry point of the experiment is a "New Deal" for the government health staff, who receive a better income (US$80-100 per month on average) in exchange for respect of working hours and abiding by the new internal regulations, strictly forbidding any informal payments or prescriptions for private pharmacies. Apart from a direct positive effect on the quality of services to the population, it was assumed, that in the new working environment of 'fair' income to the staff, investments in quality of care, such as training and supervision, would yield better results. Contracts were established between all actors involved, and lump sum user fees agreed upon to reduce patient's uncertainty about the cost of treatment. The approach immediately resulted in better staff motivation and higher user rates. In 2000, average monthly admissions to the hospital increased by 50% to 216, further increasing to 239 in 2001, and to over 300 in 2002. This "New Deal" initiative has been described in detail elsewhere (Meessen *et al.* 2002; Van Damme *et al.* 2001).

Health Equity Fund

The "New Deal" meant an increase in the official user fees, especially at the hospital level. The risk was that the poor would still lack access to the improved services. To allow the achievement of the two conflicting objectives by the hospital – financial viability and equity in access – MSF and UNICEF decided to introduce a demand-side initiative: the Health Equity Fund, which operates as a 'third party payer' for patients who cannot pay.

The Health Equity Fund is managed by a local NGO, and operates independently of the hospital. MSF and UNICEF preferred a Cambodian NGO for reasons of managerial and socio-political sustainability and capacity building in the private social sector. The contracted social NGO, Cambodia Family Development Services (CFDS), established in 1993, had already extensive experience in social projects and community development programmes in the province before it started the Sotnikum Health Equity Fund. Thanks to this experience, CFDS had already well-established and field-tested guidelines for identification of and support to poor patients, using a questionnaire to score self-reported socio-economic status.

In September 2000, CFDS started with a single staff member based in an office in the hospital compound. He identifies poor patients at two stages. First, the hospital admission staff refer patients arriving without

enough money for the admission fee by. Second, CFDS also actively tries to identify poor patients in the hospital wards, who although they paid the admission fee, seem to lack food or basic items such as food utensils, mosquito nets, or clothing. This second round of identification is necessary because most people borrow money or sell productive assets before they go to the hospital, and thus may incur expenditure beyond their ability to repay.

CFDS staff interview all patients so identified to determine their ability to pay. Important indicators are food security, ownership of land and productive assets, housing, occupation, as well as household size and structure. Physical appearance, including clothing, often also gives an indication of socio-economic status. The 'target group' of the Health Equity Fund consists of the extremely poor, as well as the poor who risk falling into extreme poverty. No fixed criteria for eligibility are used, as poverty has many dimensions that are difficult to measure, and flexibility is needed to assist according to people's needs.

The level of support is determined on a case-by-case basis, from partial payment of the admission fee to full coverage of the total cost of hospitalisation, including transport, food and basic items. CFDS also carries out follow-up visits in the villages to verify the adequacy of the targeting mechanism and to identify further needs.

In October 2001, a second staff member was hired to improve presence in the hospital, follow-up of supported patients and information sharing at community level. The contracting parties, MSF and UNICEF, have been monitoring the activities of the Health Equity Fund through quantitative indicators and to assess the adequacy of the targeting mechanism. They did not get involved in operational issues of the local NGO.

Methods

We compiled data on the Health Equity Fund for the first 25 months of functioning, September 1, 2000 to September 30, 2002, from the monthly reports by the NGO implementing the Fund, from personal observations of the authors, and from in-depth interviews by the authors with CFDS staff and community leaders.

In August 2001, two of the authors (WH & HK) carried out a survey in Sotnikum. The aim was (1) to analyse the constraints poor people face when in need of hospital care; (2) to assess to what extent the Health Equity Fund helped to overcome these constraints. They conducted in-depth interviews in 26 villages in five communes between 5 and 25 kilometres from the district referral hospital. The 68 patients assessed (14 children, 40 adults and 14 elderly; 38 women) consisted of three categories:

(a) 34 patients, hospitalised in the period June-July 2001, not supported by the Health Equity Fund;

(b) 17 patients, hospitalised in the period June-July 2001, supported by the Health Equity Fund; and

(c) 17 poor households with a person with recent serious illness, but not hospitalised and thus not supported by the Health Equity Fund.

We retrieved the cases in categories (a) and (b) from the hospital administration. Category (b) consisted of all 17 patients hospitalised in the period June-July 2001 from four communes who received support from the Health Equity Fund. Category (a) consisted of 34 patients randomly selected from the same 4 communes, and hospitalised during the same period, but without support from the Health Equity Fund. Seven patients were difficult to trace, because of the rice-planting season, and were substituted with cases from a fifth adjacent commune or with patients hospitalised in the period April-May 2001.

We found poor households with a person with recent illnesses (c) in each of the four communes. Interviewed households and local authorities could often tell where there were poor people with serious illness who stayed at home, and small thatch houses were randomly visited.

The interviews with categories (a) and (b) assessed expenditure on hospitalisation and sources of financing used, as well as the targeting ability of the Health Equity Fund. The interviews with category (c) served to gain a better understanding of the constraints facing the poor in accessing hospital care.

Assets, occupation, and food security determined the socio-economic rank of each household. . Four categories were distinguished, following the widely used classification in Cambodia (Panhavichetr 1998): rich, medium, poor, and extremely poor (Table 1). No 'rich' households were identified in this survey.

Of the category (a) hospitalised patients without support from the Health Equity Fund, it appeared that five cases had been outpatients only. They were excluded from the analysis of hospital expenditures.

We obtained additional qualitative data through interviews with local authorities and health staff, and focus group discussions at village level. Utilisation figures of the hospital were obtained directly from the hospital administration.

Results

Utilisation of the Health Equity Fund, and its targeting ability

Between 1 September 2000 and 30 September 2002 the Health Equity Fund supported 1437 patients. Their numbers per month grew steadily from some 20 to over 100 (Figure 1). The number of non-supported patients increased less. During the third quarter of 2002, the Health Equity Fund supported around 30% of all patients admitted to Sotnikum hospital.

Figure 2 shows the targeting ability of the Health Equity Fund. Among hospitalised patients, only one non-poor patient received financial support, whereas the Health Equity Fund supported nearly all of the extremely poor. The extremely poor, when they arrive at the hospital, have a better chance to be selected by the Health Equity Fund than the poor who risk falling into extreme poverty (which is more difficult to assess). However, the extremely poor also face most difficulties in reaching the hospital. Therefore, improved financial access for poor patients arriving at the hospital, does not yet guarantee equitable access to hospital care. Moreover, a Health Equity Fund does not directly address many non-financial constraints. Also, accessibility of health facilities depends to a large extent on measures on the supply side, such as presence of health staff, transparent user fees, or a well-functioning referral system, which all influence acceptability of the care offered.

Constraints to equitable access to hospital care

During the interviews, four major types of constraints to access to hospital care came up: financial, geographical, informational and household-related constraints. They are interrelated and all reduce utilisation, in particular by the poorest and most vulnerable groups in society.

Financial constraints

In the rural subsistence economy of Sotnikum, lack of money appears the principal constraint to access hospital care. Reported daily earnings from field labour were US$0.6 to 0.8, whereas the average total expenditure of one hospitalisation was US$26 (US$18 for extremely poor, US$24 for poor, and US$39 for medium). Medical expenses made up 32% of this amount and 68% were spent on transport, food and basic items (Figure 3).

Most of the respondents had financed this expenditure by selling assets or taking out loans before going to the hospital. Poorer households had a greater need for loans, but less access to credit. When borrowing on a commercial basis, usurious interest rates of 10 to 20% per month are common and paying off the loan is often highly problematic. This may eventually force the poor to sell their productive assets, even their land (Kassie 2000).

'Opportunity cost' appears to be an important consideration for the poor. It is strongly influenced by seasonal factors. People delay seeking hospital care because of the need to plant or harvest rice. The extremely poor who do not own land and live on daily labour, tend to seek hospital care only when they are no longer able to work, and rely longer on inadequate treatments at home.

Geographical constraints

Distance to the hospital, besides its physical meaning, is also determined by the quality of roads and the availability of means of transport, and influenced by seasonal factors as well. In Sotnikum, as elsewhere (Criel *et al.* 1999; Van Damme *et al.* 1998; Van Lerberghe & Pangu 1988), utilisation of the hospital showed a typical distance decay (Figure 4). More than 15% of all admissions come from the central commune where the hospital is located, although only 6% of the district population live there.

Obviously, greater distance to the hospital means higher cost of transport and bigger loss of time. In the Cambodian context, where nursing care in hospitals is very limited, a relative needs to accompany the patient, which makes hospitalisation even more costly. In comparison with the non-poor, the poor are not only disadvantaged by the extra cost that comes with distance, but are also more likely to live in remote areas and to face additional geographical constraints, in particular during the rainy season.

Informational constraints

First-hand accounts from earlier patients (i.e. relatives, neighbours) appeared the most common source of information about the hospital. As people are rarely hospitalised, the resulting lack of information contributed to a view of the hospital as a far away, unknown, final resort. People living in poor and remote areas with the lowest hospital utilisation rates, are even more likely to rely on outdated information and thus face more uncertainties about access to the hospital (e.g. on admission fee and referral system), available services and quality of care offered.

To improve information exchange between population and health centre staff, the Ministry of Health installed volunteer feedback committees at village level. In Sotnikum, these committees were functioning but lacked the time, knowledge and mandate to significantly reduce people's uncertainties. Information sharing at community level is further complicated by the abundance of informal private health providers, who are almost invariably the first contact for villagers in case of illness (Collins 2000). These private providers obviously have little interest in informing clients about available public health care, as this would affect their income.

Intra-household constraints

Age, gender, family size and structure affect both people's willingness and ability to pay and to organise a journey to the hospital. For instance, female-headed households, in particular with small children, can least afford to go to the hospital. No income is generated precisely when it would be most needed nor are the children who stay behind taken care of. Without outside assistance, all household members may have to go to the hospital. It is easily understood that in such cases hospitalisation will be the last option to be considered. Even households with both parents may face similar problems, particularly in case of emergency.

Inequities in access may also arise from gender-related cultural norms and intra-household allocation of resources. Of the total number of hospital admissions in 2001, 55% were women, compared to 52% of the total population of Sotnikum district. No significant gender-bias was found in the use of hospital care, or in expenditure on hospitalisation. However, some female respondents from poor households said that they prioritised their husbands' health status over their own, because they considered the husbands' earnings crucial to the survival of the households.

Effectiveness of an Health Equity Fund on constraints to access

Effects on financial constraints

An important feature of the "New Deal" is that informal payments are no longer tolerated and have effectively halted, so that patients receive treatment once they have paid the admission fee. This significantly reduces uncertainty and improves financial access. Nonetheless, even transparent, relatively

low user fees (US$7-10 per admission) still appear to be a major obstacle for the poor. Moreover, as discussed above, the financial cost of hospitalisation is not limited to user fees alone. According to the findings of this study, people actually spent more on transport and food than on fees (Figure 3).

Figure 5 shows the average expenditure on hospitalisation by socio-economic category, by all hospitalised cases, distinguishing out-of-pocket expenditure and support from the Health Equity Fund. It clearly reflects the nature of its targeting mechanism: the poorest patients are most likely identified as unable to pay and receive the highest level of support. Indeed, 87% of the extremely poor in the sample were identified and supported by the Health Equity Fund for 50% of their total expenditures. Within this group, four patients in a state of chronic extreme poverty (dependent on charity in their daily lives) relied almost completely on the Health Equity Fund for their total expenditures.

In most cases, the Health Equity Fund was crucial in providing financial access to the district hospital, as otherwise patients would not have been able to pay the admission fee. It is however unlikely that those who borrowed or sold assets, risking falling into extreme poverty, were prevented from doing so by the assistance of the Health Equity Fund. Often, high expenditure had already been incurred before hospitalisation, mainly in the private sector. Moreover, the Health Equity Fund did not address the constraint of 'opportunity cost' of hospitalisation, which remains a major obstacle for the poor, in particular during rice planting and harvesting seasons and for people living on a day-to-day basis.

Effects on geographical constraints

Above, we identified distance to the hospital as a major constraint to access hospital care. Figure 6 shows the proportion of patients supported by the Health Equity Fund, by distance to the hospital. *Relatively* few patients (less than 6%) from within 5 km of the hospital were supported, and patients coming from medium or long distance had a much bigger chance to benefit from the Health Equity Fund. Apparently, the Health Equity Fund reduces inequities in health expenditure in relation to distance. However, by itself it does not correct inequities in utilisation resulting from geographical constraints to access.

A well-functioning referral system is of major importance. In Sotnikum, the health-financing scheme allows for incentives to government staff at health centre level to appropriately refer patients to the hospital. An ambulance service is offered according to need, and those unable to pay for the ambulance

get support from the Health Equity Fund. However, this study did not assess how these mechanisms affected geographical constraints.

Effects on informational constraints

The Health Equity Fund did not actively promote its activities at community level or in the hospital. Consequently, among the people who had not been to the hospital, the Health Equity Fund was almost completely unknown. Also, of the hospitalised cases that had not been supported by the Health Equity Fund, after their return only 35% was aware of the presence of a Health Equity Fund at the hospital. Resulting inconsistent accounts may continue to deter the poor from going to the hospital.

Of the supported patients, only 12% was aware of the Health Equity Fund beforehand. Therefore, in most cases the Fund had not reduced uncertainty about access. Furthermore, even the poor who are aware of the Health Equity Fund remain uncertain about whether they will receive support, because identification of poor patients is centralised in the hospital and criteria for eligibility are not made public. On the other hand, information that is shared by all patients such as improved quality of care or the absence of informal charges is likely to spread much faster and to enhance utilisation.

Effects on intra-household constraints

The Health Equity Fund has no specific provision for households with difficult access to the hospital because of age, gender, family size and structure. These households are more likely to be vulnerable and poor (e.g. headed by a female, many dependants). When a poor patient is hospitalised, the Health Equity Fund assists in the expenses in the hospital, but not at home, where family members may be left without someone to take care of them, and possibly short of food. Their well-being is certainly an important consideration in the decision whether or not to seek hospital care.

Of the patients supported by the Health Equity Fund 55% were female, the same figure as their share in total utilisation of the hospital. Apparently, the Health Equity Fund did not affect the proportion of women hospitalised.

Cost of an Health Equity Fund

The total cost of the Health Equity Fund over the study period was US$27,100 to support 1437 patients; or US$1,084 per month. Of this amount, US$16,260 was direct financial assistance (of which around 74% hospital fees, 20% transport and 6% food and basic items). Per beneficiary, the average financial assistance was US$11.32 and total cost US$18.86. The cost of the NGO managing the Health Equity Fund thus represented US$10,840, or 40% of the total cost. This was mainly for staff salary and staff transport.

In 2001, the total running cost of the district hospital (staff, drugs, fuel, electricity, patient food, etc.) was US$152,000, or US$53 per hospital admission, of which 62% was funded by the state, 21% through users' fees, and 17% by external parties (MSF and UNICEF). The total cost of the Health Equity Fund for one year was around US$13,000, or 8.6% of hospital cost. The total cost of the public health system in Sotnikum- the hospital, 17 health centres and the district office – was just less than US$2 per capita per year, of which US$0.69 for the hospital. The cost of the Health Equity Fund was US$0.06 per capita per year.

Discussion

In Sotnikum, the introduction of a Health Equity Fund managed by a local NGO appeared to effectively improve access to hospital care for the poor. During the first year – including the period covered by the survey – the Health Equity Fund may have mainly reduced cost of care for people who had already chosen to access care. However, during the second year of the Health Equity Fund, the steep increase of utilisation indicates that a considerable proportion of the "new" patients where from poor households, and would not have sought care at the hospital without financial support.

During its initial two years of functioning, there was a steep increase in poor people accessing the hospital, while the number of patients who paid their own fees did not decrease. Most patients who managed to make it to the hospital, but could not pay the hospital fees, were identified, and financially supported according to need, resulting in a strongly progressive transfer of resources. There was a minimal 'leakage' to non-poor patients. The patients with an absolute lack of ability to pay received nearly 100% coverage of their total financial cost of hospitalisation (including transport, food and basic items). Indeed, even a well-functioning exemption mechanism would fall short of giving all the support needed by the poorest patients, for whom user fees are only one of the many financial barriers to access hospital care.

It is, however, important to note that in the Cambodian context by far most household health expenditure takes place outside the public sector (National Institute of Statistics & ORC Macro 2001), often spent on poor quality treatments by informal private practitioners. Therefore, in terms of poverty prevention, the greatest potential of the Health Equity Fund seems not to lie in *financing* expenditure in the public sector, but in *preventing* unnecessary expenditure in the private sector, by encouraging the use of adequate public health care. Indeed, surveys in Cambodia showed that, even in the absence of fee exemptions for the poor, the existence of a credible public health service, considerably reduces out-of-pocket health expenditure by the population in general, and the poor in particular (Keller & Schwartz 2001; Van Leemput & Van Damme 2002).

Over the study period in 2000 – 2002, of all the patients who arrived at Sotnikum district hospital, 16% received support from the Health Equity Fund, whereas an estimated 25% of the population is estimated to be extremely poor (Table 1), and another 25% at risk of falling into extreme poverty in case of serious

illness. It seems likely that many potential beneficiaries did not reach the hospital. Remaining obstacles continue to deter many of the poor from seeking hospital care. Even though an Health Equity Fund cannot address all these constraints, it seems to have the potential to attract more of the poor, by improving on its 'marketing' and information sharing. Moreover, by decentralising its mechanism of identification and support (e.g. to the health centre or commune level) it could reduce uncertainty about eligibility, and better address the constraints facing the poor at home (e.g. transport).

In terms of costs and benefits, through the payment of US$7-10 on user fees, an admission with an average cost of US$53 was made available to the poor, of which the government funded more than US$30. This multiplier effect made the total cost per supported patient, including the administrative cost, much less than the value of hospital care obtained for the poor. A yearly investment of US$13,000, representing 8.6% of the total hospital budget, gave access to hospital care to 19% of all patients, who would otherwise not have had access, or suffered serious financial loss in order to pay. The combination of low cost, well-targeted subsidies and multiple benefits seems to constitute a promising channel for institutional donors who want to invest in poverty reduction.

In 2000-2002, the Health Equity Fund in Sotnikum had been operating as a pilot scheme, which was unknown to most of the population, run by a motivated local NGO and closely monitored by its contracting parties. In the longer term and on a larger scale, problems may arise, such as leakage to non-poor who may adapt their self-reported economic status. In addition, local NGOs may enter the scene to get a share in available budgets rather than to help the poor through a properly run Health Equity Fund. To avoid such perverse effects, Health Equity Funds need careful regulation, independent monitoring and evaluation, and accountability to the community they serve, within a broader pro-poor policy. Another effect that needs to be avoided is over-consumption of hospital care by the poor; although this seems more unlikely given the numerous constraints they face to access such care. Finally, in a fee-for-service scheme, provider-induced demand may become a concern as well, which is less probable in a scheme of fixed ('lump sum') user fees, as is the case in Sotnikum. In the Cambodian context, the performance of Health Equity Fund in terms of improving access for the poor to hospital care, are undoubtedly much better than the results of waivers for poor patients (Table 2).

It is important to acknowledge the conditions under which the Health Equity Fund in Sotnikum is able to operate effectively. First, the fund is only a complement to a relatively well-functioning health service, in which health staff is present, drugs available, and informal charges absent. Second, the context of substantial socio-economic differentiation in rural Cambodia makes it possible to charge (low) user fees to the majority part of the population, while targeting support to those unable to pay. Third, the Health Equity Fund is managed by a local social NGO that builds on years of experience in the region, and demonstrates a good ability to target and motivation to serve the genuinely poor.

The contracting of a local NGO to manage a Health Equity Fund seems advantageous in many respects. Whereas hospital or other government staff may have conflicting interests, and often lack incentives to support the poor, an NGO contracted for this purpose does not face these constraints. NGOs may also be more easily replaceable in case of under-performance. Moreover, operating as an independent social actor in the health system, an NGO has the potential to represent the poor for whom it purchases health care and to reinforce their patient rights towards government staff. Besides improving financial access, through its social and psychological support, the patient's dignity and confidence can be restored as well. However, one should not overestimate the potential role of NGOs, as they are not necessarily accountable to the population they serve.

Undoubtedly, broader experience and further research into Health Equity Funds is needed, in different socio-economic contexts and in different health systems. Other set-ups can be imagined as well, for instance, where the local NGO sector is not well developed, or where other alternatives seem more viable. The respective merits and costs of pre-identification of the poor (such as done in poor-card schemes) or identification at hospital entrance (as done in Sotnikum) could be compared. Comparative qualitative and quantitative studies would allow for a better assessment of the potential role of Health Equity Funds in national health and social policy (i.e. as exemption mechanism, social safety net), and their cost-effectiveness in terms of poverty-reduction and -prevention.

Acknowledgements

We thank Cambodian Family Development Services, Ministry of Health, *Médecins sans Frontières* and UNICEF field staff in Sotnikum and Siem Reap for their collaboration and support, and Professor R Eeckels for useful comments on previous drafts.

Tables and Graphs

Table 1 : Characteristics of socio-economic categories, adapted from (Panhavichetr 1998).

		Estimated proportion of Cambodian population	Estimated proportion of population in Sotnikum
Rich *('mean')*	Good house (stone), > 3 ha land, large number of animals, motorbike, TV, lending out rice/cash, large savings/surplus assets	10 %	<5 %
Medium *('kuesam')*	Good house (wood), > 1.5 ha land, >2 cows, sometimes motorbike, TV, no food shortages, savings, borrow occasionally	30 %	20 %
Poor *('kraa')*	Wooden house, < 1.5 ha land, 2 cows or less, bicycle, food shortage less than 4 months, small savings < US$5, borrow regularly	40 %	50%
Extremely poor *('toal')*	Small (thatch) house, < 0.5 ha land, no cows, food shortage more than 5 months, no savings, live on day-to-day basis, can only borrow small amounts	20 %	25 %

Table 2 : Fee waiver vs. Health Equity Fund to improve access for poor patients in Cambodia.

	Fee waiver for poor patients	**Health Equity Fund for poor patients**
Benefit for patients	No fee.	No fee and support for transport and other costs.
Perception by health staff	Negative. The hospital has to forego revenue from poor patients. Staff try to avoid having poor patients.	Positive. Increased revenue when caring for poor patients.
Targeting	Poor, because health staff is not qualified to identify poor people, and has no interest to do so.	Good, as social workers of NGO are specialised in identifying the poor and are evaluated on their performance to do so.
Cost	Theoretically no cost, and in particular no administrative cost.	Reasonably low: 8.6% of hospital costs.
Overall results	Not effective.	Effective at reasonable cost.

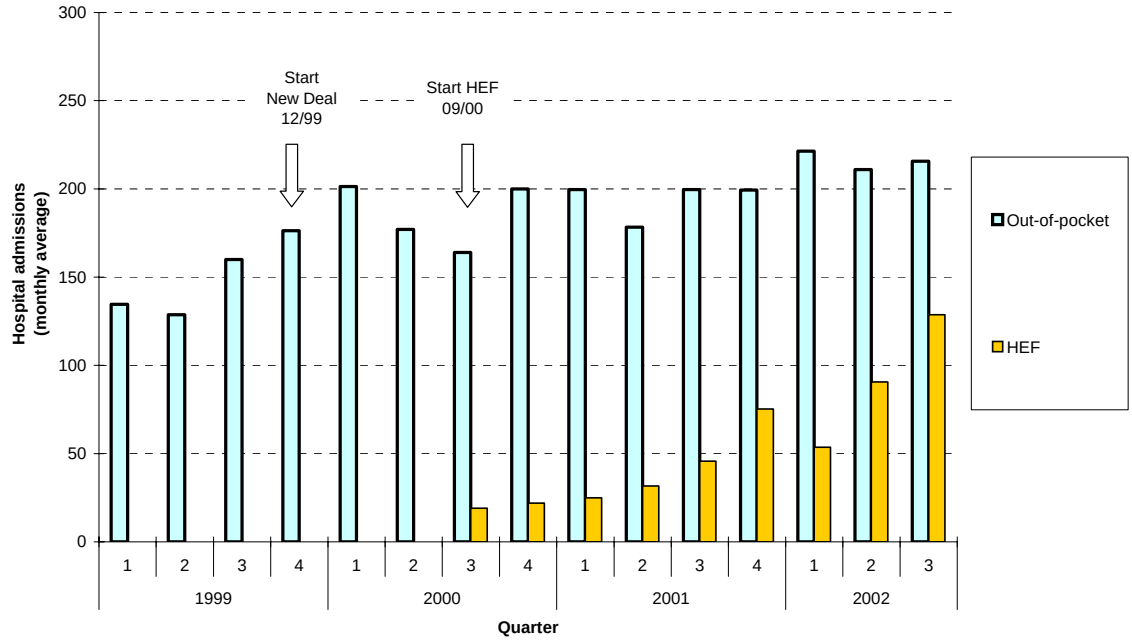

Figure 1: Utilisation of Sotnikum hospital: patients paid by Health Equity Fund (HEF) and patients paying fees out-of-pocket, 1999-2002.

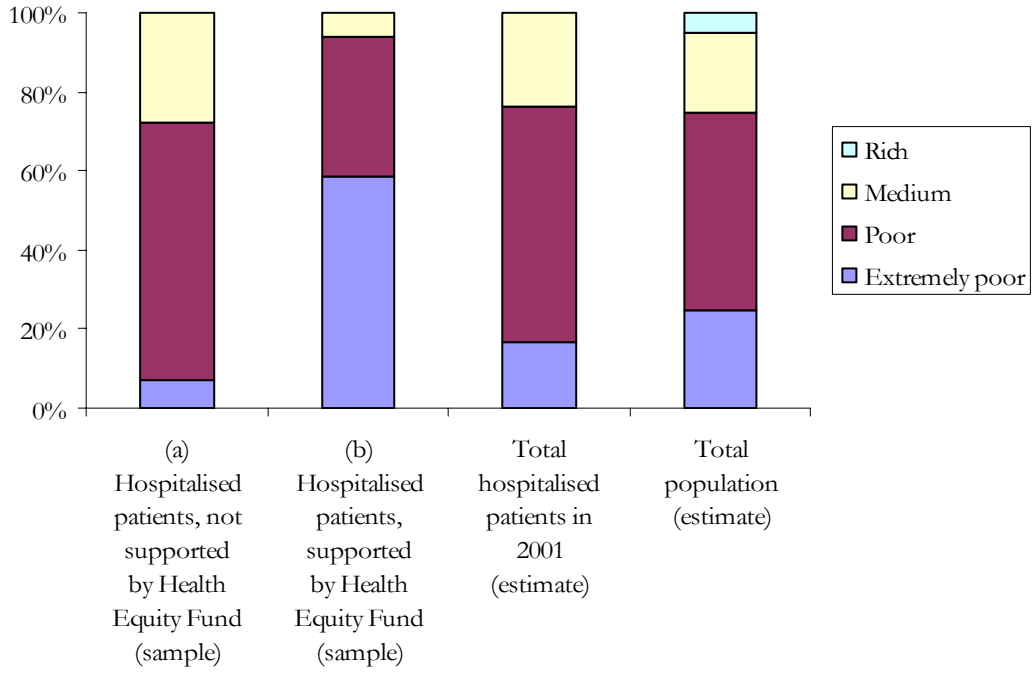

Figure 2: Socio-economic status of hospitalised patients and total population

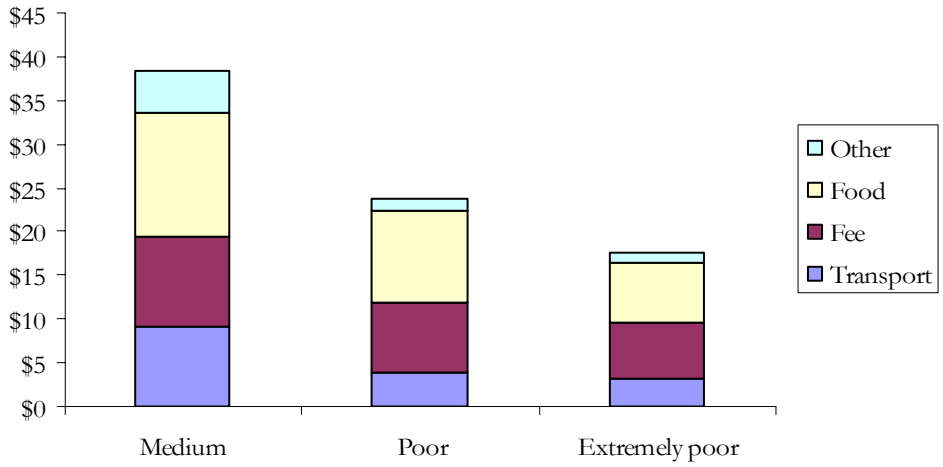

Figure 3: Average expenditure per hospitalisation by socio-economic category (including support from Health Equity Fund)

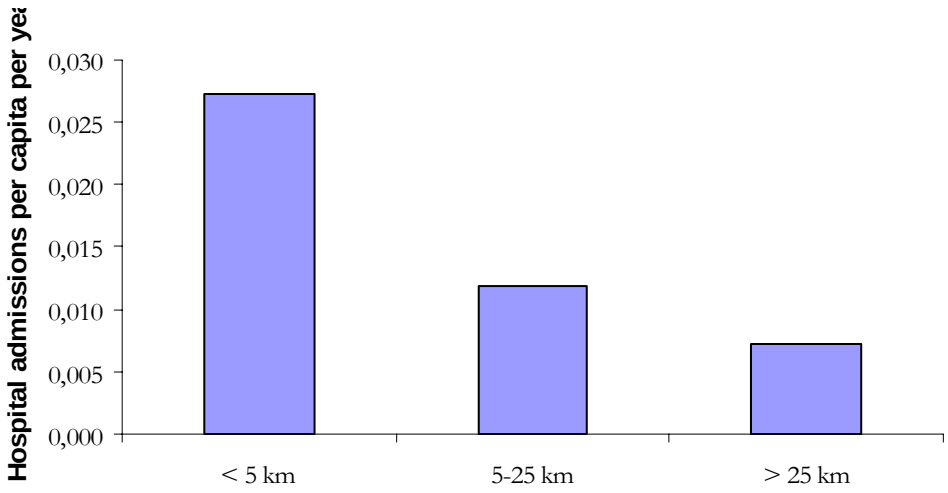

Figure 4: Annual utilisation Sotnikum hospital, according to distance between commune of origin and hospital (January – July 2001).

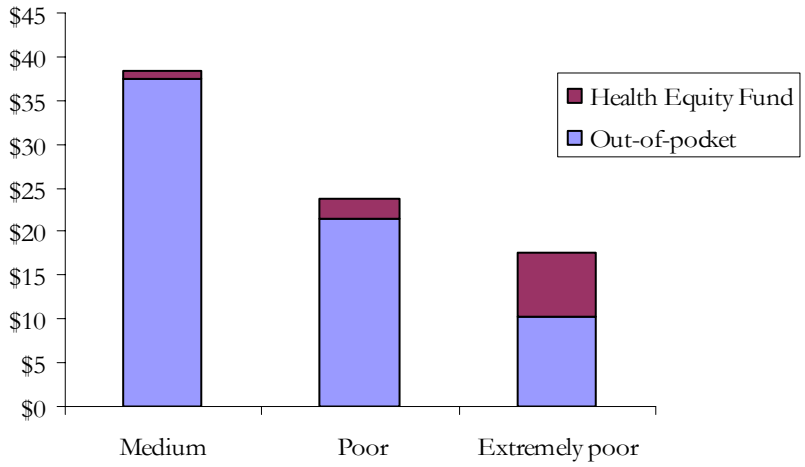

Figure 5: Average expenditure on hospitalisation by socio-economic category: out-of-pocket expenditure and support from Health Equity Fund.

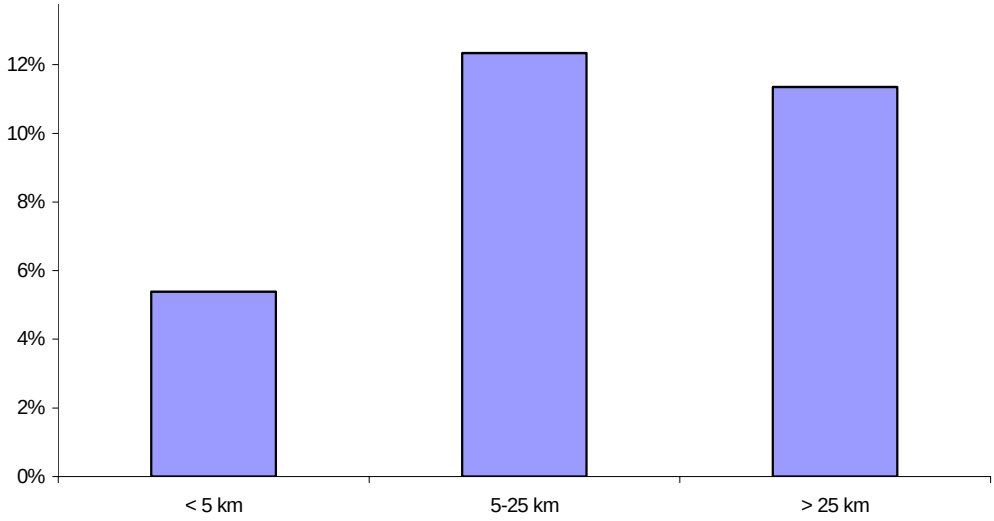

Figure 6: Proportion of patients supported by Health Equity Fund, according to distance between commune of origin and hospital (January – July 2001)

References

Abel-Smith B & Rawal P (1992) Can the poor afford 'free' health services? A case study of Tanzania. *Health Policy and Planning* 7, 329-341.

Audibert M & Mathonnat J (2000) Cost recovery in Mauritania: initial lessons. *Health Policy and Planning* 15, 66-75.

Bloom G, Han L, & Li X (2000) How health workers earn a living in China. (108), 1-22. Sussex, Institute of Development Studies. IDS Working Paper.

Chanda N (1986) Brother enemy. The war after the war. A history of Indochina since the fall of Saigon. MacMillan Publishing Company, New York.

Collins W (2000) Medical practitioners and traditional healers: a study of health seeking behavior in Kampong Chhnang, Cambodia. 1-84. Phnom Penh, Center for Advanced Studies.

Creese AL (1991) User charges for health care: a review of recent experience. *Health Policy and Planning* 6, 309-319.

Criel B, Van der Stuyft P, & Van Lerberghe W (1999) The Bwamanda hospital insurance scheme: effective for whom? A study of its impact on hospital utilization patterns. *Social Science and Medicine* 48, 897-911.

Gilson L (1997) The lessons of user fee experience in Africa. *Health Policy and Planning* 12, 273-285.

Gilson L, Kalyalya D, Kuchler F *et al.* (2001) Strategies for promoting equity: experience with community financing in three African countries. *Health Policy* 58, 37-67.

Gilson L, Russell S, & Buse K (1995) The political economy of user fees with targeting: developing equitable health financing policy. *Journal of International Development* 7, 369-401.

Hjortsberg CA & Mwikisa CN (2002) Cost of access to health services in Zambia. *Health Policy and Planning* 17, 71-77.

Huber JH (1993) Ensuring access to health care with the introduction of user fees: a Kenyan example. *Social Science and Medicine* 36, 485-494.

Kassie A (2000) Credit and landlessness: impact of credit access on landlessness in Cheung Prey and Battambang districts, Cambodia. 9, 1-34. Phnom Penh, Center for Advances Studies.

Keller S & Schwartz JB (2001) Final evaluation report: Contracting for health services pilot project. 1-125. Phnom Penh, Asian Development Bank.

Khe ND, Toan NV, Xuan LT *et al.* (2002) Primary health concept revisited: where do people seek health care in a rural area of Vietnam? *Health Policy* 61, 95-109.

Killingsworth JR, Hossain N, Hedrick-Wong Y *et al.* (1999) Unofficial fees in Bangladesh: price, equity and institutional issues. *Health Policy and Planning* 14, 152-163.

Lanjouw S, Macrae J, & Zwi AB (1999) Rehabilitating health services in Cambodia: the challenge of coordination in chronic political emergencies. *Health Policy and Planning* 14, 229-242.

Levy-Bruhl D, Soucat A, Osseni R *et al.* (1997) The Bamako Initiative in Benin and Guinea: improving the effectiveness of primary health care. *International Journal of Health Planning and Management* 12 Suppl 1, S49-S79.

Litvack JI & Bodart C (1993) User fees plus quality equals improved access to health care: results of a field experiment in Cameroon. *Social Science and Medicine* 37, 369-383.

McPake B (1993) User charges for health services in developing countries: a review of the economic literature. *Social Science and Medicine* 36, 1397-1405.

McPake B, Asiimwe D, Mwesigye F *et al.* (1999) Informal economic activities of public health workers in Uganda: implications for quality and accessibility of care. *Social Science and Medicine* 49, 849-865.

McPake B, Hanson K, & Mills A (1993) Community financing of health care in Africa: an evaluation of the Bamako Initiative. *Social Science and Medicine* 36, 1383-1395.

Meessen B, Van Damme W, Por I, Van Leemput L, & Hardeman W (2002) The New Deal in Cambodia: the second year. 1-57. Phnom Penh, MSF Cambodia.

Ministry of Health, Swiss Red Cross, & World Health Organization (2002) Takéo provincial referral hospital: pioneering a health financing scheme. 1-55. Phnom Penh, Swiss Red Cross.

Nanda P (2002) Gender dimensions of user fees: Implications for women's utilization of health care. *Reproductive Health Matters* 10, 127-134.

National Institute of Statistics C & ORC Macro (2001) Cambodia Demographic and Health Survey 2000. Phnom Penh, Cambodia & Calverton, Maryland, USA, National Institute of Statistics & ORC Macro.

Nyonator F & Kutzin J (1999) Health for some? The effects of user fees in the Volta Region of Ghana. *Health Policy and Planning* 14, 329-341.

Panhavichetr P (1998) Gender relations in household food security: a case study of Kok Dong village, Cambodia. 1-45. Institute of Social Studies, The Hague.

Roenen C, Ferrinho P, Van Dormael M, Conceicao MC, & Van Lerberghe W (1997) How African doctors make ends meet: an exploration. *Tropical Medicine and International Health* 2, 127-135.

Soeters R & Griffiths F (2003) Improving government health services through contract management: a case from Cambodia. *Health Policy and Planning* 18, 74-83.

Uzochukwu BS, Onwujekwe OE, & Akpala CO (2002) Effect of the Bamako-Initiative drug revolving fund on availability and rational use of essential drugs in primary health care facilities in south-east Nigeria. *Health Policy and Planning* 17, 378-383.

Van Damme W, De Brouwere V, Boelaert M, & Van Lerberghe W (1998) Effects of a refugee-assistance programme on host population in Guinea as measured by obstetric interventions. *Lancet* 351, 1609-1613.

Van Damme W, Meessen B, von Schreeb J, Thay Ly H, Thomé J-M, Overtoom R, & Por I (2001) Sotnikum New Deal, the first year. 1-64. Phnom Penh, MSF Cambodia.

Van Leemput L & Van Damme W (2002) Dengue epidemic in Thmar Pouck, April-December 2001. Disease and its cost in rural Cambodia. 1-30. Phnom Penh, MSF Cambodia.

Van Lerberghe W, Conceicao C, Van Damme W, & Ferrinho P (2002) When staff is underpaid: dealing with the individual coping strategies of health personnel. *Bulletin of the World Health Organization* 80, 581-584.

Van Lerberghe W & Pangu KA (1988) Comprehensive can be effective: the influence of coverage with a health centre network on the hospitalisation patterns in the rural area of Kasongo, Zaïre. *Social Science and Medicine* 26, 949-955.

Wagstaff A (2002) Poverty and health sector inequalities. *Bulletin of the World Health Organization* 80, 97-105.

Willis CY & Leighton C (1995) Protecting the poor under cost recovery: the role of means testing. *Health Policy and Planning* 10, 241-256.

World Bank (1993) World development report 1993. Investing in health. Oxford University Press, Oxford.