Do People Pay Higher Bribes for Urgent Services ?

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Do People Pay Higher Bribes for Urgent Services? Evidence from Informal Payments to Doctors in Vietnam

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Abstract

We study how the urgency of a public service affects its corruption level by analyzing thousands of reported bribes made by inpatients to doctors and nurses in Vietnam. Although it is commonly expected that citizens need to pay a higher bribe to receive a more valuable or urgent service, we find the opposite. Acute patients, despite having conceivably higher benefits of treatment, are 8 percentage points less likely than non-acute patients to pay bribes. If they do, they pay 18% less in bribes. This behavior suggests that even in a highly corrupt environment, public servants face an incentive to provide important services for citizens. To understand this incentive, we show that acute patients pay relatively lower bribes in facilities that are better monitored and audited more frequently.

Keywords: Bribes, corruption, doctors, acute deseases.

JEL Classifications: D73, I15, O53.

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1. Introduction

Studies of corruption, a problem now recognized as an economic and political epidemic in many countries, have long underscored a relationship between bribe extraction and the value of the bribed favor (Banerjee 1997, Svensson 2003, Olken and Baron 2009, Rose-Ackerman 2010). Because public officials' ability to extract bribes depends on the value of the favor, corruption is thought to be more serious in public services to which users attribute higher value, importance, or urgency (Dutt and Traca 2010, Do and Serfaty 2008). While the literature emphasizes this extraction effect, it has paid little attention to a potential opposite mechanism by which officials may be motivated by moral, legal, or organizational responsibilities to provide important public services, even when citizens cannot afford to pay bribes. To our best knowledge there has not been any empirical evidence of the existence and effective magnitude of this responsibility mechanism, which often coexists with the extraction mechanism in important public services.

This paper empirically tests for the responsibility mechanism in healthcare in Vietnam, a highly corrupt environment (Appold and Dinh 2001, Rand and Tarp 2012). Corruption in healthcare is not only pervasive (TI 2006, Cole and Tran 2011) but it also affects life-and-death outcomes for millions of people everyday. Hospitals provide ideal settings for tackling this question because doctors and nurses have to make decisions about treating patients with exogenously determined urgency or acuteness. Illegal informal payments for health care services at public facilities are prevalent in many developing countries (Lewis 2006). These informal payments (or side payments) are made under the table to doctors and nurses, sometimes to get the most basic services, which patients are supposed to receive for free. The poor and credit-constrained who cannot offer such payments may fail to receive timely medical treatment.

We study corruption in situations with high rents to extract—in particular, informal payments for acute care. Acute conditions, such as heart attacks, are generally observable by both the patient's family and the doctor. Because of treatment urgencies, acute patients and their families are likely more willing to bribe than those dealing with chronic illnesses. As a result, doctors may threaten to withhold treatment in order to

extract more bribes from acute cases. However, without timely medical attention, acute cases involve higher mortality risks than chronic cases, and refusal of treatment can have serious medical consequences and even cost lives. If the government provides strong incentives to hold doctors responsible for those verifiable consequences, doctors may be less willing to extract bribes in acute cases than in chronic cases. We demonstrate these possibilities in a simple bargaining model, which predicts that acute patients pay less, i.e. the responsibility effect dominates the extraction effect, when the disincentive for not treating them is sufficiently high.

To investigate this relationship empirically, we examine micro data on informal payments during inpatient visits in Vietnam. In this context, the government itself recognizes in its health report that substantial informal payments are made at hospitals and may exceed official payments, though the exact amount is unknown. The Vietnamese government also considers informal payments a sensitive issue in need of further study so as to reduce the burden on the poor (the very poor are supposed to be fully subsidized in the Vietnamese health care system) and improve service quality (Ministry of Health 2003). The Vietnam National Health Survey of 2001-2002 provides a direct measure of corruption at hospitals in the form of illegal side payments to doctors and nurses above and beyond the official fees set by the government. Exploiting variation across visits within the same hospital, we estimate a large reduction in side payments (9.46 thousand dongs or 18%) associated with acute visits relative to non-acute ones, despite the similar official fees. Acute patients are also 8 percentage points less likely to pay bribes at all. This relationship is strong even at facilities where side payments in non-acute care are widespread, indicating that otherwise greedy bureaucrats might still refrain from life-risking corrupt activities in this setting. This suggests that the responsibility mechanism can mitigate the extraction mechanism in certain contexts.

There are two main ways in which responsibility mechamisms can reduce side payments in acute conditions. The first way would involve doctors themselves encountering disutility from denying acute care. For example, ethical doctors would rather get no side payment than let their patients die. The second channel involves incentives against neglecting acute patients, enforced by the government. For example, promotion reviews for Vietnamese doctors are supposed to take into account successful treatments of acute cases. If

well-enforced, this policy would give doctors one reason to avoid demanding excessive bribes for acute care. The government also has a central audit agency for monitoring medical practices at all health facilities. The court system may provide another possible set of incentives for doctors. If a patient's family sues a doctor and the hospital with which he or she is affiliated for negligence or malpractice in causing the patient's death or health damages, medical reports and testimonies will be examined in court. Punishment consequences may include monetary compensation and suspension of the doctor's practice license. This situation is particularly undesirable because there is no malpractice insurance in Vietnam.

While these two channels can coexist and reinforce doctors' behavior at the same time, the second channel is more relevant for identifying policy interventions. Our paper investigates this second interpretation by comparing payments by illness condition in presumably high-incentive versus low-incentive facilities. Motivated by the model's prediction, we test for a larger reduction in side payments in acute care at places where we would expect stronger incentives. We first investigate bribe payments in the central cities, Hanoi and Ho Chi Minh City, in which the legal system and the media are most accessible, and where central authorities and auditing bureaus are located. We find that acute patients pay substantially less than non-acute patients in those cities (by 69,000 dongs) as compared with their counterparts in non-central locations. The propensity to bribe at all differs by 20 percentage points. There is no strong reason to believe that these findings are due to drastically superior ethics on the part of doctors in Hanoi and Ho Chi Minh City. It is more plausible that those doctors tend to have more private practices and care more about reputation, or that they are responding to greater disincentives to taking bribes from acute patients.

To exploit another variation in incentives, we use the number of supervisory visits each facility receives as a measure of monitoring. The interactions between acute cases and audit visits have significantly negative effects on side payments. That is, the reduction in payments when a case is acute is stronger in well-audited facilities than otherwise. For each additional audit visit, acute patients are 1 percentage point less likely than non-acute patients to pay a bribe within the same facility, and when they bribe, it is 0.2 percentage points smaller as a fraction of total payment. While we remain cautious against claiming a causal relationship between

incentives and bribes, our results show that even very corrupt bureaucrats are sensitive to risking people's lives in extracting bribes, and well-monitored bureaucrats seem even more sensitive than others.

This finding contributes to the literature on fighting corruption. While theories of the use of monitoring and incentives to control corruption dates back to Becker and Stigler (1974), the set of empirical papers on this topic is limited. Evidence to date suggests that bureaucrats respond to incentives against breaking the rules for money. Di Tella and Schargrodsky (2003) shows that procurement prices reported by hospitals in Buenos Aires dropped significantly once an auditing system was in place. Olken (2007) provides evidence from a field experiment in Indonesia that top-down monitoring reduces corruption in road projects. Publishing transparent information about funding for education in newspapers reduced local capture of government funds in Uganda (Reinikka and Svensson 2004).[1]

In addition, this paper also relates to the literature on bribes and discrimination in health care. On the question of who is paying bribes, Hunt (2007) documents with data from Peru and Uganda that the rich are more likely to pay bribes in health care, and conditional on that, pay larger amounts.[2] We find similar results in our data. On the question of what people are paying for, Thompson and Xavier (2002) argue that bribes are paid in exchange for better quality of care, faster admission in particular. They exploit variation across visits within the same hospital and find that unofficial payments and wait time are negatively correlated in one hospital and positively correlated in another.[3] This correlation is not strong in either direction in the Vietnam data.

The rest of the paper is structured as follows. The next section presents a simple model of bargaining, highlighting the different payoffs for doctors in acute health care. In Section 3, we provide background information on the Vietnamese health care system and informal payments and describe the data for analysis. Section 4 discusses the estimation strategy and empirical results. The last section concludes.

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[1] In terms of cross-country evidence, Yang (2008) finds that countries implementing the private sector monitoring program called "hiring integrity" tend to collect more import duties later.

[2] Svensson (2003) shows this result in a sample of firms in Uganda.

[3] From a large sample of firms in many countries, Kaufmann and Wei (1999) show that self-reported time spent with bureaucrats is positively correlated with perceived bribery.

2. A Model of Side Payment and Illness Condition

This simple model describes the Nash bargaining solution to determine prices in a transaction between a doctor and a patient of acute or non-acute condition. The main idea of the model is that the total surplus from this transaction depends on both the patient's value of treatment and the doctor's disincentive to not treat the patient. The patient has a higher private benefit of being treated for acute rather than non-acute illnesses, which makes the doctor more likely to extract bribes from acute cases (the extraction effect). However, if the expected disutility or disincentive to the doctor for not treating acute patients is sufficiently high, the responsibility effect will dominate, and thus the model predicts lower side payments to doctors in acute cases.

Consider bargaining for side payments between a patient of a certain illness and a doctor. There are 2 kinds of illnesses, observable to all parties: acute (A) or non-acute (NA). Both parties have a discount factor β. There are 2 possible time periods for treatment, and by period 2, the doctor has to treat a patient that has been to the hospital. There is no imperfect information or uncertainty, so bargaining is resolved in period 1.

An acute patient has the following private values of treatment in either period: $b_1^A > 0$ if he receives treatment in period 1; otherwise if he is treated in period 2, he gets $b_2^A = 0$ (normalized to indicate the urgency of acute cases). The doctor obtains a payment p^A from the patient if he administers treatment. Otherwise, he is charged with a "fine" of $F>0$ for not treating an acute patient in period 1. The model's insights remain if instead the doctor is fined in period 2 upon the patient's death, and F is the expected discounted value of the punishment. This exogeneous fine captures, for example, any disutility of the doctor's letting an acute patient die without offering treatment, loss of profit due to damaged reputation, or a punishment set by the government.

A non-acute patient has the following private values: b_1^{NA} if he receives treatment in period 1; otherwise if he is treated in period 2, he gets b_2^{NA}. Let us assume $b_1^{NA} > b_2^{NA} > 0$ since illnesses are better treated early though non-acute cases are not immediately life-threatening. The doctor receives a payment p^{NA} if he

treats the non-acute patient in period 1. Otherwise, his outside option is 0 ,since he has to administer the treatment in period 2.

Since there is surplus to be shared, we consider Nash bargaining as a natural benchmark. Let α denote the patient's bargaining power. The resulting price in an acute case would be the solution to the following problem:

$$\max_{p^A}\left(b_1^A - p^A - \beta b_2^A\right)^{\alpha}(p^A + F)^{1-\alpha} = \max_{p^A}(b_1^A - p^A)^{\alpha}(p^A + F)^{1-\alpha} \qquad (1)$$

where the term in the first brackets is the payoff to the patient minus his outside option and the term in the second brackets is the payoff to the doctor minus his outside option.

Similarly for a non-acute case, p^{NA} solves

$$\max_{p^{NA}}\left(b_1^{NA} - p^{NA} - \beta b_2^{NA}\right)^{\alpha}(p^{NA} + 0)^{1-\alpha} \qquad (2)$$

The Nash bargaining solutions imply that prices are set such that the patient's share of the total surplus is equal to his bargaining power:

$$\alpha = \frac{b_1^A - p^A}{b_1^A + F} = \frac{b_1^{NA} - p^{NA} - \beta b_2^{NA}}{b_1^{NA} - \beta b_2^{NA}} \qquad (3)$$

For a given α, we can solve for the prices

$$p^A = b_1^A(1-\alpha) - \alpha F \qquad (4)$$

$$p^{NA} = (b_1^{NA} - \beta b_2^{NA})(1-\alpha) \qquad (5)$$

The condition for $p^{NA} > p^A$ is

$$F > (b_1^A - (b_1^{NA} - \beta b_2^{NA}))\frac{1-\alpha}{\alpha} \qquad (6)$$

The left-hand side of (6) is the cost to the doctor of not treating acute cases, which controls the responsibility mechanism in acute cases. Notice from (4) that acute case bribes are lower when F is higher, i.e. when the responsibility mechanisim is stronger. The first factor on the right-hand side of (6) denotes the difference in values to the patient of getting treated now (rather than his outside option) the acute and non-acute cases. It represents the extraction mechanism: when acute cases demand more immediate treatment, the doctor will be able to extract greater bribes from acute patients relative to non-acute patients.

The second factor is relative bargaining weight. When F is zero, bribes in acute cases are always higher than in non-acute cases. However, when F is sufficiciently large and this inequality is satisfied, acute patients have to pay less than non-acute patients.

In the framework thus far, bargaining is resolved and treatment always takes place in period 1. In reality, some patients have to wait for treatment, possibly due to constrained capacities at the hospital. It is worth discussing briefly the implications of this for the model. Suppose each doctor has one acute patient and one non-acute patient, and can only treat one person in each period. If he treats the non-acute patient first, his payoff is p^{NA}-F. If he treats the acute patient first, his payoff is p^{A} since in period 2, the non-acute patient has to be treated and does not need to pay. Given the expression for prices in equations (4) and (5), the doctor is better off taking his acute patient first. The main insight is that the non-acute patient, treated later, now pays a lower price than what he would have had to pay if treated in period 1. Thus, when we later look at the difference p^{NA}-p^{A} in the data where capacity constraints play a role, this empirical estimate will be less than the difference p^{NA}-p^{A} in an environment without such constraints.

To sum up, while acute cases generally have a higher private benefit of treatment, they may still face lower side payments in this model as long as there is sufficient cost to the doctor in letting these patients die. The model also predicts that the difference in side payments p^{NA}-p^{A} is larger where F is higher. In the remaining sections, we will turn to the data from Vietnam to examine the relationship between bribe payment and disease condition.

3. Background and Data

3.1. Health Care in Vietnam

Vietnam has recently experienced rapid economic growth with significant improvement in social sectors (Glewwe, Gragnolati, and Zaman 2002; Glewwe and Dang 2011). The Vietnamese health care system has also undergone major reforms since independence. Up until 1989, health care was fully subsidized by the socialist government. In the midst of the liberalization process, the government legalized private practice and started allowing partial fee collection by hospitals in order to cover operational costs. Decree 95 in 1994 permits

public hospitals to collect fees for their own profit, under the condition that fee schedules are within the official range of user fees and approved by the Ministry of Health.[4]

Today, health care providers include public and private hospitals, traditional healers, and pharmacists. This paper focuses on public hospitals, since this is where illegal side payments above and beyond the permitted official fees are most common. The public system is hierarchical, with the Ministry of Health in charge of making policies and managing service delivery. At the grassroots level, a commune health care team typically consists of a doctor (or more in larger communes), a nurse and/or midwife, and village health workers. This network covers all communes and wards throughout the country. Relative to other developing countries in the region, Vietnam has an extensive commune-based health system and delivers many services at the front line. At higher levels, there is usually one hospital per district, one or more provincial hospital, and some specialized health facilities. Overall, Vietnam has approximately 25 hospital beds and 6 physicians per thousand population (World Health Organization 2008).

Base salaries of doctors and nurses at public hospitals are set by the government. The official salary for a physician is $30-50 per month; this number is higher for management positions (real GDP per capita was $400 in 2001). In addition, doctors receive premiums for night shifts and for working in remote areas or toxic environments. These premiums are again determined by the government.

In terms of financing, total health spending in the country is roughly 5-6% of GDP. Health expenses were at $27 per year per person in 2005. Health expenditures come mostly from the government budget (26%) and out-of-pocket payments (64%); the remainder comes from insurance plans (World Health Organization 2008). Health insurance was first established in 1992. Nowadays, insurance is mandatory for government employees and is deducted directly from their paychecks. Others may purchase voluntary health insurance. The very poor and war veterans receive state subsidies for health care either in the form of free insurance cards or reimbursement for hospital expenses. The health survey data that we exploit in this paper, described below, indicate that one third of patients have some type of health insurance.

[4] See Vietnam Health Report 2002 for more on the health care system and health status in Vietnam (Ministry of Health 2003) and Lewis (1993) for information on the advantages and disadvantages of user fees in healthcare.

3.2. Informal Payment

While the Ministry of Health sets the official fees for different kinds of illnesses, anecdotal evidence suggests that patients pay extra to jump the queue or get the medical staff's attention. The law (Instruction 08/BYT-CT from the Ministry of Health, Jan. 2004) prohibits hospitals from charging any fees other than the official fees approved by the government. If caught, punishments to doctors range from a warning to job dismissal. Still, we see deviations from this regulation in the data, thus suggesting possible corruption and bribe taking. Informal payments may form a significant contribution to the revenues of hospitals and health providers. To get a sense of the magnitude of such deviations, households report paying 14 times more at public facilities than what the government reports receiving as fees. Taking into account unofficial payments, out-of-pocket financing might actually account for 80% of total health expenditure (Adams 2005).

3.3. Data

We use the Vietnam National Health Survey of 2001-2002, which was conducted by the General Statistics Office, to collect nationally representative data on health status and health care usage. The survey covers a random probability sample of roughly 36,000 households in 406 urban and 794 rural communes. The inpatient module relevant for this paper is part of the household questionnaire used in at-home interviews with household members. It asks for information on all inpatient visits by any member of the household during the 12-month period prior to the interview.[5] If the patient undergoing inpatient care was more than 16 years old and available, he or she was interviewed directly; otherwise, the household head or the next-best respondent answered the survey on their behalf. 7438 households report hospital use for inpatient care with an average of 1.3 visits per household. Respondents provide a series of answers in connection with each visit: type and level of facilities visited, length of hospital stay, wait time before admission, and official fees and side payments to doctors and nurses. Data on the broad type of illness (acute, injury, or chronic) was collected, without any further details on each illness condition.

[5] This survey has a module on outpatient care, but side payments in that setting are rare and of small amounts.

The key variable is side payment, which records households' responses to the following interview question: "How much did you pay informally to the employees of this facility for this inpatient visit?" This measure of unofficial payments includes the monetary value of in-kind gifts (in Vietnamese dongs). If the patient's family did not pay any side payments, the variable was recorded as zero. We observe who does or does not exchange (positive) side payments, and, conditional on paying, the amount in the transaction. We also report the logarithm of the side payment amount, since its distribution is skewed. To minimize the underreporting of bribery (Omar Azfar and Murrell 2009), the respondents had been told that this health survey was confidential and that their identity would be detached from the answers. Since some respondents might underreport everything as zero, the estimated difference that we observe in the data might be smaller than the latent difference. The survey also asks whether side payments took place before, during, or after treatment, but only a quarter of the respondents answer this question. For this sub-sample, side payments seem to take place at all three stages, slightly more frequently after the treatment, but we do not know precisely how much is exchanged at each stage.

Our analysis focuses on public facilities, which handle 96% of inpatient visits. In order to identify each health facility, we categorize visits into facility identifiers by grouping together people of the same commune (district, province) when considering all visits to commune (district, province) facilities. Facility identifiers allow us to include facility fixed effects in our regressions so as to look at variation across visits within the same hospital. We define a variable called "central cities" as the indicator for the transactions taking place in Hanoi and Ho Chi Minh City. These two are principal cities with large population sizes, administratively equivalent to a province in Vietnam. The central government's operations and judicial institutions are also housed here.

Another variable of interest to this study is the extent to which top-down auditing would presumably affect bribe payments in equilibrium. The Vietnam National Health Survey collected data on grassroots public health care via a commune health facility questionnaire. In this module, we observe the number of supervision and inspection visits that each facility has received over the 12 months prior to the interview, i.e. the same time period as the data on payments for inpatient care. Typically during these visits, auditors from the

Ministry of Health or the provincial Health Bureau may inspect the facility's finances, medical reports, general management, or infrastructure. Facilities range from one to 80 visits received over one year, with 1 visit per month on average. This data is available for commune facilities only.

Table 1 displays a few descriptive statistics on the hospital visits in our sample. On average, inpatient-care clients wait for 40 minutes before admission for a clinical intervention, but about 40% report that they do not face any wait time. Patients stay in the hospital for 8 days on average. Half of the visits are for chronic cases such as osteoporosis, hypertension, and tooth decay. Acute diseases such as obstetric complications or heart stroke account for 40% of the visits. Roughly 22% of these visits involve a positive side payment to doctors and nurses. The mean side payment amount is 24,000 dongs while the mean official payment to the facility is 367,000 dongs. In particular, Figure 1 shows the mean side payment in the whole sample by illness category. Acute cases are less likely to pay and pay less than non-acute cases on average. We will investigate this relationship in more detail in the following section.

The mean annual expenditure per capita for the patient's household is 3,652,000 dongs, i.e. $281. Household expenditure is constructed using information on a wide range of food expenditure items and asset items collected at the household during the same interview. Per capita expenditure is then the household's total expenditure divided by household size. Log expenditure will be used in the analysis as a proxy for permanent income.

4. Estimation Strategy and Results

This paper studies side payments for different illness categories to see, in particular, if acute patients with high willingness to pay actually have to pay more for treatment than non-acute ones. We run the following regression to estimate this relationship:

$$p_{ihf}=\alpha+\gamma*Logexp_h+\beta_1*Acute_{ihf}+\beta_2*Injury_{ihf}+\delta X_{ihf}+\eta_f+\varepsilon_{ihf} \quad (10)$$

where p_{ihf} is an outcome variable for visit of household h to facility f. We use four measures of side payment as dependent variables: (i) side payment amount as reported in the interview, (ii) an indicator for paying any side payment at all (any strictly positive amount reported), (iii) logarithm of side payment, and (iv) side

payment as a share of total payment. The fourth measure, side payment divided by the total amount paid to the facility, gives us a sense of bribes as a markup over the official price. The average share is 11%. Regressions of log side payment have a smaller number of observations as they are restricted to the sample with positive bribes. These regressions should be interpreted with caution due to the sample selection. $Acute_{ihf}$ and $Injury_{ihf}$ are dummies for the corresponding illness category associated with each visit. The omitted category is chronic cases. The coefficients of interest are the β's. Control variables are X_{ihf}.

In an ideal experiment, we would randomly assign illness categories to the population to obtain unbiased β's. Since such an experiment is not ethically and practically feasible, the goal of our empirical strategy is to ensure that our estimates of β's are not biased in this context, where nature assigns each person's illness. First, the nationally representative random sample warants that we cover all illness occurances in the population, eliminating all sample selection biases. Second, differences in family wealth might drive differences in payment across illness types if, for example, the rich are less likely to catch acute diseases and more likely to pay side payments. We control for this possibility by including log expenditure of the household $Logexp_h$ as a covariate in all the regressions. Third, we include official payment in all the regressions of side payment, except when the dependent variable is side payment as a share of total payment. We also report some specifications that control for length of hospital stay, since it may be a proxy for severity. However, bribe payments may affect quality of care and, in turn, length of hospitalization, so this specification is to be interpreted with caution. Finally, to account for omitted facility characteristics such as medical quality and location, our preferred specification of equation 10 includes facility fixed effects η_f. The estimation of β's comes from variation across visits within health facility. We report robust standard errors in all regressions.

Aside from side payment, it is useful to check on allocative efficiency. Constrained resources are common at Vietnamese hospitals. Patients and families often huddle inside and outside the waiting room, before and (in the case of families) during treatment. From a social welfare point of view, acute and injury cases presumably have higher social stakes than other health issues and should be first to receive treatment. Our approach is to test whether acute and injury cases actually have to wait less in equilibrium. We estimate

equation 10 for a different dependent variable: time spent waiting in the admission department. Part of this wait time represents the natural queueing time for a certain illness, and part of it may represent unnecessary "red tape." As this variable is rightly skewed, we also report a log transformation of wait time.

4.1. Acute Conditions

Despite having higher perceived private benefits of treatment, acute cases tend to pay smaller bribes than non-acute ones in our data. Table 2 reports the estimates from running equation 10. Each column is a regression, with the main dependent variables being the four measures of side payment. For each dependent variable, we present the results from an OLS estimation: without facility fixed effects in the first column, then with the fixed effects. In these regressions, most of the OLS results do not differ substanitally from the fixed effects. The coefficients on "Acute" are consistently negative and statistically different from zero. Non-acute and non-injury patients pay 28.13 thousand dongs on average as side payments to doctors and nurses. Relative to those chronic cases brought to the same facility, acute visits pay on average 9.46 thousand dongs less in bribes (column 2). In particular, they are 8 percentage points less likely to pay bribes, and if they do, they pay 18% less. As displayed in column 11, side payment in acute situations is 2 percentage points lower as a share of total payment. These findings are robust to controlling for the length of hospital stay. Injury cases are also 6 percentage points less likely to pay, and injured patients pay 6 percentage points less as a share of total payment. However, the payment amount by injury patients is not robustly and significantly smaller than that of chronic cases.

The results on wait time are indicative of hospitals' sorting behaviors. As shown in column 2 of Table 3, acute cases wait 18 minutes less than chronic cases in the same facility, injury less by 32 minutes. The logarithm specification in columns 4-6 gives similar implications for the results. This is what we expect if hospitals triage patients in the queue and allocate urgent cases to treatment first.

The coefficients on log expenditure in Tables 2 and 3 imply that rich patients tend to pay more side payments and receive medical interventions sooner. The elasticity of side payment with respect to household expenditure is 0.27 (column 8 of Table 2). The elasticity of wait time with respect to household expenditure is

-0.13 (column 5 of Table 3). This relationship is robust throughout the different specifications presented in this paper. An interesting observation in this data is that the tendency for the rich to pay more and wait less is strong among chronic illnesses; it is much weaker or non-existent among acute or injury cases. One possible interpretation is that neglecting acute patients would cost the doctor so much that any discrimination, if ever existing in regular practice, is minimized in acute health care.

4.2. High-Bribe Locations

The negative relationship between side payment and acute condition in the Vietnam data still holds at very "greedy" facilities and is not driven by what happens at facilities that collect few bribes. One way of identifying facilities of presumably high corruption is to look at the regular bribes collected at each location. We define high-bribe locations, denoted by an indicator *Highsp*, as facilities where side payments in non-acute, non-injury cases exceed the median positive amount for all facilities. Because some facilities do not report non-acute, non-injury cases over this time period, the number of observations is slightly smaller for this variable. We estimate the following equation, interacting illness types with high-bribe locations, again with facility fixed effects.

$$p_{ihf} = \alpha + \gamma Logexp_h + \beta_1 Acute_{ihf} + \beta_2 Injury_{ihf} \quad (11)$$

$$+ \Theta_1 Acute_{ihf} * Highsp_f + \Theta_2 Injury_{ihf} * Highsp_f + \delta X_{ihf} + \eta_f + \varepsilon_{ihf} \quad (12)$$

The coefficient of interest Θ_1 tells us how the difference in payment for acute and non-acute cases varies at high-bribe versus low-bribe facilities.

Table 4 reports the estimations of equation 11, all with facility fixed effects. Again, richer patients are associated with higher side payments and shorter wait time. In terms of side payment, the coefficients on the individual term "Acute" are mostly close to zero and statistically insignificant. This indicates that in low-bribe locations, bribes for acute and non-acute patients tend to be the same on average. But the coefficients on acute illness interacted with high-bribe locations are largely negative and significant at the 1% level. In high-bribe locations relative to low-bribe locations, acute patients pay much less than non-acute patients, by

31000 dongs on average. They are 15 percentage points less likely to pay bribes at all, and bribes as a share of the total payment are 5 percentage points smaller. The log-side payment regressions in columns 9-10 have relatively large standard errors due to the small sample size. These results are not driven by what happens at commune versus district or provincial hospitals since they are robust to controlling for illness conditions interacted with facility type. Acute patients pay less than non-acute patients even at otherwise high-bribe hospitals. Thus, greed in terms of bribes collected for one type of care does not necessarily correspond to greed in bribes for the other.

For injury cases, the evidence points in the same direction. In low-bribe facilities, injury patients are less likely to pay bribes but tend to pay roughly the same amount as chronic cases on average. Relative to low-bribe facilities, high-bribe facilities are 11 percentage points less likely to receive bribes, and bribes as a share of the total payment are 7 percentage points smaller. Both of these estimates are statistically significant.

In terms of wait time before admission, both acute and injury visits to high-bribe facilities are still correlated with earlier treatment than chronic visits. Columns 1-4 of Table 4 report the results from running equation 11 with wait time as the dependent variable. At high-bribe locations, acute cases wait -12.203 - 14.15 = -26.353 minutes less and injury cases wait -30.904 - 5.79 = -36.694 minutes less than chronic cases.

4.3. Interpretation

These findings that acute patients pay less in bribes than their non-acute counterparts, even at generally high-bribe facilities, are intriguing for several reasons. One possible interpretation of side payments is that they represent mostly gift giving on the patient's side. The Ministry of Health claims that many patients offer informal payments as gifts to health care staff; this gesture of respect is part of the Vietnamese culture (Ministry of Health 2003). However, the results here do not support this claim. If side payment is mainly a manner of gratitude and does not affect the doctor's efforts, we should expect more (or at least equal) gifts from acute patients than others since they would be particularly grateful for having their lives saved. We find the opposite, suggesting that side payment in this context might be a price for treatment.

Considering side payment as a price of the transaction, there would generally be more surplus to extract from acute or injury cases than otherwise, if the doctor has the same outside option. This is because acute and injury patients tend to have high private values of treatment. But we find instead that acute patients pay fewer and smaller bribes than chronic patients. Since official payments for acute visits are slightly smaller than those for chronic cases within the same hospital, total payments for acute care amount to 28% less. These results suggest that the doctor's payoff if not engaged in treating acute patients is sufficiently low. One possibility is that doctors, even those accepting high side payments in non-acute care, dislike risking acute patients' lives. They might not mind taking bribes from patients with a minor toothache, but may be altruistic toward those with a heart attack. As in the model's framework, the higher the disutility to the doctor, the lower the price charged for acute patients. Alternatively, doctors with private practices might worry about damaging their reputations if they refuse to treat acute patients. Outsiders with imperfect information may attribute the acute patient's death to the doctor's lack of ability.

Another interpretation of the lower bribes observed in acute care is that doctors are responding to government's incentives against neglecting acute patients. In Vietnam, the prevalence of illegal side payments suggest that incentives against taking bribes in general health care are weak. However, incentives against taking bribes in life-threatening situations may be much stronger. Doctors' promotion decisions,[6] in theory, are made based on qualifications and performance, such as the successful treatment of difficult cases. Therefore, failure to treat acute cases would cost them more than failure to treat non-acute cases. The court system provides another channel for holding doctors accountable. If a health provider insists on bribes in exchange for treatment, acute patients who do not pay risk dying. If a patient's family files a law suit for irresponsibility or malpractice, the doctor and the hospital are subject to examination in court, and often by the news media, where the judicial system and the media are accessible.[7] Even when the hospital and the

[6] In the Vietnamese context, this includes promotion to higher positions within the current hospital, transfer to a preferred facility, or scholarships for further training abroad in a developed country, all of which would result in higher expected life-time earnings.

[7] Many news articles cover cases in which doctors and hospitals are sued, mostly in the two central cities–Hanoi and Ho Chi Minh City. The exact statistics on these law suits are not available, so we cite a few examples here. Mrs. Vo Thi Yen Phi sued Ho Chi Minh City Medical School Hospital in 2007 after her husband's death following nose surgery; the case

patient's family settle outside of court, the health provider's reputation is still affected. In addition, the Ministry of Health has an auditing division that directly monitors medical practices at health facilities across the country. We will explore further in the next subsection the possibility that incentives matter and show some supporting evidence for the plausibility of this interpretation.

It is not straightforward to make the same argument for injury cases. Official payments for injury visits are actually higher than those for chronic cases within the same hospital, so total payments for injury care are higher by 24%. That is, injury patients pay more in total than chronic patients to the same health facility, which might already reflect their higher willingness to pay.

4.4 High-Incentive Locations

This subsection provides some evidence that lower side payments for acute care may be due to disincentives to neglecting at-risk patients. We compare payments by illness condition in presumably high-incentive versus low-incentive locations. The model predicts the difference in payment to be larger at facilities where the incentives are expected to be stronger. We investigate this hypothesis by estimating an equation similar to equation 11, but where the interaction terms are between illness categories and high-incentive locations. We expect the coefficients on acute visits interacted with high-incentive locations to be negative.

We will present the results using two proxies for high-incentive locations. The first one is an indicator for the central cities, Hanoi and Ho Chi Minh City. Recall that these cities are close to the government's central offices and the court system. It is risky to neglect acute patients here as they are likely to pursue legal action. Hospitals in these central cities are also under close scrutiny by the Ministry of Health. Doctors who deny acute care in these cities presumably face high potential punishments, delayed promotion, or loss of reputation. Second, we use the audit frequency at each facility as a measure of the amount of monitoring received by each facility. Facilities with more audit visits are associated with lower side payments overall.

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was brought to a district court because negotiations with the hospital failed. Hoan My hospital, Ho Chi Minh City, had to suspend all of its stent procedures in 2006 as a result of an investigation by the Science Committee of Ho Chi Minh City as part of a law suit by the family of a patient killed following a stent procedure. The Civil Court of Hanoi settled on a negligence case against Viet Phap Hospital in Hanoi in 2003 after the death of new-born twins from obstetric complications, whereby the hospital had to provide monetary compensation (VnExpress 2008).

We find that the reduction in side payments associated with acute cases is larger in the central cities' facilities than in non-central facilities. Table 5 reports how the differential side payments for acute illnesses vary from central to non-central locations. For each dependent variable, we present the results from two estimations, with and without interactions with high-bribe locations and interactions with an indicator for provincial/district facilities. The coefficients on "Acute" imply that in non-central cities, acute patients are 7 percentage points less likely to pay bribes, and pay slightly less on average. In the central cities, acute-care patients pay much less than chronic care patients, by -5.84 - 69.42 = 75.26 thousand dongs. Acute patients at the central cities' facilities are 27 percentage points less likely to pay bribes than non-acute patients, and they pay 9 percentage points less in side payments as a share of total payment. As expected, the coefficients on acute interacted with central locations are negative and statistically significant, except for log-side payment regressions with a smaller sample in columns 9-10. This finding holds true whether or not the regressions include additional interaction terms. Similar to the evidence in Table 4, the coefficients on acute interacted with high-bribe locations remain negative and statistically different from zero in columns 6, 8, and 12 of Table 5. We cannot make the same case for injury patients, however. The difference in side payments for injury conditions versus chronic cases does not change from non-central to central locations.

As presented in columns 1-4 of Table 5, acute cases wait 18 minutes less at non-central facilities, but this effect seems to disappear at central facilities. One possible explanation is that large hospitals in the central cities face excessively high demand. Their triaging systems are not very efficient for sorting urgent cases so as to provide them with faster care.

Aside from stronger expected incentives, the central cities might also have a larger market for private practice, affecting doctors' payoffs if the death of an acute patient damages their reputation. To get a better picture of incentives, we use a direct measure of monitoring. Table 6 reports the results on facilities' audit frequency, i.e. the number of supervision visits received in the course of a year. Note that this measure is available only for the subsample of commune facilities, thus the smaller number of observations in these regressions. The first interesting observation is that the coefficients on "Acute" are small and not always distinguishable from zero. Acute and non-acute patients pay about the same amount in side payments at

facilities with the lowest supervision. However, in highly audited facilities, we observe a significantly larger reduction in acute patients' tendency to pay side payments and in how much they pay informally as a share of total payment. For each additional audit visit a facility receives, acute patients are 1 percentage point less likely than chronic patients to pay bribes to that same facility, and they pay 0.2 percentage points less in bribes as a fraction of total payment. Both of these estimates are significant at the 1% level. Places with one more supervision visit per year are associated with 185 dongs less in side payments on average in acute relative to non-acute cases. This estimate in column 5 is not precise (p-value = 0.116). While the findings here do not identify a causal relationship, they suggest incentives for bureaucrats at work. Acute patients pay less where doctors face stronger monitoring and thus higher expected punishment for refusing acute care. As shown in columns 6, 8, and 11, the negative coefficients on acute interacted with high-bribe locations remain significant in this subsample. The results on injury incidences are again weak; none of the coefficients on injury interacted with audit visits are statistically significant. The difference in side payments for injury conditions versus chronic ones does not change across facilities of different audit frequencies.

5. Conclusion

Corruption in general health care can constrain a government's service delivery and redistribution. In principle, many countries try to make primary health care consultations accessible for the poor; they are either exempt or provided with free insurance cards. But in reality, this purpose is partially defeated if doctors and nurses can request unofficial side payments before treatment. Acute care cases, however, are particularly urgent and life-threatening. Even if the public health environment is corrupt overall, bureaucrats might still demand less in bribes from acute patients than from chronic patients, despite the conjecture that these cases entail higher rents for bureaucrats to extract.

In this paper, we study informal payments to doctors and nurses for acute care in Vietnam. Acute care is of interest since the patients tend to have a high private value of treatment. We first develop a simple model with the insight that the doctor's disincentive against neglecting acute cases may be so strong that they demand less bribes than in non-acute cases. Using data on inpatient care usage in Vietnam, we exploit

variation across visits within hospitals and find that acute patients are 8 percentage points less likely to pay anything above and beyond official fees to doctors and nurses. If they do, they pay 18% less in side payments than non-acute patients do. These findings are strong even in " greedy" places in which bribe collection from patients with chronic conditions is relatively high.

While there can be several interpretations of this negative relationship between bribes and acute illness, this study provides supporting evidence that doctors may be responsive to government monitoring against neglecting acute patients. We find that facilities that receive more monitoring in terms of audit visits are associated with a larger reduction in bribes paid by acute visitors. Doctors seem to respond more where the incentives are expected to be higher. At presumably high-incentive facilities such as those in the central cities, the differential bribe payment between acute and non-acute cases is also larger than that at non-central locations. This result suggests that corrupt activities that risk lives, such as those in acute health care, can be curbed even in highly corrupt environments.

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Table 1: Descriptive Statistics

	Mean	Std. Dev.	Obs
	(1)	(2)	(3)
Wait time (minutes)	39.3	239.3	8,085
Length of hospital stay (days)	7.83	8.88	8,088
Acute case	0.40	0.49	8,096
Injury case	0.12	0.32	8,096
Official payment to facility	367	1,721	7,850
Side payment amount	23.73	121.24	8,060
Pay (positive) side payment	0.22	0.42	8,096
District and provincial hospitals[(a)]	0.84	0.37	8,096
Facilities in central cities[(b)]	0.05	0.22	8,096
Household annual expenditure per capita	3,652	3,615	8,096

Notes: All payment variables are in 1,000 VND (VND13,000 ~ USD1). Omitted category: Commune facilities (public facilities only). Central cities are Hanoi and HoChiMinh City.

Table 2: Side Payments for Different Illness Categories

Dependent variables	Side Payment Amount *(Chronic Cases Mean = 28.13)*			Pay Side Payment *(Chronic Cases Mean = 0.27)*			Log Side Payment *(Chronic Cases Mean = 4.05)*			Side Payment as % of Total *(Chronic Cases Mean = 0.12)*		
	OLS	Effects	Effects	OLS	Fixed Effects	Fixed Effects	OLS	Effects	Effects	OLS	Effects	Effects
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log expenditure	27.97	25.27	26.75	0.0930	0.0640	0.0660	0.302	0.266	0.279	0.0360	0.0380	0.0420
	(6.67) **	(10.36) *	(10.92) *	(0.0100) **	(0.0120) **	(0.0120) **	(0.058) **	(0.085) **	(0.085) **	(0.0060) **	(0.0080) **	(0.0080) **
Acute	-8.97	-9.46	-7.22	-0.0960	-0.0770	-0.0750	-0.034	-0.179	-0.187	-0.0210	-0.0180	-0.0140
	(3.79) *	(3.69) *	(4.40) +	(0.0100) **	(0.0110) **	(0.0110) **	(0.062)	(0.077) *	(0.078) *	(0.0070) **	(0.0080) *	(0.0080) +
Injury	0.22	-1.00	1.17	-0.0500	-0.0570	-0.0550	0.020	-0.068	-0.066	-0.0460	-0.0620	-0.0590
	(4.60)	(5.76)	(5.44)	(0.0160) **	(0.0160) **	(0.0160) **	(0.082)	(0.101)	(0.101)	(0.0080) **	(0.0090) **	(0.0090) **
Official payment	0.01	0.01	0.01	0.0000	0.0000	0.0000						
	(0.01)	(0.01)	(0.01)	0.0000	0.0000	0.0000						
Log official payment							0.306	0.298	0.282			
							(0.022) **	(0.034) **	(0.034) **			
Length of hospital stay			1.56			0.0020			0.007			0.0040
			(0.75) *			(0.0010) *			(0.004)			(0.0010) **
Constant	-200.35	-178.13	-202.87	-0.4880	-0.2590	-0.2870	-0.110	0.280	0.214	-0.1720	-0.1850	-0.2460
	(54.58) **	(84.61) *	(94.41) *	(0.0770) **	(0.1000) **	(0.1010) **	(0.472)	(0.731)	(0.728)	(0.0490) **	(0.0650) **	(0.0650) **
Observations	7,826	7,826	7,820	7,850	7,850	7,844	1,424	1,424	1,423	6,073	6,073	6,070

Notes: Omitted illness category is chronic cases, for which the mean side payments are reported at the top of Table 2. All payment variables are in 1,000 VND (VND13,000 ~ USD1). "Pay side payment" is an indicator for paying a positive amount. Fixed effects regressions include facility fixed effects. Robust standard errors in parentheses. + Significant at 10%; * significant at 5%; ** significant at 1%

Table 3: Wait Time before Admission for Different Illness Categories

Dependent variables	Wait (in minutes) *(Chronic Cases Mean = 49.63)*			LogWait *(Chronic Cases Mean = 3.2)*		
	OLS	Fixed Effects	Fixed Effects	OLS	Fixed Effects	Fixed Effects
	(1)	(2)	(3)	(4)	(5)	(6)
Log expenditure	0.94	-12.90	-11.79	0.05	-0.13	-0.12
	(5.43)	(7.93)	(7.91)	(0.039)	(0.053) *	(0.053) *
Acute	-16.60	-18.08	-16.56	-0.14	-0.10	-0.08
	(6.09) **	(6.95) **	(6.83) *	(0.041) **	(0.044) *	(0.044) +
Injury	-20.82	-32.36	-31.28	-0.22	-0.31	-0.30
	(8.05) **	(10.25) **	(10.19) **	(0.070) **	(0.073) **	(0.073) **
Length of hospital stay			1.13			0.010
			(0.39) **			(0.002) **
Constant	40.94	154.28	135.81	2.78	4.24	4.09
	(43.38)	(64.64) *	(64.31) *	(0.32) **	(0.43) **	(0.43) **
Observations	8,085	8,085	8,077	4,243	4,243	4,240

Notes: Omitted illness category is chronic cases. Fixed effects regressions include facility fixed effects. Robust standard errors in parentheses. + Significant at 10%; * significant at 5%; ** significant at 1%

Table 4: Differential Side Payments for Acute Illnesses in High-bribe vs. Low-bribe Locations

Dependent variables	Wait		Log Wait		Side Payment Amount		Pay Side Payment		Log Side Payment		Side Payment as % of Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log expenditure	-13.15	-13.25	-0.130	-0.130	25.82	25.83	0.066	0.066	0.266	0.266	0.038	0.038
	(7.97) +	(7.98) +	(0.054) *	(0.054) *	(10.38) *	(10.39) *	(0.012) **	(0.012) **	(0.085) **	(0.085) **	(0.008) **	(0.008) **
Acute	-12.20	2.53	-0.008	0.112	2.54	1.27	-0.017	-0.064	-0.068	-0.097	0.004	-0.003
	(7.15) +	(3.26)	(0.054)	(0.132)	(1.64)	(1.53)	(0.011)	(0.022) **	(0.141)	(0.407)	(0.008)	(0.010)
Acute*High-bribe	-14.15	-12.32	-0.221	-0.211	-30.65	-30.81	-0.153	-0.159	-0.156	-0.155	-0.048	-0.049
locations	(15.18)	(15.36)	(0.091) *	(0.092) *	(7.73) **	(7.58) **	(0.023) **	(0.023) **	(0.168)	(0.169)	(0.016) **	(0.017) **
Injury	-30.90	-1.79	-0.263	-0.340	0.66	-2.83	-0.008	-0.143	-0.292	-0.215	-0.030	-0.029
	(9.58) **	(5.89)	(0.100) **	(0.279)	(2.88)	(5.50)	(0.018)	(0.047) **	(0.184)	(0.728)	(0.010) **	(0.022)
Injury*High-bribe	-5.79	-3.65	-0.101	-0.104	-3.37	-3.62	-0.113	-0.122	0.310	0.310	-0.071	-0.071
locations	(22.64)	(22.61)	(0.150)	(0.152)	(12.00)	(11.89)	(0.034) **	(0.034) **	(0.217)	(0.218)	(0.019) **	(0.019) **
Interactions with												
provincial facilities	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Constant	156.91	157.54	4.254	4.253	(182.51)	(182.56)	-0.273	-0.275	0.282	0.281	-0.190	-0.190
	(64.96) *	(65.02) *	(0.432) **	(0.432) **	(84.78) *	(84.80) *	(0.100) **	(0.100) **	(0.729)	(0.733)	(0.065) **	(0.065) **
Observations	7,725	7,725	4,036	4,036	7,475	7,475	7,497	7,497	1,402	1,402	5,795	5,795

Notes: Additional interactions with provincial facilities include interaction terms acute*indicator for provincial/district hospitals and injury*indicator for provincial/district hospitals. Other control variables: regressions in Columns 5-8 include official payment, columns 9-10 include log official payment. Omitted illness category is chronic cases, for which the mean side payments are reported at the top of Table 2. All payment variables are in 1,000 VND (VND13,000 ~ USD1). "Pay side payment" is an indicator for paying a positive amount. Fixed effects regressions include facility fixed effects. Robust standard errors in parentheses. + Significant at 10%; * significant at 5%; ** significant at 1%.

Table 5: Differential Side Payments for Acute Illnesses in Central vs. Distant Locations

Dependent variables	Wait		Log Wait		Side Payment Amount		Pay Side Payment		Log Side Payment		Side Payment as % of Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log expenditure	-13.36	-13.39	-0.134	-0.134	26.06	26.20	0.067	0.068	0.268	0.267	0.039	0.039
	(7.99) +	(7.99) +	(0.054) *	(0.054) *	(10.44) *	(10.42) *	(0.012) **	(0.012) **	(0.084) **	(0.085) **	(0.008) **	(0.008) **
Acute	-18.53	2.22	-0.115	0.109	-5.84	2.16	-0.067	-0.062	-0.172	-0.090	-0.013	-0.003
	(7.19) **	(3.23)	(0.045) *	(0.133)	(4.04)	(1.59)	(0.011) **	(0.022) **	(0.080) *	(0.412)	(0.008)	(0.010)
Acute*Central cities	14.16	21.12	0.299	0.420	-69.42	-58.63	-0.202	-0.143	-0.100	-0.057	-0.076	-0.057
	(21.39)	(23.01)	(0.229)	(0.237)+	(16.15) **	(17.88) **	(0.049) **	(0.050) **	(0.269)	(0.275)	(0.032) *	(0.034) +
Injury	-33.57	-1.90	-0.323	-0.338	0.36	-2.41	-0.055	-0.141	-0.083	-0.199	-0.063	-0.028
	(10.61) **	(5.97)	(0.076) **	(0.281)	(5.69)	(5.53)	(0.016) **	(0.047) **	(0.105)	(0.726)	(0.009) **	(0.022)
Injury*Central cities	3.26	7.25	0.620	0.684	-9.37	-8.63	0.038	0.083	0.301	0.214	0.044	0.077
	(29.27)	(33.03)	(0.364) +	(0.374) +	(41.17)	(41.68)	(0.120)	(0.121)	(0.356)	(0.363)	(0.056)	(0.057)
Acute*High-bribe locations		-14.18		-0.244		-25.62		-0.147		-0.151		-0.044
		(15.98)		(0.094) **		(8.36) **		(0.024) **		(0.171)		(0.017) *
Injury*High-bribe locations		-4.38		-0.140		-2.17		-0.124		0.294		-0.074
		(23.49)		(0.154)		(11.94)		(0.035) **		(0.221)		(0.020) **
Interactions with provincial facilities	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Constant	158.75	158.68	4.288	4.281	-184.31	-185.68	-0.276	-0.286	0.285	0.277	-0.194	-0.197
	(65.175)*	(65.17) *	(0.431) **	(0.431) **	(85.33) *	(85.11) *	(0.100) **	(0.100) **	(0.728)	(0.733)	(0.065) **	(0.065) **
Observations	7,725	7,725	4,036	4,036	7,475	7,475	7,497	7,497	1,402	1,402	5,795	5,795

Notes: The central cities are Hanoi and HoChiMinh City. Additional interactions with provincial facilities include interaction terms acute*indicator for provincial/district hospitals and injury*indicator for provincial/district hospitals. Other control variables: regressions in Columns 5-8 include official payment, columns 9-10 include log official payment. Omitted illness category is chronic cases, for which the mean side payments are reported at the top of Table 2. All payment variables are in 1,000 VND (VND13,000 ~ USD1). "Pay side payment" is an indicator for paying a positive amount. Fixed effects regressions include facility fixed effects. Robust standard errors in parentheses. + Significant at 10%; * significant at 5%; ** significant at 1%.

Table 6: Differential Side Payments for Acute Illnesses at Facilities of Different Audit Frequencies

Dependent variables	Wait		Log Wait		Side Payment Amount		Pay Side Payment		Log Side Payment	Side Payment as % of Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Log expenditure	-1.95	-2.15	0.101	0.072	-0.57	-1.81	0.027	0.011	-0.289	0.004	0.000
	(4.51)	(4.49)	(0.304)	(0.308)	(2.95)	(2.74)	(0.045)	(0.043)	(0.583)	(0.021)	(0.020)
Acute	-1.36	-1.21	-0.254	-0.237	0.24	3.38	0.020	0.067	-0.156	0.014	0.032
	(2.96)	(3.05)	(0.287)	(0.306)	(2.29)	(1.79) +	(0.038)	(0.036)+	(1.172)	(0.018)	(0.017) +
Acute*No. of audits	0.20	0.20	0.047	0.046	-0.19	-0.13	-0.009	-0.008	-0.035	-0.002	-0.002
	(0.24)	(0.25)	(0.039)	(0.040)	(0.12)	(0.11)	(0.003) **	(0.003) **	(0.058)	(0.001) **	(0.001) **
Injury	-1.84	-4.98	-0.225	-0.422	-3.81	-0.59	-0.093	0.012	-0.419	-0.016	0.010
	(5.98)	(5.12)	(0.600)	(0.590)	(5.16)	(3.52)	(0.081)	(0.065)	(3.133)	(0.038)	(0.041)
Injury*No. of audits	-0.13	-0.14	-0.023	-0.014	-0.17	-0.09	-0.008	-0.006	0.035	-0.002	-0.002
	(0.37)	(0.38)	(0.079)	(0.077)	(0.26)	(0.23)	(0.005)	(0.004)	(0.406)	(0.002)	(0.002)
Acute*High-bribe		-1.62		-0.090		-27.09		-0.402			-0.133
locations		(5.27)		(0.404)		(7.84) **		(0.105) **			(0.041) **
Injury*High-bribe		15.51		0.907		-20.51		-0.613			-0.141
locations		(12.21)		(0.483) +		(16.62)		(0.152) **			(0.050) **
Constant	23.04	24.61	1.575	1.804	6.88	16.18	-0.017	0.095	4.045	0.027	0.057
	(35.40)	(35.23)	(2.377)	(2.409)	(21.60)	(19.98)	(0.357)	(0.343)	(4.896)	(0.163)	(0.160)
Observations	1,064	1,064	373	373	1,051	1,051	1,051	1,051	180	917	917

Notes: Number of audits indicates the number of supervision/inspection visits each facility received during the 12 months prior to the interview, same period as the payment data. "Pay side payment" is an indicator for paying a positive amount. All regressions include facility fixed effects. Regression of log side payment including high-bribe interaction terms (not reported) has highly colinear covariates and gives the same results as in column 9. Other control variables: regressions in Columns 5-8 include official payment, columns 9-10 include log official payment. Omitted illness category is chronic cases, for which the mean side payments are reported at the top of Table 2. All payment variables are in 1,000 VND (VND13,000 ~ USD1). Robust standard errors in parentheses. + Significant at 10%; * significant at 5%; ** significant at 1%.