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Corruption Forms and Health Care Provision in Douala Metropolis Public Hospitals of Cameroon

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Abstract. This study analyzes and highlights the most practised forms of corruption in public hospitals of Douala metropolis in Cameroon, namely corruption with theft and that without theft. The results of our analyzes show a predominance of the form without theft, this regardless of the hospital, and this allowed us to classify hospitals based on the dominant form. It appears that the General and Deido Hospitals are health facilities where corruption without theft is the least and the most practiced respectively, while the Cité des Palmiers and New Bell hospitals are those where corruption with theft is the least and the most practiced. An estimate through odds ratios revealed for instance that the odds would be about 5.46 times higher that the form without theft is not practiced at the General hospital compared to other hospitals, and about 11.11 times that it is practiced at Deido hospital compared to all hospitals.
Keywords. Corruption forms, Health system, Odds ratio, Cameroon.
JEL. I10, I14, I15.

1. Introduction

Health is a fundamental right and an engine of both personal and social development. It has a significant positive impact on economic growth, poverty reduction and consequently on the well-being of populations. Unfortunately, the 2006 global report by Transparency International shows that corruption pervasiveness in the health sector undermines populations' access to health care. Certainly, corruption negatively affects all countries of the world, but its effects are particularly dramatic in developing and transition economies already under-resourced (Vian, 2002). Gangrened by corruption which is both the cause and consequence of their ills, developing countries have seen their health system being deteriorated (World Bank, 2004). Several studies demonstrate that informal payments are responsible for the deterioration of the quality of health care provided to the poorest patients (Szende, & Culyer, 2006). Investigations carried out in Eastern Europe and Asia highlight that corruption in the form of informal payments of health care encourages patients to postpone their medical consultations (Lewis, 2000), hence the call of the United Nations Development Program (UNDP, 2011) to fight against this scourge in all its forms (gifts, embezzlements, bribes, etc.) in the health sector.

To better cope with this phenomenon, investigations have been carried out over the last thirty years by various institutions (World Bank, Transparency International, the International Monetary Fund and Universities). Thus, starting from the popular definition that corruption is the abuse of public property for

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personal gain, most of these studies can be divided into two groups: those relating to grand corruption (Mauro, 2002; Akunyili, 2006) and those on petty corruption (Maestad, & Mwisongo, 2007).

Great corruption distorts the allocative role of the State in that it affects the structure of public expenditure for programs facilitating the taking of bribes (Mauro, 2002). In this perspective, investments in the health sector often favour the building of new hospitals, and the purchase of very expensive high-tech equipment at the detriment of primary health care programs such as vaccination and family planning (Mauro, 2002; Winston, 1979). As concerns petty corruption, it introduces discrimination of patients and creates scarcity of goods and services. For instance, to allow patients to pay bribes, medical staff may be tempted to create queues, simulate drugs shortage or pretend that the most effective drugs are expensive. Because they lengthen the consultation period and shorten the time devoted to patients, artificial queues contribute to lower the quality of medical services (Maestad, & Mwisongo, 2007). Shleifer & Vishny (1993) argue that the ability of the State agent to handle the consultation period for his/her own account increases when the latter is in a monopoly situation. He/she can collect bribes in two ways: corruption with stealing or corruption without stealing. In the first case, the price of the service is equal to the bribe and in the second case, the service price is equal to the official price plus the bribe. These works are important because they enable to refine strategies to fight against corruption. In particular, it is now known that to reduce corrupt practices, State agents should be asked to give account for their actions (Klitgaard, 1989; Vian 2007). However, they are limited not only because of the ignorance of consequences of the phenomenon, but also, because they did not take into account the different forms of corruption. Thus, if the theoretical literature provides a detailed reading grid (Shleifer & Vishny, 1993; Kaufman & Wei, 1999; Lui, 1985) of specific situations, the empirical literature on contrary remains limited.

In particular, Gupta *et al.* (2002) tried to fill these gaps, by applying the model of Shleifer & Vishny (1993) for 71 countries based on data from CIET (Community Information, Empowerment, Transparency) International, World Bank and Transparency International. This study is important because it helped to know that corruption negatively affects indicators of health care provision. It also reveals that corruption has a negative impact on girls' education. Unfortunately, it does not highlight the practiced forms of corruption which are the foundation of Shleifer & Vishny's model (1993).

Indeed, the data used by Gupta *et al.* (2002) are the result of surveys of businessmen plying countries worldwide, unfortunately without getting in touch with users of public hospitals. As these authors themselves stated, the respondents do not have information about corruption which is practiced between officials of these hospitals and users. However, such information enable to test for each hospital and in relation to all the selected hospitals, if according to Shleifer & Vishny's (1993) view, the price of a service is equal either to the bribe only (corruption with theft) or to the official price plus the bribe (corruption without theft). In contrast, the data used in this study allow us to distinguish these forms of corruption on the one hand, because they result from a survey (Thanks to the African Economic Research Consortium (Nairobi, Kenya) for the funding of the survey) of users usually attending these hospitals, and to make a typology according to the dominant form of corruption, and this by hospital and for all hospitals in general on the other.

The second part of this work succinctly presents a brief review of the literature on the impact of corruption forms on health care supply. The methodological aspects are presented and discussed in the third part. The fourth part highlights the functioning of health system in Cameroon, and the various corrupt practices encountered in this system. The results obtained are presented, interpreted and discussed in part five, this before concluding the study.

2. Literature Review

It is difficult to set corruption boundaries; they are closely linked to local laws and customs. Due to the difference in customs, an act considered as corrupt in region A may not be the same in region B. However, in many so-called corruption cases, everyone can much agree to say that this type of behaviour is reprehensible and socially harmful to the society (Klitgaard, 1989). Vian (2006) proposes a series of very common forms of corruption in hospitals' administration. These forms can be classified into three categories, as they are primarily related to the functioning of private health facilities; secondly, to the recruitment of students in medical training schools, thirdly, to the transfer of health professionals in high positions and finally, the abuse of medical goods and services.

In the first category, the common corruption forms are absenteeism and diversion of patients. Prado & Chawla (2006) define absenteeism as the unjustifiable or unexplained absence of employees. When public hospitals' workers benefit from absenteeism by making profit for instance from income generated by a second job (Yamb, & Bikoué, 2016), the concept of absenteeism joins the definition of bribery stated by the World Bank: "the use of the position of manager of public service for personal profits". Based on the statistics of countries as disparate like Bangladesh, Ecuador, India, Indonesia, Peru and Uganda. Chaudhury *et al.* (2006) estimate an average absenteeism of 19% for education and 35% for health workers.

The diversion of patients is also related to the functioning of the private sector. Indeed, several private health facilities have as promoters, the medical doctors working in public hospitals. For these doctors, this practice aims at welcoming patients in public hospitals, and then guide them to their private clinics for medical follow up (Yamb, & Bayemi, 2015). This form of corruption is related to the privatization of public hospitals insofar as doctors make good use their functions to get private clients.

In theory, absenteeism and diversion of patients are explained both by the level of wages, the flexibility of worked hours as well as the risks incurred (Allen, 1981). In developing countries, low wages, job loss which is not a big risk could therefore encourage absenteeism. It also seems that the possibility of finding a new job is another factor favouring absenteeism and diversion of patients (Shapiro & Stiglitz, 1984). Thus, when the labour market is buoyant, absenteeism and diversion of patients increase.

To address this first category of corruption forms, it is necessary to increase the salaries of health professionals. But for most developing countries, this solution is not possible, given the insufficiency of budgetary resources. In contrast, in some countries where wages can be increased, it is questionable whether this measure alone is sufficient. However, wages increase reduce bribes, but do not cancel them (Rose-Ackerman, 1998). As a matter of fact, a high salary may simply lead a civil servant to require a consistent bribe able to compensate the risk of losing what is now a quite interesting job.

In the second category of corruption forms adopted by Vian (2006), we can retain the privileged access to medical training schools and the sale of offices in hospital administrations.

Students or parents who agree to rely on bribes for admissions in medical schools threaten the expertise of the well-trained medical staff. In her article on the "Taxonomy of Corruption in Higher Education," Rumyantseva (2005) notes that Higher Education has a decisive influence on youths' values and beliefs on the concepts of good and evil, and on leaders of a country. Thus, corruption in education is a priority problem.

Another common abuse is, for a medical doctor, to pay bribe to his/her hierarchical superior in order to be either maintained or transferred to a "juicy" position. The Sale of positions is opposed to merit principle. Generally speaking, in systems where rent seeking provides better opportunities for gains than the productive sector, the allocation of talents will experience inflection, and members

of the elite will turn to non-productive activities, thus determining a reduction of social surplus and growth (Murphy, Shleifer & Vishny, 1991; 1993).

To deal with the two last forms of corruption, meritocracy must be institutionalized not only in the recruitment of candidates in medical schools, but also in the processes of officials' appointments to senior positions.

The institutionalization of merit principles is made difficult by the fact that some actors of officials' promotion through corrupt acts do not consider actions they take as such. For example in Africa, some elected officials who use their discretion power, their hierarchical position to promote the appointment of their nationals (clan, community, association), do not consider this practice as corruption, since it is not perceived as such by the actors. Corruption there would simply be an extension of traditional practices of gifts exchange (Médard, 2002).

The third category which is the abuse of goods and services that public hospitals' officials are supposed to provide patients with is basically translated in the stealing of drugs, improper payments and intervention of personalities.

The stealing of drugs is another common problem in public hospitals. Certainly, all thefts are not part of corrupt actions, but from the moment which those who have power systematically abuse their position to appropriate medications belonging to hospitals, we can talk about corruption. Large quantities of drugs and medical equipment are diverted from the central reserves and individual stocks to be sold for personal gain (Ferinho, *et al.* 2004).

In developing countries, health expenditure on pharmaceuticals and drugs can represent between 20 and 50% of public health budget (Vian, 2002). On average, the share on corruption is from 10 to 25% of the public purchasing in the health sector (WHO, 2008). Corruption in the field of medications and medical equipment reduces access to essential drugs, particularly for the most vulnerable groups. The absence of drugs can make a treatment to be postponed or stopped. Corruption reduces the quantity of drugs available in hospitals. The quality of health care decreases. To put essential drugs at affordable prices at the disposal of everyone is a required condition to improve national health indicators.

To curb corruption in drugs promotion activities, governments are called upon to prohibit the practice of gifts according to the WHO Ethical guidelines on drug promotion (WHO, 2008). But such a measure is limited in many African countries where the practice of gifts is part of the custom (Klitgaard, 1989). According to the World Health Organization, to improve access to drugs might save the lives of over 10 million people each year (WHO, 2004).

In many developing countries, some patients have access to public services thanks to the intervention of high personalities from officials managing these services. Other patients access through informal payments. According to surveys that the National Institute of Statistics conducted in Cameroon (INS, 2011) from households in 2007, these two approaches are common in hospitals with a high prevalence of irregular payments grouped into corruption without theft and corruption with theft. However, the survey conducted by the INS in 2007 did not highlight these two forms of corruption, hence the relevance of this study.

3. Methodological Aspects

We will first present the basic model, secondly, the technique used in determining the sample size and, finally, the estimation method.

3.1. The Basic Model

Among corruption models, that of Shleifer & Vishny (1993) appears to be the easiest to analyze, within the framework of the provision of social services by the State, the causes and consequences of corruption. In their scheme, bribes are paid by consumers for goods and services provided by the State. State officials are supposed to exercise monopoly power by determining the quantities of goods or services offered, either by multiplying the deadlines or simply refusing to serve

them. Two cases of corruption are considered, and all have harmful consequences for the provision of goods and services.

In the first case, the official gives a higher price that is official. P = Value + bribe. For the official, the marginal cost is equal to the official price, and the agent determines the quantity offered by equating the marginal revenue to the marginal cost as in the case of a classic monopoly. Bribe is a tax. The official retains the bribe and transfers the official price to the public Treasury. Figure 1 below illustrates this case as "corruption without theft ". The result is that bribe increases the price and decreases the amount. In these circumstances, some consumers will inevitably be squeezed out of the market.

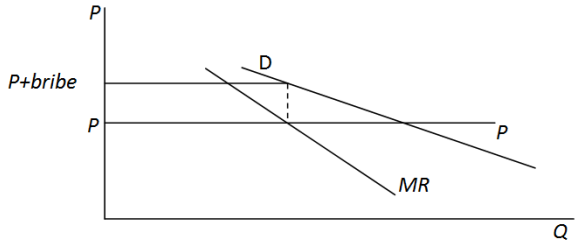

Figure 1. *Corruption with Theft*
Source: Adapted from Shleifer & Vishny (1993)

In the second case, the official does not transfer to the public Treasury the official amount required by the State for the service rendered. This is "corruption with theft" (Fig.2). In another perspective, the State service is stolen by the agent in charge of delivering it, and the bribe is collected from the consumer. In this case, the State agent still equates marginal revenue to marginal cost, but the latter remains zero for him/her. Thus, the bribe that the consumer pays may be lower than the official price. From this point of view, the cost of the provision of goods and services is under-charged. Such a situation is attractive for the consumer, and aligns his/her interests with those of the official, thus making corruption more difficult to detect. This creates a loss of revenue to the public Treasury, and the agent is able to exercise more discretion than in the case of corruption without theft. He/she may choose to lower the price level, and thus increase the demand for a good or service, and increase the loss of the public Treasury income. A smallest bribe has the advantage of reducing the risk of being detected.

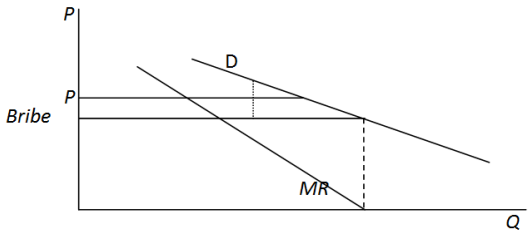

Figure 2. *Corruption without Theft*
Source: Adapted from Shleifer & Vishny (1993)

3.2. Determination and characteristics of the sample size[1]

As we are unable to determine an approximate P value through a prior survey (because to our knowledge, no investigation about corruption in public hospitals has yet been carried out in Cameroon), that is to say, the proportion P of respondents in the context of a preliminary study, we set P to 0.5, this value representing the worst case, that is to say, the value which gives the greatest possible standard deviation for the sampling distribution of $\overline{P}$. In this case, the

[1] This determination of the sample size and its features are inspired from the Article (Yamb, & Bayemi, 2015).

required sample size to ensure an error margin E (in absolute value) not exceeding 5% with a confidence level of 95% will be about (Baillargeon, 1989):

$n = \frac{Z^2_{\alpha/2} \times (0,5)(0,5)}{4E^2} = \frac{(1,96)^2}{4 \times (0,05)^2} \approx 384$ with E The margin error, Z The standard normal distribution, $\overline{P}$ the estimator of P in the preliminary study. The distribution of the number of individuals to be interviewed is done from the number of medical and paramedical staff in each hospital selected as shown in the following Table.

Table 1. *Distribution of the Number of Patients to Interview per Hospital*

Hospital	Staff Number	Hospital Importance (In %)	Number of Users to Interview
Laquintinie	630	41	157
General	326	21	81
New-Bell	113	7	27
Bonassama	103	7	25
Palmiers	100	6	25
Deido	84	5	21
Logbaba	80	5	20
Nylon	62	4	15
Bonamoussadi	57	4	14
Total	1, 555	100	384

Source: Our estimates based on information collected at the Regional Health Delegation Littoral on the number of hospitals

The first column describes the type of hospital, the second column the total number of medical and paramedical staff, the third indicates the weight or importance of the personnel of each hospital as compared to the staff of all hospitals in general, and the last column, the approximate number of people who should be interviewed by hospital, based on the weight of each hospital. We came up with a total of 384 interviewees. For prudence sake, we distributed 415 questionnaires with the assumption that all incorrectly completed questionnaires would be eliminated, this to help approximately achieve the sample's size. Thus, 407 questionnaires were filled out correctly and therefore validated. It is on the basis of these 407 questionnaires that the analysis was performed.

3.3. Estimation methodology: an approach through odds ratios

To highlight the two corruption forms most practiced in the provision of health care in Cameroonian public hospitals and those of Douala in particular, two types of questions were asked to users namely: to be consulted, the patient only pays a bribe (corruption with theft) on the one hand, and, to be consulted, the patient pays the required official fees plus the bribe (corruption without theft) on the other. We then preceded with an estimate through odds ratios while identifying different hospitals affected by the phenomenon. This was apprehended by constructing for each hospital the following double entry contingency table for each of the forms practiced (with and without theft):

Table 2. *Contingency Table for the Form Practiced*

	Corruption	Form practiced
Hospital	No	Yes
Hospital *i*	N_{11}	N_{12}
All hospitals *j*	N_{21}	N_{22}

In table 2 and for a given form, each hospital i is compared with all hospitals *j*, this through the calculation of the following odds ratio:

$$\theta_{i/j} = \frac{N_{11}N_{22}}{N_{21}N_{12}}$$

An odds ratio $\theta_{i/j} \succ 1$ stipulates that for hospital i, the practiced form has a smaller effect compared to all remaining hospitals j, and an $\theta_{i/j} \prec 1$ will have the opposite effect.

4. Hospitals' Functioning and Corrupt Practices

As in the entire Cameroon, in Douala, the health sector is made up of private and public hospitals. If we take into account the last category on which the present study is based, there are essentially reference and district hospitals which operate under the Ministry of Health. The first two are: the Laquintinie and the General Hospitals, and the second: the Deido Hospital, the Bonassama hospital, the Bonamoussadi hospital, the Cité des Palmiers Hospital, the New-bell hospital, the Nylon hospital and the Logbaba hospital. District hospitals are dedicated in particular to firstly ensure a better quality of health care through motivated and disciplined staff, and for whom the patient becomes their only concern. Then, these hospitals must ensure a better decentralized management of money recovery of medical procedures, drugs and prepayments to be set up for progressive empowerment. And finally, they must support emergencies and hospitalized patients. Reference hospitals are above district hospitals. It is all about high level technical structures which in terms of specialized health care assure reference and anti-reference, and welcome patients from district hospitals. To assure the reference, these two hospitals have specialized doctors and special medical equipment which are absent in district hospitals. However, the status of the Laquintinie hospital is somewhat different from that of the General hospital. With legal personality and financial autonomy, the General hospital is more independent from the Ministry of Health than the Laquintinie hospital. The first recruits its own medical doctors and pay them higher salaries than those earned by doctors at the Laquintinie hospital and others. The latter are paid by the Ministry of Finance. In early 1990s, Cameroonian civil servants have experienced a decrease of more than 50% of their salaries within the framework of the structural adjustment programs enacted by the Bretton Woods' institutions. Meanwhile, they have certainly recorded some salary increases. But these have failed to meet their former living standards.

Thus, following ECAM3 (National Institute of Statistics of Cameroon, 2007), nearly 85% of households' heads living in urban and semi-urban feel that the level of corruption in the health sector is high in this country. But the magnitude of the phenomenon varies from one region to another (69.8% in Douala and 61.1% in Yaoundé). This reflects a general malaise. As a matter of fact, if access to basic social services including health is a constant concern of the public authorities, corruption in the health sector is like a gangrene which tends to negate the efforts of the State (INS, 2011).

5. Findings and Discussion

5.1. Descriptive Statistics And Estimate Through Odds Ratios

The table below identifies the two most practiced corruption forms in public hospitals in the city of Douala, namely the form with theft and the one without theft, as well as a classification of hospitals based on the least practiced form: it is common that whatever the hospital, the form without theft predominates.

Table 3. *Typology of Hospitals Based on the Least Practiced Corruption Form*

	To be consulted, the patient only pays a bribe (corruption with theft)					The patient who wants to be consulted must pay official fees plus the bribe (corruption without theft)			
Hospital	No	Yes	Total	Rank	Hospital	No	Yes	Total	Rank
Palmiers	23(88.5%)	3(11.5%)	26(100.0%)	1	General	54(64.3%)	30(35.7%)	84(100.0%)	1
General	74 (88.1%)	10(11.9%)	84(100.0%)	2	Logbaba	13(61.9%)	8(38.1%)	21(100.0%)	2
Logbaba	18 (85.7%)	3(14.3%)	21(100.0%)	3	Bonassama	13(39.4%)	20(60.6%)	33(100.0%)	3
Bonamoussdi	12(85.7%)	2(14.3%)	14(100.0%)	3	New-bell	11(39.3%)	17(60.7%)	28(100.0%)	4
New-bell	23(82.1%)	5(17.9%)	28(100.0%)	5	Palmiers	10(38.5%)	16(61.5%)	26(100.0%)	5
Bonassama	26(78.8%)	7(21.2%)	33(100.0%)	6	Bonamoussadi	4(28.6%)	10(71.4%)	14(100.0%)	6
Laquintinie	114 (69.9%)	49 (30.1%)	163(100.0%)	7	Laquintinie	26(16.0%)	137(84.0%)	163(100.0%)	7
Deido	15 (68.2%)	7 (31.8%)	22(100.0%)	8	Nylon	2(12.5%)	14(87.5%)	16(100.0%)	8
Nylon	4(25.0%)	12(75.0%)	16(100.0%)	9	Deido	1(4.5%)	21(95.5%)	22(100.0%)	9
Total	309(75,9%)	98(24,1%)	407(100,0%)		Total	134(32.9%)	273(67.1%)	407(100.0%)	

Source: Our estimates based on the survey results

The above table shows a classification of hospitals from the least to the most corrupt (from 1 to 9), based on the form practiced. We see that if we take for example the form without theft, the General Hospital ranks first. In other words, it is the least corrupt health facility compared to all hospitals. The same thing goes with the Deido Hospital which ranks ninth, that is, the last, thus appearing as the most corrupt health facility.

The table below shows the estimated odds ratios for each hospital compared to all hospitals, as well as the corresponding confidence intervals for each form practiced. Indeed, the estimate through odds ratios not only refines the analysis of the descriptive results of table 3, but it also confirms them: in fact, we find that the General Hospital comes as the structure that has the least probability for a `particular form of corruption to be practiced, compared to other hospitals. Estimates by odds ratios stipulate for example that for the form without theft, we have about 5.46 times more likely that it is not practiced in this hospital compared to other hospitals, while these odds are about 11.11 (1/0.09) times higher that this form is practiced at the Deido hospital compared to other hospitals.

Table 4. *Odds Ratios and Estimated Confidence Intervals of Hospital i Compared to all Hospitals j*

Hospital	Corruption with theft		Corruption without theft	
	$\hat{\theta}_{i/j}$	Confidence Interval at 95% $\hat{\theta}_{i/j}$	$\hat{\theta}_{i/j}$	Confidence Interval at 95% de $\hat{\theta}_{i/j}$
General	2.77	(1.37 ; 5.60)	5.46	(3.27 ; 9.13)
Laquintinie	0.58	(0.37 ; 0.92)	0.24	(0.14 ; 0.38)
Logbaba	1.95	(0.56 ; 6.80)	3.55	(1.43 ; 8.81)
Deido	0.66	(0.26 ; 1.67)	0.09	(0.01; 0.67)
Bonamoussadi	1.93	(0.42 ; 8.82)	0.80	(0.24 ; 2.62)
Bonassama	1.19	(0.50 ; 2.84)	1.35	(0.65 ; 2.82)
Palmiers	2.54	(0.74 ; 8.67)	1.30	(0.57 ; 2.93)
Nylon	0.09	(0.029 ; 0.03)	0.28	(0.06 ; 1.25)
New- Bell	1.49	(0.55 ; 4.04)	1.34	(0.61 ; 2.96)

Source: Our estimates based on the results of Table 3.

5.2. Discussion

Estimates results through odds ratios show that the General hospital reveals itself as the structure where the form with or without theft is less common. On the contrary, these forms are the most practiced at Nylon (form with theft) and Deido hospitals (form without theft) respectively.

That said, hospitals where the form with theft is quite high can be considered as structures where the basic rules of hospital management are not respected either by managers or by the agents, and even less by users. Indeed in these hospitals, the patient acts as if he/she was in a conquered territory. The informal outweighs the formal. During consultation for example, some doctors do not hesitate to appeal to intermediaries who informally welcome patients and direct them to their offices. These patients are not officially registered by the administration of the hospital. It is precisely during this registration that the patient pays the official ticket that gives him/her access to consultation by the doctor. Consequently, the actual number of

patients care for at the end does not correspond to the number recorded. A situation obviously profitable to the doctor, his/her intermediaries, and even the user (Shleifer & Vishny 1993). However, in hospitals where registration is done according to the regulations in force (in the formal case), this practice is scarce. In this case, the number of patients care for almost matches the number recorded. The doctor in this case may require from the patient a bribe in addition to the registration fee. Institutional failures can therefore promote corrupt practices, notably the form without theft.

6. Conclusion

This study aimed at highlighting the most obvious corruption forms in public hospitals in Douala, namely the form without theft and that with theft. A classification based on different forms and by hospital was also performed according to the least practiced form: it can be seen that in all hospitals, the form without theft is the most practiced. And with regard to the latter, the General Hospital stands as the health facility where it is the least practiced, and the Deido Hospital as the one where it is most practiced. The Nylon and Cité des Palmiers hospitals for the form with theft are those in which it is the most and the least practiced respectively. In fact, the quality of institutions set up plays a key role in the practice of any form of corruption. Indeed, hospitals where hospital regulations are not respected excel in the practice of the form with theft. Informal in this case takes over the formal insofar as some patients are not registered by the administration of the hospital when they are care for. This is what favours this form of corruptive practice where nothing goes into the State's coffers. On the contrary, the form without theft is more practiced in hospitals where patients' registration is done according to standards. In this case, the required official amount for consultation goes into the hospital's coffers. However, the doctor pockets the bribe.

This study is limited at least on two points. Firstly, it concerns public hospitals only. Private hospitals are not taken into account. Yet, it is possible that some forms practiced in the public are not seen in the private. Secondly, it ignores the users' characteristics which nevertheless can serve as discrimination tools for the doctor looking for a higher gain in his/her collection of bribe. Several studies (Rose-Ackerman 1978; Johnston 1986; Cartier & Bresson, 1995) show that corruption effects highly depend on transaction characteristics and on agents who develop them. Future researches can help fill those gaps.

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