1 The causes of corruption in the health sector: a focus on health care systems

An Iraqi trainee nurse works with newborns in the special care baby unit of Yarmouk Hospital on 10 May 2005 in Baghdad, Iraq. Despite spending hundreds of millions of dollars on the health ministry, endemic corruption has led to a lack of drugs and helped keep infant mortality and malnourishment rates as high as during the Saddam Hussein era. (Scott Peterson/ Getty Images)

Corruption exists in all types of health care systems. William Savedoff and Karen Hussmann look at the reasons why the health sector is especially vulnerable to corruption, and ask whether the vulnerabilities are different in kind and in magnitude, depending on the type of system chosen. An analysis of Colombia and Venezuela shows that very different manifestations of corruption emerged as the two countries' health care models diverged.

If there is corruption, no matter which system is opted for, and how well it is funded, health spending may not lead to commensurate health outcomes. In the United States, Americans spend more on health care than many other industrialised countries, yet health outcomes are arguably no better. At the opposite end of the scale is Cambodia,

which is reliant on hundreds of millions of dollars per year in overseas development assistance to prop up its health care system, and where known cases of tuberculosis are increasing.

Why are health systems prone to corruption?

William D. Savedoff and Karen Hussmann[1]

Corruption in the health sector is not exclusive to any particular kind of health system. It occurs in systems whether they are predominantly public or private, well funded or poorly funded, and technically simple or sophisticated. The extent of corruption is, in part, a reflection of the society in which it operates. Health system corruption is less likely in societies where there is broad adherence to the rule of law, transparency and trust, and where the public sector is ruled by effective civil service codes and strong accountability mechanisms.

These general factors affect the extent of corruption in any sector, but the health sector has a number of dimensions that make it particularly vulnerable to abuse. No other sector has the specific mix of uncertainty, asymmetric information and large numbers of dispersed actors that characterise the health sector. As a result, susceptibility to corruption is a systemic feature of health systems, and controlling it requires policies that address the sector as a whole.

Two other factors that contribute to corruption in health care are worth mentioning. First, the scope of corruption in the health sector may be wider than in other sectors because society frequently entrusts private actors in health with important public roles. When private pharmaceutical companies, hospitals or insurers act dishonestly to enrich themselves, they are not formally abusing 'public office for private gain'. Nevertheless, they are abusing the public's trust in the sense that people and organisations engaged in health service delivery are held to a higher standard in the interests of protecting people's health. The medical profession, in particular, is given great latitude in most countries to police itself in return for assuming professional responsibility to act in the best interests of patients (see 'Fighting corruption: the role of the medical profession', Chapter 5, page 94).

Second, the health sector is an attractive target for corruption because so much *public* money is involved. The world spends more than US $3.1 trillion on health services each year, most of it financed by governments. European members of the OECD collectively spend more than US $1 trillion per year and the United States alone spends US $1.6 trillion.[2] In Latin America, around 7 per cent of GDP, or about US $136 billion, is consumed by health care annually, of which half is publicly financed. In lower-income countries, private health spending is often greater than public health spending, although the latter is still a significant amount. The share of total government revenues spent on health care ranges from under 5 per cent in Ethiopia, Egypt, Indonesia and Pakistan to more than 15 per cent in Ireland, Germany, the United States and Costa Rica. These large flows of funds represent an attractive target for abuse.

Why are health systems prone to corruption?

No other sector of society has the specific mix of uncertainty, asymmetric information and large numbers of dispersed actors that characterise the health sector. These features combine in ways that systematically create opportunities for corrupt behaviour, while making it difficult to ensure the transparency and accountability that would inhibit this.

Uncertainty is a central feature of the health sector and has far-reaching implications, as was first argued by Kenneth Arrow in 1963.[3] Arrow showed that uncertainty regarding who will fall ill, when illness will occur, what kinds of illnesses people get and how efficacious treatments are make the market for health care services very different from other markets in terms of the scope for *market failure*. Due to uncertainty, medical care service markets and health insurance markets are both likely to be inefficient.

Uncertainty pervades the health care sector. People may not even know that they are ill or that they could benefit from health care services – as frequently happens to people with high blood pressure, anaemia or the early stages of diabetes. When people fall ill and seek medical care, they cannot judge whether the prescribed treatment is appropriate. If they get better, they may not know whether the treatment was necessary for their recovery. For example, people with viral infections are often prescribed antibiotics that are useless against viruses.

This uncertainty makes it difficult for those demanding medical care – patients or their families – to discipline suppliers of medical care, as occurs in other markets. Patients cannot shop around for the best price and quality when they are ignorant of the costs, alternatives and precise nature of their needs. In such situations, consumer choices do not reflect price and quality in the normal fashion, and other mechanisms – such as the licensing of professionals and facilities or even direct public provision – are introduced to allocate resources and determine what kinds of care are provided. As an additional consequence, the poor functioning of markets creates opportunities for corruption, and the uncertainty inherent in selecting, monitoring, measuring and delivering health care services makes it difficult to detect and assign responsibility for abuses.

The uncertainty surrounding health care leads people to insure themselves against illness. But the functioning of voluntary insurance markets leaves too many people without insurance and encourages the provision of too much health care for those who have it.[4] A common social response has been to establish mandatory health insurance coverage, which may resolve the market failures in health insurance but also introduces problems associated with ineffective public sector functioning.[5] The resulting engagement of public policy in the provision or regulation of health insurance is another significant avenue for corruption.

But the degree of uncertainty is not identical for everyone in the health sector, leading to a second systemic feature, namely *asymmetric information*. Information is not shared equally among health sector actors and this has significant implications for a health system's efficiency and its vulnerability to corruption. Health care providers

are better informed of the technical features of diagnosis and treatment than patients; pharmaceutical companies know more about their products than the doctors who prescribe them; individuals have certain kinds of information about their health that are not available to medical care providers or insurers; and providers and insurers may have better information about the health risks faced by certain categories of individuals than the individuals themselves.

When combined with differing interests among health sector actors, asymmetric information leads to a series of problems that are usefully analysed within the framework of *'principal–agent' relationships*.[6] In such a framework, the 'principal' hires an 'agent' to perform some function. When the agent has interests that differ from those of the principal *and* when the principal cannot get complete information about the agent's output, it is difficult to find contracts that are optimal. These two characteristics – diverging interests and incomplete information – are inherent and widespread in the health sector. For example, doctors have an interest in improving the health of their patients, but their choices of treatments and medications also may affect their income, professional status and working conditions. Whether doctors are hired by patients in the private sector or by public health services, they are entrusted with making decisions in the best interest of the patient, but may be tempted to provide substandard services or prescribe expensive treatments. Doctors are not the only agents in the health system. Those who manage health facilities, pharmaceutical companies, equipment suppliers or insurance agencies face complex incentives that may encourage them to reduce the quality of care, or promote the use of unnecessary diagnostics or treatments. When political interests are involved, any of these agents may be pressured to take actions that undermine health care or increase its costs.

While principal–agent problems in the health sector have mainly been analysed in terms of their impact on health system efficiency, these same problems increase opportunities for corruption. Furthermore, the difficulty of fully monitoring the actions of doctors, hospitals, pharmaceutical companies and regulators makes it hard to hold them accountable for the results of their actions. For example, patients usually lack information to monitor decisions made on their behalf, or judge whether they have been appropriately billed; insurance auditors have a hard time assessing whether billing is accurate and whether services rendered were necessary; regulatory agencies are hard-pressed to assure the quality of drugs and medical equipment, and the accuracy of labels and expiration dates. All of this establishes a system that is prone to corruption, and in which identifying and punishing corrupt practices is inherently difficult.

Finally, health systems are prone to corruption because of the *large number of actors* involved and the complexity of their multiple forms of interaction. These actors can be classified into five main categories (see Figure 1.1): government regulators (health ministries, parliaments, specialised commissions); payers (social security institutions, government office, private insurers); providers (hospitals, doctors, pharmacists); consumers (patients); and suppliers (medical equipment and pharmaceutical companies). The presence of so many actors exacerbates the difficulties of generating and analysing information, promoting transparency and even identifying corruption when it occurs. It increases the number of opportunities for corruption; for example, funds can be

diverted or misallocated at a ministry, state hospital board or local clinic by individuals working as managers, procurement officers, health professionals, dispensers, clerks or patients. And the involvement of so many actors multiplies the number and kinds of interests that might encourage corrupt behaviour. Actors may be tempted to abuse their positions for direct financial gain, to increase their prestige, political influence and power, or to expand their market share. When corruption is detected, it may be difficult to attribute it to a particular individual, or to distinguish corruption from a misjudgement or error.

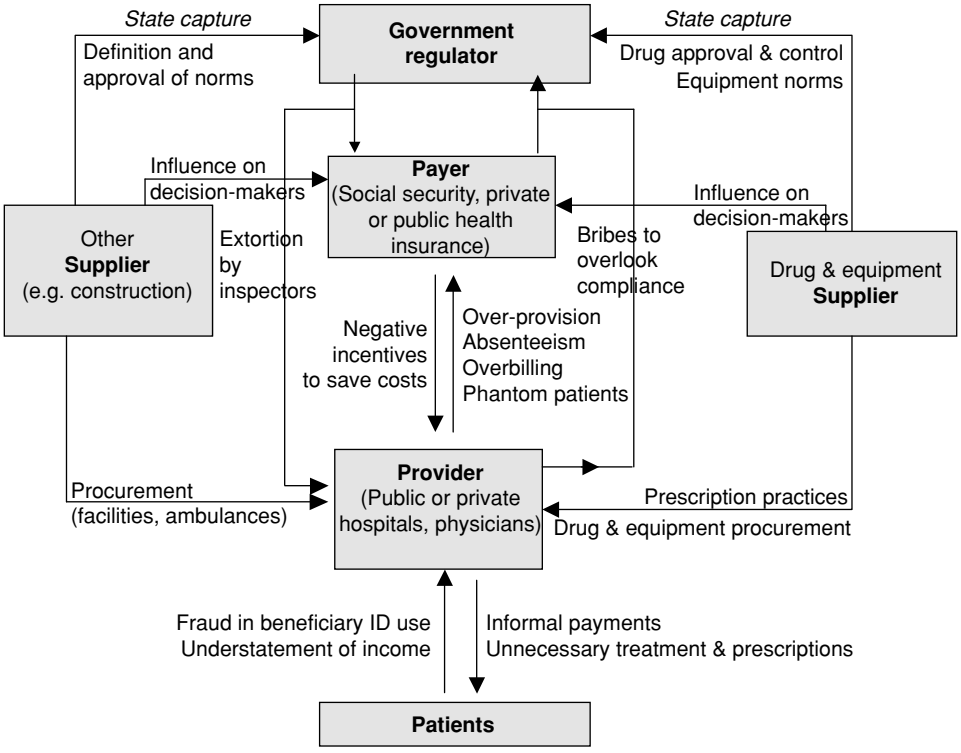

Figure 1.1: Five key actors in the health system

These three features – uncertainty, asymmetric information and large numbers of actors – systematically increase the likelihood that corruption will occur and that it will be difficult to detect, punish and deter in three distinct ways. First, they impair the normal functioning of a competitive market that might otherwise be harnessed to constrain illicit behaviour.[7] Second, they encourage the involvement of the public sector as a direct provider of health services, as insurer and/or as regulator, opening additional opportunities for corruption. Finally, these three features constrain efforts to generate reliable information, establish transparency and enforce accountability.

How are corruption and fraud manifested in the health sector?

Roles and responsibilities within health systems are split between regulators, payers, health care providers, suppliers and consumers in ways that make good decision-making difficult, even when everyone is thoroughly honest. When individuals who are willing to take advantage of this system are factored in, things become even more entangled. To see how this works, it is useful to consider, in turn, how each actor can use its position to defraud others.

Regulators (ministries of health, parliaments, supervisory commissions)

The basic uncertainty in health care services creates a potential role for government to protect consumers through supervision and improved information. It is common for governments to assume the role of verifying that medications are safe and effective, that health care practitioners have completed approved courses or have proven skills, and that facilities are adequately staffed and equipped. However, the existence of regulations opens avenues for corrupt activities. Pharmaceutical companies can skew research studies, influence review boards or simply bribe regulators to approve or speed up the processing of their applications. Health care providers and facilities may be tempted to pay a regulator to overlook lapses in licensing requirements. As in any sector, government inspectors can be tempted to abuse their position to extract bribes even when providers are in compliance.

Payers (social security organisations, health insurers)

Payers can be defrauded by other actors, but they can also engage in corrupt practices themselves. The public sector can act as a payer either through direct provision of care or as a public insurance agency. In the private sector, payers include commercial insurance firms and non-profit insurance organisations. Individuals can also be considered 'payers' when they pay fees directly to providers (see 'Patients' below).

When the public sector provides services directly, it generally allocates resources through the normal public budgetary process. This creates opportunities for political interests to contravene decisions that are in the best interest of patients. For example, decisions may be made to favour regions governed by political allies, rather than following criteria of equity and efficiency.

When the public sector manages an insurance fund, as is common in countries with mandatory social insurance, corruption can occur when officials embezzle funds. The public insurer can also allocate resources for political gain and at the expense of patients or taxpayers.

Private insurers, whether for-profit or non-profit, can engage in corrupt activities when they collaborate in public programmes, or are subjects of regulation. They may defraud public sector programmes that subsidise health care through fraudulent billing. They may reject insurance claims that they are committed to reimburse by law. And they may bribe insurance regulators to ignore illegal practices.

Health care providers (hospitals, doctors, nurses, pharmacists)

Health care providers have a wide range of opportunities to engage in corruption because they have such a strong influence over medical decisions, including prescribing medications, determining the length of a hospital stay, ordering tests and referring patients for additional consultations or services. In making these decisions, health care providers may act in ways that are not in their patients' best interests, whether motivated by direct financial gain, increased prestige, greater power or improved working conditions. These risks are one of the reasons that health care professionals are generally bound by professional standards and ethical codes that are expressly aimed at deterring corruption.

Patients generally defer to health care professionals in determining what course of action should be taken to treat an illness. Consequently, health care providers are in the unique position of telling the 'consumer' what service 'to buy'. When providers are paid 'fee-for-service' (that is, a fee for each service that they provide), it is in their financial interest to provide more services, and more costly services, than might otherwise be indicated by the individual's health condition. When providers are paid on a 'capitated' basis (that is, a single fee to cover any services required by a patient enrolled in their care, regardless of how many are actually provided) then it is in their financial interest to provide fewer services than would otherwise be indicated by the individual's health condition alone. When providers are paid a fixed salary, independent of the volume of services provided, there are no financial incentives to oversupply or undersupply services, but there is a tendency to be less productive and provide less care.[8]

In the case of publicly employed health providers, a wide range of abuses can occur. They can abuse their public sector job by referring patients to their parallel private practice (or use public facilities and supplies to serve their private patients). They may defraud the public sector by accepting a full salary while absenting themselves to provide private consultations elsewhere. They may steal drugs and medical supplies for resale or use in other places, and solicit bribes from patients for services that are supposed to be free. Although these practices are generally illegal, they may be excused in many countries by people who see them as acceptable strategies for coping with low pay and poor working conditions.[9]

Health care providers are also in a position to defraud payers in several ways. Most payment systems have to rely on the honesty of providers to state the kind and intensity of services that have been provided. Health providers may create 'phantom' patients to claim additional payments. They can order tests to be conducted at private laboratories in which they have a financial stake, or prescribe expensive drugs in exchange for kickbacks or bribes from pharmaceutical companies.

In addition to health care providers, health facility officials may accept kickbacks to influence the procurement of drugs and supplies, infrastructure investments and medical equipment. In so doing, they may pay higher prices or overlook shoddy work.

Patients

Consumers or patients can also participate in corrupt behaviour. In many systems, patients try to get free or subsidised care by underreporting their personal or family

income. In other systems, patients misrepresent their enrolment in an insurance plan by using the insurance cards of friends or family members. This has been documented in Canada where the province of Ontario detected numerous people using forged cards to gain access to free public care.[10] A patient may bribe a doctor to obtain benefits for non-health issues, such as a health certificate to obtain a driver's licence, to avoid military service or to obtain disability payments.

Paying bribes to get privileged access to public care is also a common form of corruption. In some countries, such bribes are socially acceptable and excused as a way to compensate poorly paid, public sector health professionals, or as an understandable response by people who may be in dire need of care. When such bribes become 'institutionalised', however, it creates a situation in which wealthier people are likely to get better attention than those who are poorer and unable to pay bribes (see Chapter 3, 'Corruption in hospitals').

Suppliers (producers of medical equipment, pharmaceutical companies)

Medical equipment suppliers and pharmaceutical companies have privileged information about their own products and deliveries that assist them to corrupt the health care system. Suppliers can skimp on the quality of equipment or repackage expired medications. They can short-change deliveries and bribe procurement officers to authorise higher prices. They can induce providers to use their products at inflated prices, even when cheaper, equally effective alternatives are available. In the mid-1990s, Germany investigated 450 hospitals and more than 2,700 doctors on suspicion of taking bribes from manufacturers of heart valves, life support equipment, cardiac pacemakers and hip joints.[11] Suppliers can bribe public health authorities in any of their normal procurement processes, including kickbacks from companies that want to win lucrative hospital construction tenders (see *Global Corruption Report 2005*).

Finally, suppliers can bribe regulatory agencies to develop policies in their favour. For example, pharmaceutical companies may influence governments to impede competition from generic drug manufacturers, or equipment producers may try to change regulations so that licensed facilities will be required to purchase their products.

Proving intent is difficult

Though all five actors are generally present in each system, their relative power and incentives will vary dramatically. For example, doctors paid on a salaried basis have no way to overcharge insurers, and systems that prohibit insurers from establishing exclusive provider networks have less leeway to control costs and billing practices.

In all cases, however, detecting corruption in the health system is difficult. As strange as it sounds, distinguishing an act of self-enrichment from systemic inefficiency, human error or just poor judgement is hard. The line between abuse and honest mistakes is frequently blurred. For example, when providers bill the government for treatments that are not medically indicated (or not even provided), it may still be difficult to determine whether the decision represented an intentional effort to defraud the government, poor training or a simple mistake.

These difficulties in proving intent encourage a situation in which impunity is commonplace. Efforts to convict individuals or firms for corruption can be further

stymied when professional medical associations or industrial lobby groups use political pressures to shield their members from what may be viewed or characterised as prosecutorial zealotry.[12] One response can be to sidestep prosecution and instead use public leverage to induce more transparent and honest behaviour. For example, the US Department of Health and Human Services sought to reduce fraudulent billing of Medicare (the United States' public health insurance for the elderly) by documenting discrepancies and developing 'compliance programmes'. Thus, whether the practices of 'upcoding', 'miscoding' or 'unbundling' that led to overpayments were due to errors, misinterpretations or intentional malfeasance was simply sidestepped in favour of assuring that future billing would be in compliance with the law. The compliance programmes required a hospital to develop written standards of conduct, train staff in the appropriate use of codes, establish hotlines for complaints and monitor its own compliance, among a wide range of measures.[13]

Does corruption vary across health systems?

Though health care providers, payers, consumers, regulators and suppliers are active in all health systems, the actual relationships, responsibilities and payment mechanisms will vary. Some countries have relatively well financed public health services that are directly provided by national or local governments (Sweden, Spain). In other high-income countries, the public sector pays for health services that are provided by private and public health care providers (Canada, Germany). In most low- and middle-income countries, the health system is fragmented. It may include a public insurance scheme for formal sector workers; direct public provision of health care for the indigent; private insurers and providers contracted by wealthier households; and a large share of private practitioners who are paid directly by their patients, both rich and poor (Mexico, South Africa).[14]

Abuses in the health system aimed at personal gain are not exclusive to any particular country or health system. But the forms of abuse may differ depending on how funds are mobilised, managed and paid. For this reason, it is useful to classify health systems into two broad categories based on their institutional structure: systems in which the public sector finances and directly provides health care services, and systems that separate public financing from provision.

In the case of direct public provision of health care services, the most common forms of abuse involve kickbacks and graft in procurement, theft, illegally charging patients, diverting patients to private practice, reducing or compromising the quality of care, and absenteeism. In systems that separate public financing from provision, the most common forms of abuse involve excessive or low-quality medical treatment, depending on the payment mechanism used, and fraud in billing government or insurance agencies.

Systems with direct public provision

In many countries, public health systems have been established to provide health care to the population at little or no cost at time of service. The most common structure for

such systems involves a health ministry, or its equivalent, which hires the necessary administrative, medical and support staff, builds facilities, and organises the purchase and distribution of medications, equipment and supplies. Many European countries follow this model. Integrated public health systems display a wide range of structural differences, whether through decentralisation (as in Spain) or experimenting with autonomous health facilities (Sweden), but they share common approaches to allocating budgets and delivering services.

In developing countries, successes involving direct public provision of health care services are rare. In the most effective ones, health services do reach the bulk of the population (Chile, Cuba, Malaysia). In most cases, however, the public systems have been unable to reach large segments of the population, or to provide adequate services (Venezuela, Indonesia). In the absence of complete coverage, countries sometimes finance, or at least subsidise, non-profit health care institutions, such as mission hospitals in Africa or NGO health clinics in the Americas.

The evidence available on corruption in health systems with direct public provision is largely focused on informal, or illegal, payments for services in developing or transitional economies. This form of corruption has a particularly negative impact on access to care for the poor when they cannot afford these payments. In China and many former communist countries of Eastern Europe and Central Asia, the apparent existence of such illegal payments has led observers to conclude that the health care system has been 'privatised', that it functions like a private health care market and is only nominally public.[15]

The next most common focus for studies of corruption in health systems with direct public provision is theft by employees, self-referral of patients, absenteeism and the illicit use of public facilities for private practice. Kickbacks and graft in the purchase of medical supplies, drugs or equipment have also been studied in health systems with direct public provision, but these forms of corruption are more difficult to detect and document. Some studies have been able to estimate the magnitude of overcharges to the public sector for medical supplies and drugs by comparing prices paid by different hospitals.[16]

Systems that separate public financing from provision

In many health systems, the entity that finances health services is separate from the entity providing those services. This is common in countries with social insurance systems such as France and Germany, in large federated countries such as Brazil and Canada, and in systems with public safety nets such as Medicaid and Medicare in the United States. This separation of public financing and provision is rare in low-income countries, but is common in high-income countries and in the middle-income countries of Latin America and Asia.

When public financing is separated from provision, the character of abuses is likely to change, focusing on ways to divert the flow of payments and reimbursements. One central aspect influencing the type of abuse is the payment mechanism chosen by the financers to pay providers for their services. For example, medical professionals who

are reimbursed on a fee-for-service basis have no incentive to be absent from work, but dishonest ones may be tempted to overcharge for services, bill for services that were not provided, or order tests and procedures that are not medically indicated. Provider payments on a capitation basis may introduce the right incentives for providers to focus more on preventive than on curative care, but it may also motivate the dishonest ones to neglect the provision of necessary care or to reduce quality below acceptable standards.

The public financing agent itself may be a focus for corruption, with officials diverting funds to improper uses or for personal financial gain. Furthermore, public reimbursement of private providers, in systems where this is permitted, raises a wide range of regulatory issues. The government frequently establishes regulations to assure that private providers meet minimum quality standards. Such regulations create opportunities for corruption in licensing procedures and inspections.

Whether countries directly provide health services or separate public financing from provision, their systems are not immune to corruption. Only the forms and scale of corruption are likely to vary (see Box 1.1).

Common forms of corruption in all health systems

Cutting across both types of systems are forms of abuse in the processes of allocating public funds and transferring public funds between national and sub-national entities. Sometimes there is large-scale diversion of funds at the ministerial or senior management levels of a health system; in other cases, funds are diverted from their intended purposes when they are transferred to lower-level political administrators. Though these forms of embezzlement can potentially cost the system more than other forms of corruption that occur at the facility level, they are studied less often and are poorly documented.

Both types of health systems share the vulnerability to abuses related to counterfeit drugs, selling faulty equipment, misrepresenting the quality or necessity of medical supplies and conflicts of interest between purchasers, providers, suppliers and researchers.

Conclusion

Health systems are prone to corruption because uncertainty, asymmetric information and large numbers of actors create systematic opportunities for corruption. These three factors combine to divide information among different actors – regulators, payers, providers, patients and suppliers – in ways that make the system vulnerable to corruption and that hinder transparency and accountability.

When regulations are put in place to remedy these problems, efforts to influence regulators become a new potential source of corruption. Powerful interest groups, including suppliers, payers and health providers, may 'capture' regulators in order to evade their responsibilities, or further their interests at public expense. Consumers generally lack the organisation and power to discipline other actors by voicing criticism or choosing different health care providers. In addition, abuses can be hidden behind simple administrative inefficiencies or, if challenged, be justified by claiming that the

Box 1.1 A tale of two health systems

A closer look at two countries demonstrates how corruption manifests itself differently across health systems. Colombia and Venezuela are neighbouring Latin American countries with comparable incomes that share many similarities in history, culture and language. Until 1990, the two countries also had similarly fragmented health systems, comprised of a large social security institution serving the formal sector, national or state-level governments that directly provided health care services to the rest of the population, and an active private sector which relied predominantly on direct payment for services by patients and their families.

In the early 1990s, Colombia engaged in a series of dramatic health reforms that decentralised public services to the municipal level and, in parallel, created a mandatory universal insurance system with the participation of non-governmental insurers (for-profit and non-profit). Under the new insurance system, individuals were given the option of choosing their insurer. The content and price of the benefit package was defined at the national level with the hope that insurers would compete on quality of care and service.

To make the system more equitable, the reform created a national fund that taxed away a portion of the relatively high contributions made by upper-income individuals so as to subsidise the relatively low contributions made by lower-income individuals. As a result of this system, insurers are now guaranteed a fixed premium for each member, adjusted by age and sex, which should be invariant to the individual's actual income. In this way, Colombia shifted from a segmented system dominated by large public institutions with integrated provision, to an increasingly universal system dominated by a separation of payers and providers.

Unfortunately, both countries have experienced a great deal of corruption across sectors, and the health system is no exception. A comparison between the two countries in the late 1990s suggested that corruption was widespread, but had taken somewhat different forms as their health systems diverged. For example, a large share of staff in public hospitals in both countries reported a range of irregularities, including theft, graft, absenteeism and bribe taking.[1] However, 59 per cent of staff surveyed in Bogotá's public hospitals reported that such irregularities had declined since implementation of the health reform. Staff in Venezuelan hospitals reported that doctors were absent from work about 37 per cent of the time while absenteeism in Colombia's public hospitals apparently accounted for less than 6 per cent of doctors' time. Although the available evidence is sparse, and certainly not conclusive, the differences suggest that public hospitals under the new system in Colombia may have been characterised by fewer irregularities.

On the other hand, Colombia's health reform opened an entirely new avenue for corrupt activities. The large flows of funds involving contributors, non-governmental insurers and government subsidies for low-income subscribers became targets for abuse. In the mid-1990s, Bogotá's Secretariat of Health – responsible for administering subsidies for low-income subscribers – began to audit the lists of members submitted by insurers for reimbursement. They found that benefits were being received by 114,000 new affiliates, far beyond the increase that could be expected through the extension of universal coverage. Instead, the Secretariat found that insurers kept individuals on their books, so they could continue to receive government subsidies, even after the same individuals had signed on to a new insurer.

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The practice was facilitated by the fact that individuals were often unfamiliar with the insurance system and did not understand the implications of signing a new application. Some insurers failed to issue their members with the required documentation, undermining their ability to access the services to which they were entitled. Finally, some insurance agents simply submitted false applications. As a result, Bogotá was defrauded of millions of dollars until it established a unified database, and began to scrutinise and investigate claims more intensely. Similar practices, however, were likely to have continued in the rest of the country where claims were less actively scrutinised.

William D. Savedoff

Note

1. Rafael Di Tella and William D. Savedoff, *Diagnosis Corruption: Fraud in Latin America's Public Hospitals* (Washington, DC: Inter-American Development Bank, 2001).

medical professional or procurement officer should not be 'second-guessed' by someone who is less informed of the circumstances of a case. As a result, opportunities to divert funds, sell favours, solicit bribes or otherwise corrupt the application of resources may be widespread.

These problems emerge in all kinds of health systems around the world. The particular institutional structures of the health system may make particular forms of corruption more or less attractive, but no system is immune to abuses and fraud. Understanding how a country's health system functions, reviewing the underlying incentives for provision of care and analysing its particular vulnerabilities are the first steps toward designing holistic strategies to tackle corruption from a systemic point of view, and implementing measures that will be effective in reducing the extent of abuse and fraud.

Notes

1. William D. Savedoff is a senior partner at Social Insight and formerly senior economist at the World Health Organization (WHO) and the Inter-American Development Bank. Karen Hussmann is a public policy consultant specialising in health economics and governance, and formerly programme officer at Transparency International.
2. These figures are the authors' estimates for 2001 from a variety of sources, including WHO, the Pan American Health Organization (PAHO), the World Bank and the US Department of Health and Human Services.
3. Kenneth J. Arrow, 'Uncertainty and the Welfare Economics of Medical Care', *American Economic Review* 53 (1963). For a discussion of Arrow's article and its impact on health economics, see William D. Savedoff, '40th Anniversary: Kenneth Arrow and the Birth of Health Economics', *Bulletin of the World Health Organization* 82(2), February 2004.
4. The detailed economic explanations for these problems involve adverse selection and moral hazard and are explained in most health economics textbooks. See, for example, T. Getzen, *Health Economics: Fundamentals and Flow of Funds* (New York: Wiley, 1997).
5. Public choice models and government failure literature includes Dennis C. Mueller (ed.), *Perspectives on Public Choice* (Cambridge: Cambridge University Press, 1997), and Torsten Persson and Guido Tabellini, *Political Economy: Explaining Economic Policy* (Cambridge, MA: MIT Press, 2002).

6. For principal–agent model literature, see D. E. Sappington, 'Incentives in Principal–Agent Relationships', *Journal of Economic Perspectives* 5(2), 1991, and William D. Savedoff, 'Social Services Viewed Through New Lenses', in William D. Savedoff (ed.), *Organization Matters: Agency Problems in Health and Education in Latin America* (Washington, DC: Inter-American Development Bank, 1998).
7. Alberto Ades and Rafael Di Tella, 'Rents, Competition and Corruption', *American Economic Review* 89(4), 1999.
8. For a discussion of different payment mechanisms and their impact on provider behaviour, see H. Barnum, J. Kutzin and H. Saxenian, 'Incentives and Provider Payment Methods', *International Journal of Health Planning and Management* 10, 1995, and J. C. Robinson, 'Theory and Practice in the Design of Physician Payment Incentives', *Milbank Quarterly*, November 2001.
9. See Chapter 3, 'Corruption in hospitals', page 54.
10. N. Inkster, 'A Case Study in Health Care Fraud in Ontario, Canada', *Corruption in Health Services*. Papers presented at the 10th International Anti-Corruption Conference Workshop 'Corruption and Health', Prague, Czech Republic, October 2001 (Washington, DC: Inter-American Development Bank, 2002).
11. *British Medical Journal* 312, 13 January 1996.
12. William D. Savedoff's interview with Leslie Aronovitz, US Department of Health and Human Services, 17 December 2000.
13. L. Aronovitz, 'Allegations of Inaccurate Billing in the Medicare System in the United States', *Corruption in Health Services*. Papers presented at the 10th International Anti-Corruption Conference Workshop 'Corruption and Health', Prague, Czech Republic, October 2001 (Washington, DC: Inter-American Development Bank, 2002).
14. *World Development Report 2004: Making Services Work for Poor People* (Washington, DC: World Bank, 2004), and *The World Health Report 2000. Health Systems: Improving Performance* (Geneva: WHO, 2000).
15. Gerald Bloom, 'Primary Health Care meets the Market: Lessons from China and Vietnam', IDS Working Paper 53 (Brighton, UK: Institute of Development Studies, 1997), and Tim Ensor, 'What Role for State Health Care in Asian Transition Economies?' *Health Economics* 6 (5), 1997.
16. Rafael Di Tella and William D. Savedoff, *Diagnosis Corruption: Fraud in Latin America's Public Hospitals* (Washington, DC: Inter-American Development Bank, 2001).

Corruption in health care systems: the US experience

Malcolm K. Sparrow[1]

The United States spends more on health care than any other industrialised country, with national health expenditures in 2003 exceeding US $1.6 trillion.[2] This represents 15.3 per cent of the country's GDP, up from 5.7 per cent in 1965, and 8.8 per cent in 1980.[3] Despite the extraordinary level of spending, health care economists have traditionally paid very little attention to corruption, fraud, waste and abuse in the US health care delivery system. They do not factor it into their cost models, they say, because 'there is no data on that'. There is certainly a paucity of reliable data on the extent of corruption in the system, and few reliable estimates of how much of each health care dollar is actually lost to criminal enterprise.

As a risk to be controlled, fraud and corruption in the health care system exhibits all the standard challenges of white-collar crime: well orchestrated criminal schemes are invisible by design and often go undetected. Investments in control are based on

the visible (that is, detected) sliver of the problem, rather than on its underlying scale or any valid statistical or scientific estimates of its magnitude.

Despite the essentially invisible nature of the problem, health care fraud in the United States was deemed sufficiently serious by the Clinton administration (based on cases revealed) that in 1993, Attorney General Janet Reno declared it America's 'number two crime problem', second only to violent crime. This signalled a level of concern over health industry integrity without precedent in the United States, and perhaps around the world.

Characteristics of the US system

Despite high levels of public sector spending on health care,[4] the health system involves comparatively few public sector officials or employees in frontline service delivery roles. Therefore, if one adopts a definition of corruption restricted to 'abuse of *public* authority', most health care fraud issues do not quite fit. But the broader definition, 'abuse of *entrusted* authority', does cover dishonest actions of physicians, hospitals and other health care professionals, who are generally afforded high social and professional status and are expected to exercise professional medical judgement unbiased by private financial interests. The majority of fraud within the system, perpetrated by medical providers, can therefore be understood as corruption under this definition. For example, when physicians accept payment to hand out unnecessary prescriptions as part of pharmaceutical recycling scams, 'con' patients into treatments they don't need, or submit bills to public programmes for services that were never provided, they would surely be seen by most members of the public as having abused the trust placed in them as medical professionals.

The US health system has a number of distinct features that make it vulnerable to corruption:

- **Health care delivery is largely contracted out.** Health care is mostly delivered by the private sector, or independent, not-for-profit entities. But the services are *paid for* by government programmes such as Medicare (federal programme for the elderly) or Medicaid (state-run programmes for the poor), or by commercial insurers who offer health insurance to individuals, to groups or to employers (who buy coverage for their employees as an employment benefit). This means that payers have no reliable information about which services were performed, or were necessary, other than the word of the providers.
- **Fee-for-service structure and payment on trust.** The majority of services are reimbursed on a *fee-for-service* basis, despite the recent development of alternative structures such as capitation (where the entity contracts to deliver necessary care in exchange for a fixed revenue stream per patient per month), and other 'managed care' systems. Under the fee-for-service structure, health care providers (doctors, hospitals, specialists, and so on) are trusted to determine the appropriate levels of care, and then trusted to bill the insurer for the services they perform.

- **Medical suppliers and providers constitute main loci of corruption.** The principal opportunity for theft lies with providers rather than patients. Patients can only cheat on their own accounts, and to a limited extent if they are to avoid tripping various flags or alarms. So the prevalence of patient-orchestrated fraud is constrained to some degree by the proportion of dishonest patients. By contrast, providers and their billing agents are in a position to submit false or inflated bills in high volumes, spreading the activity across hundreds or thousands of patient accounts. Providers thus have a *business opportunity* in dishonest conduct, and relatively few dishonest actors can do disproportionate amounts of economic damage to the system. Most significant cases of corruption have involved medical professionals, providers and corporations in the health care delivery supply chain.
- **Highly automated payment systems.** Fee-for-service payment systems are now consolidated into massive, highly automated payment systems. Electronic submissions transmitted into the system (in the form of claims for services rendered) result in computerised dispatch of electronic payments. The bulk of such claims are paid through *auto-adjudication*, which means the claim was received, subjected to a rules-based examination, approved and paid, all electronically, with no human scrutiny. Such payment systems make very attractive targets for fraud. An extraordinary range of actors have been found lining up to defraud these systems, ranging from blue-collar individuals (who can sign on as suppliers of medical equipment for a small fee, without any training, and proceed to submit bills without ever seeing a patient); to major corporations, such as hospital chains and pharmaceutical companies; to drug traffickers (reported by the FBI as switching to health care fraud because it was safer and more lucrative than trafficking, and with lower chances of detection); to organised crime groups and gangs.[5]
- **Absence of verification and focus on processing accuracy.** The bulk of claims are therefore paid electronically, and on trust. The whole system is designed with honest physicians in mind, incorporating the values of speed, efficiency, accuracy, predictability and transparency. The edits and audits (automated sets of rules) built into computerised claims-processing systems serve the purpose of checking pricing, policy coverage and medical orthodoxy (based on the diagnosis reported in the claim). But the control systems generally assume the claim itself to be true, and do little or nothing to verify that the patient actually received the services claimed, or even that the diagnosis was real. To exploit these systems, those intent on stealing need only to ensure that they *bill correctly*. If they do that, they can fabricate or alter diagnoses, or invent entire medical episodes. If, by some mischance their claims are selected for audit, they need only create and submit medical records that support the fictitious billing, and – provided perpetrators are capable of lying twice, and consistently – they will survive such audit scrutiny without much fear of detection. The controls in place within the industry therefore deal better with billing errors and with honestly reported medical unorthodoxy than they do with outright criminal deception in the form of falsified claims. They deal better with poorly documented services than with well documented

lies. Investigators in the industry are starting to use a broader range of controls to address this problem (see below).

- **Multiple methods of cheating, and centrality of the false claims problem.** The incentives produced by the fee-for-service payment structure lead to submission of false or inflated bills. Other more sophisticated scams involve illegal kickbacks for referral of patients, physicians' acceptance of bribes for prescribing particular pharmaceuticals, inflating cost reports in systems where reimbursement rates for services depend on the reported costs and self-referral (referring business to other entities in which the referrer has an ownership or other financial interest), among others. Nevertheless, submission of *false claims* (claims that contain some material deception) represents perhaps the central and most persistent form of cheating in the US system.
- **Poor measurement of overpayment rates.** The Medicare programme and several Medicaid programmes have conducted measurement studies recently,[6] producing loss rates varying from 3 per cent to 15 per cent of overall costs, and with most results in the 5–10 per cent range. The studies draw random samples of claims paid, but then tend to apply somewhat weaker audit protocols than those necessary to produce true estimates of overpayment rates. The audit protocols used often replicate document-based or 'desk' audits, which check that the claims were processed correctly, and that they are supported by medical records requested and received by mail. But these audit methods generally include minimal or no attempts to track down the patients and verify that the services were both necessary and actually delivered. Hence the overpayment rates obtained by these measurement programmes generally miss many of the more sophisticated types of fraud, and often miss the ordinary phenomenon of *billing for services not provided* in cases where perpetrators take the precaution of submitting a false medical record to match the claim. These estimates therefore significantly understate the overall loss rates. This deficiency has been recognised by the Government Accountability Office, which acknowledges that use of more rigorous audit protocols designed to detect fraud would have made the derived estimates for overpayment rates 'greater – how much greater nobody knows'.[7]
- **Investments in control do not match the scale of the problem.** Despite loss rates that could easily exceed 10 per cent of programme costs, investments in controls for fraud and corruption remain pitifully low – as is typical of white-collar crime control. In the health industry, levels of investments in programme integrity and fraud control average roughly 0.1 per cent of programme costs. This ratio holds true remarkably consistently across the industry, irrespective of whether the insurer is public, commercial or not-for-profit. Investments in control are therefore woefully lacking, when viewed against potential losses.

Lessons learned from the US experience

The US health system remains vulnerable to attack, and programme integrity and fraud control systems are not yet sufficiently equipped to deal with the problem. Scandalous

revelations of medical professionals or companies stealing millions of dollars from the system make almost daily appearances in the media. As a result, important lessons have been learned about controlling fraud and corruption, some of which include:

- **Attractiveness of automated systems as targets for fraud.** Large, highly automated payment systems make dream targets for fraud perpetrators. Their payment behaviour can be studied and their utter predictability exploited. Quality control and process improvement techniques can only guarantee the correct operation of the payment system, but do nothing to validate the information fed into it. In this environment, *fraud works best when processing systems work perfectly*. This vulnerability extends beyond health care programmes to many other major public assistance or payment programmes that share similar characteristics.
- **Importance of measurement.** Failure to measure losses in a scientifically valid and rigorous fashion creates uncertainty about the scale of the problem. This leaves policy-makers unable to justify greater investments in control or enforcement and keeps resources for control at minimal levels.
- **Importance of whistleblower statutes.** Most of the big cases brought against major corporations for defrauding government health care programmes in the past decade arose from, or relied heavily upon, *qui tam* suits (allowing private citizens to file lawsuits charging fraud in government programmes) brought under the federal False Claims Act.[8] Most often the whistleblower was an employee or ex-employee of the offending corporation. Although the False Claims Act was originally designed to reduce corruption in defence contracting, health care fraud cases now routinely account for more than half of the annual volume of *qui tam* cases taken up by the Department of Justice. Whistleblowers receive a share of any eventual settlement. Providing financial incentives and compensation to whistleblowers has turned out to be one of the most powerful weapons available to the US government in tackling health care fraud and corruption. One prominent example involves the Columbia/HCA hospital chain, America's single largest health care provider. A series of whistleblower lawsuits launched against Columbia in the 1990s resulted in aggregate settlements with the Department of Justice exceeding US $1 billion dollars.[9] The practices whistleblowers reported included paying physicians for patient referrals to the hospitals, funnelling of patients to affiliated home-health services even when the patients preferred another provider, setting performance targets in terms of 'complication rates' (which justify higher levels of reimbursement from Medicare), hiding paperwork and accounts from government auditors, and false billing.
- **Dynamic nature of the game**. Investigators and auditors have learned how quickly fraud perpetrators can adapt to changes in the control system. Control strategies that rely on any static set of controls (such as reliance on a particular set of rule-based edits and audits in the processing system) fail utterly. Fraud control is a game of intelligence and counter-intelligence played against conscious, and highly adaptive, opponents.

- **Limitations of transaction-based analysis and detection methods.** Investigators are discovering the importance of moving beyond transaction-level control systems, which are easily circumnavigated by perpetrators who design their scams so that each claim, viewed in isolation, looks perfect. The more successful detection units within the industry are beginning to use a broader range of structural analysis and pattern-recognition methodologies that can search for patterns of coincidence or clustering (across thousands of claims) reflective of computerised billing scams and organised conspiracies – very few of which would ever be detected by examination of individual claims or individual patient histories.
- **The dangers of rushing to structural solutions.** Normally one would applaud policy-makers for seeking long-term structural solutions to integrity problems. Anti-corruption literature emphasises structural changes in incentives as a method of eliminating known forms of corruption and embezzlement. Many officials, concerned about fraud in the fee-for-service health structure, mistakenly assumed the advent of capitated managed care systems would eliminate the fraud problem by removing the financial incentives for overutilisation and overbilling. What they realise now is that changing the structure without removing the bad actors leads to criminal adaptation, and a whole new class of scams.

  With capitated systems, the incentives for overutilisation have been replaced by incentives for underutilisation. Dishonest providers take the monthly capitation payments and find a multitude of creative mechanisms to divert resources into their own pockets and away from frontline service delivery. The new forms of fraud that emerge turn out to be harder to detect, harder to control, more difficult to prosecute (because there is no false claim per se around which to build a case), and more dangerous to human health. Examples of abuses include: embezzlement of capitation funds paid by the state; the use of fraudulent subcontracts as a method of diverting funds to friends or family; improper enrolment or disenrolment practices (such as seriously ill patients being driven out or refused admission to a health care plan, or bribes being paid to secure younger and healthier patients); denial of treatment without proper evaluation; failure to inform patients of their rights and entitlements; failure to provide sufficient medical professionals to meet the needs of the enrolled population; and requiring patients to fight their way through extensive appeals processes in order to obtain necessary treatment. Under the fee-for-service structure, crimes were largely financial, with patients often oblivious to what was being billed in their names. With managed care, diversion of capitation payments results in inaccessible or inadequate patient care.

Looking ahead

The battle against health care fraud and corruption in the United States is not over. The Clinton administration paid more attention to the problem than any previous administration, and made some important financial and legislative investments to enhance control. Despite those investments, levels of resources available for monitoring, validation and enforcement remain completely inadequate when compared with the

scope of the problem. The introduction of a new prescription drug benefit for seniors under the Medicare programme,[10] almost guarantees that the federal government will have to pay renewed attention to this issue in years to come, since drug-related fraud remains one of the most prominent fraud threats within other programmes. The recent deceleration of the transition to capitated managed care (and in some regions and segments of the industry, the *reversal* of this transition), means that US health insurers will still have to develop more effective controls within a fee-for-service environment, as there is no prospect of structural change within the industry being able to solve the problem in the near future.

Notes

1. Malcolm K. Sparrow is professor of the practice of public management at Harvard's John F. Kennedy School of Government, and author of *License to Steal: How Fraud Bleeds America's Health Care System* (Denver: Westview Press, 2000), which contains a detailed analysis of the vulnerabilities of the US health system to fraud, waste and abuse.
2. 'Historical National Health Expenditures Aggregate, per Capita, Percent Distribution, and Average Annual Percent Change by Source of Funds: Calendar Years 1960–2003', www.cms.hhs.gov/statistics/nhe
3. Ibid.
4. Public sector spending runs at roughly 45 per cent of national costs. The two largest public programmes are Medicare (federal programme for the elderly) and Medicaid (programme for the poor, administered by the states and jointly funded by federal and state governments). See also national health expenditures in note 2 above.
5. The introduction to *License to Steal* (see note 1) catalogues the extraordinary range of apparent perpetrators and fraud methods seen in the industry over the last decade.
6. Measurement of Medicare overpayment rates was required by the Government Management Reform Act of 1994, instituted by the Office of Inspector General (DHHS) in 1996, and repeated every year until 2002. Derived overpayment rate estimates ranged from a high of 14.1 per cent to a low of 6.3 per cent. For a synopsis of recent measurement studies within Medicaid, see 'Payment Accuracy Measurement Project: Year 2 Final Report', Center for Medicaid and State Operations, Center for Medicare and Medicaid Services, DHHS, April 2004.
7. 'Efforts to Measure Medicare Fraud', Letter to Rep. John R. Kasich (Chair, House Budget Committee), GAO/AIMD-00-69R, 4 February 2000.
8. The 1986 Federal False Claims Act updated Civil War-era laws originally designed to prevent procurement fraud against the Union Army. It became available for use against health care fraud upon its revision in 1986. Penalties for false claims against government programmes were further stiffened by the Health Insurance Portability and Accountability Act of 1996.
9. www.cbsnews.com/stories/2002/12/18/national/main533453.shtml
10. The prescription drug benefit, known as Medicare Part D, comes into full effect in January 2006 under the Medicare Prescription Drug Improvement and Modernization Act of 2003.

Box 1.2 Corruption in Cambodia's health sector[1]

Cambodia's health record is amongst the worst in Asia. The maternal mortality rate is the highest in the region, with 437 deaths per 100,000 live births. Skilled personnel attend less than a third of all births.[2] Almost one in every ten babies does not live to his/her first birthday and more than 60,000 babies die every year of malnutrition or diseases that

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can be prevented or cured.[3] Malaria remains a serious problem, and known cases of tuberculosis have increased from approximately 61,000 in 1999 to 108,000 in 2004.[4]

Such a poor state of health exists despite money pouring into Cambodia's health sector over the past decade to reconstruct a health system that was systematically decimated under the Khmer Rouge regime (1975–78) and underfunded in subsequent years. Overseas development aid (ODA) funded a lot of the reconstruction and continues to be an important source of finance for the government. In 2002 the US $490 million ODA Cambodia received accounted for just over 12 per cent of the GDP, some 20 per cent of which was spent on health.

However, government and ODA spending on health are dwarfed by the sums spent privately. Of the 177 countries assessed in the *Human Development Report*, Cambodia has the highest private health expenditure as a percentage of the GDP. Out-of-pocket spending on health care in Cambodia's private clinics or as informal payments for public health services accounts for 10 per cent of the country's GDP.[5]

Corruption is one reason why public investment in health, coupled with high rates of private spending, has not translated into good health outcomes. Anecdotal evidence suggests that corruption takes place at every level of the health system in Cambodia, but there has typically been a reluctance to speak about it. Researchers, health workers and administrators interviewed in July 2005 said it was widely assumed that between 5 and 10 per cent of the health budget disappears before it is paid out by the Ministry of Finance to the Ministry of Health.[6] More money is then siphoned off as funds are channelled down from the national government to the provincial governors and to the directors of operational districts, and then to directors or managers of local hospitals and clinics.

Reports commissioned by the World Bank and USAID indicate that corruption is common in public procurement and contracting processes, public fund management activities at central and district government levels and in health service delivery schemes. It is common for companies to pay bribes for public contracts.[7] Several experts interviewed alleged that health ministry officials and hospital administrators inflate the cost of medical equipment in collusion with private suppliers and share the non-reported difference, which can be as much as five times the true cost.

Another source of concern is that public health services are underutilised due to their poor quality and inaccessibility. With the increase in land prices in Phnom Penh and Siem Reap, this problem threatens to escalate under the government's reported plans to remove hospitals from city centres to outskirts where land is cheaper, but where the hospitals will be less accessible. In Siem Reap, for example, a hospital is in danger of being destroyed to free up prime real estate close to a popular tourist attraction. The government claims that the land is valued at US $4 million. Health programme managers from the private and public health system claim the land is worth many times more than the cost of rebuilding the hospital.

The potential for profit-making through schemes such as this can be the very motivation for entering the health sector. In Cambodia it is considered common practice to pay large sums of money to secure positions as public officials in government: the higher the position, the higher the price.[8] Health workers interviewed reported a going rate of up to US $100,000 for a post as director at the provincial or national offices of the health ministry. A job as a low-level public servant in the health sector may go for US $3,000. These sums represent a large investment considering that government employee salaries are generally very low: on average US $40 per month.

Corruption also takes place at the point of health service delivery, where underpaid health workers request informal payments above the normal cost service, or siphon off public funds from available cash budgets. Informal payments to doctors or nurses in order to receive better and more expedient treatment are common, and the low salary paid to health workers is an important area to reform. In 2001, Médecins Sans Frontières worked with the Ministry of Health and UNICEF on a project in Sotnikum district, Siem Reap province, that topped up salaries for health workers based on performance and commitment to ethical practice. It also tried to initiate an Equity Fund to assist the poor in paying for medical costs and services. These two strategies have been successful and continue in many donor-funded health care projects in Cambodia, though coverage is patchy.

Other important reforms include increasing transparency in procurement, improving links between health policies and budgets, and conducting research to help understand the mechanisms of corruption in the sector. A planned public expenditure tracking survey, initiated by the World Bank for the health sector to identify bottlenecks and leaks in public finances at national and local levels, is an important step towards plugging the information gap surrounding Cambodia's health sector.

Urgent attention also needs to be paid to law enforcement. An extremely weak judiciary, coupled with inadequate laws that are very slowly being reformed, mean that impunity is the norm for cases of corruption. There are 100 prosecutors, 250 private attorneys and 100 judges operating in the country – most of the latter self-selected, having bought their positions.[9] Some progress has been made in training judges and a number of NGOs are developing basic legal services for the weak and poor, but to all intents and purposes there is no redress for those who have suffered from the effects of corruption at the hand of health authorities or staff.

Lisa Prevenslik-Takeda[10]

Notes

1. The article is based on fieldwork and author interviews conducted from May to July 2005.
2. Royal Government of Cambodia, *Cambodia Millennium Development Goals Report 2003*.
3. UNDP, *Human Development Report 2003* (Geneva: UNDP, 2003); UNICEF, *Childhood Under Threat: The State of the World's Children 2005* (New York: UNICEF, 2005).
4. WHO Report, *Global Tuberculosis Control* (Geneva: WHO, 2005). The actual figures are probably much higher since normal tuberculosis testing in medical centres throughout the country is done by sputum tests which detect only 75 per cent of pulmonary tuberculosis infections.
5. Although the constitution enshrines the right to free medical care to all Cambodian citizens, a recent government policy requires all Cambodians to pay 2,000–3,000 riel (US $0.75) to access health care in public health facilities. This entitles the patient to be examined by a doctor, though additional costs for medicine and other medical supplies must be borne by the patient.
6. Author interviews, Phnom Penh, Cambodia, July 2005.
7. Michael Calavan, Sergio Diaz Briqvets and Jerald O'Brien, 'Cambodian Corruption Assessment', report prepared for the World Bank, USA/Cambodia, August 2004; Jean-François Bayart, 'Thermidor au Cambodge', *Alternatives Economiques*, March 2005; Peter Leuprecht, Special Representative of the UN Secretary-General for Human Rights in Cambodia, *Rethinking Poverty Reduction to Protect and Promote the Rights of Indigenous Minorities in Cambodia*, NGO Forum on Cambodia, April 2005.
8. See, for example, Calavan et al., 'Cambodian Corruption Assessment'.
9. Ibid.
10. Lisa Prevenslik-Takeda is a project coordinator in Transparency International's Asia-Pacific department.