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August 19, 2002

**DELIVERED BY COURIER**

Mr. Farouque Dawood  
Chair of the Board of Directors  
of the William Osler Health Centre  
Brampton Memorial Hospital Campus  
20 Lynch Street  
Brampton, Ontario  
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Dear Mr. Dawood and Board Members:

## **Re: Privatization of Hospital Infrastructure**

We act for Local 145 of the Canadian Union of Public Employees.

We are writing to register our deep concern about plans to privatize core hospital facilities at the William Osler Health Centre, and about your failure to consult with the Union about this critical initiative. We believe that effective consultations must take place before any further steps are taken to proceed with this undertaking.

The Union is strongly committed to ensuring that the needs of the William Osler Health Centre's client communities are fully served. It is well aware of the funding constraints imposed by the provincial government, and continues to protest fiscal policies that favour tax cuts in preference to health care spending.

But CUPE believes that it is absolutely essential to the integrity of our medicare system that hospitals and hospital services remain in the public sector. We wish to stress that it not just the immediate impact of this privatization project on the members of our Union that is of concern, but the broader implications of this project for all those who provide services in and who rely on Canada's public health care system.

A report very recently published in the Canadian Medical Association Journal offers a very disturbing assessment of the potential consequences of hospital privatization. The report concludes that "private for-profit hospitals were associated with increased risk of death" relative to private not-for-profit hospitals.

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While we appreciate the Board's interest in responding to the needs of the communities it serves, privatization is definitely not the answer.

#### Due Diligence and Obligation to Consult

As you will know, members of the Board of Directors of the Hospital are under both common law and statutory obligations with respect to their management roles. Quite apart from their fiduciary obligations, Board members must also exercise due diligence in carrying out their duties. This requires, among other things, optimizing the value realized for any investment of scarce public health care resources.

At a minimum this means exploring all of the options available for meeting health care service needs, and doing so in a manner that objectively assesses the risks and benefits associated with each. Undertaking this assessment in an open, transparent and consultative manner is also essential if the public trust invested by the community in the Board is to be honored.

Similar obligations arise under the provisions of the collective agreement which require that timely notice be provided of potential layoffs, the elimination of bargaining unit positions, or changes concerning the Hospital's operating plan. An essential element of such consultations is the requirement to consider alternatives to the Hospital's plans.

No meaningful consultation has taken place concerning the privatization initiative you have announced, and the informal discussions that have taken place fall short of any good faith effort to consult with the Union or members of the community. Nevertheless, the Hospital appears to be on the verge of taking steps that will commit it to proceeding with this privatization initiative whatever the risks or costs.

This raises serious questions about whether the Board is meeting its obligations of due diligence and prudence, not to mention its obligations under the Collective Agreement. In any event the lack of transparency surrounding the Board's plans undermines the accountability it must have to everyone with a stake in meeting the needs of the patients the William Osler Health Centre must serve.

#### The Costs and Risks of Privatization

The Ontario government has decided, on a very selective basis, that it will not fund needed hospital infrastructure. It has pushed some hospital boards to seek out private partners to design, build, finance and operate (DBFO) new hospital facilities. As you know, the William Osler Health Centre is one of two hospitals to embark upon such DBFO projects, and is by far the largest. Our substantive concerns with this form of hospital privatization are fourfold.

First, we believe that privatization of hospital infrastructure and services will increase the cost of health care, or diminish service - probably both. This has been the consistent experience of other jurisdictions, including Great Britain that is serving as a model for Ontario's experiment. The cost of capital is simply higher for the private sector; so are the costs of arranging for that financing.

To these costs must be added those of negotiating complex partnership agreements and, of course, a return on private investment. Given the considerably greater costs built into the privatization model, the only realistic way for a private hospital to compete with the public sector alternative is to cut staff, salaries and services. As the study recently published by Canadian Medical Association Journal makes perfectly clear - the result may well be increased mortality rates. Surely this disturbing possibility warrants thorough consideration by the Board *before* it decides whether to embark upon this privatization project.

Second, the long-term leases required by these privatization projects will represent a first call on future health care funding, thereby undermining the program flexibility needed by the Hospital to respond to emerging client needs and funding realities. These predetermined and fixed funding demands may also have similar and system-wide impacts by establishing prior claims on provincial health spending for decades to come.

Third, there is neither an adequate policy, nor statutory foundation for hospital privatization. The establishment of private hospitals represents a radical departure from the approach that has served the people of this province well for many decades. Yet this is occurring without any public debate or reform to the legislative and regulatory framework within which public hospitals are established and funded. We question both the legitimacy, and the lawfulness of actions taken to implement this dramatic shift in government policy.

Finally, it is neither prudent, nor appropriate to proceed with a significant hospital privatization initiative, while the compatibility of this approach with the requirements of Canada's medicare system is being actively debated across the country. As the Board will know, health care reform is currently the subject of several public inquiries, including that of the *National Commission on the Future of Health Care in Canada*, chaired by Mr. Romanow.

Serious questions have been raised about whether the privatization of hospitals is consistent with the requirements of the Canada Health Act. Concerns have also been raised about the implications of such initiatives given the nature of Canada's obligations under international trade agreements. The privatization of key facilities at the William Osler Health Centre preempts this policy debate and will, we expect, be inconsistent with its outcome.

In sum:

We are writing first, to remind you of the provisions of the Collective Agreement that require timely consultation with the Union where lay-offs, the elimination of bargaining unit positions, or changes to the Hospital's operating plan are anticipated.

Second, in addition to the Board's obligations under the requirements of the Collective Agreement, to stress the need for meaningful consultations with all stakeholders before it embarks upon an undertaking that represents a dramatic departure from the 'public' hospital model that has served Ontario well for many decades.

We believe these consultations must get underway without further delay and certainly before any further steps are taken to proceed with this undertaking.

In order for those discussions to be meaningful, we are also asking that you provide us with the following information:

1. Any studies or reports you have undertaken to demonstrate that the DBFO model represents a cost effective approach for meeting the health care needs the William Osler Health Centre must serve.
2. A description of the public sector alternative you have compared your present plans with.
3. The nature of any commitments, either formal or informal, you have you received from the MOHLTC and/or Superbuild, together with any relevant correspondence or memoranda, concerning the funding that will be needed over the term of the lease being contemplated for these private facilities.
4. The parameters of the contractual and lease agreements you expect to enter into with respect to the Hospital facilities and services, including the term of any lease agreement, the nature of the security that will be provided with respect to the Hospital's commitments, and the anticipated lifetime costs of these agreements, including any drafts of the RFP you intend to publish.
5. Who will own the land upon which the private facilities will be established, and will ownership of the facilities themselves remain in private hands at the conclusion of termination of the DBFO agreement?
6. The contractual terms you will be seeking with respect to the termination of any DBFO agreement for non-performance by either party, and how the needs of the Hospital would be met in such a circumstance.

7. Whether it is your intention to limit the participation of foreign investors and health services corporations in the DBFO project.
8. Any study, report or opinion you are relying on which assesses the likely implications of this project in light of Canada's international trade obligations, and in particular concerning foreign investors and service providers.
9. Whether this privatization initiative will require changes to the Hospital's operating plan, the development of a new operating plan or a re-structuring plan that would affect the Union's members. Will this undertaking lead to any lay-offs or the elimination of positions within the bargaining unit?
10. Any financial and staffing information pertinent to any such changes or developments concerning the Hospital's operating plan.
11. The authority, and the financial assurances, the Board is relying upon to enter into the long term lease commitments that may require it to make payments to the private hospital provider for decades to come.
12. Any studies or research you have done or are aware of to rebut the findings of increased risks of mortality if you proceed with the privatization initiative.
13. Confirmation that the William Osler Health Centre is a registered charitable organization carrying on business entirely in Ontario.

In the spirit of trying to establish an open and candid discussion of the serious issues this DBFO project raises, we are enclosing three recent reports which bear out our concerns.

We believe that it is imperative that meaningful consultations get underway before further steps are taken to move forward with this project. Please contact me at our Ottawa office so that these can get underway without further delay.

You may be aware that a letter similar to this was sent to the Board of the Royal Ottawa Hospital earlier this year. Unfortunately it chose not to take our request for consultation seriously. In light of the commitment made in your letter of April 2<sup>nd</sup> of this year, we trust that you and the William Osler Health Centre Board will, as promised, be far more forthcoming in responding to our questions and concerns.

Finally, and in light of the nature of our concerns, we request that you provide a full copy of this letter, together with attachments, to each member of the Board of Directors.

Sincerely,



Steven Shrybman

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opeiu 343  
encl.

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- B. Devereaux P. et al., A systematic review and meta-analysis of studies comparing mortality rates of private for-profit and private not-for-profit hospitals, *Canadian Medical Association Journal*; 166(11)
- C. *The Private-Public Mix in the Funding and Delivery of Health Services in Canada: Challenges and Opportunities*, Canadian Hospital Association, 2001 (excerpt)

## Private finance and “value for money” in NHS hospitals: a policy in search of a rationale?

Allyson M Pollock, Jean Shaoul, Neil Vickers

Allyson Pollock and her colleagues have long argued that using the private finance initiative to build NHS hospitals is an expensive way of building new capacity that constrains services and limits future options. Here they provide evidence that the justification for using private finance—that it offers value for money through lowering costs over the life of the project and by removing risk from NHS trusts—is a sleight of hand

Since 1992 the British government has favoured paying for capital works in the public service through the private finance initiative (PFI)—that is, through loans raised by the private sector. For hospitals this means that a private sector consortium designs, builds, finances, and operates the hospital. In return the NHS trust pays an annual fee to cover both the capital cost, including the cost of borrowing, and maintenance of the hospital and any non-clinical services provided over the 25-35 year life of the contract. The policy has been controversial because of its high cost and impact on clinical budgets.<sup>1-6</sup>

When first introduced in 1992 proponents claimed that PFI would lead to more investment without increasing the public sector borrowing requirement. However, the UK budget surpluses of recent years (£23bn for 2000-1 alone) have been much greater than the total of £14bn private investment deals signed in 1997-2001. The present generation of taxpayers could have funded considerably more capital investment out of existing revenue instead of displacing the cost on to future generations.<sup>7</sup>\*

Furthermore, there is no evidence that PFI has increased overall levels of service. On the contrary, its use in the NHS has had two main effects. Firstly, it has displaced the burden of debt from central government to NHS trusts and with it the responsibility for managing spending controls and planning services, thereby hindering a coherent national strategy.<sup>8</sup> Secondly, the high cost of PFI schemes has presented NHS trusts with an affordability gap. This has been closed by external subsidies, the diversion of funds from clinical budgets, sales of assets, appeals for charitable donations,<sup>10 11</sup> and, crucially, by 30% cuts in bed capacity and 20% reductions in staff in hospitals financed through PFI.<sup>2 3</sup> Though NHS funds have increased since 1999, there is no evidence that much has flowed through to baseline services.<sup>12</sup>

Thus not only are the macroeconomic arguments in favour of PFI illusory; PFI has also had a negative impact on levels of service. Largely as a result of this,

### Summary points

The private finance initiative (PFI) brings no new capital investment into public services and is a debt which has to be serviced by future generations

The government's case for using PFI rests on a value for money assessment skewed in favour of private finance

The higher costs of PFI are due to financing costs which would not be incurred under public financing

Many hospital PFI schemes show value for money only after risk transfer, but the large risks said to be transferred are not justified

PFI more than doubles the cost of capital as a percentage of trusts' annual operating income

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BMJ 2002;324:1205-9

the case for PFI now rests on the “value for money” argument.

The government's claim is that PFI delivers value for money through lowering costs over the life of the project because of greater private sector efficiency and because the private sector assumes the risks that the public sector normally carries. Here we examine the extra costs to NHS trusts of private finance compared with public finance and evaluate the value for money argument with respect to the risks transferred.<sup>13</sup>

### Background

#### Capital charging regime

Until 1991 all major capital expenditure in the NHS was funded by central government from tax or government borrowing. The NHS did not have to pay interest or repay capital, so in effect new equipment and build-



Three tables with data for more trusts appear on bmj.com



ings came “free.” The 1990 NHS and Community Care Act established hospitals as independent business units in the public sector and required them to pay for their use of capital through “capital charges.”

Capital charges are included in the prices charged to purchasers and comprise depreciation, interest, and “dividends” based on the current replacement value of the assets. To pay their interest charges and dividends to the Treasury, trusts must make a surplus, after paying their operating costs and making a charge for depreciation, equal to 6% of the value of their land, buildings, and equipment.

#### Value for money methodology and risk transfer

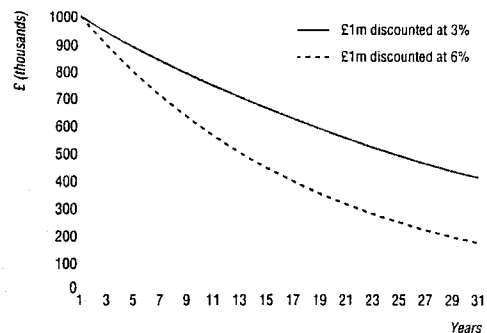
The government’s procedure for demonstrating value for money is based on an economic appraisal that compares the economic costs and benefits of alternative investment decisions. Using it, the annual costs of a scheme financed by the PFI are summed and compared with those of a notional publicly financed scheme, called the public sector comparator. The methods used contain at least two disputable components: discounting and the costing of risk transfer.

**Discounting**—The government’s preferred value for money method states that important economic costs arise from public expenditure and its timing. It is argued that unless public expenditure reflects the market cost of capital it could crowd out more beneficial private investment. This is the cost of capital argument. Secondly, it is argued that the timing of payments is economically significant because people value consumption today over consumption in a year’s time or later. This is the time preference argument. Both these economic costs, the cost of capital and time preference, are expressed in a single rate known as the discount rate. By applying a discount rate to future payments a net present cost is obtained. Thus net present cost is not the actual cash cost but a way of expressing as a single value the effect of two hypothetical economic costs.<sup>13 14</sup> The net present value or cost is derived by discounting future annual cash costs to reflect the time value of money—the fact that pounds spent in the future are worth less than pounds spent today (see box). This method has implications for the relative costs of the two methods of financing the project. Under conventional public procurement the capital costs are met and accounted for during the construction period, rarely more than three years, and so have relatively higher net “present” value. Under PFI the costs are spread over 30 years and the more distant payments have lower net present value. The discount rate adopted has a crucial impact on whether PFI offers better value than the traditional grant system.<sup>2</sup> The Treasury’s discount rate is 6% for NHS PFI projects, and welfare economists have repeatedly criticised it as being too high.<sup>15</sup>

**Risk transfer**—The second element of the value for money methodology is risk transfer. This requires identification of the future pattern of risks and costs over the life of a project for a privately financed hospital compared with a publicly financed hospital. The government claims that the apparently lower cost of publicly financed investment is due to failure to take proper account of the extra costs incurred when things go wrong. Thus a key component of the value for

#### Net present values

What is the rate at which future pounds should be discounted? The figure shows the effect on the net present value in today’s prices of £1m spent in each of years 1 to 30 using discount rates of 6% and 3% per year. The higher the discount rate the lower the net present value of payments. With a discount rate of 6%, delaying £1m worth of expenditure to year 10 gives it a net present value of £558 395 and to year 30 one of £174 110. A discount rate of 3% gives £1m expenditure a net present value of £744 109 at year 10 and of £411 987 at year 30.



money case is to estimate the cost of the risks transferred to the private sector and to add these costs to the public sector comparator.

The next part of this article identifies the extra costs of using private finance and then examines the two central justifications for these extra costs by evaluating the evidence for and the impact of discounting and risk transfer.

## Methods

### Comparing cash costs of PFI and public funding values

The cash costs and net present costs of individual PFI hospital schemes and their risk valuations were derived from published data in the House of Commons Health Select Committee *Public Expenditure Memorandum* (2000, 2001) and from full business cases for individual hospitals.<sup>16 17</sup>

We could not obtain comparative data on the total cash costs and annual cash flows of the PFI and the public sector comparators before the value for money analysis was made because these data are not available. To understand the costs of the PFI we examined the structure of costs for three PFI schemes: North Durham, Carlisle, and Worcester.

We then examined the impact of the new capital investment on the annual capital costs to NHS trusts, comparing the present capital finance regime (capital charges) with the projected capital charges and payments to the consortia under PFI (known as the annual availability fee). We also tried to estimate what the cost of the new investment would have been if the scheme had been funded out of public capital by applying the 6% capital charge that the Treasury currently requires (see background above) to the total construction costs of the new asset and adding in capital charges on retained estate.

For further schemes we then show the effect on trust operating budgets of new investment financed using the PFI compared with current capital charges.<sup>16 17</sup>

### Value for money analysis

We next examine the value for money case and show the impact of discounting before and after risk transfer on the PFI and public sector comparator for several schemes. We searched unsuccessfully for the methods and evidence base underpinning risk transfer calculations in the hospitals' full business cases and government guidance.

## Results

### Structure of costs of PFI and public funding

Table 1 shows that for three selected schemes the financing costs—that is, the costs of raising the finance—account for 39% of the total project costs under the PFI. Publicly financed capital does not incur these costs.

*Annual cost of capital*—Table 1 shows the effect of new investment on the capital charges trusts have to pay from their revenue budgets using PFI and an estimate of the costs that would be incurred using public finance for a scheme with similar construction costs. In both cases the annual cost of capital rises steeply but is more marked for PFI. The PFI costs are almost double the estimated costs of a similar scheme funded by public finance.

*Annual revenue costs*—Table 2 shows for eight trusts the capital costs under PFI as a percentage of each hospital's current revenue in the first year of its operation, when private finance is used compared with the capital charges currently using public finance. In all cases, the annual cost of capital is higher under PFI (Table A on bmj.com gives the same data for a further 12 trusts.)

### Risk and the value for money analysis

*The impact of risk and discounting on the VFM analysis*—Table 3 shows for six hospitals that the net present value of the public sector comparator was lower than that of the PFI option, even after applying a 6% discount rate (table B on bmj.com shows the same data for a further five trusts). Only after risk transfer was included was the net present value of PFI less than the public sector comparator. Also, after risk transfer, the difference between the PFI and the public sector comparator in all cases is marginal—for example, 0.05% at Swindon and Marlborough.

*Risk as a proportion of total capital costs*—Tables 3 and B also show that the private sector's risk as a proportion of the total capital costs under PFI varies enormously between projects—from 17.4% in Swindon and Marlborough to 50.4% at South Tees.

*The contribution of risk to costs*—Table 4 shows that the value of risk transferred to the private sector is remarkably close to the amount needed to close the gap between the public sector comparator and the PFI (a further four trusts are listed in table C on bmj.com).

## Discussion

The two most commonly asked questions about the use of PFI are, firstly, how the costs of private finance

**Table 1** Three PFI schemes: extra costs of financing and comparison of annual costs under PFI with those had the scheme been publicly financed and capital charges before PFI

	Worcester (£m)	North Durham (£m)	Carlisle (£m)
Structure of PFI costs*			
Total capital costs	112.2	86.6	83.7
Construction costs and fees	82.3	67.4	67.0
Other financing costs	29.9 (37%)	18.2 (27%)	16.7 (25%)
Less land sales	4.5	NA	NA
Total funding needed	107.7	86.6	83.7
Annual cost of capital			
Capital charges before PFI	5.6	3.5	3.5
Annual cost if publicly financed†	6.8	6.4	5.9
Annual cost of PFI‡	9.3	11.3	9.0

\*Sources.<sup>28-30</sup>

†Calculated as 6% of construction cost of new hospital plus capital charges on retained estate. Data from Department of Health<sup>16 17</sup> and NHS trusts annual accounts.

‡Calculated as depreciation, public dividend capital, and annual PFI availability charge.<sup>16 17</sup>

**Table 2** Annual revenue implications of capital costs for eight PFI schemes comparing costs before and in the first year of the PFI scheme

Trust	Before PFI (capital charge as % of revenue 1998-9)	After PFI (capital charges+availability fee as % of projected revenue in 1st year of operations)
Hereford Hospitals	3.8	14.6
South Tees	5.6	13.1
Dartford and Gravesham	6.7	32.7
Greenwich Healthcare	2.1	16.2
Swindon and Marlborough	3.8	16.4
Bromley Hospitals	7.0	10.7
Calderdale Healthcare	3.4	13.1
North Durham Healthcare	4.2	12.2

Refers to 1999-2000. All calculations include payments to Treasury on existing and retained estate. Data from Department of Health.<sup>16 17</sup>

and public funding of capital projects compare and, secondly, what would be the annual revenue cost to the NHS trust if the scheme were publicly funded. The data required to answer these questions have not been made publicly available, but our best estimates are that the costs of private finance are higher and that trusts pay much more than they would if the new buildings had been publicly funded.

### The higher costs of PFI

The high costs of using PFI are due in part to financing costs that a public sector alternative would not incur. The costs of raising finance at North Durham, Carlisle, and Worcester added an average of 39% to the total capital costs of the schemes. There are several reasons for this. Firstly, private debt always costs more than public debt. Secondly, the amount of capital to be raised through loans or equity under PFI is inflated by financing charges such as professional fees and the "rolled up interest" due during the construction period when the PFI consortium is not yet receiving any payments from the NHS trust. In addition there are fees for preparing the PFI bid and contract negotiations, which are not always identified in advance. For example, NHS Estates showed that the Carlisle proposal did not identify any costs "prior to the date of the signature of the agreement, unlike the [public sector comparator] where the trust has identified a cost associated with the preparation of the business case."<sup>118</sup>

Although new PFI hospitals replace two or three hospitals with one, are sited on less expensive out of

**Table 3** Comparison of discounted costs of new hospitals under public and private finance before and after risk transfer (net present values)

Trust	Public finance (£m)	PFI (£m)	% Difference between public and private finance (£m)
<b>Swindon and Marlborough</b>			
NPV	1246.7	1263.3	
Risk adjusted	1311.3	1310.6	0.05
Value of risk	64.6	47.3	
Risk as % of total capital costs to private sector		16.5%	
<b>Kings Healthcare</b>			
NPV	2935.4	2958.3	
Risk adjusted	2960.1	2959.2	0.03
Value of risk	24.7	0.9	
Risk as % of total capital costs to private sector		37.2%	
<b>St George's Healthcare</b>			
NPV	552.4	564.3	
Risk adjusted	566.0	565.4	0.11
Value of risk	13.6	1.1	
Risk as % of total capital costs to private sector		31.3%	
<b>South Durham</b>			
NPV	665.3	671.4	
Risk adjusted	674.8	671.8	0.44
Value of risk	9.5	0.4	
Risk as % of total capital costs to private sector		19.0%	
<b>Hereford Hospitals</b>			
NPV	665.9	680.3	
Risk adjusted	692.6	685.1	1.08
Value of risk	26.7	4.8	
Risk as % of total capital costs to private sector		34.2%	
<b>South Tees</b>			
NPV	201.7	230.5	
Risk adjusted	271.6	232.3	14.47
Value of risk	69.9	1.8	
Risk as % of total capital costs to private sector		50.4%	

NPV=Net present value.

Data from Department of Health.<sup>16, 17</sup>**Table 4** How risk transfer closes the gap between the net present costs of a publicly funded scheme and those of a PFI scheme

Trust	Cost advantage to publicly financed scheme before risk transfer (£m)	Value of risk transfer to the PFI scheme
Swindon and Marlborough	16.6	17.3
Kings Healthcare	22.9	23.8
St George's Healthcare	11.9	12.5
South Durham	6.1	9.1
Hereford Hospitals	14.4	21.9
South Tees	28.8	67.8

Data from Department of Health.<sup>16, 17</sup>

town sites, have fewer beds, and use the proceeds of land sales and Treasury subsidies, they are still not revenue neutral. The cost of private capital as a percentage of trusts' annual revenue expenditure rises from an average of 8% to 27%. Without a concomitant increase in revenue, local services will struggle. In school PFIs local authorities receive an annual PFI credit from central government over and above their standard spending assessment<sup>19</sup> to pay for the capital costs of PFI. In contrast NHS trusts are expected to find the extra money from their own resources. Treasury policy is that there are still efficiency savings to be made in the NHS.

But, as table 1 shows, the switch in 1991 from government grant to debt finance means that all new investment, whether publicly or privately financed, increases the cost of capital to NHS trusts and

translates into new revenue pressures. This explains why scarce NHS capital budgets are underspent, the backlog in maintenance and repairs has been rising, trusts have merged to dispose of estate, and 13 000 NHS beds have closed since 1997.<sup>20</sup>

#### Justifying the higher costs of private finance

The value for money analysis seems to be no more than a mechanism that has been created to make the case for using private finance. Even with a high discount rate (which favours PFI), PFI costs are still higher than those of the public sector comparator. So the value for money claims rest on risk transfer.

As table 3 shows, in all schemes risk transfer is the critical element in proving the value for money case. There is considerable variation between schemes in the absolute and relative value of risk transferred. What is striking, however, is that in all cases risk transfer almost equals the amount required to bridge the gap between the public sector comparator and the PFI. This suggests that the function of risk transfer is to disguise the true costs of PFI and to close the difference between private finance and the much lower costs of conventional public procurement and private finance.

Even after this manipulation, however, the difference between the public sector comparator and the PFI is marginal, in many cases less than 0.1%. Not only does this raise questions about the reliability and validity of the methods used, but it also raises serious questions about why the government is using an unevaluated method of procurement for critically important services.

#### The evidence for the risk assessment method

Risk is the most difficult and contentious part of the value for money methodology. The argument is that by getting the private sector consortium to bear some of the risks associated with the construction of the hospital and its subsequent management, a trust enjoys greater value for money than under a publicly financed alternative, where the trust would bear all the risks. There are three points to note.

Firstly, the Treasury's policy on risk transfer is that risk should be held by the party best able to control it. Contract theory, however, holds that risk is best managed when held by the party best able to bear it. The state is better able to bear the risks than the private sector.<sup>21</sup>

Secondly, risk transfer requires the ability to quantify the probability of things going wrong. There is no standard method for identifying and measuring the values of risk, and the government has not published the methods it uses. The business cases we examined do not reveal how the risks were identified and costed. Our findings are supported by a Treasury commissioned report which found that in over two thirds of the business cases for hospital PFI schemes the risk could not be identified. In the other cases risk transfer was largely attributed to construction cost risks, which would be dealt with by penalty clauses under traditional procurement contracts.<sup>22</sup>

Thirdly, risks can be transferred only through a contract that identifies them. Yet there is reason to cast doubt on the claim that contracts offer a means of transferring financial risk.<sup>23</sup> Where a trust wishes to terminate a contract, either because of poor performance or insolvency of the private consortium, it still has to

pay the consortium's financing costs, even though the latter is in default. It would otherwise have to take over the consortium's debts and liabilities, given that the lending institutions make their loans to the consortiums conditional on NHS guarantees. In such cases "the attempt to shift financial responsibility from the public to the private sector fails. De facto, a risk-sharing arrangement results from force majeure," as the Railtrack collapse has shown.<sup>24</sup>

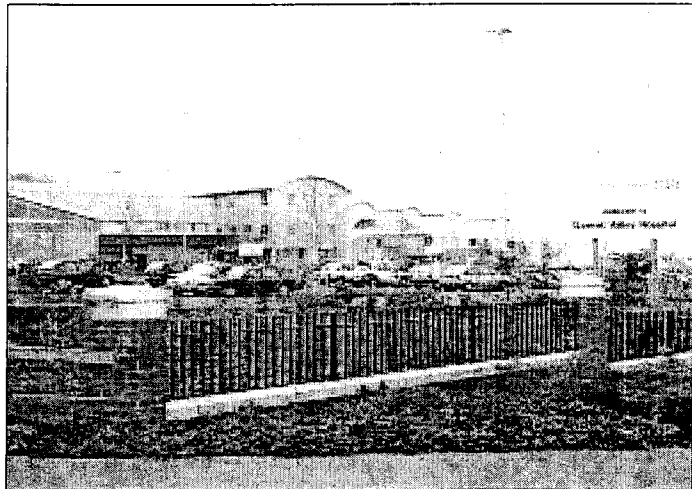
And risk transfer can never cover all risks. For example, at Darent Valley Hospital in Dartford and Gravesham nurses complained that the design was not conducive to effective care, and equipment was not working properly when the hospital first opened.<sup>25</sup> At the new Princess Margaret Hospital in Swindon the recovery room is located 80 metres from the operating theatre. It is unclear how trusts can be compensated for such poor design.

The high value of risk transfer—up to 50% of the total capital cost to the private sector (table 4)—indicates the high levels of compensation being paid to the private sector for risk transfer. Yet external evidence questions the basis for such high valuations of risk. In several PFI projects the consortiums have refinanced their loans at a lower cost because the risks turned out to be less than expected—but the public sector is still paying the cost of the initial financing. PFI consortia have even advertised that their projects contain "little inherent risk" and have been able to issue bonds with a triple A rating, which indicates low risk. Finally, at least one construction company (Jarvis) has sold off its construction arm in order to concentrate on PFI projects, which it says are less risky than conventional construction projects.

### What really happens to the risk

Two failed PFI schemes in Australia contain important evidence on risk transfer.<sup>26</sup> The Victoria government had to buy back La Trobe Hospital from Australian Hospital Care in October 2000, because "the losses incurred by AHP on the contract meant it could no longer guarantee the hospital's standard of care." At Modbury Hospital the South Australian government had to come to the rescue of the contractor and increase its contractual payments or the contractor would have defaulted. Closer to home, the Benefits Agency and Passport Office fiascos, and other failed private finance schemes, show that ultimately the risk is not transferred—the taxpayer ends up paying for private sector risks.<sup>27</sup>

But irrespective of whether and how much financial risk is actually transferred and to whom, the main risks are those that arise from technical obsolescence, changing regulation, and unmet patient needs, risks which ultimately the NHS, local communities, and patients will have to bear. Should conditions change during a 30 year contract, rendering the facilities unsuitable, the NHS will find itself locked into long term contracts and payments and patients may find they have to go without care.



Darent Valley Hospital: nurses complained the design was not conducive to effective care

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# A systematic review and meta-analysis of studies comparing mortality rates of private for-profit and private not-for-profit hospitals

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## Abstract

**Background:** Canadians are engaged in an intense debate about the relative merits of private for-profit versus private not-for-profit health care delivery. To inform this debate, we undertook a systematic review and meta-analysis of studies comparing the mortality rates of private for-profit hospitals and those of private not-for-profit hospitals.

**Methods:** We identified studies through an electronic search of 11 bibliographical databases, our own files, consultation with experts, reference lists, PubMed and SciSearch. We masked the study results before determining study eligibility. Our eligibility criteria included observational studies or randomized controlled trials that compared private for-profit and private not-for-profit hospitals. We excluded studies that evaluated mortality rates in hospitals with a particular profit status that subsequently converted to the other profit status. For each study, we calculated a relative risk of mortality for private for-profit hospitals relative to private not-for-profit hospitals and pooled the studies of adult populations that included adjustment for potential confounders (e.g., teaching status, severity of illness) using a random effects model.

**Results:** Fifteen observational studies, involving more than 26 000 hospitals and 38 million patients, fulfilled the eligibility criteria. In the studies of adult populations, with adjustment for potential confounders, private for-profit hospitals were associated with an increased risk of death (relative risk [RR] 1.020, 95% confidence interval [CI] 1.003–1.038;  $p = 0.02$ ). The one perinatal study with adjustment for potential confounders also showed an increased risk of death in private for-profit hospitals (RR 1.095, 95% CI 1.050–1.141;  $p < 0.0001$ ).

**Interpretation:** Our meta-analysis suggests that private for-profit ownership of hospitals, in comparison with private not-for-profit ownership, results in a higher risk of death for patients.

Canadian health policy-makers are considering an expansion of private for-profit health care delivery, including private for-profit hospitals.<sup>1</sup> Most of the debate has focused on whether private for-profit health care facilities can contain costs more effectively,<sup>2,3</sup> avoid differential access to health services (i.e., two-tier medicine)<sup>6</sup> and avoid letting foreign investors influence Canadian health care policy through the North American Free Trade Agreement (NAFTA).<sup>7</sup> What has been missing from this debate is consideration of the potential health outcomes of the proposed expansion of private for-profit health services.

Health care can be separated into 2 essential and distinct components: funding

Research

Recherche

From the Departments of \*Medicine, †Anesthesia, ‡Clinical Epidemiology and Biostatistics, §§Psychiatry and Behavioral Neurosciences, and ¶¶Surgery and the †††Health Sciences Library, McMaster University, Hamilton, Ont.; the Departments of §Medicine, ¶¶Social and Preventive Medicine, and ††Physiology and Biophysics, University at Buffalo, and the ‡‡Veterans Affairs Medical Center, Buffalo, NY; the \*\*Institute for Work and Health and the Population Health Program, Canadian Institute for Advanced Research, Toronto, and the \*\*\*Department of Health Policy Management and Evaluation, University of Toronto, Toronto, Ont.

*This article has been peer reviewed.*

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‡ See related articles pages 1416 and 1418



Fast-tracked article

(i.e., who pays for health care) and delivery (i.e., who owns and administers the institutions or services that provide the care). Both funding and delivery can be public or private. Public funding means paid for by government (e.g., through the use of tax dollars); public delivery means government ownership and administration of health care facilities. Private funding and private delivery can both be for-profit or not-for-profit. On the funding side, insurance companies that channel premiums to pay for health care can be private for-profit or private not-for-profit. On the delivery side, hospitals and other health care delivery institutions that are private for-profit corporations are owned by shareholders or investors. Private hospitals can also be not-for-profit institutions that are owned by religious organizations, communities, regional health authorities or the hospital boards.

Public funding is the main method by which Canadian hospitals obtain revenue. However, 95% of Canadian hospitals are private not-for-profit institutions.<sup>8</sup> Because Canadians commonly use the term “public hospitals” to refer to private not-for-profit hospitals, many are unaware of the private ownership and administration of our hospitals.<sup>9</sup>

This study addresses issues of health care delivery, rather than health care funding. We undertook a systematic review and a meta-analysis to address the following question: What is the relative effect of private for-profit versus private not-for-profit delivery of hospital care on patient mortality?

## Methods

We evaluated hospital mortality rates as a component of a larger systematic review that we are undertaking to compare health outcomes, quality and appropriateness of care, and cost in private for-profit versus private not-for-profit health care delivery systems. This publication presents the results of the hospital mortality review. The study process is outlined in Fig. 1.

We used 6 strategies to identify studies: an electronic search of 11 bibliographical databases; our own files; consultation with experts from several continents; a review of reference lists from articles that fulfilled our eligibility criteria; PubMed, using the “related articles” feature for all studies meeting our entry criteria; and SciSearch, for publications that cited any studies that fulfilled our entry criteria.

We used all the studies that we were initially aware of to identify medical subject heading terms and key words for the search. A librarian (N.B.) undertook an iterative process, for each database, to refine the search strategy through testing of several search terms and incorporation of new search terms as new relevant citations were identified. The search included the following databases: EMBASE (1980–2001), MEDLINE (1966–2001), HEALTHSTAR (1975–2001), CINAHL (1982–2001), BIOETHICSLINE (1973–2000), Wilson Business Abstracts (1997–2001), EconLit (1969–2001), Cochrane Library (2001, issue 3), Dissertation Abstracts Ondisc (1861–2001), ABI/INFORM (1970–2001) and NTIS (1964–2002). Complete listings of the database search strategies are available from the authors.

Our 6 strategies identified 8665 unique citations. Teams consisting of 2 individuals independently screened the titles and abstracts of each citation and identified all citations for full review when there was any possibility that the study contained a comparison we were interested in. This screening process yielded 805

full-text publications identified by one or both of the individuals in each team for full review (Fig. 1).

We masked the results (i.e., obscured them with a black marker from the tables and text) of all publications selected for full review. Teams of 2 individuals independently evaluated each masked article to determine eligibility. Our agreement on studies evaluated within teams was excellent ( $\kappa$  0.83, 95% confidence interval [CI] 0.73–0.93). All disagreements were resolved by consensus. The consensus process required individuals to discuss the reasoning for their decisions. If one individual realized that she or he had made an error, then the process was complete. This occurred in all cases, and therefore an independent third adjudicator was

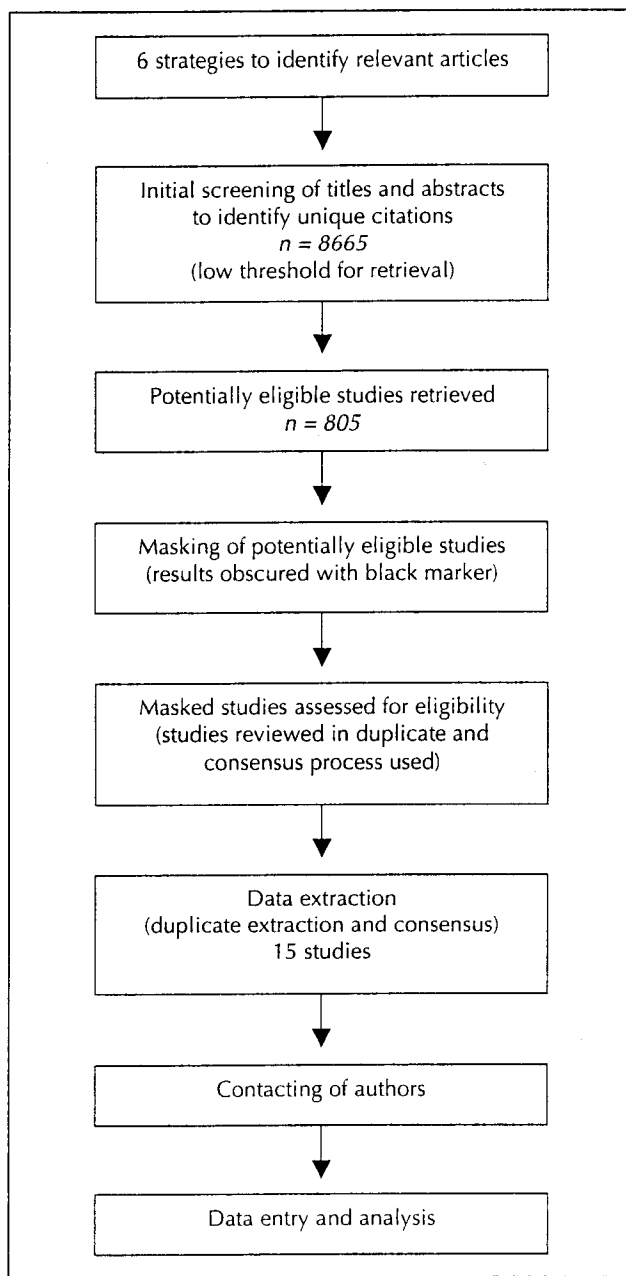


Fig. 1: Study process.

never required to resolve disagreements. Teams reviewed masked articles that they had not assessed during the screening process.

We included observational studies or randomized controlled trials (RCTs) that compared patient mortality in private for-profit and private not-for-profit hospitals. We excluded studies that evaluated health care delivery systems with a particular profit status (e.g., private not-for-profit) that subsequently converted to another profit status (e.g., private for-profit), because the comparisons are confounded by potential differences in patient populations and medical interventions over time and uncertainty regarding the time required to create functional change after an alteration in ownership status.

We assessed the following characteristics in all the observational studies that met the eligibility criteria: sampling method, type of hospitals evaluated (e.g., general medical and surgical hospitals, hospitals with maternity services), date when data collection was initiated and completed, duration of patient follow-up, source(s) of health care financing (e.g., public, private insurance), case mix of patients (e.g., medical disorders, surgical disorders), source of data (e.g., administrative database, patient chart), number of hospitals and patients evaluated, mortality results and whether there was adjustment for potential confounders in the analyses. Teams of 2 individuals independently abstracted data from all the studies that fulfilled our eligibility criteria. Disagreements were resolved by consensus using the same process discussed earlier. Our overall agreement was 93% for the data abstraction. We attempted to contact all authors when data were missing.

To eliminate hospital teaching status as a potential confounder, we included the results from private for-profit nonteaching and private not-for-profit nonteaching hospitals when these data were available. If a study reported 2 separate adjusted analyses, we included the results from the analysis with the most appropriate adjustment. We considered it appropriate to adjust for patients' severity of illness and socioeconomic status, hospital teaching status and other variables that could confound the comparison of interest. Where possible, we avoided adjustment for variables that are under the control of hospital administrators, which may be influenced by profit status and may affect mortality. These variables include hospital staffing levels (e.g., the number of registered nurses per bed, registered pharmacists per bed) after adjustment for patients' severity of illness has already been undertaken.

Before carrying out the analysis, we specified several hypotheses to test potential explanations for variability (i.e., heterogeneity) in

the direction and magnitude of effect among studies. We hypothesized that the effect size may differ based on whether the analysis adjusted for potential confounders; whether we incorporated an estimate of the sample size into the calculation to determine the effect size; the duration of patient follow-up (i.e., in hospital, or for 30 days or 90 days after admission); the source of health care funding; the data source; whether the hospitals belonged to a chain or were free-standing organizations; whether the patient population was adult or pediatric; and, for studies involving US Medicare patients, whether the data collection occurred before 1984 (when US Medicare switched from a cost-based reimbursement scheme, whereby hospitals were reimbursed for the costs associated with a patient's care, to a prospective payment system whereby hospitals are reimbursed based on the patient's designated diagnosis).

For each study, we computed the relative risk of mortality in private for-profit hospitals relative to private not-for-profit hospitals (see the Appendix on the *CMAJ* Web site for details). We pooled these relative risks using a random effects model<sup>10</sup> and tested for heterogeneity using a  $\chi^2$  test. A meta-analysis program written by one of the authors (B.W.) was used. We evaluated a funnel plot for evidence of publication bias.<sup>11</sup>

The Hamilton Health Sciences Research Ethics Board in Hamilton, Ont., approved this study protocol.

## Results

We identified 13 publications that reported 15 observational studies that met our eligibility criteria.<sup>12-24</sup> Three publications identified as fulfilling our eligibility criteria were subsequently excluded, because 2 were duplicate publications of included studies, and in one publication the patient population was a subset of a larger population from an included study.<sup>25-27</sup> We also identified 19 publications that we felt might be eligible but required further information or data, or both, from the authors. After contacting authors, we confirmed that these studies either did not address our study question or the authors could not provide the necessary data. Studies that did address our question but did not contain data that we could use all suggested an advantage for private not-for-profit hospitals (Table 1).<sup>28-46</sup>

**Table 1: Publications excluded from the meta-analysis after further information was obtained from authors**

Problems that precluded study inclusion	Efforts to resolve problems
Seven studies evaluated hospital mortality rates and included PFP and PNFP hospitals but did not provide data to compare the PFP and PNFP hospitals. <sup>28-34</sup>	All 7 authors were contacted, but they were unable to provide data.
Three studies compared mortality rates in PFP and PNFP hospitals. However, we were unable to incorporate their data as presented into our review. <sup>35-37</sup>	Two authors were unable to provide the data, <sup>35,36</sup> and we were unable to contact one author. <sup>37</sup> The data presented suggested a trend favouring lower mortality rates in PNFP hospitals in all 3 studies.
Six studies evaluated hospital mortality rates in PFP and NFP hospitals. The NFP hospitals were a mixture of public NFP and PNFP hospitals. <sup>38-43</sup>	The authors were unable to provide the data to compare the PFP and PNFP hospital mortality rates directly. Two publications reported a statistically significant lower adjusted mortality rate in the NFP hospitals, <sup>38,39</sup> and 2 publications reported a trend favouring lower mortality rates in the NFP hospitals. <sup>40,41</sup> One study did not provide information to compare the PFP with the NFP hospitals, <sup>42</sup> and one study was a duplicate publication. <sup>43</sup>
For 3 studies, we wondered whether the authors had data on PFP and PNFP hospital mortality. <sup>44-46</sup>	We were able to determine that 2 of the studies did not include any PFP hospitals, <sup>44,45</sup> and one did not include any PNFP hospitals. <sup>46</sup>

Note: PFP = private for-profit, PNFP = private not-for-profit, NFP = not-for-profit.

Tables 2 and 3 (Table 3 is available in electronic format on the *CMAJ* Web site) present the study characteristics and the study methodology respectively for the 15 observational studies included in our systematic review. These studies were all conducted in the United States, and in most studies patient health care was publicly funded through Medicare. Most studies included general acute care, medical and surgical patients, and one study specifically examined maternity services.<sup>18</sup> Data in these studies came from about 38 million patients admitted from 1982 to 1995 to 26 000 hospitals, and the most frequent patient follow-up period was 30 days after admission to hospital. All studies used administrative data.

Of the 14 studies that evaluated adult populations and adjusted for potential confounders, 6 had a statistically significant lower relative risk of death in the private not-for-profit hospitals,<sup>14,16,17,20,21,23</sup> and one had a statistically significant lower relative risk of death in the private for-profit hospitals (Fig. 2).<sup>19</sup> Meta-analysis of these 14 studies demonstrated that private for-profit hospitals were associated with an increased risk of death (relative risk [RR] 1.020, 95% CI 1.003–1.038;  $p = 0.02$ ).

One study of perinatal mortality that evaluated 1 642 002 patients in 243 hospitals and adjusted for potential confounders also demonstrated an increased risk of death in private for-profit hospitals (RR 1.095, 95% CI 1.050–1.141;  $p < 0.0001$ ).<sup>18</sup>

Two studies reported analyses that appropriately adjusted for patients' severity of illness and separate analyses that also adjusted for staffing levels (e.g., registered nurses as a proportion of all nurses, board-certified specialists as a proportion of all physicians, registered pharmacists per occupied bed).<sup>14,20</sup> In both studies, the risk of higher mortality associated with private for-profit hospitals decreased in the latter analysis. Hartz and colleagues reported a decrease in relative risk from 1.06 to 1.04, and Bond and coworkers reported a

decrease from 1.03 to 1.01, in the analysis that adjusted for variables under the control of hospital administrators.<sup>14,20</sup>

We explored potential sources of variability in the study results based on our predefined hypotheses. We found different summary estimates for the studies that evaluated adult populations compared with the study that evaluated a perinatal population ( $p = 0.002$ ); the impact of the private not-for-profit hospitals in lowering mortality was larger in the perinatal study. Because of these findings, we did not include the study that evaluated a perinatal population in the pooled analysis. The  $p$  values for the difference in summary estimates in each pair of subgroups defined in our other hypotheses were all greater than 0.10, indicating no significant difference in subgroup summary estimates. Our pooled estimate of the adult population studies with adjustment for confounding had heterogeneity ( $p = 0.02$ ) that we could not explain. The funnel plot did not suggest publication bias (Fig. 3).

## Interpretation

Our systematic review identified 15 observational studies that compared private for-profit with private not-for-profit hospital mortality. These studies uniformly met quality criteria regarding adjustment for potential confounders, in particular, patients' severity of illness or surrogate markers of severity of illness, and complete accounting of deaths. Our pooled analysis of the adult population studies demonstrated that private for-profit hospitals were associated with a statistically significant increase in the risk of death.

We are aware of 2 earlier reviews in this area. The New York Academy of Medicine has reported a qualitative review that compared access, costs, quality of care, education and research in for-profit and not-for-profit hospitals, managed care organizations and nursing homes.<sup>47</sup> This review only included 4 of the 15 studies we identified and

**Table 2: Characteristics of studies included in the meta-analysis**

Study	Type of hospital	Patient funding	Date when data collection was begun in the hospital	Date when data collection was completed in the hospital	Follow-up period for individual patients
Shortell and Hughes <sup>12</sup>	Community	Medicare	01/07/1983	30/06/1984	In hospital
Keeler et al <sup>13</sup>	Acute care	Medicare	01/07/1985	30/06/1986	30 d
Hartz et al <sup>14</sup>	Acute care	Medicare	01/01/1986	31/12/1986	30 d
Manheim et al <sup>15*</sup>	Acute care	Medicare	01/01/1987	31/12/1987	30 d
Kuhn et al <sup>16</sup>	Acute care	Medicare	01/01/1988	31/12/1988	30 d
Pitterle et al <sup>17</sup>	Acute care	Medicare	01/01/1988	31/12/1988	In hospital
Williams <sup>18</sup>	Maternity	Public and private	01/01/1986	31/12/1990	28 d post delivery
Mukamel et al <sup>19</sup>	Acute care	Medicare	01/01/1990	31/12/1990	30 d
Bond et al <sup>20</sup>	Acute care	Medicare	01/01/1992	31/12/1992	In hospital
Yuan et al <sup>21*</sup>	Acute care	Medicare	01/01/1984	31/12/1993	30 d
Lanska and Kryscio <sup>22</sup>	Community	Public and private	01/01/1993	31/12/1993	In hospital
McClellan and Staiger <sup>23</sup>	Acute care	Medicare	01/01/1994	31/12/1994	90 d
Sloan et al <sup>24</sup>	Acute care	Medicare	01/01/1982	31/12/1995	30 d

\*Information is the same for both studies by Manheim et al and by Yuan et al.



reached the general conclusion that the studies evaluated provided no clear indication as to the superiority of either hospital system regarding the quality of care and health outcomes.<sup>17</sup> The second review focused on the public purchasing of private surgical services.<sup>18</sup> This qualitative review identified 7 of the 15 studies we included and reached the general conclusion that more research was needed.

We undertook multiple strategies to identify studies, including searching 11 bibliographical databases, and found a number of studies not included in earlier reviews (see preceding paragraph). We masked study results before determining study eligibility. Our agreement on study inclusion was high as was our agreement during data abstraction. We were also successful in confirming and obtaining information from authors (see Appendix<sup>19</sup>). We were able to identify 15 studies with very large sample sizes that adjusted for potential confounders.

Our systematic review has several limitations. The most important is that we were unable to identify any RCTs. It is unlikely that RCTs will ever be undertaken to study this question, thus the strongest feasible design for addressing our question is observational. However, all 15 studies we

identified did adjust for potential confounders, including teaching hospital status and markers of patients' severity of illness.

A major threat to the validity of observational studies is residual confounding. Is it possible that there are factors other than private not-for-profit hospital status that explain such institutions' lower mortality rates? One such factor could be teaching status, because a much higher proportion of private not-for-profit than private for-profit hospitals are teaching hospitals. However, 3 of the studies conducted analyses that excluded teaching hospitals altogether and found a statistically significant increase in mortality in the private for-profit hospitals (RR 1.01, 1.05 and 1.05).<sup>16,21</sup>

Inevitably, large administrative databases have a limited ability to adjust for disease severity. Is it possible that patients in private not-for-profit hospitals were, on average, less sick? Most of the studies considered here used the Health Care Financing Administration (HCFA) database that includes data on all US hospitals that serve Medicare patients and generates risk-adjusted mortality rates that are highly correlated with detailed clinical risk-adjusted mortality rates.<sup>33</sup> Moreover, in the studies that reported both

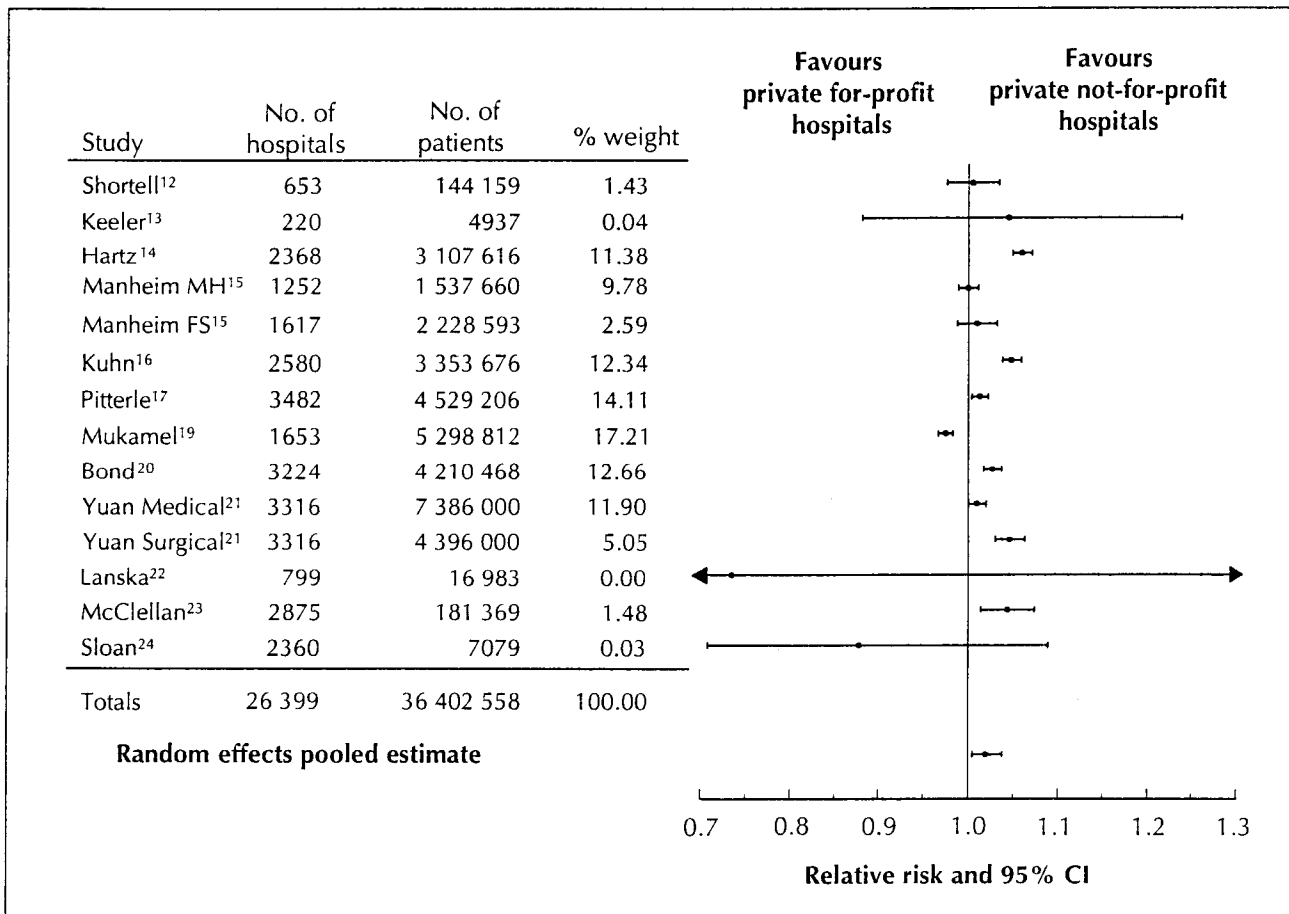


Fig. 2: Relative risk of hospital mortality for adult patients in private for-profit hospitals relative to private not-for-profit hospitals. CI = confidence intervals.

unadjusted and adjusted results for disease severity, the adjusted analysis consistently led to effect estimates that were more favourable to the private not-for-profit institutions, suggesting that private not-for-profit hospitals serve a population of patients with greater disease severity.<sup>13,14,16,22</sup> Under these circumstances, we would anticipate that residual confounding would make the private not-for-profit institutions look worse, rather than better, than the private for-profit institutions. These considerations suggest that, if anything, our results may represent an underestimate of the potential increase in mortality associated with private for-profit hospital care.

Ideally, studies would have adjusted for, or considered as explanatory factors, other variables for which data were not available. These variables include whether the physicians were hospital employees or corporate employees, or independent contractors, and their relationships with local health maintenance organizations. Finally, studies have done little to adjust for the proportion of Medicare patients versus privately insured patients in the institutions being analyzed. With respect to this last variable, however, it is likely that for-profit hospitals attracted a larger proportion of privately insured individuals. If this is the case, private for-profit providers would have more resources available, and one might expect a “spillover” effect of improved care to Medicare patients. To the extent that this is the case, our pooled estimate again biases the results against the private not-for-profit institutions.

When studies show important differences in results, rigorous systematic reviewers explore the data to see if they can identify cogent explanations for the differences. How they should proceed if they fail to find an explanation for the differences remains controversial. Some argue that under these circumstances, pooling is inappropriate. Others argue that

clinicians, and in this case health policy-makers, must still make decisions, and their decisions should be driven by the best available estimate of treatment effect.<sup>30</sup> In the presence of unexplained heterogeneity, while inferences associated with pooled estimates are weaker, these estimates nevertheless provide the best estimate of the average effect, and thus constitute useful information for decision-makers.

The studies we pooled used similar methods to examine similar populations. Moreover, one does not require a pooled analysis to generate concern about the impact of for-profit status on hospital mortality: 7 studies provided statistically significant results that favoured lower mortality in private not-for-profit hospitals, whereas only one study had a statistically significant finding in the opposite direction.

We have no satisfactory explanation for the one study that demonstrated a statistically significant lower risk of death in private for-profit hospitals.<sup>19</sup> Other large studies that used data from the same database before and after this study reached the opposite conclusion.<sup>14,16,17,20,21,23</sup> We contacted the authors of this study and asked them to undertake further analyses to determine what may have accounted for this discrepant finding.<sup>19</sup> The authors declined our request.

Why is there an increase in mortality in for-profit institutions? Typically, investors expect a 10%–15% return on their investment. Administrative officers of private for-profit institutions receive rewards for achieving or exceeding the anticipated profit margin. In addition to generating profits, private for-profit institutions must pay taxes and may contend with cost pressures associated with large reimbursement packages for senior administrators that private not-for-profit institutions do not face. As a result, when dealing with populations in which reimbursement is similar (such as Medicare patients), private for-profit insti-

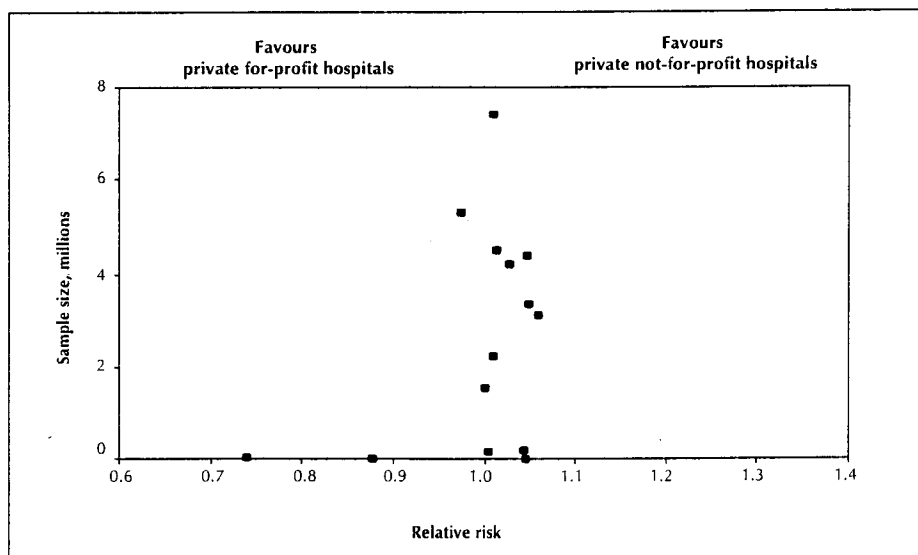


Fig. 3: Funnel plot of relative risk, in adult studies, of death in private for-profit hospitals relative to private not-for-profit hospitals.

tutions face a daunting task. They must achieve the same outcomes as private not-for-profit institutions while devoting fewer resources to patient care.

Considering these issues one might feel concern that the profit motive of private for-profit hospitals may result in limitations of care that adversely affect patient outcomes. Our results suggest that this concern is justified. Studies included in our review that conducted an initial analysis adjusting for disease severity, and another analysis with further adjustment for staffing levels, support this explanation for our results. The private for-profit hospitals employed fewer highly skilled personnel per risk-adjusted bed.<sup>14,20</sup> The number of highly skilled personnel per hospital bed is strongly associated with hospital mortality rates,<sup>14,17,20</sup> and differences in mortality between private for-profit and private not-for-profit institutions predictably decreased when investigators adjusted for staffing levels. Therefore, lower staffing levels of highly skilled personnel are probably one factor responsible for the higher risk-adjusted mortality rates in private for-profit hospitals.

Given the differences in the organization of the Canadian and US health care systems, one might question whether our results can be applied to Canada. The structure of US health care has, however, shifted dramatically over time. With the exception of a single study, the results are remarkably consistent over time, suggesting that the adverse effect of private for-profit hospitals is manifest within a variety of health care contexts. Furthermore, whatever the context within which they function, for-profit care providers face the problem of holding down costs while delivering a profit. One would, therefore, expect the resulting problems in health care delivery to emerge whatever the setting. Finally, should Canada open its doors to private for-profit hospitals, it is the very same large US hospital chains that have generated the data included in this study that will soon be purchasing Canadian private for-profit hospitals. In summary, we think it plausible, indeed likely, that our results are generalizable to the Canadian context.

The Canadian health care system is at a crucial juncture with many individuals suggesting that we would be better served by private for-profit health care delivery. Our systematic review raises concerns about the potential negative health outcomes associated with private for-profit hospital care. Canadian policy-makers, the stakeholders who seek to influence them and the public whose health will be affected by their decisions should take this research evidence into account.

*Competing interests:* None declared.

*Contributors:* P.J. Devereaux is the principal investigator for this study. He had the original idea for this study and led all aspects including design and data acquisition and interpretation. He wrote the first draft of the manuscript. Peter Choi is the co-principal investigator for this study. He made substantial contributions to its design and execution and made critical revisions to the manuscript. Christina Lacchetti made substantial contributions to the design and execution of this study and made critical revisions to the manuscript. Bruce Weaver was involved in the study design, data acquisition and analysis, and provided critical revisions to the manuscript. Holger Schünemann, Ted Haines, Brydon Grant, David Haslam, Mohit Bhandari,

Stephen Walter, Humaira Khan, Neera Bhatnagar and Gordon Guyatt were involved in the study design, data acquisition and interpretation, and provided critical revisions to the manuscript. Stephen Taylor also undertook data analysis. Gordon Guyatt also provided supervisory support throughout the study. John Lavis, Terrence Sullivan, Deborah Cook, Maureen Meade were involved in the study design, interpretation of data and provided critical revisions to the manuscript.

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The following is an excerpt from a policy brief published by the Canadian Hospital Association in 2001, titled: *The Private-Public Mix in the Funding and Delivery of Health Services in Canada: Challenges and Opportunities*

#### **4.4 Private Funding — Increases Total Health System Costs**

As we have seen in countries like the United States and Australia, a for-profit, private parallel health system is more expensive. With greater private funding, total health costs (the sum of private and public costs) increase. There are a number of reasons for this, including:

- ❑ higher administrative costs within the private system,
- ❑ the need to ensure profits and
- ❑ increased out-of-pocket expenses for services which may not be needed.

A number of studies over the years have compared the Canadian and American health systems. Findings in terms of administrative overhead are consistent: a single-payer, publicly administered system as we have in Canada significantly reduces total health costs. Many studies have examined the additional administration costs that are borne by privately funded services (*see* Silverman et al. 1999; Woolhandler and Himmelstein 1997; Woolhandler et al. 1999; Deber 2000, 10, 34). For example:

Hospital administrative costs in the United States are higher than previous estimates and more than twice as high as those in Canada. Greater enrollment in HMOs, with more competitive bidding by hospitals for managed care contracts, an important element of proposed managed-competition health care reforms, does not seem to lower hospital administrative costs (Woolhandler et al. 1999, 400).

Public health systems, such as Britain's and Canada's can finance health care at a fraction of the administrative cost of private ones because they have a single system of accountants, computers, forms, and procedures, all focussed on delivering one plan (Taft and Steward 2000, 64)

The need to realize a profit also results in higher total health expenditures, unless costs are controlled in other areas such as wages, which undermine the quality of care. (*See* section 5.2.)

Increased health expenditures in the United States have also been attributed to health fraud. Of the \$1.5 billion recovered from civil fraud cases between 1997 and 2000 in the United States, \$840 million was from the for-profit health care sector (Tommy Douglas Research Institute 2001).

Another reason a private parallel system increases total health costs is that the wealthy, if they are paying out of pocket, can demand tests and other procedures not on the basis of health need but rather on the basis of the ability to pay. This predominance of demand, rather than need, also fundamentally challenges the evidence-based approach to the provision of service and the management of resources. This is not to say that diagnostic tests are unnecessary: they are vital to the management of treatment of illness. However, needed diagnostic tests should be covered for all Canadians within our publicly funded health system.

Detailed examinations of each of these reasons, supported by research conducted in Canada and around the world, are provided in a number of excellent documents (e.g., Deber 2000; Rachlis 2000; Taft and Steward 2000, 93, 95–96). One quote sums up this research:

“When a major scientific journal such as the *New England Journal of Medicine* says bluntly that in decades of research, ‘[No] peer-reviewed study has found that for-profit hospitals are less expensive,’ it is not leaving much to the imagination” (Woolhandler and Himmelstein 1999 as quoted in Taft and Steward 2000, 93).

As mentioned in section 3.1.3, an astonishing statistic is that, in 1994, *per capita public* spending on health was US\$155 *more* in the United States than in Canada: US\$1,599 versus US\$1,444 respectively, yet between 37 and 41 million Americans have no health care insurance and most other Americans, or their employers, face substantial deductibles, fees and premiums (Thorpe as cited in Taft and Steward 2000, 84–85).

“Americans thus pay more *in taxes* for health care ‘than Canadians or almost all other people in the developed world’ in addition to (or despite) their massive contributions through the private sector” (Evans as quoted in *Ibid.*, emphasis in original).

This American comparison belies yet another form of resource distortion with the private sector once again increasing total health costs.

There are countless references that could be quoted at length regarding the impact of greater private funding on increased total health expenditures. The shortness of this section belies the wealth of material that has been written on this issue and the seriousness of the issue.

In summary, with greater private sector funding, total health expenditures will invariably increase. Over time, this will have serious implications in terms of Canada's global competitiveness (*see* section 4.5), individuals' accessibility to needed services and the overall health of Canadians.