Incentives to Dual Practice

New Institutional Economic analysis of Canada's mixed public-private health sector

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Abstract

There are many incentives for physicians to dual practice such as an increase in salary, technology usage, or less work hours. By using the New Institutional Economic approach, we examine these incentives of physicians in Canada's health care system in three scenarios of dual practice. In the first scenario is physicians dual practicing without any government policies or restrictions in the private sector. In the second scenario, physicians are not be allow to dual practice, meaning a full out ban of dual practicing. In the third and final tier, restrictions or government policies will be place in the private sector while still allowing physicians to dual practice. This paper analyzes which of the three scenarios best benefit social welfare in Canada's health care system by examining the incentives of physicians to dual practice.

Introduction

Health care is defined as the prevention, treatment, and management of illness and the preservation of mental and physical well being through the services offered by the medical, nursing, and allied health professions (Pita & Giralt, 2002). According to the World Health Organization, health care embraces all the goods and services designed to promote health, including "preventive, curative and palliative interventions, whether directed to individuals or to populations" (World Health Organization, 2007). The organized provision of such services may constitute as a health care system. Health care systems vary widely from one country to another. Two primary systems used are socialized medicine and free market. In socialized medicine, government controls the finance of the health sector, while the free market is where private institutions control the finance (Martino, 1998). The systems differ in management and control; however, both systems are identically similar with the involvement of a mixed public-private health sector. For example, Canada's health system closely resembles socialized medicine, containing hospitals and physicians publicly funded by general taxation. However, there also exist small markets in Canada where hospitals and physicians are privately funded through individuals or industries.

A mixed public-private health sector paves the way for physicians to dual practice. Dual practice is when physicians work in both the public and private health sector. The most common medical areas physicians are likely to dual practice are family practices or specialists. Family practices may involve being a family doctor, providing weight loss counseling, ultra-sound testing, IV therapy, total body photography, etc. Specialists include those who may include being a pediatrics, geriatrics, diabetes, dermatology or gynecology. Many physicians choose these means of practice as a way to

achieve benefits from both the private and public sectors. It is common in many countries that physicians work in both sectors at the same time, sometimes self-referring patients from one sector to another. In Spain, for example, the Law of Professional Incompatibilities that governs the employment of civil servants does not prohibit doctors from having private practices (Ensor, 2002). The specific legislation for medical professionals, however, offers those who choose not to dual practice a fixed monthly bonus in addition to their basic salaries (Ensor, 2002). In Great Britain, physicians who are employed in the public sector are allowed to operate in the private sector under their New Health System (NHS) contracts. NHS part-time physicians are not limited in their private practice, whereas for full-time physicians their private practice is limited to 10% of their NHS salary (Breeke & Lars, 2006). Indeed, most private medical services are provided by physicians whose main commitment is to their NHS duties. A report by the Competition Commission (1994), estimated that 61% of NHS physicians Great Britain have significant private work. In France, public hospitals employ both full-time and part-time physicians who can also accept private patients with the restriction that income from private fees is limited to no more than 30% of the physicians' total income (Ensor, 2002). Similar arrangements apply in the majority of the European countries which, although characterized as having public health care systems, also allow private health care. Success has been seen in Europe using dual practice for it creates incentives strong enough for many doctors to stay in their home country and practice medicine. Without the incentives of dual practice, many of Great Britain's physicians, for an example, might choose to move to another country such as Spain, where dual practice is allowed, which may result in a shortage of doctors in Great Britain.

The question typically raised, mainly from politicians, about dual practice is whether it is good or bad for the health care system. There seems to be a presumption that allowing physicians to dual practice will hurt services in the public sector. Economists are usually quick to point out that allowing a market to operate generally enhances welfare (Ferrinho 1999). For example, if dual practice is allowed, physicians can be expected to provide faster and higher quality services in the private sector; consumers who are willing to pay for these superior services will opt out of the public system (Gonzalez, 2002). Critics also argue, however, that dual practice may cut back medical care quality for patients in the public sector and doctors that choose not to dual practice may also cut back on quality (Gaynor, 1994). Because of the lack of incentives in the public system, such as less pay or lower quality of technological equipment, this adverse reaction presents a problem (Gaynor, 1994). This problem consists of the working effort of a physician and the quality of care given to a patient. Suppose that the magnitude of these adverse reactions by physicians is positively related to the extent of dual practice in the private market. More opportunities in the private market may lure more dedicated doctors to dual practice. These opportunities may also induce physicians who dual practice to shirk more in the public system as they focus more of their effort in the private sector. Reducing the scope of dual practice will reduce these negative effects and limit private market operations. For example, a price ceiling on physicians' earnings in the private market may enhance overall welfare. The ceiling reduces some surplus in the private market, but controls the quality deterioration in the public system (Rickman & McGuire, 1999).

Within the differences of incentives between the public and private sectors, there is also a difference between the market participants. Not every physician chooses to dual practice. There are physicians that are devoted to providing good quality to the public sector despite the lack of incentives, therefore rejecting dual practice opportunities (Frenk, 1993). The presence of these physicians, which we will call 'public' physicians, allows us to understand why health care quality in public sectors do not tend to be extremely poor. If dual practice incentives make some of these 'public' doctors change their position and turn to dual practice, then there will be that adverse effect on the quality in the public sector. There is even more fear of quality deterioration when physicians who dual practice may reduce quality in the public sector much more than if physicians were not allowed to dual practice (Rickman & McGuire, 1999). Without dual practice, physicians do not have the incentives to showcase their talents as superb doctors to promote their private practice. Knowing they will receive a fixed salary in the public sector, and with nothing to gain from the private sector, physicians would shirk even more. Dual practitioners may shirk on hours worked in the public sector to spend time in private practice. Meanwhile, dual practice providers may also misuse government supplies and equipment in the treatment of private sector patients, thus undoubtedly undermining the efficiency of public delivery. In any of these circumstances, dual practice leads to adverse behavior in the public sector.

In this paper, dual practice is examined through a New Institutional Economic approach based on physicians' incentives. With dual practice already being unrestricted in Canada, physicians' incentives to do dual practice is more predictable and understandable in comparison with other countires with bans or restrictions on dual

practice. Dual practice in Canada's health care system will be examined in three cases, where two out of the three cases are hypothetical. The first case consists of physicians dual practicing without any restrictions or policies being put in place in the private sector. In the second case, physicians will not be allowed to dual practice, meaning physicians could only choose to work in one health sector or the other. The third case is where physicians are able to dual practice, though policies or restrictions, such as a price ceiling on services, will be implemented. In each of the three cases, incentives and social welfare patients and physicians will be closely examined.

Canada's Health System

Canada's health care system is publicly funded that is, it is a form of socialized medicine. The various levels of Canada's government pays for about 70% of Canadians' health care costs, which is about average for a developed country (CBC, 2006). The Canadian government also pays almost 100% of hospital and physician care (CBC, 2006). The payments for hospital and physician care are covered by Medicare, the largest government health program. Medicare is the Canadian insurance system provided by the Canada Health Act. Under the terms of this act, all Canadian citizens and landed immigrants (equivalent to U.S. green card holders) are entitled to receive medically necessary hospital services, physician services and surgical-dental services (Health Canada, 2006). The system is funded by Canada's federal government through transfer payments to all provinces and territories, and is supported through taxes. All Canadians receive medical care regardless of yearly income or ability to pay for the care (Health Canada, 2006). Although Canada maintains a publicly funded system, 30% of Canadian health care is undertaken in the private sector (CBC, 2006). Many Canadians have

private health insurance, often through their employers, that covers some of the expenses in the private health sector (CBC, 2006). One of the liked features of the Canadian private health sector is the minimal paper work that has to be filled out in comparison to the public sector. Instead of having a third party involved with health payments, patients may pay the fees directly to the physician without having to fill multiple forms.

Family doctors in Canada make an average of $202,000.00 a year (CTV, 2006). Alberta has the highest average salary of around $230,000.00, while Quebec has the lowest average annual salary $165,000.00 (CTV, 2006). Specialists' average salaries are even higher at about $278,000 (CTV, 2006). If doctors dual practice in Canada, their salary could potentially increase up to $400,000.00 for a specialist and $300,000.00 for a family doctor (CTV, 2006). All provinces in Canada allow dual practice with the exception of Quebec which creates local shortages as most physicians search for a better salary outside of Quebec (CMA, 2007). Nationally, doctors are represented by the Canadian Medical Association. The CMA works to enforce national standards in Canada's health care system. Each province regulates its medical profession through a self-governing College of Physicians and Surgeons. The College of Physicians and Surgeons is responsible for licensing physicians, setting practice standards, and investigating and disciplining its members.

There are two main criticisms of Canada's health system from patients and politicians alike; wait times and lack of advance technological equipment in the public sector. The wait times to be treated in hospitals can be weeks or months, including for simple procedures. According to the Frasier Institute (2007), treatment time from initial referral by a general practitioner through consultation with a specialist to final treatment,

across all specialties and all procedures (emergency, non-urgent, and elective), averaged 17.7 weeks. There are long waits for some non-emergency procedures, notably hip- and knee-replacement surgery, plastic surgeries, and eye surgery (Krauss, 2006).

Although the criticisms of technological equipment have been coming from Canadian's physicians, patients have also been complaining about the out-of-date equipment (Krauss, 2006). Patients not only wants a good doctor but also have the physician to diagnosis and treat them with the most advanced technological equipments that are available. Advanced technological equipment refers not only to machinery and devices, but also to pharmaceutical and surgical innovations. According to the OECD[1] (2002), Canada ranks poorly, compared to other developed countries, when it comes to access to high-tech care. There is less access for patients to receive a diagnosis through the usage of advanced technological equipment in the public health sector compared to the private sector. This does not mean that Canada's public health sector does not have advanced technological equipment. Rather, the advanced technological equipment are just less available and harder to come by in public hospitals compared to private hospitals.

Physicians' Motives to Dual Practice in Canada

It is important to understand why doctors decide to combine public and private practice by taking a second job. There exist four reasons on what motivates Canadian doctors to dual practice. These four approaches consist of hour restrictions, job complementarities, professional and institutional factors, and personal issues (Paxson et. al, 1996).

[1] Organisation for Economic Co-operation and Development: consist of 30 countries sharing expertise, exchanging views, and creating research studies to support sustainable economic growth, boost employment, raise living standards, maintain financial stability, and contribute to world growth in trade

1. Hours Restriction Approach

The standard economic model for explaining dual job holding is based on the idea that individuals have an endowment of time, on the basis of which they choose the number of hours they wish to devote to work and leisure in order to maximize their utility. A doctor willing but unable to work more hours in his main job will take a second job provided it offers a high enough wage. In this line, Moses (1962) presents dual job holding as a special case of overtime work. His results predict that a worker, or a doctor in this case, will be willing to accept part-time employment in a secondary occupation if he is an income maximizer who is unable to obtain sufficient overtime work in his primary employment. This framework has specific applications to the health sector. Culler and Bazzoli (1985) show that the number of hours spent by Canada's physicians in their primary job strongly influence whether or not they decide to take a second job.

2. Job Complementarities

Although hour constraints have traditionally explained the existence of dual job holding, there are other factors that also require consideration. Paxson and Sicherman (1996) identify other factors that influence a worker's decision to supplement his or her primary job with secondary employment:

(A) 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. 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 (Ma, 1994). Culler and Bazzoli (1985) also find support for this decision. They show that Canadian doctors opting for dual practices are highly influenced not only by

time spent at their primary job but also by the wage potential of a second job and their public salaries. Lerberghe et al. (2002), using a survey conducted among a sample of physicians from different low and middle income countries, observed that dual practice would add an extra 50 to 80% to their public sector salaries.

(B) Non-financial benefits: One job provides the main source of income for a physician while another job can provide non-financial benefits, such as professional training and improvement, contacts, cooperation with other hospitals, prestige, etc. 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 encourage them into dual employment (Rickman & McGuire, 1999). Canadian physicians are concerned for their reputation in the primary post as long as their work in the public sector enables them to generate positive externalities in their private practices.

(C) 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 UK (Brekke & Lars, 2006) shows that apart from hour constraints, individuals are willing to take a second job in order to obtain additional skills and experience beyond the scope of their primary position. Through secondary employment in the private sector, many physicians have access to better technology and resources than they would find in the public sector.

3. Professional and Institutional Factors

The workload and physical comfort of the working environment may influence a doctor to dual practice. A study by Johnson (1995) in Norway shows that high work load and stress in public hospitals (stemming from both high demand and poor organization)

lead physicians to allocate some time to working outside the hospital. Secondly, 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 (Lerberghe et al., 2002). Moreover, employees within these public facilities receive limited managerial discretion over recruitment, pay and discipline. Additional problems are weak monitoring systems and low probability of formal sanctions. As a result, physicians are allowed broad discretion as to the degree of effort or effective time they spend on their work, which makes it very easy for them to engage in dual practice and/or leave the public premises during duty hours to attend their private practices. In short, many health workers resort to dual practice as a reaction to the shortcomings of the organizations in which they work, and not only because of low public sector wages, as often claimed. They are seeking the professional satisfaction and self-realization that the primary public job does not always offer (Lerberghe et al., 2002). Nevertheless, it is worth mentioning that there are some professional factors that motivate health care personnel to continue to stay in the public service. The desire for interaction and influence among fellow professionals and peer approval, are other factors that physicians value and public hospitals can provide (Eisenberg, 1986).

4. Personal Factors

Research has shown dual job holding patterns to vary with personal characteristics such as sex, age and family structure. Chawla (1996) finds that older physicians tend to work less in their primary jobs, as do those with higher salaries. Further, he observes that private fees in the second job increase with specialization and

years of practice, makes 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. Young male doctors are the most frequent dual practitioners in Canada (Dent, 2004). Men are more likely than women to participate in a private practice in Canada (Dent, 2004).

A Basic Model of Dual Practice

Using physicians' motives to dual practice in Canada, there are several different incentives arrangements within this category as portrayed in both Tables 1 and 2. Table 1 portrays that physicians could work in both the public and private sectors, carrying out their primary activity in the public sector, while also engaging in private practice, performing similar clinical tasks in both sectors. Specifically, Table 1 depicts physicians choosing to work in public sector, full-time or part-time, as their primary job. It is then the physician's choice whether or not to hold a secondary job in the private sector. In contrast, physicians may also carry out their primary activity in the private sector, while also engaging in public practice as a secondary job. Table 2 shows physicians choosing to work in the private sector, full-time or part-time, as their primary job. Again, it is then the physicians' choice whether or not to hold a secondary job, but this time the secondary job is in the public sector. Having a full time position consists of physicians working 35 hours per week in both tables (Oliveira & Pinto, 2005). Working a full-time position with a secondary job, physicians may extend their work hours from 35 to 42 hours per week (Oliveira & Pinto, 2005). Physicians who choose to work two part-time positions are working in hours similar to that of a full-time position (Oliveira & Pinto, 2005).

Table 1. Incentives to Dual Practice when holding a Primary Public Job

		Secondary Job	
		Holds no Secondary Job	**Private** Part-time
Primary Job	**Public** Full-time	- interaction and influence among fellow professionals - peer approval	- increase overall earnings - more hours (overtime) - enhance prestige and professional reputation - gain experience and learn new occupations and techniques - professional satisfaction and self-realization
	Public Part-time	- No Incentives	- enhance prestige and professional reputation - gain experience and learn new occupations and techniques - professional satisfaction and self-realization

- Full-time public & no secondary job

For our purpose, physicians who work only in the public sector, holding no secondary job, are labeled as 'public' physicians. These 'public' physicians work not for financial benefits but rather for incentives such as having constant interaction and influence among fellow professionals. Also, the incentive to have peer approval causes some physicians to want to work only in the public sector. 'Public' physicians are not driven by the incentive of increasing their salary, but rather the incentive of obtaining social benefits. 'Public' physicians could be seen as dedicated physicians concern more importantly with the social welfare of patients rather than one's own financial benefits

- *Full-time public & part-time private*

Many physicians have a full-time primary job in the public sector and a part-time secondary job in the private sector. This is the case for physicians who, having completed their hours in a public hospital, work extra hours in a private hospital. This is the most common case of dual practice as there are more incentives offered as portrayed in Table 1. The ability to work more hours allow physicians to increase overall earnings to supplement their insufficient public salary (Ma, 1994). Physicians are also able to enhance his or her reputation as they are capable of gaining more experience and learning new occupational techniques in different medical areas (Brekke & Lars, 2006). Enhancing one's reputation as a physician may lead to more patients transferring to their private practice therefore resulting in an increase of salary (Ma, 1994).

- *Part-time public and part-time private*

Physicians may work part-time in both the public and private sectors. The salary of working two part-time jobs is lesser and differs widely then working a full-time and a part-time position. The incentives to work part-time public and part-time private are

more for non-financial benefits. These non-financial benefits consist of enhancing one's reputation or gaining experience in other medical areas. Also, there is the incentive to seek the professional satisfaction and self-realization that the primary public job does not always offer (Lerberghe et al., 2002). Both Table 1, above, and Table 2, below, depicts this category.

Table 2.Incentives to Dual Practice when holding a Primary Private Job

		Secondary Job	
		Holds no Secondary Job	**Public** Part-time
Primary Job	**Private** Full-time	- workload and physical comfort of working environment - higher salary depending on the success of the practice	- more hours (overtime) - increase overall earnings - peer approval
	Private Part-time	- No incentives	- enhance prestige and professional reputation - gain experience and learn new occupations and techniques - professional satisfaction and self-realization

- *Full time private work & no secondary job*

Physicians working full-time in the private sector, with no public secondary job, are interested in being more comfortable in their working environment. Working exclusively in the private sector, physicians have more control in their workload compare to the public sector (Johnson, 1995). Private's salary compare to the salary in the public sector will vary for physicians. The salary for private sector will depend on the how successful the practice is.

- *Full-time private work & a part-time public job*

Physicians may hold a full-time position in the private sector while holding a part-time post in the public sector. This arrangement is also found in the UK, where physicians usually tend to maintain their public posts. The Competition Commission (1994) showed that 25% of public part-time consultants in the UK opted to dedicate most of their time to private practice. Incentives for physicians to do this are to supplement their private earnings with a fixed salary of the public sector and the interaction for peer approval as shown in Table 2.

As quality of health care provision is difficult to assess, we estimate public sector quality on the basis of observable variables such as waiting time (Cullis & Jones, 1985). Therefore in Canada, the quality of a patient's care is based on wait times and access to advanced technological equipment, taking into account that these two were the main criticisms from Canadian patients in the public sector. A basic equation representing this is $Q_s = f(T_e , W)$ where the service quality (Q_s) is equal to the function of access to advanced technological equipment (T_e) and the wait time (W) a patient has to endure. The high quality service consists of a less waiting time and more access to advance technology equipment: $Q_s^H = f(\uparrow T_e , \downarrow W)$. In contrast, low quality service consists of a

longer waiting time and less access to advance technology equipment: $Q_s^L = f(\downarrow T_e, \uparrow W)$. Typically, low quality service pertains to the public health sector while high quality service pertains to the private sector. Depending on whether the physician is 'public' or a dual practitioner, the quality of health services in the public or private sector can improve or worsen depending on what his or her incentives are. With this setup, questions such as, "Are the incentives of dual practice strong enough to lead 'public' physicians to become dual practitioners?" or "Are the social welfare of patients improving or worsening?", could be examined in three scenarios. These three scenarios consist of dual practice without restrictions, banning dual practice, and dual practice with restrictions. A physician's incentives and the effects they have on social welfare in these three scenarios will help us study and answer these questions.

Dual Practice without Restrictions

Public or private dual practice is often believed to harm public health services, even when it is legal. Physicians working in both sectors may have incentives to reduce effort and time and also divert patients from the public to the private sector. Some dual practitioners may be motivated to devote most of their time to their private practice, thus drifting into shirking of effort in their primary public job. This is aggravated when doctors in the public sector are paid a monthly salary as opposed to the fee-for-service or hourly rate paid in the private sector. Furthermore, physicians holding full-time posts in public facilities have little remaining time to work in the private sector and may therefore shirk on time in the public post to work longer hours in the private sector. Although this is more likely when doctors work full-time in the public sector, it may also occur when doctors combine a part-time public sector job with part-time private

practice. Even if physicians do not shirk on work hours at their public job, they may perform with less attentiveness when holding two jobs. In this line, working in the private sector may motivate physicians to reduce their work effort in the public sector. In return, this could cause an increase in wait times (↑W) for patients. However, most dual practitioners may avoid this type of behavior due to the reputation effect. Physicians may be interested in building a good reputation at their public post in order to guarantee a flow of demand for their private services. This scenario gives us insight into the strategic effects of the physician's work in both sectors. These effects may encourage a tendency to over-provide services in the public health sector use as a signaling device (Rickman & McGuire, 1999). Over-providing services by dual practitioners could lessen the wait time for patients to endure and increase the chances for patients to gain access to more advanced equipment $\rightarrow Q_s^H = f(\uparrow T_e, \downarrow W)$. There is a belief that over-providing services in the public sector will lead more patients to opt out of the public sector and be diagnosed at the physician's private practice (Rickman & McGuire, 1999). Patients assume the over-providing service they receive in the public sector will be the same, or even better, in the private sector of the dual practitioner.

Allowing dual practice may also lead physicians to persuade patients to transfer out of the public sector into the private sector. Financial motivation again seems to play a key role in fostering this behavior. The lack of incentives in the public sector compared to private hospitals may lead dual practitioners to deliberately transfer public patients into their private practice. Persuading patients to transfer may occur either through direct referrals, as physicians may explicitly advise patients to demand private treatment or, more subtly, through indirect referrals. By indirect referrals we refer to the different

ways in which dual practitioners may persuade patients to switch from public to private facilities. This can include shirking on quality of service or lengthening waiting times or waiting lists in public hospitals (↑W). In this sense, dual practice may result in poorer quality service in public hospitals, thus widening the quality gap between the public and private sectors. However, a quality reduction in public provision may have adverse consequences for a physician's reputation in the private practice. In particular, patients may react harshly against dishonest physicians. Therefore, dual practitioners may have incentives to provide excessive quality in the public sector in order to raise their prestige as private doctors (Rickman & McGuire, 1999). Also, a theoretical study has found a link between the waiting time for public hospital treatment and the behavior of dual health providers (Iversen, 1997). Thus, waiting time in the public sector increases if physicians are also allowed to work in the private sector. These results are supported by empirical evidence from Italy, where dual practice has encouraged doctors to run long lists in government clinics to maintain demand for private treatment (France et al., 2005). Also, there is empirical evidence in Alberta, Canada, where dual practice surgeons' waiting lists for publicly insured cataract surgeries were longer than those of practitioners operating in the public system alone (Armstrong, 2000).

Referring patients from the public health sector to the private sector creates another incentive for dual practitioners. This incentive is to only refer patients according to the severity of their condition or ability to recover. Dual practitioners may be tempted, in particular, to refer the less severe or less costly patients to their private practice (Barros & Olivella, 2005). Although dual practitioner may have an incentive to offer their private services to the least severely ill, only the more severe patients in this sub-group are

willing to pay for private treatment. Also, referrals are sometimes made from the private to the public sector, which occurs when dual practitioners refer their private patients to the public system to avoid high cost treatments (Barros & Olivella, 2005). Having the ability to refer public patients to use their private services, dual practitioners may focus only on wealthy and higher income patients, following classic price discrimination. This has been said to be a positive side effect of dual practice: humane 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 (Eggleston & Bir, 2006). This would result in public health facilities becoming more effectively targeted to the poor, reducing public waiting lists ($\downarrow W$), and increasing the access to technological equipment ($\uparrow T_e$), by curbing demand for public health services (Eggleston & Bir, 2006). We must treat this reasoning with caution, however, since it could also be argued that unless private care is superior, a rich patient will not be interested in paying for private care. This may create a gap between the quality of care received by the rich and the poor. Furthermore, empirical evidence shows that poor and uneducated patients are more likely to respond to encouragement to use private services and thus to pay for expensive private treatment instead of using subsidized public care. Burchardt, Hills and Propper (1999) found that approximately 70% of private health care users in Canada in 1995 were in the top two income quintiles, but 30% were in the bottom three.

Although there is a large presence of dual practitioners, not all physicians choose to dual practice (Frenk, 1993). In our case, these physicians are known as 'public' physicians. In our assumption, these physicians are devoted to seeing the public health sector improve and therefore exert their effort only in the public sector. 'Public'

physicians treat every patient as equally as possible exerting the same amount of effort to provide the highest possible quality of service possible. However, we must mention that these 'public' physicians could be lemons as well. Seeing that some colleagues earn more prestige or non-financial benefits from a private practice, a 'public' physician may feel unappreciated (Rickman & McGuire, 1999). This dissatisfaction may lead the 'public' physician to refuse to provide high quality service but rather provide low quality service to the patient. The 'public' physician, acting as a lemon, may continue to provide low service quality in the public sector without participating in dual practice to show their dissatisfaction. Though, the most likely case is that the 'public' physician will become a dual practitioner where their disutility of seeing their colleagues earn more prestige is compensated for.

Banning Dual Practice

The ability for Canada's physicians to dual practice is the result of a policy choice by the province's government, not the federal government (Health Canada, 2006). In Canada, every province, except for Quebec, allows physicians to dual practice (CMA, 2007). In this case, we will now assume each province's government will follow Quebec's policy in disallowing dual practice. This means that physicians must exclusively work full-time in the public or private health sector. More than likely physicians will choose to work in the public sector for it is costly to maintain and uphold a private practice without a second income (Brekke & Sogard, 2006). Though there may be some physicians who have the income to support a private practice and therefore choose to participate in the private sector. Nevertheless, the private market will shrink,

due to the banning of dual practice, as the majority of physicians will choose to practice in the public health sector rather than the private sector.

Banning physicians' ability to dual practice takes away lucrative incentives, such as a higher salary, the preference for longer/shorter hours, obtaining additional skills, etc. Previously, allowing dual practice enables Canada's government to recruit quality providers at low cost, as the total compensation package governments offer to physicians includes both public salaries and the non-wage benefit of private practice revenues (Health Canada, 2006). In contrast, banning dual practice reduces the attraction of public service employment, especially for higher skilled physicians and most senior doctors who, taking advantage of their already well-established reputations within the public sector, might migrate to the private sector, where the pay equipment and facilities are usually better. If a large percentage of the best doctors opt out of the public system, the overall quality of public care will suffer. In Quebec, for example, a ban on private practice as a secondary job led to migration of the best physicians in to the private sector for full time jobs or to other provinces (CTV, 2006). In this case, allowing dual practice might be a key policy to retain high-skilled doctors at public facilities or even to prevent their migration to other countries.

Allowing dual practice enable physicians to provide services outside normal working hours in their private offices and offer their public patients the option to obtain quicker treatment and avoid the long waiting lists common in the public sector. As a result this could lower wait times ($\downarrow W$) in the public sector since more patients are choosing to opt to the private sector. However, with the banning of dual practice, physicians are not able to offer such an option to a patient and therefore wait times could

increase as more and more patients choose to stay in the public sector. As mention before, the public health sector is already at low quality service, $Q_s^L = f(\downarrow T_e, \uparrow W)$, which means the banning of dual practice will only deteriorate low quality service even more due to an increase in wait time and less access to technological equipment.

Again, if dual practice is allowed, the doctor with a private practice has the incentive to improve his reputation as a good doctor believing it will benefit his private practice. As mentioned before, the dual practitioner will then opt to use the strategy of over-providing service in his primary job to improve his reputation. However, now that dual practice is banned, the physician has no incentive to improve his image or reputation as a good doctor. Under the salary of the primary job, the physician has no incentive to exert his maximum effort to improve his reputation since having a secondary job is not allowed. Therefore the physician would most likely shirk in his effort when providing service. The shirking effort of the physician could possibly create a longer waiting time for the patient and the amount of effort exerted by the physician to obtain advance technological equipment for the patient is lessened. The patient will end up receiving $Q_s^L = f(\downarrow T_e, \uparrow W)$. These physicians, who want to dual practice but now are unable to, lowers the social welfare of patients in the public sector by constantly maintaining low quality service rather than trying to improve the service. Most patients have no other choice but to stay in the public sector for they are unable to afford the private practice. Some patients who are able to afford a treatment in a private practice may choose to opt out, however, due to the shrinking private market, the accessibility to a private practice may be hard to come by. This results in patients staying in the public health sector, rather then opting out, and continues receiving the low quality service.

A ‘public’ physician may be the only best source where the social welfare of the patient is not lowered due to the banning of dual practice. When dual practice is allowed, there is a possibility that these ‘public’ physicians are lemons. The dissatisfaction of seeing their fellow colleagues earn more prestige or non-pecuniary benefits from dual practice could cause these ‘public’ physicians to shirk and lower their effort to showcase their dissatisfaction. The banning of dual practice takes away the feelings of being unappreciated and dissatisfaction felt by the ‘public’ physician. The physician has no dissatisfaction to showcase or the incentives to become a dual practitioner. The physician will now focus primarily on improving the public health sector by treating every patient, exerting his maximum amount of effort to provide quality service. The patient will constantly receive Q_s^H with less waiting time to endure and more access to advanced technological equipment exerted by the effort of the ‘public’ physician.

Dual Practice with Restrictions

There are alternative regulatory frameworks that Canada could use, which have been shown to work, that exist in some countries with mixed health care systems: France, Spain and the U.K. These three countries implement alternative regulations that can be categorized in two branches. First, the Spanish system uses exclusive contracts to keep dual practice at a minimum. In Spain, those doctors who work for the public sector are allowed to have their private practices if they wish to. If, however, they decide to forego this privilege, they receive a fixed monthly bonus in return for such exclusive contracting (Ensor, 2002). Secondly, the French and English systems, where the physicians’ dual practice, although permitted, is restricted. In these countries, public physicians’ private earnings cannot exceed a certain threshold (price ceiling) (Brekke & Lars, 2006). Such a

threshold is computed in the UK on the basis of physicians' public revenues and in France on the basis of their total income (Brekke & Lars, 2006).

Offering Canadian physicians an exclusive contract with extra economic compensation is meant to have the physician forego his private practice. In the case of a contract being offered, the physician can either accept it and work exclusively in the public sector or reject it and be a dual practitioner. Due to the lack of incentives when working exclusively in the public sector, physicians often choose to have a secondary job in the private sector to fulfill his financial wants. An exclusive contract will offer and fulfill these financial wants, by providing a fixed monthly bonus in return for not being a dual practitioner and prevent some from converting to be a dual practitioner (Ensor, 2002). Exclusive contracts would also persuade the 'public' physician not to become a dual practitioner as it lessens the dissatisfaction of seeing their fellow colleagues earning more prestige or non-pecuniary benefits from dual practice as now more physicians are choosing to stay in the public sector. The exclusive contracts therefore prevent 'public' physicians from shirking and lowering their effort to showcase their dissatisfaction. As mentioned, exclusive contracts are not required to be accepted. This means physicians still have the option to become dual practitioner. If exclusive contracts do not satisfy the needs for some physicians, they still have the choice to become a dual practitioner and receive the benefits/incentives of dual practice. Giving physicians the options of exclusive contracts or becoming dual practitioners does not worsen the social welfare of patients. Physicians may still use the over-providing strategy if they choose to dual practice while the exclusive contract keeps 'public' physicians in the public sector.

The policy currently enforced in countries such as France and the UK is the regulation imposed on the upper bound of the amount of public physicians' private earnings. This is the form of price ceiling in the private health sector. With the Spanish regulation, the public health authority has absolutely no power, as it cannot impose the physicians to sign the exclusive contract. In the French-English system, on the other hand, the public health authority goes one step beyond. Even if Canada's government power is restricted, since it cannot forbid physicians to dual practice, it can limit this dual provision by fixing an upper bound on the physicians' private earnings. However, in order for the price ceiling to work, there must be enough incentives for physicians to either dual practice while at the same time not affecting the social welfare of the patients. This means the price ceiling must not be too high or too low. If the price ceiling is high, then dual practitioners freely contract with consumers in the private market, resulting in high efficiency there, but this implies a high level of shirking by 'public' physicians in the public sector as they still see their colleagues earning more prestige and/or non-financial benefits. In a way, a high price ceiling is the same as allowing dual practice without restrictions. In contrast, if the price ceiling is low, dual practitioners do not find it very worthwhile to participate in the private market, but the level of shirking by these physicians in the public system may increase as they no longer have the incentive to over-provide service to increase their reputation. However, shirking will be at a minimum since some physicians may still choose to dual practice to gain those non-financial benefits such as more experience or training. An optimal choice of the price ceiling for Canada balances the inefficiency in the quality for consumers with high segment of severity against the lower quality received by consumers with lower segment

of severity who are treated by dual practitioners in the public sector (Brekke & Lars, 2006). Similar to exclusive contracts, a price ceiling on dual practice still gives physicians the option of whether to dual practice or not. A price ceiling may take away increased earnings that physicians could receive in their secondary job however physicians may still choose to dual practice for the price ceiling will still be beneficial to supplement his primary salary. Also, physicians still can gain non-financial benefits if they choose to dual practice. A price ceiling on dual practice will minimize the number of participating physicians therefore lessening the dissatisfaction of 'public' physicians seeing their fellow colleagues earning more prestige. Again, similar to exclusive contracts, price ceiling allow physicians to still use the over-providing strategy if they chooses to dual practice while it also keeps 'public' physicians in the public sector.

Conclusion

The main issue with dual practice in Canada is whether or not restrictions should be enforced. To illustrate the main features of the incentives to dual practice, we present two diagrams of incentives in the health sector based on the public versus private nature of each job. Amongst the different forms of dual practice, we focus on analyzing full-time public and part-time private job holdings, as we believe that the potential adverse welfare implications of this particular form make it worthy to specifically analyze. Public health sector is usually characterized by fixed payment in the form of salaries and the interaction among colleagues, while in the private health sector the use of incentives seems to be more widespread. This creates clear financial and non-financial incentives for physicians in the public sector to maximize their private sector activity, which might be expected to undermine their public performance. Due to the lack of incentive

mechanisms in the public sector, there are adverse implications on social welfare of patients. Thus, common problems in a setting where dual practice are not restricted are that physicians shirk on working hours, practice patient diversion and selection, and misuse public equipment and facilities. Also, 'public' physicians are more likely to become dual practitioners to fulfill their disutility of seeing their colleagues earning the non-financial benefits of dual practice. However, these adverse implications of public on private dual practice may be ease thanks to factors like the reputation effect. In this sense, there is evidence from the UK showing how public physicians, with greater private than public commitments, are more productive in their primary public job than those with less commitment to the private sector (Commission, 1994). Also, dual practice may have physicians provide faster services in the private sector therefore allowing consumers, who are willing to pay for this, to opt out of the public system, creating easier access for those remaining on the public waiting list.

The scenario of banning physicians' ability to dual practice is a policy meant to decrease physicians shirking on working hours, practicing patient diversion and selection, and misusing public equipment and facilities. Also, it is to eliminate the possibility of more and more physicians becoming dual practitioners. However, our analysis, backed by evidence seen in Quebec, has shown that this policy worsen the social welfare of the public health sector. The banning of dual practice causes physicians, who wants to dual practice, to either move out of the province in search for a better job with better incentives or stay and just shirk in effort. The shirking effort of the physician could possibly create a longer waiting time for the patient and the amount of effort exerted by the physician to obtain advance technological equipment for the patient is lessened. The

patient will end up receiving $Q_s^L = f(\downarrow T_e, \uparrow W)$. These physicians, who want to dual practice but now is unable to, lowers the aggregate welfare of patients in the public sector by constantly maintaining low quality service rather than trying to improve the service.

Allowing dual practice without restrictions and banning dual practice is unlikely to result in an improvement in the social welfare of patients. As a result, some governments in Europe have restrictions on dual practice, which have been shown to work. The introduction to exclusive contracts or a price ceiling on the physicians' private earning may be the best choice for Canada's health care system. An exclusive contract will offer and fulfill the financial wants of physicians, by providing a fixed monthly bonus in return for not being a dual practitioner and prevent some from converting to be a dual practitioner (Ensor, 2002). Meanwhile, a price ceiling may take away increased earnings that physicians could receive in their secondary job, however physicians may still choose to dual practice for the price ceiling will still be beneficial to supplement his primary salary. Both exclusive contracts and price ceiling allow physicians to still use the over-providing strategy if they choose to dual practice, while also keeping 'public' physicians in the public sector. From this analysis, the social welfare of people in Canada's mixed health care system will be better off where restrictions on dual practice are present.

Appendix A (Source: OECD, 2002)

Table 13: Medical Technology in the OECD in 2000

Country	MRI per Million Inhabitants	Rank of 23	CT Scanner per Million Inhabitants	Rank of 22	Radiation Therapy Machines per Million Inhabitants	Rank of 22	Litho-tripter Machines per Million Inhabitants	Rank of 14
Australia	4.7	11	—	—	4.9	11	—	—
Austria	10.8	4	25.8	2	4.2	14	1.7	8
Belgium	3.2	14	—	—	6.4	9	—	—
Canada	2.5	18	7.3	17	7.0	8	0.5	13
Czech Republic	1.7	19	9.6	13	9.8	5	2.8	5
Denmark	6.6	8	10.9	12	5.2	10	—	—
Finland	11.0	3	13.5	9	14.3	1	0.4	14
France	2.8	15	9.6	13	7.2	6	0.9	11
Germany	6.2	9	17.1	7	4.6	13	1.7	8
Greece	1.5	20	7.8	16	4.2	14	3.0	4
Hungary	1.5	20	5.4	19	2.0	20	4.8	1
Iceland	10.7	5	21.3	4	14.2	2	3.6	3
Italy	6.7	7	19.6	5	3.7	17	—	—
Japan	23.2	1	84.4	1	—	—	—	—
Luxembourg	4.6	12	25.1	3	2.3	19	2.3	6
Netherlands	—	—	—	—	7.2	6	—	—
New Zealand	2.6	17	8.9	15	9.9	4	—	—
Poland	0.4	22	0.4	22	—	—	—	—
Portugal	2.8	15	12.3	10	2.9	18	1.2	10
Slovakia	0.4	22	0.6	21	1.3	22	0.6	12
Spain	4.9	10	12.2	11	3.8	16	1.8	7
Sweden	7.9	6	14.2	8	—	—	—	—
Switzerland	13.0	2	18.5	6	11.2	3	3.9	2
Turkey	—	—	7.2	18	1.5	21	—	—
United Kingdom	3.9	13	3.6	20	4.8	12	—	—
OECD Average	5.8	—	15.2	—	6.0	—	2.1	—

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