Whom Do Physicians Work For?
An Analysis of Dual Practice in the Health Sector

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Abstract This article presents a thorough analysis of dual practice among physicians who work in both the public and private sectors. A conceptual framework is presented to help the reader understand dual practice and the contexts where it takes place. The article reviews the existing theoretical and empirical literature on this form of dual practice among physicians. It analyzes the extent of this phenomenon, the underlying factors that motivate physicians to engage in dual practice, and the main implications of their decision to do so. It also examines and discusses current policies that address dual practice. In this regard, the article provides some qualified support for the use of “rewarding” policies to retain physicians in the public sectors of more developed countries, while “limiting” policies are recommended for developing countries—with the caveat that the policies should be accompanied by the strengthening of institutional and contracting environments. The article highlights the lack of quality evaluative evidence regarding the consequences of dual practice on the delivery of health care services. It concludes that the overall impact of dual practice remains an open question that warrants more attention from researchers and policy makers alike.

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Introduction

In many developed and developing countries there are doctors who work in the public and private sectors at the same time. While this public-private interaction may lead to improvements in the delivery of health services, it may also yield undesirable effects and interfere with government priorities. On the one hand, allowing dual practice can serve to reduce waiting times for treatment or lead to improvements in access to health services, especially for poor and rural inhabitants of developing countries. On the other hand, dual providers may have incentives to skimp on work hours, divert patients to private clinics where they have some financial interest, or misuse public equipment and facilities, negatively impacting service provision in the public sector. There is no consensus on the net effects of dual practice in the health sector, and there is no unique and simple answer to the question of whether this practice should be regulated. These are open questions that continue to be debated by health economists, health policy researchers, and policy makers.

Interestingly, dual practice is not confined to physicians and the health sector. There are many goods produced in both the public and private sectors, and workers who produce these goods may work in both sectors. Public law enforcement officers working for private security firms or consumers, public school teachers offering private tutoring services or working for private test preparation firms, and academics in public (and private) universities consulting for private firms (and the government) are examples of dual provision of services in fields other than health care (Biglaiser and Ma 2007). However, dual practice in the market for health care services is marked by three notable distinctions. First, while non-health services may contribute greatly to the health of the population, it is not their primary goal. Second, health care can be catastrophically costly. Much of the need for care is unpredictable, so it is vital for people to be protected from having to choose between financial ruin and loss of health. Risk-sharing mechanisms and financial protection are more important in health matters than in the protection of physical assets. Finally, illness threatens people's dignity and their ability to control what happens to them more than most other events do (World Health Organization 2000).

Surprisingly, there has been little research on the economics of dual job holding in the health sector. Notable exceptions include Berman and

1. Notable exceptions are the United States, where dual practice in public and private sectors is rare, and Canada, where such activities are contrary to official regulations (Flood and Archibald 2001).
2. See Arrow (1963) for a more detailed review of the specificities of the medical care market.
Cuizon (2004), who analyze multiple job holding of health care providers in developing countries; Ferrinho et al. (2004), who discuss the available empirical evidence on dual practice; and Eggleston and Bir (2006), who compare five theoretical models of dual practice and discuss whether theoretical predictions are consistent with empirical evidence.

The purpose of this article is to perform a thorough examination of the phenomenon of dual practice among physicians. We focus on those physicians who work full time in public facilities for a monthly salary while holding part-time positions in the private sector, where they are paid at an hourly rate or on a fee-for-service basis. Toward this aim, the article reviews the theoretical and empirical literature on dual practice in both developed and developing countries. In what contexts does this practice emerge? How widespread is the phenomenon? What motivates physicians to become dual providers? What are the effects of this practice on the allocation of public resources to health? What are the current policy options for addressing the adverse consequences of dual practice?

Our review is more comprehensive than previous studies on the topic have been, and it also addresses the policy implications of dual practice in the health sector in terms of access, equity of access, efficiency, and quality of health care delivery. To our knowledge, this is the first attempt to compile all the available information on dual practice, and we hope it will motivate further research in the field.

The article begins by presenting a conceptual framework for dual practice, followed by a brief overview of the extent of dual practice among physicians globally; our review suggests that dual practice is present in almost all countries regardless of income, even in settings where major regulatory restrictions have been imposed. Then we examine physicians’ motives for engaging in dual practice, together with the potential implications of this phenomenon on the delivery of health services. Finally, we discuss the different policy options that are being employed to address the adverse consequences of dual practice, identifying the main problems of regulations in weak contracting environments, and we offer some tentative guidelines for the regulation of dual practice.

**A Conceptual Framework for Analyzing Dual Practice in the Health Sector**

Physician dual practice cannot be isolated from the contexts where it takes place. Indeed, this phenomenon is embedded in the larger setting of government strategies for health care governance, financing, and provision. Accordingly, the effect of dual practice on health system perform-
Health systems organization depends on government priorities and health system structure and organization.

Health policy makers may pursue multiple objectives. However, the primary and defining goal of every health system is to improve the health of the population. Furthermore, the responsibility of health systems is not simply to improve people’s health but also to protect people against the financial cost of illness and to respond to their expectations. The health system also has a responsibility to reduce inequalities by improving the health of the worse off. The organization of health systems and the behavior of health providers are both important to achieving these goals.

Health Systems Organization

Countries organize their health systems differently, setting up diverse institutional and contracting environments. Consequently, health systems function differently, as indicated by various performance dimensions, including insurance coverage, financing, provision, and degree of regulation. In addition, health system organization and function depend on other contextual factors such as type of governance, relative strength of government, and prevalent values and culture.

These factors and their various combinations explain some of the differences in health systems around the world, particularly the differences between developing and more developed countries (table 1). In most developed countries, health systems are highly socialized, so that the government plays a dominant role in provision and regulation; in many developing countries, the situation is different.

Low- and middle-income countries have in common not only pluralistic and segmented health systems, with porous boundaries between the public and private sectors, but also largely unregulated health care markets (Bloom and Standing 2008). Nevertheless, there are differences between their respective systems. Low-income countries generally have highly segmented health systems and large informal private sectors in which providers frequently practice outside of their fields of formal training and/or outside the purview of public health and tax regulations (Berman 2000). In addition, these countries have not yet provided their populations with universal health coverage and access to health care. They face difficulties in guaranteeing access and ensuring equal access to care and, as a result, these goals are their priority.

Similar to low-income countries, middle-income countries also have pluralistic and segmented systems, but these are mostly contained within
Although many of these countries do not provide universal coverage, they are closer to this goal and thus are more concerned with improving quality of care and responsiveness to patients’ expectations. Unlike low- and middle-income countries, more highly developed economies generally exhibit low levels of segmentation and have achieved universal coverage. Their main concern is improving efficiency while preserving service quality.

Finally, governance and regulations in developing countries are generally weak, and the governments’ capacity to implement policies and enforce regulations is low. Many low-income countries have unregulated markets, and a substantial portion of health services are delivered or purchased outside the formal system. In addition, developing countries cope with many institutional-side challenges, such as poor technical quality, allocational inefficiency, deficient management of specific organizations within the health sector, incentives that run counter to the objectives of the

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<td><strong>Developing Countries</strong></td>
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<td>Highly segmented</td>
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<tr>
<td><strong>Insurance coverage</strong></td>
<td>Low coverage</td>
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<td><strong>Governance</strong></td>
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<td><strong>Regulations</strong></td>
<td>Private sector is unregulated; regulations in the public sector are weak.</td>
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*Source: Compiled by authors*
system, and, above all, the many problems of managing the system as a whole (Londoño and Frenk 1997). Furthermore, the institutions of developing countries are generally more resistant to change than those of more highly developed countries, and stakeholders are generally more powerful, making implementation of new regulations and reforms difficult. More highly developed countries, by contrast, have stronger states and the capacity to regulate markets, govern the health sector, and establish more appropriate institutional arrangements.

Distinguishing between developing and more highly developed countries seems to be crucial for the analysis of dual practice, especially as the health systems of developing countries offer more freedom for physicians and providers to develop opportunistic practices and therefore have much greater potential to suffer the adverse consequences of dual practice.

The Behavior of Health Care Providers

The success of efforts to make the delivery of health services more effective, efficient, and responsive to the needs of the population depends on the capacity and willingness of health workers to produce high-quality and relevant services (World Health Organization 2000).

The behavior of health providers is influenced by conditions and incentives of their local living and work environments, and as a result their objectives sometimes diverge from those of policy makers. In the absence of appropriate incentives or in a context of weak control mechanisms and associated sanctions, this divergence of objectives may be quite dramatic. For instance, some physicians may be partially or totally absent, work with less diligence, or engage easily and frequently in dual practice despite legal restrictions.

In economics there is a huge body of literature analyzing agency problems in the health care market. Agency problems arise due to the asymmetries of information between physicians and patients and between physicians and insurers, together with the disparity between their respective preferences (Arrow 1985; Ross 1973). These asymmetries, in combination with the nature of the product exchanged in the health care market, confer market power to physicians and make their potential for opportunistic behavior an issue worthy of further study.

In particular, the literature on physician agency highlights the fact that incentives in the form of physician compensation matter. Physicians who

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receive a fixed salary may have incentives to shirk, while other kinds of opportunistic behavior may emerge among practitioners who receive incentive-based compensation. There is a general consensus that fee-for-service contracts may lead to overprescription of health services (Pauly 1980). Meanwhile, capitation contracts (i.e., a fixed rate per patient, with the physician held responsible for costs) create incentives to reduce costs (Ellis and McGuire 1990, 1993), to cherry-pick the easier, lower-cost patients and avoid the most unprofitable high-cost cases (Ma 1994), and to reduce quality (Chalkley and Malcomson 1998).

When physicians are dual providers, the provision of incentives becomes more complex insofar as their behavior depends not only on public remuneration but also on payments in competing activities. A common feature in countries where public and private provision of health care coexists is that public employment is characterized by fixed compensations, usually in the form of salaries, while in the private sector the use of tailored incentives seems to be more widespread. In particular, physicians are commonly partners or shareholders in private hospitals, so that their remuneration is linked to the performance of the hospital or is established on a fee-for-service basis. Thus the scarce financial incentives for doctors in public hospitals may foster opportunistic behaviors among those who work in those hospitals but also engage in private practice.

Nonmarket institutions, such as professions, regulatory frameworks, and standard-setting and public health bureaucracies, have evolved to mediate the relationships among the various parties involved in health care provision (Haas-Wilson 2001). In countries where these arrangements are poorly developed, access to good health care is undoubtedly compromised, particularly for the poor (Bloom, Standing, and Lloyd 2008).

It is against this broad conceptual backdrop that we examine dual job holding in the health sector. A priori, the existence of dual practice in the health sector does not necessarily interfere with government goals or priorities. Indeed, the interaction between public and private sectors may even contribute to achieving some of these goals. However, dual practice may also have potential adverse consequences that cannot be ignored. Hence, in this article we analyze the impact of dual practice in the health sector according to the extent to which it supports or impedes government policies and goals. In particular we examine the extent to which dual practice affects access to health care, equity of access, efficiency in the use of public resources, and quality of the health care provided.

In addressing these points, we consider the particular characteristics of each health system as well as differences in government priorities. The
implications of dual practice that are important to one country are not necessarily important to others; likewise, the response of each country to dual practice should be individually tailored.

The Extent of Dual Practice in the Health Sector

Dual practice is a widespread phenomenon in many developing countries, where the notion of a civil servant with full-time exclusive dedication to the public sector is disappearing as the gap between public and private income widens, making the opportunity to work in both sectors increasingly attractive (Macq et al. 2001). Thus, there is evidence of this phenomenon in several African countries such as Zambia, especially among senior doctors (Berman and Cuizon 2004); Egypt, where more than four-fifths of private physicians have some type of government or public-sector job (Data for Decision Making Project 1997); and in Portuguese-speaking countries, where two-thirds of the public doctors interviewed admitted to engaging in alternative income-generating activities (Ferrinho et al. 1998). In some of these countries (e.g., Mozambique), dual practice is more common among urban health professionals (ibid.); while in other countries (e.g., Egypt), it is more prevalent among rural physicians (Nanadakumar, Berman, and Fleming 1999).

The situation is similar in Asian countries. In Thailand, a 2001 study revealed that 69 percent of public doctors held two jobs (Prakongsai 2003), while most of the 2000 private clinics of Bangkok are run by government doctors (Prakongsai et al. 2003). Likewise, most doctors in Vietnam and India supplement public-sector work with private practice (Ferrinho et al. 2004; Berman and Cuizon 2004), and over 80 percent of government doctors in Indonesia and Bangladesh are engaged in private practice (Berman and Cuizon 2004). Even when this practice is regulated or banned, it may still exist on a significant scale, as in China (Yang 2006) and certain states in India where the practice is prohibited (Bian et al. 2003).

Latin America is no exception as far as dual job holding in the health sector is concerned (Maceira and Murillo 2001). In Peru, for instance, almost all physicians engage in both public and private practice (Ferrinho et al. 2004). It is also very common in Mexico, particularly among young general practitioners who need to augment their meager income (Berman and Cuizon 2004).

Finally, in Eastern Europe, the transition to a free market economy has led to the development of a private health market and the growth of private
practice. The security and familiarity of the public system, however, make many physicians reluctant to make a complete break from the old system, so they hold jobs in both sectors (Chawla et al. 2004).

Dual job holding among physicians also occurs in more highly developed countries, with the exception of Canada, where dual practice is either prohibited or strongly discouraged (Flood and Archibald 2001).4 or in the United States, where it is rare. A survey completed by fellows of the Royal Australasian College of Physicians shows that 87 percent of the group’s physicians are employed in public hospitals and an overall 79 percent also perform some private practice. In New Zealand, these figures vary between 92–99 percent and 43 percent, respectively (Dent 2004). In Japan, some public sector hospitals allow their doctors to work in the private sector on days when they do not do public sector work.

European physicians working in the public sector are usually allowed to operate in the private sector under their public contracts. However, the extent of dual job holding in Europe differs from one country to another. In some nations, it is a widespread phenomenon. In the United Kingdom, for instance, the Competition Commission estimated that in 1994 over 60 percent of the physicians working part or full time for the NHS devoted some of their time to the fee-for-service private sector. Indeed, most private medical services in the United Kingdom are provided by physicians whose main commitment is to the NHS. In Ireland, contracts with hospital physicians permit extensive private practice, and more than 90 percent of hospital consultants in public hospitals also have private practice privileges (Wiley 2005). Likewise, almost 100 percent of the senior specialist hospital doctors in Austria work in both sectors, as civil servants are paid very poorly in comparison with their counterparts in the private sector (Stepan and Sommersguter-Reichmann 2005).

In southern European countries, this kind of dual job holding is also present. In Portugal, of the 58 percent of public-sector hospital workers currently holding a second job, half are doctors (Ferrinho et al. 2004). According to the 2006 Spanish Labour Force Survey, around 20 percent of the physicians in Spain are dual job holders (Dolado and Felguerososo 2007). In Greece the number of physicians undertaking dual practice is relatively low but increasing (Mossialos, Allin, and Davaki 2005).

This practice is also found in the Scandinavian countries (Johnson

4. Lately, however, in one of the Canadian provinces (Alberta) the government is considering the possibility of encouraging public doctors to engage in private practice (Madore 2006). There are also certain services, such as cataract surgery, where dual practice is found (Armstrong 2000).
In Finland, for instance, most private-sector services are provided by the same doctors who staff the public hospitals during office hours (Hakkinen 2005). Similarly, in Sweden and Norway dual practice is quite common among senior specialists.

**Physicians’ Motives to Engage in Dual Practice**

It is important to understand why doctors decide to combine public and private practice by taking a second job. Research has shown that hours restrictions, job complementarities, professional and institutional factors, and personal issues all affect workers’ labor supply decisions.

**The Hours Restriction Approach**

The standard economic model for explaining dual job holding is based on the idea that because individuals have a fixed endowment of time, they choose the number of hours they wish to devote to work and the number they wish to devote to leisure, in order to maximize their utility. Much of the literature on second jobs is motivated by a simple model of labor supply in which workers face upper constraints on main job hours: a worker willing but unable to work more hours in his main job will take a second job provided it offers a high enough wage (see the seminal papers by Moses [1962] and Perlman [1966]). Shishko and Rostker (1976) were the first to find empirical support for the theory of dual job holding based on the hour constraints model. In the health sector, Culler and Bazzoli (1985) show that the number of hours spent by resident physicians in the main job strongly influences their decisions about whether to take a second job.

**Job Complementarities**

Paxson and Sicherman (1996) identify other factors, besides hours constraints, that influence a worker’s decision to supplement his or her primary job with secondary employment:

1. **Complementary earnings**: While one job might provide a steady but low income, the second might offer wages that are high on average but more variable. Empirical evidence supports this hypothesis, suggesting that substantial benefits from private practice lead physicians to take secondary employment in the private sector in order to supplement their low public income and increase their overall earnings.
(Moss 1984). This issue is especially relevant in developing countries, where public salaries are particularly low and governments often experience financial shortages resulting in insufficient funding for public institutions. Macq et al. (2001), using a survey conducted among a sample of physicians from various low- and middle-income countries, observed that dual practice would add an extra 50 to 80 percent to their public-sector salaries. Similar results are found in Gruen et al. 2002; Van Lerberghe et al. 2002; and Soeters and Griffiths 2003.

2. **Additional nonpecuniary benefits**: One job provides the main source of income while the other provides nonpecuniary benefits, such as professional training and improvement, contacts, cooperation with other hospitals, prestige, and so on. Assuming that physicians perform their main job in the public sector, it would be secondary jobs at private clinics that would enhance their prestige and professional reputation and draw them into dual employment. In countries where public medicine carries more prestige than private, physicians would seek nonpecuniary benefits in a public-sector post. In these cases, doctors tend to spend most of their time working for the public system, although they may still do some work for private providers.

3. **New skills and experience**: Second jobs can also be used by workers to gain experience and learn about new occupations or techniques. A study based on data from the United Kingdom (Heineck 2003) shows that apart from hours constraints, individuals are willing to take second jobs in order to exploit complementarities with their primary jobs and obtain additional skills and experience beyond the scope of their current position.

**Professional and Institutional Factors**

Other reasons, too, induce physicians to engage in dual practice. First, the workload and physical comfort of the working environment may influence the decision. Askildsen and Holmås (2004) show how in Norway the high workload and stress in public hospitals (stemming from both high demand and poor organization) lead physicians to allocate some time to working outside the hospital. Second, the “public” status of the employer in the primary job is also relevant. Public institutions are often financed through soft budgets, giving management leeway to be relaxed about financial discipline and general functioning. Moreover, employees within these public facilities enjoy civil-servant status, and the regulatory framework tends to limit managerial discretion over recruitment, pay, and discipline. Thus,
many health workers, especially in developing countries, resort to dual practice as a reaction to the shortcomings of the organizations in which they work, and not only in answer to low public-sector wages, as often claimed.

Nevertheless, there are also professional factors that motivate health care personnel to continue in public service. The desire for interaction and influence among fellow professionals and peer approval are matters that physicians value and that public hospitals can provide (Eisenberg 1986). In India, for instance, when doctors were asked about the determinants of job satisfaction, they ranked interactions with colleagues as one of the most important (World Bank 2001). And these are much more likely to be found in public facilities than in solo private practices.

**Personal Factors**

Empirical research has shown that dual job holding patterns vary with personal characteristics such as sex, age, and family structure. Chawla (1996) shows that physicians with more dependents are more likely to have two jobs in India. He also finds that older physicians tend to work less in their primary, public jobs, as do those with higher salaries. Further, he observes that private fees in the second job increase with specialization and years of practice, making dual practice more appealing for senior doctors. Although dual practice is usually more common among senior doctors, who have already built a reputation in their public work, there are exceptions. In Peru, for instance, young male doctors are the most frequent dual practitioners (Jumpa, Jan, and Mills 2003). Australia and New Zealand report evidence of gender differences, as men are more likely than women to have some private practice (Dent 2004). The same occurs in Spain, where there is a greater presence of men as dual providers (Dolado and Felguerososo 2007).

**Implications of Dual Practice**

Dual practice is a complex phenomenon with unclear consequences on the performance of the health care sector. In this section we discuss the multiple effects of dual practice in the health sector, with an emphasis on the extent to which these effects support or impede government policies and goals. In particular, we analyze the implications of this practice for access and equity of access to health services, efficiency in the use of public resources, and quality of the services provided. For each of these factors we begin by presenting the arguable advantages of allowing dual practice,
followed by its purported drawbacks. We should note, however, that this classification can be misleading, as the boundary between the positive and negative effects of dual practice shifts from one country to another.

Dual Practice and Access to Health Care

Access to health care services is a critical issue, especially for the poorest and rural populations. Effective access to health care is affected by several factors, including geographical location, affordability (financial access), quality-related factors, and cultural barriers. A central objective of many health care systems is to promote equity of access to health care. Equity of access means that equal services are made available to patients in equal need, irrespective of their income, and is often expressed as “universal equal access to health care.”

How Does Dual Practice Improve Access? Dual practice may help to improve access to health services, especially for poor and rural inhabitants. In low- and middle-income countries, there is often insufficient incentive for medical professionals to participate in the public system. By allowing dual practice, governments are able to recruit and retain quality physicians at a low budgetary cost, as the total compensation package governments offer to physicians includes both public salaries and the nonwage benefit of private-practice revenues. Further, the extra income associated with dual practice may supplement physicians’ low salaries and hence reduce their need to request additional payments, also known as informal payments, from patients. Informal payments are known to be an important factor that affects financial access to health services and therefore may also affect equity of access.

Dual practice allows doctors to provide services outside normal working hours in their private offices and to offer their public patients the option of obtaining quicker treatment and avoid the long waiting lists common in the public sector. Under these circumstances access is clearly improved.

In developing countries dual practice may allow doctors to provide services not only outside normal working hours but also in rural areas where public services are nonexistent or difficult to access (Gruen et al. 2002). Public physicians in Central America, for instance, may combine

5. Informal payments, as defined by Lewis (2002), are very common in developing and transitional economies where the difficult economic environment, low salaries, and payment delays drive physicians to demand them as a source of income (Di Tella and Savedoff 2001), but can also be found in developed countries such as France (Bellanger and Mossé 2000), Greece (Venieris 1997), and Japan (Ikegami 1991).
their work in the public sector with private practice for nongovernmental organizations (NGOs), providing basic health services to rural and remote areas (World Bank 2006). Likewise, in South Africa private practitioners are offered part-time state contracts for delivering their services in rural areas (Palmer and Mills 2003).

*How Does Dual Practice Decrease Access?* Access to health care is clearly compromised if dual practitioners are motivated to devote most of their time to their private practices, thus drifting into total or partial absenteeism from their public health care jobs. Evidence shows that U.K. consultants spend time in private clinics that they should be devoting to their public duties (Ensor and Duran-Moreno 2002) and that the majority of doctors working at primary care centers run by IKA (one of Greece’s largest social security organizations, covering the majority of the working population) work fewer than their contracted hours (Mossialos, Allin, and Davaki 2005). In developing countries, it is even more common that physicians work fewer hours than contracted in order to attend their private offices (Chaudhury et al. 2006). Patients’ health needs may not be met if the doctor is not available when they visit the public facility, or they may end up paying large out-of-pocket sums for care in the private sector, or they simply may not get health care due to their inability to pay for private treatment.

Public-private interaction may also offer dual job holders incentives to refer patients from public facilities to their private services, so that they can increase their private income. Patient diversion is found in countries such as Peru (Jumpa, Jan, and Mills 2003), Zimbabwe (Nyazema, Maredze, and Hongoro 2003), Bangladesh and India (Berman and Cuizon 2004), and many other African countries (USAID 2003). It is also present in more highly developed economies, as suggested by evidence from Greece (Mossialos, Allin, and Davaki 2005) and Portugal (Oliveira and Pinto 2005). Dual health practitioners may persuade patients to switch from public to private facilities directly or through induced referrals, that is, by reducing the quality of service or lengthening waiting times or waiting lists in public hospitals. In Italy (France, Taroni, and Donatini 2005) and the United Kingdom (Rogers and Lightfoot 1995), for instance, some authors suggest that dual practice has encouraged doctors to allow waiting lists in government clinics to run long in order to maintain demand for their private treatment.

This practice clearly increases inequity of access, as not every patient is willing to pay private fees and many simply cannot afford to do so.
It has been argued, however, that providers may counsel poor patients to receive free or heavily subsidized care in the public clinic or hospital, while referring to their private practice only those who can clearly afford it, following classic price discrimination. This would result in public-funded government health facilities becoming more effectively targeted to the poor, improving access to health care for the poor (Eggleston and Bir 2006) and in the reduction of public waiting lists by curbing demand for public health services. Nevertheless, empirical evidence shows that poor and uneducated patients are often more likely to pay for expensive private treatment than to use subsidized public care. Das and Hammer (2007) found that in India poor people almost never see doctors in public hospitals. Over a two-year period, of 2,183 visits to health providers among the poorest tercile, less than 12 percent were at public hospitals. In the United Kingdom, Burchardt, Hills, and Propper (1999) found that in 1995 approximately 70 percent of private health care users were in the top two income quintiles, but 30 percent were in the bottom three.

Finally, dual practice may also decrease access in rural areas, because it offers incentives to physicians to live in the urban areas, leaving rural populations without the benefits mentioned above. Many physicians prefer to live in metropolitan areas precisely because it is easier to open a private office and have abundant clientele.

In short, while dual practice may help to improve access to health care, it may also result in greater departures from the equity principle of equal treatment according to need. Dual practice regulation may be positive if it can improve equal access to care without eroding its advantages for effective access.

Dual Practice and Efficiency in the Use of Public Resources

Making more efficient use of the resources available across the health system is certainly a major challenge for policy makers. Efficiency in the use of resources can be understood as either the amount of output achieved in relation to input used, which is known as technical efficiency, or the amount of output produced at the minimum possible cost, which is known as cost efficiency.

How Does Dual Practice Increase Efficiency? If dual practice were not allowed, many doctors of developing countries would leave the public sector. This has happened in many African countries, causing temporary
shortages of staff in the public sector and creating inefficiencies for the public providers by making it more difficult to utilize capacity at planned rates.

**How Does Dual Practice Decrease Efficiency?** The literature shows that dual practice may lead to inefficiencies in the use of medical equipment and supplies. Some dual job holders free ride on public facilities by appropriating supplies (e.g., gauze, medications, prostheses, etc.) for use in their private practices, treating private patients at public facilities, or making free use of public equipment. This behavior severely undermines efficiency in the use of public resources. Misappropriation of public resources abounds in developing countries. Gruen et al. (2002), reporting on in-depth interviews with dual practice providers in Bangladesh, revealed cases of illicit transfer of subsidized resources to the private sector. Practices of this kind have also been reported among obstetricians and ophthalmologists in Thailand (Prakongsai et al. 2003).

The inefficiency of dual practice associated with the misuse of public resources is less pronounced in more highly developed economies. Misappropriation also exists in these countries, however (Di Tella and Savedoff 2001). In Italy, for example, cases have been reported of physicians purchasing equipment on the public budget and using it in their private practices (Cutler 2002).

In addition to free riding, public-sector doctors may treat private patients at public facilities at the government’s expense. This happens in Kenya, for instance, and has been a persistent problem across developing countries (Berman and Cuizon 2004).

Likewise, public-sector efficiency declines if dual job holders are absent from their primary jobs in the public sector in order to attend private office hours or if they exert less effort at their public posts. This is certainly a waste of public resources, as the labor force could be more optimally employed.

**Dual Practice and the Quality of Health Care Provision**

Quality of health care is a multidimensional concept that is not easy to define. There are at least three components of quality: (1) the technical aspects of quality, or how well medical science and knowledge are applied to the diagnosis and treatment of a medical problem; (2) the interpersonal aspects of quality, that is, the responsiveness and attentiveness of the phy-
sician; and (3) the amenities of care, which include the comfort and cleanliness of the health care facility (Donabedian 1980).

How Does Dual Practice Improve Quality? First of all, we must stress that dual practice discourages the best doctors from opting out of the public system. Physicians receive both public salaries and the nonwage benefit of private-practice revenues, so that governments are able to recruit and retain quality physicians at a low budgetary cost in the public sector. This is especially relevant in low- and middle-income countries, where scarcity of public-sector resources is acute (Buchan and Sochalski 2004). In South Africa, for instance, Globerman and Vining (1998) report that temporary staff shortages have been caused by physicians and nurses in the public sector being “captured” by private payers. Also, in more highly developed countries such as Austria, hospital doctors receive relatively low fixed salaries but are allowed to earn additional income by setting up in private practice elsewhere, as a strategy to retain good doctors at public facilities, ensuring the provision of high-quality care in the public sector (Stepan and Sommersguter-Reichmann 2005).

While these are good strategies, even if good physicians are retained in the public sector, their responsiveness is not ensured and technical quality is not totally guaranteed if physicians are not motivated in the public sector. A recent study by Leonard, Masatu, and Vialou (2007) shows that even if physicians are well trained and have good capacity (can provide good technical quality), clinicians who work in organizations that do not use high-powered incentives are much less likely to properly diagnose and treat patients. Further, Das and Hammer (2007) find that, for a given level of ability, physicians who work in India’s private sector diagnose and treat patients better than those who work in its public sector.

In developing countries, where budget constraints generally mean seriously deteriorated public health facilities and public services, dual practice allows physicians to offer better care at their private offices or private hospital, where they have better equipment. The dual activity may also generate a complementary effect between sectors: second jobs may allow physicians to gain experience and learn about new occupations or techniques, thus leading to quality improvements in the public sector.

How Does Dual Practice Damage Quality? However, dual practice might negatively affect the quality of the public health services provided. Some dual practitioners may be motivated to minimize quality or effort in their primary public job. They may perform with less diligence when holding
two jobs. On this topic, Aaron and Schwartz (1984) discuss how a private option may motivate consultants to reduce their work effort in the public sector. Similarly, self-referral of patients from public facilities into dual-holder private services may result in poorer service in public hospitals, thus widening the quality gap between the public and private sectors (Jan et al. 2005; Biglaiser and Ma 2007). Furthermore, in many countries, senior physicians are sometimes absent from their public-sector posts in order to attend their private offices, and while they are absent, their jobs are performed by residents, who may offer lower-quality care.

The negative effects of dual practice on quality of public health care, however, may be attenuated thanks to factors such as the reputation effect. Dual job holders may be interested in building good reputations at their public posts in order to guarantee a flow of demand for their private services (González 2004) and thus decide to work harder at their public jobs. Evidence from the United Kingdom shows that public consultants with greater private than public commitments are more productive in their National Health Service activity than those with a weaker commitment to the private sector (Bloor, Maynard, and Freemantle 2004).

Finally, dual practice may also damage the quality of the services provided in private facilities. Dual job holders may work more hours than they should, and in such cases the quality of health care they provide (both in their public and private activities) is likely to fall (Propper and Green 2001). Thus, while dual practice does help to retain skilled physicians at a low budgetary cost, public quality can be dramatically undermined if physicians minimize their effort or work more hours than they should.

Overall, it is difficult to reach a clear conclusion about the net effects of dual practice on the performance of health care systems. First of all, there is scarce evidence on the effects of dual practice on equity, quality, and efficiency in health care provision, as well as a lack of good evaluative evidence indicating the overall positive or negative impact of these effects. Second, benefits and costs of dual practice are to be evaluated based on the priorities defined by each government. If governments are mainly concerned about improving access to health care, then dual practice may contribute to this purpose, especially in developing countries. But if governments are more focused on improving the quality of the services provided, the answer is not so straightforward. In the next section, we briefly present the regulatory policies that have been implemented in developed countries and analyze the prospects of their implementation in middle- and low-income countries.
Some Policy Options

The question of whether dual practice in the health sector should be regulated and, if so, which strategies would best minimize the adverse consequences of this practice is an issue of debate among policy makers. Accordingly, governments around the world address dual practice through a variety of policy and regulatory measures.

Very few countries have set a ban on dual practice. Dual practice is generally allowed in developed countries, with the exception of Canada. Among middle-income and developing countries, few have opted completely or partially to prohibit physician dual practice. Thus, to the best of our knowledge, complete bans on dual job holding have been implemented only in China (Bian et al. 2003) and in some states in India (Berman and Cuizon 2004), while in other developing countries the private practice of government-employed physicians is restricted to select physicians. In Kenya and Zambia, for instance, junior doctors who work in the public sector are not allowed to work in the private sector (ibid.).

We do not believe that banning dual practice is a good strategy. In more developed countries, professional self-regulation is very strong and may act as a deterrent for the undesirable behaviors associated with dual practice. The social and professional culture within the medical profession, as well as mechanisms such as peer pressure among physicians, have proven effective in improving professional practice in the public sector of many developed countries. This is not the case in developing countries, where professional bodies are weak, the work environment is permissive, job morale is low, and monitoring is weak or nonexistent. As a result, the negative consequences of dual practice are potentially more significant. However, banning dual practice in less highly developed countries would create other problems by reducing the attractiveness of public service employment, especially for the more highly skilled and senior doctors who, taking advantage of their well-established reputations within the public sector, might migrate to the private sector, where the pay, equipment, and facilities are usually better. In Mumbai, for example, a ban on private practice led to an exodus of the best public doctors to the private sector (Peters et al. 2002). The “brain drain” of health professionals from the public sector might also lead them to other countries where they can get higher salaries and a better quality of life (Martineau, Decker, and Bundred 2004). The ultimate losers are the poorest citizens, who cannot afford private treatment. In this context, a ban on dual practice might pre-
vent governments from guaranteeing good care in the public sector and might affect equity of access.

International evidence shows that in most developed countries dual practice is allowed but is coupled with policies and incentive mechanisms that try to prevent or mitigate some of the adverse consequences associated with it. Thus the majority of dual practice regulations have been implemented in European countries. Some governments have raised public-sector salaries or have offered allowances or other work benefits to physicians who work exclusively for public hospitals and clinics. The governments of Spain, Portugal, and Italy—in exchange for salary supplementation or promotions in institutional hierarchies—have all offered public physicians exclusive contracts that aim to ensure that signatories do not engage in private practice. In other countries, such as Austria and Italy, dual practice among physicians has been limited through government specification of the maximum quantity of services that can be performed in the private sector (Stepan and Sommersguter-Reichmann 2005; France, Taroni, and Donatini 2005). The practice can also be limited through specification of the maximum income that physicians can earn through dual job holding, an approach that has been implemented in France and the United Kingdom (Rickman and McGuire 1999; Grosse-Tebbe and Figueras 2004). Finally, dual practice has been regulated by encouraging public doctors to develop their private practices within government hospitals. The hospital administration collects the private fees, and physicians receive payment adjusted for the use of hospital facilities and equipment. This policy has been undertaken in several European countries, including Austria, France, Germany, Ireland, and Italy.

In middle-income and developing countries, where dual job holders who shirk or are absent from their public-sector jobs are more common, dual practice remains mainly unregulated. But as the issue of human resources within the health sector attracts more attention from policy makers, so does the issue of dual practice.

Two important questions are at hand. First, which of the above-mentioned strategies implemented in developed economies is most effective in mitigating the negative implications of dual practice? Second, are these regulatory policies and practices also adequate and feasible for developing countries, or is a different policy mix needed?

6. For a more detailed explanation of policy responses to dual practice, see García-Prado and González (2007).
The answer to the first question depends both on the institutional framework and on the magnitude of the negative implications of dual practice in each country. There are some countries, such as Norway or Sweden, where opportunistic behavior among physicians is uncommon, so that the more reasonable and efficient strategy is to let the market operate by itself, without regulation. There are other countries, however, where the erosion of public-service values has created space for opportunistic behavior (Vian 2008). Under such circumstances, the undesirable activities associated with dual practice may emerge more easily, and regulation is needed.

Some of the regulations described above aim at enhancing the attractiveness of working in the public sector, rewarding public physicians so as to improve their public performance, or to create disincentives for holding second jobs in the private sector. Other regulations are oriented toward setting up limitations or punishments for public physicians who work outside the public sector. Accordingly, we divide these into rewarding policies and limiting policies.

**Rewarding Policies**

Rewarding policies include offering favorable contracts for those who agree to work exclusively in the public sector, a higher salary in exchange for the work, or nonpecuniary incentives.

Offering exclusive contracts to public physicians may be effective only if the premiums are enough to compensate for the losses associated with not working in the private sector. In developed countries where the private sector is very attractive, such as in Austria where senior hospital doctors receive more than two times their public salary when providing private services (Stepan and Sommersguter-Reichmann 2005), this strategy would be too costly. A related policy is to offer public physicians nonpecuniary incentives (linked to reputation, prestige, and professional career). In Italy, for instance, high-profile managerial and directive posts are reserved for physicians who choose to work exclusively for the public sector (Lo Scalzo et al. 2009). This alternative can restore public service values and seems to be a good option for retaining doctors in countries where the salary differential between the public and private sectors is not too large.

In developing countries, however, these rewarding policies are difficult to implement. First of all, in countries with strict resource constraints,
governments may not be able to afford to make additional payments to their public-sector physicians.\textsuperscript{7} But even when such resources are available, the experience of Thailand suggests that offering exclusive payments to just one group of providers (doctors, in this case) and not others (e.g., nurses and other health staff) can create resentment across professional groups (Prakongsai et al. 2003). An additional drawback of this measure is that, unless salary supplements are generous enough, the remaining disparity will reduce the attractiveness of public service employment for the most highly skilled and senior doctors, who tend to have better work opportunities in the private sector, where they enjoy substantially higher payments and access to better technology. This is particularly problematic for developing countries where the lack of standardized protocols of treatment makes accuracy of diagnosis and effectiveness of treatment highly dependent on the physician’s skills. Thus, this exodus of highly skilled and senior physicians to the private sector would be particularly detrimental for the quality of the public services. Hence, we do not believe this policy is a good option for developing countries.

Limiting Policies

When the problems that emerge from dual practice are severe, rewarding policies may not be effective in suppressing opportunistic behavior among dual providers. In this case, more stringent policies oriented toward limiting private activities are needed. As we have said, one alternative is to limit the income that public physicians may get from their private jobs. A second alternative is for the government to set up a maximum quantity of services that can be performed in the private sector.

In our opinion, the second option is clearly the better of the two. Limiting income from the private sector is more restrictive for the most skilled or experienced doctors, because generally they have greater potential to generate private income. If these doctors decide to leave the public sector when this option is used, there would be a significant negative impact on the quality of service provided in the public sector.

\textsuperscript{7} Gruen et al. (2002) developed in-depth interviews with dual practice providers in Bangladesh, which revealed that a majority of doctors would reduce or give up private practice if the government paid higher salaries. However, Van Lerberghe et al. (2002) argue that physicians’ salaries in low-income countries would need to be multiplied by, on average, at least five to bring them to the level of potential private earnings. Similar results have been found in studies conducted for Bangladesh (Gruen et al. 2002) and Cambodia (Soeters and Griffiths 2003).
Admittedly, the policy might be hard to enforce because of difficulties in monitoring the number of hours dual job holders work. But such difficulties could be addressed if physicians are allowed, as they are in some European countries, to work as private doctors outside their regular office hours in the public hospital. This would allow for more efficient regulation and monitoring of private health provision, since public and private services would be provided within the same facilities. And supervision of dual job holders would be easier. As far as we know, this strategy has not been implemented in any developing country, although in Ghana, for instance, it has been recommended that private wings be developed in public-sector hospitals so that government doctors can provide private services there outside their public working hours (Martineau, Decker, and Bundred 2004). This option should be considered by developing countries, as we believe that it could have two additional advantages. First, it could create positive synergies between the public and private sectors: for instance, the public sector may benefit from the generally more advanced technologies of the private sector. Second, it may help to curb the informal payments that are so common in the public health institutions of developing countries.

Regulations in developing countries are not easy to implement and enforce. The health systems in developing countries are characterized by highly disorganized health service and commodities markets, porous boundaries between public and private health care sectors, and a minimal state regulatory capacity (Bloom, Standing, and Lloyd 2008). In addition, the threat of penalties may also be ineffective in poor countries, where wages can be so low that the risk of lost employment does not represent an adequate disincentive. Thus, strengthening the weak institutional and contracting environments of developing countries seems to be crucial for the successful implementation and enforcement of any regulation. Alternatively, it may be worthwhile to explore nonregulatory approaches, such as constructing social contracts for health care that are built on existing areas of competence and good practice. New forms of institutional innovation may offer great opportunities for less highly developed countries (Bloom and Standing 2008) and may provide a better environment for coping with dual practice. For instance, China is gradually changing institutional arrangements and creating new social contracts and trust-based institutional arrangements (Bloom et al. 2006). The construction of such arrangements, especially when combined with a minimum of enforceable regulations that deal with the worst practices and the encouragement of
Table 2  Policy Recommendations to Regulate Dual Practice in Developing and Developed Countries

<table>
<thead>
<tr>
<th>Importance of the Problems Associated with Dual Practice</th>
<th>Developing Countries</th>
<th>Developed Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Income</td>
<td>Middle Income</td>
</tr>
<tr>
<td>Minor</td>
<td>No regulation</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>Limiting policies, development of private practice in public facilities, design of social contracts, institutional strengthening</td>
<td>Rewarding policies</td>
</tr>
<tr>
<td>Severe</td>
<td>Limiting policies, development of private practice in public facilities, design of social contracts, institutional strengthening</td>
<td>Limiting policies and the development of private practice in public facilities</td>
</tr>
</tbody>
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Source: Compiled by authors

local adaptations, may be a promising option for other countries that grapple with the consequences of unorganized markets (Bloom, Standing, and Lloyd 2008). Another good way to encourage dual job holders to provide adequate quality of care is to implement accreditation systems. Several developing countries, including Thailand, Ghana, Tanzania, and South Africa, are implementing these systems (Ensor and Weinzierl 2006). A summary of the discussion on the policy recommendations to regulate dual practice is provided in table 2.

Conclusions

Unfortunately, the existing information and empirical research on dual practice is scarce and incomplete, making it very difficult to draw strong conclusions. There is a need for rigorous empirical studies that quantify the social costs and benefits of dual practice and evaluate how allowing or restricting it affects social welfare.

Despite this lack of information, some general lessons can be drawn from our analysis. First, both the positive and negative aspects of dual
practice are more substantial in developing countries. In these countries, where the work environment is permissive, work morale is low, and monitoring and associated sanctions are weak or nonexistent, the adverse side effects of dual practice can severely undermine the efficient use of resources and damage the quality of public services. At the same time, dual practice can contribute to increased access, one of the priorities of low-income countries. Dual practice enables governments to recruit and retain high-quality physicians at a low budgetary cost and extends the office hours of those physicians.

Second, the most appropriate response to physician dual practice will be country specific; it will take into account local contexts and circumstances. In more highly developed countries, rewarding policies to retain physicians in the public sector can be effective. However, when governments cannot afford the monetary amount needed to retain physicians exclusively in the public sector, or the problems associated with dual practice are severe, we suggest encouraging physicians to develop their private practices at government clinics as a promising regulatory alternative.

Most of the regulatory policies carried out in developed economies would face serious implementation and enforceability problems if attempted in less highly developed countries. In addition, regulations of dual practice in poor countries reduce the attractiveness of public service employment for more highly skilled physicians and senior doctors, with all the associated risks this implies. Developing countries need prescriptions that differ from those of developed economies. And regulations must be tailored to the specificities of each health care market and should be accompanied by the strengthening of institutional and contracting environments.

Finally, the design and implementation of “social contracts” between the medical professions and society, such as the spread of reputation-based trust mechanisms, has emerged as a promising alternative strategy for dealing with the worst practices associated with dual practice in countries where health care markets are unorganized and the public sector faces serious problems.

Certainly, further research on dual practice is needed. We believe, however, that this work will inform the ongoing debates about dual practice in the health sector and will contribute to the development of a better policy-making process.
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