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**A Review of Evidence Regarding Parallel Systems
of Public and Private Finance**

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SUMMARY

Debate about the impact of parallel private health care insurance persists in Canada. This paper reviews evidence regarding a number of issues central to the overall assessment of parallel finance, including the operation of markets for parallel private finance, the ways that parallel private finance can affect the performance of the public health care system, and parallel private finance's implication for the ability of citizens to access care.

- The demand for parallel private insurance is strongly positively correlated with socio-economic status. In most developed countries, demand for parallel private insurance is not strongly driven by perceived differences in the quality of clinical care between the public and private sectors; it is driven importantly by a desire to avoid long waits in the public system.
- Parallel private insurance concentrates coverage primarily (and in most places, exclusively) on a small set of acute-care services used in the treatment of relatively uncomplicated conditions on an elective basis. Where regulations permit it, parallel private insurance policies exclude coverage for pre-existing and chronic conditions and for the elderly.
- Individuals with private parallel insurance have better access to care than those without such insurance. Because the demand for private parallel health insurance is strongly positively correlated with income and because those with private insurance have quicker, better access to care, on average in systems with parallel private insurance those with higher incomes, or ability-to-pay, enjoy better access to care.
- There is little direct evidence of the impact of parallel private finance on wait times in the public system. Much of the existing evidence is contestable and subject to alternative interpretations. However, on balance, for a highly developed health care system such as Canada's, the international evidence indicates that the introduction of parallel private insurance would:
 - Not reduce wait times or increase access to services for those who rely on the public system;
 - Likely increase wait times and reduce access for those who rely on the public system, especially if physicians are permitted to engage in dual practice;
 - Lead to an increase in the overall demand for health care and change the composition of those who receive health care services;
 - Increase competition for inputs, including health human resources which are used in the production of health care services, exerting upward pressure on the prices of those inputs, increasing the real cost of service provision for the public sector.

1 INTRODUCTION

Debate about parallel private finance continues unabated in Canada nearly ten years after the landmark 2005 Chaoulli Supreme Court decision which declared that, in the presence of long wait times in the public system, Quebec's prohibition against parallel private insurance for publicly insured services violated the Quebec Charter of Rights and Freedoms. Legal challenges to provincial insurance regulations continue to wind their way through the courts in at least three provinces: British Columbia, Alberta and Ontario (Picard 2012). In each case, plaintiffs argue that in the presence of long wait times in the public system, provincial prohibitions against parallel private insurance violate individuals' Section 7 rights to life, liberty and security of the person provided under the Canadian Charter of Rights and Freedoms. Further, despite substantial financial investments to reduce public wait times under the just-ended 10-Year Plan to Strengthen Health Care, wait times continue to plague elements of the Canadian health care system (Siciliani, et al. 2013). In 2012 for example, with the exception of Ontario and Newfoundland and Labrador, the proportion of patients across the provinces receiving care within benchmarked time periods ranged from 79 to 52 percent for hip replacement surgery and 79 to 35 percent for knee replacement surgery, well short of the 10-year plan's goal of treating 90 percent of patients within the benchmarked timeframes (Canadian Institute for Health Information 2013b).

Although Canada's regulatory approach to parallel private insurance is unique, its continuing debate about private insurance is not. Debate about whether to expand or curtail parallel private insurance persists in a number of other OECD countries that already permit it, such as Ireland, Spain, Australia, and Portugal. Given the presence of parallel private insurance in these countries, the debate in these settings centres on the impact of private insurance on the public system, whether to expand or curtail access to such insurance, and associated regulations regarding subsidies, premiums, benefits coverage, and an insurer's power to deny coverage to individuals (Mossialos and Thomson 2004).

Regardless of the setting, the core issues in the debate remain the same. Advocates for parallel private insurance argue that it can increase access to care, reduce wait times in the public system, improve quality through competition between the two sectors, and help control public sector health care costs (Day 2007, Esmail 2008). Detractors counter that while it will increase access for high-income individuals who obtain private insurance, overall it will reduce access for others, increase wait times and weaken quality in the public system by diverting scarce health care resources to the private sector, and inflating rather than controlling public sector health care costs (Deber, et al. 1999, Medicare Reform Group 2001, Canadian Nurses Association 2009, Canadian Doctors for Medicare N.d).

This paper reviews evidence regarding a number of issues central to the overall assessment of parallel finance, including the operation of markets for parallel private finance, the ways that parallel private finance can affect the performance of the public health care system, and parallel private finance's implication for the ability of citizens to access care. A considerable amount of evidence has accumulated in recent years that can inform our understanding of the effects of parallel finance. Australia's experience following their adoption in 2000 of a set of taxes and subsidies to encourage the purchase of parallel private insurance has now matured to the point that it provides insight into a number of points in the debate. Detailed household health and related surveys in a number of European countries has enabled a wider array of individual-level research regarding private insurance markets and the interaction between the public and private systems. Although our analysis is not a formal systematic review, we have tried to search systematically and to draw on empirical evidence as well as conceptual analyses, from the current scientific literature. We draw upon both published and gray literatures, including government reports, documents issued by health-related organizations, working papers, and other similar sources. We focus on evidence from high-income countries with well-developed health care systems, and specifically on jurisdictions with parallel private systems of finance for which generalizability to Canada is most plausible (e.g., Australia, Ireland, UK). For some issues the direct empirical evidence is rigorous, plentiful, and overwhelmingly consistent. For others, the empirical evidence is more limited (in quantity and/or quality) and the conceptual analysis does not provide clear-cut guidance. In these cases, we try to identify key issues, especially those points in dispute, and offer an assessment based on the existing evidence and analytic arguments. In general, while such international evidence can inform judgments regarding the qualitative nature of relevant phenomena associated with parallel private insurance, one should be cautious trying to infer the magnitudes of such phenomena if parallel insurance were to be introduced in Canada.

Terminology can be confusing in this debate, and we adopt the following conventions. "Parallel private finance" refers to the practice of paying privately to obtain a health care service that is covered by the public insurance system. Parallel private finance can take two forms: paying directly out-of-pocket for such a service; or purchasing parallel private insurance that covers at least a portion of the costs of obtaining a service covered by the public insurance system privately. An individual with parallel private insurance remains eligible to obtain services through the public system. In the literature such insurance is sometimes referred to as "supplementary" private insurance, or "duplicative" private insurance. Among mixed systems of public and private finance, parallel private health care insurance can be contrasted with private insurance that covers out-of-pocket costs and services not included within the public insurance system. Such insurance, which focuses on services or costs not covered

by the public system, is commonly referred to as “complementary” private health insurance. Unless otherwise noted, in this paper the term “private insurance” refers to parallel private insurance.

In this debate it is important to distinguish the financing of health care from the delivery of health care. Financing refers to the activity of raising the revenue required to fund the provision (or delivery) of health care. Financing can be public (e.g., through the tax system) or private (e.g., purchasing private insurance). The delivery system refers to the providers of health care. The delivery system can be public (e.g., a provider is a public employee) or private (the provider is a private not-for-profit or a for-profit organization). Further, publicly financed services can be delivered by private providers and privately financed services can be delivered in public facilities. Unless explicitly noted, our references to the “public system” or to the “public sector” refer to the publicly financed system of care; analogously, references to the “private system” or “private sector” refer to the privately financed system of care.

We organize our review into two major sections. The first section considers markets for parallel private insurance, examining both demand-side issues such as the underlying motivation for purchasing such insurance and the socio-economic correlates of such demand, and supply-side issues such as the nature of the private insurance policies offered by insurers. The second section focuses on the impacts of parallel private insurance, including differential access to care between those with and without private insurance, access for those who rely on the public system, and interactions between the supply of and demand for care in determining these outcomes.

2 MARKETS FOR PARALLEL PRIVATE HEALTH CARE INSURANCE

2.1 Demand for Parallel Private Health Insurance

The demand for parallel private health insurance needs to be considered in the context of the demand for health insurance more generally. Demand for health insurance is motivated by two factors: financial risk aversion (risk motive) and the desire to obtain access to health care services one could not otherwise afford (access motive) (Cutler and Zeckhauser 2000, Nyman 2003).

Risk motive. An individual’s demand for health care is highly uncertain because illness and injury often strike at random. This randomness creates considerable financial risk with respect to the consumption of health care. Provided the insurance premium is not excessive, a risk-averse individual (i.e., a person who, other things equal, prefers to avoid risk) can make themselves better off by purchasing insurance to reduce their exposure to health-related financial risk. Insurance enables an individual to

transfer their financial risk to the insurer: in return for a fixed premium payment, the insurer promises to pay the individual's uncertain health care costs as specified in their insurance policy.

Access motive. Modern health care can provide treatments for which the cost exceeds that which is affordable by large portions of the population. Insurance provides a means for gaining access to such treatments. Insurance transfers income from all those in the insurance pool who pay a premium but who stay healthy and do not make a claim, to all those in the insurance pool who fall ill and do make a claim. This income transfer enables individuals in the insurance pool to obtain care they could not otherwise afford.

A universal, publicly financed health care system provides every individual with insurance, reducing or eliminating their financial risk associated with the cost of covered health care services. If the public system provides timely access to high-quality treatment in a manner that reflects the preferences of individuals, there will be no demand for parallel private insurance. The fundamental motive for purchasing parallel private insurance is to gain access to something associated with covered services that the public system does not offer. Most commonly, parallel private insurance provides access to one or more of the following:

- *Better amenities while receiving medical care:* Amenities refer to non-medical aspects of care, including privacy, ambiance, and other features of a care setting. Parallel private insurance makes care more affordable in private facilities with better amenities. Although such amenities are sometimes referred to as better private-sector “quality”, we restrict use of the term quality to medical aspects of care. Private facilities often provide no better quality in this sense, but they do respond better to individuals’ preferences over non-medical aspects of care that cannot be obtained in the public system.¹
- *Greater choice of facilities from which to obtain care, or of physicians within a facility:* Some publicly financed health care systems restrict an individual’s choice regarding the facility at which to obtain care and, once admitted, a patient’s choice of physician. Private parallel insurance can cover the costs of obtaining care at a private facility not covered by the public plan or at a public facility to which an individual would not otherwise have access (e.g., outside one’s geographical area). Similarly, in public systems that do not offer choice regarding a patient’s chief physician, parallel private insurance can enable such choice by covering the cost of obtaining care from the physician of one’s choosing.

¹ Complementary private insurance has emerged to cover amenities that can be offered within public facilities, such as a semi-private room when it is not medically necessary. Parallel private insurance becomes important when the desired amenity is not available through the public system, so the only way to gain access to the amenity is to consume both the medical care and the amenity privately.

² Some of these data pertain to holding voluntary private insurance, which can include both complementary and parallel

- *Better quality of care:* We distinguish two distinct aspects of quality: (1) quality of the clinical care provided; (2) the quality, or performance, of the public system of care. The quality of clinical care depends primarily on the clinical skills of care providers and the nature of the physical facilities and equipment used in the provision of care. Differences in the clinical quality of care between the public system and the private sector can spur demand for private parallel insurance. In many countries, however, the same physicians provide care in both the private and public systems, often even in the same facilities, such as when public hospitals provide care to both public and private-pay patients. In such settings, differences in quality of clinical care are not a primary driver of demand for parallel private health care insurance.

A more important driver of demand for parallel private insurance is the performance of the public system, and in particular wait times. A primary motivation for purchasing parallel private insurance is timely access to care — to avoid long delays in the public system. Given that insurance must be purchased before one needs care, the demand for parallel insurance may depend as much on the *perceived* wait times as on the *actual* wait times.

Hence, the demand for parallel private insurance depends on three broad sets of factors: (i) the design and performance of the publicly financed health care system; (ii) the demographic, socio-economic, and attitudinal characteristics of individuals; and (iii) the insurance market, including relevant regulations, the price of insurance, and the design of the insurance contracts available.

2.1.1 Who Purchases Parallel Private Insurance?

Holding parallel private insurance is highly correlated with observable personal characteristics such as age, sex, socio-economic status, and occupational status. Thomson and Mossialos (2009, p. 7) note that, across the European Union (EU), a typical subscriber for private health insurance is, “. . . aged 40-50 years old, relatively well off, better educated, employed as a white collar worker (often at management level or higher), working for larger companies or self employed, living in urban areas and male.”

Age. The relationship between age and the purchase of parallel insurance is complicated, and reflects in part insurance regulations relating to premiums and the ability of insurers to deny coverage based on age. Other things equal, individuals middle-aged or older are more likely to need health care, including the kinds of services typically covered by parallel private insurance. But in settings that allow risk-rating of private insurance premiums, this higher need translates into higher premiums, lessening the affordability of private insurance, especially for the elderly. More importantly, except in countries

that prohibit private insurers from denying coverage based on age, insurers simply exclude or restrict access to private insurance for the elderly. Private insurers in more than half of the 31 European Union countries examined by Thomson and Mossialos (2009), for example, impose age-related coverage exclusions, generally at ages 60, 65 or 70.

Socio-economic status. Socio-economic status is usually represented in research studies by income, education, occupation, or housing tenure. The evidence overwhelmingly confirms a positive association between socio-economic status and the purchase of parallel private insurance. This relationship holds both for parallel private insurance purchased through the individual market and for parallel private insurance obtained through a group policy as a benefit of employment. This consistently positive relationship between socio-economic status and insurance reflects a number of factors, including a greater ability-to-pay by those of higher socio-economic status, a higher monetary cost of waiting for public treatment if unable to work, time preferences, risk attitudes, better knowledge and ability to process information, and better health status (which lowers premiums and lessens the likelihood of insurer-imposed coverage exclusions).

(i) Income

Recent multi-country reviews of the demand for parallel private health insurance emphasize the strength and consistency of the positive income-insurance association (Mossialos and Thomson 2004, Kiil 2012). The following data provide a sense for the (unadjusted) relationship between income and holding parallel private insurance in a number of countries:²

- UK: 41.2 percent of those in the top 10 percent of the income distribution in 2000 had private medical insurance, while only 3.7 percent of those in the bottom 40 percent of the income distribution had private medical insurance (Emmerson, et al. 2001). Furthermore, in 2000, the mean monthly income of those who purchased parallel private insurance on the individual market was £1,731, the mean income of those who held parallel private insurance through their employer was £2,462, and the mean income of those who did not hold parallel private insurance was £953 (King and Mossialos 2005).
- Australia: Among those who held private insurance in 1989, the average total income of the household head and his/her partner was \$57,000 (all figures are in Australian dollars); the corresponding average total income among those heads of household who did not hold private

² Some of these data pertain to holding voluntary private insurance, which can include both complementary and parallel private insurance, which are often held jointly, rather than parallel insurance alone. Given that Canada already has a large, well-established complementary insurance sector (Hurley and Guindon 2011), the fact that some of these data include joint complementary-parallel private insurance does not lessen their relevance.

insurance was \$37,000. In 1995, the corresponding figures were \$63,000 and \$41,000 (Barrett and Conlon 2003). Among single individuals, the mean annual income of those who held private insurance, in 1995, was 37 percent greater than for those who did not have private insurance (Palangkaraya, et al. 2009).

- Spain: The mean monthly income of those who held private insurance in 1999 was 225 Spanish pesetas, while the mean income of those without private insurance was 184 Spanish pesetas (Costa and Garcia 2003).
- Ireland: 70 percent of individuals in the top income decile in 1994 had private health insurance while only 8 percent of individuals in the lowest income decile had private insurance (Harmon and Nolan 2001). In 1994, 59 percent of individuals in the top 25 percent of the income distribution had private insurance while only 16 percent of those in the lowest 25 percent of the income distribution had private insurance (Finn and Harmon 2006).

Analyses of the demand for private insurance in Australia, Ireland, Spain, Taiwan, Switzerland, and the UK find that this strong positive relationship between income and private insurance remains even after controlling for other personal characteristics, including age, sex, education, occupation, risk attitudes, political views, and system factors such as the supply of providers and indicators of wait times (Cameron, et al. 1988, Hopkins and Kidd 1996, Holly, et al. 1998, Besley, et al. 1999, Vera-Hernandez 1999, Jofre-Bonet 2000, Emmerson, et al. 2001, Harmon and Nolan 2001, Propper, et al. 2001, Liu and Chen 2002, Barrett and Conlon 2003, Costa and Garcia 2003, Costa-Font and Font-Vilalta 2004, King and Mossialos 2005, Finn and Harmon 2006, Taylor and Ward 2006, Knox, et al. 2007, Costa-Font and Jofre-Bonet 2008, Palangkaraya, et al. 2009, Johar, et al. 2011). In Ireland, for example, even after controlling for other factors, the probability that an individual with an income above the median had private insurance was 48 percent while the probability for an individual with an income below the median was only 17 percent (Harmon and Nolan 2001). In Australia, Johar et al. (2011) found that, after controlling for personal and system factors, the probability of holding private insurance increased incrementally for each decile in the income distribution and the likelihood that an individual in the top income decile had private insurance was 40 percentage points higher than for an otherwise identical individual in the lowest income decile. In Taiwan, the odds that a person in the highest income quintile had private insurance were more than 2.5 times larger than were the odds that an individual in the lowest income quintile had private insurance (Liu and Chen 2002).

(ii) Education

Similarly, the recent multi-country reviews of the demand for parallel private health insurance emphasize the strength and consistency of the positive education-insurance association (Mossialos and Thomson 2004, Kiil 2012). Education is often measured differently across countries, but the

following provides a sense for the consistently positive relationship between education and demand for private health insurance in a number of countries.

- UK: Individuals with at least basic qualifications were more than five times more likely in 2000 to have private insurance than were those without basic qualifications (King and Mossialos 2005).
- Ireland: 86 percent of individuals who had completed the third level of education (the highest level) had private insurance in 1994 while only 20 percent of those with only a primary education had private insurance (Finn and Harmon 2006).
- Taiwan: 76 percent of those with the highest level of education had private insurance in 1998 while 45.8 percent of those with primary school education or less had private insurance (Liu and Chen 2002).
- Spain: The proportion of individuals with a university degree is notably higher among those with private insurance than it is among those without private insurance: 28 percent of those with private insurance in 1999 had a university degree while only 12 percent of those without private insurance has a university degree. In contrast, 41 percent of those with private insurance had only primary school education while 65 percent of those without insurance had only primary school education (Costa and Garcia 2003).

As was the case for the income-insurance relationship, all studies reviewed found a strong positive relationship between education and the demand for private insurance, even after controlling for personal characteristics and system factors. In Australia, for example, the likelihood that an individual with a post-graduate degree had private insurance was 14 percentage points higher than for an individual who had only a secondary-school diploma (Johar, et al. 2011). In Taiwan, the odds that an individual with university education or higher had private insurance were two times larger than the odds that an individual with only primary education had private insurance (Liu and Chen 2002).

(iii) Occupation and Other Indicators of Socio-economic Status

Although less consistently analyzed than income and education, many studies of the demand for private health insurance include other indicators of socio-economic status, such as occupation and housing tenure. The evidence consistently documents a positive relationship between these indicators of socio-economic status and the demand for private insurance (Mossialos and Thomson 2004). In the UK, for example, Emmerson et al. (2001) found that individuals in non-manual occupations were more likely to have private insurance than were those in manual occupations; and King and Mossialos (2005) found that professionals and managers were nearly twice as likely to have private insurance than semi-skilled workers, unskilled workers and the unemployed. Similarly,

Emmerson et al. (2001) found that those who owned their own home were more likely to have private insurance than were those who did not own their homes.

2.1.2 Quality in the Public System and Demand for Private Parallel Insurance

With a few exceptions noted below, most studies of the relationship between quality in the public system and demand for private insurance measure public-sector quality by wait times. We discuss three types of evidence regarding the impact of public-sector quality and demand for private health insurance: (i) surveys of individuals that ask them why they buy parallel private insurance; (ii) statistical analyses of health survey and administrative data relating to insurance and wait times; (iii) experimental evidence regarding demand for private insurance.

(i) Why do People Buy Parallel Private Health Insurance?

Survey data from Ireland, the UK, and Spain confirm that wait-related factors and other perceived quality differences play a major role in people's decision to purchase parallel private insurance.

Ireland. The key findings of a 1991 survey that asked respondents the most important, next-most important, and least important reasons for having private health insurance were as follows (Nolan 1992, cited in Harmon and Nolan 2001):

- “being sure of getting into hospital quickly” (rated as most important or next-most important by 77 percent of respondents)
- “being sure of getting good treatment” (36 percent most or next-most important reason)
- “being sure of getting consultant care” (24 percent most or next-most important reason).

A follow-up survey in 1999 that asked those with private insurance the most important reason for having insurance and offered eight response options found that the following five responses were cited as very or quite important by over 98 percent of respondents (Harmon and Nolan 2001):

- “being sure of getting into hospital quickly when you need treatment”
- “fear of large medical or hospital bills”
- “being sure of getting consultant care”
- “being sure of getting good treatment in hospital”
- “being able to arrange hospital treatment for when it suits you”.

After these came “being able to choose your own consultant” (89 percent very or quite important) and least important were “having a private or semi-private room” (65 percent) and “being able to get into private hospitals” (63 percent).³ The unimportance of being able to go to a private hospital suggests little perceived differences in quality between public and private hospitals. The survey also asked

³ In Ireland, as in many other countries (e.g., UK, Australia), one can obtain care as a private patient in a public hospital.

individuals without private insurance the main reason they would seriously consider taking out private health insurance. Of the three reasons offered, 70 percent indicated possible waiting time as the most important reason, 27 percent indicated quality of care, and 3 percent indicated lack of privacy.

The UK National Health Service (NHS). Calnan, Cant and Grabe (1993) investigated the reasons for purchasing private health insurance using a survey of the general public in England followed by focus groups with subsets of respondents. Not surprisingly, respondents who held private insurance were less satisfied with NHS services than were those who did not hold private insurance: 27 percent of those with private health insurance were either very or quite satisfied with NHS services; 55 percent of those without private insurance were very or quite satisfied. The precise source of the difference in satisfaction was less clear: levels of satisfaction with respect to wait lists for non-emergency surgery did not differ importantly between those with and without private insurance. Similarly, only a minority of respondents supported the statement that clinical care provided by doctors and nurses was better in the private sector.

In contrast, another survey of UK residents from around the same time found that avoiding NHS wait lists was the most common reason for seeking private care (Higgins and Wiles 1992) (Table 1). Over 61 percent of respondents listed this as a reason for seeking private care; 28.5 percent cited a better environment, 25.4 percent cited choice of admission date, and 21 percent cited better care. Although avoiding NHS wait time was the dominant reason, only 30 percent of respondents seeking private inpatient care and 28 percent of those seeking private outpatient care knew what the length of the wait in the NHS would have been.⁴

Spain. Costa and Rovira (2005) investigated the demand for private health insurance in the Catalan region of Spain using focus groups and a representative survey of residents, and asked respondents to rate the quality of care (on a 10-point scale in which higher scores indicate greater quality) in the public system and the private sector. Quality was not defined explicitly, but was interpreted broadly to include a number of aspects beyond pure clinical quality and wait times. An advantage is that the assessment is holistic and based on respondents' perceptions; a disadvantage is that we don't know precisely what they include in their assessment of quality and it does not allow us to distinguish factors such as wait times, clinical quality, or amenities. The study revealed considerable heterogeneity regarding the motives for purchasing private health insurance, but there were some clear

⁴ Interestingly, 62 percent of those seeking private care did not know in advance how much the procedure would cost, and 70 percent did not know whether their policy would cover all the treatment's costs. Most assumed it would, but post-discharge interviews revealed that a small proportion were required to pay top-up charges (Higgins and Wiles 1992).

patterns related to individual attitudes and perceived quality. Those holding private health insurance at the time of the survey rated the quality of the public system as lower than did those without private insurance: the perceived quality in the public system was 5.39 among those with private health insurance, 7.07 among those who had never had private health insurance, and 8.25 among those who previously had private health insurance but discontinued coverage. The three most important reasons for purchasing private health insurance were “improved health care coverage” (67%),⁵ “to avoid waiting lists” (57%), and “improved personalized treatment” (57%). Those who had purchased private insurance also had different tolerances for waiting — those with private health insurance were more “impatient” — and different risk attitudes — those with private health insurance were more risk averse.

(ii) Wait Times and Demand for Private Health Insurance: Observational Studies

Empirically establishing causal relationships between wait times (perceived or actual) and demand for parallel private insurance raises a number of challenges. One challenge relates to the relevant measure of wait times. Perceived wait times are generally not observable and data on wait times are of varying quality. Even when good data are available, it is not clear whether demand for private insurance is influenced by wait times at the local, regional or national level; by wait time across all services and procedures or only across a subset of high-profile services; or by wait times now, wait times last year, the year before that, or some other time period. Studies have therefore experimented with different measures of wait times and wait lists.

Using data from the British Social Attitudes Survey merged with region-level NHS wait-list data for the period 1986-1991, Besley, Hall and Preston (1999) examined the relationship between regional UK NHS wait lists and demand for private health insurance (individual, employer-provided and total). The two wait-related variables were the size of the *overall wait list* in an individual’s region (number of individuals on an NHS wait list per 1000 population) and *the long-term wait list* (number of individuals on an NHS wait list for 12 or more months per 1000 population). They found that the demand for private health insurance was not influenced by size of the overall wait list in a region. Demand, however, was positively related to the size of the long-term wait list, and the strength of the relationship was notably stronger for individual and total demand for insurance than it was for employer-provided insurance.

Evidence from survey data in Australia also suggests that long waits exert a large influence on the decision to purchase private health insurance. Johar et al. (2011) merged individual-specific information from the 2004-05 Australian National Health Survey with wait-time estimates — the

⁵ Many of the private insurance policies in Spain provide coverage both for services not covered by the Spanish NHS (e.g., dental care and pharmaceuticals) and duplicate coverage for services included in the Spanish NHS.

expected, or average, wait time and the probability of a long wait (in the top 10% of the wait-time distribution) — derived from hospital administrative data. The average, or expected, wait time was not strongly related to demand for private health insurance, but the probability of a long wait had a positive impact on the demand for private health insurance. For subsets of the population who fall in the very upper tail of the distribution of expected waiting time, the probability of a long wait influences their predicted probability of buying insurance.

A series of papers has examined the relationship between quality in the Spanish NHS and demand for private health insurance by residents of Spain. Jofre-Bonet (2000) found a positive relationship between holding private health insurance and the average number of days on the waiting list for surgical procedures in the public system, estimating that a 15-day increase in the wait time for an operation in the public system would increase the probability that a resident would purchase private health insurance by 0.36 percentage points. Three papers led by J. Costa (Costa and Garcia 2003, Costa-Font and Font-Vilalta 2004, Costa and Rovira 2005) derived from a special survey (described above) of Catalonians identified a positive relationship between the perceived difference in quality between the private and the public systems and demand for private health care insurance. Costa and Garcia (2003) estimated that a 10 percent increase in the gap [measured on their 10-point scale] in quality between the public and private sectors would increase the number of individuals who purchase private health care insurance by 8.4 percent. Finally, Costa-Font and Jofre-Bonet (2006) used the HealthCare Barometer 2002, a representative survey of the Spanish population designed to examine individuals' perceptions of the Spanish NHS, to analyze the relationship between quality, satisfaction and demand for private health insurance in Spain. "Quality" is defined in terms of their experience of care in the Spanish NHS for primary care and paediatrics, specialist and inpatient care. "Satisfaction" refers more broadly to the perceptions of the NHS. Demand for private health insurance is positively related to perceptions of both lower quality and lower satisfaction in the public system, but the strength of the relationship with quality is stronger. Their estimates indicate that a 10 percent increase in the perceived quality in the public system would reduce the probability of private health insurance by 1.2 percent.

(iii) Wait Times and the Demand for Private Health Insurance: Experimental Studies

A final type of evidence derives from experiments designed to investigate demand for private health insurance. Buckley et al. (2012a, 2012b) used laboratory-based economics experiments to investigate systems of parallel public and private health care finance. The researchers created a decision environment in the laboratory that mimics crucial features of systems of parallel finance: individuals were workers in a society who were at risk of getting ill; when ill, they were unable to work and earn

income⁶; a public system provided health care for free that could cure them fully, but did not have the resources to treat everyone who got sick; individuals had the option to purchase private insurance that would guarantee treatment and ensure no lost work-time. The researchers systematically varied individuals' incomes, severity of illness, the probability of obtaining treatment for free in the public system, and the extent to which the public system allocated treatment according to need. They found, as expected, that individuals with higher income were willing to pay more to purchase private insurance guaranteeing treatment than were those with lower income; that individuals were willing to pay less for private insurance when the probability of treatment in the public system was high rather than low; and that individuals were willing to pay less for private insurance when the public system prioritized access to care based on need than when it did not. Although one must be cautious about generalizing from a laboratory experiment to real markets, these results confirm the predictions regarding behaviour in systems of parallel finance, are consistent with broader evidence from observational studies, and are based on decisions made by Canadians, who are not familiar with purchasing private health insurance, unlike individuals in countries with long-standing systems of parallel finance.

A second type of evidence derives from stated-preference experiments in which individuals are presented with a series of hypothetical scenarios and asked either whether they would purchase insurance at a given price, or how much they would be willing to pay to purchase insurance guaranteeing treatment within a specified time. Studies from the UK, Sweden, Denmark, Spain and Canada reveal a positive willingness-to-pay to reduce the wait to obtain care (Propper 1990, Propper 1995, Anderson, et al. 1997, Johannesson, et al. 1998, Bishai and Lang 2000, Yeung, et al. 2004).

2.1.3 Summary: The Demand for Private Parallel Health Insurance

In summary, evidence regarding the demand for private parallel health insurance documents that:

- Demand for such insurance is strongly positively correlated with socio-economic status, and income and education in particular, so that individuals with high income and education levels are much more likely than others to purchase and benefit from parallel private insurance.
- While demand for parallel private insurance is not strongly driven by perceived differences in the quality of clinical care between the public and private sectors, it is very strongly influenced by lower quality performance of the public system, as manifested by long wait times. The

⁶ Ethics obviously precluded inflicting pain or suffering on subjects. The loss associated with illness was therefore limited to lost income from not working because of illness. This is equivalent to assuming the non-monetary decrease in well-being associated with the pain and suffering is the same for all individuals with a given severity of illness and does not depend on income.

predominant reason individuals demand private parallel insurance is to avoid long waits in the public system.

2.2 The Nature of Parallel Private Insurance Policies Offered by Insurers

The nature of the coverage offered by duplicate private insurance depends importantly on the features of the health care system and the regulation of such private insurance. Two important types of regulations pertain to premiums and to the ability of private insurers to deny coverage to an applicant.

2.2.1 Exclusion of Those With Pre-existing Conditions

When not prohibited by regulation, private insurance companies routinely exclude coverage for pre-existing conditions. The precise details of the exclusion vary by jurisdiction and insurance company (Foubister, et al. 2006, Bupa Australia 2013, Bupa United Kingdom 2013, Health Funds Association of New Zealand 2013, Vhi Healthcare 2013), but the exclusion policies generally apply as follows. Before purchasing a policy for parallel private insurance, an individual normally undergoes a medical underwriting process. This can involve a medical physical, but more often requires only that the individual complete a questionnaire regarding their medical history. Based on the individual's medical history, the insurance company will classify certain conditions as "pre-existing." Pre-existing conditions are excluded from coverage either permanently or, in some cases, for a defined period of time such that, if the individual has no recurrence of the condition during the period, the condition can become eligible for coverage. If an individual fails to disclose information during the underwriting process, the insurer can reject the claim and cancel the policy. The pre-existing condition exclusion does not apply only to previously diagnosed conditions. It can apply to conditions an individual does not even know they have if the individual experienced relevant symptoms prior to purchasing insurance and failed to report those symptoms at the time of purchase. In 25 of 31 EU countries studied by Thomson and Mossialos (2009), private insurers selling individual (as opposed to group) policies excluded pre-existing conditions from coverage.⁷ In countries where insurance regulations prohibit an insurer from denying coverage to an individual based on their health status, coverage for a pre-existing condition is generally subject to a waiting period for which the length can vary by condition, by age or by other factors (Table 2).

2.2.2 Coverage for Chronic Conditions

⁷ Coverage conditions generally differ for private insurance obtained through a group policy as a benefit of employment.

Where regulations allow, chronic conditions are commonly excluded from coverage by parallel private insurance policies. The Association of British Insurers, for example, states explicitly that private insurance policies are designed to treat acute conditions only, where an acute conditions is “. . . a disease, illness or injury that is likely to respond quickly to treatment that aims to return you to the state of health you were in immediately before suffering the disease, illness or injury, or which leads to your full recovery” (Association of British Insurers 2012). EU countries for which private insurance purchased on the individual market commonly exclude chronic conditions include Italy, Portugal, and the UK (Mossialos and Thomson 2004).

Where regulations do not permit private insurers to exclude chronic conditions and premiums are not subject to community rating, premiums are higher for those with chronic conditions. The amount by which premiums are higher depends on the specific chronic condition and the typical costs associated with treating the condition.

2.2.3 Types of Coverage Provided by Parallel Private Insurance

Aside from excluding pre-existing and chronic conditions, private insurers in general try to exclude conditions and services that place the insurer at risk of moral hazard⁸ (e.g., pregnancy and childbirth) and services that can be especially resource intensive (e.g., accident and emergency services) (Foubister, et al. 2006). Table 3 lists other commonly excluded conditions and services.

Parallel private insurance is designed to cover a narrow range of acute health conditions and health care services, with a focus on surgical procedures. In describing the role of public and private insurers in New Zealand, for instance, the Health Funds Association of New Zealand states that, “The New Zealand public system does a good job in providing access to treatment for serious illness and emergencies. However, for non-urgent health conditions there are often delays in accessing treatment. Non-urgent treatments include hip and knee replacements, cardiac procedures, colonoscopies and cataract removals . . . [private] health insurance offers people the peace of mind that treatment can be obtained in a timely manner” (Health Funds Association of New Zealand 2013). That is, the public system is for serious illness and emergencies, while private insurance focuses on elective surgical procedures. In part to make private insurance more affordable and expand market share, UK private insurers in the late 1980s created new policies that restricted the conditions covered, in one case, to

⁸ In the context of health insurance, moral hazard refers to a phenomenon whereby the presence of insurance changes a person’s expected health care costs, either because they take fewer precautions to avoid injury or illness (because the costs of treatment are covered) or, conditional on experiencing an injury or illness, they consume more health care than they would have if they did not have insurance (Hurley 2010).

17 specified procedures (Besley, et al. 1999). At the time, fewer than two dozen procedures accounted for over 70% of all private operations (Propper and Maynard 1989). Currently, UK insurers offer policies that cover only services for which there are long NHS wait times. AVIVA, a UK private insurer, for example, offers a “6-week policy”: it does not cover treatment for a service if the treatment is available from the NHS within six weeks from the date the specialist recommends it (AVIVA Insurance Limited 2013).

2.2.4 Summary: Parallel Private Insurance Policies

The evidence regarding the nature of the markets for parallel private insurance and the policies offered by private insurers documents that:

- In the absence of regulations prohibiting such exclusions, parallel private insurance policies exclude coverage for pre-existing conditions. In general, such insurance also excludes coverage for chronic conditions, focusing on short-term acute conditions. In settings where policies do cover chronic conditions and regulations do not require community rated premiums, policies purchased on the individual market on the basis of risk-rated premiums can be prohibitively expensive for many chronically ill.
- Parallel private insurance concentrates coverage primarily (and in most places, exclusively) on a small set of acute-care services used in the treatment of relatively uncomplicated conditions on an elective basis. Such insurance, in general, excludes coverage of chronic conditions and complicated, catastrophic care.

3 IMPACTS OF PARALLEL PRIVATE INSURANCE

Considerable debate and associated research effort centres on the impacts of parallel private insurance on health system outcomes, through both a large theoretical literature modelling mixed systems of public/private finance and a growing body of empirical evidence regarding the impacts. Analyses of mixed systems of public and private finance emphasize that the publicly and privately financed sectors inescapably interact, and many of these interactions can be detrimental to the functioning of, and access to, the public system (Hurley, et al. 2001, Propper and Green 2001, Touhy, et al. 2004, Glied 2008).

The theoretical literature (e.g., Iversen 1997, Hoel and Sæther 2003, Barros and Olivella 2005, Biglaiser and Ma 2007, Brekke and Sørsgard 2007, Cuff, et al. 2012) investigates the impact of parallel private insurance on a variety of outcomes such as access to care and wait times, quality, and

provider effort. For most outcomes, however, the conclusions reached through such analytic modeling depend crucially on the underlying assumptions regarding the institutional details of the health system and the behaviours of key system actors. Depending on the underlying assumptions, for instance, the introduction of parallel private insurance can lead to an increase or decrease in wait times within the public system. Despite this sensitivity to the underlying assumptions, such theoretical analysis can identify key factors within the system that influence outcomes and thereby guide empirical work to investigate how these factors operate in real-world systems of finance. Further, it can provide unambiguous predictions on certain aspects of an overall analysis, helping to resolve points in dispute. Therefore, while we do not emphasize this theoretical literature, we draw on it in organizing the evidence and, in places where empirical evidence is limited, we use such conceptual and theoretical analysis to draw relevant conclusions.

The impact of parallel private insurance on access is a major point of contention in the debate regarding the effects of parallel finance. Given its centrality to the debate, some of the challenges faced in measuring access deserve mention. Access refers to the ability of a person to obtain care, and is influenced by a range of financial (e.g., cost-sharing, travel costs) and non-financial (e.g., distance to facilities, ability to navigate a complex health system) barriers to care. Better access to care for the insured therefore implies that, for two otherwise identical individuals with the same need for care, but one with and one without private insurance, the individual with private insurance faces fewer barriers and is able to obtain a wider array of services more quickly and at a lower cost (monetary and non-monetary). Because these are often unobservable to a researcher, access is very difficult to measure directly. Most studies measure access using proxy indicators such as utilization or wait times, each of which has its own limitations as measure of access.

- Utilization measures services received, which is correlated with access, but two individuals with the same utilization may have faced very different barriers in obtaining care. Moreover, a person who has access to care may choose to not seek it. Hence, a lack of utilization in some instances will falsely indicate a lack of access. Despite these limitations, in health services research utilization is probably the most widely used indicator of access.
- Wait times, even when accurately measured, are also an imperfect indicator of individual access and of system performance. Wait times are determined by a complex set of behavioural interactions among actors in the health system.⁹ These interactions imply that changes in wait times (or lack thereof) often do not correspond to changes in access. For example, if an

⁹ These behavioural foundations to health system dynamics invalidate simple models of wait times that analogize the health system to plumbing or similar systems of faucets and valves controlling the flow of a fluid. In such systems, opening a valve to allow more fluid to flow through does not usually cause more fluid to seek to flow through; in health systems, however, such a response is common when throughput increases.

investment of resources that increases throughput initially results in a decrease in wait times, this decrease can induce behavioural responses by patients and providers that increase demand, causing wait times to rise back to their original level. As measured by wait times, access and system performance has not improved. But even though wait times have not fallen, access has increased: more people get the service than before and people with a given level of severity wait for a shorter period of time than before. Analogously, it is possible for access and performance to fall while wait times remain unchanged. As a consequence, one must be cautious about using wait times *per se* as an indicator of system performance. To the extent that they are used, focus should be on wait times relative to a clinical indicator of when the service should have been received.

Assessing the impacts of parallel private insurance touches on wide-ranging aspects of the health system and the behaviours of patients, providers, and insurers. Section 3.1 summarizes the evidence regarding differential access to care between those with and without parallel private insurance; section 3.2 considers the impact of parallel private insurance on access to care in the public system, focusing initially on some analytics of parallel systems of finance and then on empirical evidence relevant to assessing the impact; section 3.3 reviews empirical evidence regarding dual practice and related issues that can influence access to care in the public system; finally, section 3.4 considers two possible long-term effects that parallel finance can pose for the public system.

3.1 Private Health Care Insurance and Differential Access to Care

Parallel private insurance increases access to care at private facilities and/or designated private beds within public facilities. Individuals without parallel private insurance can obtain care at such facilities by paying the full cost out-of-pocket, but this is prohibitively expensive for much of the population for many types of health care. Private insurance makes the cost of such private care more affordable. In addition, because private parallel insurers often pay higher fees to providers than does the public system, providers often give priority to private patients. Those unable to afford parallel private insurance therefore face a number of disadvantages in seeking care.

3.1.1 *Timeliness of Access*

Parallel private insurance can increase the timeliness of access in two basic ways. First, private insurance can directly increase access to private care by bypassing wait times in the public system. Second, individuals with private insurance can indirectly gain quicker access to public care through the strategic use of private care. The total wait for an elective surgical procedure, for example, includes

the wait to see a specialist, possibly a wait for a diagnostic test (especially images such as a CT or MRI scans), and, once the decision to obtain surgery is made, the wait to obtain the procedure. An individual with parallel private insurance can bypass the wait to see a specialist and/or needed diagnostic tests by seeking care privately, and then, once assessed, join the queue to obtain the procedure publicly. In this way, the private insurance provides speedier access to *publicly* financed services. This practice is hotly debated and some countries with parallel private insurance such as the UK have at times tried to prohibit such behaviours with little success. In 1986, for instance, the UK Government published a set of principles to guide the management of private patients, one of which was that earlier private consultation should lead neither to earlier NHS admission nor to earlier access to diagnostic tests and procedures. Later, the NHS and *Community Services Act* of 1990 re-affirmed that hospitals could provide private patient accommodation with the proviso that NHS contractual obligations were fulfilled (Williams 1997, Yates 2000).

(a) Differences in Access Between Patients with Private Insurance and those Without Private Insurance

The evidence is consistent and conclusive that, for many types of services, those with parallel private insurance who exercise the option to obtain care privately have quicker access to care than those without such insurance who rely on the public system. Below we summarize relevant evidence drawn from aggregate comparisons of average wait times by insurance status, statistical analysis of individual-level data on wait times, and studies of access based on randomized designs.

(i) Comparisons of Average Wait Times by Insurance Status

Across a number of countries, data on average wait times by insurance status document substantially shorter waits for those who have private insurance. Although one must be cautious when interpreting simple cross-sectional comparisons of average wait times by insurance status (since, as was documented above, the characteristics of those with and those without private insurance differ systematically), the data suggest that more than selection effects are at work.

Austria: Data from Statistics Austria for 2006/07 show that, compared to patients with private insurance, patients relying on the publicly financed system wait, on average, four times longer for cataract surgery, three and a half times longer for knee operations, and twice as long for cardiac catheterisation (Statistik Austria 2007, cited in Thomson and Mossialos 2009). Given that average waiting times for these procedures are 100 days, 97 days and 28 days respectively, these differences are large in absolute terms.

Ireland: Among adult patients with private health insurance in 2001, 35% of adult patients waited less than one month for inpatient care and 13% waited more than one year; in contrast, among adult patients relying on free public inpatient care, only 14% waited less than one month and 25% waited more than one year (Tussing and Wren 2006, cited in Thomson and Mossialos 2009). Anecdotal evidence also suggests that privately insured patients in Ireland are more likely to receive care directly from a consulting specialist than from more junior doctors (Turner 2009, cited in Thomson and Mossialos 2009).¹⁰

United Kingdom: Yates (2000) states that “. . . [it is] incontrovertible that private patients are treated more quickly than NHS patients for similar conditions (p. 6, paragraph 18).” Comparisons in 1994 of outpatient wait times for orthopaedics and ophthalmology between the NHS and the private sector revealed that, across all English NHS clinics, wait times averaged 25 weeks for orthopaedics and 19 weeks for ophthalmology; in contrast, in the private sector, waiting times averaged two weeks in both specialties (Yates 1995). Waiting times for inpatient and day case admission are consistently shorter for private patients, even within NHS hospitals. Over the six-year period from 1989/90 to 1994/95 median waiting times for NHS patients rose from 32 to 42 days, while for private patients it fell from 11 to 9 days (Williams 1997). In some cases, the median wait for NHS patients was more than 10 times longer than the median wait for private patients.

Australia: Johar et al. (2013b) analyzed the relationship between emergency room admissions and admissions for elective surgery in hospitals in New South Wales. Public hospitals in Australia can admit both public patients and private patients (who generate extra revenue for a hospital). Given a limited bed supply in a hospital, emergency room admissions can displace elective admissions because they have higher priority. Controlling for hospital characteristics, the analysis revealed that, holding the number of beds constant, a one standard deviation increase in emergency admissions (7,826 per year) increases elective surgery wait times by 19 days. Public patients, however, bore the brunt of this increase: elective admissions for private pay patients were unaffected by emergency admissions.

*Germany:*¹¹ Schellhorn (2007, cited in Thomson and Mossialos 2009) found that although wait times for a general practitioner (GP) appointment did not differ between social insurance beneficiaries and

¹⁰ This is consistent with data presented in Yates (2000) regarding patterns for provision in the public and private sectors for consultants in the UK. Private-sector surgeries are dominated by senior consultants while a substantial portion of public-sector surgeries are provided by junior physicians.

¹¹ Rather than a system of parallel private insurance, Germany has a system of substitutive supplementary private insurance that allows individuals with sufficiently high income to opt-out entirely from the social insurance system and purchase

privately insured individuals, the average wait time for a specialist appointment was more than twice as long for social insurance beneficiaries (10.5 days) than for the privately insured (4.5 days).

Spain: Jofre-Bonet (2000) notes that while the average number of days on a surgery wait list in the public sector in Spain could be substantial (e.g., 80-100 days), the average number of days on the surgery waiting list for patients using private carriers was effectively zero.

(ii) Analysis of Individual-level Wait-times Data

Patients in Australia with parallel private insurance wait considerably less for elective hospital-based services than do those who rely on the public system. Using individual-level discharge data from public hospitals in New South Wales, Australia (which, as noted above, admit both public patients and private patients), Johar and Savage (2010) found that within urgency categories assigned by the treating physicians (less than 7 days; 7 to 30 days; 30-90 days, and 90 to 365 days), private patients wait less than public patients. Key findings are as follows (Table 4):

- In all urgency categories and in all types of hospitals, the mean wait for private pay patients is less than the mean wait for public patients; similarly, with the exception of the 7-day category, the median wait for private patients is less than the median wait for public patients.
- The differences are most pronounced for referral hospitals and large urban and regional hospitals that admit the vast majority of patients.
- For the 30-day urgency category the mean wait is 60 percent longer for public patients in referral hospitals and more than twice as long in large hospitals.
- For the 90-day urgency category the mean wait is twice as long for public patients in both referral and large hospitals.
- For the 365-day urgency category, both the mean and median waits for public patients are approximately three times as long for private patients in referral and large hospitals.
- Analysis stratified by type of condition reveals similarly large differences between public and private patients.
- In all urgency categories and for all procedures, a larger proportion of public patients waited longer than the recommended time than did private patients, with the public-patient proportion often 2-3 times that for private patients.

(iii) Evidence from Studies Based on Randomized Designs

private insurance. For the issue of concern here — differences in access by insurance status — this distinction between parallel private insurance and substitutive private insurance is of little consequence.

A third type of study employs randomized experimental designs in which a trained researcher contacts physician clinics or hospitals seeking an appointment for care for defined conditions. During the call, the prospective patient (researcher) states their insurance status, which is randomly varied across calls

between public/social insurance and private insurance. Such studies consistently show that those with private insurance have better and quicker access to care.

Each of three German studies found longer wait times for social insurance patients compared to private insurance patients (Lungen, et al. 2008, Sauerland, et al. 2008, Schwierz, et al. 2011).

- To get an appointment at a specialist physician clinic, the number of additional days that a patient with social insurance waited compared to an otherwise identical private patient were as follows (Lungen, et al. 2008):
 - Allergy test/pulmonary function test - 17.6 days (26.0 vs. 8.4 days);
 - Pupil dilation - 17.0 days (25.2 vs. 8.2 days);
 - MRI of the knee - 9.5 days (14.1 vs. 4.6 days);
 - Gastroscopy - 24.8 days (36.7 vs. 11.9 days);
 - Hearing test - 4.6 days (6.8 vs. 2.2 days).

In every case, social-insurance patients waited more than twice as long as private-pay patients.

- To obtain a non-emergency hospital-based service, the number of additional days that a patient with social insurance waited compared to an otherwise identical private patient were as follows (Schwierz, et al. 2011):
 - Weber B (ankle) fracture - 2.62 days (3.50 vs. 0.88 days);
 - Cervical conisation - 1.27 days (7.11 vs. 5.84 days);
 - Stenosis - 3.20 days (10.80 vs. 7.60 days).
- An earlier study with the same conditions (Sauerland, et al. 2008) found longer waits for ankle fractures and stenosis, but not for conisation.

Similarly, studies from the US consistently find that those with private insurance gain quicker access to care than those with Medicaid insurance (for low-income individuals) or the uninsured who are unable to pay out-of-pocket (e.g., Resneck, et al. 2003, Asplin, et al. 2005, Bisgaier and Rhodes 2011).

3.1.2 Why Speedier Access for Those With Private Insurance?

It is logical that those with private insurance get speedier access — as has been documented, avoiding wait times is a primary motivation for purchasing such insurance and many people would stop buying such insurance if it could not provide speedier access. However, there is a question as to why providers agree to treat private patients more quickly. Evidence indicates that a major reason is that private insurers pay higher fees than the public (or social) insurers. In nearly all of the 31 EU countries studied by Thomson and Mossialos (2009), private insurers were allowed to, and did, pay higher fees than did public insurers. The fee difference can be large. In Germany, for instance, estimates are that, on average, private insurers pay anywhere from 20-35 percent more than social insurers (Lungen, et al. 2008) to more than twice as much (Walendzik, et al. 2008, as cited in Hullege and Klein 2010, Jürges 2009). Yates (2000) documents that the pay from private sector activities in the UK substantially exceeds the rate of pay within the NHS, especially for surgeons. In Canada, evidence from the Workers' Compensation Boards suggests a crucial role for increased fees in gaining faster access. When waits started growing for certain services in Canada's public system, in order to get priority access to care for injured workers, Workers' Compensation Boards in some provinces began offering physicians substantially higher fees than the fees in the provincial schedules of benefits (Hurley, et al. 2008b). Where public hospitals are allowed to admit both public and private patients, they often have incentive to give priority to private pay patients because, unlike public patients, private patients generate additional revenue for the hospital (e.g., Johar, et al. 2013b).

The results of one of the randomized studies from the US provide particular insight into this issue. Asplin et al. (2005) investigated access to urgent ambulatory follow-up care by a physician post-discharge from an emergency room for patients with three serious conditions: community-acquired pneumonia, asymptomatic accelerated hypertension with diastolic blood pressure greater than 110 mmHg, and possible ectopic pregnancy. The trained researchers posing as patients indicated one of four payment circumstances: (a) private insurance; (b) Medicaid coverage (public insurer for low-income individuals, known to pay low fees); (c) uninsured but able to provide cash payment of at most \$20; (d) uninsured but able to provide cash payment for the full cost. The results are striking. An individual who indicated that they had private insurance were much more likely to get an appointment within 7 days than was an individual with Medicaid insurance (64.4 vs. 34.2 percent) or an uninsured person unable to pay more than \$20 (64.4 vs. 25.1 percent), but there was no difference between the privately insured and the uninsured willing to pay full cost out-of-pocket (64.4 vs. 62.8 percent). Access is driven not by insurance status *per se*, but by differences in payment rates. +

3.1.3 Private Insurance and Differential Access by Income

A logical consequence of the fact that (a) the demand for private parallel health insurance is strongly positively correlated with income (Section 2.1.1 above), and (b) that those with private insurance have quicker, better access to care, is that those with higher income, or ability-to-pay, enjoy better access to care in systems with parallel private insurance. Consistent with this, studies that compare the utilization of those with private parallel insurance and those without such insurance consistently find that, even controlling for personal characteristics and health status,¹² those with parallel private insurance consume more health care than those without parallel insurance (Jones, et al. 2006, Barros, et al. 2008, Van Doorslaer, et al. 2008, González Álvarez and Barranquero 2009, Moreira and Barros 2010). This relationship is particularly strong for specialist services and hospital services, which are the focus of coverage by parallel private insurance. Commenting on the findings regarding the impact of parallel private insurance on the use of specialist services in Ireland, Italy, Portugal and the UK, Jones et al. (2006, p. 263) observe that:

“The fact that the probability of having private insurance increases with income, coupled with the fact that having private insurance increases the probability of seeing a specialist means that private insurance contributes to “pro-rich” inequality in the use of specialists... Private insurance is not simply a marker of a higher propensity to consume specialist care but induces additional use over and above what would be used in the absence of such cover.”

3.2 Impact of Parallel Finance on Access in the Public System

Distinct from the question of whether those with parallel private insurance enjoy better access to care is the much more difficult question of whether the presence of parallel private insurance affects access to the public health care system. Analytic models of health care service and related markets indicate that, under plausible conditions, parallel private health insurance could increase, decrease or leave unchanged access to the public system. In the end, the impact of parallel insurance on access to the public system is an empirical matter that depends on specific institutional arrangements in a health care system and on key demand- and supply-side parameters in the health care service markets and

¹² Controlling for these factors is important because, as we have seen, the characteristics of those who purchase such insurance differ systematically from those who do not. This creates the potential for “selection effects” in which factors that influence the decision to purchase insurance also influence the amount of care a person consumes. People who, other things equal, have a strong taste for health care, for example, may be more likely to purchase insurance. If true, then one would observe a positive correlation between insurance and utilization even if insurance did not cause an increase in utilization. Interestingly, unlike most settings for which economists worry about adverse selection (i.e., those at higher risk obtain insurance), because selection into parallel insurance pools is favourable (i.e., lower-risk individuals — younger individuals with high incomes and education), failure to control for these factors leads to an underestimate of the impact of insurance on utilization.

in related markets for inputs used in producing health care services. The impact likely also differs among health care services, depending on the nature of the medical condition and the specific service used to treat it, the nature of demand for the treatment, and the nature of the production process for the service. The discussion below frames the issues in terms of health care services in general, with the understanding that the assessment of the impact on a given service would depend on the specifics of the market for that service.

We first present some essential analytics of systems of parallel public and private finance with the goal of describing selected scenarios that illustrate key issues that determine the impact on access in the public system. We then review evidence that bears on these key issues to assess which scenarios seem, on balance, most likely to arise given relevant evidence.

3.2.1 Some Analytics of Parallel Finance

Whether the introduction of parallel private insurance harms or benefits the public system depends on the associated demand- and supply-side responses in the public and private health service markets. It is not a question simply of whether demand or supply increases or decreases, but how those changes are distributed across the public and private sectors. To illustrate this, we present an analysis beginning with a baseline scenario with only public finance and then consider three scenarios that introduce parallel private finance. The analysis is purely illustrative — the scenarios are highly simplified and inadequate for a full analysis of wait-list dynamics, and the numbers were chosen simply to highlight factors that determine the impact of private finance on the public system. The scenarios show that a necessary condition for the introduction of parallel finance to not harm access in the public system is that any decrease in supply of services to the public system must be less than the decrease in demand for publicly insured services caused by the shift of patients from the public to the private sector.

(i) Baseline Scenario: Public finance only

For this baseline scenario, assume a situation with only a public system of finance (i.e., there is no privately financed provision). Imagine there is a health care procedure for which the system can provide one procedure per day, and that these are scheduled in 10-day blocks as follows: on day zero specialists assess each of ten individuals referred by GPs and rank them according to need. The public system then performs one procedure per day for the subsequent ten days, treating the patients in order of need. Once that block is treated, the process starts over again with the next block. What would the outcome look like?

As depicted in Figure 1, the patient with the greatest need (need = 100) would get the first public slot on day 1; the patient with second greatest need (need = 90) would get the second public slot on day 2, and so forth. The average wait among the 10 patients would be 5.5 days, with wait times that ranged from 1 to 10 days.

(ii) Parallel Finance Scenario 1: No change in total demand or total supply, reallocation from public to private

Now introduce a parallel private sector that provides the procedure with the same clinical quality as the public sector. Assume that this causes no change in total demand (10 people identical to those in the baseline scenario continue to demand the procedure during the period); similarly, assume that providers do not change the total amount they are willing to work (i.e., physician labour supply is constant), so ten surgery slots in total are still available during each period. But because pay is higher in the private sector, some providers shift a portion of their time to the private sector. In total they allocate three slots to private delivery on days 1, 2, and 3 (to ensure that private patients have a shorter wait).¹³ Assume also that given the value of their time and their condition, the patients with need scores of 60, 40 and 20 (ranked 5, 7, and 9 in the list of ten patients) go private.¹⁴

Figure 2 depicts the outcome. Patients 60, 40 and 20 get the procedure privately on days 1, 2, and 3; the remaining patients who rely on the public system get their procedures on days 4 through 10. The average wait time across all patients remains 5.5, as it was in the public only scenario, but the mean wait in the public system has increased from 5.5 days to 7.0 days (the mean wait in the private sector is 2 days).¹⁵ Even though total demand remained constant and private demand derives solely from individuals who switched from the public wait list, because the total supply of services did not increase and private patients were prioritized, the public patients are worse off.

This scenario highlights two ways in which prioritization influences the impact of an expanded private sector on the public system.

- With no change in total demand or total supply, the entire negative impact arose from the fact that private patients were given higher priority than public patients. While the example may seem

¹³ The conclusions do not depend on the private slots being on days 1, 2 and 3; they hold as long as the private slots are not on days 8, 9 and 10. But because no patient would pay privately if the private slots were on days 8, 9 and 10 (since the reason to go private is to reduce the wait), to be viable the private sector must offer them prior to days 8, 9 and 10.

¹⁴ Similarly, the conclusions do not depend on the private demand being from patients ranked 5, 7, and 9. As long as at some of the private demand arises for a patient other than one ranked 1, 2, or 3 by need, the conclusions hold.

¹⁵ In a sense, the increase in the mean wait in the public sector from 5.5 to 7.0 days understates the impact. Among the seven patients who receive care in the public system, the mean wait under the public-only scenario had previously been 4.9 days, so the increase in mean wait time for them is from 4.9 to 7.0.

contrived by assigning the three private slots to be filled ahead of the public slots, that is precisely what happened in studies when researchers called for appointments (see section 3.1.1 above) and found that those who randomly said they had public/social insurance were assigned appointments with longer waits than were otherwise identical individuals who stated that they had private insurance.

- The prioritization of private over public patients can negatively affect patients relying on the public system even if the public system retains the capacity to treat all those who present to it.

(iii) Parallel Finance Scenario 2: Increase in total supply; no change in demand

Now consider a situation in which the introduction of parallel private finance causes physicians to increase the total supply of procedures they are willing to provide and that there is no reduction in the public sector capacity. Assume also that there is no change in total demand.

Figure 3 depicts this scenario. Once again, let patients with need 60, 40 and 20 obtain the procedure privately and the remaining obtain it publicly. Because of the expansion in total supply there is no delay for public patients, who get their procedures on days 1-7. This leaves patients with need scores 100, 90, 80 and 70 unchanged compared to the public-only scenario, but patients with need scores 50, 30 and 10 move up within the public system, taking the slots vacated when patients 60, 40 and 20 went private. Mean wait time for in the public system is 4.0 days; these same seven patients had a mean wait of 4.9 days in the public-only system, so their wait has been reduced plus there are three slots (on days 8, 9, 10) available in the public system that can be filled, reducing the wait for other patients relying on the public system.

This scenario typifies the arguments presented by many advocates of parallel finance that parallel private insurance can reduce wait times in the public system. The key to this outcome is that supply to the public sector fell less than the shift in demand from the public to the private sector, improving access for those who continue to rely on the public sector.

(iv) Parallel Finance Scenario 3: Increase in both total supply and in total demand

This last scenario admits changes in both supply and demand. Let an increase in the total supply of procedures be accompanied by a reallocation of provider effort from the public to the private sector. Specifically, assume that supply to the private sector increases by three procedures, but supply to the public sector falls by two procedures, for a net increase in total supply of one procedure. Assume also that total demand increases by two procedures: the new demand arises from people who previously were not referred for care by GPs but who now directly access care in the specialist clinic. Private

demand therefore comprises these two new patients plus one patient drawn from the public list (assume this to be patient with need 60).

Figure 4 depicts this scenario. In this case, patients 100, 90, 80, 70, 50, 40, 30, and 20 get their procedures in the public system on days 3-10 and wait on average 6.5 days (vs. 5.0 days under the public-only system); patient with need 10 is bumped from getting the procedure and must wait until the next “period.” For those who get the procedure publicly, the increase in wait times is due to the prioritization effect noted above; for patient 10, the problem is, in a sense, a hard capacity constraint during the period.

This scenario typifies arguments presented by detractors of parallel finance, who argue that parallel private insurance will reduce access to the public system. The key to this outcome is that substitution of demand from the public to the private sector was less than the decrease in supply to the public sector; correspondingly, the increase in total demand exceeded the increase in total supply, causing access to decrease for those relying on the public system.

Again, a key message from the scenarios is that, for the introduction of parallel finance to not harm access in the public system, the decrease in supply of services to the public system induced by the introduction of parallel private insurance must be less than the decrease in demand to the public sector caused by the shift of patients from the public to the private sector.

An obvious question is which of the above scenarios is most likely to obtain in real world health care systems (and Canada’s in particular). The introduction of parallel finance with parallel private insurance would almost certainly change both the total demand for and supply of health care services, and how those demands and supplies are distributed across the public and private sectors. The challenge is to assess the relative magnitudes of these changes. Below we consider evidence and analysis that can inform these assessments. But before doing so, it is important to briefly consider the nature of health care need and the interdependencies of supply and demand in the health care market that derive from fundamental informational asymmetries between providers and patients.

Determining need for health care is not, as is sometimes depicted, a solely objective, technical assessment that unambiguously classifies people as having or not having a medical need. This manifests itself in at least two important ways. First, although determining need includes technical elements, it also includes a social dimension that sanctions the legitimacy of calling something a need rather than simply a “want,” where the former creates some obligation for a social response while the latter does not (Williams 1978). Second, the technical, scientific information often does not lead to

unambiguous recommendations regarding the best way to meet a need, which can lead to large variations in practice across physicians treating the same clinical problems (Wennberg 1984). These two considerations mean that in many contexts there is a grey zone that leaves substantial scope for legitimate differences in judgments regarding need for a health care service. This grey zone also provides leeway for shifting judgments of need in response to factors such as the availability of resources and treatment options, creating opportunities for changed demand even while appealing to the principle of responding to needs.

Because physicians have the expertise in diagnosing disease and in assessing the treatment required to cure or manage disease, physicians exercise considerable influence over patients' demand for health care (Hurley 2000, Hurley 2010). Indeed, a primary reason people see a physician is to obtain information: to find out what is wrong and, conditional on that, to find out what treatment they should obtain. This informational advantage conveys considerable market power on physicians to influence the quantity and mix of services patients receive and the settings in which patients obtain care. This physician market power creates interdependencies between the demand and supply sides of the health care service market not present in markets for most goods and services and assumed not to exist in standard economic models.

A central implication of these considerations is the importance of treating the health system, and the impacts of parallel private insurance, as taking place in a complex behavioural system in which the various actors, and physicians in particular, have considerable discretion in determining how they respond to changes in their practice environments.

3.2.2 Parallel Private Insurance and the Demand for Health Care

The introduction of parallel private insurance would be expected to create two demand-side effects:

- An increase in the total quantity demanded of covered health care services;
- A change in the composition of those who receive the service.

By creating a new channel by which to obtain care, parallel private insurance will change both the quantity of care demanded and the composition of individuals who obtain care. The quantity demanded of a service depends, other things equal, on its full cost to individuals, including both monetary and non-monetary costs. The public system charges no money price and rations care based on need, imposing a wait time that generates both non-monetary costs such as pain, suffering, anxiety

and potentially reduced chance of recovering to full function, and monetary costs such as lost income during the wait. Parallel private insurance enables an individual to pay a positive money price (the premium) to avoid the costs associated with waiting.¹⁶ The private sector will actively strive to stimulate demand. Those who invest in private facilities will demand a return on their investment, and will seek to promote their services and create demand. Below we consider three demand-side effects: demand substitution, demand creation, and a changed composition of demanders.

(i) Substitution of Private Care for Public Care

The introduction of parallel private insurance and expanded private options for quicker treatment will cause some of those waiting in the public system to seek private treatment. These “switchers” will be individuals with a relatively high sensitivity to the costs (both monetary and non-monetary) of waiting and a relatively low sensitivity to money price of private insurance and/or of private care.

(ii) New Demand

The introduction of private parallel insurance will generate new demand not present under public financing only. Given the option to obtain quick treatment, some individuals who previously did not express a demand for a service with a long wait will now express a private demand. But new public-sector demand may also arise as part of a feedback process as the system evolves.

New demand for private care:

- a. *Purely patient-driven new demand.* A system with primary-care gatekeeping, such as Canada’s public system, restricts access to specialist care to individuals judged by a family physician to need specialist care. The expansion of private care creates a new, direct channel to specialists that bypasses the primary care gatekeeper¹⁷. Some of this direct demand will be new demand not previously expressed in the public system.
- b. *Changed physician referral patterns.* The expansion of private care may alter GP referral patterns to specialists, and in turn specialists may change their threshold for recommending treatment. Essentially, primary care physicians and specialists may respond more to non-clinical preferences of patients (compared to the prioritization criteria in the public system) in considering referral for private care. The result is increased recommendations for care even among those who still seek care through their primary care provider.

¹⁶ In the absence of private insurance, an individual could choose to pay directly out-of-pocket to obtain the procedure privately and avoid the wait. Although a small number of people do this when the option is available, as noted earlier, insurance creates access to services that cannot be afforded paying out-of-pocket (Nyman 2003).

¹⁷ For instance, Gonzalez Alvarez and Barranquero (2009) document this effect within the Spanish health care system.

New demand for public care:

- c. *Complementary demand.* Private care and public care are often complements (i.e., consumed jointly) (Stabile 2001, Glied 2008, Allin and Hurley 2009). Therefore, new private demand can generate new public demand for a complementary public service. Some of those new demanders of private care, for instance, will first consult a primary care provider, increasing public demand for primary care visits. In other cases, individuals will demand private care for an assessment or diagnostic test, and then subsequently join the queue for a public service based on the results of the private assessment or test.
- d. *Feedback effects.* If the expanded private sector were to lower wait times in the public system, the shorter wait could induce increased demand. Estimates regarding the size of such demand responses to lower wait times vary from sufficiently small in the UK that such feedback can effectively be ignored (Martin and Smith 1999) to quite large in Australia such that the feedback would have a policy-relevant impact on demand (Stavrunova and Yerokhin 2011). The demand associated with this feedback effect can arise only if an expanded private sector initially shortens wait times in the public sector, and can be seen as a manifestation of the benefits of shorter waits.

(iii) Changed Composition of Demanders

Compared to a pure public system, a system with parallel private insurance would be expected to devote more resources to those with lesser medical needs but a higher income, a higher value of time, or a high rate of time preference. That is, an expanded private sector will alter the characteristics of those who obtain care, increasing the proportion of recipients who have high responsiveness to time costs and low responsiveness to money costs. People with high sensitivity to time costs are generally those with a high opportunity cost of waiting, such as those in paid employment or those with a high level of non-employment responsibilities (e.g., primary caregiver in a family). A low sensitivity to money prices arises for those with high incomes and/or large money costs of waiting (e.g., those who must forego income while waiting). Both the characteristics of those who purchase private parallel insurance and of those with high willingness-to-pay to avoid a wait are consistent with these patterns (see section 2.1.2 above for evidence on people's willingness-to-pay to avoid wait). Further, to the extent that new demand is from individuals with relatively lower levels of clinical need but a high degree of impatience, the share of recipients with lower needs would increase.

3.2.3 *Parallel Private Health Insurance and the Supply of Health Care*

The introduction of parallel private insurance raises two key supply-side questions for which there are no *a priori* answers. Compared to a baseline public-only system:

- Will the introduction of parallel private insurance increase or decrease the total supply of a service?
- Will the introduction of parallel private insurance increase or decrease the supply offered through the public sector?

As noted, some of the supply-side responses to greater private-sector opportunities would depend on the institutional details of the system design. The discussion below makes the following basic assumptions.

- The rate of pay offered in the private sector is higher than that in the public sector. The norm internationally is for the private sector to offer higher rates of compensation than the public sector. If regulation prohibits this, as is currently the case in some Canadian provinces, the incentive for a provider to deliver care privately is substantially muted.
- Dual practice — the ability of a physician to provide services to both public and private patients — is allowed, so that physicians can choose how much of their time and effort to devote to private sector activity. If dual practice is prohibited, as it currently is in many Canadian provinces, a physician must choose to fully opt-in or fully opt-out their entire practice with respect to publicly insured services. If physicians must fully opt-in or opt-out, the nature of the identified incentives would remain, but the viability of private practice would be substantially muted because a physician would have to support an entire practice through privately financed services.
- Key parts of the discussion are framed in terms of physician responses to parallel finance with parallel insurance, and especially physician labour supply responses. The underlying issue is really the supply of a health care service, not physician labour supply *per se*. In reality, the production of most health care services (and certainly elective surgical procedures and diagnostic tests on which parallel insurance focuses) combines physician labour with non-physician personnel (e.g., receptionists, nurses, other non-physician professionals) and capital (office space, equipment). By substituting these other inputs for their own time, in some circumstances physicians can simultaneously increase the supply of services while reducing their own labour supplied. The discussion abstracts from detailed production issues and assumes a positive relationship between physician labour supply and service supply.
- The discussion assumes that the introduction of parallel private insurance has the potential to expand supply, i.e., the rate-limiting constraint on public provision is not a fixed supply of a key input for which the introduction of parallel private insurance would have no impact (e.g., a fixed supply of a rare radioactive isotope or drug needed to provide a service).

The introduction of parallel private insurance, and the associated opportunity to earn additional income at a higher rate of pay through private provision, can influence two types of physician work decisions: (i) a physician's decision whether to work; and, (ii) among physicians who do work, decisions regarding the total number of hours to work, the allocation of effort across the public and private sectors and among professional activities.

(i) Decision to Work

The introduction of parallel private finance could influence the number of active physicians in Canada by affecting retirement and migration decisions. New private-sector opportunities for practice could cause some currently retired physicians to re-enter the workforce or cause physicians currently working in Canada to delay retirement, thereby increasing the overall supply of physician labour relative to what it would have been in the absence of parallel finance. In addition, some physicians may choose not to work in Canada under the current regulatory scheme that restricts parallel private insurance and limits their scope for private practice. The introduction of an expanded private sector and parallel private insurance could induce some of these physicians to choose to practice in Canada (or to not leave Canada), thereby expanding the supply of physicians, enabling private provision to expand without diverting resources from the public system.

We are unaware of any empirical evidence regarding the magnitude of the potential effects of expanded private-sector practice opportunities on the supply of active physicians in Canada (or elsewhere). In this context, the large expansion of medical school enrolment beginning around 2000 is important (The Association of Faculties of Medicine of Canada 2013). At current rates of training, Canada is expected to experience a surplus of physicians within a few years, even taking into account population growth and aging.

(ii) Hours of Work and Allocation of Work Effort

Among those physicians in active practice, a new opportunity to earn private-sector income at a higher rate of pay than in the public system creates two important effects: (a) counteracting incentives regarding the total hours of work; and (b) changed incentives regarding the allocation of work effort across sectors and professional activities.

(a) Total Hours of Work

The two counteracting effects regarding total hours of work are called the income and substitution effects.

- *Income effect.* The higher rate of pay in the private sector means that, for the same total work effort, physicians can earn a higher income. If the demand for leisure increases with income, as is commonly assumed in labour economics and evidence indicates is usually the case, then this income effect would induce a physician to decrease the overall amount of time spent working.
- *Substitution (or pure price) effect.* At the same time, the higher rate of pay in the private sector means that the price of not providing private-sector patient care has increased. This change in the relative price of time would be expected to lead to two types of reallocation by physicians: (i) work more and take less leisure; (ii) within the time spent working, reallocate time away from provision of patient care in the public sector and away from non-patient-care professional activities (e.g., teaching, research, administration) toward time spent providing private-sector patient care.

If the income effect dominates, then expanded higher-paying private-sector opportunities would cause total physician work hours to fall; if the substitution effect dominates, total physician work hours would increase. Therefore, the predicted impact of expanded private-sector practice opportunities associated with parallel private insurance on total physician labour supply is ambiguous (Table 5).

This analysis, however, does lead to three unambiguous predictions that compared to the current situation with limited opportunities for private practice, expanded private sector opportunities following the introduction of parallel private insurance will:

- Cause the hours devoted to direct patient care in the private practice to increase;
- Cause the hours of direct patient care in the public sector to decrease;
- Cause the hours devoted to non-patient care professional activities to decrease.

Hence, although one would definitely predict an absolute increase in the amount of time devoted to private-sector patient care, because of the ambiguous effect on total hours of work, the absolute amount of physician time spent providing patient care could increase, decrease or remain the same.

We are not aware of any empirical evidence specifically documenting the impact of parallel private insurance on physician labour supply and the associated supply of physician services. There is, however, evidence regarding how physician labour and service supply responds to changing fees, on the impact of payment on the allocation of physician effort across professional activities, and on the

allocation of time and effort across the public and private sectors in systems of parallel finance that allow dual practice.

- Studies of total physician labour supply find a mixture of positive responses to prices for physician services (i.e., higher fees cause physicians to work more) and negative responses to prices for physician services (i.e., higher fees cause physicians to work fewer hours) (See discussion of evidence in Crossley, et al. 2009, Jeon and Hurley 2010).
- There is a large body of evidence of an inverse relationship between the fee paid for a physician service and the level of provision of that service. That is, a fee decrease leads to an increase in the level of service provision while a fee increase can lead to reduced levels of service provision (Rice 1983, Hurley and Labelle 1995, Yip 1998, Jacobson, et al. 2010).

The empirical evidence, therefore, does not resolve the theoretical ambiguity regarding the impact of higher-income earning opportunities on total physician labour and service supply. The response varies across settings. Importantly, multiple studies document the seemingly perverse finding of a backward-bending labour-supply curve whereby fee increases reduce physician labour supply, and a backward-bending service-supply curve, whereby a fee increase reduces the amount of service provided.

(b) Allocation of Work

The allocation of physician time across professional activities does respond to the level and type of payment received for these different activities and the settings in which they are provided. A change from pure fee-for-service to a blend of sessional payments and fee-for service, for example, caused specialists in Quebec to reallocate work effort, decreasing their hours of work spent on seeing patients by 2.6 percent, increasing their average time spent per service by 3.8 percent, and increasing their time spent on teaching and administrative duties (tasks not remunerated under the fee-for-service system) by 7.9 percent (Dumont, et al. 2008). Higher expedited fees offered by some provincial workers' compensation boards have led physicians to allocate work effort toward workers' compensation cases (Hurley, et al. 2008a) (unfortunately, we do not know what impact this may have on time spent treating patients in the public system).

3.3 Impact of Parallel Private Insurance on Wait Times and Access to Care in the Public System

Neither the existing empirical evidence nor analytic considerations indicate that introducing parallel private insurance will reduce wait times and increase access in the public system. No empirical evidence exists that represents a clean, unequivocal test of the impact of introducing parallel private insurance on wait times and access; nor is such evidence likely ever to exist.

Expansion of parallel private insurance is not associated with reductions in public-system wait times (Siciliani, et al. 2013). The recent experience of Australia provides perhaps the clearest evidence on this point. During the late 1990s and early 2000s, the government of Australia undertook a series of policies that, over a very short period of time, increased by nearly 50 percent the proportion of the population holding parallel private insurance from approximately 28 percent of the population to 42 percent (Butler 2001). This dramatic expansion in parallel private insurance has had no persistent, measurable impact on wait times for elective procedures in the Australian health care system (Johar, et al. 2013a). In fact, the failure of this policy to reduce wait times subsequently led the Australian government to implement additional policies designed to reduce wait times (Johar, et al. 2013a).

Evidence from other countries is consistent with Australia, but less easy to interpret because the changes in parallel insurance holdings have been less dramatic and less exogenously determined. In Ireland, for example, during the 1990s when private health insurance holdings increased substantially in the population (e.g., from about 36 percent to 46 percent of the population), there was no corresponding reduction in wait times (Colombo and Tapay 2004). But it is difficult to disentangle causal relationships and the extent to which private insurance holdings may have been driven by increases in wait times, and increased prevalence of private insurance may have increased wait times. Interestingly, although parallel private insurance has existed (and in some cases, been highly prevalent) in countries such as the UK and Portugal, their public health care systems have been able to achieve large reductions in wait times in recent years only through a multi-faceted set of targeted public policies (Siciliani, et al. 2013).

3.3.1 Physician Dual Practice

Dual practice can affect the public system through a number of channels (Garcia-Prado and Gonzalez 2011).

(i) Diversion of Work Effort to the Private System

Evidence from a number of countries documents that a large number of physicians in dual practice fail to fulfill contractual obligations to the public sector so that they can devote a greater amount of time to

private activity. Perhaps the largest set of evidence on this issue comes from the UK. Though much evidence is descriptive and anecdotal, some of the more recent studies are based on larger samples and better data. UK consultants have in the recent past been able to opt for one of two types of contracts: a full-time consultant contract enabled a consultant to receive a full NHS salary but stipulated that the consultant was to earn no more than 10 percent of their total practice income from private sector activity; the maximum part-time contract paid a consultant a reduced salary equal to 10/11ths of the full-time salary, but did not place any explicit limits on the amount of private practice income the consultant was allowed to earn. Both contracts, however, require consultants to “devote substantially the whole of their time to hospital work and to give it priority on all occasions” (Department of Health and Social Security 1979). Many consultants appear to not meet these requirements.

- Analysis of 2003/04 tax returns for a sample constituting 92% of all consultants in the English NHS found that, on average, private sector income constituted 45 percent of total income and that among consultants working on a full-time contract, private income constituted 26 percent of total income, well above the contract stipulation of 10 percent (Morris, et al. 2008).
- These findings are consistent with evidence from Inland Revenue studies of consultants' earnings in 1993/94, which revealed that 49 percent of maximum part-time consultants' earnings was from private practice (cited in Yates 2000).
- Based on comparisons of clinical workloads measured in terms of patients seen or treated, Yates (2000) estimates that private activity likely constitutes 10 to 40 percent of total volume for a substantial number of consultant surgeons. Based on data from three studies of the private and NHS activity of cardiac surgeons in London, Yates (1995) estimated that 60 percent of consultant operations were performed on private patients.
- Information on the division of time between the two derives from self-reported surveys and “investigative” studies of private sector activity indicates that, “. . . about 70 percent of private practice work is done during the working week. This represents eight hours, or one full working day, out of the prime time of the 35 hour working week” (Yates 2000, parag 34).
 - Self-reported data from the Monopolies and Mergers Commission (1994) indicate an average of a 62-hour working week, of which 11 hours (18 percent) were devoted to the private sector. Of the 60 percent of consultants who undertake private work, around 80% spent between 5 and 15 hours per week in private practice, 10% worked for 15–19 hours and 10% worked for more than 20 hours per week.

- An Audit Commission analysis found considerable variation in fixed commitments (e.g., operating theatre sessions, outpatient clinics) by consultants, with many falling below that expected by the NHS contract (Audit Commission 1995).
- A study in which researchers posing as the relatives of a patient who inquired which days were available for a private consultation found that on average consultants specializing in ear, nose and throat, ophthalmology and orthopaedic surgery set aside over two half-days per week for private consultations and operations (Anonymous 1998)

Overall, the evidence, both anecdotal and systematic, confirms that large numbers of NHS consultants, especially surgeons, violate the terms of their NHS contracts by devoting greater time to private care than allowed by their NHS contracts.

Given differences in the organization of the delivery systems in Canada and the UK, and differences in the way specialist consultants are paid (predominately fee-for-service in Canada versus salary in UK NHS), the generalizability of these precise behaviours to Canada can be questioned. The more general lesson from the UK and other countries with dual practice is the difficulty of trying to regulate the allocation of physician time across sectors to prevent abuses that advantage physicians and disadvantage the public system.

(ii) Incentives to Strategically Manipulate Wait Lists to Support Private Practice

Physicians engaged in dual practice have incentive to strategically manipulate their wait lists to maintain private demand for their services (Hurst and Siciliani 2003) and, because of their considerable influence over patient demand, they have the ability to strategically shift their patients' demands across the public and private sectors. There, however, is little direct, rigorous evidence of such behaviour. Anecdotal evidence suggests that it does occur and there is well-documented evidence from multiple settings consistent with such behaviour (though it falls short of demonstrating causation).

Yates (1995), for instance, found that physician wait times in the UK NHS were positively correlated with the amount of private care a physician provided and Morris et al. (2008) found a similar association between wait times and UK consultants' private sector earnings. Closer to home, during a period when "dual practice" was allowed for cataract surgery in Alberta and Manitoba,¹⁸ researchers found substantial differences in wait times among physicians whose practices were fully private (in the

¹⁸ This, of course, was not official dual practice, which is prohibited. Public clinics provided services free of charge to patients and ophthalmologists were paid the surgical fee by the provincial insurer. In a private clinic, although the surgeon's fee was paid publicly, the clinics charged patients "facility" or "tray fees" (in the range of \$750 - \$1,000) for overhead and support services.

sense that they worked only in private facilities that charged facility fees), those who practiced only in the public system, and those who practiced in both the public and private systems. DeCoster et al. (1998) examined wait times for cataract surgery in public and private clinics in Manitoba during the 1990s. As expected, wait times were shorter in the private clinics:

- The median wait in a private clinic was about four weeks and was stable from 92/93 through 96/97;
- The median wait in the public system was 16 weeks in 92/93, fell to 11 weeks in 94/95, then rose to 18 weeks in 96/97.

However, when wait times were examined according to the status of the physician — public only, both public and private — they found that the median wait for surgery in the public sector for a surgeon who provided services both publicly and privately was up to 13 weeks longer than the public wait for surgeons who worked only in the public sector (Figure 5):

- The median public wait for a public-only surgeon was about 7 weeks for 93/94, 94/95 and 95/96 and increased to 10 weeks in 96/97;
- The median public wait for a surgeon who provided surgery both publicly and privately was just 14 weeks for 93/94 and 94/95, and increased to 19 weeks in 95/96 and to over 23 weeks in 96/97.

Analogous results were obtained in two surveys regarding access to cataract surgery in Alberta. A 1994 survey found that wait times for surgeons who performed the procedure exclusively in public hospitals were 3-4 weeks for an initial appointment and then 2-6 weeks for the surgery after the assessment. The public wait times were notably longer for surgeons who provided the service in both public hospitals and, on an expedited basis, in a private surgery clinic, with patient fees ranging from \$700 to \$1,275 per eye (Consumers' Association of Alberta 1995, quoted in Armstrong 2000). A second survey was conducted in Calgary, Edmonton and Lethbridge, each of which organized the provision of cataract surgery quite differently. In Calgary, 100 percent of surgeries were provided in private clinics, 75 percent of which offered upgraded lens and expedited care for a fee; in Edmonton, 80 percent of surgeries were provided in public facilities and 20 percent were provided in private facilities; in Lethbridge, 100 percent of surgeries were provided in public facilities (and upgraded lenses were provided at no charge to patients). The average wait for surgeries in these three regions was as follows: Calgary 16-24 weeks; Edmonton 5-7 weeks; Lethbridge 4-7 weeks. Interestingly, Calgary, which had the longest wait, also had 25% more cataract surgeons per capita than did Lethbridge and Edmonton (Armstrong 2000).

Israel in the 1980s also had a form of unofficial “dual practice” in which patients willing to pay could gain faster access to care. Physicians appeared to employ a strategy of either discouraging public

access and/or reporting long waits in the public system, in order to induce patients who were willing (and able) to pay privately to choose the private option (Barer, et al. 1989).

3.3.2 *Increases in the Real Cost of Service Provision in the Public Sector*

The introduction of parallel private insurance and the associated expansion of the private sector would create new demand for the services of health care providers. Essentially, physicians, nurses, technicians and other personnel would have a new option regarding where to devote their professional effort, reducing the strength of monopsony power held by the provincial public insurers.¹⁹ The increased demand exerts upward pressure on the prices insurers must pay to attract providers to serve their beneficiaries. These increased prices reduce the purchasing power of public health care budgets, requiring that governments either increase those budgets or reduce the real quantity of services provided through the public system, with a consequent reduction in access.

Creating new market opportunities for a limited supply of inputs would be expected to raise the prices of those inputs, but there is little direct evidence regarding the magnitude of this effect, which likely varies across jurisdictions and across providers within a given jurisdiction. A number of practices, however, are consistent with this.

- The practice of *de facto* having consultants work less than required by their contract while still receiving the public-sector salary implies that the real (time-adjusted) public salary is higher than the nominal salary paid to a physician under the contract.²⁰
- In Canada, the Workers' Compensation Boards (WCB) constitute a parallel payer alongside provincial public plans. Traditionally, injured workers usually obtained physician and hospital services through the public system on the same terms and conditions as non-WCB patients, physicians were paid the same rate as for insured patients in the provincial public plan, and the provincial WCB and provincial public insurer simply performed an annual financial reconciliation in

¹⁹ The provincial public insurers have considerable, but not full, monopsony power. Canada has 13 provincial territorial health care systems with reciprocal licensing regulations for many professions. Hence, provincial bargaining power has always been held somewhat in check by the possibility of providers moving to another province. The importance of this is illustrated by physician compensation levels in Quebec, many of whose physicians have limited opportunities outside the province due to language: among full-time physicians who billed fee-for-service, average gross payments in 2009/10 for Quebec family physicians were only 80 percent of the Canadian average, and payments for Quebec specialists were only 75 percent of the Canadian average (Canadian Institute for Health Information 2013a). Although some of the difference arises from differences in work patterns and other institutional features of the respective provincial systems, much of it arises because of differences in fee levels.

²⁰ Some argue that allowing dual practice between the public and private sectors enables the public sector to pay lower salaries (and save costs) while still retaining the services of providers (who earn the majority of their income in the private sector) (Garcia-Prado and Gonzalez 2011). Once one factors in the extent to which providers fail to fulfill their contractual obligations, it is not clear that there are any real cost savings associated with such a strategy.

which the WCB reimbursed the provincial insurer for health care services provided to WCB claimants. Beginning in the 1990s, however, as wait times grew in the public system, WCBs developed strategies to gain expedited access to health care for their claimants. Beginning in 1997, for example, the Alberta WCB established an agreement with a private hospital to pay higher prices for fast-tracked surgery. It also introduced bonus payments for surgeons who fast-tracked surgery for its clients, initially targeting private surgery centres. But controversy regarding the potential negative impact on the public system led the WCB to increase substantially (up to 500 percent) the amount paid to both private and public facilities as an incentive to get WCB clients treated quickly, leaving the choice of the facility to the worker and the surgeon, who could also receive a bonus for expedited care (Armstrong 2000).

- Around the same time, the British Columbia WCB developed a number of strategies to gain quicker access to care for its claimants, including contracting-out some surgeries to private clinics in Alberta, contracting with orthopaedic surgeons to establishing special “Visiting Specialists Clinics” to perform expedited assessments and procedures for higher fees, and the creation of expedited fees bonuses for treating WCB claimants within a specified number of days from the referral (Healy 2007, Hurley, et al. 2008a).
- In commenting on the wages paid in his private clinics in British Columbia, Dr. Brian Day observed that:

"We are not a unionized facility because if we were, we would have the same trouble getting nurses as the hospitals have. We pay our nurses 15 percent higher than the highest level they can achieve after 12 years in the public system, because we need these nurses . . . Similarly, the technical group would, in the hospitals, belong to the hospital employees union. The central sterile technicians who sterilize all the equipment, clean the equipment, are not unionized. Again, to attract those people, we have to pay higher than union wages. If we were unionised, the workers would have to take a cut in pay. We will never be unionized until public sector catches up with our wages." (Dr. Brian Day, Evidence Government of Canada, Proceedings of the Standing Senate Committee on Social Affairs, Science and Technology, First session Thirty-seventh Parliament, 2001, Thursday October 18, 2001, quoted in Healy 2007, note 45)

The question remains as to whether such premiums exert pressure on public-sector payment rates. At the time, individuals from both the WCBs and provincial ministries of health expressed concern about this. During this period when provincial budgets were highly constrained (and physician budgets in particular were limited by global expenditure caps — (Hurley and Card 1996, Hurley, et al. 1997), medical associations with responsibility for negotiating physician fees with

provincial governments recognized the potential value of leveraging WCB fees to negotiate higher fees within the provincial insurance plan. Medical associations in a number of provinces sought a freer hand to negotiate directly with the WCBs, and in some cases tried to strategically time negotiations. A key informant for a study of interactions between WCBs and provincial insurance plans in Canada observed that: “The docs. . . began their negotiation season by doing a sweetheart deal with the WCB, in which WCB paid ten percent above our going rate, which put a lot of pressure on us, okay?” (Hurley, et al. 2008a, p. 109).

3.4 Dynamic, Long-term Effects

The analysis to this point has focused on the more immediate impact of introducing parallel private insurance. Two potential longer-run impacts of an expansion of the parallel private sector deserve mention.

(i) Equilibrium with Positive Wait Lists

In one sense, it is not surprising that parallel private insurance does not “solve” public-sector wait-time problems. As was emphasized earlier, the primary reason people demand parallel private insurance is to avoid wait times in the public sector. Once the parallel private insurance sector is established, the public and private sectors become part of an equilibrating system in which public-sector wait times will remain positive. It is in the economic self-interest of private insurers and private providers to ensure that wait times remain sufficiently high in the public system to generate demand for parallel private insurance and for private care, since their very survival depends on public-sector wait times.²¹ Providers have the means to strategically influence public-sector wait times, especially in settings that allow physician dual practice and admit both public and private patients to public hospitals. In such a context, one would predict a long-run equilibrium with positive wait times that do not fall below that needed to generate private demand.

The implications of this for policy are substantial. Reducing public sector wait times is challenging under the best of circumstances. The above analysis implies that the presence of parallel private insurance and an associated larger private delivery system can make it even more difficult to reduce public-sector wait times than would otherwise be the case through deliberate policy action, especially

²¹ The fact that wait times are very short or non-existent in countries such as France and Germany that have private insurance does invalidate this observation. Neither has a strong parallel private insurance sector. The primary role of private insurance in France is complementary, to cover the high levels of cost-sharing in the social insurance system. As noted earlier, the primary role of private insurance is substitutive rather than parallel and eligibility is limited to high-income individuals.

if such policies begin to push wait times to levels that affect private demand. It has the potential to create a floor on wait times that would not exist in the absence of the private sector. This implies that, other things equal, the large portion of the population (especially low-income, less-educated members of society) who cannot afford private insurance and who must rely on the public system, is condemned to longer waits than would otherwise be the case.

This is again an area for which there is no direct, rigorous evidence. One can point to evidence consistent with this, such as evidence supporting the manipulation of wait lists and the seeming intractability of wait lists in countries that have promoted the uptake of parallel private insurance, but such evidence falls well short of that required to confirm that above analysis.

(ii) The Political Economy of Mixed Systems of Health Care Finance

A second longer-term detrimental effect on the public system can arise through the political economy of public and private financing. As we have documented, the predominant purchasers of private insurance and users of private care are higher-income, better-educated individuals. Over time, as they rely more heavily on private care, two things can happen: (1) their advocacy for quality in the public system withers away; and (2) their willingness to support the public system financially, through taxes, erodes. As a result, over time, quality falls in the public system.

These types of effects are predicted by economic models of mixed systems of finance (e.g., Epple and Romano 1996) in which the logic of the argument is that under a system that permits private purchase, higher-income voters will prefer a lower level of public health care spending, choosing to supplement public spending with private purchases. Empirical evidence regarding this effect is very limited, but evidence from four settings is consistent with this effect.

- In an analysis of health care spending across countries in the Organisation for Economic Co-operation and Development, Tuohy, Flood, and Stabile (2004) found that the existence of private insurance tends to lead to future reductions in public spending.
- In a study that controlled for problems of simultaneity between insurance status and support for the public system (i.e., each influences the other) and for individual socio-economic factors, income and insurance premiums, Costa-Font and Jofre-Bonet (2008) found that demand for private health insurance negatively affects individuals' propensity to support the Spanish public system.
- Two studies from the UK find suggestive evidence that those individuals who opt out are less willing to finance the NHS in those areas that they do not use (Hall and Preston 1998, Burchardt and Propper 1999).

In addition to the individual-level political dynamics under parallel systems of health care finance, the parallel private insurance industry could be expected to advocate, on its own behalf, for a larger role for private insurance and for public subsidies. Evidence supporting this claim comes from the observed behaviours of private actors in relation to other publicly administered services that have undergone recent privatizations, such as education and criminal justice in both the United States and the UK. Private educational institutions and private prison contractors, for instance, have been found to consistently advocate for and demand public subsidies, and have sought to expand their market opportunities and profit margins by breaking down traditional public sector monopolies through the use of lobbying and campaign contributions (Nathan 2003, Vergari 2007, Fulcher 2012). It is reasonable to expect that a parallel private insurance industry would behave in a similar manner.

4 DISCUSSION

Arguments in favour of permitting parallel private insurance in Canada are of two general types: libertarian-flavoured, rights-based arguments that individuals have a right to be able to purchase such insurance, regardless of any ensuing effects on the broader health care system; and instrumentalist arguments which assert that allowing parallel private insurance will improve the functioning of the health care system. The former have gained little traction in Canada. The debate about parallel private insurance in Canada has therefore centred on the effects of such insurance on the functioning of the health care system, and the publicly financed system in particular.

The precise impact of parallel private insurance would depend importantly on the specific regulations associated with its provision, but this review of current evidence from countries that do permit such insurance provides little basis for believing that its introduction would generate the benefits promised by advocates, but rather that it most likely would harm those who must rely on the public system. Certain segments of society would benefit by its introduction: typically (but not exclusively) better educated, high-income, middle-aged, healthy individuals who both can afford such insurance and meet eligibility requirements set by insurance companies. Unless explicitly prohibited by regulation, private insurance companies consistently exclude from private coverage pre-existing conditions, chronic conditions, and the elderly. The image of widespread benefits for society, and especially for elderly with high needs related to chronic conditions, is an illusion.

The evidence is unequivocal that parallel private insurance will not solve wait-time problems within the Canadian health care system. Again, while the precise effects on wait times in the public system

would depend on specific regulations regarding both the insurance and providers, current evidence indicates that the introduction of parallel private insurance would not reduce wait times in the public system. Furthermore, it indicates that there is a real chance that it would increase wait times. This is a sense in which it can harm those who must rely on the public system.

It is not possible to completely avoid such negative spillover effects by creating a “fully independent” private system. Interactions will arise even if, for instance, dual practice is not permitted, there are no shared facilities, and private providers indemnify themselves against costs for the public system that could arise, for example, when a privately treated patient develops a serious complication that requires admission to a public facility (e.g., serious stroke while receiving privately a minor surgical intervention). The interactions will arise because the two systems will draw on the same pool of production inputs, creating unavoidable interactions and spillover effects between the two systems, even if only through their effects on market prices.

The single most important thing that can be done to reduce calls for parallel private insurance in the Canadian health care system is to reduce wait times and improve access. By far the single largest source of demand for such insurance is the desire to avoid waits in a public system. Most people demand such insurance not because they perceive differences in the quality of clinical care between the public and private systems (if this were the case, they would not pay privately, as they do in many countries, to obtain private care provided by the same physicians in the same facilities as the public system); most demand such insurance to ensure they will have timely access to care for which long waits are possible in the public system. Reducing waits in the public system requires a coordinated set of policies unrelated to health care financing (Siciliani, et al. 2013).

Table 1: Reasons for Seeking Private Care, UK

Reason	% of patients (n = 649)
Avoid NHS waiting lists	61.5
Use private insurance	38.2
Better environment	28.5
Choice of admission date	25.4
Better care	21.0
Negative experience of NHS	8.9
Choice of consultant or hospital	6.9
Other	2.8

Source: Higgins and Wiles (1992)

Table 2: Coverage for Pre-existing and Chronic Conditions, Selected Countries

Country	Pre-existing Conditions	Chronic Conditions
UK	<p>Pre-existing conditions are normally excluded from coverage. Such exclusions are assessed through one of two methods of underwriting:</p> <p>a. <i>Full underwriting</i>: Patient must provide full history; insurer will usually contact GP (General Practitioner) to verify information; insurer will explicitly specify conditions excluded from coverage based on this medical history.</p> <p>b. <i>Moratorium underwriting</i>: No medical history is taken at time of purchase. Relevant history is taken at time of claim. Insurer automatically excludes any condition that existed five years prior to the purchase of insurance. A condition can become eligible for coverage if no symptoms are experienced or services received for two years following purchase of insurance.</p>	<p>Typically excluded, offered limited coverage, which excludes the condition, or charged a higher, risk-adjusted premium. However, some insurers may cover unexpected acute flare-ups of a chronic condition until the condition is re-stabilized.</p>
New Zealand	<p>Pre-existing conditions are typically excluded. In some cases a pre-existing condition may be covered, but the beneficiary will be charged a higher premium. Further, a pre-existing condition excluded at the time of purchase may become eligible for coverage if no claims are made in relation to a condition for a specified number of years. All such judgments related to coverage and/or premiums are made at the discretion of the insurer.</p>	<p>Typically excluded, offered limited coverage, which excludes the condition, or charged a higher, risk-adjusted premium.</p>
Australia	<p>Coverage for pre-existing conditions are subject to a one-year waiting period.</p>	<p>Cannot be excluded due to the community rating system, instead individuals are subject to a one year waiting period before the condition is eligible for coverage.</p>
Ireland	<p>Coverage for pre-existing conditions are subject to a waiting period that depends on an individual's age:</p> <ul style="list-style-type: none"> • Under age 55: 5-year wait • Age 55-59: 7-year wait • Age 60 or over: 10-year wait. 	<p>Cannot be excluded due to the community rating system. Coverage subject to a waiting period that depends on an individual's age.</p> <ul style="list-style-type: none"> • Under age 55: 5-year wait • Age 55 to 59: 7-year wait • Age 60 or over: 10-year wait.

Sources: Association of British Insurers 2012, Bupa Australia 2013, Bupa United Kingdom 2013, Health Funds Association of New Zealand 2013, Laya Healthcare 2013, Sovereign Services Limited 2013, Vhi Healthcare 2013.

Table 3: Conditions and Services Commonly Excluded by Parallel Private Insurance

- Pre-existing conditions
 - Chronic conditions
 - General Practitioner visits/routine medical examinations
 - Emergency Room visits/services
 - Treatment for alcohol/drug abuse
 - Treatment for HIV/AIDS
 - Psychiatric treatment
 - Rehabilitation care
 - Normal pregnancy
 - Gender reassignment (sex change)
 - Cosmetic treatments
 - Organ transplant
 - Injuries sustained while participating in dangerous hobbies (often called hazardous pursuits)
 - Mobility aids, such as wheelchairs
 - Dental services
 - Prescription drugs and dressings, after leaving hospital or as an outpatient
 - Deliberately self-inflicted injuries
 - Infertility treatment
 - Experimental or unproven treatment or drugs
 - Kidney dialysis
 - War risks
-

Sources: Mossialos and Thomson 2004, Association of British Insurers 2012, Health Funds Association of New Zealand 2013

Table 4: Wait Time in Days, Public and Private Patients in New South Wales, Australia

	Referral and Specialty Hospitals		Large Urban and Regional Hospitals		Medium Urban and Regional Hospitals	
	Public	Private	Public	Private	Public	Private
Urgency Category						
< 7 days						
Mean	5.0	4.1	6.9	3.4	9.2	5.7
Median	2	3	3	4	3	4
Percent > 7 days	12.4	9.5	18.3	9.5	19.3	11.2
7 – 30 days						
Mean	39.7	24.5	45.9	21.8	41.0	21.8
Median	20	16	25	14	21	18
Percent > 30 days	33.0	23.8	39.8	19.7	29.7	17.5
30 – 90 days						
Mean	112.1	56.8	107.1	47.7	72.6	51.6
Median	63	41	59	33	49	40
Percent > 90 days	35.7	14.1	34.5	10.6	23.2	14.0
90 – 365 days						
Mean	215.2	82.6	223.0	72.5	180.3	100.7
Median	126	43	164	51	138	64
Percent > 365 days	21.0	3.4	21.6	2.6	11.9	3.4

Source: Johar and Savage (2010)

Table 5: Impact of New, Higher Paying Private-sector Opportunities on Physician Labour Supply

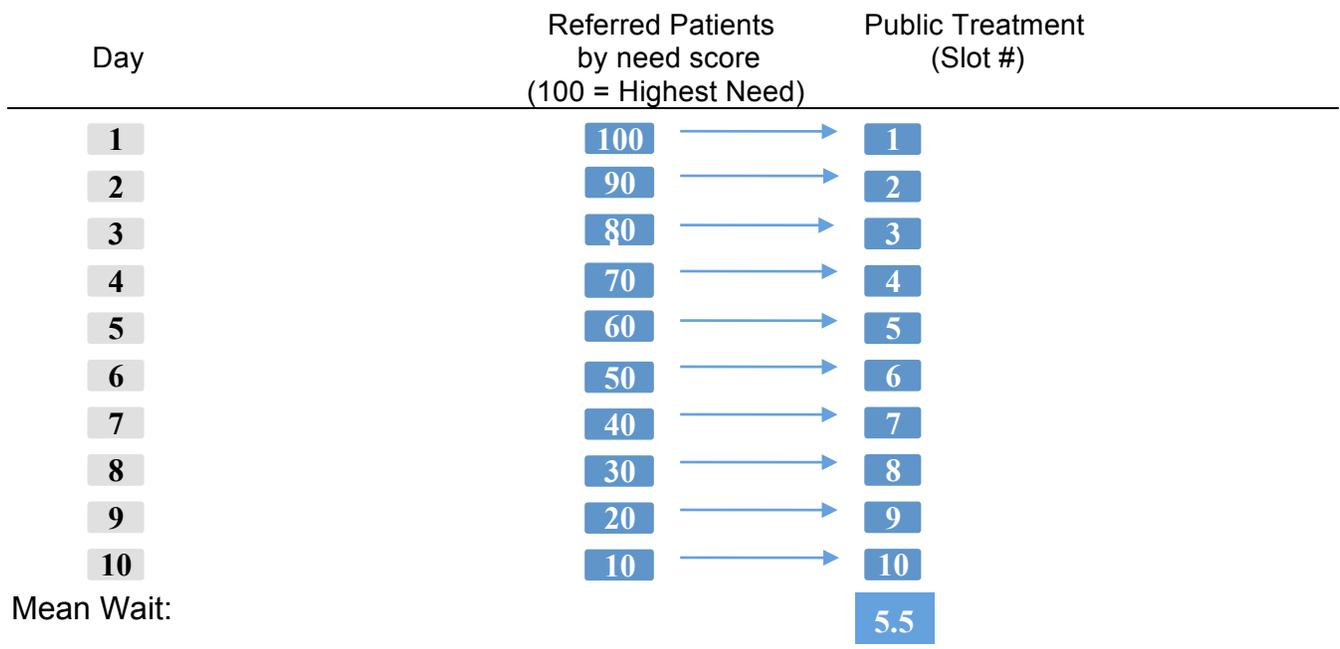
Predicted Impact on Total Time Devoted to Work

- Income effect > Substitution Effect → decrease hours of work
- Income Effect = Substitution Effect → no change in hours of work
- Income Effect < Substitution Effect → increase hours of work

Predicted Impact on Time Devoted to Direct Patient Care

- Increase time devoted to providing direct patient care in the private sector
 - Decrease time devoted to providing direct patient care in the public sector
- Ambiguous prediction regarding total amount of time spent on direct patient care, but unambiguously predicts a reallocation of time spent in direct patient care from the public to the private sector
-

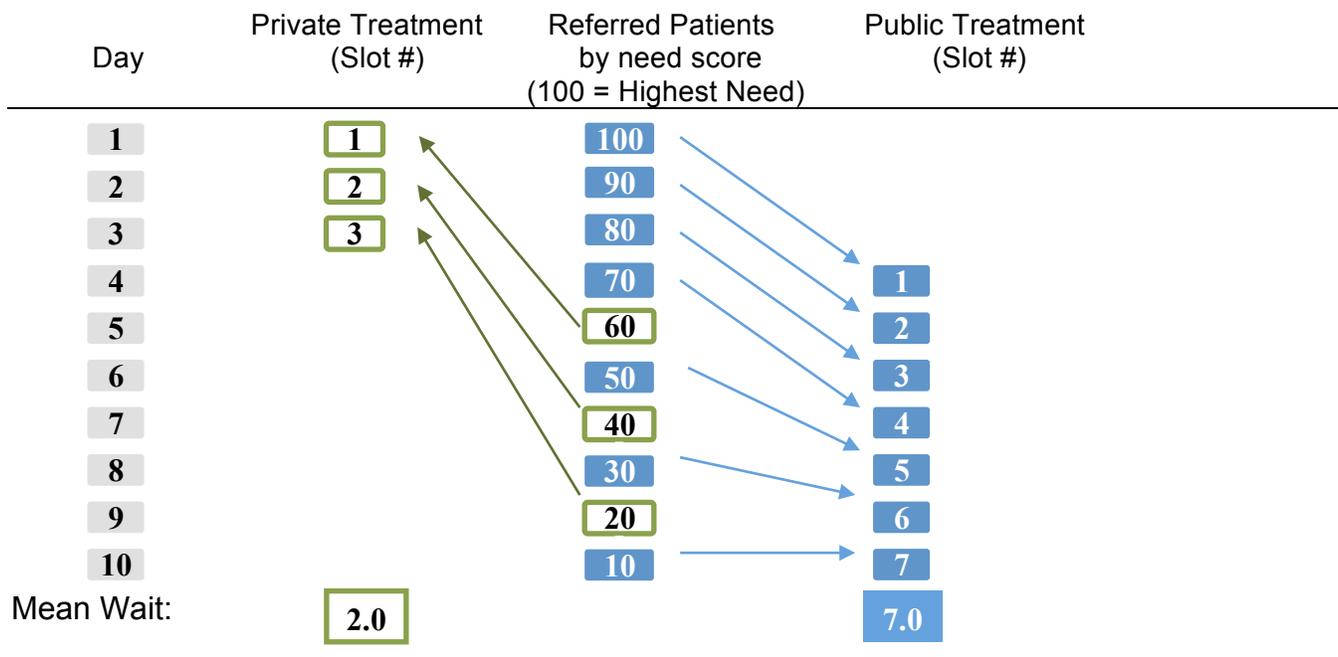
Figure 1: Baseline Scenario: Public Only Need-Based Prioritization



Mean Wait Across All Patients: 5.5
 Total Slots (Public): 10
 Total Patients (Public): 10

■ Public System Patients

Figure 2: Parallel Finance Scenario 1: Reallocation from Public to Private



Mean Wait Across All Patients: 5.5
 Total Slots (Public + Private): 10
 Total Patients (Public + Private): 10

■ Public System Patients
 □ Private System Patients

Figure 3: Parallel Finance Scenario 2: Increase Supply in Private Market

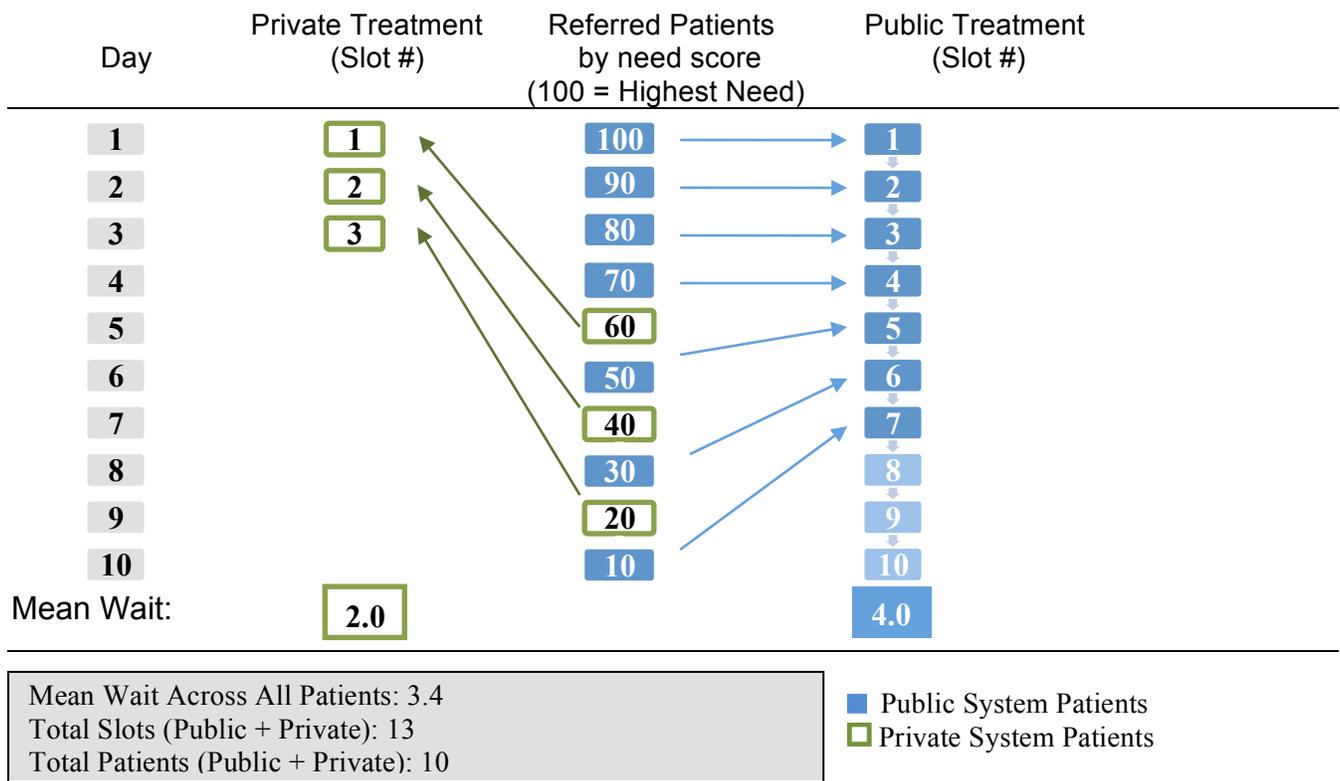


Figure 4: Parallel Finance Scenario 3: Increased Total Supply, Decreased Supply in Public Sector, and Increased Private Demand

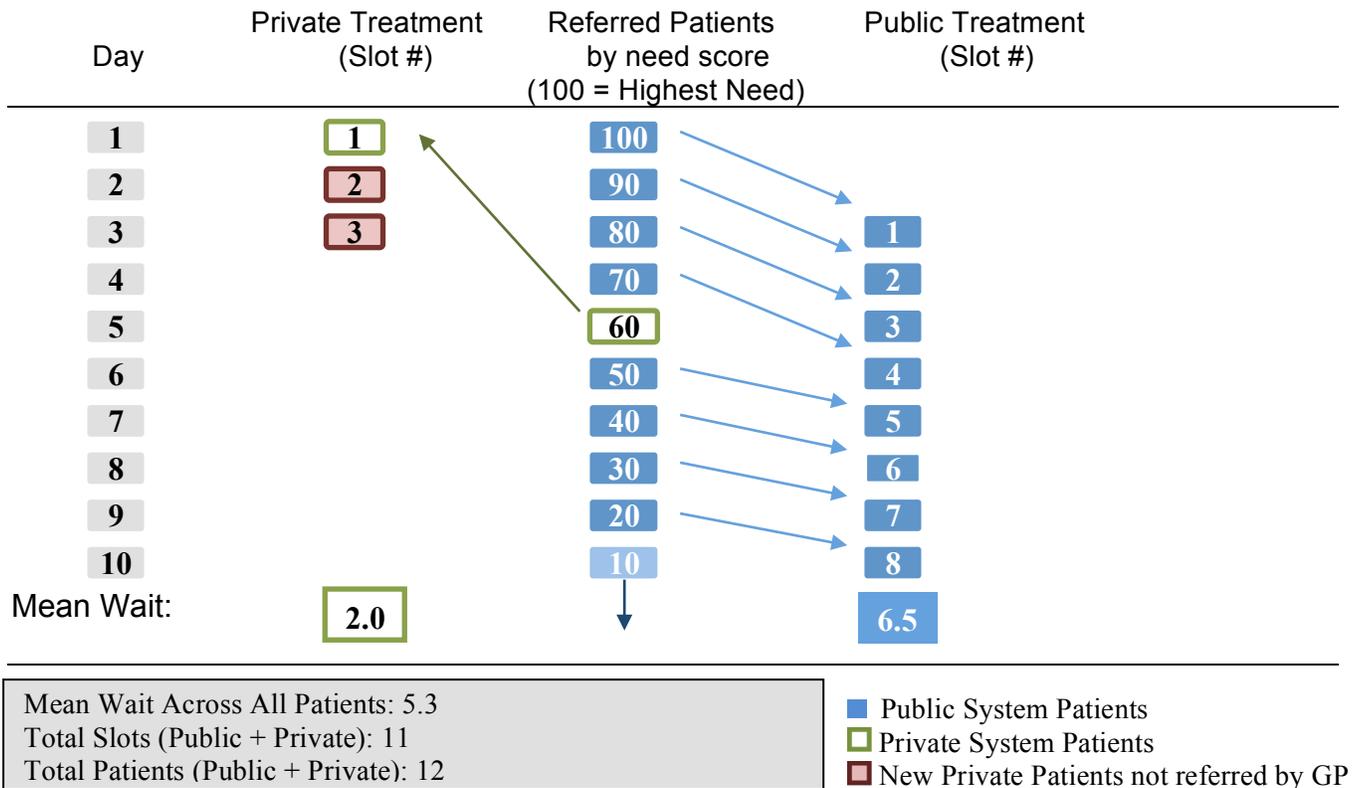
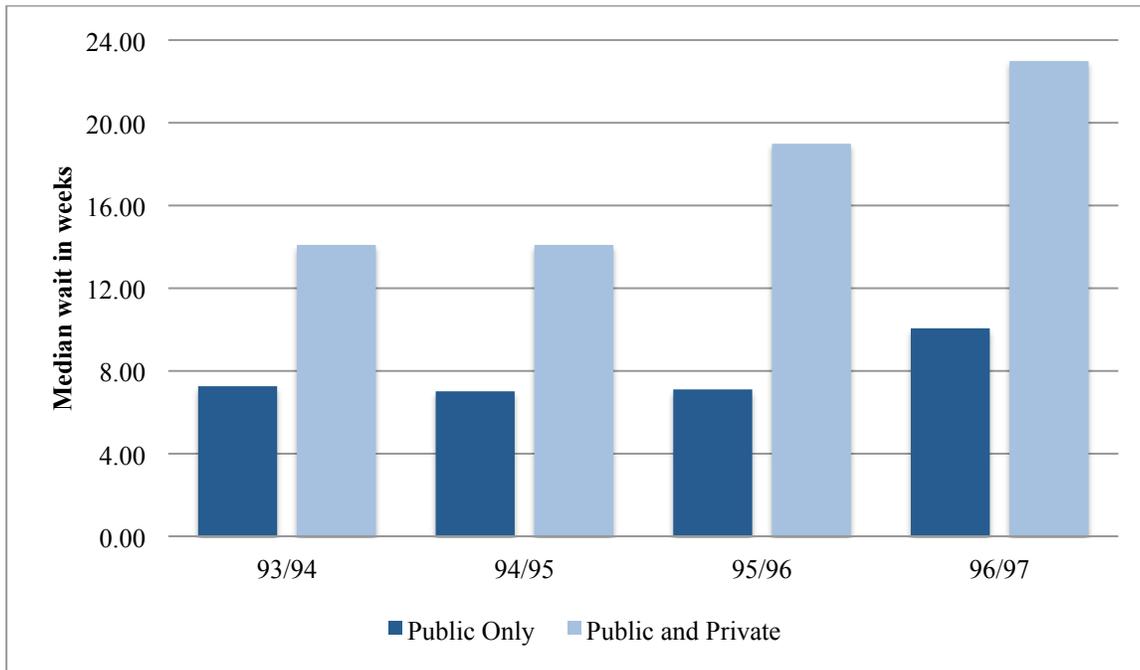


Figure 5: Wait Times for Public-sector Patients, Cataract Surgery, by Status of Physician, Manitoba



Source: DeCoster et al. (1998)

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