UNDERSTANDING UNIVERSAL HEALTH CARE REFORM OPTIONS

Activity-Based Funding

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Executive Summary

Hospital care in Canada's provinces today is predominantly funded on a global budget or block-grant basis, under which hospitals receive an allocation of funds each fiscal year to look after patients. An alternative approach—one that has been adopted by nearly all of world's developed nations with universal access health-care systems—is activity-based funding or having money follow the patient. Under activity-based funding, hospitals are paid a pre-defined amount of money for each patient they care for, based on the patient's particular condition and important factors that may add complexity or expected cost to their care.

Funding through global budgets is not without its advantages: block-grants are simple to administer and predictable, and provide provincial governments a simple and direct means to control hospital expenditures and hospitals a level of autonomy over the allocation of resources. By disconnecting funding from the volume and quality of services delivered to patients, however, global budgets encourage hospitals to reduce activity levels to avoid exceeding the budget, discharge higher-cost patients earlier to reduce expenditures, and engage in risk-selection where lower-cost patients are preferred and not discharged as readily. Further, since global budgets do not provide hospitals additional funding for treating additional patients, there is a lack of incentives to provide a higher volume of services or treatment of superior quality, or to function in a patient-focused manner.

Activity-based funding, on contrast, by changing patients from cost centres and a drain on the budget to a source of additional financial resources, creates powerful incentives to deliver a greater volume of services and may also promote an improved quality of services and more efficient hospital operations. These benefits are not just theoretical: a wealth of evidence from across the developed world shows that a change to activity-based funding would generate meaningful improvements in the access to, and cost efficiency of, health care in Canada. Canadians could reasonably expect a greater volume of services delivered using the existing health-care infrastructure, reductions in waiting times, reductions in excessive hospital stays, improved quality of care, more rapid diffusion of medical technologies and best practice, and a reduction in waste.

Reform of hospital funding could also be expected to provide greater transparency for hospital spending with opportunities for further improving access by increasing

competition among providers for the delivery of care. The introduction of activity-based funding does not imply or require a larger role for the private sector. By clearly identifying the costs of services and substituting patient-driven funding for governmental planning decisions, however, activity-based funding simplifies and makes transparent the process by which access to care can be expanded for all patients in the universal scheme through private competition in the delivery of hospital and surgical services.

This is not to say that activity-based funding may not have drawbacks, including increased administrative complexity for governments and providers. Activity-based funding has also theoretically been associated with risks to the quality of care provided and might create opportunities for providers to inappropriately classify patients in search of additional revenues. Fortunately for Canadians, both pitfalls have been well studied in nations that have undertaken funding reform, providing many effective protections against misuse that could be readily adopted in Canada.

It is noteworthy that Canada's provincial health-care systems are in a distinct minority in the developed world for not having adopted activity-based funding for hospital care in a meaningful way. Despite at least two major governmental reports recommending reform, Canada's current experience with money following patients for acute hospital care amounts to an experiment in British Columbia between 2010 and 2013, an attempt at activity-based funding in Ontario beginning in 2012 that has evolved into a complex blended approach dominated by budgets, and a now seven-year-old commitment to reform in Quebec. Decades after reforms were undertaken in other developed nations with universal-access health-care systems, and at a time when some nations are embracing even more sophisticated approaches to money following patients, no Canadian province has embraced a whole-hearted shift to activity-based funding.

Canada's health-care system provides remarkably poor value for money to taxpayers and leaves patients with relatively poor access to medical services despite its high price tag. Part of the reason for that poor performance is likely Canada's commitment to an outdated method of paying for universally accessible hospital care. Money following patients is a sensible, evidence-based approach that is likely to generate marked improvements in access and quality for patients, alongside greater value for money for the taxpayers that fund their care.

Money Following Patients

Hospitals are the single largest area of health expenditure in Canada, consuming an estimated $62.6 billion of the $172.5 billion Canada's provincial governments are estimated to have spent on health care in 2019 (CIHI, 2021). At 36% of provincial government health spending, hospitals consume a greater proportion of governmental health expenditures in Canada than physicians (22%) and out-of-hospital drugs (7%) combined. [1] Unfortunately for Canadians, efforts at health reform undertaken by Canada's provinces over the last several decades have largely been focused on other parts of the health-care system, leaving patients and taxpayers to endure the consequences of an outdated method of paying for universally accessible hospital care that most other developed nations have moved away from over the past 30 years.

For the most part, hospitals in Canada's provinces are funded through global budgets wherein hospitals receive an allocation of funds each fiscal year to care for patients. The level of funding for hospitals is largely based on historical patterns, with adjustments made to reflect changes in socio-demographic factors as well as for political and economic reasons. This system is not without its advantages: global budgets are relatively simple to administer and provide theoretically straightforward means of cost control for provincial governments and governmental health authorities. Global budgets also provide both governments and hospitals predictability and stability. On the other hand, by providing hospitals a fixed amount of funds for a given time period, global budgets disconnect the level of funding provided to a hospital from the actual provision of services to patients. This leaves hospitals with weak incentives to provide a superior quality of care to patients or to function efficiently. [2] Global budgets for hospital care may in fact create incentives for adverse risk selection and for hospitals to provide fewer services to patients as each patient and service reduces the financial resources available to the hospital both for future patients and for other activities.

[1] Spending on physicians includes payments for services provided in hospitals when paid directly to physicians. Spending on drugs does not include payment for drugs dispensed in hospitals and other institutions.

[2] The incentive for efficiency is further weakened by the presence of soft budget constraints or flexible budgetary limits.

Activity-based funding

For these reasons, and others, nearly all of the world's developed nations with universal access health-care systems have moved away from global budgets towards at least partial activity-based funding for hospital care. Under activity-based funding, hospitals are paid a pre-defined amount of money for each patient cared for based on their particular condition and important factors that may add complexity or expected cost to their unique care needs at the time of admission or shortly thereafter. [3] Paying hospitals in this manner, when coupled with appropriate initiatives to manage possible negative outcomes, creates powerful incentives to deliver a greater volume of services (with the potential to reduce wait times), and may also promote an improved quality of services and more efficient hospital operations.

Under activity-based funding, increasing the number of patients treated results in increased financial resources for the hospital, which is the opposite effect that treating more patients has under the traditional global budget model. Conversely, treating fewer patients will reduce the financial resources for the hospital, also the opposite effect of treating fewer patients under a global budget model, at least in the short run. By adjusting funding for characteristics that may add complexity or expected cost, activity-based funding models also provide an incentive to accept more complex patients or at least remove or weaken incentives for adverse risk selection, which is again distinct from the incentives found under traditional global budgets. By paying an expected price for treating patients rather than reimbursing hospitals for all services provided, activity-based funding also encourages hospitals to operate more cost-efficiently, rewarding increased throughput and more cost-effective quality care, and discouraging excessive testing and treating with an increase in financial resources that can be used for other activities. [4] It is noteworthy that the shift to activity-based

[3] This might alternately be considered a prospective fee-for-service funding approach, where the provider is funded on a predetermined and fixed per-patient or per-condition basis. Under this approach, the hospital or care provider does not receive compensation for the actual services provided to each patient but rather is provided with funding to deliver an expected basket of services efficiently for each patient. This is distinct from a retrospective fee-for-service approach such as the one commonly used for physician services in Canada, where all of the services provided to a given patient are paid for retrospectively.

[4] It might be argued that these incentives are considerably weaker for public and not-for-profit hospitals as there is no residual claimant of these savings, nor are there shareholders who might demand more efficiency and profitability. While there are a number of meaningful distinctions between the economic-decision environments facing the two types of firms, the salient one here is that, if not-for-profit decision makers "are unable to extract residual income in the form of cash ... [they] will choose to take it in other forms" (Pauly, 1987: 257). Among these "other forms"

funding is so well established across the developed world that a number of nations, including England, Germany, and Australia, are undertaking initiatives to enhance the incentives for quality within activity-based funding schemes, for example through penalties or redistribution of a portion of funds (Trenaman and Sutherland, 2020).

This study examines the case for and against reform of hospital-funding mechanisms, and in particular a move towards activity-based funding of hospital care and away from global budgets in Canada. The first section provides a brief overview of the performance of the Canadian health-care system relative to those in other developed nations that share our goal of universal access to care. The second section provides an examination of the principal approaches for funding hospital care along with their relative strengths and weaknesses. A consideration of the funding methods used in other developed nations is also included. The third section considers how hospital funding reform might be implemented in Canada. A conclusion follows.

are "better office facilities, more congenial colleagues, more relaxed personnel policies, or any other personally rewarding activity even if it is more costly to the non-proprietary (not-for-profit) hospital than its proprietary counterpart" (Clarkson, 1972: 365). In other words, rather than solely maximizing profits, managers in the not-for-profit setting may be willing to sacrifice profits in order to enhance their own pecuniary and non-pecuniary income. The empirical evidence from Sweden around the introduction of activity-based funding in hospital care, suggests the benefits of increased activity and efficiency are not dependent on the predominance of for-profit ownership (Lundbäck, 2013).

How Good Is Canadian Health Care?

It is valuable to place any discussion of reforming health policy in context to gain a better understanding both of the potential benefits and costs of a given policy change and of what the goals of policy reform might be. Reform of hospital funding in particular has the potential both to increase costs as a result of incentives to increase production, as well as to decrease costs as a result of incentives to operate with greater efficiency. This raises important questions around how much Canadians are already spending on health care, and what they are receiving in return for those expenditures before reform.

Canadian spending on health care

Canada's health-care system ranks among the most expensive universal access health-care systems in the developed world. [5] On an age-adjusted basis, in 2018 Canada ranked second among developed nations with universal access health-care systems in health spending as a share of GDP and seventh in health expenditures per capita using a purchasing-power-adjusted exchange rate (tables 1 and 2). At least in an international context, the Canadian health-care system is not lacking for financial resources.

Access to medical resources

Despite this high level of spending however, Canadians endure relatively poor access to medical resources. Of the developed nations that maintain universally accessible health-care systems, on an age-adjusted basis, Canada ranks 26th for the number of physicians per 1,000 population, 14th for nurses per 1,000 population, and 25th (of 26) for curative or acute-care beds per 1,000 population (figures 1, 2, and 3). Canadians' access to diagnostic technologies also lags well behind that in other developed nations, with Canada ranking near the bottom for both MRI machines per million population and CT scanners per million population (figures 4 and 5).

[5] The international comparisons here draw from Barua and Moir (2020), using their age-adjusted international comparison data. Canada's relatively young population will be less costly to care for than the older populations found in other developed nations, but will also require fewer medical resources per population for the same relative access to services. Age-adjusting both spending and availability data provides for a more meaningful comparison of spending and resource availability among nations.

Table 1: Spending on health care, age-adjusted, percentage of GDP, 2018

	Percentage	Rank
Switzerland	12.0%	1
Canada	**11.3%**	**2**
France	10.9%	3
Norway	10.6%	4
Germany	10.5%	5
Sweden	10.5%	6
Belgium	10.3%	7
Austria	10.3%	8
New Zealand	10.1%	9
Australia	10.1%	10
United Kingdom	10.1%	11
Netherlands	9.9%	12
Denmark	9.9%	13
Iceland	9.8%	14
Israel	9.3%	15
Spain	8.8%	16
Portugal	8.6%	17
Korea	8.6%	18
Finland	8.3%	19
Japan	8.2%	20
Slovenia	8.1%	21
Ireland	8.0%	22
Italy	7.7%	23
Czech Republic	7.5%	24
Greece	7.0%	25
Lithuania	6.3%	26
Luxembourg	6.0%	27
Latvia	5.9%	28
OECD average	9.1%	

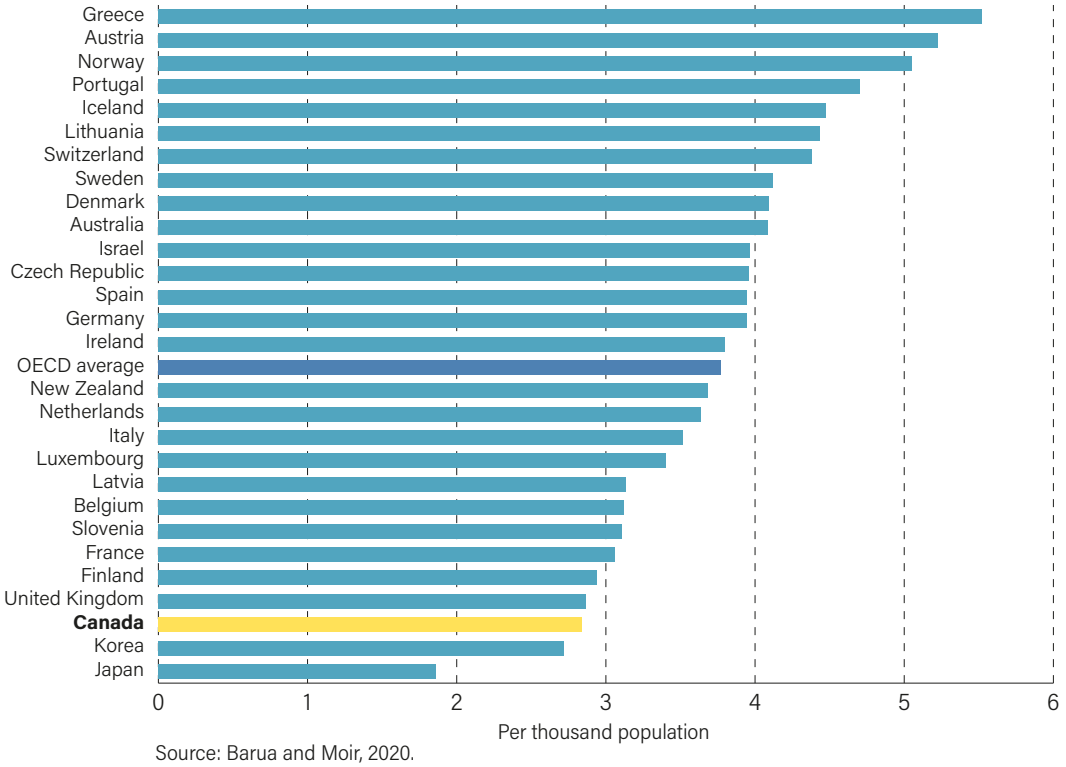
Source: Barua and Moir, 2020.

Table 2: Spending on health care per capita, age-adjusted, US$ PPP, 2018

	$US PPP	Rank
Switzerland	$7,349.10	1
Norway	$6,599.70	2
Luxembourg	$5,949.60	3
Germany	$5,698.60	4
Ireland	$5,688.50	5
Austria	$5,523.30	6
Canada	**$5,520.00**	**7**
Australia	$5,409.10	8
Netherlands	$5,388.50	9
Sweden	$5,240.10	10
Denmark	$5,168.00	11
Belgium	$5,089.30	12
Iceland	$5,087.60	13
France	$4,970.40	14
New Zealand	$4,425.30	15
United Kingdom	$4,330.70	16
Finland	$3,966.00	17
Korea	$3,508.20	18
Israel	$3,478.50	19
Spain	$3,368.70	20
Japan	$3,361.70	21
Czech Republic	$3,104.70	22
Italy	$3,076.10	23
Slovenia	$2,981.90	24
Portugal	$2,827.30	25
Lithuania	$2,300.10	26
Greece	$2,049.50	27
Latvia	$1,763.20	28
OECD average	$4,400.90	

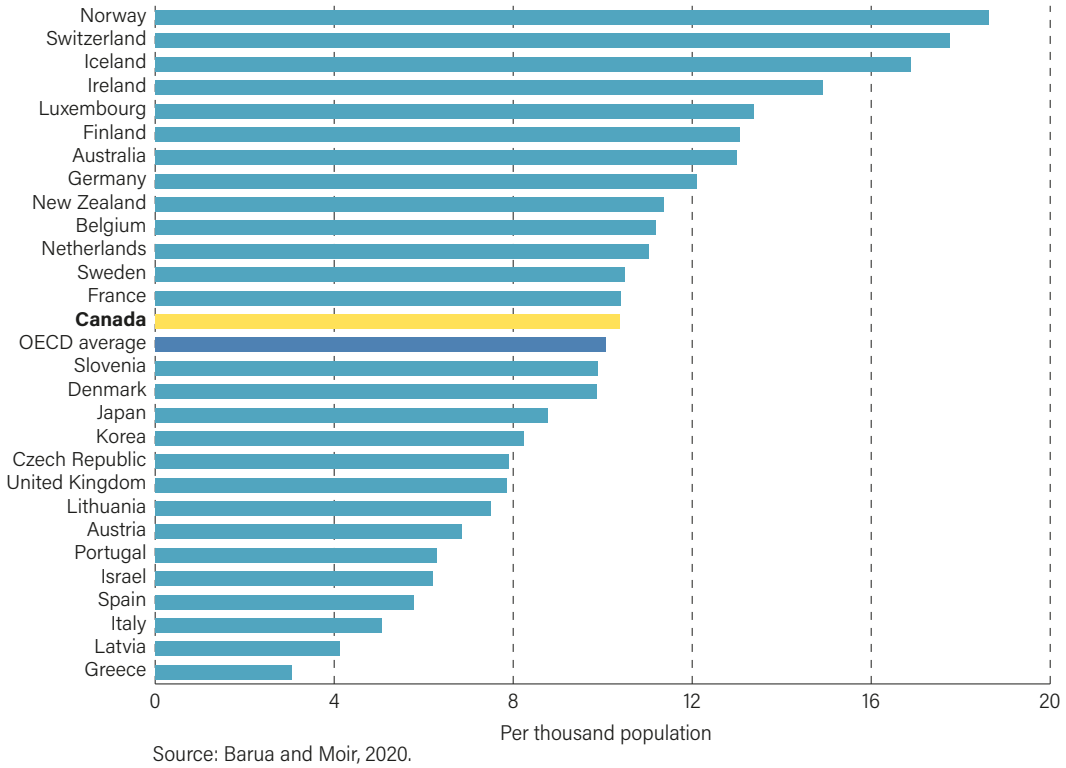
Source: Barua and Moir, 2020.

Figure 1: Physicians per '000 population, age-adjusted, 2018 or most recent year



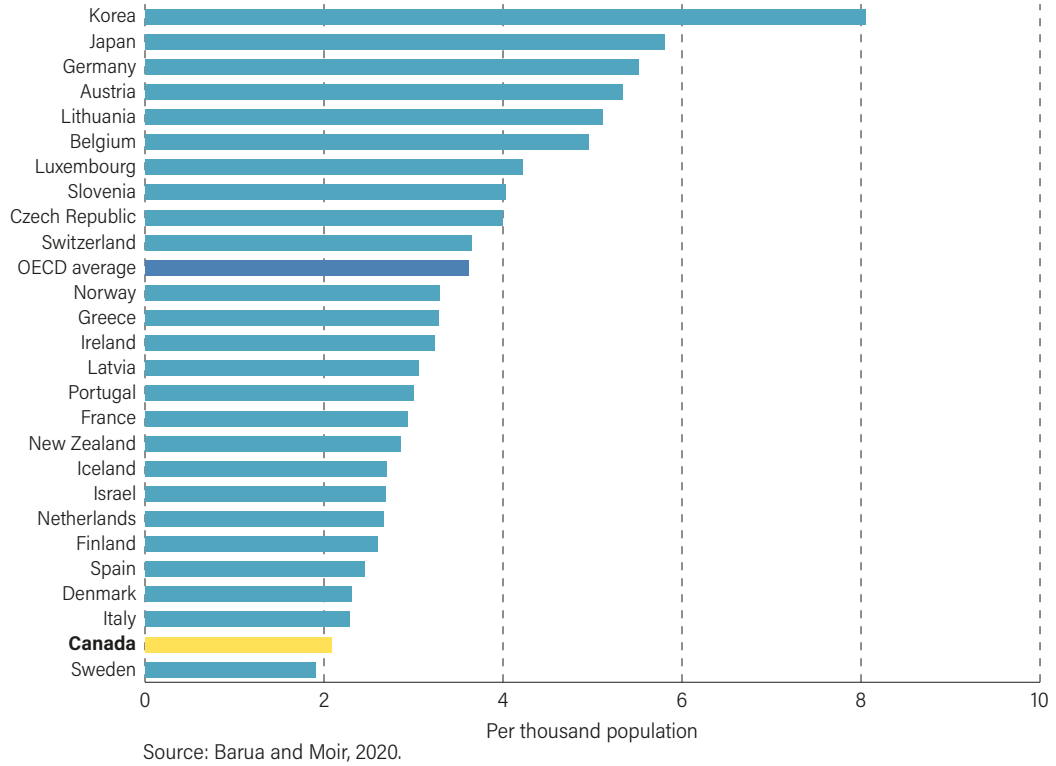
Source: Barua and Moir, 2020.

Figure 2: Nurses per '000 population, age-adjusted, 2018 or most recent year



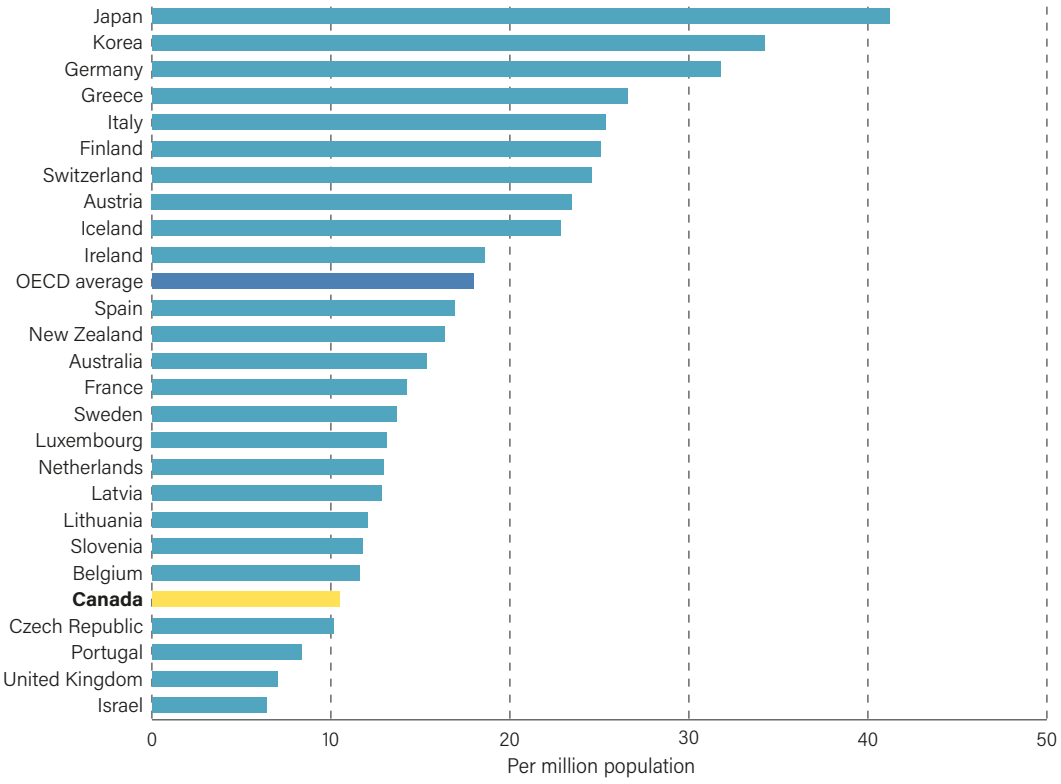
Source: Barua and Moir, 2020.

Figure 3: Acute-care beds per '000 population, age-adjusted, 2018 or most recent year



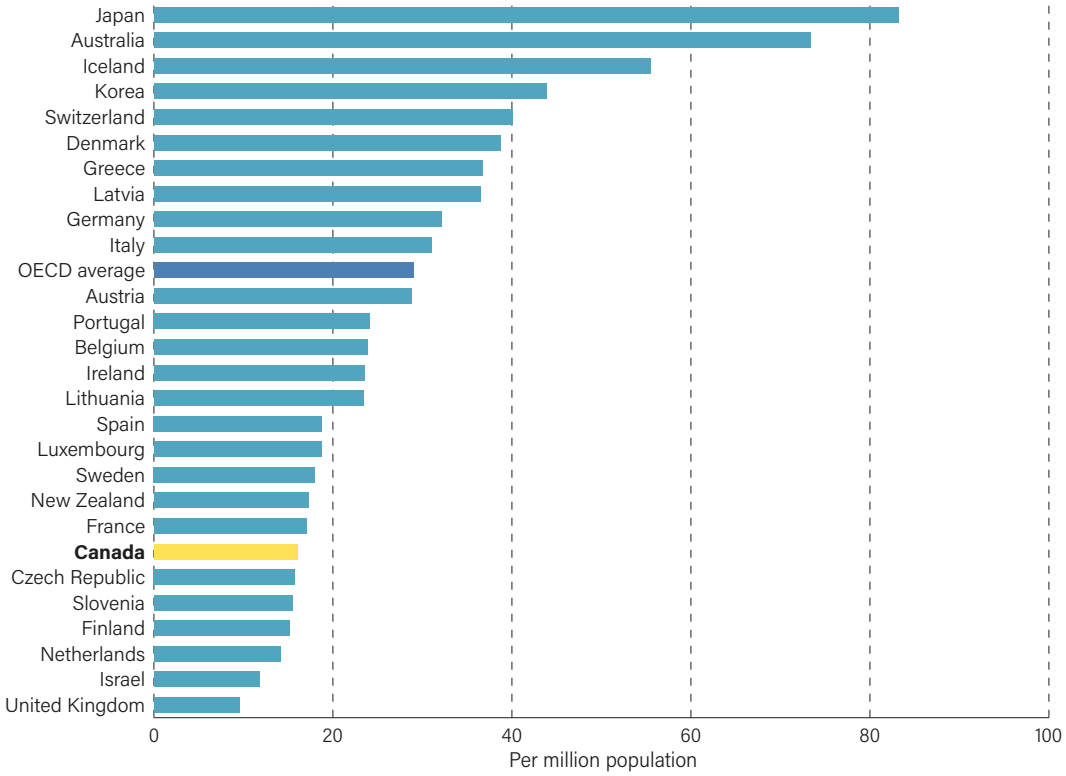
Source: Barua and Moir, 2020.

Figure 4: MRI units per million population, age-adjusted, 2018 or most recent year



Source: Barua and Moir, 2020.

Figure 5: CT scanners per million population, age-adjusted, 2018 or most recent



Source: Barua and Moir, 2020.

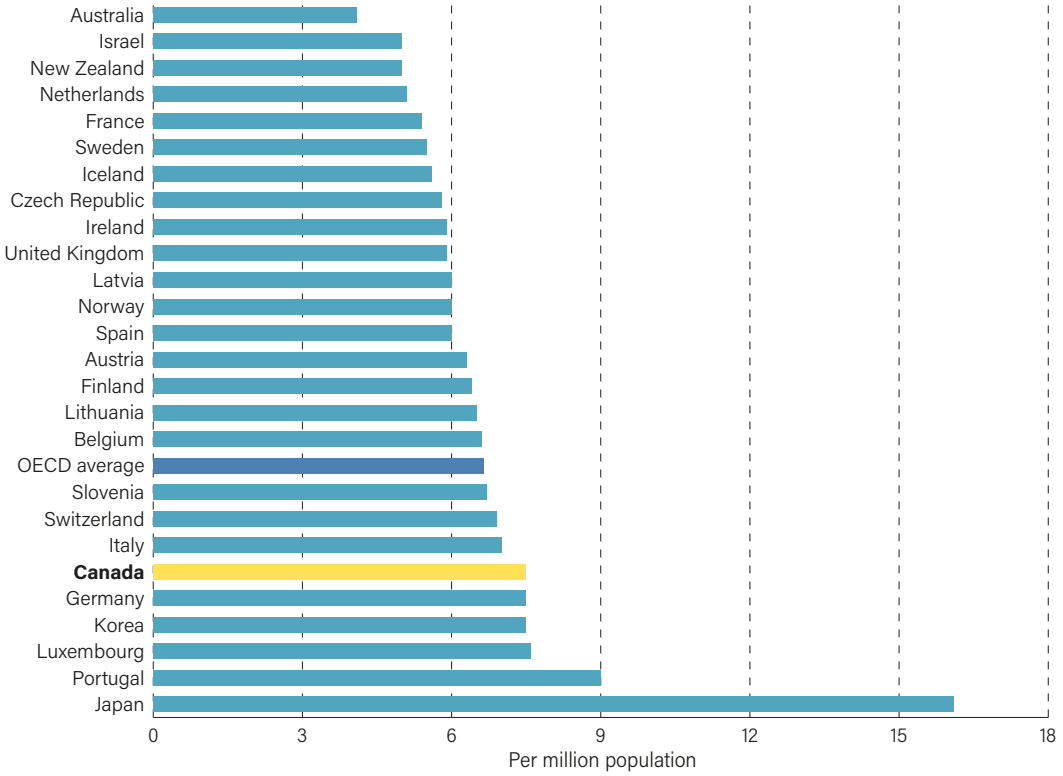
Length of stay in hospitals

In a discussion of hospital funding and incentives for efficiency in the use of available resources, it is worthwhile to also consider how long patients stay in hospital. The average length of stay can be used as a measure of hospital efficiency, as shorter stays can reduce cost per patient both for the treating hospital and for the health-care system as a whole, with patients moving sooner to less costly settings. Canada fares relatively poorly in this comparison, with an average acute care stay of 7.5 days compared to an average among developed nations with universal access health-care systems of 6.7 days and well behind leading nations like Australia (4.1), New Zealand (5.0), the Netherlands (5.1), and France (5.4) (figure 6).

Wait times in Canada

Perhaps not surprisingly, given the relative scarcity of medical professionals and medical technologies, Canadians also endure some of the longest wait times for access to medical care in the developed world. According to the Commonwealth Fund's 2016 international survey of adult health-care experiences (CIHI, 2017), Canadians were tied with Norwegians for being the least likely among those in the 11 nations surveyed

Figure 6: Average length of stay in acute care, in days, 2018 or most recent year



Source: Organisation for Economic Co-operation and Development, n.d.. 1.

to report same-day or next-day appointments to see a doctor or nurse, and were the most likely to report a wait of 4 hours or more for emergency care, and the most likely to report waiting 4 weeks or longer to see a specialist. Perhaps most relevant to this examination of funding hospital care, Canadians were also the most likely to report waiting 4 months or longer for elective surgery (table 3). [6]

Value for money?

While Canada's relative performance in access to health-care services is quite poor, Barua and Moir (2020) find a less negative and relatively mixed performance in the use of medical resources, and in quality and clinical performance. Across measures of resource use, such as consultations with physicians and acute-care discharges, Canada manages an above-average performance among universal-access developed

[6] While certainly not the only factor, the availability of hospital and surgical services has a meaningful impact on the state of delay in a health-care system. That availability is a function of both the presence of physical resources (hospital beds, physicians, operating rooms, *etc.*) and the efficiency with which those resources are deployed.

Table 3: Wait times (percentage of population 18 years and older) from the *Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries*

	Same- or next-day appointment with doctor or nurse		Waited 4 hours or more in emergency department		Waited 4 weeks or longer to see specialist		Waited 4 months or longer for elective surgery	
	%	Rank	%	Rank	%	Rank	%	Rank
Australia	67%	3	10%	6	35%	5	8%	6
Canada	**43%**	**10**	**29%**	**11**	**56%**	**11**	**18%**	**11**
France	56%	6	1%	1	36%	6	2%	2
Germany	53%	7	3%	2	25%	4	0%	1
Netherlands	77%	1	4%	3	23%	2	4%	4
New Zealand	76%	2	10%	6	44%	9	15%	9
Norway	43%	10	13%	9	52%	10	15%	9
Sweden	49%	9	20%	10	42%	8	12%	7
Switzerland	57%	4	7%	4	22%	1	6%	5
United Kingdom	57%	4	8%	5	37%	7	12%	7
United States	51%	8	11%	8	24%	3	3%	3
Average	57%	—	11%	—	36%	—	9%	—

Source: CIHI, 2017.

nations for nearly 50% of the indicators studied, with average to below average rankings on the balance. Across 14 measures of quality and clinical performance (for example, disease survival rates and rates of surgical complications), Canada performs well on 7 but average to below average on the other 7.

That Canadians are not receiving value for money from their provincial health-care systems is abundantly clear when Canada's health-system performance is stacked up against the performance of universal access health-care systems in other developed nations. Canadians spend more than their counterparts in other nations, yet receive middling resource use and quality and safety in one of the least accessible health-care systems in the developed world. One important aim of hospital-funding reform then might be to improve the value for money Canadians receive for their health-care dollars by improving the timeliness of, access to, and, potentially, quality of health care.

Improving Value and Performance through Activity-Based Funding

The case for the reform of hospital funding is not an argument for a higher or lower level of hospital expenditures. Rather, it is founded on the incentives embedded within the different approaches to paying for hospital care, and the extent to which those incentives align with the interests of patients, providers, and taxpayers. From the perspective of patients, a health-care system might generally be expected to provide universal access to high-quality care in a time frame that provides comfort and peace of mind (or at least in a time frame that minimizes risk), [7] [8] while payers desire appropriate care to be delivered at reasonable cost or at least with a high value for the monies spent.

Hospital funding in Canada

Hospital care in Canada's provinces is predominantly funded on a global budget or block grant basis, under which hospitals receive an allocation of funds each fiscal year to look after patients (CIHI, 2010; Sutherland, Crump, Repin, and Hellsten, 2013; Trenaman and Sutherland, 2021). [9] The level of funding for hospitals is largely based on historical patterns, with adjustments made to reflect changes in socio-demographic factors as well as for political and economic reasons. This approach is not without its advantages. Global budgets are simple to administer and in theory provide the provincial government with a simple and direct means to control hospital expenditures. Budgets also provide hospitals with a level of autonomy over the allocation of resources, and provide both governments and hospitals predictability and stability since they know how much money is available to be spent.

[7] There is of course the important matter of user fees or cost sharing and how their introduction would affect patient demand for health care as well as possibly altering tolerance for risk and lower quality. While an important area for exploration, that subject falls outside the scope of reform of hospital financing, the topic of this paper.

[8] It should be noted that waiting for health care is not a benign process. Delayed access to health care is associated with increased morbidity, poorer outcomes, and increased mortality in addition to the economic and social consequences of delayed access to necessary medical treatment (Day, 2013).

[9] While both British Columbia and Ontario have experimented with activity-based funding in hospital care and Quebec has announced a shift towards activity-based funding, global budgets remain the predominant method of paying for hospital services in Canada's provinces.

On the other hand, the incentives created by annual, global budget payments may run counter to the goals of both patients and payers. By disconnecting funding from the volume and quality of services delivered to patients, global budgets variously encourage hospitals to reduce activity levels to avoid exceeding the budget (for example, by closing beds), especially early in the funding period, discharge higher-cost patients earlier to reduce expenditures, and engage in risk-selection where lower-cost patients are preferred and not discharged as readily (Sutherland, Crump, Repin, and Hellsten, 2013; Leonard, Rauner, Schaffhauser-Linzatti, and Yap, 2003). [10] Further, since global budgets do not provide hospitals additional funding for servicing additional patients, there is a distinct lack of incentives to function efficiently (providing a higher volume of services for a given level of expenditure) especially in the presence of flexible budgetary limits, [11] provide superior quality services, or function in a patient-focused manner that will include reducing wait times. Under the current regime, where historic patterns are the primary driver of budgetary allocations, increases in rationing and reductions in patient throughput are beneficial to the hospital from a budgetary perspective. [12]

By having money follow the patient, on a prospective or forward-looking basis, activity-based funding turns this system on its head. Unlike global budgets, activity-based funding increases the financial resources of the hospital with every additional patient treated, making it beneficial to the hospital to attract more patients to the facility, while still encouraging efficiency and quality by setting the payment for each patient at the start of their hospital-care journey based on the condition to be treated and important health, personal, and social factors that may affect the expected cost of providing care. [13] Activity-based funding creates high-powered incentives to increase access to services and the volume of services provided, improve the efficiency with which services are delivered, and improve the quality and patient-centeredness of

[10] A longer length of stay for a less ill patient is less costly than freeing up space for a more costly patient, for example (Sutherland, Crump, Repin, and Hellsten, 2013).

[11] The ability of Canadian hospitals to run deficits, especially in instances where governments are responsible for covering excess expenditure, may reduce to some extent the incentives for risk selection and reduced activity intrinsic to global budget funding but will exacerbate the consequences of a lack of incentives for efficiency.

[12] The exception to this from a hospital's perspective would be services that patients and visitors pay for such as parking and concession, for which an increase in patient throughput or visitors would improve the hospital's financial position.

[13] There may also be a safety valve allowing a move away from prospective reimbursement if certain events occur or certain conditions are met, that will share, at least partially, the risk of outlier patients between the payer and provider.

services to attract additional patients to the facility. [14] Activity-based funding also increases transparency and accountability by providing greater clarity about the volume of services being purchased for a given level of funding. Hospitals may also be encouraged to consider their services as part of a continuum of care, since the efficiency of a hospital (for example, the ability to maximize the number of services that can be provided by the facility) may in part depend on the availability of, and well managed transitions to, non-hospital care and on the efforts and activities of providers not directly managed by the hospital (independent physicians for example). [15] By changing the dynamic from a governmentally or administratively driven funding decision to funding following patients, care providers may also have an incentive to better tailor their services to patient populations geographically.

These realities have perhaps not been entirely lost on Canada's provincial governments. British Columbia experimented with activity-based funding between 2010 and 2013 for 23 large hospitals, though the project has not transitioned into a meaningful move away from global budgets. Quebec has begun the process of moving towards activity-based funding following an announcement in 2014, but has not yet implemented wholesale reform. Ontario started funding some hospital services on an activity-funded basis in 2012, with an original goal of shifting the majority of hospital funding to this approach over time. In practice, Ontario ultimately adopted a blended program with three parts: [1] Quality-Based Procedures (QBPs)—a made-in-Ontario approach that couples activity-based funding with best practice guidelines—making up some 15% of total hospital funding; [2] the Health Based Allocation Method, which allocates funds based on patient profiles and particular hospital characteristics, making up some 30% of hospital funding; and [3] fixed annual global budgets based on historical spending, which make up more than half of hospital funding. All of

[14] It might be argued that these incentives are considerably weaker for not-for-profit hospitals as there is no residual claimant of these savings, nor are there shareholders who might demand more efficiency and profitability. While there are a number of meaningful distinctions between the economic-decision environments facing the two types of firms, the salient one here is that if not-for-profit decision makers "are unable to extract residual income in the form of cash ... [they] will choose to take it in other forms" (Pauly, 1987: 257). Among these "other forms" are "better office facilities, more congenial colleagues, more relaxed personnel policies, or any other personally rewarding activity even if it is more costly to the non-proprietary (not-for-profit) hospital than its proprietary counterpart" (Clarkson, 1972: 365). In other words, rather than solely maximizing profits, managers in the not-for-profit setting may be willing to sacrifice profits in order to enhance their own pecuniary and non-pecuniary income. The empirical evidence from Sweden around the introduction of activity-based funding in hospital care, suggests the benefits of increased activity and efficiency are not dependent on the predominance of for-profit ownership (Lundbäck, 2013).

[15] This incentive is much weaker under global budgets as hospitals benefit financially from relatively healthy or recovered patients "blocking" access to services for patients who require costly treatment.

this complexity generates a notable shift away from the original policy goal (Palmer *et al.*, 2018). It is noteworthy that, decades after reform initiatives were undertaken in other developed nations with universal access health-care systems, no Canadian province has embraced a meaningful shift to activity-based funding.

Evidence from other developed nations

A wealth of evidence from across the developed world, a small portion of which is reviewed below, supports the view that a change to activity-based funding would generate meaningful improvements in the access to, and cost efficiency of, health care in Canada. As we shall see in the review that follows, Canadians could reasonably expect a greater volume of services being delivered using existing health-care infrastructure (theoretically, this might occur even in the absence of an increase in spending), reductions in waiting times, reductions in excessive hospital stays, improved quality of care, more rapid diffusion of medical technologies and best practice methods, and a reduction in waste following a change from global budgets to activity-based funding. [16] Reform of hospital funding could also be expected to provide greater transparency for hospital spending with opportunities for further improving access by increasing competition among providers for the delivery of care.

In their review of the evidence surrounding the introduction of activity-based funding, Baxter *et al.* (2015) find patients experienced both decreased wait times for hospital care and reductions in the length of their stay in hospital. They also find evidence to support the view that activity-based funding will increase the volume of care provided, while also reducing the cost of care. From the provider's perspective, activity-based funding was perceived to improve productivity and efficiency, data accuracy, and collaboration and communication.

In a review of care provided to geriatric rehabilitation patients in the Netherlands, Bouwstra, Wattel, de Groot, Smalbrugge, and Hertogh (2017) find the introduction of activity-based funding was associated with both higher treatment intensities and shorter lengths of stay. The number of patients discharged to their homes post-reform was also significantly higher than pre-reform, while mortality rates did not increase.

[16] Activity-based funding is often introduced in health-care systems alongside other reforms, which can make identifying its particular contribution to improvements in the performance of the health system difficult to identify clearly. These findings across numerous studies and nations are, however, both consistent and aligned with the expected result of a reform based on the changes in incentives for payers and providers.

Several studies have examined the gains in technical efficiency and cost effectiveness found in Sweden after the move to activity-based funding for hospital care in the early 1990s. In one study, Swedish county councils that moved to activity-based funding were found to have enjoyed a potential cost savings of 13% (Gerdtham, Rehnberg, and Tambour, 1999). A closer examination of Stockholm county by Håkansson (2000) measured an 11% increase in activity overall, comprising an 8% increase in inpatient care, a 50% increase in day surgeries, and a 15% increase in outpatient visits. These increases occurred alongside a 1% decrease in costs, the result of a 10% price decrease and a reduction in hospital employment. These benefits were found to have accrued without risk selection against elderly patients or a preference for simpler or more profitable cases, and without an increase in readmissions to hospital (Håkansson, 2000).

Farrar *et al*. (2009), in an examination of the introduction of activity-based funding in England in early to mid-2000s, found an increase in both technical efficiency (cost per unit of care) and hospital activity, without apparent reductions in quality of care. Their analysis determined that the average length of stay fell more rapidly in the presence of activity-based funding, while the proportion of elective care provided as day cases increased more rapidly, both of which point to unit costs falling more quickly under activity-based funding in comparison with a budgetary approach. There was also a growth in the volume of services delivered associated with activity-based funding, though the concurrent introduction of waiting-time targets may also have affected the volume of care positively. Examining in-hospital mortality, 30-day mortality, and emergency readmissions after hip fracture treatment, Farrar *et al*. (2009) found no results to support the view that quality of care was affected negatively.

Cavalieri, Guccio, Lisi, and Pignataro (2018) studied the technical efficiency of Italian hospitals following a shift towards activity-based funding that began in the mid-1990s. They found activity-funded hospitals tended on average to be more efficient than those funded by global budgets between 1999 and 2010. That difference was particularly notable between public hospitals financed by global budgets and those working under activity-based funding.

Sutherland and Repin (2014), in their review of the evidence surrounding activity-based funding, find positive impacts in a number of countries on costs per admission, levels of hospital activity, and wait times. Sutherland and Repin further note that increases in activity are at least in part made possible by reducing lengths of stay and a greater reliance on post-acute care.

Sutherland, Repin, and Crump (2012) also find the introduction of activity-based funding is associated with increases in volume for inpatient, same-day, and short-stay hospital care. Activity-based funding was also found to be associated with a faster shift from inpatient to outpatient care than other funding approaches. The benefits of activity-based funding may also go far beyond access and efficiency, with some studies reporting an association between activity-based funding and clinical best practices. Patient satisfaction with hospital care was also found to improve after the implementation of activity-based funding, possibly because of a reduction in wait times.

In a review of the French transition to activity-based funding, from global budgets for public hospitals and fee-for-service/per-diem payments for private providers, Bonastre, Journeau, Nestrigue, and Or (2013) found an increase in outpatient activity in all sectors. The largest increase was among public hospitals, adding up to a roughly 60% increase in activity. Activity among private for-profit and not-for-profit hospitals increased by some 20%, with the private sector continuing to provide the majority of outpatient surgery in France. The productivity of public hospitals was also found to increase steadily after the introduction of activity-based funding while outpatient activity increased in a more specialized private sector that moved away from hospitalizations in obstetrics and medicine.

O'Reilly *et al.* (2012), in their review of the experiences of five countries implementing activity-based funding, also find increases in activity and declines in the lengths of time patients stay in the hospital. Notably, they also find that activity-based funding is associated with a reduction in the rate of growth in hospital expenditures in most of the countries studied.

Moving from a budgetary model to activity-based funding would also likely have a positive impact on Canadians' access to advanced medical technologies, a notable weakness of Canada's health-care system. For example, Goodman notes that "provider competition to offer state-of-the-art technology" and "public demand" are important factors that reinforce the market for health technology (Goodman, 2004: 9). The OECD (2005) notes that budgetary limits tend to dampen the overall rate of technology diffusion. The Technological Change in Health Care [TECH] Research Network (2001) finds that relatively strict supply-side policy restrictions, including central planning of the availability of intensive services and global budget financing for hospital care, are related to markedly slower rates of growth in the provision of intensive or "high-tech" treatments. By creating incentives to treat more patients, to provide care with greater technical efficiency and productivity, and to provide the types of services (such as better access to high-tech care and newer and

more advanced equipment as well as shorter wait times) that patients want, activity-based funding has the potential to increase the rate at which hospitals themselves move to introduce new medical technologies. [17]

Activity-based funding, competition, and the private sector

The introduction of activity-based funding does not imply or require a larger role for the private sector. By clearly identifying the costs of services and substituting patient-driven funding for governmental planning decisions, however, activity-based funding simplifies and makes transparent the process by which access to care can be expanded for all patients in the universal scheme through private competition in the delivery of hospital and surgical services. It is valuable to comment on the benefits created by combining activity-based funding and competition with private provision of services. Vitally, when it comes to efficiency, ownership (though an important factor) may be less important than the extent of competition. Both public and private providers are likely to be less efficient in the absence of competition, while both are likely to operate more efficiently when it is present. The key advantage of introducing more private provision in health care, with a funding model that provides financial rewards and penalties (increased or decreased funding) depending upon the volume and quality of services delivered, is that it would provide greater competition, putting pressure on all providers (whether public or private) to operate more efficiently while improving capacity and access to care for all patients in the universally accessible system. [18]

It is worth noting that there are meaningful differences between public and private providers in their responsiveness to competition and financial incentives. This suggests that the clear and demonstrable benefits of introducing activity-based funding might be enhanced by a larger role for private providers in the delivery of taxpayer-funded care in Canada. Kornai (1992) identified budget constraints as one of the major and unchangeable differences between private-sector businesses and government. Government budget constraints are "soft", since it is effectively impossible for government to be de-capitalized. Private-sector businesses, on the other hand, face "hard" budget constraints: if they incur sustained losses, or even a few large losses,

[17] Both Moise and Jacobzone (2003) and OECD (2005) note that the actual rate of reimbursement under an activity-based funding scheme, relative to the cost of delivering the technology, plays an important role in the diffusion rate of technology.

[18] For recent evidence from England supporting the view that an expanded role for the private sector will enhance capacity and access to care in the universal system, see Kelly and Stoye, 2020.

the decline of capital can push them into bankruptcy. Kornai argued that this central difference between the two types of entities can result in extraordinary differences in operations. Private-sector businesses must provide consumers with the goods and services they demand in a timely manner and at affordable prices that are consistent with their quality. Government Business Enterprises (GBEs) do not face the same constraints. They can consistently lose money by offering goods and services whose prices do not reflect their quality or timeliness. Put more simply, private businesses face the risk of going under if they fail to provide good value, and thus will usually behave differently from their public-sector counterparts who do not. Further, public enterprises tend to employ less capital and more labour-intensive processes than their private-sector counterparts (Megginson and Netter, 2001). That GBEs do not incorporate an optimal amount of capital has negative implications for both labour and total factor productivity.

A division of care between public acute-care hospitals and smaller private hospitals specializing in less complex surgeries, too often presented by opponents of reform, incorrectly, as a possible negative outcome of competition and activity-based funding, does not negate these conclusions. On the contrary, specialization and the creation of smaller hospitals focused on less complex cases may in fact provide additional benefits. Allowing acute-care hospitals (public or private) to focus on more medically difficult cases while leaving medically easier cases to specialty clinics may be a superior outcome to having all patients (no matter their level of medical complexity) treated in full-service facilities (Ruseski, 2009). Competition between the two for patients can also be beneficial to the extent that competition is focused on price and quality for patients receiving care in appropriate settings. [19] A central challenge for governments, however, is to ensure that the care provided to more complex patients is remunerated appropriately so that full-service hospitals do not need to rely on financial cross-subsidization from care provided to less complex patients, and that remuneration for less complex patients appropriately reflects the lower cost of caring for them (particularly in specialized clinics focused on routinized, less risky procedures with commensurate lower costs). [20]

[19] It should be noted that this competition cannot be effectively encouraged or created by government's directly managing budgets on an annual basis to reward or penalize hospitals for activity or quality. A central feature of activity-based funding, compared to global-budget funding, is the direct connection between activity (and increasingly quality) and compensation and the incentives created by money following patients rather than money following the diktat of the government or health authority under global budgets.

[20] It is important to reiterate that specialized clinics are not merely taking advantage of less complex cases, but rather are employing more efficient, less risky, less complex, more standardized approaches to care in a focused setting. This has a positive impact on both efficiency and the

Understanding and mitigating possible drawbacks of activity-based funding

This is not to say activity-based funding is without possible drawbacks, beyond the obvious increase in complexity for payers and providers. Activity-based funding may encourage hospitals to reduce lengths of stay excessively to increase throughput. [21] Money following patients might also result in hospitals working to game the system by up-coding patients from their actual diagnosis and assigned payment to a higher level of acuity or more complex condition in search of additional revenues.

The theory that activity-based funding will lead to faster discharges or more ill patients does not appear to have been borne out empirically around the developed world. Evidence from Europe, the United Kingdom and the United States has failed to show a clear association between activity-based funding and mortality or quality indicators for chronic disease. On the other hand, some studies have reported lower mortality under activity-based funding, and more recent empirical evidence suggests activity-based funding may actually encourage higher-quality care in an effort to avoid costly and unprofitable complications (and their commensurate costs and extended stays) or readmissions (Labrie, 2012; Sutherland, Crump, Repin, and Hellsten, 2013; Sutherland, Repin, and Crump, 2012). Competition to attract patients may also play an important role in mitigating this concern, as hospitals will have an incentive under activity-based funding to offer quality services and maintain a positive reputation with patients and referring practitioners.

The lack of empirical support for the view that activity-funded hospitals will provide a lower standard of care has not stopped nations across the developed world from undertaking activities to prevent such an occurrence. In Germany, a national monitoring program for hospital quality was introduced alongside activity-based funding. France is working to monitor infections, accidents, and serious events and undertaking quality improvement programs in hospitals (Sutherland, Repin, and Crump, 2012). There is also movement internationally towards "non-payment for non-performance" in an effort to encourage higher quality. Excluding hospital-acquired complications from the cost base for patient care, non-payment for readmissions,

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patient experience. To the extent specialized clinics are contributing to advances in standardization and decreasing complexity, they further contribute to quality and efficiency. On the other hand, specialized clinics should not be permitted to impose costs of readmissions, complications, or error on acute-care hospitals or other providers.

[21] This has colloquially been referred to as discharging patients "sicker and quicker", though it is not clear that the incentive to do so is greater under activity-based funding than it would be under global budget funding. In addition, it is possible in a well-structured activity-based funding scheme to impose the costs of readmission or extra services on the original treating facility to discourage too-early discharges and poor quality care.

applying penalties for poor performance, and zero payment for cases where serious hospital-acquired events occur are some possible options available to payers (Duckett, Jackson, Hatcher, Richards, and Murphy, 2013). [22] An alternative to penalizing hospitals for poor performance would be to connect payments to positive results including measures of pain and physical function, patient experience, or safety and efficiency as is being attempted in the United States and Sweden (Burau, 2018).

There is a strong case to be made here as well for independent reporting of hospital performance and quality, which both supports official reporting and monitoring initiatives and encourages competition on the basis of objective indicators of quality care. While such initiatives are in their infancy in Canada, and stymied by a lack of governmental openness and publicly available data that can be used to identify the performance of particular institutions, there are well-established approaches in other nations like the United States and United Kingdom that could be emulated here (Barua and Esmail, 2011). Public reporting on hospital performance, both governmental and independent, can help to ensure that providers of care are focused on, and accountable for, the quality of care provided to patients, and can also help inform patients' decisions about their provider of care (Barua and Esmail, 2011; Cutler, Huckman, and Landrum, 2004; Tu *et al.*, 2009). [23]

Unlike the theoretical concern about activity-based funding leading to poorer quality care, there is empirical support for concerns about providers possibly deliberately classifying patients into more complex treatment categories under activity-based funding to increase reimbursement, a practice commonly referred to as up-coding or DRG-creep (Laegrid and Neby, 2016). [24] Factors such as poorer financial health of institutions and the expected legal and regulatory risks (including actions that may be taken by authorities and the possible consequences of being caught) associated with deliberate up-coding play a role in the prevalence of this undesirable outcome (Duckett, Jackson, Hatcher, Richards, and Murphy, 2013). Fortunately for Canada's provinces,

[22] Financial initiatives to protect against the risk of poorer quality care under activity-based funding should consider the risk of unintended responses to their implementation, including under-reporting of adverse events and medical error (Duckett, Jackson, Hatcher, Richards, and Murphy, 2013).

[23] This would be true regardless of funding approach, though activity-based funding does create an added financial incentive for hospitals that are able to attract more patients as a result of their high performance.

[24] DRG creep or upcoding should be seen as distinct from activities undertaken to make the coding of patients' conditions more accurate and improve the quality of patient data to optimize hospital payments under activity-based funding.

who are latecomers to the reform of hospital funding, numerous strategies to minimize the likelihood of up-coding have been studied and implemented across the developed world; these include audits, penalties for institutions found to be coding patient diagnoses inappropriately for financial gain, and statistical monitoring approaches.

The international norm

It is noteworthy that Canada's provincial health-care systems are in a distinct minority in the developed world for not having adopted activity-based funding for hospital care in a meaningful way. The large majority of developed nations with universal access health-care systems have moved towards prospective activity-based funding over the past four decades (table 4). Certainly the idea has been discussed prominently in Canada, with strong governmental calls coming as early as the 2002 report from the Standing Senate Committee on Social Affairs, Science, and Technology (SSC-SAST, 2002), which recommended activity-based funding to improve efficiency and performance in the health system. [25] These reports and discussions have so far however resulted in little meaningful action aside from an experiment in British Columbia, an attempt at activity-based funding in Ontario that has evolved into a complex blended approach dominated by budgets, and a now seven-year-old commitment to reform in Quebec.

[25] Another prominent call for activity-based funding came from Quebec's Task Force on Health Funding, whose 2008 report (*Task Force on the Funding of the Health System, 2008*) recommended the introduction of activity-based funding over time to improve the state of health care in that province.

Table 4: Approaches to hospital funding in 34 high-income countries

	Public hospitals	Private not-for-profit	Private for-profit
Australia	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Austria	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Belgium	Activity-Based Funding	Activity-Based Funding	—
Canada	*Global Budget*	*Global Budget*	*Global Budget*
Chile	*Global Budget*	Activity-Based Funding	Activity-Based Funding
Czech Republic	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Denmark	*Global Budget*	Activity-Based Funding	Activity-Based Funding
Estonia	—	Activity-Based Funding	Activity-Based Funding
Finland	Activity-Based Funding	—	—
France	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Germany	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Greece	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Hungary	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Iceland	*Global Budget*	—	—
Ireland	*Global Budget*	*Global Budget*	—
Israel	Activity-Based Funding	*Per-diem payments*	Activity-Based Funding
Italy	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Japan	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Korea	Activity-Based Funding	Activity-Based Funding	—
Latvia	*Global Budget*	—	Activity-Based Funding
Luxembourg	*Global Budget*	*Global Budget*	—
Mexico	*Global Budget*	Activity-Based Funding	Activity-Based Funding
Netherlands	Activity-Based Funding	Activity-Based Funding	—
New Zealand	*Global Budget*	—	—
Norway	*Global Budget*	*Global Budget*	Activity-Based Funding
Poland	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Portugal	*Global Budget*	Activity-Based Funding	Activity-Based Funding
Slovenia	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Spain	*Global Budget*	—	Activity-Based Funding
Sweden	*Global Budget*	*Global Budget*	Activity-Based Funding
Switzerland	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding
Turkey	*Global Budget*	Activity-Based Funding	Activity-Based Funding
United Kingdom	Activity-Based Funding	Activity-Based Funding	*Fee for Service*
United States	Activity-Based Funding	Activity-Based Funding	Activity-Based Funding

Sources: OECD, n.d. 2.

A Road Map for Reform

Canada's dismal performance on measures of access to hospital and surgical care alongside a relatively high level of expenditure suggests substantial opportunity for improvement following reform of hospital funding. Canada's poor international standing may in fact be at least in part the result of a lack of activity-based funding for hospital care (Sutherland, Crump, Repin, and Hellsten, 2013). Fortunately for Canadians, ours is among the last jurisdictions in the developed world to undertake such reform, creating an opportunity to emulate successful approaches, to adopt recent innovations more rapidly, and avoid known pitfalls. This should also allow Canada's provinces to move wholesale through reform at a higher pace, bringing the benefits to patients and payers in a shorter time.

Fundamentally, if the goal of reform is to seek improvements in the performance and possibly also the cost efficiency of universally accessible health care in Canada, and to improve the transparency of hospital spending, adopting activity-based funding will benefit from separating the roles of purchaser and provider. [26] There is also the critical matter of determining a schedule of procedures and services that will form the basis for funding, with defined values for services paired with a schedule of adjusting factors (including co-morbidities and complexities and other patient characteristics). Fortunately for Canada's provinces, substantial international experience exists for each step and the more technical aspects of funding have already been studied extensively in Canada by organizations such as the Canadian Institute for Health Information (Duckett, Jackson, Hatcher, Richards, and Murphy, 2013).

Separate the roles of purchaser and provider

The first step in moving to activity-based funding in Canada would be separating the roles of the purchaser of health care (the provincial government or its responsible authority) from the providers of health care (individual hospitals or providers of surgical care). A structure using global budgets, in which governments and health authorities are interconnected and directly manage the providers of health care inherently suffers from a lack of transparency and supports the politicization of

[26] This separation between payers and providers will have benefits even in the absence of activity-based funding (Pollard, 1996).

decisions about who will provide health care in what setting. This approach also creates a system where providers will lobby governments and authorities for additional resources to meet special needs and to ensure their interests are met over those of patients and taxpayers. Serving as both the payer and provider also creates a deep conflict of interest for provincial governments and their health authorities in a setting where they are required to monitor both hospital billing activities (monitoring for DRG creep/up-coding) and hospital performance (monitoring for quality of care and adverse risk selection).

It is better for governments and authorities to be organizationally separate from service providers, furnishing broad oversight for the health-care system and interacting with providers on a more contractual basis. That approach, sometimes referred to as a purchaser-provider split can be found in several countries that share Canada's goal of universal access to health care, including England, Sweden, New Zealand, and Finland (Tynkkynen, Keskimäki, and Lehto, 2013). When combined with competition between providers and activity-based funding, a purchaser-provider split leads to a greater potential to generate cost savings and efficiencies in the delivery of health care, and offers providers greater flexibility to provide higher quality and be more responsive to patient needs. An arm's-length approach to providers of care by the purchaser will also provide for an equitable and level playing field among hospitals and surgical service providers where payments vary according to transparently defined characteristics (teaching institution, provider of emergency care, patient complexity, and so on) and providers are able to be judged on their merit and contribution to a high-quality health-care system, rather than arbitrary and political factors related to hospital ownership or historical dynamics.

A central aspect of the relationship between purchaser and provider is determining the level of reimbursement for services and defining the basket of services that will fall under activity-based funding, as some care settings and activities may reasonably fall outside the activity-based funding envelope. At the same time, additional payments for particular provider characteristics, such as for providers in less populated areas and possibly even for providers in very high-cost areas, can be clearly defined in a transparent manner with additional payments for all providers that meet particular requirements, an approach that is far superior to the opaque negotiations that are likely to underlie decisions about global budgets. The setting of rates and defining services is in part a technical exercise involving case-mix groupings and definitions of patient complexity that can be informed both by the approaches of other developed nations that currently rely on activity-based funding for hospital care and by the work that is being done or has already been done in Canada. Certain aspects of determining

the payment for services are, however, a matter of public policy, including the optimal approach to generating a value for each service and ensuring that incentives for the provision of quality care are maintained.

International experience with activity-based funding

In their efforts to ensure quality, Canada's provinces have a unique opportunity to leapfrog a large portion of the learning phase surrounding the introduction of activity-based funding for hospital care and rapidly adopt more contemporary approaches that focus on enhancing quality incentives. [27] England, for example, has non-payment policies for a list of hospital-acquired complications, and both England and Germany employ payment reduction policies for unplanned readmissions (Sutherland, Crump, Repin, and Hellsten, 2013). Australia has taken the approach of reducing payments to hospitals that experienced defined preventable serious medical events and hospital-acquired complications, while the United States has a number of value-based payment approaches, including a program that adjusts and redistributes payments based on measures of quality and efficiency (Trenaman and Sutherland, 2021). These approaches are in addition to the incentives for efficiency and quality (reducing the in-hospital cost of dealing with complications, for example) that are inherent to activity-based funding. [28]

Activity-based funding with a purchaser-provider split creates an opportunity to emulate the policy approaches of some of the world's highest performing universal access health-care systems and allow a mix of public and private providers to compete for the provision of hospital services as is done in countries like Germany,

[27] The savings associated with reductions in the rates of adverse events are an added benefit of activity-based funding and targeted initiatives particularly in times of fiscal restraint, over and above the benefits to patients. Sutherland, Repin, and Crump note in their review of hospital funding mechanisms that "[t]he ways in which Canadian provinces fund healthcare is an important issue facing policy makers since ineffective, inefficient and unsafe care is a waste of taxpayers' money and potentially harms patients" (2012: 1).

[28] Canada's provinces might also consider adopting other new funding mechanisms such as bundling payments for hospitals and physicians or sharing savings from alternative approaches, to better align the interests of hospitals with those of physicians and other providers who are currently funded separately. For example, a surgical episode in Canada presently has the hospital funded by global budget or a surgical clinic paid under a contractual arrangement, physicians and surgeons paid via fee-for-service, and rehabilitation or outside care facilities paid under their own separate agreement. Bundling those services into a single fee has the potential to better align the incentives of the various providers involved in a care episode and lead to a more efficient production of health-care services.

the Netherlands, and Switzerland (Esmail, 2013). Provinces might also have the opportunity to take greater advantage of the presence of competitive providers by allowing payments for health-care services to be set through a competitive process, as opposed to being determined by a bureaucratic process informed by past (and inefficient) hospital cost structures. [29] Dynamic competitive pricing will also create opportunities for further innovation in comparison with a centrally determined approach that may suffer from governmental or bureaucratic inertia. Money following patients also allows for a more responsive and flexible financial system, with changes in funding closely temporally associated with changes in activity, even when compared with more sophisticated global budget approaches that might include annual volume and price bids from hospitals, additional planning and forecasting based on various demographic and socio-economic factors, and more frequent negotiation and renegotiation. [30]

Competition in times of fiscal restraint

It is worth reiterating here the benefits of competition in the delivery of hospital and surgical services that is readily facilitated by activity-based funding. A review of the literature surrounding hospital ownership published by the University of Calgary's School of Public Policy found that competition, and a blend of public and private (both for- and not-for-profit) delivery will likely have a positive impact on some measures of health care, little impact on others, and is unlikely to have a negative impact (Ruseski, 2009). That survey concludes: "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" (Ruseski, 2009: 42).

[29] The cost savings that result from such an approach might be substantial. For example, the OECD notes the "presence of for-profit hospitals can be associated with 2.4 percent lower hospital payments in a geographic area," that "[p]rice competition between selectively contracted hospitals can lead to price reductions of 7 percent or more," and that "[b]enchmarking of payment levels against most efficient hospitals can lead to a 6 percent reduction in costs at less efficient hospitals" (OECD-DFEACC, 2006: 25). There may be longer-term benefits to such an approach as well, where a broader mix of providers could stimulate productivity and allow providers to learn from one another (OECD, 2004).

[30] A competitive pricing approach, for example, through routine tendering of services, does not necessarily restrict provincial governments from intervening and adjusting reimbursement to achieve other goals such as targeting areas of service with problematic wait times, encouraging the provision of services in day surgery or clinic settings over inpatient hospital settings, limiting payments for errors and readmissions, and providing additional payments for adhering to evidence-based approaches.

In times of fiscal restraint, activity-based funding, if properly structured and introduced with the additional incentives discussed above, may provide additional options to protect or possibly even enhance access to health care while controlling expenditure. [31] This is very different from the usual experience in times of fiscal restraint with global-budget funding of hospital care where rationing can be expected to increase in response to a reduction in allocated funding. [32] At its core, moving to activity-based funding from global budgets shifts providers from perceiving patents and additional activity as a drain on resources to seeing additional patient care as a source of additional revenue. To benefit from that additional revenue, however, resources of high quality must be deployed efficiently to ensure the prospective risk-adjusted payment covers the cost of care provided. The result is both an increase in the volume of services delivered (even in the absence of additional physical and human resources) and a reduction in cost per service. And, while hospital spending increases following a shift to activity-based funding have been a common experience throughout the developed world, O'Reilly *et al.* (2012), in their review of the experiences of five countries adopting activity-based funding, found that it is associated with a reduction in the rate of growth in hospital expenditures in most of the countries studied. [33]

In publicly funded systems, the obvious response to managing the possible increase in the total cost of hospital services under activity-based funding is to cap total expenditures on hospital care. This approach would not be unusual in an international context, where several developed nations impose adjustments to reimbursement rates if volumes exceed specified thresholds, either by reducing the value of services for providers or by reducing the compensation for services above a certain threshold. Even with a cap, however, Canada's provincial governments could expect an increase in the volume of services delivered at a particular funding level following the introduction of activity-based funding (depending on rates of reimbursement and additional efficiency-related incentives), which could leave Canadian patients and payers better

[31] An increase in expenditures should not be perceived as a strictly negative outcome. To the extent additional services were provided efficiently and cost-effectively to patients who needed them or desired them, an increase in expenditures generated positive benefits for patients. Increased expenditures in tax-financed health-care systems do, however, have a negative impact on the rate of economic growth through the excess burden of taxation.

[32] This experience is not unique to Canada. In Europe, cost constraints associated with global budgets have been associated with increased delay and a lack of responsiveness to patients' needs or wishes (Hurst, 1991).

[33] This may be the result, at least in part, of the meaningful difference in philosophy between global budgets and activity-based funding. A basic tenet of global budgets is expenditure control. On the other hand, activity-based funding focuses on improving efficiency and access.

off even in the presence of fiscal restraint. That result would be similar to the experience of Australians in the state of Victoria in the early 1990s, where patient access to elective surgery improved following the introduction of activity-based funding alongside hospital spending cuts (Sutherland, Crump, Repin, and Hellsten, 2013).

The extensive international experience both with moving from global budgets to activity-based funding and with operating an activity-based funding program may also help Canada's provinces move more rapidly to a superior method of paying for hospital care than might be possible with a new or untried approach. In most nations, activity-based funding was introduced over several years to avoid destabilizing the health-care system and to provide both providers and payers an opportunity to adapt to the new approach. While each nation took a unique path, including restricting introduction at first to select providers or services and limiting financial losses, nations commonly transitioned providers from reimbursement rates based largely on their own costs to uniform rates over time (O'Reilly *et al.*, 2012; Or, 2013). In the Canadian context, hospitals, physicians, and other providers will also need to be supported through the transition to activity-based funding. This will be particularly important if provinces choose to capture a broader range of services and providers with bundled or integrated activity-based payments that cover not only direct hospital services but rather attempt to break silos and combine funding for a care episode across groups of providers, mimicking more recent innovations in health-care funding internationally (Sutherland and Hellsten, 2017).

Finally, and perhaps most importantly in any discussion of health-care policy reform in Canada: activity-based funding does not pose any threat to the universal access health-care system and does not violate any of the explicit criteria and rules of the Canada Health Act (Esmail and Barua, 2018).

Conclusion

Canada's health-care system provides remarkably poor value for money to taxpayers and leaves patients with relatively poor access to medical services despite its high price tag. Part of the reason for that poor performance is likely related to Canada's commitment to global budget funding for hospital care, while nearly every other developed nation with a universal access health-care system has moved towards activity-based funding, improving access to services, cost efficiency, and transparency all without necessarily increasing total expenditures. Global budget funding might be preferred by governments for its administrative simplicity but serves neither the interests of patients nor the interests of taxpayers who fund their care.

This is not to say that activity-based funding may not have drawbacks. As with any approach, there are downsides to activity-based funding, including increased complexity for governments and providers. Activity-based funding has also theoretically been associated with risks to the quality of care provided and might create opportunities for providers to inappropriately classify patients in search of additional revenues. Fortunately for Canadians, both pitfalls have been well studied over the past four decades in nations that have undertaken funding reform, providing many effective approaches that could be readily adopted in Canada to protect against these downsides to reform.

Nevertheless, the advantages of activity-based funding compared to global budgets are abundant and clear. By changing providers' perceptions of patients from cost centres and a drain on the budget to a source of additional financial resources, activity-based funding creates powerful incentives for providers to increase throughput, improve efficiency, and improve the patient-centeredness of the services provided. Incentives to improve quality of care, both from a cost perspective and to attract additional patients, are also created by activity-based funding and can be strengthened by funding approaches that restrict payment for complications and poor quality or that reward higher quality.

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