



Integrated Funding

How and What We Pay For

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Provinces pay people and institutions to deliver health care to their residents. *How* they pay for this care matters: a large and growing body of international research confirms that the choice of payment models used to fund health care providers can have a strong influence on their behaviours (1-4).

Despite this evidence, the subject of health care payment systems tends to receive scant Canadian public attention outside of the relatively narrow (and mostly irrelevant) confines of our perpetual national debate around the optimal share of public versus private financing of health care services (5). In reality, irrespective of the mix of public versus private financing or delivery arrangements, the types of mechanisms that provincial governments use to pay for health services have significant impacts on the way providers deliver care. In recent years, several provinces have explored significant reforms to some of these payment models (6,7). However, for the most part, provinces continue to pay the piper to play the same tune.

For instance, the majority of Canadian physicians continue to be paid according to the same method used for nearly 50 years since the passage of the *Medical Care Act*: fee-for-service, or payment for each service performed. This model is well-associated in the

literature with promoting behaviours to increase the volume of services provided, potentially unnecessarily so. In 1906, George Bernard Shaw famously wrote of the perverse incentives inherent in such a system in *The Doctor's Dilemma*:

“That any sane nation, having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity.” (8)

At the opposite end of the incentive spectrum, Canadian hospitals are for the most part, paid for their cost of business with fixed lump sums of annual funding that are provided irrespective of the quality or quantity of services they deliver. Internationally, these payment models have been associated with such behaviours as rationing services and running lengthy wait lists (9,10).

Much has been written of the problems presented by these and other Canadian payment models for particular types of health care providers. Perhaps more problematic than the effects of any one of these payment models, however, is the larger picture of fragmentation they contribute to. Provinces' major health-

care sectors—typically delineated as primary care, acute care, post-acute care, home and community-based care, drugs, mental health and public health services—are all administered in a confusing field of silos, with disconnected financial flows, performance measurement systems, organizational structures and governance arrangements.

While many other countries struggle with similar issues around health system integration (11), Canadian systems appear to be particularly fragmented even by international standards, evidenced by our poor standings in international health system performance: in a recent survey of OECD countries, Canada ranked 10th of 11 in overall health care performance, above only the US (12), with poor showings in the important sub-categories of safety (10th of 11), coordination of care (8th) and timeliness of access (11th).

The recent experience with international payment reforms provides some potential lessons for Canadian policy-makers. A number of countries are stepping beyond modifying sector-specific payment models to implement broader payment reforms that attempt to align the incentives of multiple types of providers.

Navigating a Field of Silos: The Current State of Provincial Health Care Payment Systems

As a first step toward diagnosing both potential problems and solutions in Canadian health care provider payment systems, we examine current provincial payment arrangements for physicians, hospitals and post-acute care providers and their implications for care delivery. We take a special eye toward the effects

of these payment models on coordination and integration of care between providers. We briefly contrast these with some alternative payment models used elsewhere in the world and consider current reform efforts in Canada.

Physician services

Most provinces continue to reimburse the majority of physician services through fee-for-service payment systems. Fee-for-service involves a payment for each individual service provided, based on prices itemized in provincial schedules that routinely run hundreds or even thousands of pages in length (13,14). These price lists are periodically negotiated between health ministries and provincial physicians' unions. In recent fiscally troubled times, such negotiations have frequently been acrimonious, sometimes spilling into the public media (15-17).

While fee-for-service has some theoretical advantages from a productivity standpoint, it also works against provinces' key objectives for primary care. Effective primary care systems—long held as the bedrock of high-performing health systems—have been associated with providing continuous, multidisciplinary care for populations of rostered patients (i.e. attached to a single practice), with the infrastructure to support around-the-clock access and population health management (18,19). By contrast, fee-for-service payment arrangements work against establishing multidisciplinary, team-based group practice models and create “revolving door” incentives that work against longitudinal, continuous caring relationships with patients (20).

Some provinces—most significantly Ontario—have taken recent efforts to shift primary care physicians from fee-for-service to capitation models where they are paid fixed annual fees per patient enrolled in their practice, regardless of quantity of services delivered. In theory, capitation models are intended to reward providers for care continuity and providing preventative care—but the effects observed thus far in Ontario, where some argue little accountability for patient outcomes was attached to the new payment models, have been mixed at best (7,21).

On the specialist physician side, fee-for-service payments have been associated with the provision of higher volumes of potentially unnecessary diagnostic tests and procedures (22). At an overall system level, these piecemeal payment arrangements perpetuate Canadian primary care and specialist physicians' operating in disconnected clinical silos, leading to some recent high profile examples where suboptimal communication between primary care physicians and specialists has resulted in unfortunate outcomes for patients (23). Provinces might consider examining models employed by Kaiser Permanente in the United States, where primary care and specialist physicians are tightly integrated, receive shared performance incentives and are often physically co-located within the same medical centres (24).

Hospitals

As hospitals are the largest line item in provincial health care budgets, much attention is focused on hospital payments. For over four decades, Canadian hospitals have been largely reimbursed through global budgets, often criticized for their arbitrary funding levels, opaque relationship between funding and

services, and weak incentives for productivity and efficiency (2,10,25). By contrast, the last three decades have seen the majority of OECD countries shift from global budgets towards the use of activity-based funding—or payments based on the volume and complexity of encounters—as their primary model for funding hospital care, in order to drive improvements in access, productivity and the transparency of financial flows (10).

Over the past two decades, several provinces have experimented with using incremental activity-based funding approaches to pay for targeted volumes of new surgical procedures, chiefly in areas with lengthy wait lists such as hip and knee replacement. Starting in 2011, both Ontario and British Columbia have made deeper forays into activity-based funding, but still with a relatively limited scope, eventually shifting just under 20% of total hospital funding to the new model. Ontario's Quality-Based Procedures approach has focused on reforming funding for a relatively small set of patient groups, while BC's Patient-Focused Funding approach has since been rolled back into global budgets (6).

A problematic historical legacy that Canada shares with much of the United States has been the use of separate payment systems for hospitals and hospital-based physicians. Unlike most of the OECD, where hospital-based specialists tend to be salaried or otherwise reimbursed by the hospitals they practice in (and hence the costs of physicians are implicitly bundled into the funding that hospitals receive) (26), the vast majority of Canadian hospital-based specialists are reimbursed directly by the government, typically without the knowledge or involvement of

the hospitals they practice in. The separate hospital and physician payment systems, each with conflicting incentives, have been described as creating acrimonious relationships between volume-funded physicians and cost-saving hospital administrators (27).

Post-acute care

Canadian hospitals and hospital-based physicians also lack any sort of meaningful accountability for patients after they are discharged. The interface between acute hospital care and post-acute care has often been studied as one of the key problem spots in health systems, as patients make high risk transitions out of the controlled, high intensity environment of the hospital setting into their homes and the care of community-based providers (28). Poor quality transitions can lead to patients experiencing complications or destabilization of their conditions and result in costly unplanned readmissions to hospital. Canadian hospitals have few financial incentives to coordinate their care with post-acute or community-based providers to try to prevent these issues (29).

Not surprisingly, studies in both the United States (30,31) and Canada (32,33) have found wide regional variations in the availability, accessibility and type of care provided through post-acute services; a recent Institute of Medicine panel pinpointed variation in post-acute care utilization as one of the key drivers in regional variations in overall health care expenses (34). In response to this variation, the US Centres for Medicare and Medicaid services have recently signaled a direction to move to a single payment system that would apply to all types of post-acute care settings (31).

All Together Now: A Worldwide Shift Toward Integrated Funding Models

Across the international health policy stage, a growing number of countries are recognizing the limitations of their efforts to reform individual provider payment models within existing silos (35,36). In response, a new wave of reforms is hitting the world's health systems around integrated funding models that align the financial incentives of multiple providers involved in a patient's care toward common objectives (9). For the purposes of examining some of these reforms, we group these funding models into two general categories:

1. *Bundled payments*, or single payments for defined episodes of care triggered by a health condition like stroke (which might include payment for an acute care hospital, physician services and 90 days of care following acute discharge); and
2. *Population-based integrated funding*, or payment approaches where funding is provided to groups of providers for managing the ongoing care of a defined population.

Bundled or episode-based payments were first trialed in the US in the 1980s (37), although the concept of using an episode of care as a unit of payment appeared as early as 1969 (38) in order to address some of the limitations of siloed payment methods (39)(40).

Bundled payments provide financial incentives for behaviour change in health care providers to:

1. Improve the technical efficiency of episodes of care by lowering costs within and between settings,

2. Limit ineffective care that increases costs with little or no marginal health impact, such as poor coordination between settings that causes duplicate tests or diagnostics, and
3. Provide effective services to limit unsafe or poor quality care that increases subsequent utilization and costs, such as unplanned readmissions (41,42).

Importantly, surpluses or losses achieved relative to the payment amount are shared among all providers involved in a patient's episode of care and marks a key point of divergence from current payment models (43,36).

In contrast to bundled payments, which focus on episodes of care triggered by defined health conditions, *population-based integrated funding* approaches involve sharing payments among groups of multiple providers to take on accountability for costs and quality in managing a population of patients. These models take their roots from the global capitation models implemented by Health Maintenance Organizations (HMOs) in the United States in the 1980s and 90s, where groups of physicians were given financial responsibility for the health and downstream costs of their enrolled patients. The most recent wave of these efforts—including Accountable Care Organizations in the US and the *Gesundes Kinzigtal* model in Germany—tend to be primary care-driven, with a focus on case managing complex patients and reducing avoidable hospitalizations.

In the following sections, we examine several current implementations of different varieties of integrated funding models spanning several countries.

The Netherlands: Bundled Payments for Chronic Disease Management

In the Netherlands, a new bundled payment model for comprehensive primary care-based management of diabetes was piloted in 2007. Under the model, insurers provide an annual fee for all diabetes-related, community-based professional services (with minimum services defined based on national standards of diabetes care) to a new contracting entity known as a care group, who employ or subcontract multidisciplinary health professionals. The bundled payment model has proven to be popular with Dutch primary care physicians, who largely make up the owners of the new care groups; following national roll-out of the model in 2010, there were more than 300,000 patients with diabetes enrolled under bundled payments to care groups as of 2013 (44).

Independent evaluations of the model have found mixed results: while there were measurable improvements in adherence to diabetes quality standards as well as improvements in collaboration and communication between providers of different disciplines, annual costs per patient increased relative to patients receiving usual care and there were wide variations observed in bundled payment contract prices negotiated with different care groups. The Dutch government has since expanded the bundled payment model to chronic obstructive pulmonary disease and vascular risk management, with other conditions soon to follow (45-47).

Stockholm: Bundled Payments for Hip and Knee Replacement

In 2009, Stockholm County Council in Sweden implemented a bundled payment program for total hip and knee replacement known as OrthoChoice. The bundle includes all provider costs (including physician services) for a set of components defined for best practice joint replacement care, including a pre-operative visit, the surgery (including prosthesis costs), x-ray following surgery, inpatient rehabilitation and a follow-up visit at three months following the operation. Beyond this expected care pathway, the bundle also includes a “care warranty” where providers are responsible for treating most types of common complications that might occur within two years of the surgery. If a post-operative deep infection requiring antibiotic treatment occurs, this warranty is extended to five years (48).

Early reported outcomes of the program have been impressive: in response to a backlogged waiting list, the total volume of total joint replacement operations grew by 16% over the first three years of the program, while total costs fell 4%, resulting in a net saving of 17% per operation and virtually eliminating the existing wait list (49). There was a positive impact on patient outcomes: the complication rate fell 16.9% in the first year and 25.9% in the second year following the introduction of the program (50), while patient functional outcomes remained constant. Patient satisfaction was found to be superior to that of patients receiving the usual program.

Germany: Gesundes Kinzigtal

In 2006, two German insurers contracted with Gesundes Kinzigtal, a private company co-owned by a regional physician’s network and the OptiMedis health science company, to implement a pilot initiative providing population-based integrated health care for a region of about 70,000 inhabitants. Gesundes Kinzigtal is financed through a similar shared savings approach to the US Accountable Care Organization and Physician Group Practice Demonstration models, where the company receives money based on measured improvements in the health outcomes of its population compared with non-participating patients. Gesundes Kinzigtal works with an innovative network of organizations within and external to the health care sector, including health care professionals, nursing homes, sports clubs, schools, businesses and municipalities.

Evaluations of Gesundes Kinzigtal have shown some impressive results, including an 18-month increase in life expectancy for 4,600 enrolled members over two and a half years compared to a propensity score matched control group. Overall health care costs are lower, while health insurance costs decreased, leading to savings of 151 euros per member during a two-year period, with the largest reductions occurring in reduced hospital costs. Quality measures have been observed to improve in priority areas such as osteoporosis management (51,52).

The United States: Bundled Payments and Accountable Care Organizations

In the United States, the 2010 Patient Protection and Affordable Care Act launched a new wave of payment reforms. The US Department of Health and Human Services has pledged to reduce US health care organizations' reliance on fee-for-service and has pledged to have 50% of providers' payments made through alternative payment models by 2018 (53). Other countries are sure to follow the US's move away from volume-based payments and towards integrated funding models.

We explore each of these approaches to funding health—and the associated evidence to date—in the following sections.

Bundled Payments for Care Improvement

The Patient Protection and Affordable Care Act (ACA) provided the legislative framework enabling Medicare to initiate bundled payments under the Bundled Payments for Care Improvement (BPCI) initiative. In the BPCI program, providers applying to join can select one of several bundled payment models, with options for the scope of services included in the payment (acute care and physician services or acute care, physician and post-acute services), the duration of the bundle (either 30, 60 or 90 days post-discharge), the list of eligible conditions for bundling, and the level of risk that providers are willing to assume. Researchers and policy makers have identified post-acute care as a key opportunity area for bundled payment recipients to target cross-provider efficiency efforts (54).

The evidence to date on bundled payments is still in a nascent stage: earlier US studies of more limited hospital-physician bundled payment recipients found evidence of significantly reduced costs (often negotiated upfront with payers) with no ill effects on quality or patient experience (37,55,56). Studies evaluating hospital-physician-post-acute care models are very limited to this date, but the plethora of new bundled payment initiatives underway should bring with it compelling opportunities for more comprehensive research and evaluation.

Accountable Care Organizations

Accountable Care Organizations (ACOs) bring together one or more hospitals with primary-care physicians, specialists and community providers to assume financial and clinical responsibility for the care (and costs) of a defined population. Under these arrangements, all providers share in the cost savings (and, in some cases, the downside risks as well). For its Medicare ACO models, CMS estimates a predicted “price” for each ACO based on its size, market and regional location and utilization within the general Medicare population in that region. Providers registered under an ACO arrangement must reduce their own costs (and the costs of downstream providers) at a significant level below Medicare's estimated “price” in order to share in the savings. In theory, these new models reverse some of the financial incentives of previously volume-driven providers like hospitals and physicians, making it financially attractive for them to reduce preventable admissions and unnecessary tests and procedures.

Although, like bundled payments, evidence around the impacts of ACOs is in a nascent stage, early results have been very promising. A recent two-year evaluation of the initial wave of 32 Medicare Pioneer ACO demonstration projects (responsible for about 800,000 patients) found that compared with traditional Medicare fee-for-service providers, the ACOs had reduced overall spending versus the broader Medicare population, to the tune of \$385 million in total savings for the first two years (57).

Considerations for Canadian Decision-Makers

The integrated funding models discussed here provide some attractive alternatives for provincial policy-makers struggling with issues of system integration and fragmentation. While differing markedly in their financial structures and scope of services included, all the models discussed here share a common theme of aligning common financial incentives across groups of previously disconnected providers. The general idea of ‘bundling’ payments—across services, across providers and across time—may provide a useful conceptual model for Canadian decision-makers to examine reform opportunities in their own systems. However, before plunging into emulating these international reforms, provincial health ministries should consider key implications:

1. **The nature of payment reforms will differ based on the legacy systems they are supplanting**
Canadian policy-makers should consider the historical funding approaches in other jurisdictions being replaced by these models and compare these with their own. For example, developing a bundled payment model is conceptually simpler when starting with a mainly fee-for-service payment system—where there already exist itemized units of payment that can be readily ‘bundled’ together into new unit—than in a system that makes extensive use of global budgets, where services must first be “carved out” (perhaps on a notional basis using proxy methodologies) before they are bundled together.
2. **Consider legislative and regulatory barriers**
Payment models can only operate within the confines of system structures. Without changes, these structures may create barriers to integrating funding across sectors and providers. For example, many provinces have legislation governing payments for physician services as a closed direct relationship between physician groups and health ministries. Efforts to integrate physician payments with those for other providers may require changes to legislation and regulation to enable broad-scale reform.
3. **Consider transitional mechanisms and ‘overlays’**
Any province that attempts to replace their existing payment systems in a ‘big bang’ approach faces an uphill battle and a great deal of political friction. Canadian policy-makers should look to the Medicare approach in the US, where the majority of bundled payment and ACO demonstration models are being implemented as overlays on top of the existing fee-for-service payment models; at the end of the year, groups of participating providers’ total fee-for-service payments are reconciled against the notional ‘prices’ set for episodes or for populations by these models. This approach allows new integrated models to

be phased in without requiring existing payment models be ‘blown up’ overnight.

4. **You can only pay for what you can measure**

It is difficult for governments to pay for services that they don’t track; initiating new payment models without having data on what is being paid for introduces risks of ‘double payment’ and other challenges. Many provinces lack comprehensive administrative data around sectors such as post-acute and community-based care. Filling these reporting gaps is a crucial step toward including these sectors within broader payment models.

The considerations above largely apply to any payment reforms that might be considered by a government; integrated funding models simply introduce new layers of complexity in terms of their cross-sector implications. Fundamental transformation is difficult, but the jurisdictions profiled here have taken positions that such reforms are worthwhile. Canadian policymakers face a difficult question: do they continue to tinker around the edges with their current sector-based payment systems, or do they implement more forward-thinking reforms that bridge the silos in their systems? Arguably, the burning platform for such transformative reforms is already present in many provinces; it will doubtless grow hotter as time goes on.

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