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## COMPETITION IN CANADIAN HEALTH CARE SERVICE PROVISION: **GOOD, BAD, OR INDIFFERENT?**

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### SUMMARY

Most provincial health care systems in Canada combine public, private non-profit, and private for-profit delivery. In Alberta, the *Health Care Protection Act*, known as Bill 11, allows the public to purchase certain insured surgical services from private providers. This legislation sparked a heated and ongoing debate in Canada about the role of competition in health care service delivery. The key question asked is what can be gained from introducing competition among hospital and physician services while maintaining a public payment system. This paper evaluates what has been learned from the recent literature on competition in health care markets in the context of expanding the role of the private sector in Alberta. The evidence does not provide a definitive answer. Competition introduced by an expanded private sector is likely to be beneficial on some measures, indifferent on others, but not likely bad.

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## EXECUTIVE SUMMARY

Most provincial health care systems in Canada combine public, private non-profit, and private for-profit delivery. In Alberta, the *Health Care Protection Act*, known as Bill 11, allows for the public purchase of some insured surgical services from private, for-profit providers. This legislation has sparked a contentious debate about the role of competition in health care service delivery. The key question asked is what can be gained from introducing competition among hospital and physician services while maintaining a public payment system.

The private sector has always played an important role in the delivery of publicly financed health care services. In 2008, 91.3% of hospital services and 98.6% of physician services were publicly financed in Alberta. The debate surrounding Bill 11 and the 2001 Mazankowski report is often said to be about the pros and cons of increased privatization of health care. This characterization is not accurate, however, since the lion's share of publicly financed services is already privately delivered. The issue is not about making a choice between wholly public or private service delivery for the entire system. Rather, it is about determining what services optimally can be moved out of the full-service, non-profit hospitals under contractual arrangements with private, for-profit specialty clinics.

After a decade, however, very little evidence has been uncovered of the effect of Bill 11 on Alberta's health system. Some information is available on the size and scope of public contracting for privately provided non-hospital surgical services — for example, the number of private, for-profit, non-hospital surgery centres increased by 46% between 1991 and 1999. In 2008, of all the province's regional health authorities, only Capital Health in Edmonton and the Calgary Regional Health Authority were contracting for privately provided surgical specialties, and then only for relatively small amounts and for a small number of specialties.

Additional data are needed before one can undertake a thorough analysis of the effect of competition — created by allowing the public purchase of private surgical services — on consumer choice, cost, quality, and waiting lists. One can, however, learn from recent, mostly U.S., studies on competition in health services provision. Experience in the United States with the emergence of single-specialty hospitals and public-payer contracts with managed care are particularly relevant for Alberta.

The evidence does not provide a definitive answer about the effect of competition in markets where for-profit and non-profit coexist. Rather, the answer seems to be that it depends. Such a conclusion is not surprising, however, since health care organizations are heterogeneous and local, making it entirely possible for the effects of a single policy to vary from one region to another. Nonetheless, the evidence suggests that healthy competition and an appropriate blend of public, private non-profit and private, for-profit delivery is likely to be beneficial on some measures, indifferent on others, but not likely bad.

The major objections raised by opponents of competition and private, for-profit delivery at least serve the purpose of defining “bad” outcomes, such as the hypothesized creation of a two-tier system that leaves the public system as the “provider of last resort” and “cream skimming” that leaves the more difficult and costly cases in the public sector. On balance, however, the evidence does not tend to support such charges. True, a health care system runs the risk of evolving into a two-tier system if there are multiple public and private payers and a payment system that does not contain incentives, financial or otherwise, for providers to participate in the public sector. But so long as the single-payer public payment system under the *Canada Health Act* is in place, a two-tier system is unlikely to arise.

There is also some evidence of cream skimming in some studies of the effect of competition between non-profit and for-profit hospitals on quality of care and the behaviour of single-specialty hospitals in the United States. Again, however, the *Canada Health Act* diminishes incentives for cream skimming by requiring that physicians accept public payment as payment in full. Even if cream skimming were to occur, moreover, it could be beneficial from a system-level perspective if it led to an optimal allocation of patients between full-service general hospitals and specialty clinics. It might be socially optimal for full-service hospitals to treat the more medically complex cases, leaving the easier cases to the specialty clinics. The challenge for the health authority is to set budgets for acute-care general hospitals that allow them to treat higher-cost patients without cross-subsidizing the costs with more profitable patients. A carefully crafted public policy that encouraged competition and an appropriate mix of public, non-profit and for-profit providers could lead to a health system that is fiscally sustainable, ensures access to quality health care, and results in better health outcomes.

## INTRODUCTION

The role and effect of competition in health care markets continues to be a hotly debated and contentious issue in both the academic literature and the public policy arena. Most health care systems, including Canada's, combine public and private delivery of health care services. The coexistence of public, private non-profit, and private for-profit providers in the same markets raises questions about the extent and effect of competition. Understanding how health care organizations compete and how changes in market structure affect provider behaviour, consumer welfare, and overall system costs is critically important when considering the injection of competition and choice into the system. One hypothesis is that competition among for-profit and non-profit providers and the profit motive will lead to lower overall system costs, higher quality, and improved efficiency. Yet, it is also argued that a competitive market system will result in a two-tiered system in which the private sector practises "cream skimming," leaving the more difficult and costly cases in the public sector, which would seriously compromise the long-held principle of equitable access to health care services to all without regard to financial status.

The impact of ownership form also matters but its role in shaping the nature of competition is far from clear. One argument is that non-profit organizations are expected to be more concerned about the quantity and quality of services than about price. As a result, non-profit health care organizations engage in a "medical arms race" that results in wasteful duplication of services and higher system costs. Under this hypothesis, an appropriate blend of public, private, and non-profit organizations will provide market-based discipline that discourages wasteful duplication of services and encourages their efficient and effective delivery.

Alberta's *Health Care Protection Act*, known as Bill 11 and passed into law in 2000, allows the public to purchase certain insured surgical services from private providers. This legislation sparked a heated and ongoing debate in Canada about the privatization of health care, the breakdown of medicare, and the introduction of a two-tier health care system.<sup>1</sup> The debate surrounding Bill 11 undoubtedly influenced the deliberations of the Premier's Advisory Council on Health, culminating in the 2001 Mazankowski report.<sup>2</sup> The debate about the desirability of a greater role for the private sector covers two distinct issues: the public/private mix for payment of health care services; and the non-profit/for-profit mix of service providers. This paper focuses on the latter issue by reviewing and synthesizing the relatively recent empirical literature on competition in health care services provision.

The key question is: what can be gained from introducing competition among service providers — specifically, hospital and physician services — while maintaining a primarily public payment system? Although the analysis occurs in the context of Alberta's legislation, its inferences apply more generally to any system of public/private delivery of health care services.

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<sup>1</sup> See G. Currie, C. Donaldson, and M. Lu, "What Does Canada Profit from the For-profit Debate on Health Care?" *Canadian Public Policy* 29 (2, 2003): 227-251.

<sup>2</sup> Alberta, *A Framework for Reform*, Report of the Premier's Advisory Council on Health (Edmonton, December 2001); available online at <http://www.health.alberta.ca/documents/Mazankowski-Report-2001.pdf>.

## BACKGROUND: A LOOK AT EARLIER ANALYSES

Competition in health care markets among public, private for-profit, and private non-profit hospitals has emerged as a topic of extensive interest in the academic and public policy literature. One comparison of the results of 34 US studies, published from 1980 to 2000, of costs, quality of care, and efficiency in for-profit and non-profit hospitals, concludes that much of the literature, in fact, is not even relevant to the Canadian context, for several reasons.<sup>3</sup> First, it describes only full-service hospitals. Second, non-profit hospitals in the United States are expected to provide uncompensated care, which is not relevant for Canadian hospitals. Third, the nature of competition among US hospitals changed after the implementation of the prospective payment system (PPS), based on the diagnosis-related group (DRG), for Medicare in-patient care. Fourth, many studies seek to evaluate the effect of competition on social welfare.

A study of mortality rates in the two types of hospitals in the United States, using data collected between 1982 and 1995, suggests that adult patients had a higher risk of dying in a private for-profit hospital than in a private non-profit hospital.<sup>4</sup> The authors conclude that the results are generalizable to Canada and urge Canadian policy-makers to consider the potential for negative health outcomes associated with private for-profit hospital care when contemplating opening the health care system to a blend of private for-profit and non-profit delivery. This study's unambiguous conclusion, however, is not supported by newer studies of the quality of care in private for-profit hospitals. Another summary — of 162 studies of US for-profit and non-profit hospitals and nursing homes in terms of their economic performance, quality of care, and accessibility for indigent patients — concludes that ownership-related differences vary greatly across services.<sup>5</sup> They occur because the form of health care provider ownership interacts in systematic ways with the context in which health care is delivered. For example, ownership-related differences in accessibility, quality, and price might be more pronounced in less competitive markets or less pronounced for medical services that are relatively standardized, such as pharmaceuticals.

Nearly a decade has elapsed since the Alberta legislature passed Bill 11, yet little, if any, analysis has been undertaken of the impact of Bill 11 on the Alberta health system. A few literature surveys, partially or wholly motivated by Bill 11, examine the broader topics of the effect of competition and ownership form on health care markets but are unable to speak

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<sup>3</sup> Currie, Donaldson, and Lu, "What Does Canada Profit?"

<sup>4</sup> P.J. Devereaux 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, 2002): 1399-1406.

<sup>5</sup> M. Schlesinger and B.H. Gray, "How Nonprofits Matter in American Medicine, and What to Do about It," *Health Affairs* 25 (2006): W289. In contrast, meta-analyses such as those by Devereaux et al. are of limited use in informing the debate about ownership-related differences because the methodology they use to identify eligible reviews for inclusion in the meta-analyses eliminates the majority of citations; see P.J. Devereaux et al., "Comparison of Mortality between Private For-profit and Private Not-for-profit Hemodialysis Centers: A Systematic Review and Meta-analysis," *Journal of the American Medical Association* 288 (19, 2002): 2449-2458; idem, "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, 2002): 1399-1406; and idem, "Payments for Care at Private For-profit and Private Not-for-profit Hospitals: A Systematic Review and Meta-analysis," *Canadian Medical Association Journal* 170 (12, 2004): 1817-1824.



directly to the social benefits and costs associated with the public purchase of services delivered in for-profit settings.<sup>6</sup>

Reference is often made to a well-publicized report on cataract surgery in Alberta by W. Armstrong for the Alberta Chapter of the Consumers Association of Canada.<sup>7</sup> The report is primarily a qualitative analysis of Alberta's experience with the provision of cataract surgery in both non-profit, full-service, acute-care hospitals and private for-profit day surgery clinics. The report documents the growth of private non-hospital surgical facilities in Alberta and compares the costs, waiting times, and facility fees for enhanced services in Calgary and Edmonton. Unfortunately, the comparisons are severely hampered by data limitations.<sup>8</sup> In addition, the study was conducted prior to the passage of Bill 11. Nonetheless, its conclusions are often cited as evidence that for-profit provision of cataract surgery in Alberta has lengthened public waiting lists, increased prices and costs, decreased patient choice, and created unequal levels of coverage and quality for insured services.<sup>9</sup> Given the highly questionable validity and reliability of the data, these claims warrant further investigation and substantiation using data drawn from administrative claims and appropriate statistical methods.

In a review prepared for the 2001 Romanow Commission, Deber examines the question of how to determine whether government, non-profit, or for-profit organizations should deliver particular programs and services.<sup>10</sup> Within this broader context, Deber seeks to add clarity to the discussion about the appropriate role for private delivery within Canada's system and the appropriate mix of public, private, and non-profit delivery. She pursues this objective by constructing a framework for evaluating the likely performance of different delivery options. The framework loosely describes the characteristics of public, non-profit, and private organizations in an effort to differentiate the organization types. Deber ultimately concludes, however, that organizations are heterogeneous and are not put neatly into distinct boxes. The implication of the inability to treat public, non-profit, and for-profit organizational forms as mutually exclusive entities in the context of health care delivery is that there is no clear-cut "yes/no" answer about the best form of delivery. The best form of delivery might differ across health care sectors; indeed, depending on the system's goals, objectives, and values, a particular form of delivery might be less desirable in any sector.

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<sup>6</sup> See W. Armstrong, "The Consumer Experience with Cataract Surgery and Private Clinics in Alberta: Canada's Canary in the Mine Shaft" (Edmonton: Consumers' Association of Canada (Alberta), 2000); C. Donaldson and G. Currie, "The Public Purchase of Private Surgical Services: A Systematic Review of the Evidence on Efficiency and Equity," Working Paper 00-9 (Edmonton: Institute of Health Economics, 2000); Currie, Donaldson, and Lu, "What Does Canada Profit?"; and R.B. Deber, "Delivering Health Care: Public, Not-for-profit, or Private?" In *The Fiscal Sustainability of Health Care in Canada*, Romanow Papers 1, edited by G.P. Marchildon, T. McIntosh, and P.G. Forest (Toronto: University of Toronto Press, 2004).

<sup>7</sup> Armstrong, "The Consumer Experience with Cataract Surgery and Private Clinics in Alberta."

<sup>8</sup> Armstrong points out that confidentiality clauses in the contracts with private surgical clinics and restrictions on access to individual physician and facility billings make it impossible to obtain the data necessary to analyze rigorously the effect of private for-profit clinics on costs, quality, and access (ibid., p. 58). Data were obtained via phone calls to 48 ophthalmologists' offices in May and June 1998 placed by representatives of the Consumers' Association of Canada (Alberta). Posing as a relative of a prospective patient, the representatives asked questions about wait times, soonest available appointments, surgery site, additional charges, and optional enhanced services (p. 76).

<sup>9</sup> Ibid., p. viii.

<sup>10</sup> Deber, "Delivering Health Care."

The question of what can be gained from introducing competition among service providers remains open. This paper evaluates what has been learned from the relatively recent literature on competition in health care markets from the perspective of a health care system in evolution. From the evidence, it will become clear that generalizations about the effect of competition in health care markets are difficult to make, in part because health care is heterogeneous, as are the interactions among players in the market.

The primary objective of this literature review is to assess qualitatively the findings of numerous studies in the context of expanding the role of the private sector in Alberta. Deber's 2004 review sends the clear message that *there is no single best way to deliver all health care services*. The issue is not about making a choice between wholly public or private service delivery for the entire system. Instead, it is about determining what services can be moved out of full-service, non-profit hospitals under contractual agreements with private, for-profit providers and what gains can be achieved for the quality and cost of care in Alberta. We can also learn more about this issue from the recent emergence of single-specialty hospitals in the United States and the experiences of public payers (Medicare and Medicaid) with managed care.<sup>11</sup> It is beyond the scope of this paper, however, to offer policy recommendations concerning expanding the role of the private sector in Alberta or to assess the resources that would be needed to change the current system.

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<sup>11</sup> Medicare and Medicaid are public programs in the United States. The primary objective of the Medicare program is to provide health insurance for covered hospital, physician, and prescription drug services to persons ages 65 and over. Medicaid is a similar program for some people whose incomes are some percentage below federally defined poverty levels. According to the National Library of Medicine, the term "managed care" encompasses programs that are intended to reduce unnecessary health care costs through a variety of mechanisms, including: economic incentives for physicians and patients to select less costly forms of care; programs for reviewing the medical necessity of specific services; increased beneficiary cost sharing; controls on in-patient admissions and lengths of stay; the establishment of cost-sharing incentives for outpatient surgery; selective contracting with health care providers; and the intensive management of high-cost health care cases.

## HEALTH SERVICES IN ALBERTA

### Private Responsibility for Health Care

The organization of Alberta's health care system has undergone significant reforms over the years. Prior to 1994, the delivery of health services was organized around a physician-centred medical professional model.<sup>12</sup> In this organizational framework, the physician-patient relationship was the most important component and physicians were involved in resource allocation decisions at all levels. In 1994, the numerous health boards in this decentralized medical professional model were replaced by larger, centralized regional health authorities (RHAs), the objective of which was to improve the continuity, efficiency, and effectiveness of care. The RHAs were given global budgets, to be allocated in a manner that optimally served the health care needs of each region's population. Further consolidation occurred in May 2008 when the RHAs and other boards were replaced by a single Alberta Health Services (AHS) Board. The main task of the board is to coordinate the delivery of health services across the province. Alongside organizational reform, emphasis on private responsibility for health care has been an ongoing theme in the Alberta system.<sup>13</sup> Bill 11 and some recommendations in the Mazankowski report reflect that agenda. Much of the recent motivation for the agenda is the persistent rise in public expenditure on health care, particularly in difficult economic times, and concerns about access to quality health care.<sup>14</sup>

Bill 11 was introduced in the spring 2000 session of the Alberta legislature amid substantial federal and provincial debate.<sup>15</sup> The bill expanded the role of for-profit private clinics within the public system by allowing RHAs to contract with private, for-profit surgical facilities. It also expanded the role of private clinics by allowing them to perform more complicated procedures that might require overnight stays;<sup>16</sup> in essence, these private facilities are tantamount to single-specialty hospitals in the United States. Bill 11's introduction came after Alberta reached an agreement with the federal government regarding transfer payments and facility fees.<sup>17</sup> As part of the settlement discussions, the federal and provincial health ministers

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<sup>12</sup> See T. Reay and C.R. Hinings, "The Recomposition of an Organizational Field: Health Care in Alberta," *Organization Studies* 26 (3 2005): 351-384.

<sup>13</sup> For detailed discussions of the historical progression of policy initiatives that encourage or permit a greater role for the private sector in Alberta's health care system, see Armstrong, "The Consumer Experience with Cataract Surgery and Private Clinics in Alberta"; and C. Scott, T. Horne, and W.E. Thurston, "The Differential Impact of Health Care Privatization on Women in Alberta" (Winnipeg: Prairie Women's Health Centre for Excellence, 2000).

<sup>14</sup> Alberta's real per capita government health expenditures grew from \$1,679 in 1975 to \$3,696 in 2007, a median annual growth rate of 3.5%; see L. Di Matteo and R. Di Matteo, "The Fiscal Sustainability of Alberta's Public Health Care System," SPS Research Papers, The Health Series 2 (Calgary: University of Calgary, School of Policy Studies, 2009).

<sup>15</sup> The legislation's primary focus is on the provision of acute care services in non-profit hospitals and approved for-profit surgical facilities. An important departure from that focus in terms of ongoing health care reform initiatives in Alberta is Part 4, which addresses the formation of the Premier's Advisory Council on Health (Scott, Horne, and Thurston, "The Differential Impact," p. 33).

<sup>16</sup> See R. Cairney, "Alberta Ignores Vocal Opposition, Presses Ahead with Law to Expand Role of Private Clinics," *Canadian Medical Association Journal* 162 (11, 2000): 1606-1607; and S. Shortt, "Alberta's Bill 11: Will Trade Tribunals Set Domestic Health Policy?" *Canadian Medical Association Journal* 164 (6, 2001): 798-799.

<sup>17</sup> For a detailed discussion of the politics surrounding Bill 11 and federal enforcement of the *Canada Health Act*, see G. Boychuk, "The Regulation of Private Health Funding and Insurance in Alberta under the *Canada Health Act*: A Comparative Cross-provincial Perspective," SPS Research Papers, The Health Series 1 (Calgary: University of Calgary, School of Policy Studies, 2008).



agreed to 12 principles governing Alberta’s approach to public and private health services. Seven of the 12 address issues related to the private purchase and provision of health services, but principle 11 — which recognizes that *physicians can receive payment from both the publicly funded system and fully private sources* — is believed to underlie the provisions of Bill 11.<sup>18</sup> The *Canada Health Act* permits this practice, but no province actually allows private funding to the full degree permitted.<sup>19</sup>

Bill 11 states that “no person shall operate a private hospital in Alberta” and that surgical services may be provided only in public hospitals or approved surgical facilities.<sup>20</sup> What distinguishes approved surgical facilities from full-service, acute-care hospitals is not clearly defined in the bill but it is clear that an approved surgical facility could provide only a limited range of services, including uninsured in-patient surgical services. The bill further states that private surgical facilities are not allowed to bill patients directly for medically necessary services or to engage in activities that result in “queue jumping.” Direct billing is allowed, however, for enhanced non-medical services. The stated intent of Bill 11 was to protect the public health system and to reduce waiting lists for surgical procedures. In addition, contracts with RHAs would be approved only if they improved access to health services and were cheaper than the public system.<sup>21</sup>

The Premier’s Advisory Council on Health was given a clear directive to “*provide strategic advice to the Premier on the preservation and future enhancement of quality health care services for Albertans and on the continuing sustainability of the publicly funded health system.*”<sup>22</sup> As its report notes, the Council listened to both sides of the debate in crafting its policy recommendations but concluded that a system dominated by the public sector stifles innovation and choice. The report’s general reform recommendation was to encourage more choice, more competition, and more accountability.<sup>23</sup> This was followed by specific recommendations to dissolve the government monopoly on health care and to “unbundle” the system. This recommendation was further expounded upon in a sub-recommendation to *encourage an innovative blend of public, private, and non-profit organizations and facilities to deliver health care services*. The Council argued that, as long as insured health care services were publicly funded and standards were in place, it should not matter if the provider was organized as a private for-profit, private non-profit, or public entity.<sup>24</sup> The health authority should have the latitude to purchase services from either sector as deemed appropriate. Expanding options for private sector delivery could serve to open up the system by introducing healthy competition — that is, competition with the potential to strengthen both the public and private sectors.

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<sup>18</sup> Scott, Horne, and Thurston, “The Differential Impact,” pp. 32, 42.

<sup>19</sup> Boychuk, “The Regulation of Private Health Funding and Insurance in Alberta,” p. 12.

<sup>20</sup> See Scott, Horne, and Thurston, “The Differential Impact,” p. 33.

<sup>21</sup> See Cairney, “Alberta Ignores Vocal Opposition”; Scott, Horne, and Thurston, “The Differential Impact”; and Shortt, “Alberta’s Bill 11.”

<sup>22</sup> Alberta, *A Framework for Reform*, p. 11.

<sup>23</sup> *Ibid.*, p. 48.

<sup>24</sup> *Ibid.*, p. 51.

## The Growing Role of Private Financing

The growth in total expenditures on health care has outpaced inflation in most countries over the past thirty years, and Canada is no exception. In Alberta, over the 1976-2007 period, the growth of real per capita government health expenditures (3.5% annually) has outpaced total government revenue growth (1.7%) and growth of gross domestic product (2.2%).<sup>25</sup> One policy response to this persistent growth in health spending is to reduce pressure on the public budget by shifting some of the responsibility for health care spending onto the private sector.<sup>26</sup> The private sector has always played an important role in the delivery of health care services; today, it also plays an important role in the financing of services.<sup>27</sup> The major shift to private sector spending occurred between 1992 and 1996, when inflation-adjusted public spending per capita declined by 2% while private-sector spending increased by 14%.<sup>28</sup> Since 1997, however, shares of total health expenditures have remained stable at 70% public and 30% private.<sup>29</sup>

Table 1 shows the public-private split by use of funds for Alberta in 1999 and 2008. Of particular note is the proportion of public funding allocated to privately provided hospital and physician services. In Canada, nearly all acute-care general hospitals are organized as private non-profit hospitals, and physicians are organized into privately owned, for-profit practices. Alberta does not differ from the rest of the country in this regard. In addition, diagnostic and laboratory services are provided primarily by private, for-profit professional corporations. Hence, the practice of private delivery of publicly insured services is hardly novel in Alberta. In fact, as the Mazankowski report notes, the *Canada Health Act* does not prohibit the private delivery of health care services; rather, it says that, although hospital and physician services must be publicly funded and administered, they can be delivered in the private sector through a contractual arrangement with the health authority.<sup>30</sup> The heated debate sparked by the passage of Bill 11 and the Mazankowski report is often misconstrued to be about the pros and cons of increased privatization of health care. This characterization is not accurate since the lion's share of publicly financed services is already privately delivered. The debate is really about the pros and cons of increased public funding of private *for-profit* health care — most notably, hospital care. Table 1 shows a decline in public expenditures for hospital services. This decline reflects a worldwide trend toward shifting many components of traditional in-patient hospital care to non-hospital settings where private for-profit ownership dominates.

<sup>25</sup> Di Matteo and Di Matteo, "The Fiscal Sustainability of Alberta's Public Health Care System," 8.

<sup>26</sup> The Canadian Institute for Health Information defines public and private sector spending in the National Health Expenditures database. Public sector spending is health care spending by government and government agencies, which includes the provincial government sector, the federal direct sector, the municipal government sector, and social security funds. Private sector spending includes out-of-pocket expenditures, health insurance claims paid by insurance companies on behalf of individuals or to individuals, and non-consumption health expenditures. Non-consumption expenditures include non-patient revenues such as donations and investment income, private spending on health-related capital, and health research funded by private sources. See Canadian Institute for Health Information, *National Health Expenditure Trends, 1975-2008* (Ottawa: CIHI, 2008), pp. 63-63.

<sup>27</sup> For a discussion of the range of options for provincial regulation of private funding of health care services under the *Canada Health Act*, see Boychuk, "The Regulation of Private Health Funding and Insurance in Alberta."

<sup>28</sup> Canadian Institute for Health Information, *Exploring the 70/30 Split: How Canada's Health Care System Is Financed* (Ottawa: CIHI, 2005), p. 19.

<sup>29</sup> Canadian Institute for Health Information, *National Health Expenditure Trends, 1975-2008*.

<sup>30</sup> Alberta, *A Framework for Reform*, p. 23.

**TABLE 1:** The Public-Private Split by Use of Funds, Alberta, 1999 and 2008

| YEAR            | HOSPITALS        |                   | PHYSICIAN CARE   |                   | OTHER PROFESSIONALS |                   |
|-----------------|------------------|-------------------|------------------|-------------------|---------------------|-------------------|
|                 | Public (percent) | Private (percent) | Public (percent) | Private (percent) | Public (percent)    | Private (percent) |
| <b>1999</b>     | 92.3             | 7.7               | 98.5             | 1.5               | 11.8                | 88.2              |
| <b>2008</b>     | 91.3             | 8.7               | 98.6             | 1.4               | 8.7                 | 91.5              |
| <b>% change</b> | -1.1             | 13.4              | 0.1              | -5.2              | -26.1               | 3.5               |

| YEAR            | DRUGS            |                   | CAPITAL          |                   | OTHER SPENDING   |                   |
|-----------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
|                 | Public (percent) | Private (percent) | Public (percent) | Private (percent) | Public (percent) | Private (percent) |
| <b>1999</b>     | 31.9             | 68.1              | 66.3             | 33.7              | 60.0             | 40.0              |
| <b>2008</b>     | 35.5             | 64.5              | 86.2             | 13.8              | 58.2             | 41.8              |
| <b>% change</b> | 11.0             | -5.2              | 29.9             | -58.9             | -3.1             | 4.6               |

SOURCE: Canadian Institute for Health Information, *National Health Expenditure Trends, 1975-2008*.

### Private Non-hospital Surgical Facilities

The provincial health insurance plan recognizes non-hospital surgical and diagnostic facilities that offer procedures that do not require an overnight stay in the facility for post-operative recovery, operation, or diagnosis. The facilities must be accredited by the College of Physicians and Surgeons of Alberta. According to data maintained by the College, there was a dramatic increase in the number of private surgical clinics beginning in the late 1980s: from 8 in 1985, the number jumped to 36 by 1991. The rate of growth later declined, but by 1999 there were 53 accredited facilities, an increase of 46% since 1991. Annual reports of the *Canada Health Act* indicate that, after 1999, no new facilities were accredited until 2005, when there were 58 non-hospital surgical facilities, 26 of which had contracts to provide medically insured services under the *Health Care Protection Act*. In 2008, there were 63 accredited non-hospital surgical facilities but no change in the number of facilities with contracts under the *Health Care Protection Act*.<sup>31</sup> The increase in the number of private surgical clinics is consistent with Alberta's policy initiatives to expand the role of the private sector in health. The growth occurs at a time of capacity reductions in the non-profit hospital sector and follows implementation of the Regional Health Authorities Act, which specifically allows regions to contract with private providers of services.

<sup>31</sup> Canada, Health Canada, *Canada Health Act Annual Report 2007-2008* (Ottawa, 2008), p. 147.

The *Health Care Protection Act* requires that operators of non-hospital surgical facilities report the number of insured surgical procedures they perform and any revenue from the sale of enhanced medical goods and services connected with the procedure. The RHAs report the value and expenses associated with the contracts in their annual audited financial statements. Table 2 shows the value and number of insured surgical procedures performed for all contracts approved by the RHAs under the *Health Care Protection Act* for 2008. All of the contracts are with either Capital Health in Edmonton or Calgary Regional Health Authority.

Only a few surgical specialties are contracted out, including dermatology (in Edmonton only), ophthalmology, oral surgery, otolaryngology (in Edmonton only), orthopaedic surgery (in Calgary only), plastic surgery (in Edmonton only), and reproductive health. Even though the Calgary Regional Health Authority had contracts with fewer specialties, the total value of the contracts in 2008 exceeded the total value of those in Edmonton — \$25 million versus \$4.8 million. In Edmonton, the largest contracts, in terms of value and number of procedures, are in reproductive health (45% of the total value of contracts), followed by ophthalmology (24%, almost all of whose procedures are cataract surgeries). In Calgary, orthopaedic surgery accounts for 52% and ophthalmology for 41% of the total value of contracts.

**TABLE 2:** Value and Volume of Approved Contracts with Private Surgical Facilities, by Specialty, Edmonton and Calgary, 2008

| SPECIALTY           | CAPITAL HEALTH<br>(EDMONTON)     |        | CALGARY REGIONAL<br>HEALTH AUTHORITY |        |
|---------------------|----------------------------------|--------|--------------------------------------|--------|
|                     | Contract Value<br>(\$ thousands) | Volume | Contract Value<br>(\$ thousands)     | Volume |
| Dermatology         | 329                              | 199    | -                                    | -      |
| Ophthalmology       | 1,181                            | 2,365  | 10,329                               | 12,949 |
| Oral surgery        | 745                              | 1,737  | 213                                  | 508    |
| Otolaryngology      | 157                              | 193    | -                                    | -      |
| Orthopedic surgery  | -                                | -      | 13,000                               | 915    |
| Plastic surgery     | 296                              | 1,207  | -                                    | -      |
| Reproductive health | 2,180                            | 5,570  | 1,550                                | n/a    |

*SOURCES:* Contract values from Alberta Health and Wellness, audited financial statements; volume data from Alberta Health and Wellness, annual reports of Capital Health and Calgary RHA on contracts with non-hospital surgical facilities.

Table 3 shows expenses of approved contracts with private surgical facilities, total public expenditures for hospital services in Alberta, and the expenditures for contracted non-hospital surgical procedures as a percent of total public expenditures. This “back-of-the-envelope” calculation of public spending on privately contracted services suggests that it accounts for only a very small portion of total public spending on hospital services: slightly more than one-third of 1% in 2008.

**TABLE 3:** Total Value and Expenses of Approved Contracts with Private Surgical Facilities, Alberta, 2005-2008

| YEAR        | APPROVED<br>CONTRACT<br>EXPENSES | TOTAL PUBLIC<br>EXPENDITURES —<br>HOSPITAL | EXPENSES AS %<br>OF TOTAL<br>EXPENDITURES |
|-------------|----------------------------------|--|---|
|             | (\$ thousands)                   | (\$ thousands)                             | (percent)                                 |
| <b>2005</b> | 12,010                           | 4,419,782                                  | 0.27                                      |
| <b>2006</b> | 16,001                           | 4,807,263                                  | 0.33                                      |
| <b>2007</b> | 20,213                           | 5,183,930                                  | 0.39                                      |
| <b>2008</b> | 21,598                           | 5,584,290                                  | 0.39                                      |

**NOTE:** Calculations assume that expenditures for contracted services under the *Health Care Protection Act* are reflected in total public expenditures for hospital service in the national health expenditures account.

**SOURCES:** Contract expenses from Alberta Health and Wellness, audited financial statements; total public expenditures — hospital from Canadian Institute for Health Information, *National Health Expenditure Trends, 1975-2008*.

In summary, the data presented here, though limited, do provide some information on the size and scope of public contracting for privately provided non-hospital surgical services allowed under the *Health Care Protection Act*. The number of private, for-profit, non-hospital surgery centres has increased significantly since 1985, but the number of contracts with these facilities has remained stable since passage of the *Health Care Protection Act* and they appear to account for a very small percentage of public spending on health care in Alberta. These limited data cannot yet answer questions about the effects of allowing the public purchase of private surgical services on consumer choice, cost, quality, and waiting lists. Given the limitations in addressing such questions directly with analyses of the impact Bill 11 on Alberta's health care system, one must rely on studies of competition in other health care markets that might be relevant for the situation in Alberta.

## THE EFFECTS OF COMPETITION AND ORGANIZATIONAL STRUCTURE ON HEALTH CARE MARKETS

There is an extensive literature on the effects of competition in health care markets (more specifically, hospital markets) and of organization structure on performance indicators such as costs, efficiency, profitability, prices, access to care, and quality. Typically, reviews of this literature are motivated by a particular question: how should a health care system determine whether services should be provided by a public, non-profit or for-profit organization?;<sup>32</sup> are non-profit organizations sufficiently different from for-profit organizations to justify their tax exemption?;<sup>33</sup> is quality of care lower in for-profit hospitals?;<sup>34</sup> is the United States experience with for-profit and non-profit care relevant for Canada?<sup>35</sup> The literature review undertaken in this paper is thus no different in that it, too, is motivated by a particular question: *Can competition and profits lead to lower system costs, higher quality, and improved efficiency in markets where for-profit and not-for-profit providers coexist?* That question — coupled with recommendations in the Mazankowski report to “open up the system” and “encourage competition, choice, and an innovative blend of for-profit and non-profit delivery” — frames this discussion of the evidence. The organization and structure of the review is a product of the review’s motivating question — that is, the discussion of the evidence from salient studies is framed to highlight lessons from the interaction of competition and profits in health care markets that are heterogeneous with respect to organizational structure and degree of competition.

Most of the literature focuses on the United States, and so most of the studies reviewed here are also based on U.S. data. Nevertheless, the U.S. experience with for-profit and non-profit organizations coexisting in markets with different levels of competitiveness and responding to similar changes in the regulatory environment is relevant for Canada. It is often the differences between the Canadian and U.S. health care systems that drive study design and interpretation of results. Although Canada differs fundamentally from the United States with respect to financing health insurance, the two countries are remarkably similar with respect to delivery of care. The majority of acute-care general hospitals in the United States are organized as private non-profit organizations, while long-term care facilities, physicians, pharmacies, and home care agencies are largely private for-profit organizations. Except for having a small share of for-profit acute-care general hospitals, Canada is very similar to the United States in this area.

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<sup>32</sup> Deber, “Delivering Health Care.”

<sup>33</sup> Schlesinger and Gray, “How Nonprofits Matter in American Medicine.”

<sup>34</sup> Devereaux et al., “Payments for Care.”

<sup>35</sup> Currie, Donaldson, and Lu, “What Does Canada Profit?”



## Costs and Efficiency

The effects of competition and ownership status on costs and technical or allocative efficiency have been studied extensively. The empirical approaches employed in the studies vary but can be placed roughly in two broad categories: studies that examine efficiency or inefficiencies in costs and production through cost-function estimation; and studies that examine the effects of consolidation in hospital markets (through system affiliation, mergers, and closures) on costs and efficiency. Studies that estimate cost functions typically explore the behavioural differences between non-profit and for-profit hospitals by controlling for ownership type in the analysis. Studies that examine the effects of consolidation on hospital costs tackle the issue of the effect of competition in health care markets from the other side of the coin by asking if a reduction in competition through consolidation leads to efficiency gains through exploiting potential economies of scale and scope. A secondary question in some of these studies concerns the role of organizational form in generating cost efficiencies through consolidation.

### DIFFERENCES IN EFFICIENCY BY OWNERSHIP STATUS

The hospital industry in many countries is a unique example of a market in which public, private non-profit, and private for-profit organizations coexist. This unique market structure provides an interesting setting in which to determine if ownership structure gives way to meaningful differences in cost or production efficiencies. Evidence of any and the extent of differences in productive efficiency have implications for health care reform policy. Not surprisingly, a number of statistical studies seek to determine if ownership form matters in production efficiency. Taken together, the evidence in these studies suggests that competition among hospitals is more likely to affect efficiency than ownership status.

Burgess and Wilson compare technical efficiency of hospitals producing multiple outputs by four ownership types: private non-profit; private for-profit; federal; and state and local government.<sup>36</sup> Their empirical methodology, data envelopment analysis (DEA), has been widely used to measure technical efficiency in many industries, although its methods tend to produce biased and inconsistent estimates of technical efficiency. In any event, the authors find evidence of differences in technical efficiency across ownership types but are unable to attribute those differences to a particular source; they thus conclude that one type of ownership form is not universally more inefficient than another.

An alternative method to measuring technical efficiency is to use the stochastic ray frontier production function model. This model is used by Rosko<sup>37</sup> and Sari<sup>38</sup> to analyze the impact of market concentration, managed care, and ownership status on hospital cost efficiency. Rosko's sample is 1,631 U.S. hospitals during the period 1990 to 1996, while Sari's analysis is restricted to hospitals in Florida from 1990 to 1997. The effect of managed care on hospital efficiency was of particular interest during this period of rapid managed-care growth.

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<sup>36</sup> J.F. Burgess and P.W. Wilson, "Hospital Ownership and Technical Inefficiency," *Management Science* 42 (1, 1996): 110-123.

<sup>37</sup> M.D. Rosko, "Cost Efficiency of US Hospitals: A Stochastic Frontier Approach," *Health Economics* 10 (2001): 539-551.

<sup>38</sup> N. Sari, "Efficiency Outcomes of Market Concentration and Managed Care," *International Journal of Industrial Organization* 21 (2003): 1571-1589.

Managed-care organizations were expected to restrain growth in health care spending in part by pressuring hospitals to operate more efficiently. The notion is that managed-care organizations with sufficient market power have the upper hand in negotiations regarding payment rates for hospitals, while hospitals in more competitive markets or hospitals operating in markets dominated by a few large managed-care organizations will be pressured to accept larger discounts from managed-care payers and will need to become more cost efficient in order to remain financially viable. Both Rosko and Sari find that hospital inefficiency decreases with increased managed-care penetration. Sari finds a U-shaped relationship between hospital inefficiency and market concentration in which there are immediate efficiency gains as the market becomes concentrated and reaches a peak, then efficiency losses begin to occur as the market becomes further concentrated. Rosko finds evidence of efficiency gains in less competitive (more concentrated) markets. Finally, with respect to ownership form, Rosko's results indicate that for-profit hospitals are less efficient than non-profit hospitals. Sari finds the opposite in his sample of Florida hospitals, where non-profits are less efficient than for-profit hospitals.

Potter<sup>39</sup> and Wilcox-Gok<sup>40</sup> examine the effects of ownership status on efficiency using reduced-form-estimation methods. Both studies are motivated by assertions that changes in competitive and regulatory environments might force non-profit hospitals to behave similarly to for-profit hospitals. The undesirable outcome of this convergence in behaviour is purported to be a move away from fulfilling the community service missions of non-profit hospitals. Potter uses data for all U.S. acute-care general hospitals in 1980, 1985, 1990, and 1994; Wilcox-Gok uses data for Florida hospitals from 1984 to 1987. Potter's results indicate that non-profit and public hospitals have lower expenses than for-profit hospitals but that ownership type is a less important determinant of expenses over time. This evidence suggests that non-profit and for-profit hospitals are converging over time with respect to efficiency. Wilcox-Gok finds no difference in hospital costs by ownership type.

In summary, the evidence on the effect of ownership structure and competition on costs and efficiency is mixed. Burgess and Wilson<sup>41</sup> find evidence of differences in technical efficiency across ownership type but cannot conclusively identify what factors are responsible for those differences. In a similar vein, Wilcox-Gok<sup>42</sup> finds no difference in hospital costs by ownership type. Rosko<sup>43</sup> finds that for-profit hospitals are less efficient than non-profit hospitals, while Sari<sup>44</sup> finds that non-profit hospitals are less efficient than for-profit hospitals. Finally, Potter's results<sup>45</sup> indicate that non-profit and public hospitals have had lower expenses than for-profit hospitals in the past, but that non-profit and for-profit hospitals are converging in efficiency over time.

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<sup>39</sup> S. Potter, "A Longitudinal Analysis of the Distinction between For-profit and Not-for-profit Hospitals in America," *Journal of Health and Social Behavior* 42 (1, 2001): 17-44.

<sup>40</sup> V. Wilcox-Gok, "The Effects of For-profit Status and System Membership on the Financial Performance of Hospitals," *Applied Economics* 34 (2002): 479-489.

<sup>41</sup> Burgess and Wilson, "Hospital Ownership and Technical Inefficiency."

<sup>42</sup> Wilcox-Gok, "The Effects of For-profit Status and System Membership."

<sup>43</sup> Rosko, "Cost Efficiency of US Hospitals."

<sup>44</sup> Sari, "Efficiency Outcomes of Market Concentration and Managed Care."

<sup>45</sup> Potter, "A Longitudinal Analysis."

## EFFICIENCY GAINS THROUGH CONSOLIDATION

The hospital industry in the United States experienced significant restructuring in the second half of the 1990s, a time that corresponds to the government-inspired restructuring that took place in Ontario. Unlike in Ontario, the impetus for the large number of hospital consolidations across the United States was the fiscal pressure placed on hospitals by fundamental changes to the Medicare payment system and the rapid growth of managed care for privately insured patients. The wave of hospital mergers has generated interest on both the academic and policy fronts because its net impact on consumer welfare is unclear. Hospital executives argue that consolidation is beneficial because of the cost efficiencies achieved through eliminating excess capacity and streamlining operations. Insurers argue that the reduction in competition achieved through consolidation is harmful because the increase in hospital market power leads to increases in prices.

The form that organizational restructuring takes is an important consideration in analysis of the effect of consolidation on system costs. Acquisition of U.S. hospitals in distinct geographic markets by national systems such as Hospital Corporation of America and Humana is less likely to result in cost efficiencies than a merger of two hospitals located in the same geographic market, where services are truly consolidated and excess capacity eliminated — the type of restructuring that motivated the Ontario reform. In between these types of structures is the local hospital system where two or more hospitals have common ownership but maintain separate physical facilities and keep separate financial records.

Turning first to the Ontario example, Preyra and Pink examine whether the widespread restructuring of the hospital industry that began in 1996 could be expected to achieve the efficiency gains predicted by the provincial regulators using an accounting-based framework.<sup>46</sup> As background, Ontario created a Health Services Restructuring Committee that had the authority to direct hospitals to restructure through consolidations, program transfers, and closures in an effort to reduce system costs. In 1996, the province announced hospital funding cuts of 15% over three years, to be offset by the efficiency gains realized through restructuring.<sup>47</sup> The provincial government relied on estimates of cost savings derived not from economic-cost models but from accounting-based methods to determine how the hospital industry would be restructured. Using data for the two years preceding the start of Ontario's consolidation effort, Preyra and Pink find that cost savings are achievable through exploiting returns to scale and scope under a variety of consolidation options, such as merging community hospitals, consolidating tertiary services, and creating networks for small hospitals.

The evidence on efficiency gains through consolidation in the United States is mixed but demonstrates that the type of consolidation and local market conditions are key determinants of the effects of mergers and acquisitions. An early study in this area is that of Connor, Feldman, and Dowd,<sup>48</sup> who examine the effect of local hospital mergers on hospital costs and prices using data for 3,500 acute-care general hospitals from 1986 to 1994. Although the data used in the study are for a period preceding the wave of hospital mergers in the second half of the

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<sup>46</sup> C. Preyra and G. Pink, "Scale and Scope Efficiencies through Hospital Consolidations," *Journal of Health Economics* 25 (2006): 1049-1068.

<sup>47</sup> *Ibid.*, 1050.

<sup>48</sup> R.A. Connor, R.D. Feldman, and B.E. Dowd, "The Effects of Market Concentration and Horizontal Mergers on Hospital Costs and Prices," *International Journal of the Economics of Business* 5 (2, 1998): 159-180.

1990s, the study is informative because it includes hospitals across the United States and exploits variations in the degree of competition across geographic areas to examine how competition affects hospital costs and prices. It also takes advantage of the longitudinal nature of the data to see how competition has changed through mergers and consolidations, as well as the effect of consolidation on prices and costs. The authors provide support for the hypothesis of the existence of a “medical arms race” in 1986 by finding that costs and prices were higher in more competitive (or less concentrated) markets.<sup>49</sup> By 1994, however, this relationship no longer held, suggesting a move away from non-price toward price-based competition. The effect of ownership form on costs, prices, and operating margins also changed. There was no significant effect of the 1986 interaction term between ownership status and market concentration on changes in costs or prices from 1986 to 1994, suggesting that for-profit hospitals did not take more or less advantage of market power in making pricing decisions than did non-profit hospitals. Also, while for-profit hospitals had higher prices than non-profit hospitals in 1986, theirs did not increase as much as those of the non-profit hospitals over the nine-year study period. The authors also find some evidence of merger-based cost efficiencies: hospitals that merged over the study period had smaller cost increases than hospitals that did not merge, although the results are likely biased because the exact timing of the merger was not accounted for in comparing costs in 1986 and 1994.

Spang, Bazzoli, and Arnould<sup>50</sup> employ a similar design to study the effect of competition and mergers on hospitals costs and prices over a period (1989-1997) that includes some of the heavy merger activity of the second half of the 1990s. Of 1,767 acute-care general hospitals in the sample, 204 were involved in mergers. The authors compare merged hospitals to non-merged rival hospitals (hospitals operating in the same geographic market) as well as to non-merged, non-rival hospitals (hospitals operating in different geographic markets). They find that the growth of costs in merged hospitals was lower than in non-merged rival and non-rival hospitals, but that the presence and extent of savings vary with market and hospital conditions. Their results suggest that cost savings are highest for mergers occurring in more competitive markets and when low-occupancy (and, hence, excess capacity), non-teaching, or non-profit hospitals merge. The cost savings, however, are lower than those reported in studies using earlier data.

Alexander, Halpern, and Lee<sup>51</sup> study the short-term effect of 194 mergers between 1980 and 1990 on the scale of activity, personnel/staffing practices, and operating efficiencies. Assuming that hospitals consolidate to generate efficiencies through streamlining their operations in order to remain competitive, the authors hypothesize that the post-merger period will be characterized by reduced scale of operation, leaner staffing practices, and improvements in operating efficiency.<sup>52</sup> Merger effects were determined by comparing the levels and rates of change for each operating characteristic three years prior to and three years following the merger. The authors find some evidence that costs per adjusted admission were lower in the post-merger period.

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<sup>49</sup> The “medical arms race” hypothesis is the notion that hospitals compete not on the basis of price but for physicians who admit patients. Hospitals compete for physicians by racing to acquire the best in equipment and medical technology.

<sup>50</sup> H.R. Spang, G.J. Bazzoli, and R.J. Arnould, “Hospital Mergers and Savings for Consumers: Exploring New Evidence,” *Health Affairs* 29 (4, 2001): 150-158.

<sup>51</sup> J.A. Alexander, M.T. Halpern, and S.Y. Lee, “The Short-term Effects of Merger on Hospital Operations,” *Health Services Research* 30 (6, 1996): 827-847.

<sup>52</sup> *Ibid.*, 828.

Two studies analyze local hospital systems in California in two different years (1988 and 1991) to determine if there is evidence of cost efficiencies through consolidation.<sup>53</sup> They compare the performance of these systems with that of “pseudo-systems” that are created by aggregating independent hospitals so as to match the actual systems in terms of size, ownership, and location. Unlike the other studies discussed here, these two find no evidence that their hospital systems have lower patient care costs than non-integrated systems. Dranove and Lindrooth<sup>54</sup> employ a similar method to investigate separately whether consolidation through merger or through system affiliation generates cost efficiencies. They examine costs in merged or affiliated system between 1988 and 1996 in both their pre- and post-merger periods and their matched pseudo-systems. They find that consolidation into systems does not generate cost savings, even after four years, but that merged systems do experience savings, primarily through capacity reductions.<sup>55</sup> The cost savings realized by consolidated for-profit hospitals were greater than those by consolidated non-secular, non-profit hospitals.

In summary, the evidence on efficiency gains through consolidation is also mixed. U.S. studies demonstrate that both the type of consolidation and local market conditions are important determinants of the effects of mergers and acquisitions. Connor, Feldman, and Dowd find different effects at different points in their sample, indicating a change in the way hospitals compete over time.<sup>56</sup> Spang, Bazzoli, and Arnould find evidence of efficiency gains through mergers, but point out that both the presence and extent of savings vary with market and hospital conditions.<sup>57</sup> Alexander, Halpern, and Lee also find evidence of lower costs in post-merger periods.<sup>58</sup> In contrast, other studies do not find evidence of efficiency gains through consolidation.<sup>59</sup>

#### **THE EFFECT OF PAYMENT SYSTEM REFORM ON EFFICIENCY**

Gerdtham et al.<sup>60</sup> use a stochastic frontier approach to test for the existence and magnitude of the effect of a new form of hospital reimbursement on technical efficiency in the Swedish public hospital system over the period from 1989 to 1995. Their results are relevant for Canada given the similarities in the organization of the two countries’ health care systems. The Swedish reform examined in this study separated the purchaser and provider roles within the 26 County Councils that are responsible for the country’s health care services. The policy moved away from hospital reimbursement via a global budgeting process to output-based reimbursement schemes such as fee-for-service. It is worth noting that, although the authors do not address how this change might have created incentives for improvements in technical efficiency, their results indicate that output-based reimbursement methods improved technical

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<sup>53</sup> D. Dranove and M. Shanley, “Cost Reductions or Reputation Enhancement as Motives for Mergers: The Logic of Multihospital Systems,” *Strategic Management Journal* 16 (1995): 55-74; and D. Dranove, A. Durkac, and M. Shanley, “Are Multihospital Systems More Efficient?” *Health Affairs* 15 (1, 1996): 100-104.

<sup>54</sup> D. Dranove and R. Lindrooth, “Hospital Consolidation and Costs: Another Look at the Evidence,” *Journal of Health Economics* 22 (2003): 983-997.

<sup>55</sup> *Ibid.*, 996.

<sup>56</sup> Connor, Feldman, and Dowd, “The Effects of Market Concentration.”

<sup>57</sup> Spang, Bazzoli, and Arnould, “Hospital Mergers and Savings for Consumers.”

<sup>58</sup> Alexander, Halpern, and Lee, “The Short-term Effects of Merger on Hospital Operations.”

<sup>59</sup> Dranove and M. Shanley, “Cost Reductions”; Dranove, Durkac, and Shanley, “Are Multihospital Systems More Efficient?”; and Dranove and Lindrooth, “Hospital Consolidation and Costs.”

<sup>60</sup> U.G. Gerdtham, M. Lothgren, M. Tambour, and C. Rehnberg, “Internal Markets and Health Care Efficiency: A Multiple-output Stochastic Frontier Analysis,” *Health Economics* 8 (1999): 151-164.

efficiency by 9.7% on average. At first glance, this result appears counterintuitive in light of theoretical results from Ellis<sup>61</sup> that retrospective output-based reimbursement systems (such as fee-for-service) overprovide services relative to prospective output-based systems (such as per case or *per diem* payments). Ellis's analytical model does not examine the impact of payment systems on technical efficiency, which is the subject of the Gerdtham et al. study, but the two results are not necessarily at odds if movement from global budgets to output-based reimbursement results in an increase in the number of patients treated per unit of input.

## Quality

Determining the impact of ownership type and competition on the quality of care is an empirically challenging exercise because quality is difficult to measure. Nonetheless, a number of studies have attempted to examine these relationships because of their implications for public policy in the area of health care reform. Policy-makers must balance the often conflicting objectives of maintaining fiscal sustainability and ensuring the provision of quality care. Most of the studies conducted since 2000 generally do not support the contention that for-profit hospitals sacrifice quality at the expense of profits or that competition harms quality. However, studies examining the effect of conversion from one ownership type to another do find some evidence of lower quality in hospitals that converted from non-profit to for-profit status. One should not construe these findings as unambiguous evidence that quality is lower in for-profit hospitals; instead, they suggest that non-profit hospitals that convert to for-profit status are more likely to be of lower quality than non-profit hospitals that do not convert.

## THE EFFECT OF COMPETITION AND OWNERSHIP ON QUALITY IN THE UNITED STATES

Among the studies examining the impact of competition on patient outcomes is that of Ho and Hamilton,<sup>62</sup> who focus on the effect of a reduction in competition through acquisitions and mergers on the quality of hospital care. They compare the quality of care in hospitals before and after mergers and acquisitions in California between 1992 and 1995, as measured by in-patient mortality for heart attack and stroke patients, rate of 90-day readmissions for heart attack patients, and rate of discharges within 48 hours for normal newborns. They find no tangible impact of a decrease in competition on in-patient mortality but argue that this lack of evidence might be due to an insufficient sample size of patients in consolidating hospitals. The probability of readmission was higher in merged or acquired hospitals. Some hospital acquisitions, particularly those in already highly concentrated markets, led to early discharge of normal newborns. The authors conclude that reductions in competition through mergers and acquisitions might not always compromise quality.

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<sup>61</sup> R.P. Ellis, "Creaming, Skimping and Dumping: Provider Competition on the Intensive and Extensive Margins," *Journal of Health Economics* 17 (5, 1998): 537-555.

<sup>62</sup> V. Ho and B.H. Hamilton, "Hospital Mergers and Acquisitions: Does Market Consolidation Harm Patients?" *Journal of Health Economics* 19 (2000): 767-791.



Kessler and McClellan<sup>63</sup> analyze the impact of hospital competition on health expenditures and health outcomes using longitudinal data on cohorts of Medicare patients with heart disease in 1985, 1988, 1991, and 1994. An important contribution of their study is the method they use to define hospital markets. A well-known limitation of the empirical literature on hospital competition is that commonly used measures of market competitiveness are endogenous and therefore might result in biased estimates of the effect of competition on outcome variables. Kessler and McClellan address this limitation by modelling hospital choice (a critical factor in defining markets) based on exogenous factors. They measure quality of care using a one-year mortality rate, a one-year readmission rate for heart attacks, and a one-year readmission rate for heart failure, and they measure health expenditures as in-patient reimbursements for all in-patient admissions occurring within a year of the initial hospitalization. They find that the effects of competition on expenditures and outcomes differ over time. Before 1991, expenditures were lower in the least competitive markets than in the most competitive markets, but patients in less competitive markets experienced higher rates of mortality and readmission than those in the most competitive markets. Thus, from the social welfare point of view, the effect of competition was ambiguous prior to 1991. A different story emerges after 1991, with the results suggesting that competition unambiguously improved welfare. Treatment of heart attack patients in the least competitive areas was costlier than in the competitive areas, and differences grew in patients' health outcomes across differently competitive areas. These findings support the hypothesis that competition can lead to lower system costs and higher quality. The relevance of the study's finding for Canada is enhanced by the sample's having consisted of publicly financed U.S. Medicare patients.<sup>64</sup>

The contribution by Sloan et al.<sup>65</sup> to the debate on how hospital ownership affects program costs and quality departs from the studies discussed above in its use of national data on Medicare patients who were admitted to hospitals with a primary diagnosis of hip fracture, stroke, coronary heart disease, or congestive heart failure from 1982 to 1995. The authors measure hospital costs in two ways: total Medicare payments during the first six months after hospital admission, including the cost of the initial admission; and total Medicare payments during the first six months less payments incurred during the initial admission. They measure quality as the probability of death at one month, six months, and one year following the initial admission. The authors find that Medicare payments were lower in non-profit and public hospitals than in for-profit hospitals, and that ownership did not have an effect on mortality. Taken together, these results do not lend support to the hypothesis that for-profit hospitals improve their profit margins by sacrificing quality.

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<sup>63</sup> D.P. Kessler and M.B. McClellan, "Is Hospital Competition Socially Wasteful?" *Quarterly Journal of Economics* 115 (2, 2000): 577-615.

<sup>64</sup> Kessler and McClellan do control for ownership status, but do not report the results on the ownership variable.

<sup>65</sup> F.A. Sloan et al., "Hospital Ownership and Cost and Quality of Care: Is There a Dime's Worth of Difference?" *Journal of Health Economics* 20 (2001): 1-21.

Sari<sup>66</sup> uses panel data for hospitals in 16 U.S. states from 1992 to 1997 to analyze the impact of competition and managed care on quality. Unlike most studies that measure quality with mortality rates and/or readmission rates, Sari uses in-hospital complications as measures of quality. The results suggest that competition does improve quality. Sari estimates that, when evaluated at sample means, a 10% increase in market share corresponds to a 7.6% increase in complications. In addition, hospitals with higher market share use more inappropriate procedures.

Kessler and Geppert<sup>67</sup> estimate the effects of competition on the level of and variation in quality of care and hospital expenditures. This paper extends the contribution made by Tay,<sup>68</sup> who shows that an analysis of the effect of changes in competition needs to consider both geographic and quality (that is, vertical) differentiation; failure to do so could lead to inaccurate predictions of merger effects. In addition, economic theory does not provide unambiguous predictions about the effect of competition on social welfare. One viewpoint says that reducing competition increases quality variation at the expense of social welfare. This occurs by hospitals in less competitive markets lowering the quality of care for low-risk patients in order to charge high-risk patients more. Another viewpoint says that highly concentrated (that is, uncompetitive) markets might or might not have more quality variation; it is possible that all firms could choose a single sub-optimal quality level rather than trying to differentiate themselves. However, evaluation of the effect of competition on average does not allow evaluation of these hypotheses because it ignores the effect of competition on subgroups.

Kessler and Geppert examine these competing hypotheses using data for Medicare patients with a new occurrence of a heart attack in the 1985-1996 period. They separate patients into two groups of high and low valuation of quality based on a measure of health status, and estimate the effect of market concentration on mortality, cardiac complications, and medical expenditures for these two groups and for all patients. The results confirm the finding of Kessler and McClellan<sup>69</sup> that competition is socially beneficial on average. In addition, they find no evidence that competition generates aggregate benefits at the expense of sub-groups of patients. They also find that low-risk patients in competitive markets receive less intensive treatment (so, lower expenditures) than in uncompetitive markets but have similar health outcomes, which suggests there is no difference in the quality of care. However, high-risk patients in competitive markets receive more intense treatment than in less competitive markets and have better health outcomes, suggesting a higher quality of care. These findings are consistent with the phenomenon of “cream skimming”<sup>70</sup> but they also suggest that “cream skimming” raises, rather than reduces, overall social welfare. With respect to hospital ownership, Kessler and Geppert find that hospital ownership affects medical expenditures but not the quality of care.

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<sup>66</sup> N. Sari, “Do Competition and Managed Care Improve Quality?” *Health Economics* 11 (2002): 571-584.

<sup>67</sup> D.P. Kessler and J.J. Geppert, “The Effects of Competition on Variation in the Quality and Cost of Medical Care,” *Journal of Economics & Management Strategy* 14 (3, 2005): 575-589.

<sup>68</sup> A. Tay, “Assessing Competition in Hospital Care Markets: The Importance of Accounting for Quality Differentiation,” *RAND Journal of Economics* 34 (4, 2003): 786-814.

<sup>69</sup> Kessler and McClellan, “Is Hospital Competition Socially Wasteful?”

<sup>70</sup> “Cream skimming,” also called “cherry picking,” refers to the practice of selectively providing services to high-value or low-cost patients. It is commonly assumed that cream skimming is a negative consequence of competition, but Kessler and Geppert suggest that this is not necessarily the case since they find that competition is socially beneficial on average.

## THE EFFECT OF OWNERSHIP CONVERSION ON QUALITY

Another empirical approach to evaluating the effect of ownership form on the quality of care is to see if there are measurable differences in quality following conversion from one ownership form to another.<sup>71</sup> Sloan<sup>72</sup> measures quality using in-patient mortality rates, extended hospital stays, and pneumonia complications during the stay occurring to patients admitted for stroke, hip fracture, coronary heart disease, and congestive heart failure. Picone, Chou, and Sloan<sup>73</sup> define quality using mortality at 30 days, six months, and one year following a hospital admission. Shen<sup>74</sup> also measures outcomes using mortality rates at different time horizons, and combined measures of complications and mortality rates. Finally, Farsi uses a risk-adjusted measure of in-hospital mortality and a risk-adjusted probability of readmission for AMI patients.<sup>75</sup>

Sloan does not find any change in in-patient mortality rates following conversion from non-profit to for-profit ownership, but he does find evidence of increased complications from pneumonia. In contrast, Picone, Chou, and Sloan find temporary reductions in hospital quality, as measured by in-patient mortality rates, following conversion from non-profit to for-profit ownership, but do not find an increase in mortality rates when converting from for-profit to non-profit status. Shen's findings are similar to those of Picone, Chou, and Sloan — namely, that conversion to for-profit ownership resulted in poorer patient outcomes. The evidence in Farsi's study regarding the effect of ownership conversions on quality is mixed. In terms of in-hospital mortality of AMI patients, non-profit hospitals that converted to for-profit ownership showed a slightly falling mortality rate before conversion and a significant increase after conversion, but for-profit hospitals that converted to non-profit status experienced a slowdown in in-patient mortality following conversion. The findings are not the same for in-patient mortality rates for congestive heart failure patients and the readmission probability of AMI patients; in the former, the mortality rate increased following conversion from for-profit to non-profit status, while in the latter, there was no significant difference. In summary, the evidence on the effect of ownership conversion is mixed.

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<sup>71</sup> For example, see G. Picone, S.Y. Chou, and F. Sloan, "Are For-profit Hospital Conversions Harmful to Patients and Medicare?" *RAND Journal of Economics* 33 (3, 2002): 507-523; Y.C. Shen, "The Effect of Hospital Ownership Choice on Patient Outcomes after Treatment for Acute Myocardial Infarction," *Journal of Health Economics* 21 (2002): 901-922; F.A. Sloan, "Hospital Ownership Conversions: Defining the Appropriate Public Oversight Role," *Frontiers in Health Policy Research* 5 (2002): 123-166; and M. Farsi, "Changes in Hospital Quality after Conversion in Ownership Status," *International Journal of Health Care Finance and Economics* 4 (2004): 211-230. The samples in all of these studies are U.S. Medicare patients: Picone, Chou, and Sloan use Medicare beneficiaries admitted to a hospital; Sloan focuses on elderly patients admitted to hospitals for stroke, hip fractures, coronary heart disease, congestive heart failure, and pneumonia; Shen limits her analysis to Medicare patients admitted to U.S. hospitals for AMI (heart attacks), and Farsi focuses on patients admitted to hospitals in California for AMI and congestive heart failure.

<sup>72</sup> Sloan, "Hospital Ownership Conversions."

<sup>73</sup> Picone, Chou, and Sloan, "Are For-profit Hospital Conversions Harmful?"

<sup>74</sup> Shen, "The Effect of Hospital Ownership Choice."

<sup>75</sup> Farsi, "Changes in Hospital Quality." It is worth noting that measures of quality are a point of contention in the literature on the effect of competition and ownership on the quality of care. Quality is difficult to measure, and the ability of some commonly used measures to measure quality effectively is questioned. As an example, mortality rates are commonly used but are limited in their ability to measure quality in part because they are not observed for all patient groups.

## THE EFFECT OF COMPETITION ON QUALITY IN THE UNITED KINGDOM

Reform policies aimed at introducing competition into the publicly funded health care sector in the United Kingdom were implemented in 1990. Similar to reform efforts in Sweden, competition was introduced by creating an internal market with separate roles for the financing and delivering of health care. Prior to the 1990 reforms, the U.K. health care system was a monopoly in which local health authorities allocated public funds to provide health services directly. Under the reforms, the roles of financier and supplier were separated through the creation of two types of purchasers: District Health Authorities (DHAs) became responsible for purchasing hospital services for the population in their areas who were not patients of the second type, General Practice Fund-Holders (GPFHs), a voluntary group of primary-care physicians who are given a budget to provide primary health care and purchase some hospital care for their patients. Providers, both public and private, of health care services now compete annually for contracts with purchasers. The internal market was modified in 1998 when DHAs and GPFHs were replaced with Primary Care Trusts, who were given budgets to purchase all health care, thereby maintaining the purchaser-provider split. The government anticipated that the reforms would provide incentives to hospitals to compete on the basis of price and quality that would lead to improvements in efficiencies.

The empirical literature on the impact of creating a competitive internal market on prices, costs, efficiency, and quality is limited. Glennerster<sup>76</sup> draws from refereed journal articles and official publications in his synthesis of the evidence on the outcomes of the United Kingdom's efforts to introduce competition into the health sector. His overall conclusion is that the reform efforts made very little difference on measurable outcomes but there is some evidence of an impact on the effectiveness of the National Health Service (NHS) as measured by speed and convenience of treatment and production efficiencies. The number of patients treated per unit of real spending increased, on average, from a rate of 1.6% per year before the reforms to about 2.0% per year after the reforms. There is evidence of reduced wait times after the reforms and that wait times were reduced for patients whose primary-care physicians became fundholders. Evidence on quality of care is limited and inconclusive, but there is no evidence that "cream skimming" took place.

Propper, Burgess, and Green<sup>77</sup> undertake one of the few analyses of the impact of competition in the NHS on quality of care. Their measure of quality is the three-year weighted average of hospital death rates within 30 days of an emergency admission for acute myocardial infarction (AMI, or heart attack) for patients over age 50. They measure competition as the number of hospitals in the subject hospital's catchment area, which they arbitrarily define as the area within a 30-minute drive of the hospital. They find that hospitals that face more competition have higher death rates but that the effect is very small. An increase in competition from the twenty-fifth percentile to the seventy-fifth percentile is associated with an increase in death rate of 0.01. Given the well-known problems with defining hospital markets based on geographic boundaries and death rates as a measure of quality, these results do not substantially further our understanding of the impact of competition on quality of care in the United Kingdom.

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<sup>76</sup> H.G. Glennerster, "Competition and Quality in Health Care: The UK Experience," *International Journal for Quality in Health Care* 19 (5, 1998): 403-410.

<sup>77</sup> C. Propper, S. Burgess, and K. Green, "Does Competition between Hospitals Improve the Quality of Care? Hospital Death Rates and the NHS Internal Market," *Journal of Public Economics* 88 (2004): 1247-1272.

## Competition and Access to Care

Both the 2001 Mazankowski report and the 2006 Health Policy Framework document<sup>78</sup> identify access as an important issue for Albertans. Alberta and Canada are not alone on this front, as other jurisdictions with public insurance that provides first-dollar coverage for certain services experience unacceptably long waiting times. From an economics perspective, this is not surprising since allocation of health care services must occur in one form or another. Allocation on the supply side through waiting lists is a common practice in health systems where price does not play this role. Nonetheless, reducing waiting times often becomes an objective of health care reform efforts, as it did when the United Kingdom introduced competition by creating internal markets. The expected impact of the general practitioner fundholder scheme (see the discussion below) on wait times is not clear. One hypothesis is that this practice will create a two-tier system where fundholder practitioners are able to gain quicker access to hospital care for their patients. The competing hypothesis is that any fundholder practices that lead to reductions in wait times will spill over to patients of non-fundholders. Propper, Croxson, and Shearer<sup>79</sup> test these hypotheses using data on all elective hospital admissions in one U.K. area from 1993 to 1997. Their empirical analysis looks for direct effects of the scheme by determining if fundholders were able to gain faster access to hospital services for their patients and if they obtained faster access for all patients or only those they paid for directly out of their budgets. In addition, the authors examine evidence of indirect effects through spillover in two ways: spillovers to fundholders' patients having procedures performed by non-fundholding physicians; and spillovers to patients of non-fundholder physicians having either type of procedure.

Propper, Croxson, and Shearer do find evidence of direct effects but not of spillover effects. Fundholding reduced waiting times for patients of fundholder practices for services paid for by the fundholders by 8%. However, a different story with respect to non-fundholder procedures emerged. The results suggest that fundholding increased wait times for non-fundholder procedures: wait times for fundholder patients having non-fundholder procedures were 15% higher than those for non-fundholder patients. Moreover, these results were driven by differences in waiting times across specialties.<sup>80</sup> The authors find no evidence that fundholders were able to secure shorter wait times for their patients for non-fundholder procedures, indicating the absence of a spillover effect.

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<sup>78</sup> Alberta, *A Framework for Reform*; and idem, "Health Policy Framework" (Edmonton, February 2006); available online at <http://www.health.alberta.ca/documents/Health-Policy-Framework-2006.pdf>.

<sup>79</sup> C. Propper, B. Croxson, and A. Shearer. "Waiting Times for Hospital Admissions: The Impact of GP Fundholding." *Journal of Health Economics* 21 (2002): 227-252.

<sup>80</sup> Ibid., 240.

## Summary

The studies reviewed in this section seek to determine what effect, if any, competition and ownership structure have on health care system costs, quality, and access to care. Their findings do not speak directly to the debate about the efficacy and desirability of contracting with private, for-profit clinics for the provision of insured surgical services in Alberta, but they are relevant to the debate about expanding the role of the private sector in Alberta's health care system. On the whole, the evidence does not paint a picture of doom and gloom should competition and choice be encouraged. There is very little convincing evidence that a health care system characterized by competition, a mix of private non-profit and for-profit providers, and a mix of public and private financing would result in higher system costs or create a two-tier system. There is some evidence, however, to suggest that quality is higher and social welfare improved when there is competition among service providers.

## THE U.S. EXPERIENCE WITH PUBLIC PROVISION OF PRIVATE SERVICES

The United States has recent experience with new forms of competition in both the financing and delivery sides of the health care system. On the financing side, both public programs, Medicare and Medicaid, have experimented with injecting competition by allowing beneficiaries to enrol in managed-care plans. Such plans can be complex, but most involve flexibility in payment plans for providers that offer alternatives to fee-for-service payment. The idea is that alternative payment systems create incentives for efficiency that do not exist under fee-for-service arrangements.

On the delivery side, the growing sub-industry of physician-owned, single-specialty hospitals has created competition with the full-service, acute-care hospitals. This growth has sparked a heated debate among full-service general hospitals, physicians, regulatory agencies, health professional organizations, and other players in the health care sector. The major points of contention in the debate centre on the propensity of single-specialty hospitals to “cream skim,” thereby threatening the financial viability of full-service non-profit hospitals and compromising their ability to fulfill their community mission of providing care without regard to financial considerations. Concern about the conflict of interest created by physician-owners' financial incentive to self-refer healthier, easier patients to their hospitals, leaving the more difficult cases in the non-profit community hospitals, is similar to the concern voiced in Alberta that the public purchase of surgical services will create a two-tiered system of health care. Given the Mazankowski report's recommendation to “reconfigure the health system and encourage more choice, more competition and more accountability,”<sup>81</sup> the primary questions in the U.S. debates and the evidence gathered thus far are relevant to that Alberta debate.

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<sup>81</sup> Alberta, *A Framework for Reform*, p. 7.



## Medicare Managed Care

The primary objective of the U.S. Medicare program is to provide access to health care for persons ages 65 and over. The program shares similarities with the Canadian medicare program in terms of organization and delivery methods. The program has four distinct parts: Part A, the hospital insurance program; Part B, the supplemental medical insurance program that covers physician services, out-patient care, emergency room visits, and a variety of other medical services; Part C, the Medicare Advantage program, which is the managed-care program that must provide the services covered under Parts A and B to enrolled beneficiaries; and Part D, the prescription drug program.

The federal government began contracting with health maintenance organizations (HMOs) to provide a managed-care option to Medicare patients as a result of the *Tax Equity and Fiscal Responsibility Act* (TEFRA) passed in 1982.<sup>82</sup> The Medicare Advantage program was introduced as the Medicare + Choice program through the *Balanced Budget Act of 1997* in response to rising program costs experienced during the 1990s. The program introduced more competition into the Medicare program by increasing the types of managed-care insurance plans available to Medicare beneficiaries and altering payment methods for those plans. The rationale underlying the change that managed-care plans are expected to be more efficient at providing care, thereby reducing fiscal pressure on the federal budget.

Among numerous studies that have examined the impact of managed-care enrolment on Medicare costs, use, and quality is a paper by Chernew, DeCicca, and Town,<sup>83</sup> who evaluate its impact on fee-for-service expenditures to see if the effects of managed-care penetration spill over into the fee-for-service Medicare. A spillover effect is said to exist if physicians tend to treat patients in a similar manner, regardless of the type of insurance coverage the patient holds. In this case, more managed-care enrolment will affect physician practice patterns for the fee-for-service patients and result in lower expenditures; thus, evaluation of spillover effects is important for assessing the fiscal impact of the managed-care program. The authors do this by regressing spending by fee-for-service Medicare patients on the share of Medicare beneficiaries enrolled in managed-care plans at the county level, using data from a nationally representative survey covering the period from 1994 to 2001. They find evidence of substantial spillover effects: a one percentage point increase in Medicare managed-care enrolment is associated with 0.7 to 0.8 of a percentage point reduction in fee-for-service expenditures. Over the sample period, mean Medicare HMO penetration increased by about 8%, which means the estimated reduction in fee-for-service expenditures was approximately 6% relative to the level it would have been in the absence of such penetration.<sup>84</sup>

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<sup>82</sup> According to the National Library of Medicine, an HMO is a type of managed-care organization with five basic attributes: (1) it provides care in a defined geographic area; (2) it provides or ensures delivery of an agreed-on set of basic and supplemental health maintenance and treatment services; (3) it provides care to a voluntarily enrolled group of persons; (4) it requires enrollees to use the services of designated providers; and (5) it receives reimbursements through predetermined, fixed, periodic prepayments by enrollees without regard to the degree of services provided (Facts on File Dictionary of Health Care Management, 1988).

<sup>83</sup> M. Chernew, P. DeCicca, and R. Town, "Managed Care and Medical Expenditures of Medicare Beneficiaries," *Journal of Health Economics* 27 (6, 2008): 1451-1461.

<sup>84</sup> *Ibid.*, 1457.

Town and Liu<sup>85</sup> construct an HMO/county-level panel dataset for the years 1993 to 2000 to estimate the welfare effect for Medicare beneficiaries of the Medicare + Choice program. They find that creation of an alternative health insurance market to the traditional fee-for-service insurance resulted in substantial welfare gains: approximately US\$18.7 billion in total consumer surplus, US\$24.8 billion in net welfare gain, and US\$52.0 billion in HMO profits over the study period.<sup>86</sup> They further find that gains in consumer surplus were distributed unevenly across the country because of uneven geographic distribution of the availability of plans.

Mello, Stearns, and Norton<sup>87</sup> examine the effect of enrolment in Medicare HMOs on subsequent use after controlling for selection bias — the relationship between health plan choice and use is endogenous if there is favourable selection into HMOs. Using a panel data on Medicare beneficiaries from 1993 to 1996, the authors find that, even after controlling for favourable selection, both the probability of admission to a hospital and the number of in-patient days for hospitalized patients are lower for Medicare HMO patients. However, they do not find a reduction in the use of physician services by Medicare managed-care patients relative to fee-for-service patients.

Taken together, the findings from these studies indicate that the introduction of competition into the U.S. Medicare program has had some beneficial effects. The evidence of beneficial spillover effects in the form of lower expenditures in the fee-for-service market, substantial welfare gains, and reductions in hospital use suggest that competition and choice can improve performance and reduce fiscal pressure on the federal budget. It is important to note, however, that these studies do not evaluate the impact of Medicare managed-care on quality or health outcomes. If managed-care plans achieve lower use and costs by skimping on quality, this outcome must be factored into any conclusion about the net effect of Medicare managed care.

### **Single-Specialty Hospitals**

The emergence of for-profit, physician-owned, single-specialty hospitals in the United States over the past 15 years is similar to the growth in private non-hospital surgical facilities in Alberta since 1985. The growth in single-specialty hospitals is part of a larger movement of shifting patients to alternative settings that has strained relations between hospitals and physicians. During this time, there has also been significant growth in the number of ambulatory surgery centres and diagnostic testing facilities. All of these organizations compete with largely non-profit, full-service, general hospitals and, as such, are viewed as a threat to the financial viability of these hospitals. In 2003, the U.S. General Accounting Office (GAO, now the Government Accountability Office) issued a report on the growth, characteristics, and performance of single-specialty hospitals.<sup>88</sup> At that time, 100 specialty hospitals were open and operating, more than two-thirds of which had opened since 1990, and an additional 26 specialty hospitals were under development. More than 90% of the specialty hospitals that had

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<sup>85</sup> R. Town and S. Liu, “The Welfare Impact of Medicare HMOs,” *RAND Journal of Economics* 34 (4, 2003): 719-736.

<sup>86</sup> *Ibid.*, 720.

<sup>87</sup> M.M. Mello, S.C. Stearns, and E.C. Norton, “Do Medicare HMOs Still Reduce Health Services Use after Controlling for Selection Bias?” *Health Economics* 11 (2002): 323-340.

<sup>88</sup> United States, General Accounting Office, “Special Hospitals: Geographic Location, Services Provided, and Financial Performance,” GAO-04-167 (Washington, DC: GAO, 2003).

opened since 1990 were for-profit entities and most (approximately 70%) were owned, in whole or in part, by physicians. Although federal law, known as the “Stark” anti-referral law, generally prohibits a physician from referring Medicare and Medicaid patients to a facility in which the physician holds financial interest, single-specialty hospitals have proliferated under the “whole-hospital exemption.” This exemption allows physicians to have an ownership interest in an entire hospital on the premise that any financial gain from referring a patient to an entity as large as a general hospital would be too small to influence referral patterns.<sup>89</sup>

Single-specialty hospitals are concentrated geographically and by specialty. According to the 2003 GAO report, the 100 specialty hospitals then in existence were located in 28 states, but two-thirds were located in only seven states: Arizona, California, Kansas, Louisiana, Oklahoma, South Dakota, and Texas. The hospitals typically specialized in cardiac, orthopaedic, or surgical services, which tend to be the most profitable in full-service general hospitals. The vast majority (96% of those built since 1990) of single-specialty hospitals were in states that do not regulate the growth of the hospital industry through certificate-of-need laws. Table 4 shows the distribution of single-specialty and general hospitals by ownership status in 2003. Table 5 puts the size of the single-specialty hospital sub-industry in the context of the larger, full-service, general hospital industry.

**TABLE 4:** For-Profit and Non-profit Hospital Mix, United States, 2003

|                   | SPECIALTY HOSPITALS | SPECIALTY HOSPITALS OPENED 1990-2003 | GENERAL HOSPITALS |
|-------------------|---------------------|--------------------------------------|-------------------|
|                   | (percent)           | (percent)                            | (percent)         |
| <b>For-profit</b> | 74.0                | 92.8                                 | 20.1              |
| <b>Non-profit</b> | 26.0                | 7.2                                  | 79.9              |

*SOURCE: United States, General Accounting Office, “Special Hospitals,” p. 8.*

**TABLE 5:** Medicare In-patient Spending at Specialty and General Hospitals, by Hospital Type, United States, 2001

| HOSPITAL TYPE              | HOSPITALS | TOTAL MEDICARE IN-PATIENT SPENDING | DISTRIBUTION OF MEDICARE IN-PATIENT SPENDING AT SPECIALTY HOSPITALS |
|----------------------------|-----------|------------------------------------|---|
|                            | (number)  | (US\$ millions)                    | (percent)   |
| <b>Specialty hospitals</b> | 78        | 870.8                              | 100.0   |
| <b>Cardiac</b>             | 15        | 540.5                              | 62.1  |
| <b>Orthopaedic</b>         | 31        | 159.3                              | 18.3  |
| <b>Surgical</b>            | 16        | 76.2                               | 8.7   |
| <b>Women's</b>             | 16        | 94.8                               | 10.9  |
| <b>General hospitals</b>   | 4,908     | 88,507.2                           | n.a.  |

*SOURCE: Source: United States, General Accounting Office, “Special Hospitals,” p. 11.*

<sup>89</sup> See K. Carey, J.F. Burgess, and G.J. Young, “Specialization and Physician-ownership in the US Hospital Industry: Beyond the Moratorium,” *Health Economics, Policy and Law* 2 (2007): 409-418; and idem, “Specialty and Full-service hospitals: A Comparative Cost Analysis,” *Health Services Research* 43 (5, Part II, 2008): 1869-1887.

The debate surrounding the value of single-specialty hospitals in the U.S. health care industry shares similarities with the debate in Canada, including Alberta, about increasing the role of the private, for-profit sector in the health care system. A system in which a Medicare or Medicaid beneficiary is treated at a single-specialty hospital and a single-specialty hospital is reimbursed by Medicare or Medicaid for those services is tantamount to the public purchase of private services allowed by Bill 11 in Alberta. Supporters of physician-owned, single-specialty hospitals argue that they represent an innovative approach to the delivery of health care services by promoting cost efficiency and by providing greater patient choice and higher-quality health care at competitive prices. Single-specialty hospitals promote healthy competition by setting a new competitive benchmark for hospital services. Physicians who practise in both types of hospital report that they can see about twice as many cases in a given time at specialty hospitals than in full-service community hospitals.<sup>90</sup> The potential for financial gain comes from improved efficiency and not necessarily self-referrals of less complex, more profitable cases. The two primary factors motivating physicians to initiate single-specialty hospital joint ventures are to gain direct control of hospital operations regarding patient care and to augment their income.<sup>91</sup>

The biggest opponents of single-specialty hospitals are full-service general hospitals, which argue that the ability of physician-owners to self-refer patients to their single-specialty hospitals creates unfair competition. The financial incentive is to target the most profitable procedures and “cherry pick” the healthiest and best-insured patients, leaving the poorest and sickest patients to the full-service community hospitals, which undermines their ability to cross-subsidize unprofitable services. In essence, the argument goes, for-profit single-specialty hospitals create the potential for a two-tiered delivery system in which profitable cases are treated at specialty hospitals and unprofitable cases at non-profit community hospitals.

The contentious debate surrounding the accelerating growth of physician-owned, specialty hospitals caused policy-makers to re-think the “whole hospital exception.” It became apparent that the specialization and small size of single-specialty hospitals was closer to a sub-division within a larger hospital that is subject to the anti self-referral legislation than to an entire hospital, and that the opportunity for physician-owners to gain financially by their behaviour was greater than initially envisioned. As a result, in 2003, the U.S. Congress imposed an 18-month moratorium on payments for physician referrals of Medicare and Medicaid patients to new physician-owned specialty hospitals. This decision reflected an uncertainty in Congress about policy prescriptions that would balance competition and regulation in health care markets in order to maximize social welfare. A critical question to answer was whether physician-owned, single-specialty hospitals inject “healthy” competition into hospital markets that augment patient choices, improved quality, and make health care more affordable; or simply create an uneven playing field for non-profit full-service hospitals that threatens their ability to

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<sup>90</sup> J. Iglehart, “The Emergence of Physician-owned Specialty Hospitals,” *New England Journal of Medicine* 352 (1, 2005): 80.

<sup>91</sup> Medicare Payment Advisory Commission (MedPAC), *Report to the Congress: Physician-owned Specialty Hospitals* (Washington D.C.: MedPAC, 2005); available at: [http://www.medpac.gov/documents/Mar05\\\_SpecHospitals.pdf](http://www.medpac.gov/documents/Mar05\_SpecHospitals.pdf).

provide community services. During the moratorium, which was lifted in 2006, Congress required that the Centers for Medicare and Medicaid Studies (CMS) and the Medicare Payment Advisory Committee (MedPAC) study the effect of physician-owned, single-specialty hospitals on general hospitals, the services provided by general hospitals that are unprofitable, and the cost and quality of services provided by specialty hospitals. The growth in single-specialty hospitals slowed during the moratorium but did not completely halt because they could still treat private patients.<sup>92</sup>

#### **THE COMPETITIVE EFFECT OF PHYSICIAN-OWNED, SINGLE-SPECIALTY HOSPITALS**

Congress asked the CMS to study referral patterns of single-specialty hospitals; compare the quality of care and patient satisfaction with care received in single-specialty hospitals with full-service community hospitals; assess the differences in uncompensated care between the two types of hospitals; and assess the relative value of any tax exemption available to community hospitals.<sup>93</sup> An important finding in the CMS report is that hospitals specializing in cardiac care characteristically differed from orthopaedic/surgery hospitals. Cardiac hospitals more closely resembled full-service hospitals than did orthopaedic/surgery hospitals, were larger (50-80 beds), and often had emergency rooms and community outreach programs. The proportion of physician ownership was lower in cardiac hospitals relative to orthopaedic/surgery hospitals. Single-specialty hospitals typically are joint ventures of physicians with a for-profit chain, a non-profit general hospital, or some other entity. In 2003, a typical ownership structure for a cardiac hospital was 49% physician-owned and 51% “other entity-owned.” In contrast, physicians owned 80% of orthopaedic/surgery hospitals on average.

Another report uses a case-study approach to gather data on referral patterns and assess differences in the provision of uncompensated care. Specifically, it identifies physician-owned specialty hospitals and competitor hospitals in six market areas, and the sample contains four cardiac hospitals, six orthopaedic hospitals, and one surgery hospital.<sup>94</sup> The primary policy issues the study evaluates are whether physician-owners refer a greater proportion of patients to specialty hospitals and whether the cases referred to specialty hospitals by physician-owners are more profitable than the cases they refer to competitor community hospitals. A case is considered more profitable if it is lower acuity (less severe).

Not surprisingly, the report finds that Medicare referrals to physician-owned specialty hospitals are positively related to the likelihood of referrals of patients to a specialty hospital. The referral percentage ranged from 61% to 82% of admissions to the cardiac hospitals; 48% to 98% in the orthopaedic hospitals; and 90% in the one surgery hospital in the sample. Referral patterns were different between cardiac and orthopaedic hospitals when evaluating what

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<sup>92</sup> Carey, Burgess, and Young, “Specialty and Full-service Hospitals,” 1871.

<sup>93</sup> See M.O. Leavitt, “Study of Physician-owned Specialty Hospitals Required in Section 507(c)(2) of the *Medicare Prescription Drug, Improvement, and Modernization Act of 2003*,” Washington, DC: Centers for Medicare and Medicaid Services, 2005; available at: <http://www.cms.hhs.gov/MLNProducts/Downloads/RTC-studyofphysownedspechosp.pdf>.

<sup>94</sup> See L. Greenwald et al., “Specialty versus Community Hospitals: Referrals, Quality and Community Benefits,” *Health Affairs* 25 (1, 2006): 106-18. The case-study, rather than a random-sample, approach was taken to select facilities because of the disproportionate number of cardiac hospital cases.

proportion of a physician-owner's total Medicare caseload was referred to his own hospital. In this case, cardiologist-owners clearly preferred to refer cases to their own hospitals whereas most of the orthopaedic surgeon- or general surgeon-owners referred most of their cases to competitor hospitals. The size of ownership share was an important factor in referral patterns rather than ownership itself. Physician-owner referral patterns were not inconsistent with the behaviour of physicians more generally. An inspection of referral patterns of competitor physicians in one site revealed that most competitor cardiologists admitted 90% of their patients to a single facility.<sup>95</sup> The hypothesis that physician-owned specialty hospitals systematically screen out more severely ill patients is not supported in this study.

A comparison of the quality of care provided in specialty hospitals and competitor hospitals was undertaken using the following measures of quality: mortality during hospitalization and within 30 days of discharge; complications during hospitalization; readmission within 30 days of discharge; and discharge disposition. Except for readmission rates, outcome measures indicate that the quality of care is high in specialty hospitals, as is patient satisfaction.

An unadjusted comparison of uncompensated care costs between specialty hospitals and full-service community hospitals is inappropriate because of the value of the tax exemption for non-profit hospitals. For-profit, physician-owned specialty hospitals correctly argue that their tax payments offset their smaller share of uncompensated care. In order to respond to the congressional mandate that the CMS evaluate differences in the provision of uncompensated care, the CMS developed a measure of "net community benefit": roughly, uncompensated care plus tax payments in specialty hospitals and uncompensated care costs in non-profit hospitals. Using this definition, the "net community benefit" measured as a percentage of total operating revenue was found to be 3.74% in cardiac hospitals, 7.23% in orthopaedic and surgical hospitals, and 0.87% in non-profit, full-service community hospitals.<sup>96</sup> Thus, the hypothesis that competition from specialty hospitals undermines the ability of non-profit community hospitals to provide uncompensated care might have some merit but the slack is being picked up by the specialty hospitals.

Congress also asked MedPAC to study the cost of care at physician-owned specialty and full-service community hospitals; the financial impact of physician-owned specialty hospitals on competitor full-service community hospitals; differences in payer mix between specialty and full-service community hospitals; patient selection within categories of cases, comparing specialty and full-service community hospitals; and improvements to Medicare's in-patient prospective payment system that should be made to better reflect the cost of care in a hospital setting. MedPAC analyzes Medicare cost reports and in-patient claims data for 2002 for a sample of 48 physician-owned specialty hospitals: 12 heart hospitals, 25 orthopaedic hospitals, and 11 surgical hospitals.<sup>97</sup>

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<sup>95</sup> Ibid., 110.

<sup>96</sup> Leavitt, "Study of Physician-owned Specialty Hospitals," p. 58.

<sup>97</sup> See MedPAC, *Report to the Congress*.



The comparison of costs between speciality hospitals and full-service community is limited by the data available. The number of speciality hospitals is small relative to community hospitals and they have not been operating for very long, which could bias speciality-hospital costs upwards. Given this caveat, MedPAC compares the costs of specialty hospitals to three comparison groups: community hospitals located in the same market as specialty hospitals and providing a full range of services; competitor hospitals that are a subset of community hospitals located in the same market as specialty hospitals and that provide at least some of the same services as specialty hospitals; and peer hospitals that are specialized, not physician-owned, and not necessarily in the same market as specialty hospitals.<sup>98</sup> A comparison of adjusted in-patient costs per discharge reveals that the aggregate mean and median values for costs in physician-owned specialty hospitals were higher than those in peer, competitor, and community hospitals, but the differences are not statistically significant. Interestingly, lengths of stay were shorter in specialty hospitals — other things being equal, shorter length of stay should lead to lower costs unless the intensity of services in the specialty hospitals is sufficiently greater than in full-service general hospitals. Other factors that might explain this finding is lack of economies of scale, higher capital costs, and start-up costs.

MedPAC does find evidence of differences in payer mix. An analysis of discharge volume at specialty hospitals, community hospitals in the same market, and peer hospitals shows that physician-owned specialty hospitals treated fewer Medicaid patients. Physician-owned cardiac hospitals derived 58% of their revenue from Medicare while orthopaedic and surgery hospitals got the majority of their revenue (64%) from private insurance.<sup>99</sup>

The approach the MedPAC study takes to evaluate the incentive to focus on more profitable cases differs from that of the CMS analysis. MedPAC examines growth rates in several types of cardiac surgeries at the market level to determine if markets with physician-owned cardiac hospitals had above-average increases in per capita use rates between 1996 and 2000. It finds that surgeries grew by 5.5% for Medicare beneficiaries in markets with a single-specialty hospital and by 4.4% in markets without a single-specialty hospital, but that the difference is statistically insignificant. There is limited evidence that the entrance of a physician-owned cardiac hospital into a market increased the volume of highly profitable surgeries. Specifically, highly profitable CABG surgeries declined over this period across markets due to the substitution of angioplasties, but the rate of decline was slower in markets with a single-specialty cardiac hospital. On the other hand, the differences in rates of growth of modestly profitable angioplasties and potentially unprofitable defibrillator implantation were not statistically different, although the direction of the differences in use is consistent with what would be predicted by the financial incentives of single-specialty hospitals.<sup>100</sup>

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<sup>98</sup> Ibid., p. 13.

<sup>99</sup> Ibid., p. 19.

<sup>100</sup> Ibid., p. 23.

MedPAC also assesses the impact of physician-owned, single-specialty hospitals on community hospitals' financial performance by comparing the profit margins of community hospitals in markets with physician-owned specialty hospitals to those of community hospitals in markets without physician-owned specialty hospitals. The period covered, 1997 to 2002, represents both the pre- and post-entry years of the specialty hospitals. The results suggest that the competition created by the entry of single-specialty hospitals had little to no impact on the total margins of community hospitals.<sup>101</sup>

An ongoing concern regarding Medicare's payment system for in-patient care is that it creates financial incentives to specialize in "profitable" DRGs such as cardiac and orthopaedic surgery and, within those DRGs, to selectively admit low-cost patients. Within these incentives, the opportunity for financial gain is greater in a single-specialty hospital. MedPAC's analysis of patients admitted to specialty and community full-service hospitals indicates that the DRGs represented in the single-specialty hospitals were generally more profitable than the average DRG, and that specialty hospitals had lower-severity patient mixes than community hospitals.<sup>102</sup>

The GAO was asked to study the competitive response of full-service general hospitals to the presence of specialty hospitals in their market area. In response to this request, the GAO undertook a survey of a sample of general hospitals in markets with at least one specialty hospital that had opened since the beginning of 1998 and a comparison sample of general hospitals in markets where there were no specialty hospitals. The survey contained questions about the hospitals' perceptions on the competitive landscape in their markets. Hospitals were asked to report on operational and clinical services changes they made from 2000 to 2005 to remain competitive in their markets.<sup>103</sup> The GAO report finds little evidence that the nature of competition is different when it comes from a single-specialty hospital. Nearly all hospitals surveyed indicated growth in competition, but the growth came from other general hospitals as well as from other limited-service facilities such as specialty hospitals, imaging centres, and ambulatory surgical facilities. Further, there was no evidence that hospitals made more or fewer changes or different types of changes to remain competitive if some of their competition came from physician-owned, single-specialty hospitals.<sup>104</sup>

A study by Chollet, Lui, and Gimm<sup>105</sup> focuses on single-specialty hospitals (termed "niche" hospitals) in Texas. Two of the three areas of study in the report are similar to those contained in the CMS and MedPAC reports. The first is a comparison of the financial status of single-specialty hospitals and full-service general hospitals in Texas and a statistical analysis of the impact of specialty hospitals on full-service hospital margins and uncompensated care loads. The second area studied is referral patterns — specifically, comparing referrals from physician-owners to single-specialty and general hospitals with those from non-physician-owners who refer to single-specialty hospitals. (The third area, which is not summarized, is a qualitative analysis of stakeholder perceptions about the impact of single-specialty hospitals in Texas.)

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<sup>101</sup> Ibid., p. 24.

<sup>102</sup> Ibid., p. 25.

<sup>103</sup> United States, Government Accountability Office, "General Hospitals: Operational and Clinical Changes Largely Unaffected by Presence of Competing Specialty Hospitals," GAO-06-520 (Washington, DC: GAO, 2006), pp. 2-3.

<sup>104</sup> Ibid., p. 4.

<sup>105</sup> D. Chollet, S. Liu, and G. Gimm, "Analysis of Niche Hospitals in Texas and the Financial Impact on General Hospitals," Reference 6229 (Princeton, NJ: Mathematica Policy Research, 2006).

In its descriptive comparisons, the study finds some differences in the financial status of single-specialty hospitals and full-service general hospitals in Texas, but the statistical analysis does not attribute these differences to the presence of single-specialty hospitals. For example, a descriptive comparison of trends in payer mix shows that the proportion of private-pay patients in single-specialty hospitals is quite a bit higher (54.1% in 2004) than in full-service general hospitals (25.6% in 2004), but also that both types of hospitals experienced declines in the share of private-pay patients from 2000 to 2004. Full-service hospitals in markets with single-specialty hospitals had a higher proportion of private-pay patients (30.5% in 2004) than did all full-service hospitals.<sup>106</sup> This result likely reflects the tendency of single-specialty hospitals to locate in areas with a higher percentage of private-pay patients. Table 6 provides the descriptive comparison of mean operating and total margins for single-specialty and full-service hospitals. The interesting trend is the substantially higher operating and total margins for single-specialty hospitals from 2000-2003 but then a significant drop to a level similar to those of general hospitals in 2004. The sharp reduction in the margins of single-specialty hospitals might be due to increased competition from new single-specialty hospital entrants over this time as well as to increased competition from other limited-service facilities, such as ambulatory surgery centres.

**TABLE 6:** Mean Operating and Total Margins, by Hospital Type, Texas, 2000-2004

| MEAN OPERATING MARGIN<br>HOSPITAL TYPE                  | YEAR              |                   |                   |                   |                   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | 2000<br>(percent) | 2001<br>(percent) | 2002<br>(percent) | 2003<br>(percent) | 2004<br>(percent) |
| Single-specialty (n=15)                                 | 9.5               | 18.6              | 18.4              | 12.3              | 3.7               |
| All full-service (n=360)                                | -0.9              | 2.4               | 3.7               | 1.8               | 2.2               |
| Full-service in market with single-specialty<br>(n=185) | -0.4              | 3.8               | 5.7               | 3.9               | 1.9               |

  

| MEAN TOTAL MARGIN<br>HOSPITAL TYPE                      | YEAR              |                   |                   |                   |                   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | 2000<br>(percent) | 2001<br>(percent) | 2002<br>(percent) | 2003<br>(percent) | 2004<br>(percent) |
| Single-specialty (n=15)                                 | 9.6               | 18.7              | 18.5              | 12.8              | 0.3               |
| All full-service (n=360)                                | 0.7               | 3.5               | 4.4               | 3.1               | 3.2               |
| Full-service in market with single-specialty<br>(n=185) | 0.6               | 4.4               | 6.1               | 4.5               | 2.7               |

*SOURCE:* Adapted from Chollet, Liu, and Gimm, "Analysis of Niche Hospitals in Texas," figs. I.9, I.10.

<sup>106</sup> Ibid., p. 13.

Regression analyses of operating margins, total margins, and uncompensated care as a percent of revenue of general hospitals, with controls for the presence of single-specialty hospitals in the market, have not found evidence that single-specialty hospitals adversely affect competing full-service general hospitals' financial performance. The important factor contributing to differences in operating and total margins of full-service general hospitals was ownership status. The operating margin of non-profit hospitals was, on average, 8.5% lower than that of for-profit hospitals, the average total margin was 7.7% lower, and uncompensated care as a percent of total revenues was 2% higher.<sup>107</sup> Employing the same concept of net community benefit used in the CMS study, it is likely that, after adjusting for payments, the net community benefit of for-profit hospitals is larger.

Chollet, Liu, and Gimm take the analysis of referral patterns a step further than the CMS and MedPAC reports, which were primarily interested in determining the extent of physician-owner self-referral patterns. The financial incentive to self-refer patients to one's own facility is self-evident. It is important, however, to keep in mind that other factors affect referral patterns, including patients' preferences for single-specialty over full-service hospitals; the patient's insurance plan and network of providers allowed under the insurance plan; and physicians' preferences about scheduling, staffing, and other dimensions of their work environment. Given these factors, Chollet, Liu, and Gimm seek to determine if financial or non-financial factors drive referral patterns. They examine referral patterns of physician owners relative to those of non-owners with three measures: 1) patients admitted by physician-owners as a percent of all patients admitted to physician-owned, single-specialty hospitals; 2) patients admitted by physician-owners to single-specialty hospitals they own as a percent of all patients that physician-owners refer to any hospital; and 3) the relative profitability of patients admitted by physicians to a single-specialty hospital in which they have an ownership interest.<sup>108</sup> The analysis suggests that financial incentives are more important than non-financial factors in determining referral patterns. Physicians admitted patients to both single-specialty and general hospitals, but self-referrals to physician-owned, single-specialty hospitals accounted for more than half of all discharges from single-specialty hospitals in 2004. Controlling for appropriateness of admission, physician-owners admitted 42% of specialty-appropriate cases to their own single-specialty hospitals, while non-owners admitted 30% of such cases. This difference was driven by high rates of self-referral among orthopaedic hospitals. Patients admitted to physician-owned, single-specialty hospitals in 2004 were more likely to be privately insured and less likely to be severely ill. It is interesting to note that both physician-owners and non-owners were more likely to refer privately insured and less severely ill patients to single-specialty hospitals.<sup>109</sup>

Taken together, the findings of the CMS, MedPAC, the GAO, and Chollet, Liu, and Gimm do not overwhelmingly support critics' claims that for-profit, physician-owned, single-specialty hospitals create an uneven playing field for non-profit, community full-service hospitals. They find that the entry of specialty hospitals has little or no impact on the financial performance of

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<sup>107</sup> Ibid., pp. 17-18.

<sup>108</sup> Ibid., p. 23.

<sup>109</sup> Ibid., pp. 35-36.

incumbent, full-service general hospitals. While these findings adequately inform the debate about the competitive effects of physician-owned specialty hospitals, they all employ descriptive analytical techniques. As a result, they provide a useful basis for policy analysis but are limited in their ability to make causal inferences about the impact of specialty hospitals. A few studies have begun to bridge this gap in the literature.

One such study is that of Schneider et al., who ask, “Does the presence of specialty hospitals in a market reduce general hospitals’ financial performance?”<sup>110</sup> They use data from Medicare’s Healthcare Cost Reporting Information System to estimate full-service, general hospital patient care revenue, cost, and operating margins in markets (defined as counties) with and without physician-owned, single-specialty hospitals. Included in their models are variables that measure the presence of an established specialty hospital in existence for at least two years and the presence of a new specialty hospital in existence for less than one year. The results indicate that the presence of one or more new or established specialty hospitals in a market has no effect on patient care revenue; a negative effect on costs; and a positive effect on operating margin. Based on these results, the authors question the claim of opponents of single-specialty hospitals that competition from such hospitals is unfair and harms full-service general hospitals financially. Schneider et al. also include measures of competition and ownership status in their model, and find that patient care revenue, costs, and operating margins all increased with increases in market concentration. For-profit hospitals had higher patient care revenues and costs relative to non-profit hospitals, but their costs were not significantly different.

Carey, Burgess, and Young,<sup>111</sup> however, do not agree with the findings of Schneider et al. They focus instead on comparing the costs of physician-owned, single specialty hospitals and those of full-service hospital competitors. They estimate hospital cost functions using stochastic frontier regression analyses from which they generate hospital specific inefficiency measures (see Table 7). They define markets not as counties but by using Hospital Referral Regions as defined in the Dartmouth Atlas of Health Care, and their data cover the period from 1998 to 2004 and are drawn primarily from Medicare Cost Reports. Their analysis focuses on the three states with the preponderance of physician-owned, single-specialty hospitals: Texas, California, and Arizona. They find that single-specialty hospitals as a whole are more inefficient than full-service hospitals but most of the difference comes from orthopaedic/surgery hospitals rather than cardiac hospitals. This finding has potentially important policy implications should the results be substantiated in future work because cardiac hospitals are more similar to full-service hospitals than to orthopaedic and surgery hospitals. This suggests that policies shaping the nature of competition in hospitals market ought to recognize that not all single-specialty hospitals are the same. However, an important limitation of this and all of the studies of the effects of single-specialty hospitals is the lack of data both in terms of number of observations and years in existence for single-specialty hospitals.

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<sup>110</sup> J.E. Schneider et al., “Effects of Specialty Hospitals on the Financial Performance of General Hospitals, 1997-2004,” *Inquiry* 44 (2007): 322.

<sup>111</sup> Carey, Burgess, and Young, “Specialty and Full-service Hospitals.”

**TABLE 7:** Stochastic Frontier Analysis Efficiency Scores, U.S. Hospitals, 1998-2004

| HOSPITAL CATEGORY    | MEAN INEFFICIENCY SCORE | NUMBER OF OBSERVATIONS | COMPARISON | DIFFERENCE (t-value) |
|----------------------|-------------------------|------------------------|------------|----------------------|
| All hospitals        | 0.280                   | 1,018                  | n.a.       | n.a.                 |
| Full-service         | 0.274                   | 975                    | n.a.       | n.a.                 |
| Single-specialty     | 0.425                   | 43                     | full       | 0.151* (2.83)        |
| Orthopaedic/surgical | 0.471                   | 33                     | full       | 0.197* (3.12)        |
| Cardiac              | 0.277                   | 10                     | full       | 0.003 (0.04)         |

\*p-value in parentheses,  $p < 0.01$ .

SOURCE: Adapted from Carey, Burgess, and Young, "Specialty and Full-service Hospitals," table 3.

Carey, Burgess, and Young also include measures of competition and ownership status in their cost function regressions. Contrary to many studies that find no differences in costs by ownership status, they find that for-profit hospitals have lower costs than non-profit hospitals, which supports the theoretical prediction that for-profit hospitals have a greater incentive to control costs. The measure of competition was insignificant.

Barro, Huckman, and Kessler<sup>112</sup> are interested in evaluating the social benefits and costs of for-profit, physician-owned, single-specialty hospitals. They focus on the treatment of Medicare patients with cardiac disease at single-specialty cardiac hospitals using data from 1996 to 1999. One approach to evaluating the net social welfare effect of single-specialty hospitals is to examine how expenditures, treatments, and patient outcomes changed in market areas that experienced the entry of specialty hospitals over the study period. If the entry of single-specialty hospitals leads to lower expenditures and better outcomes, then it is unambiguously welfare-enhancing; if it leads to higher expenditures and worse outcomes, it is unambiguously welfare-decreasing; while any other combination could be either welfare-enhancing or — decreasing.<sup>113</sup> A second approach is to examine how expenditures, treatments, and outcomes of patients admitted to single-specialty hospitals compare with those treated in full-service general hospitals in a cross-section of markets with a single-specialty hospital. While this analysis cannot speak to the existence of socially harmful behaviour, it is useful because it shows whether Medicare patients at cardiac specialty hospitals are healthier, and it quantifies the importance of these differences for observed variations in costs and outcomes.<sup>114</sup> The authors

<sup>112</sup> J.R. Barro, R.S. Huckman, and D.P. Kessler, "The Effects of Cardiac Specialty Hospitals on the Cost and Quality of Medical Care," *Journal of Health Economics* 25 (4, 2006): 702-721.

<sup>113</sup> *Ibid.*, 703.

<sup>114</sup> *Ibid.*, 704.



find evidence to support both advocates' and critics' contentions about the competitive impact of single-specialty hospitals. They find lower growth rates in expenditures between 1996 and 1999 in markets with specialty-hospital entry and a decrease in mortality. They also find that specialty hospitals chose to enter markets with healthier patients, to provide additional intensive treatment of questionable cost-effectiveness, and to treat healthier patients within a market. It is worth noting that these findings are consistent with those of Kessler and McClellan that for-profit hospitals increase overall market efficiency by providing an incentive for improved performance from non-profit hospitals while providing additional treatment of marginal benefit.<sup>115</sup>

### **IS COMPETITION GOOD, BAD, OR INDIFFERENT?**

The debate about the appropriate role of competition and the appropriate mix of public and private delivery is a long one and likely to continue. At a conceptual level, health care systems can be described simply as having three major players: payers, patients (consumers), and health care providers (producers); and three major elements: financing, reimbursement (or payment), and production. The structure of the system determines how the players and elements interact in the production, consumption, and distribution of services. A cursory glance of health care systems around the world reveals a great deal of variation in their structure. Health care reform has been at the top of many countries' political agendas since the early 1990s because a large portion of health care expenditures are publicly financed and there has been persistent growth in health care expenditures as a share of gross domestic product.

The challenge of having a health care system in place that is fiscally sustainable yet is both responsive to the needs of the population and equitable has prompted reform policies that consider a role for competition and private delivery. Involving the private sector in delivery is most beneficial under two conditions. First, if contracting for services creates a bidding process, then the process itself creates market incentives to be competitive. Second, if the private sector has sufficient volume, then it might achieve lower costs through economies of scale that are difficult to obtain in the public sector. In short, the beneficial involvement of the private sector might be attainable in some health services but not in others.<sup>116</sup> Crafting policies that result in the appropriate mix of public, private, and non-profit delivery in health care markets has proven to be a challenging and difficult task, but policy-makers remain undeterred and continue to try. A by-product of this seemingly endless challenge is an extensive literature, both academic and popular, examining the effect of competition and organizational structure on health care markets.

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<sup>115</sup> Ibid., 718; see also Kessler and McClellan, "Is Hospital Competition Socially Wasteful?"

<sup>116</sup> The author thanks an anonymous referee for pointing out the conditions under which private sector delivery is likely to be beneficial.

Motivating this paper was the question: *Can competition and profits lead to lower system costs, higher quality, and improved efficiency in markets where for-profit and not-for-profit providers coexist?* The evidence gathered so far does not provide a definitive answer; rather, it suggests that it depends. The conclusion that it depends does not reflect the rigour or generally high quality of the academic studies reviewed, but the emerging fact that ownership- (or organizational-) related differences in behaviour and the appropriate role for competition vary greatly across health care services. Although the desire to put public, non-profit, and private forms of organization neatly into separate boxes is appealing, it is not practical in the context of health care because these organization types are heterogeneous and one distinct form of delivery might not be desirable. A goal of the literature review in this paper has been to evaluate the evidence about the interaction of ownership type and competition in health care markets with respect to their effects on costs, quality, and access to care and in the context of the recommendations of the Mazankowski report about creating a health care system that encourages choice, competition, and an innovative blend of for-profit and non-profit delivery.

A qualitative assessment of recent evidence on the value of competition and a role for for-profit delivery of health services could result in different conclusions depending on one's perspective. Opponents of competition and for-profit delivery could easily point to findings that suggest that quality is lower in for-profit hospitals;<sup>117</sup> to evaluations of the effect of general practitioner fundholding on quality;<sup>118</sup> or to the various studies that find no effect of ownership on costs as convincing evidence that competition and profits do not lead to higher quality and/or lower system costs. Advocates, however, could point to convincing evidence that competition and profits do lead to higher quality and/or lower system costs.<sup>119</sup>

Perhaps a more constructive approach to synthesizing the evidence is to view it from both points of view in an attempt to assess the potential role of competition and profits in enhancing consumer welfare. This approach has merit because health care systems are complex and involve interactions among players that are manipulated through policies that create incentives for behaviour. However, the effects of policies are felt at the market level. Health care markets are heterogeneous and local, making it entirely possible for policy effects to vary across geographic markets. When viewed from this perspective, a reasonable conclusion to be drawn from the studies discussed in this paper is that healthy competition and an appropriate blend of public, private non-profit, and private for-profit delivery is likely to be beneficial on some measures, indifferent on others, but not likely bad.

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<sup>117</sup> Devereaux et al., "Comparison of Mortality"; idem, "A Systematic Review"; and idem, "Payments for Care."

<sup>118</sup> Propper, Burgess, and Green, "Does Competition between Hospitals Improve the Quality of Care?"; Propper, Croxson, and Shearer, "Waiting Times for Hospital Admissions."

<sup>119</sup> As reported in, for example, Connor, Feldman, and Dowd, "The Effects of Market Concentration"; Kessler and Geppert, "The Effects of Competition"; Kessler and McClellan, "Is Hospital Competition Socially Wasteful?"; Sloan, "Hospital Ownership Conversions"; and Spang, Bazzoli, and Arnould, "Hospital Mergers and Savings for Consumers."

What is the basis for the conclusion that competition and profits are not likely to be bad for Canada's health care system? In order to answer that question, one must first answer the question of what constitutes a "bad" in the health care system. The objections put forth by opponents of competition and private for-profit delivery serve the purpose of defining "bad" for this discussion. The major objections are that competition and profits would lead to the demise of the publicly funded and managed medicare system in its current state. The current system would be replaced with a two-tier system that left the public system as the "provider of last resort" for those unable to access the more desirable and higher-quality private system. Other potentially "bad" outcomes are "queue jumping,"<sup>120</sup> "cream skimming," and conflicts of interest on the part of physicians. There is much evidence in the studies presented here that rejects the contention that competition and profits would result in a two-tier system or the erosion of the public system, but there is some evidence of "cream skimming." The U.S. experience with public payers' purchasing surgical services from single-specialty hospitals and contracting with private managed-care companies has not been unambiguously that of higher system costs, greater inefficiencies, or higher costs. Providers have not bailed out of the public system by refusing to treat patients with public insurance.

The relevance of "cream skimming" deserves consideration in context of the *Canada Health Act* and Alberta's Bill 11 along two dimensions. First, is "cream skimming" likely to occur? Second, is "cream skimming" an undesirable consequence of private, for-profit surgical facilities? With respect to the first issue, the incentives for "cream skimming" are diminished by the *Canada Health Act's* requirement that physicians accept public payment as payment in full. Treatment in a private surgical facility simply would reflect a change in the service delivery model without a change in the payment system. Physicians would receive the same, or similar, fee in both settings.<sup>121</sup> Under this scenario, "cream skimming" might occur if higher-risk, higher-cost patients were treated in the full-service acute-care hospitals and healthier, lower-cost patients were treated in private, for-profit surgical facilities. But is this outcome undesirable? "Cream skimming" is often construed as undesirable because the profitability of non-profit hospitals would be jeopardized if lower-cost, healthier patients subsidized the costs of higher-cost, sicker patients. However, "cream skimming" could be beneficial from a system-level perspective if it led to an optimal allocation of patients between full-service general hospitals and specialty clinics. It might well be more appropriate for the full-service hospital to treat the more medically difficult cases, leaving the easier cases to the specialty clinics. The challenge for the health authority would be to set budgets for full-service general hospitals that allowed them to treat higher-cost patients appropriately without the need to cross-subsidize the costs by also treating more profitable patients who do not need the full range of services offered in the general hospital setting.

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<sup>120</sup> "Queue jumping" occurs if private clinics provide diagnostic services more quickly than the public sector; once diagnosed, the patient returns to the public system and jumps ahead of those wholly in the public system still waiting for their first diagnostic service.

<sup>121</sup> As a practical matter, the situation is similar in the United States. A Medicare patient treated in a single-specialty hospital simply reflects a change in the delivery setting but physicians agree to accept Medicare payment as payment in full and agree not to "balance bill" patients.

There is evidence of differences in the payer mix of for-profit and non-profit hospitals. Non-profit hospitals treat a larger proportion of U.S. Medicare and Medicaid patients than do for-profit hospitals. In addition, some physicians refuse to treat Medicaid and, sometimes, Medicare patients. However, these stylized facts are not, in and of themselves, evidence that allowing private for-profit delivery ultimately will result in a two-tier system. A health care system runs the risk of evolving into a two-tier system if there are multiple public and private payers and if providers lack an incentive, financial or otherwise, to participate in the public sector. If payment rates from the public sector are below marginal cost, as is the case for many U.S. Medicaid patients, then it should not be surprising that access to the health care system is limited. Even if some providers choose not to participate in the public system, there is insufficient evidence to support the prediction that the only providers willing to participate in the public system would be those of low quality. This outcome could easily be prevented through enforcement of quality standards and a payment system with risk adjustment. A two-tier system is not inevitable and can be avoided with proper financial incentives and quality standards. In fact, so long as the single-payer public payment system under the Canada Health Act is in place, a two-tier system is unlikely to arise. The lesson to be learned from the extensive literature on competition in health care markets is that a carefully crafted policy that encourages competition among non-profit, for-profit, and public providers can result in a health care system that is fiscally sustainable, ensures access to quality health care, and results in better health outcomes.

### **About the Author**

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