Penalizing patients and rewarding providers: user charges and health care utilization in Vietnam

ARDESHIR SEPEHRI,1 ROBERT CHERNOMAS1 AND HAROON AKRAM-LODHI2
1Department of Economics, University of Manitoba, Winnipeg, Canada and 2Institute of Social Studies, The Hague, The Netherlands

The introduction of a comprehensive system of user charges in 1995 provided public health facilities in Vietnam, especially hospitals, with a growing source of revenue. By 1998 revenues from user charges accounted for 30% of public hospital revenues. Increasingly, provider incomes have relied on fee revenues and provision-based bonuses, the effect of which is that a poorly regulated fee-for-service system has replaced a salary system based upon a centrally determined global budget. This paper examines the potential influence of providers’ on the use of publicly provided health services. Using facility-based data over the period 1996–98, the relative contribution of treatment intensity is compared and contrasted under the two sources of hospital revenues from patients, namely a user charge system and a third party payment system based on fee-for-services. The primary focus of the comparison is on the treatment intensity for all hospital contacts, hospital admissions and the length of hospital stays, decisions normally taken by the providers and over which patients have little or no influence. The results indicate that growth in patient revenues was associated with large increases in intensity. The growth in intensity was more pronounced in the case of inpatient contacts. Moreover, both the admission rate and the length of hospital stay were far higher for better off individuals than for the poor, and greater for the insured than the uninsured. The increase in the intensity of hospital care for both health insurance enrollees and the uninsured can be seen as, among other things, an attempt on the part of providers to increase revenue from health insurance premiums and user charges in the face of a shrinking share of public resources allocated to hospitals, and low wages and salaries.

Key words: Vietnam, user charges, health care utilization, supplier-induced demand

Introduction

During the past two decades user charges have come to play a significant role in the financing and delivery of publicly provided health services in many developing countries and transitional economies. Faced with growing imbalances between the demand for and the supply of health services, budget constraints, and growing pressures to reduce the role of the state, many low and middle income countries have introduced user charges or raised the level of charges at government facilities as a policy response to health care financing crises. User charges have often been promoted as a way of rationalizing the use of care, mobilizing local additional sources within the health sectors, and thereby making the delivery of health services more efficient, equitable and financially sustainable (de Ferranti 1985; Griffin 1987; World Bank 1987).

According to the efficiency-enhancing argument, the introduction of user charges or raising the level of fees encourages the rational utilization of health services among users by limiting the use of services for ‘frivolous’ or ‘unnecessary’ reasons. Crucial to this argument are two sets of assumptions made about the behaviour of users and providers. Users are assumed to know enough about their own or family needs and the potential benefits of some health services. They can always tell whether medical conditions are self-limiting or unresponsive to care or not. Moreover, it is assumed that a considerable amount of the ‘unnecessary’ care is initiated by patients, and that user charges will actually deter the unnecessary user while having minimal effect on medically necessary utilization (Musgrove 1986; Barer et al. 1994).

On the provider side, in the presence of asymmetric information between providers and patients, perfect agency is assumed to hold, whereby providers use their medical knowledge and act in the best interests of their patients (Evans 1984; Barer et al. 1994). Moreover, it is assumed that by mobilizing local additional sources within the health sector, user charges may ensure prompt treatment or a better standard of care, especially when providers are poorly paid and motivated, and drugs and other supplies are often in short supply (Wouters 1991).

While much has been written on the impact of user charges on individual health-seeking behaviour and the demand for health services (for a review see McPake 1993; Sepehri and Chernomas 2001), comparatively little is known about the potential impact of user charges, both official and unofficial, on the incentive structure under which providers direct the use of their own services, and of a co-operating hospital, and hence provider behaviour. The most recent literature on informal payments for health care services in the transitional economies, including the former Soviet Union and other central and Eastern European economies in transition,
suggests that it is common for patients to make ex-ante and/or ex-post payments to get better, faster, and more thorough treatment (Ensor and Savelyeva 1998; Lewis 2000; Thompson and Xavier 2002). A recent study on the influence of unofficial payments on a provider’s incentive using the case of Kazakhstan found that state-salaried physicians exploit their monopoly position and maximize their unofficial income by offering differing levels of service quality to paying and non-paying patients (Thompson and Xavier 2002). The length of hospital stay, waiting time in the admission ward and patients’ perceived quality were all found to be positively associated with unofficial payments for inpatient services that were, in principle, free.

The provider’s treatment decision may equally be influenced by an official user charge system that pays a portion of fee revenues as bonuses to state-salaried providers. Such a provision-based staff bonus system has, in effect, the potential of shifting the provider-payment mechanism towards a poorly regulated fee-for-service system, and away from a salary system based upon a centrally determined global budget. Since providers have little or no influence, at least in theory, on the level of fees, there is a potential risk for over-provision of services in the form of longer hospital stays, overuse of diagnostic tests, (expensive) drugs and other services for those who can afford to pay, as providers direct the use of their own services, and of a co-operating hospital, to increase their income. The effects on the use of health services of the perverse incentives of a fee-for-service system under an incomplete agency framework, with providers maximizing some blend of their patient’s and their own interests, are well known (Evans 1984). These risks are potentially large in transitional low-income countries, where regulation and control mechanisms are weak or not implemented, where there is no professional self-regulation, where the public health sector is under-funded, and where the official salary of providers is low in both absolute and relative terms. Under such circumstances, user charges, combined with a provision-based staff bonus system, provide state-salaried physicians with another source of income to supplement their official income from both public and private practice by inducing demand. The resulting higher volume of services means higher fee revenues for the co-operating hospital and thereby higher staff bonuses for the providers. Thus, such a payment mechanism has the potential of penalizing patients for decisions, such as return visits, prescriptions or admissions to hospital, that are normally made by physicians and over which patients have little or no discretion.

There is, in fact, some anecdotal evidence from the recent experience of transitional economies in general, and China in particular, with official user charges. This indicates that the growing reliance of public health facilities on the official user charges, in combination with a provision-based staff bonus system, may encourage the over-provision of services by suppliers (Sidell 1993; Preker and Freachem 1994; Bloom et al. 1995; Liu and Hsiao 1995; Bogg et al. 1996; Chen 1997; Ensor 1998). In these transitional economies, revenues from official user charges often represent a significant and growing share of the public hospitals’ budget and provide large financial supplements for health providers. However, little is known about the extent to which the treatment decisions are influenced by a payment system that combines user charges with a provision-based staff bonus.

Using Vietnam’s recent experience, this paper utilizes facility-based data as well as national household survey data to assess the influence of providers on the utilization of public hospital services, with particular emphasis on treatment intensity, inpatient admissions and the length of hospital stays, factors over which patients are more likely to have little or no discretion. In the absence of baseline data as well as data on providers’ characteristics, it is not possible to examine directly the extent of provider-induced changes in utilization. However, the available facility-based data on hospital revenues from user charges and insurance reimbursements, where providers are compensated on a fee-for-service basis, allows us to provide a comparison of the relative contribution of treatment intensity to changes in patient revenues from user charges and insurance reimbursements over a 3-year period. Moreover, we use the hospital admission rates and the length of hospital stays as reported in the first Vietnam Living Standards Survey (VLSS), which was conducted 3 years prior to the full implementation of user charges in 1995, as a ‘baseline’ and compare them with those reported in the second VLSS 1997–98.

In this study we focus only on the official user charges as reported by the public health facilities. In the case of Vietnam, like other transitional economies, in addition to official charges patients also face a wide range of unofficial charges for services that are meant to be covered by the public health care system. Unofficial payments, especially ‘envelope’ payments made to individual practitioners, are substantial, according to some anecdotal evidence, but hard to document. However, in discussing our results, this paper will draw a useful line of comparison between the official user charges and informal payments regarding their impact on the provider’s motivation.

An overview of Vietnam’s health care reforms

Vietnam, with a per capita income of US$430, is one of the poorest countries in the world. In 1989 the government of Vietnam implemented an orthodox stabilization programme, albeit without IMF and World Bank financial support, that came to affect the delivery and financing of Vietnam’s near universal, publicly funded and provided health services in a fundamental way (Guldner 1995; Witter 1996; Malhotra 1999). Like other orthodox stabilization programmes, the programme called for, among other things, liberalization of the pharmaceutical industry, legalization of the private provision of health services, promotion of health insurance, and greater cost recovery via the introduction of user charges at the three higher levels of the health care system – district health centres, and provincial and national hospitals. These policy measures signified a radical shift in government health policy. The changes effectively eroded the role of the public sector in the provision and funding of health care services and led to a burgeoning expansion of private medicine with little or no state regulation (Gellert 1995; Witter 1996; Lonroth et al. 1998).
A user charge system was implemented in 1989 allowing the public hospitals at the district, provincial and central levels to charge a basic consultation fee of between US$0.07 and US$0.27 (Prescott 1997). Depending on the type of services provided and drugs or other supplies consumed, health facilities were also allowed to charge supplementary fees. The user charge system was modified subsequently in 1993, 1994 and 1995. These modifications sought, among other things, to improve the fee collection mechanism by making the hospital director directly responsible for the collection of fees as well as for the authorization of exemptions. These changes were designed to avoid the problem of multiple payments by patients to various health providers, sometimes for the same services. Moreover, the guidelines on the use of collected fee revenues were also modified, reducing the bonus/reward to health workers from 35% to 25–28% and increasing the non-wage expenses from 60% to 70%. The latter could be used for improving the supply of medical equipment, drugs and other supplies such as blood supplies, chemicals and x-ray materials. The remaining 2–5% was to be used to build a supporting fund for the hospital (Deolalikar 2000). However, in the absence of an effective monitoring system, these guidelines have not been followed closely and there has been some anecdotal evidence indicating the greater flexibility exercised by some hospital directors in allocating fee revenues (Phuong 2003). Moreover, according to some commentators, the actual staff bonuses may in practice account for a far larger share than the official guideline permits. Phuong (2003) also notes the possibility that there may be a significant gap in the official fees collected and reported at some public health facilities.

A 1995 policy document provided a more detailed fee structure, setting out the range of fees each type of hospital and clinic could charge for each type of consultation and each type of diagnostic test and procedure. For the most part, patients are required to pay for drugs. In practice, however, charging practices are found to vary greatly across, and even within, provinces, with some hospitals choosing not to enforce the national indicative fee structure, while others impose additional charges (Dung 1996; Ensor and San 1996; World Bank et al. 2001).

In addition to official user charges, patients also make various forms of informal payments that are often not reported to the Ministry of Health (MoH) (Tipping et al. 1994; Segall et al. 1999). Available anecdotal and empirical studies suggest that ‘envelope’ payments are significant. In the case of hospital visits, it is not an uncommon practice for richer patients to pay higher and ‘hidden’ fees in order to receive better care (Dung 1996). According to one recent study, ‘envelope’ payments to health care providers accounted for as much as 36% of hospital fees and 19.6% of total hospital bills for patients receiving ‘better’ quality inpatient care (Tran 2001). The corresponding ratios for ‘standard’ treatment services were 10.1% and 7%, respectively. According to some informed physicians, ‘envelope’ payments account for a major source of income for many doctors, especially those with certain specialties. The tradition of providing the practitioners with ‘gifts from heart’ for their services blurs the distinction between gratitude and required non-discretionary payments.

According to some physicians and patients, most of the ‘envelope’ payments are less discretionary nowadays. Without these payments a patient is less likely to obtain a prompt and thorough treatment, or any treatment at all (Anh 2002). As one respondent in Anh’s household survey of the insured in rural Vietnam notes:

‘When you go to the hospital, just buy the coupon as usual, and then put 5000 Dong into your medical book, you will be attended quickly. If you don’t put some money in, you will have to wait longer and the staff’s attitude is not pleasant.’

(Anh 2002)

There is also some empirical evidence indicating that the mean number of diagnostic tests administered to patients in public hospitals differs significantly depending on the way the patient care is financed (Phong et al. 2002). The mean number of diagnostic tests administered to insured and fee paying patients was three to four times the mean number of tests administered to patients who were granted partial or full exemptions.

To supplement public health funding, the government also introduced a formal social insurance scheme in 1993 after a few years of pilot studies. The insurance scheme consists of two separate parts, one compulsory and one voluntary. The former covers the cost of inpatient and outpatient treatment in state health facilities. It is targeted at current and retired civil servants and the employees of state enterprises, as well as those of large private enterprises with more than 10 employees. The voluntary scheme is for the remainder of the population. It covers only 5% of its target population and 90% of voluntary enrollees are school children (Ministry of Health 1998). Public hospitals are reimbursed on a fee-for-service basis for services provided to the insured. Fees are cost based and are generally much higher than user charges paid by the uninsured (World Bank et al. 2001).

Revenues from official user charges increased three-fold in real terms between 1992 and 1998 (World Bank et al. 2001). The growth in fee revenue was more pronounced during the period 1996 to 1998, when real revenues grew at a compound rate of 24% per year, as compared with 6.4% per year during the period 1991 to 1994. The contribution of user charges to total public health expenditures has been quite modest, amounting to 11.5% of the government health budget (Ministry of Health 1998). However, since user charges are largely collected at the hospital level, this modest cost recovery rate greatly underestimates the significance of user charges in financing hospital activities. The share of user charges in total hospital revenue rose dramatically, from 9% in 1994 to as much as 30% in 1998 (see Figure 1). The relative importance of fee revenues in hospital budget varies greatly across hospitals. Fee revenues tend to be relatively more important as a financing source in provincial hospitals and hospitals specializing in surgical specialties or diagnostics. In Can Tho province, for example, fee revenues in the Center for Medical Diagnostics and in the Ophthalmological Hospital accounted for as much as 466 and 236% of the revenues from the state budget, respectively (Phuong 2003). With the rising share of patient revenue in hospital revenue,

The rapid growth of revenues from user charges and insurance reimbursements was accompanied by a rapid growth in staff bonuses. According to an extensive survey of public hospitals in 1996 by the MoH, staff bonuses in real terms, financed entirely out of patient revenue, doubled each year from 1994 and 1996 across all hospitals, and for some categories of hospitals, bonuses paid were larger than the salaries (Ministry of Health 1996a, cited in World Bank et al. 2001). As a consequence, in 1996 bonuses accounted for 30% of total staff income across all hospitals. Despite large increases in salaries and wages of public health workers between 1993 and 1996, salaries and wages are still low, both in absolute and relative terms, and the salary structure does not fully reflect the years of education (World Bank et al. 2001).

Data and methods

Data

Facility-based data from the MoH (Health Statistics Yearbook, various issues, Ministry of Health 1995, 1996b, 1997, 1998) and from the Public Expenditure Review (Government of Vietnam–Donor Working Group 2000) as well as data from the VLSS 1993 and 1998 were used as the prime sources. The facility-based data provide information on patient revenues (both from user charges and insurance reimbursements), total service contacts, inpatient contacts and inpatient days. The first VLSS was conducted in 1992–93 and the second round in 1997–98. The 1992–93 survey covered a sample size of 23,839 individuals from 4800 households using three-staged random stratified cluster sampling. The second round of survey was undertaken from December 1997 to December 1998 with a slightly larger sample size of 28,518 individuals (6002 households); about 4300 households were the same households interviewed in 1992–93.

The survey collected, among other things, information on the utilization of outpatient and inpatient services, the choice of provider, insurance coverage, and out-of-pocket expenditures. The 1993 and 1998 VLSS used a 4-week and a 1-year reference period, respectively, in obtaining information on hospitalizations. The VLSS data provide no information on the treatment intensity per hospital contact. Household out-of-pocket expenditures per hospital contact and per inpatient admission across various economic groups were thus used to provide some indicative measure of the treatment intensity.

Methods

Ideally, an assessment of the extent to which the observed pattern of utilization of health services is induced by providers’ own financial interests requires an elaborate economic model that allows us to separate the potential influences of various demand and supply factors on utilization. The requirements for such an exercise far exceed the available data. Instead, we have chosen to follow a more indirect route and use the available facility-based data on hospital revenues from user charges and insurance reimbursements where providers are compensated on a fee-for-service basis, to provide a comparison of the utilization of services by the uninsured and insured. More specifically, we focus on (1) treatment intensity for all hospital contacts, (2) hospital admissions and (3) the length of hospital stays – decisions normally taken by the providers and over which patients have little or no influence. Given the poorly developed referral system or tendency to call back patients in Vietnam, the influence of providers over the provision of services is likely to be more pronounced in the case of inpatient contacts than in outpatient contacts.

The analysis is conducted in three stages. First, using facility-based data on revenues collected from patients at public health facilities over a 3-year period following the implementation of comprehensive user charges in 1995, we compute the relative contribution of treatment intensity to the growth of hospital revenues from user charges and insurance reimbursements for all hospital contacts. This is achieved by breaking down the average annual growth rate of fee revenues per capita (g(fees)) into changes in service prices (g(price)) and the volume of services per capita (g(quantity)). Changes in quantity per capita can in turn be broken into changes in the utilization rate (g(utilization)) and treatment intensity per contact (g(intensity)). This was done using the following equation:

$$g(\text{fees}) = g(\text{prices}) + g(\text{utilization}) + g(\text{intensity})$$

A similar equation was used to decompose hospital insurance revenues from the Vietnam Health Insurance Authority (VHIA). The comprehensive user charges structure that was introduced in 1995 remained unchanged over the period between 1996 and 1998. So too did the medical price index – the medical index rose from 100 in 1993 to about 104 in early 1995 and remained almost unchanged over the period between May 1994 and May 1998 (World Bank et al. 2001: 53).
Changes in fee revenues per capita should therefore reflect the increase in the volume of services per capita provided at the public health facilities. In the absence of data on treatment intensity, the annual growth rate of treatment intensity per contact \((g(\text{intensity}))\) was calculated as a residual using the above equation. The decomposition of revenues from user charges allows us to assess the relative importance of treatment intensity in terms of its contribution to the growing fee revenues over the period 1996–98.

In the second stage, the results from the decomposition of patient revenues were used to compare and contrast the relative contribution of treatment intensity under the two sources of hospital revenues from patients, namely a user charge system and a third party payment system based on fee-for-service. However, since the reported revenues from user charges by the public health facilities also include out-of-pocket payments made by the insured, this makes a comparison between the population paying user charges and the insured population problematic. The hospital data on fee revenues does not provide a breakdown of the out-of-pocket payments made by the uninsured and the insured. However, given the relatively small share of out-of-pocket payments by the insured in hospital total patient revenue, the resulting biases are likely to be small. In 1998, out-of-pocket payments by the insured accounted for about 9% of patient revenues from inpatient care provided by public hospitals.  

Thirdly, data from the 1998 VLSS were used to compare and contrast hospital admission rates, length of hospital stays and treatment intensity per inpatient day across various economic groups as well as across the insured and uninsured. To the extent to which the utilization of inpatient services is influenced by the providers’ interest, providers are, other things being equal, more likely to admit and to increase the treatment intensity to the insured and to those uninsured who can afford to pay official fees and generous ‘gifts’. Using data from the 1993 VLSS as a ‘baseline’, hospital admission rates and length of hospital stays were also compared and contrasted across various economic groups at two points in time, 3 years prior to and 3 years after the full implementation of the comprehensive hospital user charges in 1995.

**Results**

**Changes in service contacts and treatment intensity over time**

The contribution of the service contacts and treatment intensity to the growth rate of fee revenue collection at public health facilities for the period 1996–98 is shown in Figure 2. The data are presented for all public health facilities (commune health centres, polyclinics and hospitals) as well as for public hospitals.

For all public health facilities, fee revenues per capita grew at an average annual rate of 24% over the period, of which the increase in treatment intensity accounted for as much as 54%. The fee revenues collected at public hospitals grew at a faster rate, as did the treatment intensity. The treatment intensity for all hospital service contacts per visit grew by nearly 12% per year, accounting for almost 60% of the increase in hospital fees collected. The increase in treatment intensity was more pronounced in the case of inpatient contacts. While the hospital admission rate declined slightly over the period, the intensity of inpatient services per visit grew by as much as 19.2% – inpatient admission rates declined at an average annual rate of 1.3%.

**Changes in service contacts and treatment intensity under two sources of patient revenue**

In Figure 3 the growth in hospital revenues from user charges and health insurance is broken down into changes in service contacts per capita and the treatment intensity per service contact. Hospital service contacts contributed almost equally to the growth of hospital revenue from user charges (out-of-pocket payments by both the uninsured and the insured) and from insurance reimbursements. In contrast,
treatment intensity contributed considerably more to the
growth of hospital revenue from user charges than from
insurance reimbursements. The former grew nearly three
times faster than the latter. This difference in the contribution
of treatment intensity is less pronounced in the case of hospital
inpatient contacts, where the growth in revenue from user
charges amounted to just under twice the growth in insurance
reimbursements.

**Services contacts and treatment intensity across
economic groups**

The above aggregate data on utilization and treatment
intensity mask the large differences across economic groups. **Table 1** shows the average number of hospital contacts per capita, admission rates and lengths of hospital stay by per capita expenditure quintiles over a 12-month reference period. As the table indicates, the average number of hospital contacts per capita varies greatly across economic groups as well as between the insured and uninsured. The richest 20% of the population visited public hospitals nearly four and half times more frequently than the poorest 20%. The gap between the poor and the non-poor in hospital utilization is slightly less for those patients with health insurance. The average number of hospital contacts per capita for the insured is nearly three times that for the uninsured. In the second poorest expenditure quintile, hospital contacts of the insured are four times that of the uninsured.

**Table 1** also indicates that inpatient admission rates are far
greater for non-poor households than for poor households.
Moreover, the insured have an average rate of admission
nearly twice that of the uninsured population. Not only are
more non-poor than poor patients admitted to hospitals, but
they are also more likely to be kept in longer. As **Table 1**
shows, the length of hospital stay varies positively with
income, with patients from the highest expenditure quintile
having a one-week longer hospital stay than those from the
lowest expenditure quintile.

Since there is no information available on the treatment
intensity per hospital contact, the household out-of-pocket
expenditures (official and unofficial) per hospital contact and
per inpatient admission are used to provide some indicative
measure of the treatment intensity (Skinner and Wennberg
2000). The data show a wide variation in out-of-pocket
expenditure per hospital contact across economic groups, with
the richest 20% of the patients spending 2.3 times more per
hospital contact than the poorest 20% (see **Table 2**). The
difference in out-of-pocket expenditures is even more
pronounced for inpatient services. Not only do the non-poor
have longer hospital stays than the poor, but the non-poor also
tend to spend far greater on hospitalization per day than the
poor. Average out-of-pocket expenditure per inpatient day by
the richest 20% of patients is almost equal to the amount spent
by the poorest three expenditure quintiles combined. Diff-
ferences in the length of hospital stay alone account for a large
part of the observed variation in out-of-pocket expenditure per
hospital admission. As **Table 2** indicates, while the richest
20% of the population were spending nearly nine times more
on each hospital admission than the amount spent by the
poorest 20%, the differences in expenditure on each inpatient
day amounted only to five to one.

**Hospital admission rates and length of hospital stays
before and after user charges**

A comparison of the admission rate and length of hospital stay
between 1993 and 1998, as reported by households in the 1993
and 1998 VLSS, indicates a substantial decline in admission
rates across all economic groups (see **Table 3**). However, as
**Table 3** indicates, the length of hospital stay rose from 7.8
days in 1993 to 14.3 in 1998. The length of hospital stays rose
far faster for patients from the middle- and high-income
households than those from the lower-income households.
Consequently, the length of hospital stays, which varied little
across economic groups in 1993, shows a great deal of
variation in 1998. Higher admission rates for high-income
individuals relative to low-income individuals made hospital
utilization more inequitable. As **Table 3** indicates, the richest
20% of the population accounted for 33% of the aggregate
hospital days in 1998, up from about 23% in 1993. In contrast,
the share of the poorest 20% of the population in the aggregate
hospital days dropped from 13.4% in 1993 to less than 10% in

---

**Table 1.** Utilization of public hospitals by insurance status and per capita expenditure quintile, 1998

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Per capita expenditure quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 (poorest)</td>
</tr>
<tr>
<td>Total annual contacts per capita</td>
<td>0.60</td>
<td>0.25</td>
</tr>
<tr>
<td>Uninsured</td>
<td>0.46</td>
<td>0.24</td>
</tr>
<tr>
<td>Insured</td>
<td>1.34</td>
<td>0.40</td>
</tr>
<tr>
<td>Admission rate (per 1000)</td>
<td>50.4</td>
<td>33.9</td>
</tr>
<tr>
<td>Uninsured</td>
<td>44.0</td>
<td>33.3</td>
</tr>
<tr>
<td>Insured</td>
<td>87.2</td>
<td>42.3</td>
</tr>
<tr>
<td>Length of hospital stay (days)</td>
<td>14.3</td>
<td>10.3</td>
</tr>
<tr>
<td>Uninsured</td>
<td>13.0</td>
<td>10.4</td>
</tr>
<tr>
<td>Insured</td>
<td>17.8</td>
<td>8.7</td>
</tr>
<tr>
<td>% of individuals with health insurance</td>
<td>16.1</td>
<td>6.2</td>
</tr>
</tbody>
</table>

**Source:** Vietnam Living Standards Survey 1998 (General Statistical Office 1998).
Table 2. Average out-of-pocket expenditure per hospital contact, by per capita expenditure quintile, 1998 (‘000 VND)

<table>
<thead>
<tr>
<th>Per capita expenditure quintile</th>
<th>1 (poorest)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (richest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-pocket expenditure per hospital contact</td>
<td>169</td>
<td>82</td>
<td>143</td>
<td>169</td>
<td>186</td>
</tr>
<tr>
<td>Out-of-pocket expenditure per hospital admission</td>
<td>862</td>
<td>217</td>
<td>405</td>
<td>600</td>
<td>1 038</td>
</tr>
<tr>
<td>Out-of-pocket expenditure per patient-day</td>
<td>60</td>
<td>21</td>
<td>38</td>
<td>43</td>
<td>71</td>
</tr>
</tbody>
</table>


1998. The second and third poorest expenditure quintiles also experienced a reduction in their share of aggregate hospital days of a similar magnitude to that of the poorest quintile.

Discussion and conclusions

After years of declining resources and deteriorating services, the introduction of user charges provided public health facilities, especially hospitals, with a growing source of revenue. While the cost-recovery programme helped cash-starved hospitals to improve the quality of services, staff morale and to restore public confidence in the public hospitals, it also left patients open to abuse by providers.

The decomposition of the growth of hospital revenues from user charges and insurance reimbursements into changes in service prices and volumes over a 3-year period, following full implementation of user charges in public health facilities, highlights three points. First, with no changes in the level of fees, the rapid growth of fee revenues at public health facilities was associated with increases in the utilization rate and treatment intensity, with each accounting for nearly half of the revenue growth. Secondly, the growth in treatment intensity was more pronounced in the case of inpatient contacts. The rapid increase in inpatient treatment intensity reflects mainly the lengthening of hospitalization. Over the study period, the average length of hospital-stay increased by as much as 15% per year (Ministry of Health 1998). Longer hospital stays, combined with almost constant total hospital admissions, meant that number of hospital days grew at nearly the same rate as the length of hospital stays, 15.4% per year, while the treatment intensity per inpatient-day grew at about 4.2% between 1996 and 1998. Thirdly, the growth in the treatment intensity of care was also the main driving force behind the rapid growth in hospital revenues from user charges and health insurance reimbursements. The observed large differences in the contribution of treatment intensity to the growth of hospital revenues from user charges and insurance reimbursements in part reflect the low level of government fees relative to the cost-based, higher fees paid by the VHIA.

However, the average utilization and treatment intensity data for the population as a whole mask wide variations across economic groups. Both the admission rate and the length of hospital stay show a strong income gradient, with the better-off and the insured experiencing a higher admission rate and longer hospital stays than the poor and the uninsured. The data also show a wide variation in out-of-pocket expenditure per hospital contact across economic groups.

A comparison of hospital length of stay before and after the comprehensive user charge system was implemented also indicates a similar rapid increase (16.7% per year) in the length of hospital stay between 1993 and 1998. Moreover, the length of hospital stay, which varied little across economic groups in 1993, showed a strong positive income gradient in 1998. The decline in the inpatient admission rate between 1993 and 1998 (52% per year) appears to be large and is not consistent with the annual decline of about 25% as reported by the facility-based data (Ministry of Health 1995, 1996b, 1997, 1998). The observed large decline in the admission rate in the VLSS data might be due to a difference in the recall periods for hospitalization in the two surveys (World Bank et al. 2001). Since recall errors are larger with a longer recalling period, the 1998 data are more likely to underestimate the actual admission rate. Moreover, the decline in the admission rate tends to follow closely the steady decline in the total number of hospital beds in the 1980s and early 1990s. Total hospitals beds per 10 000 population declined sharply from 38 in 1980 to 23 in 1994 (Ministry of Health 1998). Hospital beds and inpatient admission per 1000 population remained almost unchanged for the period 1995–98.
These increases in treatment intensity and the length of hospital stays are large, and raise the question as to the extent to which they are due to exogenous increases in demand or to a demand inducement brought about by changes in the provider-payment mechanism. The task of separating the potential influences of demand and supply factors on treatment intensity requires an elaborate modelling of utilization that far exceeds the available data. However, the available evidence on hospital admission and length of hospital stays suggests that the income gradient remains steep even after controlling for the conventional demand shift factors, such as individual health status, severity of illness, education, marital status and age (Trivedi 2002; Sepehri et al. 2004). The income coefficient in the equation for length of hospital stay was found to rise steadily from as low as 0.35 for the poorest income quintile to as high as 1.14 for the richest income quintile (Sepehri et al. 2004).

The link between income and hospital inpatient care is, however, a complex one. A positive association between income and the length of hospital stay may reflect the quality of care factor and/or the supplier-induced demand phenomenon. In transitional economies where post-hospital follow-up is poor or non-existent and the travel to hospital is time-consuming and costly, a longer hospital stay may increase patients’ reassurance and decrease the likelihood of post-treatment complications and readmission (Thompson and Xavier 2002). In this context, patients may view longer hospital stays as synonymous with better-quality care, and the better-off are willing to pay for this better care. The observed pattern of hospital admission and length of hospital stay may also reflect the problem of supplier-induced demand brought about by the change in the provider-payment mechanism, from a salary system based upon a centrally determined global budget to a poorly regulated fee-for-service system. The perverse effects of a fee-for-service system on utilization are well documented for developed countries (McGuire 2000 for a review) as well as for some of the low-income transitional economies (Bloom et al. 1995; Liu and Hsiao 1995; Bogg et al. 1996; Bloom and Gu 1997).

In the absence of data on patients’ perceived quality of inpatient care, it is not possible to separate the relative contribution of quality and supply-induced demand factors to the observed increases in inpatient treatment intensity. However, the recent growing evidence on the problem of provider moral hazard and unethical clinical practice in Vietnam suggests that the quality factor may not account fully for the observed increases in treatment intensity in general, and the observed pattern of length of hospital stay in particular. Some concerns have already been raised about Vietnam’s poorly regulated private health sector, where there is a tendency for providers with private practice, including state-salaried physicians, to emphasize services that yield greatest payments, such as medicines and diagnostic tests, but may also exacerbate inequities between such medical equipment, the appropriateness of new technologies, or their public health impact (Gellert 1995). These costly technologies may not only lead to unnecessary diagnostic tests, but may also exacerbate inequities between the large urban hospitals, where the technology is often placed, and smaller rural centres that can rarely afford to invest in such technology (Gellert 1995).

Hospital costs are large and onerous, especially if the illness is severe, requiring admission to a public hospital (World Bank et al. 2001; Sepehri et al. 2003). Some studies on household financing of hospitalization expenses in Vietnam indicate that hospital admissions can lead to long-term impoverishment through borrowing and the sale of productive assets (Ensor and San 1996; Oxfam 1999; Pham 2002). Although there is a formal exemption mechanism in Vietnam, it is not working in practice, at least in terms of protecting the poor (Ensor and San 1996; World Bank et al. 2001).

Vietnam’s experience with cost-recovery programmes in the form of hospital user charges provides other low-income
countries with three lessons. First, the introduction of a user charge system has the potential of transforming the provider-payment mechanism to a fee-for-service system and away from a salary system and centrally controlled budget. The perverse incentives of a fee-for-service system are well known. The risk of over-provision is likely to be high in an environment where regulation and control mechanisms are weak or not implemented, where the public health sector is chronically under-funded, and where a growing proportion of provider income is accounted for by bonuses financed out of fee revenues and informal payments by patients. Secondly, a greater reliance on cost recovery may lead not only to an inefficient utilization of scarce resources, but also to an inequitable use of services, as providers admit and increase the treatment intensity of the insured as well as those who can afford to pay official fees and generous ‘gifts’. Thirdly, to improve efficiency and equity in the use of scarce health care resources, policy makers and health planners should consider strategies to deal with the problem of provider moral hazard, such as the introduction of prepayment schemes, the establishment of state and professional regulatory bodies to formulate and implement standards and guidelines for clinical practice, and the development of strategies for approving the importation and promotion of medical equipment, and for essential and non-essential pharmaceuticals.

The findings of this study should be treated as tentative. The observed variations in hospital admissions, length of hospital stay and the treatment intensity are affected by many factors, including changes in the case-mix of patients, changes in income, quality of care and the provider-payment mechanism. To disentangle the effect of provider-payment mechanisms on utilization from these confounding factors requires elaborate modelling of utilization. The requirements for such an exercise far exceed the available data. Moreover, our estimate of the relative contribution of treatment intensity to the growth of patient revenues is based on facility-based data which exclude the sizeable unofficial payments made by patients. This may underestimate the relative contribution of treatment intensity to hospital revenues, especially if these unofficial payments vary positively with official payments. Finally, it is not clear how much of the observed association between the official fee payments and the treatment intensity of care is driven by unofficial fees rather than official fees. Further research is required to examine the relative incentive effects of unofficial and official payments systems and how these payments vary between income groups.

Endnotes

1 Authors’ estimate. According to the 1998 VLSS, the average out-of-pocket payments per inpatient contact by the insured was 43% of the out-of-pocket payments by the uninsured. Moreover, in 1998 total inpatient contacts by the insured accounted for about 22% of the total inpatient contacts with public hospitals (Ministry of Health 1998).

2 This suggests that the observed decline in the admission rates in the two VLSS is less likely to be related to the full implementation of the user charges system.

References


Dung PH. 1996. Study on health and health system in Vietnamese transitional economy. Paper prepared for the final meeting sponsored by Asian Development Bank on social sector issues in Asian transition economies, Manila, June 20–21


Acknowledgements

The authors would like to thank two anonymous referees for their helpful suggestions on an earlier version of this article.

Biographies

Ardeshir Sepehri, Ph.D., is associate professor in the Department of Economics at the University of Manitoba, Canada. His research interests have focused on health economics and development economics. He is co-editor (with Dr Chernomas) of the How to Choose? A Comparison of the U.S. and Canadian Health Systems (Baywood Publishing, 1998).

Robert Chernomas, Ph.D., is professor of economics in the Department of Economics at the University of Manitoba, Canada. His fields of research are health economics, macroeconomics and history of economic thought.

A Haroon Akram-Lodhi, Ph.D., is senior lecturer in economics at the University of Manitoba, Winnipeg, Manitoba, Canada, R3T 5V5. Tel: +1 204 474 6241; Fax: +1 204 474 7681; E-mail: sepehri@cc.umanitoba.ca

Downloaded from https://academic.oup.com/heapol/article-pdf/20/2/90/568779 by guest on 24 November 2018