

PUBLIC POLICY SOURCES

Number 35

How Private Hospital Competition Can Improve Canadian Health Care

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Contents

<i>Executive Summary</i>	3
<i>How Private Hospital Competition Can Improve Canadian Health Care</i>	5
<i>The Alberta Plan</i>	5
<i>The Theory: Why Is Private Contracting Beneficial?</i>	6
<i>Evidence</i>	8
<i>Interpreting the Economic Evidence in the Canadian Context</i>	16
<i>Conclusion: Privatization is a Worthwhile Endeavour</i>	18
<i>References</i>	19
<i>About the Author</i>	21



Public Policy Sources is published periodically throughout the year by The Fraser Institute, Vancouver, B.C., Canada.

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Printed and bound in Canada.

ISSN 1206-6257

Executive Summary

In a forthcoming bill, the Alberta government has proposed permitting the provision of surgical services by private hospitals. Will this proposal improve health care delivery? A thorough review of the medical economics literature indicates that it will.

The Alberta proposal raises three issues. First, do for-profit hospitals perform better than non-profit ones? Second, do private hospitals (either for-profit or non-profit) perform better than government-run (“public”) ones? Third, does intensified competition among hospitals enhance or reduce medical care? Each of these issues has been extensively studied by economists and health policy analysts.

The findings in these three areas, drawn from four dozen academic studies, can be summarized. First, for-profit hospitals have no clear performance advantages or disadvantages compared to non-profits. Second, private hospitals *do* have a clear advantage over public ones. Third, competition has been clearly beneficial for American health care consumers over the last 10 years.

Differences in performance between for-profits and non-profits, and private and public firms, are expected to exist because of the different incentives found in each type of organization. Specifically, economists have predicted that non-profit and public firms may perform worse (exhibit higher costs and lower quality) because their managers are not directly rewarded by profits, but rather by perks (bigger expense accounts, more pleasant working conditions) which detract from profits. Consequently, by not consistently acting in the firm’s best interest, non-profit and public managers do not necessarily provide consumers with what they want—better service at lower cost.

Despite this potential difference in incentives, the US studies comparing for-profit and non-profit hospitals have generally detected no difference between the two types of firms because physicians in US non-profit hospitals have been able to increase their incomes by effectively operating those institutions like for-profit entities. But clear and significant differences in private and *public* hospital performance remain, as public hospitals are consistently found to be less efficient than private ones, as they do not offer the opportunity to be operated like for-profit firms.

The literature on the effects of hospital competition in the US reveals that, over the last 10 years, competition has been unambiguously beneficial, lowering cost and increasing quality. Prior to that time, competition had been found to increase quality but also to increase cost.

Although most of the evidence on these three central questions comes from the US, it is directly relevant for assessing the Alberta proposal. First, it indicates the strong case for the superiority of private, compared to government-run, hospitals. Of the 15 studies reviewed, 8 showed that private hospitals performed better, 3 found that public hospitals performed better, and 4 revealed no difference in performance. Furthermore, these private-hospital advantages are not confined to the US; studies also find successful hospital privatizations in third-world nations such as South Africa and Zimbabwe.

Second, economists have pointed out that existing public-private comparisons are biased in favour of public enterprises. The basis for this conclusion is that public enterprises, by their very nature, do not produce the same product, qualitatively, as private enterprises. The reason for this difference is that managers of public enterprises will undersupply certain attributes; private enter-

prise managers, however, will tend to supply the right amounts of these attributes. The attributes undersupplied by government managers are those that consumers care about, but which parliamentary funders cannot measure.

In the hospital context, examples of such attributes might be the bedside manner of physicians, or clean floors. A private firm will tend to supply the right amount of these attributes because if it does not, it will lose profits as consumers switch to other hospitals. The same pressure does not exist for a public hospital. Consequently, because a private firm provides these attributes in greater amounts than a public firm does, the private firm will appear to have higher costs.

Third, private hospitals can lower costs by avoiding the high wages associated with unionized public hospital employees in non-health care positions, such as cleaners, painters, or cooks. Recent data from British Columbia conveys this cost; in one hospital, unionized non-medical em-

ployees received from 25 to 63 percent more in wages than comparable private-union employees at hotels.

Fourth, US analysis of the effects of competition finds that the desirable consequences from enhanced hospital competition are larger in settings where the hospital market was the least competitive to begin with. Given the extreme limits on hospital competition now found in Canada, which the Alberta proposal would modestly reverse, this finding augurs well for that proposal. Furthermore, the potential for a “medical arms race,” like that found to have occurred at times in the US, is quite limited in Canada due to its woefully low stock of medical technology.

Taken together, all of these factors provide a substantial and encouraging base of evidence that the Alberta plan will lower hospital costs and benefit consumers, by making their tax dollars go farther, and as a result, increasing their access to medical care.

How Private Hospital Competition Can Improve Canadian Health Care

Health care reform raises many issues in public debate—some central, some tangential, some irrelevant or misleading. Characteristic of this phenomenon is the discussion surrounding Alberta premier Ralph Klein’s November 1999 proposal to contract with private hospitals to provide some surgical services. Of the multitude of concerns raised in the public discourse regarding the Alberta proposal—including whether the proposal contravenes the Canada Health Act (CHA), the appropriate level of health spending, the preservation or reform of the CHA—the central issue remains unaddressed: does the Klein plan have substantive merit? In other words, should we expect it to work, based on the evidence?

In particular, the success of the Alberta proposal is based on the proposition that allowing competition from private hospitals will improve the delivery of health care. Improved delivery of health care means, ultimately, better health outcomes from a given amount of health spending. Connections between interventions and health outcomes have been notoriously difficult for researchers to detect, however. Consequently, an intermediate indicator of improved delivery is sometimes studied—can more health services be provided for the same amount of money?

A substantial scholarly literature exists which examines the relationship between hospital ownership—private versus public, for-profit versus non-profit—and health care costs and outcomes, as well as the effect of competition in the hospital market on health care costs and outcomes. Both critics and supporters of the Alberta proposal have invoked this literature only casually, gravitating instead towards speculation regarding these questions.

Receiving particularly disproportionate weight has been a recent *New England Journal of Medicine* article (Silverman, Skinner, and Fisher, 1999) and accompanying editorial (Woolhandler and Himmelstein, 1999). The Silverman, Skinner, and Fisher article is simply one in a large literature comparing the performance of for-profit and non-profit hospitals. It has substantial methodological limitations, discussed below, and does not fundamentally alter the debate on the comparison of for-profits and non-profits. The Woolhandler and Himmelstein editorial is polemical and factually wrong in its dismissal of economic incentives, particularly the profit motive, as beneficial in medicine. In particular, they grossly misrepresent the literature comparing for-profits and non-profits, ignoring many important studies by economists, claiming even that “no peer-reviewed study has found that for-profit hospitals are less expensive” (Woolhandler and Himmelstein, 1999), a claim clearly refuted in the literature reviewed here.

In contrast, the purpose of this study is to assess this literature dispassionately. Prior to this point, the discussion surrounding private hospitals in Alberta has been aptly characterized by the assessment of the corresponding, albeit earlier, discourse in the US by its prestigious Institute of Medicine (National Academy of Sciences): “The debate about for-profit health care is fueled as much by values as by evidence” (Gray and McNerney, 1986). Thus, evaluating this research and its implications for Alberta (and Canada more generally) will enable discussion of the Alberta plan to be more productive.

The Alberta plan

The essence of the Alberta proposal is contained in the “Policy Statement on the Delivery of Surgi-

cal Services" released by Alberta Health in November 1999, on which public comment will be received "before legislation is introduced for the consideration of the Legislature in Spring 2000" ("Policy Statement," 1999). The primary innovation contained in the policy statement is:

4.1 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. ("Policy Statement," 1999)

Access to private providers is proposed to follow the same mechanism as current access to public providers:

4.2 Contracted providers are 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. ("Policy Statement," 1999)

Thus, the proposal is designed to ensure "adherence to the principles of the *Canada Health Act*" as well as budgetary prudence: ministerial approval of a contract depends on "demonstrated net benefit of the proposed contract, including implications for accessibility and cost effectiveness" ("Policy Statement," 1999). Budgetary prudence would thus enable, in Klein's own words, "better service through more choice" (Klein, 1999).

The theory: why is private contracting beneficial?

Three areas of economic research address the desirability of the Alberta plan: comparisons of for-profit and non-profit enterprises, comparisons of public and private enterprises, and assessments of the effect of competition in the hospital market. All three strands of inquiry provide compelling reasons to examine the social benefits from private contracting of hospital services.

Enterprise comparisons

While the conventional profit-maximizing firm has been a long-standing and enduring subject of analysis in economics, attention has only shifted much more recently to the study of non-profit private and government enterprises. One of the early foundations of this literature contrasted the incentives faced by decision makers in for-profit and non-profit firms (Alchian and Demsetz, 1972). Their fundamental point was that because a decisionmaker in a non-profit firm was unable to be rewarded in the form of profits for making good (i.e., profit-enhancing) decisions, she would tend to make different choices about the firm's operation than a comparable decisionmaker in a for-profit firm. This point has been elaborated and particularized in subsequent literature.

Non-profit versus for-profit

While there are a number of meaningful distinctions between the economic decision environments facing non-profit and for-profit ("proprietary") firms, the salient one for this study is that because "'decision makers' ... are unable to extract residual income in the form of cash ... [they] will choose to take it in other forms" (Pauly 1987). Among these "other forms" (in the hospital context) are "better office facilities, more congenial colleagues, more relaxed personnel policies, or any other personally rewarding activity *even if it is more costly to the nonproprietary hospital than its proprietary counterpart*" (Clarkson, 1972, emphasis added). In other words, rather than solely maximizing profits, managers in the non-profit setting may be willing to sacrifice profits in order to enhance their own pecuniary and nonpecuniary income.

It is not, however, a theoretical *fait accompli* that the non-profit environment requires deviation from profit-maximizing behaviour. Danzon has pointed out that "Although the rights to residual profit in a non-profit hospital are not well de-

fined, profit maximization is nevertheless an appropriate model provided the various claimants can agree on maximizing their joint gain" (Danzon, 1982). In the hospital setting, Pauly and Redisch have modeled hospitals as physicians' "cooperatives" with the objective of maximizing the combined incomes of the staff physicians (Pauly and Redisch, 1973). A binding agreement to do so would enable a non-profit hospital's decision making to resemble that of a for-profit hospital's. Specifically, a hospital governed by such a binding agreement would perform as many procedures in a given year as a for-profit hospital, and would use the same mix of inputs (nurses, pharmaceuticals, technology, etc.) as a for-profit. Furthermore, as Newhouse notes, even without the internal quasi-for-profit constraint imposed by income-maximizing physicians, free entry will force surviving non-profits to produce efficiently (Newhouse, 1970). Consequently, it is reasonable to test whether the observable operating characteristics of for-profit and non-profit hospitals are identical, or whether non-profits operate at higher cost (lower efficiency) and have worse patient outcomes than for-profit firms.

Public versus private

Similar considerations exist in the comparison of public (i.e., government) and private enterprise. Like a private non-profit, a government enterprise has no inherent mechanism to induce managers to act solely in the best interest of the enterprise. Furthermore, the income-maximizing arrangement potentially found in a non-profit entity (e.g., a physicians' cooperative) is legally precluded in most government enterprises. Consequently, the "manager" (bureaucrat) running a government enterprise does not trade off profit for nonpecuniary income; rather, he maximizes his budget, which enables the acquisition of greater pecuniary (salary) and nonpecuniary income (Niskanen, 1971). Therefore, the level of output of the public enterprise is higher than would be found in an otherwise equal private en-

terprise, and the input combination used also differs from that employed in a comparable private firm. Both disparities reflect inefficiency.

A later elaboration of this model of bureaucratic behaviour was proposed by Lindsay (1976). Lindsay criticized the budget-maximizing model as too simple, in that "it cannot be the explicit intent of Congress to reward managers for simply spending money. Congressmen are interested presumably in pleasing their constituents, and this involves getting as much bureau output as they can for as little as they can" (Lindsay, 1976). Naturally, however, the only output which can be monitored by a legislative body is that which is measurable. In contrast, even unmeasurable output can be effectively monitored by a private firm, argues Lindsay, because its customers can observe such output and react in ways measurable by the firm's managers.

Thus, parliamentary pressure exists for efficiency in public enterprises, but only with regard to output measurable by politicians. This motivates the manager-bureaucrat to "divert resources from the production of attributes which will not be monitored to those which will" (Lindsay, 1976). Thus, in a public hospital setting, a disproportionately large amount of (measurable) expensive computer equipment might be supplied along with a disproportionately small amount of (unmeasurable) politeness or clean floors.

This bias towards measurable attributes creates a corresponding bias in cost comparisons between private and public firms. Because unmeasurable attributes cannot be monitored effectively in a government enterprise but can be so monitored in a private enterprise, legislatures will refuse to fund the provision of such unmeasurable attributes, while private firms *will* fund them. As a result, the average cost of a unit of output produced by a government enterprise will be biased downward relative to the average cost of the same type of output produced by a private firm; the private

firm bears costs per unit which the government firm (inefficiently) avoids (Lindsay, 1976). Thus, inefficiency in government enterprise can exist even when the government provider's average costs are *lower* than a private firm's.

Effect of competition

In most markets, it is an unquestionable prediction of economics that increased competition produces socially-beneficial outcomes—lower prices, greater access, enhanced quality. In health care markets, however, it has been correctly concluded that, even as a matter of theory, intensified competition is not unambiguously beneficial. Thus, it is worth considering whether one aspect of the Alberta plan—its enhancement of competition—should be expected to benefit society.

There are at least three reasons why competition among hospitals might not be efficiency-enhancing: insurance effects on patient demand, price regulations, and information costs (Kessler and McClellan, 1999; Frech, 1996). Because of insurance, consumers only pay a fraction of out-of-pocket costs; in Canada, of course, that fraction is zero. Consequently, consumers less often reward those firms with lower costs (and thus lower prices) by shifting demand to those firms. Thus, the rewards to firms from lowering costs, and entering markets where high costs prevail, are attenuated. Price regulations, as exist in Canada, may further constrain the potential beneficial effects of competition. Indeed, economists have predicted that where price regulations exist, a possible outcome is a “medical arms race” in which competition occurs on the basis of escalating quality, perhaps to the point where hospitals provide higher quality than is efficient (Robinson and Luft, 1985). Finally, increased competition may reduce efficiency if it leads to higher information costs to consumers. This phenomenon occurs if an increase in the number of providers makes it harder for consumers to compare one provider with another (Stiglitz, 1987).

In each case, however, these undesirable effects of competition are only possibilities and not logical necessities. Indeed, McClellan (1994) has demonstrated that even with regulated prices and insurance, hospital competition can theoretically lead to the best outcome from society's point-of-view. Furthermore, the prediction that increased competition can increase information costs depends crucially on particular assumptions regarding the cost of information (see Stiglitz, 1987). Therefore, while some models used to analyze the effect of competition in the hospital industry offer pessimistic predictions, many others support the standard analysis of competition as it is applied to markets in general: competition leads to lower prices, greater access, and higher quality.

Evidence

The theoretical models which reflect the central feature of the Alberta plan—the opportunity for private, potentially for-profit firms to compete with government hospitals—are interesting but not determinative in their predictions; consequently, examination of the evidence regarding the implications of these changes is desirable. As always in economic analysis of policy, the proof is in the empirical pudding.

Enterprise comparisons

Non-profit versus for-profit

The theoretical discussion of non-profits and for-profits suggests no compelling reasons to expect significant differences in firm behaviour, particularly if physicians can effectively control hospital operations (Pauly and Redisch, 1973). This expectation is borne out by numerous empirical studies. Thus, the verdict rendered by economist Mark Pauly in 1987 is still relevant: “there is little ownership-related difference in hospital care given quality, or in quality given bed size, teaching status, and other proxies for type of output” (Pauly, 1987).

Of the 24 articles comparing for-profit and non-profit hospital performance reviewed in this study, 7 found that for-profits performed better, 5 found that non-profits performed better, and 12 found no difference in performance. Consider first the studies detecting better performance by for-profits.

Early among these was Clarkson (1972), who discerned a number of differences in the features of the two hospital types in US data. Clarkson discovered that for-profit administrators devoted significantly more time to supervisory control of employees, and were significantly less likely to grant automatic salary increases than their non-profit counterparts. In addition, non-profit hospitals were far less homogeneous in their input choices (e.g., personnel per bed) than for-profits were, implying that non-profit managers are less driven by market forces to choose the input mix that minimizes costs (Clarkson, 1972).

Average cost per admission in US for-profit and non-profit hospitals was compared by Bays (1979). After controlling for a variety of differences among his sample of hospitals, including hospital size, bed turnover, and case-mix, he determined that for-profits had lower average costs than non-profits. In addition, he found that among for-profits, those belonging to regional or national chains had even lower costs than those which were independently operated.

Wilson and Jadow (1982) compared US non-profit and for-profit provision of nuclear medicine services (diagnostic and therapeutic radiation services) in order to avoid the problem of general hospital-level comparisons, in which interhospital differences in service mix complicate comparison. The mode of evaluation employed by Wilson and Jadow was to measure the disparity in production efficiency between for-profit and non-profit nuclear medicine departments. This analysis revealed how close each type of hospital came to producing the maximum possible

amount of output, given its choice of input mix. They found that for-profit nuclear medicine services were significantly closer to maximum production than non-profits were.

Robinson and Luft (1985) examined over 5000 US hospitals to ascertain if cost differences existed between for-profits and non-profits. Their analysis controlled for a wide range of differences among hospitals, including number of competitors, case-mix, size, occupancy, and labour costs. They discovered that for-profits had significantly lower cost per admission and per day than non-profits.

A more subtle test of non-profit inefficiency was conducted by Hoerger (1991), who compared the variability in profits over time between US non-profits and for-profits. Hoerger reasoned that if non-profits were not simply maximizing profits, as for-profits were assumed to do, then non-profits would maintain a certain amount of slack, i.e., resources devoted to goals which reward managers but reduce profits. Consequently, in response to adverse economic shocks (such as the reduction in government reimbursement studied by Hoerger), the slack-maintaining non-profit could reduce slack and maintain profits at roughly the same level. Conversely, the for-profit, which has no slack, would suffer a reduction in profits. The same logic would apply to a favourable shock. Hoerger found that for-profits did indeed experience greater variability in profits, implicitly confirming his theory that non-profits maintain more slack.

Ferrier and Valdmanis (1996) focused their evaluation of for-profit and non-profit performance on US rural hospitals, which comprised approximately 50 percent of all short-term general hospitals and 30 percent of all beds in the year they examined (1989). They compared four dimensions of efficiency: technical (are inputs like labour and capital wasted in production?), allocative (is the right *combination* of inputs being

used?), cost (technical and allocative efficiency combined), and scale (is the hospital producing output in its lowest-cost range?). They discovered that—controlling for other differences among hospitals, including quality (defined as a hospital's excess mortality), hospital size and occupancy rate, and the proportion of services provided to outpatients and in intensive care—for-profits were efficient compared to non-profits by three of the four measures described above (the exception was allocative efficiency).

The final study detecting better performance by for-profits, reported by Altman and Shactman (1997), is based on analysis of US hospital profits earned from treating Medicare (elderly government-financed) patients. This study revealed that since 1991, profits from Medicare patients at for-profit hospitals have exceeded the comparable "profits" at non-profit hospitals. Because reimbursement for such patients is identical regardless of hospital type, Altman and Schactman conclude that the higher profits among for-profits must have resulted from lower costs at those hospitals relative to non-profits.

Other studies find better performance by non-profits than by for-profits. Pattison and Katz (1983) compared profit margins, use of ancillary services (e.g., pharmacy), service to government-funded and charity patients, and costs for US non-profits and for-profits. In all cases, meaningful conclusions are precluded by the failure of Pattison and Katz to determine if differences between for-profits and non-profits were statistically significant. Nevertheless, they find that for-profits: generated larger profits (smaller losses) in general and on ancillary services, provided more services per patient-day for those ancillary services on which they earned a profit, exhibited no difference in revenues from government-funded or charity cases, and incurred operating expenses 2 percent more per admission and 6 percent more per patient day. Besides neglecting the question of whether these

differences were statistically significant, Pattison and Katz did not control for potential quality differences between the two types of hospital ownership, although they do note that the average age of assets held by national for-profit chains (4 years) was below the overall average in the sample (6 years).

Mark (1996) examined US psychiatric hospitals to determine if differences existed between for-profits and non-profits. She compared the two types along two dimensions: quality and cost. Quality was defined as the per-hospital number of regulator-identified violations and patient-initiated substantiated complaints. Mark found that for-profits exhibited higher frequency of violations and complaints, controlling for various relevant factors including volume of patients. She also compared efficiency for the two firm types, and discovered that there was no difference in operating costs related to ownership type.

Koop, Osiewalski, and Steel (1997) applied atypical but sophisticated statistical methodology to evaluate whether there are production efficiency differences between US non-profit and for-profit hospitals. Based on particular prior assumptions about hospital efficiency, they estimated that for-profits are less efficient than non-profits. But because their analysis does not control for any measurable differences between the two hospital types besides ownership form, they acknowledged that the for-profits' apparent "low efficiency might actually be capturing higher quality" (Koop, Osiewalski, and Steel, 1997).

An analysis of US hospitals by Woolhandler and Himmelstein (1997) juxtaposed for-profit and non-profit costs. Specifically, they found that after adjusting for differences in case-mix and local wage rates, for-profit hospitals had higher costs both per day and per discharge compared to non-profits. They did not, however, report whether these differences were statistically significant.

Most recently, Silverman, Skinner, and Fisher (1999) compared per capita spending by US Medicare (elderly government-funded) patients in non-profit and for-profit hospitals. Their analysis adjusted for differences in demographics and some basic hospital characteristics. After this adjustment, they found that per capita spending was significantly higher in for-profit hospitals. Their results do not directly address the efficiency question, however, for two reasons. First, they do not distinguish whether their spending difference arises from greater cost per service, greater extent of service provision, or both. Second, their “study could not address possible differences in the quality of care or amenities provided to Medicare beneficiaries” (Silverman, Skinner, and Fisher, 1997).

A number of other articles discern no efficiency difference between non-profit and for-profit hospitals. Psychiatric inpatient departments at US for-profit and non-profit hospitals were compared by Hrebiniak and Alutto (1973). They evaluated performance by these departments in three ways: discharge rate, cost per discharge, and cost per patient-day. On each of these three measures, there was no significant difference between the for-profit and non-profit hospitals studied.

In their study of US hospitals, Lewin, Derzon, and Margulies (1981) made a number of comparisons between non- and for-profits. The comparison of greatest relevance for efficiency purposes is operating cost, both per day and per admission. They found no significant difference in either type of cost between the two categories of hospitals. Moreover, for-profits had significantly lower full-time-equivalent staff per daily patient, a “crude measure ... of productivity” (Lewin, Derzon, and Margulies, 1981).

Becker and Sloan (1985) examined non-profit and for-profit hospital costs in the US, and attempted to control for measurable differences in addition to ownership type, including teaching status,

case-mix, hospital size, and crude measures of quality (local per capita income, hospital employee wages). Given these controls, they found that while for-profits had significantly higher costs per patient day, they also had significantly shorter stays, and thus no significant difference in cost per admission. Furthermore, even the significantly higher cost per patient day was only one-tenth of one percent of daily patient costs.

In a large nationwide sample, Freund, Shachtman, Ruffin, and Quade (1985) assessed the relative efficiencies of US non-profits and for-profits. The efficiency measure they considered was average length of hospitalization, controlling for differences in case-mix as well as geographical region, insurance, and hospital size. With these adjustments, they found that hospital ownership type (non-profit or for-profit) was statistically insignificant in determining average length of hospitalization.

Another method to evaluate the efficiency of non-profit relative to for-profit hospitals was used by Register, Sharp, and Bivin (1985). They tested whether US non- and for-profits operated according to the same production process, reasoning that if there was no significant difference in the manner in which labour and capital were combined in production, then there could be no difference in efficiency. Their analysis indicated that no significant difference existed in the production technologies of non- and for-profits, implying that no efficiency differences could exist, either. It is worth noting that while their test effectively controls for the quality of labour, it does not, however, do so for capital, which was simply measured as “staffed beds.”

Renn, Schramm, Watt, and Derzon (1985) examined total patient-care costs per admission among US for-profit and non-profit hospitals. After adjusting this data for cross-hospital differences in case-mix and labour costs, they assessed whether this adjusted cost per admission was significantly

higher in either hospital type. They found no significant difference in cost between for-profits and non-profits.

A separate study by many of the same authors (Watt, Derzon, Renn, Schramm, Hahn, and Pillari, 1986) considered a sample of 80 US hospital pairs (one for-profit and one non-profit in each pair) matched in terms of various operational similarities such as location, patient load, length of stay, and use of inpatient and intensive care. To further facilitate meaningful comparison, they adjusted their cost data (which included capital and medical-education costs) for differences in case-mix. They discovered that adjusted costs per admission and per day were not significantly different between for-profit and non-profit hospitals.

The technical efficiency of non-profits relative to for-profits was examined by Register and Bruning (1987). To endeavour to control for case-mix, they limited their sample of US hospitals to those within the 100-to-250-bed range. Controlling for bed size and market concentration, they discovered that for-profit firms exhibited no difference in technical efficiency; for-profits produced no more and no less than non-profits, given the same quantity of inputs. Differences in quality were not included among the control variables.

A similar exercise was conducted by Bruning and Register (1989). For a large sample of over 1,200 US hospitals, they estimated whether a relationship existed between technical efficiency and ownership form. Their analysis controlled for hospital size, case-mix, and geographical region. In none of their linear regressions did they find a significant relationship between ownership form and technical efficiency.

Besides the nine studies just described which found no significant efficiency difference between for-profit and non-profit hospitals, there are three other studies which offer mixed evidence. First among these is Robinson and Luft (1988), which compared per-admission costs among US for-profit and non-profit hospitals in two separate years, 1982 and 1986. They detected that these costs, which were adjusted for wage and case-mix differences among other factors, were significantly lower among for-profits in 1982 but significantly lower for non-profits in 1986.

The second ambiguous study, Burgess and Wilson (1995), calculated two different measures of technical efficiency for a sample of US for-profit and non-profit hospitals for each year of the period 1985-1988. For 1985, both measures indicated the efficiency of for-profits relative to non-profits, as did one of the two measures for 1986. All of the other efficiency comparisons revealed no significant difference between the two types of firms.¹

Finally, Mark (1999) indirectly compared the two forms. She examined conversions of hospitals from one ownership form to the other to determine the effect of such conversions on costs and profits. Her results indicated that both types of conversion—non-profit to for-profit, and for-profit to non-profit—led to increased operating costs as well as increased profits. This finding is attributable, in her view, to “The similar ability of for-profit and nonprofit management to turn around ailing hospitals” (Mark, 1999).

Public versus private

As with the comparison of non-profits and for-profits, the evidence relating the performance of public and private hospitals falls into three categories: studies finding that private hospitals ap-

¹ Significance tests were not conducted by Burgess and Wilson, but were computed by the author.

parently perform better, that public hospitals apparently perform better, and that there is no significant difference in performance. Of the 15 studies comparing public and for-profit hospital performance reviewed in this article, 8 found that private hospitals performed better, 3 found that public hospitals performed better, and 4 found no difference in performance. Later discussion will suggest, however, that even the apparent cost advantages of public hospitals are illusory.

Among the 8 studies finding superior performance by private hospitals was Clarkson (1972), discussed earlier, who contrasted a variety of aspects of performance for US public and private hospitals: administrator monitoring of employees, granting of automatic salary increases, and homogeneity of input choice. In each case, he determined that government hospitals performed worse. Specifically, private hospital administrators devoted significantly more time to employee supervision, were significantly less likely to grant automatic salary increases, and were significantly more likely to choose the same input mix as their competitors.

Psychiatric departments in US hospitals were the unit of analysis for Hrebiniak and Alutto (1973), discussed earlier. Besides comparing for-profit and non-profits (between which there was no significant difference in performance), they also evaluated public vis-à-vis private psychiatry departments. They found that departments in public hospitals performed worse than those in private hospitals; public departments had a significantly lower discharge rate, and significantly higher cost per discharge and per day.

Lindsay (1976) compared US government and for-profit hospitals. Because public hospital administrators are only rewarded for providing services that are visible to their bureaucratic masters, Lindsay predicted that there would be a distortion in service provision towards certain measurable (and thus visible) activities. For ex-

ample, a public hospital could increase its visible output of patient-days by keeping patients longer than is medically desirable. In fact, Lindsay found evidence that for 13 common procedures, public hospital average stay lengths were substantially greater than comparable private hospital stays (although he did not calculate whether these differences were statistically significant). But because public hospitals correspondingly skimp on other, unobservable activities (e.g., bedside manner, clean floors), Lindsay found that their average costs per patient day were *lower*, suggesting that government hospitals will provide less of these bureaucratically unmeasurable attributes than is efficient.

An analysis of US nuclear medicine services was made by Wilson and Jadow (1982), described earlier. In addition to comparing non-profit and for-profit entities, they also evaluated public facilities. They discovered that in terms of technical efficiency (maximum output for given inputs), government providers performed worse than private non-profits, which performed worse than for-profits.

The comparison of variation in profits which Hoerger (1991) made for non-profits and for-profits (discussed earlier) was also extended to government hospitals. The logic of the comparison was that firms with greater operating slack (i.e., where resources are devoted to non-profit-maximizing purposes) would exhibit smaller variation in profits in response to external shocks. Hoerger ascertained that government hospitals experienced even less variation in profits than did non-profits, which themselves had less profit variation than for-profit firms. Consequently, this provides indirect evidence that government hospitals maintain more slack than private hospitals, either non-profit or for-profit, and are thus less efficient.

Ferrier and Valdmanis (1996), discussed earlier, examined rural US hospitals. Their calculations of four different efficiency measures were made to

compare public and private hospitals, as well as for-profits and non-profits. On each of the four efficiency measures, they determined that, in the rural setting, public hospitals were inefficient compared to private ones.

Profits from Medicare (elderly government-financed) patients at different hospital types were compared by Altman and Shactman (1997), discussed earlier. By tracking profits, they were able to form inferences as to cost differences between public and private hospitals. Specifically, because Medicare reimbursement was identical across the different hospital types, and because profits were higher among private (for-profit) hospitals than among public hospitals from 1991 through 1996, Altman and Shachtman concluded that costs must have been lower at private hospitals.

A different test of public-private differences was undertaken by Coles and Hesterly (1998), who analyzed the decision by US hospitals either to contract out services or perform those services using internal staff. Among the 15 services compared were laboratory, housekeeping, computing, food, maintenance, billing, supplies, emergency room, and pharmacy. Coles and Hesterly generated two forms of evidence distinguishing public and private hospitals in terms of the decision to contract out (or not). One test indicated that public hospitals were significantly less likely to contract out these services. The other test determined that public hospitals were not significantly influenced in their contracting decisions by the transactions costs associated with those decisions. In other words, public hospitals were not motivated to contract out even when the costs of doing so

were low, unlike private hospitals. Coles and Hesterly interpret this as reflecting “the fact that public institutions ... are likely subject to less severe efficiency pressures ... than private organizations operating in the same market” (Coles and Hesterly 1998).

Three articles detected superior performance by public hospitals.² In addition to their comparison of US non-profit and for-profit hospitals, Pattison and Katz (1983), discussed earlier, examined government hospitals relative to private alternatives. Most important among their findings was the higher cost per patient-day and per admission exhibited by for-profits relative to government hospitals. These differences, however, were not tested for statistical significance.

Robinson and Luft (1988), discussed earlier, compared US public and private hospital costs in 1982 and 1986. They adjusted cost per admission for interhospital differences in case-mix and labour cost. They found that in both years, public hospital cost per admission was significantly below that in private hospitals.

Although focused on comparisons of administrative cost, Woolhandler and Himmelstein (1997), previously discussed, also addressed the subject of total cost comparisons between public and private US hospitals. They reported that for-profit firms had higher costs per day and per discharge than public ones did, even after adjusting for differences among hospitals in case-mix and local wage rates. Whether these differences were statistically significant was not reported, however.

2 Grosskopf and Valdmanis (1987) found US public hospitals more technically efficient than their private *non-profit* counterparts, a comparison thus not directly germane to the Alberta proposal (although they also proposed, based on their analysis, that the private hospitals in their sample may use more highly-qualified doctors and better technology). Valdmanis (1992) discerned similar results in a different sample. The findings of these two studies contrast with the results of Schulz, Greenley, and Peterson (1984) regarding the comparative performance of private non-profit and government psychiatric hospitals; there, the private facilities were found to have significantly lower costs.

Four studies discerned no significant difference between US government and for-profit hospital costs, or found mixed results. Becker and Sloan (1985) compared total costs per patient day and per admission, controlling for other potential sources of influence, including case-mix, hospital size, and crude quality measures (local per capita income, hospital employee wages). They found that while cost per patient-day was higher in for-profit hospitals (a very small difference in relative magnitude), for the more appropriate measure, cost per admission, there was no significant difference between government and for-profit hospitals.

As well as the comparison of for-profit and non-profit US hospitals found in Renn, Schramm, Watt, and Derzon (1985), previously described, that study also contained a comparison of public and private firms. The authors compared cost per admission, adjusted for differences across hospitals in case-mix and labour costs. They detected no significant difference in cost between public and private entities.

Mixed results were reported in two papers. As described earlier, Robinson and Luft (1985) examined a large data set of US hospitals in order to compare average costs per day and per admission. When they controlled for differences among hospitals in a variety of relevant areas, including number of competitors, size, occupancy, and labour costs, they found that public hospitals had significantly higher costs per admission and per day. When they were able, in addition, to control for differences in case-mix for a subset of their data, however, they detected no significant cost differences between public and private entities.

Burgess and Wilson (1995), discussed previously, calculated two efficiency measures for four different hospital types (private non-profit, for-

profit, federal government, and local government) for each year in the period 1985-1988. For each year, one can compare each type of public hospital (federal, local) with for-profit hospitals, using each of the two efficiency measures. Of the 8 instances in which *federal* government hospitals are compared with for-profit entities, public hospitals were found to be superior in efficiency terms in six cases. However, when the comparison is made between *local* government hospitals and their for-profit counterparts, no difference in efficiency is found in any of those eight calculations.³

Hospital competition

The final area of evidence bearing on the impact of the proposed Alberta reform is that regarding the effect of competition in hospital markets. Besides allowing activity by private for-profit firms, the Alberta proposal also might confer benefits by engendering competition. But, as noted in the theoretical discussion, the predicted effects of competition are ambiguous. Consequently, it is vital to consult the evidence on this topic.

While the effects of hospital competition have been frequently studied, we are fortunate that this research has been ably surveyed and summarized in recent years by several prominent health economists. Prior to the mid-1980s, increases in competition among US hospitals were found to *increase* prices and costs, contrary to the effect of competition in most markets, due to a "medical arms race" from burgeoning quality-based competition (Kessler and McClellan, 1999). But from the mid-80s onward, intensified US competition was found to lower prices and costs (Dranove and White, 1994). This orthodox price-reducing effect of competition has been detected in US non-profit markets as well (Gaynor and Haas-Wilson, 1999). The desirable effects of competi-

3 As noted previously, significance tests are not found in the Burgess and Wilson paper, but were computed by the author.

tion in both for-profit and non-profit in US markets have been more recently confirmed by Keeler, Melnick, and Zwanziger (1999).

Nevertheless, three limitations in the existing empirical literature have been identified by Kessler and McClellan (1999). First, the existing literature does not permit definitive conclusions regarding the beneficial or adverse effects of competition because these studies do not fully account for the financial *or* health consequences of enhanced competition. Second, inappropriate definitions of markets are used, creating bias in the estimates of competition's effect. Finally, most studies have not adequately controlled for other factors, again potentially biasing estimates of the effects of competition.

Having targeted these problems, Kessler and McClellan (1999) endeavour to remedy them. While the details of their modifications are beyond the scope of this overview to describe, their analysis of the recent effects of competition among US hospitals stands as a leading example of meticulous scholarship. Based on their statistical modifications, Kessler and McClellan discovered that in the 1980s, US hospital competition did increase costs but also improved some health outcomes. Thus, "Whether competition increased welfare depends on an assessment of whether the additional health associated with competition was worth the higher associated cost of care" (Kessler and McClellan, 1999). But this ambiguity was removed beginning in 1991. From that point forward, increased competition not only improved health outcomes, it also lowered costs.

Interpreting the economic evidence in the Canadian context

Before applying the evidence on the economic consequences of allowing private hospital competition, it is useful to summarize its conclusions. In general, the literature indicates that there are no distinct efficiency advantages or disadvan-

tages to for-profit vis-à-vis non-profit hospitals, that there are distinct efficiency advantages to for-profit vis-à-vis government hospitals, and that enhanced hospital competition has been of clear social benefit in the last 10 years in the US, although only potentially beneficial on net prior to that. Because these findings are US-specific, however, it is crucial to assess their relevance and application to the Canadian situation in general, and the Alberta plan in particular. This assessment yields several policy conclusions.

For-profits are efficient

Undoubtedly the most germane information is the substantial empirical support for the proposition that for-profit hospitals are lower-cost than government hospitals. It provides *prima facie* evidence that Alberta and other provinces could save money by contracting out to private facilities. This lesson has not been lost on other budget-conscious but service-oriented governments. A recent report provided prominent examples in the US; for instance, Orange County in California has discontinued ownership and operation of hospitals, opting instead to contract with individual hospitals (Tradewell, 1998). Furthermore, these innovations extend beyond the developed world to Africa. Mills, Hongoro, and Broomberg (1997) describe recent successes in hospital privatization in South Africa and Zimbabwe, where quality was maintained but average cost fell. Privatization also indirectly lowers costs even when it is *not* implemented; McDavid reports the cost-reducing effect which the threat of privatization had with regard to municipal service provision in Vancouver (McDavid, 1988).

Critics of the Alberta plan might, nevertheless, raise the fact that the empirical research comparing non-profits and for-profits does not in general discern efficiency differences. Perhaps, the argument might go, this research is the more relevant, with current Canadian public hospitals the operational equivalent of the private non-profits in

those US studies. This argument, however, is lacking in foundation. As noted earlier, some economists have explained the lack of performance difference between for-profits and non-profits as arising from the effective control of non-profits by their physicians (e.g., Pauly and Redisch, 1973). This theory, while plausible in the US context, is not sensibly applied to the Canadian setting.

This theory of the physicians' 'cooperative' depends on the ability of doctors to receive meaningful rewards from operating hospitals more efficiently, an ability that is severely attenuated if not nonexistent in Canada. One practical limitation to this motive is the uniform fee schedules applied in each province, whereby individual physician reimbursement does not vary according to the physician's characteristics (unless the physician opts out of the public system entirely). Consequently, the income from performing additional procedures is modest. Moreover, provincial ceilings on physician earnings further discourage the energetic practitioner, who finds her income reclaimed at an alarming rate (75 percent in some provinces) once the earnings cap is reached. More fundamentally, physicians are constrained by the availability of other factors, including operating facilities and nurses.

Apparent government efficiencies are probably illusory

But suppose, for the sake of argument, that the Alberta proposal is implemented, and private hospitals providing services are found to have average costs identical to or perhaps higher than those in existing government hospitals. Such evidence might *still* reflect the greater efficiency of private providers. This seemingly counterintuitive claim stems from the insight of Lindsay (1976), described earlier.

Lindsay proposed a theory of government enterprise in which government managers (i.e., bu-

reaucrats) only produce those things that are visible, and thus measurable to their parliamentary funders. In the hospital context, this might be length of stay. In contrast, government managers skimp on those aspects of output (e.g., bedside manner) which are not measurable by bureaucrats. For-profit managers, however, do not have this luxury, as these less tangible aspects *are* effectively measurable by their customers, who can vote with their feet. The implication of this is that for-profit firms will typically efficiently provide these aspects while government firms will not. Consequently, total and average costs will appear higher for for-profits, relative to those costs in government firms, because government firms are not providing the same services. This tendency, then, will create inherent bias in any public-private comparison against the private for-profit appearing to have lower costs, even when it does so in actuality.

Thus, because private hospitals will only be paid the same fees for their services as public hospitals, Alberta residents will receive at least the same output or perhaps higher output without any increase in cost to the taxpayer.

Privatization would cut wage costs

Given the substantial benefits associated with privatizing hospital services, resistance to the Alberta plan might appear puzzling. This puzzle is at least partially resolved by a study of factors affecting the propensity of US city and county governments to contract out hospital services (Ferris and Graddy 1987). The study discovered that a significant deterrent to contracting out was the percentage of local public employees who were unionized. This opposition undoubtedly stems from the wage premiums which public union employees earn.

Across industries, this wage premium (earned by public union workers relative to their non-union counterparts) has often been estimated to fall in

the 5 to 15 percent region (Ehrenberg and Schwarz, 1986). But Clarkson (1972) found that unionized government hospital employees earned, on average, 23 percent more than their unionized private-sector equivalents. Even more striking is the wage difference between public-union non-medical hospital workers (i.e., cooks, cleaners, painters, etc.) and corresponding private-union hotel workers in British Columbia (Ramsay, 1995). Ramsay found that the hospital workers in her sample earned 25 to 63 percent more than the equivalent unionized hotel workers. This evidence suggests that an additional benefit to the Alberta proposal is the wage savings it would provide. Moreover, the financial advantages might well be accompanied by productivity gains; according to Vitaliano and Toren (1996), “Unionized hospitals are less efficient” than non-unionized ones.

Competition will work particularly well in Canada

The empirical findings contained in the literature on hospital competition, while generally favourable, contain aspects which imply that competition will be particularly beneficial in the Canadian setting. Among the results in Kessler and McClellan (1999) is that the beneficial effects of competition—reduced costs and higher quality—are much larger for the markets in their sample which were the *least* competitive to begin with. Given the fundamental restrictions on competition currently present in the Canadian hospital market, this conclusion is a promising one for the success of the Alberta proposal.

In addition, one of the major concerns regarding hospital competition—the possibility of a “medi-

cal arms race”—is minimal in the Canadian context. The gist of the “arms race” argument is that if firms face regulated prices, limiting their ability to compete along that dimension, they will instead compete by ratcheting quality upwards. In some models, this escalation of quality is inefficient (Robinson and Luft, 1985). The possibility of excessive quality, however, is a modest one in Canada, a country which ranks among the bottom third of OECD countries in availability of technologies such as CT scanners, MRIs, and lithotripters (Harriman, McArthur, and Zelder, 1999).

Conclusion: privatization is a worthwhile endeavour

Ultimately, the dramatic fears raised by critics of Premier Klein’s proposal can be allayed by a basic realization: the plan can always be discontinued if it does not work. This, surely, reveals the virtue of the federated state for policymaking: it permits innovations in individual jurisdictions. That virtue was keenly perceived by US Supreme Court Justice Louis Brandeis when he commented that the American states were laboratories for public policy initiatives.

The evidence presented in this study, however, provides substantial confidence that the Alberta proposal to contract out surgeries to private hospitals *will* in fact work. The evidence from the US and abroad reveals the advantages to private provision of hospital services. Those advantages are lower costs and higher quality, enabling more and better health care to be purveyed to Canadians, enhancing health outcomes. While it is not a dramatic reform, it is, as such, a humane one, an initiative that deserves to be tried.

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