

**THE PUBLIC PURCHASE OF
PRIVATE SURGICAL SERVICES:
A SYSTEMATIC REVIEW OF THE EVIDENCE
ON EFFICIENCY AND EQUITY**

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SUMMARY OF FINDINGS

The main findings of this study are:

1. There is no published study of the efficiency (i.e. cost and quality) of the purchase of surgical services from private facilities by public funders, such as regional health authorities (RHAs). Although the popular perception may be that there is a lot of evidence on this issue, from the empirical literature comparing for-profit versus not-for-profit hospitals in the US, it is argued this literature is of quite limited applicability for a number of reasons expanded upon in this report.
2. Purchasing of private care by RHAs occurs in several other countries (e.g. UK and Australia) with health care systems similar to that in Canada. The amount of business which private facilities receive from health authorities in other countries is very small. In such countries, services provided publicly can also be purchased privately, and it is through the private purchase of these services where facilities raise the vast majority of their revenues. This is not possible in Canada. Within the current system, the only way that extra revenue-raising activities could be undertaken by private facilities would be to offer enhanced and/or uninsured services.
3. There is some suggestion that private surgical facilities may provide faster access to those who pay. In Canada, private facilities (as well as public facilities) do offer enhanced services. If enhanced services are of higher quality and private facilities allow people who choose enhanced services to have quicker access, then access and quality of care received will be based on ability to pay. Under this scenario, a two-tier system, including 'queue jumping', could arise which would be against stated (Alberta) Government policy. Furthermore, a policy dilemma may be created if the only way that private facilities can survive financially is to be able to offer enhanced services. An explicit process is needed to define and monitor on what terms those enhanced services are offered to patients.
4. Provision of private sector beds is associated with longer waits for care in public hospitals, in systems which allow patients to privately purchase insured services and allow physicians to operate in both the public system and the private system (unlike Canada). It is unclear whether long public sector waits lead to more private bed provision or *vice versa*, or both.

However, if more private provision leads to longer waits in public hospitals, problems with two-tier health care will be exacerbated. These same incentives, albeit to a lesser extent, may be present in the Alberta context.

5. There were very few studies of the public purchase of private services for non-surgical procedures. In short, the evidence on costs is equivocal (private providers being more costly in one study and less so in another). Concerns with quality of care have been raised with respect to private obstetric services (one study) and for-profit provision of dialysis care in the US. However, the dialysis studies were not unanimous in this respect and in some cases the quality component related to choice of treatment modality which may not be an issue in the type of surgical services relevant to Bill 11.
6. It is possible to obtain faster service for non-surgical procedures, such as magnetic resonance imaging (MRI), by purchasing it in private clinics. This relates to surgical services too, in that, if patients can get through the diagnostic (i.e. MRI) phase quicker, they may also receive quicker access to surgery. This points to a potential gap in the proposed legislation.
7. Putting the issue of applicability aside, the for-profit versus not-for-profit hospital literature is also largely inconclusive. The broad conclusion is that, if anything, for-profit hospitals are less cost-efficient than not-for-profit hospitals, and that costs to purchasers are higher. However, controlling adequately for quality of care and other market characteristics is a continuing concern in these studies.
8. Because the studies found were not unanimous in support or against contracting out of surgical services, the results presented in this paper demonstrate the importance of systematic review of the literature to address such important policy questions.
9. Given the lack of empirical evidence regarding the effectiveness of contracting out, and the potential issues associated with the provision of enhanced services, a process is needed to consider proposals to contract surgical services to private providers. This is what the Alberta government's proposal seeks to put in place. Given the issue raised in point 6, perhaps the legislation should cover a broader range of services beyond surgery.

1. INTRODUCTION

In November of last year, the Alberta Government released its policy statement on the delivery of surgical services [1]. The legislation for this policy, Bill 11, has now been passed in the Legislative Assembly. The premise underlying this type of proposal has received support from the World Health Organisation, which claims that, under "New Universalism,....services may be offered by providers of all types" [2].¹ Yet, the Alberta Government document has led to considerable debate in Canada about "privatisation of health care", the "breakdown of Medicare" and the introduction of a "two-tier health care system", largely because the Canadian public is not used to having hospital services provided privately.

Part of this debate has included the presentation of evidence, from left- and right-wing think tanks, on the potential effects of the policy [3,4]. The conclusions reached in these reviews are conflicting. This is due, in part, to such conclusions being based on selected evidence rather than on a thorough review of the literature, as well as the inclusion of studies which have taken place in contexts different to that in Alberta.

The aims of this paper, therefore, are:

- (1) to conduct a systematic review of the literature, and
- (2) to select studies for detailed review and assessment which are specific to the Alberta policy [1], which states that "a regional health authority may, subject to the approval of the Minister, contract with a private provider (either profit or not-for-profit) for the provision of surgical services" (paragraph 4.1).

In the following section, we outline the efficiency and equity criteria used to assess the proposal to permit contracting out of surgical services. This is followed by a brief description of the methods used in our systematic review. In the fourth section of the paper, the results of the review are presented, and some concluding comments are offered in section five.

¹ It should be noted that this policy recommendation also includes universal coverage and no user charges! Universal coverage may be for a limited range of services, with the possibility that the remainder are funded through private "prepayment". Of course, this recommendation leaves a lot unsaid, such as how to define what is covered and what is not.

2. EFFICIENCY AND EQUITY IN HEALTH CARE

2.1 Efficiency

The main type of efficiency that will be addressed is ‘technical’. Given the diminished role of the consumer in health care, decisions affecting both allocative efficiency (i.e. what types of health care to provide) and technical efficiency (i.e. how best to provide each type of health care) rest largely with health care providers and regional health authorities (RHAs) working in a regulated environment.

In addition, much health care remains unevaluated. This makes it difficult to determine what, how much and where health care should be provided. Suppliers do not seem to be able to get this right, as witnessed by variations in surgical rates within countries and by evidence on inappropriateness of care [5]. Thus, the allocative question, “whether hospitals should be doing what they are doing”, for the most part remains largely unaddressed in the health economics literature in general. In the hospital sector, it is easier to focus on technical efficiency in answering “how well are hospitals doing what they are doing?”, or, more formally, whether hospitals behave in a cost-effective manner.

No single indices of technical efficiency exist. The concept is made up of different components. Therefore, in examining technical efficiency (i.e. whether a surgical service is more or less cost-effective when provided privately), evidence on the following factors was sought:

- cost per day;
- cost per case (mainly as reflected in length of stay);
- effects on total hospital costs (mainly as reflected in hospital throughput);
- quality of care (however measured); and
- effects on health outcome.

If the policy of contracting out were to perform better on at least one of these factors and no worse on the others, it would be judged unambiguously to be more technically efficient.

2.2 Equity

With respect to equity, the key aspect of the Alberta Government's proposal [1] is that:

- “contracted providers will be prohibited from charging any fee (including a facility fee) to insured persons for an insured surgical service beyond those set out in the Alberta Health Care Insurance Plan. There will be no two-tier medicine and no queue jumping” (paragraph 4.2).

The document goes on to outline the criteria which the Minister of Health and Wellness must consider in deciding whether or not to approve a contract between a RHA and a private provider and the role of RHAs in co-ordinating the delivery of uninsured surgical services.

Of the five “pillars” of the Canada Health Act, those on public administration of the provincial plan and portability of benefits across provinces are not relevant to the Alberta proposal. The proposal does, however, touch upon comprehensiveness, universality and accessibility. The key phrases under each of these criteria are that “reasonable access” to “medically necessary” hospital and physician services will be provided to 100 per cent of the insured population “under uniform terms and conditions”.

For the remainder of this paper, two-tier medicine will be defined as differential access to medical care based upon ability to pay. This can include access to better quality of care, or access to quicker care. This latter form of two-tierism is what is often referred to as queue-jumping.

It is against these phrases and criteria that the equity aspects of the Alberta proposal should be assessed. Of course, there is already some understanding that conditions cannot be completely uniform in the public system since, for example, it is accepted that people in rural areas will tend to have lower access than is typically enjoyed by urban residents. However, the question is whether the Alberta proposal would alter the existing terms and conditions of

reasonable access, and increase the extent to which two-tierism exists within our health care system.

Economists have a simple classification of the public-private mix in the financing and organisation of health care, which can be used as a starting point in assessing the Alberta proposal [6]. The taxonomy states that health care can be financed in two ways; either public (mainly through taxation) or private (private insurance or payments at the point of delivery). Likewise, health care can be delivered either by public or private facilities or providers. This leads to a two-by-two table of the sort depicted in Figure 1.

Figure 1: Public-Private Mix for Health Care

		PROVISION	
		Public	Private
FINANCING	Public	(1)	(2)
	Private	(3)	(4)

Despite its apparent simplicity, the important point here is that in health care ‘private’ and ‘public’ are not all-or-nothing concepts. Health care systems can not be characterized as belonging to one quadrant alone, but rather by the mix of services in various quadrants. For example, it is possible for private funders (i.e. insurance companies or individuals) to purchase services from public hospitals, as in quadrant (3) of Figure 1, and for public funders (like RHAs) to purchase services from private providers, as in quadrant (2). Quadrant (2) is the one into which the Alberta proposal appears to fall; a RHA can “contract with a private provider...for the provision of surgical services”.

How does each quadrant in Figure 1 match up in terms of two-tierism? The dominant system in Canada at present is public finance with mixed sources of provision, that is quadrants (1) or (3). It should also be recognized that there is a significant amount of health care which is

privately financed, either out-of-pocket by consumers or through the purchase of supplementary insurance for extended health benefits. This includes things like drugs, dentistry, vision care, private rooms in hospital. Primarily public financing of health care provides the right to access regardless of ability to pay.

Conversely, private financing of care, irrespective of who is responsible for the provision of services, is more likely to lead to access based on ability to pay. Indeed, experience from the US shows that some groups have no coverage at all and are responsible to pay out-of-pocket for all health expenses, which severely limits access to care [7]. Even amongst those with health insurance coverage, there is likely to be great variation in terms of access to care, depending on which type of coverage one has. Thus, two-tierism is highly likely to arise in quadrants (3) and (4).

The question, therefore, is whether the characteristics of the Alberta proposal, will alter the extent of two-tierism which exists currently. At first glance there is no reason why the private provision of publicly funded surgical services, which falls into quadrant (2), could result in increasing two-tierism. Finance of services remains tax-based and referral will continue to be determined by clinical need. This is no different from the provision of family medicine, most diagnostic services, and day surgeries which already fall into quadrant (2).

Complications may arise, however, because surgeons are permitted to offer ‘enhanced medical services’ in private (and public) facilities. With respect to the proposed legislation, the complication is that the incentives to offer such services may be greater in private facilities than they are in public facilities. It has been suggested that this is currently the case in Alberta [8]. Examples of enhanced services within surgical services are a basic lens replacement or bone joint prosthesis which is insured publicly (i.e. through Medicare) with a ‘higher quality’ lens or prosthesis which could be obtained by the patient if s/he pays for it privately. With the existence of enhanced services, the proposal (potentially) effectively involves a mix of quadrants (2) and (4). This could result in an increase in the extent of two-tierism: the access to better quality care is dependent on ability to pay for it.

Another aspect of the potential problem of with enhanced services is if there are longer waiting periods for the basic (publicly-) insured service. The patient may then be offered a

choice between waiting for 3 or 6 months, for example, for care provided publicly or to have the enhanced service sooner. Thus, the package of enhanced medical services includes both an upgraded service and faster access to care (i.e. queue jumping) for those willing and able to pay. This would potentially contravene the stated Alberta Government policy.

It is important, therefore, to examine the experience in other jurisdictions with respect to equity. To cover all of the above concerns, this will involve reviewing evidence on:

- whether services are provided more or less in accordance with need;
- overall effect of the policy on waiting lists, and, therefore, access to care;
- whether services are provided more or less in accordance with ability to pay; and
- whether the policy leads to different levels of quality of care being offered (to different groups of patients) and/or to ‘queue jumping’?

3. METHODS

3.1 Search Strategy

The literature reviewed in this report was obtained from a number of sources. These included: online bibliographic databases; review of reference lists from a number of recent reports on this subject; references cited in papers obtained for the study; publications referred to us by other researchers working in this area, and, papers identified through Internet searches.

Literature searches were run on a number of biomedical, economics and research databases, including:

- PubMed;
- MEDLINE;
- HealthSTAR;
- BIOETHICSLINE;

- The Cochrane Library;
- EMBASE;
- CINAHL;
- ABI/INFORM;
- EconLit;
- the databases of the National Health Service Centre for Reviews and Dissemination (DARE, HTA and NHS EED);
- NTIS (National Technical Information Service); and
- Dissertation Abstracts.

The databases searched, keywords used, and numbers of publications identified by each search are described in Appendix A. Where possible, searches were restricted to studies published from 1980 to date. Search results were reviewed by one, or both, of the authors. Due to time constraints, only English language publications were selected for review.

3.2 Categorising Papers

The strategy taken for reviewing full copies of articles was to divide them into three categories. Priority was given to reviewing these three categories as follows:

- 1) First priority was given to studies involving the contracting out of surgical services by a public funder to a private provider of care. Within this category, highest priority went to studies which were comparative in nature (i.e. which tried to 'control' for potential confounding factors, such as severity of illness). Next were descriptive studies and opinion pieces within this category.
- 2) Second priority was given to studies of other procedures (e.g. gynaecology services, treatment for chronic renal failure), with the same prioritisation of sub-categories as for surgical services.

There is a large body of literature from the United States on the effects of hospital ownership (e.g. for-profit versus not-for-profit) on the outcomes listed in the previous section. This literature has been thoroughly reviewed in two well-known studies, one by the US Institute of Medicine and the other by the New York Academy of Medicine [9,10]. It is this literature on profit versus not-for-profit hospitals which has been often quoted in the public debate on Alberta's Bill 11, and from which other reviews of the policy have been based [3,4].

We argue that much of this literature is not relevant to the assessment of the Alberta government's policy on private purchase of publicly insured surgical services. First, and most basically, these studies assess the impact of ownership status of *full-service hospitals*, whereas Bill 11 relates to contracting out of some publicly insured surgical services. These are different questions. Where there is US evidence on public bodies purchasing care from private providers, this is included in the first or second categories of studies - see above.

Secondly, while some studies have shown for-profit hospitals to be more costly than not-for-profit hospitals, other things being equal, the US context is different. The main objective of for-profit hospitals is to make profits. This is achieved, in part, by selling services, the characteristics of which are not necessarily accounted for in empirical studies. In the context of this market-oriented environment, these hospitals cannot be criticised for selling a service for which consumers are willing to pay. This is like criticising Rolls Royce or BMW as being inefficient because they sell expensive motor cars! The fact that many for-profits show higher margins of surplus than not-for-profits would seem to indicate that they are, in some sense, more efficient, even if more costly.

It is our view that this literature is not directly relevant to the question being addressed here. However, in light of the fact that this literature has been quoted, often selectively, in other reviews, in this report:

- 3) the third priority is to present a count of how many such studies were favourable to for-profits, not-for-profits or were indeterminate on the criteria of cost and quality of care.

4. RESULTS

4.1 Results from The Search

As can be seen from Table 1, in total, the searches identified over 3,000 references. Search results were imported into a Reference Manager™ database. Duplicate references were eliminated leaving approximately 2,000 unique references, of which, just over 300 were selected and obtained for analysis.

Inevitably, even after reviewing abstracts, many of the articles received were irrelevant to the question addressed or just too general. After reviewing papers, it was determined that twenty papers were relevant under the first two categories identified in sub-section 3.2, and thirty-four papers under the third category identified in the same section.

Table 1: Results from The Search

Stage of search	Number of titles
Number of publications identified (including duplicate citations) ¹	3149
Number of full references requested	309
Number of requested articles of relevance to contracting out of surgical services (comparative studies)	3
Number of requested articles of relevance to contracting out of surgical services (studies of activity/descriptive studies) ²	9
Number of requested articles of relevance to contracting out of other medical procedures (comparative studies)	8
Number of requested articles comparing profit versus not-for-profit care	34

¹ This figure does not include papers identified through other reference lists, contact with other researchers and general Internet searches. The number of references in the Reference Manager database is 1981. The list of 329 full articles read by the authors is contained in Appendix B.

² This figure includes only those studies referred to in this paper. Many more exist, and are contained in Appendix B.

4.2 Contracting Out of Surgical Services: The International Experience

The literature shows that there is no doubt that publicly-funded health authorities in other countries do contract out surgical services to private providers. A recent survey, conducted in England and Wales in 1997-8, shows that publicly-funded (i.e. National Health Service) patients made up 11 per cent of residents treated in private hospitals [11], about double the rate since 1992-3 [12]. UK general practitioners who hold budgets for the treatment of their rostered patients have been shown to contract with private providers for several types of surgery [13].

Likewise, small proportions of total admissions to private facilities in Australia and New Zealand are paid for by the main public service (e.g. a RHA) [14-17]. In Italy, however, a higher proportion of publicly-financed activity is provided in private facilities (24.5 per cent in 1990) [18].

In these studies, no indication is given as to why surgical services are contracted out. Presumably, at the time the decision was made, the action of contracting out was believed to be capable of meeting some objective(s) of the RHA concerned; whether these be cost savings, improved access, to meet a political or ideological aim or some other objective.

Two other points are worthy of note, at this stage. First, in each of the countries mentioned above, the vast majority of care in the private sector was funded through private insurance. For example, in England and Wales in 1997-8, the proportion of patients who paid through private medical insurance for services excluding abortion varied from 75 to 85 per cent, depending on region [11]. The same is true for Australia, New Zealand and Sweden [14,15,19]. This demonstrates that, to survive financially, private facilities in these countries depend on being able to offer services for payment through non-public means.

Secondly, in such countries, it is legal to insure privately for coverage for services provided through the public system; indeed, it is legal to have private insurance pay for such services in public hospitals. In Canada, neither of these is legal. The only services which can be paid for privately are enhanced services, i.e. those which are not covered under the public system.

Thus, although contracting out of surgical services to private providers happens in health care systems which we would regard as similar to our own, and assuming that the RHAs concerned made good decisions in terms of cost-effectiveness, these two points raise the following important questions:

- Can private facilities in Canada survive if they can obtain funds for overnight stays only from RHAs?²

² Indeed, according to Bill 11, the definition of procedures for which overnight stays will be permitted is restricted to "minor surgical procedures" which is likely to be even more limiting for private providers. However, given these limitations, if private providers can not survive financially then presumably none would bid on the contracts.

- if private facilities offer enhanced services to increase profits, will this be interpreted as a form of two-tierism (as it may involve higher quality care and possibly faster access to care based on willingness and ability to pay)?

4.3 Evidence on Surgery

The comprehensive search conducted in this project showed that there is no study of the efficiency of contracting out of surgical services to a private hospital by a public funder, such as a RHA. There were no comparative studies of effects on cost per day, cost per case, total costs, quality of care or health outcome. On this last point, it seems that in no country is there a system in place to monitor costs, quality of care or outcomes in private providers. Of relevance to the Alberta context, it is important to note in writing contracts with private providers, the RHAs should ensure that they build in specific reporting requirements, which will enable these issues to be monitored.

With respect to equity, there are no studies of the impact of contracting out on whether services are provided more or less in accordance with need. However, on other aspects of equity, three important studies are worth mentioning [20-22]. These are summarised in Table 2.

Yates's famous book, "Private Eye, Heart and Hip: Surgical Consultants, the National Health Service and Private Medicine", highlights some important issues with respect to the proposal on contracting out [20]. He sought to examine whether or not patients and the National Health Service (NHS) itself suffer from the way private surgery is conducted in the UK. Results from several studies in which he participated are reported on. Most of these used standard methods. But, in order to piece together an accurate picture of how NHS consultants spend their time one study involved 'private detective' work, whereby students and volunteers were employed to collect (systematically) data on hours of availability in public and private clinics etc. They did this by a mix of techniques; mainly telephone calls and actually following consultants around. (This aspect of the study formed the basis of a famous TV documentary.) Yates even 'validated' the amateur detective work by employing professional detectives for some of the time!

Amongst other things, the results showed that waiting times for orthopaedic surgeons in Birmingham in 1984 were, on average 10 times longer in NHS clinics than in private rooms, and,

for some specialties, waiting times were longer in 1994 than in 1984. Regions with the most private beds are those with the longest waiting times and specialties with the longest waiting times are those with the highest earnings from private practice.

Conditions which have the longest wait are the mainstay of private sector activity. Best estimates are that surgeons spend about 1/4-1/3 of their time operating on NHS patients. The rest of the time is taken up with other activities, such as ward rounds and no records of private sector activity are kept. So actually knowing what they do with their time is difficult. Best estimates are that consultant surgeons spend 10-30 per cent of their standard working time in private clinics and current interpretation of job plans seem to be that consultants can spend 2-4 half days per week (20-40 per cent) working in the private sector.

Table 2: Effects of Private Surgery on Waiting Lists

Author (year)	Description of study	Results	Comments
Yates (1995)	<p>Examined whether patients and the UK NHS suffer from the way private surgery is conducted in the UK.</p> <p>Methods: Literature review. Surveys of surgeons. 'Private detective' work.</p>	<p>Orthopaedic waiting times are (up to 10 times longer) in NHS clinics than in private rooms.</p> <p>Regions with the most private beds are those with the longest waiting times.</p> <p>Specialties with the longest waiting times are those with the highest earnings from private practice.</p> <p>Conditions which have the longest wait are the mainstay of private sector activity.</p> <p>Best estimates are that consultants spend 10-30% of their standard working time in private clinics.</p> <p>Current interpretation of job plans seem to be that consultants can spend 2-4 half days per week (20-40%) working in the private sector.</p>	<p>In UK, services available 'on the NHS' can also be bought privately.</p> <p>Therefore, not surprising that private activity occurs around areas where the public sector is not delivering, for whatever reason.</p> <p>Difficult to know if surgeons allow NHS lists to rise so as to make private care more attractive.</p> <p>Not clear if the surgeons with higher waiting lists are better (or more popular surgeons) anyway.</p> <p>No evidence on quality of care.</p> <p>Little evidence on workload.</p>
Armstrong (2000)	<p>Examine effect of private provision of publicly insured cataract surgery on costs, waiting lists and quality of care in Alberta.</p> <p>Methods Compared Calgary (where by 1998 all cataract surgery was provided through private surgery clinics) and Edmonton (where only 20% of cataract surgeries are provided through private surgery clinics) in terms of : waiting times; costs; extent of facility fees or 'enhanced' services.</p> <p>Data on waiting times and fees for enhanced services obtained by</p>	<p>Patients experienced longer waiting lists for surgery in public hospitals only if their doctors operated both a public and a private surgical practice.</p> <p>Private clinic fees (1994) higher than average costs at three public hospitals.</p> <p>After 1996, patients in both Calgary and Edmonton were being charged for a special upgraded lens implant.</p> <p>1998 survey reveals longer overall waits in Calgary compared to Edmonton.</p>	<p>No report on how many of the surgeons offered a private option, or what proportion of those reported longer waiting lists for surgery in hospital.</p> <p>"Longer waiting period" not quantified.</p> <p>But, result that doctors who have both a 'public' and a 'private' practice will have longer waiting lists for 'public' patients, than only who only operates in the public sector, has some theoretical basis.</p> <p>Several other possible explanations of the different results found for Calgary and Edmonton were not</p>

	calling surgeons' offices. Costs obtained from 3 public hospitals and data on surgeon and anesthetist fees from Alberta Health plus the estimate of facility fee charged to patients.		addressed: such as case-mix, physician differences, capacity constraints, and the possibility that the waiting list is longer in Calgary because of the popularity of the surgeons there.
DeCoster <i>et al.</i> (1998)	<p>Compared waiting times for cataract surgery in private and public hospitals in Brandon and Winnipeg (1992-3 to 1996-7)</p> <p>Methods Collected data on all surgeries, defining waiting time as from initial outpatient appointment with surgeon to date of surgery</p>	<p>Median wait in private sector was 4 weeks over whole period. Wait in public hospitals varied from 11 to 18 weeks over the period.</p> <p>Surgeons operating only in public hospitals had waits of 7-10 weeks. Surgeons operating in both sectors had public hospital waits of 14-23 weeks</p>	No control for important factors such as case mix, capacity constraints and surgeon quality/popularity.

Armstrong's well-publicised report was conducted for the Alberta Chapter of the Consumers Association of Canada [21]. She sought to examine the effect of private provision of publicly-insured cataract surgery on costs, waiting lists and quality of care in Alberta. The main comparison was between Calgary (where, by 1998, all cataract surgery was provided through private surgery clinics) and Edmonton (where only 20 per cent of cataract surgeries are provided through private surgery clinics, the rest being performed in public hospitals). A mix of publicly-available data and standard consumer association techniques (i.e. having a member of the Consumer's Association of Canada (Alberta Chapter) call surgeons' offices, posing as a consumer or consumer's relative, and asking a series of questions regarding waiting times to appointment, waiting time to surgery and cost of any 'enhanced' service package, if offered) were used to obtain data. One might question the reliability and validity of such data.

From a 1994 survey, patients experienced longer waiting lists for surgery in public hospitals only if their doctors operated both a public and a private surgical practice. Fees (also obtained from the 1994 survey) at private clinics were higher than average costs at three public hospitals. After 1996, facility fees were no longer allowed, but patients in both Calgary and Edmonton were being charged for a special upgraded lens implant. By 1998, all cataract surgeries in Calgary were being done in private clinics as compared to only 20 per cent in Edmonton. Armstrong reports that, in 1998, there were longer waits in Calgary compared with Edmonton, more surgeons in Calgary than Edmonton offered 'upgraded' lens implants, and, when an upgraded option was offered, a higher price was charged by Calgary surgeons.

A recent Manitoban study, by DeCoster *et al.*³, compared waiting times for cataract surgery in private and public hospitals in Brandon and Winnipeg over period 1992-3 to 1996-7 [22]. Data were collected on all surgeries, defining waiting time as from initial outpatient appointment with the surgeon to the date of surgery. The median wait in private facilities was 4 weeks over whole period, whilst the wait in public hospitals varied from 11 to 18 weeks over the period. Surgeons operating only in public hospitals had waits of 7-10 weeks, whilst surgeons operating in both sectors had public hospital waits of 14-23 weeks.

These reports raise many important questions, but do not permit one to draw firm conclusions (in the way that Armstrong did). Despite the innovative methods used in these studies, it is, with the exception of the Manitoba study, not made clear exactly how the data were obtained.

It must be remembered that the UK permits the use of private insurance to supplement coverage by the NHS. Thus, services available 'on the NHS' can also be bought privately. Therefore, it is not surprising that private activity occurs around areas (both geographic and clinical) where the public sector is not delivering, for whatever reason. The problem is in disentangling the 'provider effect' (i.e. surgeons allowing the NHS list to rise so as to make private care, which the surgeons also benefit from, more attractive) from other possible effects. For example, it is not clear if the surgeons with higher waiting lists are better (or more popular). Evidence on quality of care is not presented. Other factors, such as case-mix, physician differences and capacity constraints are also important. Finally, part of the explanation of waiting lists lies in the measurement of surgical workload, which is very difficult due to lack of data on complexity, physical resources available and extent of support from junior staff. The applicability to the Alberta context is also limited by the fact that physicians cannot operate 'in the private sector' in the same sense as they can in the UK.

These flaws should not, however, lead one to dismiss these reports. There are serious issues and questions raised regarding the Alberta experience with private provision of a publicly funded service, even if the answers cannot be provided due to study design limitations. These questions

³ This study uses data which are more recent than those from an earlier analysis, the earlier analysis having been published in *Medical Care* in 1999 [23]. We report the later data here.

should be investigated by a government considering further extensions of private provision of publicly-insured health services.

One important issue raised in the descriptive information in the Armstrong report is the potential conflict of interest raised by this type of provision of a publicly-funded service. There is a substantial US literature on conflict of interest resulting from physician ownership of facilities [24-26]. For example, a study by Hillman *et al.* showed that, when comparing physicians with the equipment to perform (and earn income from) imaging examinations and physicians who referred to radiologists for such tests, the former ordered 4-4.5 times more tests and had charges 4.5-7.5 times greater [27]. Of course, in the context of fee-for-service payment, physicians are already placed in a conflict of interest between their patients' best interests and their own financial interest. There exists a code of ethics in the medical profession, which governs this. However as the US experience shows additional regulations are sometimes required. Thus it is important, in the Alberta context, to be aware of the incentives which are being created and to put in place additional regulation as deemed required. The issue of conflict of interest was further expanded upon by the Government's amendments to the original legislation. Secondly, the above studies also raise important concerns about controlling surgical waiting lists. Difficulties with controlling such lists will arise where:

- the need for surgery is difficult to define (Yates quotes evidence on this from several famous studies) and many of the most common procedures fall into this category;
- surgeons have much discretion over who is treated and where they are treated;
- surgeons also have a lot of discretion over how they spend their time.

These characteristics make regulation and monitoring important when surgeons can work for two different employers. The situation in Alberta may not be as extreme, as the publicly provided services cannot be bought privately: there is not the same ability to work in the public sector and the private sector. A private sector does not exist in the Alberta context in this same way. But the same arguments about the incentives of physicians could apply to 'enhanced' services.

Not only will waiting lists be difficult to control, but the evidence suggests that forms of two-tierism may arise in absence of some regulations. Market forces may mean that there is a greater incentive to offer enhanced medical services in private facilities as compared with public hospitals. If patients start requesting such services, they will be offered, and, if surgeons start offering such services, they will be taken up. The forms of two-tierism that may result from this are, firstly, receipt of different quality services according to a patient's ability to pay and, secondly, the potential for receipt of 'enhanced' services quicker (i.e. queue jumping).⁴

This may place policy makers in a Catch 22. As pointed out in sub-section 4.2, sources of revenue other than that from RHAs may be needed for private hospitals to survive financially. However, a major source of such revenue is likely to be 'enhanced' services. This could lead to the forms of two-tier health care listed in the previous paragraph. It may be that some would view such two-tierism as acceptable, in that it results from allowing people (who have already contributed, through taxation, to the public system) to spend their disposable income as they see fit. It is not for the authors to judge, from the perspective of equity, which is the correct policy route. However, what can be said is that incentives may be created which potentially could lead to outcomes contrary to the Alberta Government's stated policy against two-tierism.

The 'missing link' in proving anything conclusive about the association between work in the private sector and waiting lists is data on private sector activity of surgeons. It may be that this should be monitored in Alberta. Other possible regulatory measures to avoid two-tierism would be to build into the legislation a process monitoring the extent and terms of the availability and charging for 'enhanced' services.

4.4 Evidence on Non-Surgical Procedures

Once again, there are no studies of the differences in costs of specific procedures contracted out by a public payer to a private hospital relative to keeping such services 'in-house'.

⁴ Bill 11 states that no person receiving a publicly-insured surgical service will be required to pay for enhanced medical goods or services unless these services are explained to the patient, it is explained why they are being offered and that they are not part of the "medically required" service. This raises an important regulatory issue not covered by the legislation. An explicit process is required to define and monitor what enhanced services are offered to patients and on what financial terms. The difficult questions to answer are the form that this monitoring would take and who would be responsible for it.

At a more general level, however, two studies are of relevance. Hu *et al.* examined effects on costs of mental health care resulting from Californian local government agencies' contracting with private providers [28]. Spending in 58 counties in the State were analysed (see Table 3). Those counties with higher rates of contracting out had lower inpatient, case management, medication and rehabilitation costs. No data on quality of care were available for this study and the data were cross-sectional (i.e. the data provide a 'snapshot' of one point in time, and it cannot be determined whether such cost patterns existed before the introduction of contracting with private providers).

Table 3: Profit Versus Not-For-Profit: Non-Surgical Procedures

Author (year)	Description of study	Results	Comments
Hu <i>et al.</i> (1996)	<p>Compared cost of inpatient care, crisis intervention, case management, medications, rehabilitation and intensive day care resulting from decisions of local authority mental health agencies to contract with private providers.</p> <p>Method Data came from the Cost Reporting Data Collection system operated by the California Department of Mental Health, and were obtained on all 58 counties in 1991. Data account for county and State funds as well as Medicaid dollars claimed by the programs. Regressed cost per case in counties against per capita spending on private providers, controlling for other factors (such as percent living in urban area, income, racial characteristics and Medicaid eligibility).</p>	In 4 of 7 areas of expenditure, the greater the proportion of private contracting the lower the costs. A 10% increase in contracting led to a 3% decrease in inpatient and case management costs.	<p>State hospital data were excluded from the analysis.</p> <p>No data on quality of care/outcomes were available.</p> <p>The data were cross-sectional, so changes over time (i.e. before and after the introduction of contracting) could not be analysed.</p>
Silverman <i>et al.</i> (1999)	<p>To compare total annual per capita US Medicare spending in hospital service areas designated as for-profit (208), not-for-profit (2860) and mixed during 1989,1992 and 1995.</p> <p>Methods The Continuous Medicare History Sample was used to calculate spending rates in each area adjusting for factors such as age, sex, region of US, urbanisation, mortality, number of hospitals and physicians, medical school affiliations, % of beds belonging to hospital chains and HMO enrollment of Medicare beneficiaries.</p>	<p>Per capita spending was greater in for-profit than not-for-profit areas in all three study years:</p> <p>\$4006 vs. \$3554 in 1989 \$4243 Vs \$3841 in 1992 \$5172 Vs \$4440 in 1995</p>	No measurement of differences in quality of care or of differences resulting from selection of location (e.g. not-for-profits tend to locate in less-well-off areas).
Coulter A <i>et al.</i> (1996)	<p>To compare experience of patients seeking treatment for menorrhagia who were referred to NHS and private clinics.</p> <p>Methods Cohort study of 209 patients from 73 general practices in four counties in south-east of England. Followed up at 9 months and 18 months after entry to the study. 150 were referred to NHS and 59 to private sector.</p>	<p>No differences between the groups in terms of symptom severity, reason for referral or treatment received.</p> <p>Patients who went to private clinics were more likely to report greater involvement in treatment decisions and were more likely to be satisfied with the care they received.</p>	<p>The private patients are funded by private insurance (i.e. this is not a situation of a health authority contracting with private providers).</p> <p>This could introduce biases which are difficult to control for, e.g. the types of patient going to the private sector may expect greater involvement anyway – a service private facilities will be happy to provide.</p>

<p>Gregory <i>et al.</i> (1999)</p>	<p>Examined birth experience of Medicaid-insured women in 78 hospitals in Los Angeles County in 1991.</p> <p><u>Methods</u> California discharge data reported on all 98,800 births. Controlled for clinical and sociodemographic characteristics.</p>	<p>Cesarean rate was 2-2.5 times higher in private nonteaching hospitals compared with public nonteaching hospitals (24.5% versus 9%).</p>	<p>Difficult to distinguish between what represents underuse and overuse of Cesareans.</p>
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Silverman *et al.* compared total annual per capita US Medicare spending in hospital service areas designated as for-profit (208 areas), not-for-profit (2860 areas) and mixed during 1989,1992 and 1995 [29]. The comparison of total spending ensured that use of non-hospital services was captured by the analysis. The Continuous Medicare History Sample was used to calculate spending rates in each area. The results showed that per capita spending was greater in for-profit than not-for-profit areas in all three study years: \$4006 versus \$3554 in 1989; \$4243 versus \$3841 in 1992; and \$5172 versus \$4440 in 1995. The methods and results from this study are summarised in Table 3. It was not possible to measure differences in quality of care using this data set. It may also be the case that a selection effect which determines where hospitals choose to locate is affecting this result.

In terms of quality of care and outcomes, relevant studies were found in the clinical areas of gynaecology, obstetrics and dialysis for people with end stage renal disease. From Table 3, it can be seen that Coulter *et al.* compared the experience of patients seeking treatment for menorrhagia who were referred to NHS and private clinics [30]. In this cohort study, 209 patients from 73 general practices in four counties in south-east of England were followed up at nine and 18 months after entry to the study; 150 were referred to the NHS and 59 to the private sector. No differences were found between the groups in terms of symptom severity, reason for referral or treatment received. However, patients who went to private clinics were more likely to report greater involvement in treatment decisions and were more likely to be satisfied with the care they received. However, the private patients in this study were funded by private insurance (i.e. this is not a situation of a health authority contracting with private providers). This could introduce selection biases which are difficult to control for, e.g. the types of patient going to the private sector may be more demanding and expect greater involvement anyway (a service which the private sector will be happy to provide).

In the area of obstetrics, Gregory *et al.* examined the birth experience of Medicaid-insured women in 78 hospitals in Los Angeles County in 1991 [31]. California discharge data reported on all 98,800 births in the County and the data allowed the authors to control for clinical and sociodemographic characteristics. While it is difficult to determine what the appropriate rate of Cesarean section is, the rate was 2-2.5 times higher in private nonteaching hospitals compared with public nonteaching hospitals (24.5% versus 9%), raising doubts about the quality of care provided in the former.

The dialysis studies are summarised in Table 4 [32-37]. Similar to Silverman *et al.*, these studies are from the U.S., but represent cases where a public purchaser (U.S. Medicare) is contracting out services to both for-profit and not-for-profit facilities.

Overall, these results suggest that, faced with the same financial pressures, for-profit facilities respond differently compared with not-for-profits, to the detriment of patient care. This is demonstrated by the higher mortality rates and provision of care less in line with accepted standards in for-profit facilities [32,33,35,36]. It should be noted, however, that one study has shown that for-profits produced significantly more dialysis treatments per month than not-for-profits, the conclusion being that for-profits are more efficient as they produce more output with fixed inputs [34]. Another study has shown that patients receiving dialysis treatment at for-profit versus non-profit facilities did not differ with respect to transplantation rates (a measure of quality of care) [37]. Inclusion of the results from these latter two studies demonstrates the importance of systematic review of the literature, as, without them, all of the evidence (from the other four studies) would appear to favour not-for-profit facilities.

Table 4: For-Profit Versus Not-For-Profit: Services for End-Stage Renal Failure in the US

Author (year)	Description of study	Results	Comments
Schlesinger <i>et al.</i> (1989)	<p>To assess the effects of ownership on clinical decision-making.</p> <p>Methods Regression analysis of treatment type on variables reflecting average patient characteristics, facility characteristics, and the local service area. Used Health Care Financing Administration (HCFA) certification survey and patient survey for first six months of 1981. Both surveys contained data on regional availability of dialysis and transplant facilities. Socioeconomic and local market area characteristics from Area Resource File. These data used to analyze 1050 facilities.</p>	Patients in nonprofit facilities more likely than in investor owned (for profit) facilities to be transferred for transplant or to receive home or peritoneal dialysis.	Cannot determine what level of care is appropriate using the data in this study; so while treatment differences can be pointed out it cannot be determined which type of facility is providing more appropriate care.
Cleary <i>et al.</i> (1991)	<p>To assess, on a regional basis, whether the presence of for-profit providers is associated with the use of ESRD services.</p> <p>Methods Used data from the Census, Area Resource File of the National Technical Information Service and the HCFA on number of patients treated, facility characteristics, information about the sociodemographic characteristics and medical resources in different counties. Regression analysis to test several hypotheses related to the location of dialysis stations, the location of for profit dialysis stations, treatment rates associated with ownership of facilities.</p>	In areas with a higher proportion of for-profit facilities, home dialysis rates are lower and in-unit rates are higher.	Treatment appropriateness and quality of care cannot be assessed using these data.
Griffiths <i>et al.</i> (1994)	<p>Aimed to determine whether for-profit and not-for-profit freestanding renal dialysis facilities differed with respect to efficiency, in terms of producing more outputs for the same inputs.</p> <p>Methods Data comes from HCFA's 1990 Independent Renal Dialysis Facility Cost Report and HCFA's ESRD Program Management and Medical Information System. Regressed weighted monthly output of dialysis treatments on (a) facility capital and labour inputs, (b) facility ownership characteristics, and (c) case-mix characteristics.</p>	For-profits produced significantly more dialysis treatments per month than not-for-profits. Conclusion is that for profits are more efficient, as they produce more output with fixed inputs.	<p>Only free-standing centers were included in the study, so generalizability is limited.</p> <p>Dialysis treatments that are provided in hospital are not included.</p> <p>There may still be unobservable differences in case-mix which could mean that the observed differences attributed to efficiency differences could be due to these differences in severity of illness.</p> <p>Quality of care was not examined/controlled for.</p> <p>Quantity of some important supplies (e.g. dialyzers) was not included.</p>

<p>Furth <i>et al.</i> (1999)</p>	<p>To determine whether the profit status of a dialysis care facility is associated with the dialysis treatment choice in <i>children</i> with ESRD.</p> <p>Methods Bivariate and multivariate analysis, using data from HCFA, on : facility characteristics, patient characteristics (such as experience of the facility, age and race, duration of ESRD and time since first dialysis treatment) and county-level factors.</p>	<p>Children treated in not-for-profit facilities are more likely to be treated with peritoneal dialysis (PD) than hemodialysis (HD) – PD being the treatment of choice for pediatric patients.</p>	<p>Some pediatric patients may not be captured by Medicare data if they have other primary insurance.</p> <p>44% were 16-19. For such older children the treatment might be more like an adult’s treatment where PD is not the modality of choice. (Numbers of younger children in the study were too small to get the same significant results for this age group).</p> <p>Other unmeasured patient or facility characteristics could be driving results.</p>
<p>Garg <i>et al.</i> (1999)</p>	<p>To examine the effect of for-profit ownership on patient survival and referral for possible transplantation.</p> <p>Methods Used data from the US Renal Data System to conduct a proportional hazards regression analysis to assess the effects of profit status on outcomes, adjusted for differences in socio-demographic, clinical and facility-level characteristics.</p>	<p>For-profit is associated with:</p> <ul style="list-style-type: none"> • higher mortality (by 20%); and • decreased rates of placement on waiting list for transplant (by 26%) 	
<p>Ayanian <i>et al.</i> (1999)</p>	<p>To assess the association between race and patients’ preferences with respect to transplantation.</p> <p>Methods Surveyed patients undergoing dialysis in four regions (Alabama, southern California, Michigan, and mid-Atlantic) about their preferences about transplantation. The survey data was combined with data from HCFA on facility ownership, and a review of medical records for comorbidities and referrals.</p>	<p>Differences in rates of referral for transplantation by race are not explained by differences in preferences for transplantation.</p> <p>Patients receiving dialysis treatment at for-profit versus non-profit facilities did not differ with respect to transplantation rates.</p>	<p>Referral to transplant was confirmed by a check of medical records (for 84% of patients surveyed); may be some inaccuracy in recall for some other information reported.</p> <p>May be other barriers (i.e. willingness or ability to travel to transplant center for evaluation) to transplantation.</p>

Other studies are left out of this section of the review, even although they seemed relevant at first glance. These studies involve US public purchasers contracting with private or public and for-profit and not-for-profit providers for mental health services and nursing home care. Many of these studies describe activity (to show the extent to which contracting with private providers happens). Others are about the relative performance of for-profits and not-for-profits in improving access for those with no previous access (i.e. without health insurance), an issue not as relevant to Canada. In the nursing home sector, much of the data on costs and quality are confounded with the fact that much of the care in the different ownership types is funded privately. Therefore, it would not be surprising to find that for-profit care had higher costs in

such environments (see above arguments in sub-section 3.2). The literature comparing for-profits and not-for-profits in provision of mental health and nursing home care is thoroughly reviewed, and well summarised, by the New York Academy of Medicine [10]. A list of these studies is contained in our Reference Manager database.

4.5 Equity in Access and MRIs

Problems with the use of private payments to obtain faster access to MRI services are well-documented in the popular press [38,39]. This problem does not just apply to Alberta [39], and it has important implications for surgical services. If people can get through the diagnostic (i.e. MRI) stage of care faster as a result of paying privately, those requiring further treatment are also likely to obtain that treatment quicker.

The ambiguity of "medical necessity" raises its head here, in that if such tests are medically necessary, why are they not covered by Medicare, and, if not necessary, why are they offered to patients at all [40]? By focussing on surgical services, it would seem to us that there are potential gaps in the proposed Alberta legislation.

4.6 For-Profit Versus Not-For-Profit Health Care

Earlier, we argued that the empirical evidence drawn from the experience of for-profit versus not-for-profit hospitals in the US is not relevant to the question at hand. Nevertheless we are reviewing it here in light of the fact that it is this literature which is most often quoted, and often selectively, by other reports and by other participants in the public debate on Alberta's Bill 11.

There have been a number of US studies attempting to detect differences in the economic performance of hospitals by ownership type. While there are some theoretical arguments predicting differences in economic behaviour in hospitals which are operated on a for-profit basis as compared to not-for-profit⁵, these differences have been very hard to detect empirically. These studies are plagued with difficulties in ensuring comparability of financial data, and in accounting adequately for case-mix, diversified services offered, competition and regulatory factors and quality.

⁵ A review of the theoretical literature is beyond the scope of this report.

In addition, there are two important contextual issues to keep in mind when considering the literature from the US. One is that not-for-profit hospitals have traditionally played an important role in providing access to 'uncompensated care' for those who are uninsured. For-profits are beginning to expand into this area, by offering unused bed capacity at reduced prices. Much of the literature involves comparisons of for-profits and not-for-profits in terms of offering such uncompensated care [10], an issue not relevant to the Canadian context. Also, many of these studies use data from prior to 1984, when Medicare was using a cost-based reimbursement scheme rather than the prospective payment scheme they have used since. This was the time of the so-called 'medical arms race' when hospitals had no incentive to control costs, as all 'reasonable expenses' were reimbursed. Competition was based on quality, amenities and availability of technology. A rational response by market-oriented for-profit hospitals in such an environment would be to earn higher profits by charging more rather than costing less. Their success in doing this is reflected in the empirical evidence; for-profit hospitals were more costly, but they also had higher profits. These results would be expected, given the context.

In short, the empirical results from comparisons of for-profits and not-for-profits are particular to the regulatory and competitive environment within which the hospitals are operating:

“A growing number of researchers are including various measures of the competitive and regulatory environments in their studies, because it is becoming increasingly apparent that the behaviour of both for-profits and nonprofits – in absolute and comparative terms – is affected by the interaction of ownership form with other factors.”[10]

Nevertheless, we considered empirical studies of short-term acute general hospitals. We analyzed the 27 articles which arose in our search [41-67], supplemented by an additional seven articles [68-74] which our search did not pick up but which were included in the 1999 study of the empirical literature comparing for-profit and nonprofit hospitals by the New York Academy of Medicine [10]. We have divided up the studies into those that deal with cost, quality and efficiency (see Table 5).⁶

⁶ Of these thirty-four articles, sixteen were included in the Fraser Institute report [3], and seven were included in the Parkland report [4].

There were 14 studies which investigated cost differences by ownership type [41-54], plus three more [68-70] identified by the New York Academy of Medicine report [10]. Most of these studies used data on a large number of hospitals from across the US, or a smaller number of matched hospitals in a more limited geographic area. In all cases an effort was made to control for various other factors which influence costs other than ownership type, such as case-mix, local market conditions, and other hospital specific factors. Most studies found that either there was no difference in hospital costs by ownership, or that for-profit hospitals were more expensive.

However, the result that for-profits are more expensive is difficult to interpret for two main reasons. The first reason relates to the regulatory and competitive environments in which the studies' hospitals were operating. Most of the studies use data from the time period where hospitals were being paid under cost-based reimbursement, or shortly after the payment mechanism had been switched to the prospective mechanism. Another study showed that, *all else equal*, for-profit hospitals were less costly per admission and per day [49]. However, the study was focussed on the competitiveness of the local hospital market and found that the more competitive the market the more costly the hospital. Thus, ownership was not the main focus of the study and it is not clear that taking the result on ownership out of context of the competitiveness of the local market is meaningful. Another study which was included in the indeterminate category above [70], found no statistically significant differences in for-profit and not-for-profit *chain* hospitals but that not-for-profit *independent* hospitals had lower costs than for-profit *independent* hospitals. This result would complicate the interpretation of studies which considered ownership status, but not chain membership versus independent status.

Table 5: Comparison of For-Profit Versus Not-For-Profit Institutions

Cost	Number of Studies
Favourable to for-profit	3
Unfavourable to for-profit	7
Indeterminate/no difference found	7
Total	17
“Efficiency”	
Favourable to for-profit	2
Unfavourable to for-profit	2
Indeterminate/no difference found	5
Total	9
Quality	
Favourable to for-profit	0
Unfavourable to for-profit	4
Indeterminate/no difference found	7

<i>Total</i>	11
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The second main reason for difficulty in interpreting the results on cost differences is that unobservable quality remains an important issue, despite attempts to control for case-mix and crude attempts to control for quality. Without adequate information on quality, the information on the cost differences is not particularly meaningful. Note also that one study found that not-for-profit hospitals had lower administrative costs [54], but it is unclear that this is a favourable or unfavourable result. Higher administrative costs could mean better quality of care.

According to Friedman and Shortell [45], who quote heavily from the extensive previous review by the Institute of Medicine [9], literature prior to 1988 suggests that for-profit hospitals are not more cost-efficient and also that prices and markups are generally found to be higher in for-profit hospitals. The 1999 update to the Institute of Medicine report, by the New York Academy of Medicine [10], states that “studies continue to show that markups and costs to purchasers are higher in for-profits than in nonprofit hospitals.” The findings of a 1997 study are “strikingly similar” to earlier studies, namely that the “relative edge in profits in for-profit over not-for-profit hospitals is still due to higher revenues per adjusted admission rather than to more efficient cost management, even though the reimbursement scheme has significantly changed over the years” [51]. As we have said earlier (see sub-section 3.2), however, there is nothing unusual in this, and it does not necessarily allow any conclusion regarding relative efficiency.

We identified nine studies which dealt with the relative efficiency of not-for-profit versus for-profit hospitals. [59-67] The methodology used in these papers is called cost frontier analysis or data envelopment analysis. A hospital is considered technically efficient if it operates on the ‘best practice frontier’, which is derived via mathematical programming techniques from the hospitals in the sample. A hospital closer to the frontier is more technically efficient than one farther away. These studies then examine the extent to which ownership type affects whether the hospital is more likely to be technically efficient.

The most common result of these studies is that no differences in efficiency were detected between for-profit and not-for-profit hospitals. This was the case for five of the studies reviewed. Two studies found that for-profit hospitals are more efficient. One study found that not-for-profits performed worse in terms of ‘cost, technical and scale’ efficiency than for-profit hospitals [61]. However, the authors carefully point out that a likely explanation for this result is

self-selection whereby for-profit hospitals self-select to operate in areas where they are more likely to get a good return on their investment whereas not-for-profit firms choose to operate in less favourable locations pursuing a goal of providing access to care. Thus, this paper might be more properly classified as indeterminate. The other was for nuclear medicine services only rather than the whole hospital so it is less comprehensive than the others [67].

Two studies found that not-for-profits were more efficient [62,63]. However, one provides a caveat stating that for-profits may compete by offering higher quality services in which case low efficiency might actually be capturing higher quality. Despite controlling for some measures of quality, their original result still holds [62]. The same caveat may hold as well for the other study [63].

There were seven studies which dealt with quality differences between for-profit and not-for-profit firms [41-43,55-58], plus four others [71-74] referenced in the New York Academy of Medicine's 1999 report [10]. Some used mortality as the measure of quality [42-43,55,56-58,71,73], others used a combination of different measures such as 'scope of services', accreditations and certifications, education programs offered [41]. Still others used procedure specific measures like number of adverse events following surgery or ADL (activities of daily living) function improvement following discharge [42, 72] or number of vaginal births following cesarean section [74].

That there are so few studies of this very important topic are in part attributable to the difficulties in measuring 'quality' in hospital settings. With studies having used very limited measures of quality, the empirical evidence on quality differences is thus also difficult to interpret. Seven of the studies were not able to make a clear conclusion, often because they used several measures of quality in the same study and the implications depended upon which measure was considered [41,42,55] or no difference was detected in the measure considered [43,56,58,72]. The four other studies showed a slight quality difference in favour of not-for-profit hospitals [57,71,72,74]. However, two of them looked at quality in a very limited procedural context [72,74]. Mortality differences can be difficult to interpret, since, as shown in the Kuhn study, this result depends upon the time frame under consideration [55]. The McClellan and Staiger study finds that, on average, for-profit hospitals have higher mortality

among elderly patients with heart disease, and that the difference has grown over the 1984-1994 time period. However, they point out that the differences are associated with the location of for-profit hospitals rather than ownership type *per se* and that the small average difference in mortality mask enormous variability within ownership types. Overall, they conclude that factors aside from ownership status may be main determinants of quality of care in hospitals [57]. More work needs to be done on this issue, especially given that one of the prime concerns in interpreting the empirical evidence on costs is the extent to which quality differences confound the interpretation of cost differences.

5. CONCLUSIONS

There is no published study of the efficiency (i.e. cost and quality) of the purchase of surgical services from private facilities by public funders, such as RHAs. What can be said from the literature, however, is that such purchases do occur in several other countries with health care systems similar to that in Canada. One could assume that such purchases took place because they were expected to allow the health authority concerned to meet some specific objective, such as improving access to care or reductions in cost.

Another finding from the literature is that the amount of business which private facilities receive from health authorities in other countries is very small. In such countries, services provided publicly can also be purchased privately, and it is through the private purchase of these services where facilities raise the vast majority of their revenues. The private purchase of services covered by the public system is not possible in Canada. Within the current system, the only way that extra revenue-raising activities could be undertaken by private facilities would be to offer enhanced and uninsured services. Our review has shown that there is some suggestion that private facilities may provide faster access to those who pay and, in Canada, do offer enhanced services. Under this scenario, an increase in the extent of two-tierism may result. Of course, some may argue that such two-tierism is acceptable. After contributing to the public system through the payment of taxes and premiums, why should society restrict how people go on to spend their remaining income? Regardless of the extent to which such two-tierism is viewed as acceptable or not, the incentives which could exist for private facilities under

implementation of Bill 11 may create outcomes which are inconsistent with the Government's stated policy against a two-tier system including queue jumping.⁷

Bill 11 tries to deal with this issue but more specific details may be required. The Bill states that no person receiving a publicly-insured surgical service will be required to pay for enhanced medical goods or services unless these services are explained to the patient, it is explained why they are being offered and that they are not part of the medically required service. Since such services involve out-of-pocket payments and thus potential consequent equity effects, offers of such services should be carefully monitored in order to ensure that Government policy (avoiding two-tierism and queue jumping) is complied with. The difficulties, however, lie in determining the form that this monitoring would take and who would be responsible for it.

One further potential problem is that the provision of private sector beds seems to be associated with longer waits for care in public hospitals. It is unclear whether long public sector waits lead to more private bed provision or *vice versa*, or whether the direction of causality goes both ways. If more private provision leads to longer waits in public hospitals, problems with two-tier health care may be exacerbated.

There were also very few studies of the public purchase of private services for non-surgical procedures. In short, the evidence on costs is equivocal, with one study showing that costs are higher when purchasing from private providers and another showing that costs are lower. Concerns with quality of care have been raised with respect to private obstetric care and for-profit provision of dialysis care in the US; however, the dialysis studies were not unanimous in this respect.

Problems with equity of access to diagnostic services, such as MRIs, would seem to indicate that it is inconsistent to restrict the current policy to just surgical services. In fact, two-tierism in MRI services could lead to two-tierism in surgical services if patients can get through the diagnostic phase, and onto the surgical phase, quicker. This points to the need to have a process in place to monitor the private contracting of publicly insured services in other areas of health care, like Bill 11 does for surgical services.

⁷ It is important to recognize that we are identifying incentives which may be faced by physicians; this does not imply that the incentive will necessarily be acted upon.

One major lesson drawn from the empirical literature comparing for-profit versus not-for-profit hospitals in the US is that, for a number of reasons expanded upon in the report, this literature is of quite limited applicability. However, this issue aside, the for-profit versus not-for-profit literature is also largely inconclusive. Broadly, for-profit hospitals are, if anything, less cost-efficient than not-for-profit hospitals, and costs to purchasers are higher. However, controlling adequately for quality of care and other market characteristics is a continuing concern in these studies.

There is so little literature on the specific question addressed by this review and so much uncertainty about the efficiency of contracting out of surgical services, that it would be wise to evaluate this policy, if implemented. The question is on what terms. Obviously, it would be important to monitor costs and quality/outcomes of care. Perhaps this could be done by comparing similar groups of patients in areas with and without such facilities (and before and after the introduction of any such facilities). With respect to issues of access to care and waiting lists, however, it is more difficult to say what should be done. Data would be required on how many people are being treated at various facilities, the severity of patients treated, the size of the list, the length of time spent waiting and the severity of those on the list. All of these data would have to be collected before and after implementation of the policy, and their interpretation would be made easier if similar data were collected in a region where the policy was not implemented. Most previous studies have stated that the main problem here is in monitoring surgeons' workloads in both private and public sectors. This would have to form part of any comprehensive evaluation of the policy of contracting out of surgical services by RHAs to private facilities. In light of our review, such research should be considered as part of any decision to allow a RHA to implement the provisions of Bill 11. An evaluation of this nature would at least add some light to the heat that surrounds this important debate.

It should not be forgotten that the Bill 11, the Health Care Protection Act, will not legislate more private providers into being. It is creating an opportunity for health authorities to contract out minor surgical procedures to private providers should they see it as being to their advantage, and to the advantage of the populations they serve, to do so. Broadening the options available to health authorities ought to be a good thing. Given the lack of evidence on the efficiency of contracting out of surgical services, it is important to have a process in place to consider whether

health authorities' plans should be approved. This process may moderate, rather than accelerate, the increasing privatisation of the Canadian health care system, as illustrated by the recent decision of the Calgary Regional Health Authority to purchase foldable lenses for cataract repair, which were previously available as an enhanced service through private payment to the local clinic concerned. Bill 11 seeks to put such a process in place.

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APPENDIX A

Database Search Strategies

PubMed

At the beginning of the project a number of searches were run on PubMed using the “see related articles” feature to search for citations related to key papers. These searches were run using the following references. The numbers in parentheses indicate the numbers of references identified by each search.

1. Cumming J, Scott CD. The role of outputs and outcomes in purchaser accountability: reflecting on New Zealand experiences. *Health Policy* 1998;46:53-68. (105 references)
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4. ANA position statement on privatization and for-profit conversion. *South Carolina Nurse* 1998 Jan-Mar;5(1):38. (102 references)
5. Iversen T. The effect of a private sector on the waiting time in national health service. *Journal of Health Economics* 1997;16:381-96. (128 references)
6. Renn SC, Schramm CJ, Watt JM, Derzon RA. The effects of ownership and system affiliation on the economic performance of hospitals. *Inquiry* 1985;22:219-36. (185 references)

MEDLINE and HealthSTAR

The same search strategy was run on both MEDLINE and HealthSTAR, using the Internet Grateful Med search engine.

The HealthSTAR search excluded MEDLINE references and was extended back to 1975. (552 references)

The MEDLINE search was restricted to the period 1980 to 2000. (996 references)

hospital-physician joint ventures OR hospitals, private OR hospitals, proprietary OR surgicenters OR ambulatory care facilities OR health facilities, proprietary [Subject]

AND

organization & administration [Subject]

AND

privatization OR ownership

BIOETHICSLINE (Internet Grateful Med)

No date limits were applied (the literature covered by this database extends back to 1973). The keywords used are shown below. (106 references)

hospital-physician joint ventures OR hospitals, private OR hospitals, proprietary OR surgicenters OR ambulatory care facilities OR health facilities, proprietary [Subject]

AND

privatization OR ownership [Subject]

EMBASE (Ovid)

Our access to this database does not extend beyond 1988, thus, in this case, the search was restricted to studies published from 1988 to date. The keywords used are shown below. (91 references)

exp hospital/ OR exp non profit hospital/ OR exp private hospital/

AND

Profit OR privatisation OR privatization OR ownership OR investor [Title words]

CINAHL (Ovid)

The CINAHL search covered the time period 1982 to November, 1999 and used the keywords shown below. (154 references)

exp *organizations, for profit/ OR exp *organizations, nonprofit/ OR exp *private sector/ OR
“privatization”.mp.

AND

hospitals OR surgery OR surgical OR services OR hospital costs OR costs OR cost-benefit OR
quality OR efficiency OR waiting lists OR satisfaction [Title, Subject Heading, Abstract,
Instrumentation]

EconLit (WebSPIRS SilverPlatter)

The EconLit search covered the period 1980 to 2000 using the terms shown below. (183
references)

profit or nonprofit or private or privatisation or privatization [Title words]

AND

hospital* OR clinic* OR surgery OR surgical OR health OR medical [Title words]

Dissertation Abstracts (ProQuest Digital Dissertations)

No date limits were applied to the search on this database. (131 references)

private OR privatization OR privatisation OR for profit [Title words]

AND

hospitals OR hospital OR health [Title words]

ABI / Inform and NTIS (DialogWeb)

These databases were searched simultaneously, along with MEDLINE and HealthSTAR. Only
“unique” items from ABI / Inform and NTIS databases were retained in the search results. The
search was restricted to the time period 1980 – to date. (145 references)

private OR privatization OR privatisation OR for profit OR nonprofit OR non profit [Title words]

AND

hospitals OR hospital OR surgery OR surgical OR healthcare OR health care OR health service [Title words]

The Cochrane Library

A search was also run on The Cochrane Library, using the following terms (with no date restriction):

profit OR private OR privatisation OR privatization

As expected with such a broad search strategy, this retrieved numerous references in various component databases of The Cochrane Library, however, none appeared pertinent to this review.

NHS Centre for Reviews and Dissemination (CRD) Databases

Database of Reviews of Effectiveness (DARE)

NHS Economic Evaluation Database (NHS EED)

Health Technology Assessment (HTA)

The three CRD databases above were searched simultaneously using the following terms, without date restriction. (12 references)

private OR privatisation OR privatization OR nonprofit OR profit [Title words]

Internet Searches

A number of searches were run on specific web sites and using two Internet search engines. The individual web sites searched included:

- **University of Birmingham, Health Services Management Centre** (<http://www.bham.ac.uk/HSMC>)
- **Australian Private Hospitals Association Limited** (<http://apha.org.au>)
- **National Bureau of Economic Research (NBER)** (<http://www.nber.org>)
- **U.S. Agency for Health Care Policy and Research** (<http://www.ahrq.gov>)
- **RAND** (<http://www.rand.org>)
- **National Research Register** (<http://www.doh.gov.uk/research/nrr.htm>)

Internet search engines were also used as follows:

Copernic

Search terms: private hospitals (all words) (86 documents); hospital privatization (all words) (74 documents); waiting lists (all words on The Web – Canada) (44 documents)

Northern Light

Search terms: “private hospitals” or “privatization of hospitals” (restricted to English language documents, from 1980 to date) (42 items)

APPENDIX B

Bibliography of Articles Selected from the Original Literature Search

The Americas shift toward private health care. *Economist* 1999;351:27-28.

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