MEDICARE'S MID-LIFE CRISIS 4

MACDONALD-LAURIER INSTITUTE

How Markets Can Put Patients First

Economics Before Politics in Canadian Health Care Delivery

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Executive Summary

Health policy in Canada has for many years apparently been governed by the assumption that the delivery of medical services is somehow immune to market forces, that human health is so sacred only central planning could be trusted to properly manage medicare. Yet one must only look at the great advantages in efficiency of the average dental practice compared to the average family doctor's practice to begin to question this notion.

Health policy-makers ignore economics at their peril. If they took basic economic theory the least bit seriously, the medical system could be much more efficient, and vitally, much more attuned to the needs of that often neglected and forgotten stakeholder – the patient.

This paper will examine the mechanics of markets for health insurance, and the organization of supply and the nature of demand for health care, and look for evidence of the price mechanism in the few still-untouched areas of its natural habitat. It will examine the valid role of government in a universal-access system, and finally suggest what an economically rational health care system might look like.

As part of sorting out how best to allocate scarce resources, economics focuses on how people respond to incentives. Demonstrating just this, the iconic RAND Health Insurance Experiment (HIE) of the late 1970s and studies of the more recent 2008 Oregon Medicaid expansion suggest that even a modest co-payment can significantly reduce the demand for unnecessary care while full coverage does little to affect health outcomes.

It is important to note that economics also plays a miniscule role in US health care; no market-oriented health economist wants to copy the US system, to which Canadians often compare theirs. It is a comparison that makes any system look good. Canadian policy-makers need to look further afield when making international comparisons, and they will see that our system is nothing near as good as we like to believe.

International health care rankings force a consideration of the absolute performance of the Canadian system. Economics provides a framework for this conversation.

Greater efficiency will not come from central managerial decisions. A health system that takes economics seriously must be structured so that price incentives operate on both demand and supply sides of the market. There should always be some element of out-of-pocket payment for medical care to reduce demand for unnecessary services and bring down prices, while individuals are protected from massive costs and income-based transfers reduce payments for the poor.

In an economically rational system, the role of government on the supply side would be greatly reduced. The organization of practice would generally be left to the suppliers to determine since they have the greatest incentive for getting it right.

An economically rational system would be based around competitive provision of insurance with government setting a minimum core of coverage, as in the case of Switzerland today, for example. Such insurance would incorporate guaranteed renewability, perhaps along the lines tried out under the German and Australian systems, to protect people who develop chronic illness.

Such a system would probably incorporate reference pricing, as do several European drug plans and as certain insurers are experimenting with in California as a way of paying for some hospital care. Under reference pricing, not only do consumers respond to pricing incentives but the prices suppliers charge respond in their turn to consumers' responses.

Finally, an economically rational system would also need to change the way the medical system is funded, currently from general revenues. Medicare's unfunded liability could be addressed by having working-age Canadians pre-fund their own later health care expenditures with a health savings component.

What would a health care system look like if we took economics seriously? It would certainly look very different from today's Canadian medicare.

Sommaire

Au Canada, la politique sur la santé repose apparemment depuis nombre d'années sur l'hypothèse que les soins médicaux sont en quelque sorte sans rapport avec les forces du marché et que la santé humaine est si sacrée qu'elle ne peut être bien gérée hors d'une administration centralisée. Pourtant, il ne suffit qu'à examiner les avantages marqués sur le plan de l'efficience d'un cabinet de dentiste moyen comparé à celui d'un médecin de famille pour avoir quelques doutes sur cette notion.

Certaines caractéristiques du marché des soins de santé ne sont certainement pas celles du marché classique et ses enjeux humains et financiers peuvent être très élevés, mais les décideurs de ce domaine errent lorsqu'ils écartent les enjeux économiques. Les décideurs dussent-ils s'intéresser le moindrement aux principes élémentaires de la théorie économique, le système des soins de santé serait beaucoup plus efficace et vibrant, car davantage orienté sur les besoins des parties prenantes souvent négligées et oubliées le patient en l'occurrence.

Si le terme « économique » est généralement associé à la prise en compte des coûts et que la comptabilité des coûts est essentielle, les leçons clés de la théorie économique ont été mises de côté lorsque la politique canadienne sur la santé a été conçue. En effet, l'économie étudie essentiellement la façon dont on réagit à des mesures incitatives dans tout système, tant du côté de l'offre que du côté de la demande.

Dans ce document, on examine le fonctionnement des marchés de l'assurance maladie ainsi que l'organisation de l'offre et les caractéristiques de la demande dans le domaine des soins de santé. On explore le rôle des mécanismes de prix dans le nombre restreint de lieux où ils sont encore librement en action. On discute du bienfondé de l'intervention des gouvernements dans un système de soins universels. Enfin, on propose une vision d'un système de soins de santé qui serait rationnel, d'un point de vue économique.

L'analyse économique étudie les modalités selon lesquelles on peut affecter des ressources rares à la satisfaction de besoins illimités. Et, s'il y a un domaine où les besoins sont vraiment sans limites, c'est certainement celui de la santé. Parfois, on utilise le terme « rationnement » au lieu du terme « affectation », ce qui laisse sous-entendre à tort que l'économie est un instrument servant à limiter les ressources disponibles plutôt qu'un outil de réflexion sur la façon d'aménager des ressources déjà rares dans une société.

En s'intéressant à la meilleure façon de répartir des ressources rares, l'économie analyse le comportement humain en présence de mesures incitatives. C'est justement ce qu'on peut tirer de l'expérience bien connue *Rand* sur l'assurance maladie (HIE), réalisée à la fin des années 1970, et des études de l'extension récente du régime *Medicaid* de l'Oregon en 2008, qui suggèrent que d'imposer aux bénéficiaires une quote-part même modeste peut réduire de façon importante leur demande de soins discrétionnaires, et

que la pleine couverture joue peu sur les résultats en santé.

Il importe de souligner le rôle mineur que joue également l'économie dans le système de soins de santé américain; aucun économiste spécialisé en santé qui souscrit à l'économie de marché ne voudrait reproduire ce système, que les Canadiens comparent souvent au leur. Toute comparaison avec ce système est flatteuse. Les décideurs politiques doivent aller bien au-delà des comparaisons internationales superficielles pour découvrir que notre système est loin d'être aussi bon qu'on est porté à le croire.

Le classement international des soins de santé oblige à réfléchir sur la performance absolue du système canadien. L'analyse économique procure un cadre à cet exercice.

L'augmentation de l'efficience ne proviendra pas de décisions prises centralement. Un système de soins de santé qui tient compte des enjeux économiques doit être structuré de manière à que les mesures incitatives exercées par les prix dans le marché soient mises en place tant du côté de la demande que du côté de l'offre. Les bénéficiaires devraient toujours fournir une forme de quote-part pour obtenir des soins médicaux afin de limiter la demande en soins discrétionnaires et de faire baisser les prix au sein d'un système où les particuliers seraient protégés des poussées massives des coûts et où les déboursés des personnes pauvres seraient compensés au moyen de transferts basés sur le revenu.

Dans un système rationnel, d'un point de vue économique, le rôle des gouvernements devrait être considérablement limité du côté de l'offre. L'organisation des services devrait en général être laissée à des fournisseurs, puisqu'il est dans leur intérêt même de faire fonctionner leur entreprise.

Ce système rationnel serait essentiellement fondé sur la fourniture concurrentielle d'une assurance assortie d'un seuil obligatoire de couverture encadré par le gouvernement, comme cela existe aujourd'hui en Suisse, par exemple. Pour assurer la protection des personnes nouvellement atteintes d'une maladie chronique, une telle assurance serait offerte avec une garantie de renouvellement, à l'exemple peut-être de ce qui a été mis en place en Allemagne et en Australie.

Un tel système serait probablement caractérisé par l'imposition de prix de référence, comme c'est le cas de plusieurs régimes européens de médicaments et de protections offertes par certains assureurs pour le paiement de soins hospitaliers en Californie. Sous un régime de prix de référence, non seulement les consommateurs réagissent positivement aux mesures incitatives exercées par les prix, mais les montants facturés par les fournisseurs s'adaptent à leur tour aux variations de la demande des consommateurs.

Enfin, dans un système rationnel, d'un point de vue économique, le financement des soins de santé, qui provient actuellement des revenus généraux du gouvernement, devrait également être modifié. Le passif du système de soins de santé pourrait être résorbé en demandant à la population active canadienne de financer elle-même à l'avance ses dépenses en soins de santé de fin de vie au moyen d'épargnes dédiées.

À quoi ressemblerait le système de soins de santé si on cherchait à mettre à profit les leçons de l'analyse économique? Il serait certainement considérablement différent du système canadien d'aujourd'hui.

Introduction

> "Economics is a highly sophisticated field of thought that is superb at explaining to policy-makers precisely why the choices they made in the past were wrong. About the future, not so much. However, careful economic analysis does have one important benefit, which is that it can help kill ideas that are completely logically inconsistent or wildly at variance with the data. This insight covers at least 90 percent of proposed economic policies."
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> FEDERAL RESERVE CHAIRMAN BEN S. BERNANKE AT THE BACCALAUREATE CEREMONY AT PRINCETON UNIVERSITY, PRINCETON, NEW JERSEY JUNE 2, 2013.

Casual conversation suggests that the chaotic rollout of ObamaCare in the US has become a source of Canadian self-congratulation, a further validation of the superiority of the single-payer structure of Canadian medicare. It shouldn't. If anything it should serve as the impetus for a reconsideration of the problems of the Canadian system, though that will probably not happen. Historically, the tendency among Canadian health policy analysts and policy-makers has been to compare medicare with the US system and to conclude that since we are doing much better than the Americans in so many of the standard metrics used to judge health care systems (notably cost and various measures of access to care), we don't need to consider making any significant changes to the structure of medicare.

This sets the bar far too low. It would be nearly impossible to do worse than the Americans in many aspects of health care delivery, so doing better than they are should not encourage us to rest on our laurels. If anything it should prompt us to stop focusing exclusively on Canada/US comparisons and to compare ourselves with the rest of the world, in which case we are likely to decide that we are at best somewhere in the middle of the pack.

This is not to say that policy-makers are blind to the problems of Canadian medicare. The move to patient rostering and to alternative payment systems, for example, is a response to a problem, often not openly admitted, of access to care and long wait times. Talk about the need to increase the efficiency of the Canadian health care system amounts to tacit admission that perhaps our cost/output record is not as good as we have long told ourselves it was.[1] The drawback with the solutions that have been introduced to tackle problems like wait times is that they are management-based solutions whereas economics-based solutions are needed. To take just one example, whereas many countries have been experimenting successfully with market competition as a mechanism for cost control (Propper 2010), Canadian practice has been to resist any such evolution and to rely on centrally directed reorganizations of the medical org chart.

Economics has played very little role in Canadian health policy-making.

Economics has, for some considerable length of time, played very little role in Canadian health policy-making. The term economics has, for all intents and purposes, come to mean cost accounting and while cost accounting is essential, the basic insights of economic theory have been set aside in policy-making. Indeed, the very use of the word "theory" has been taken to imply that economic analysis is somehow divorced from reality. It is often claimed that the health care market is so fundamentally different from the market of the introductory economics textbook[2] that economic theory does not apply to health care and indeed, economic analysis should not be given any role in health system design.

In many ways, as we shall see as we proceed, the exclusion of economic analysis from Canadian health policy-making was formalized back in 1984, in the wording of the *Canada Health Act*.[3] But while the insights of economic theory might be ignored by policy-makers, the starting

point of economic analysis, that people respond to incentives, is as true in health care as in any other, more frivolous, area of economic activity.

The rollout of ObamaCare marks a good time to reconsider the basics of medicare, despite the considerable differences between the US system, both pre- and post-ObamaCare, and the Canadian system. This is primarily because many of the problems faced by the two countries are, in their deep structure, the same.[4]

Since we are going to be discussing the role of markets in health care and since we have just referred to the US system, we should make one thing clear. No market-oriented health economist wants to copy the US system. Indeed, a moment's thought would lead such an economist to doubt the word "system" in that context. The US health care system is not a system if that word is taken to refer to a well-functioning mechanism. Rather, it is a Rube Goldberg device, built up over the decades by a process of making quick fixes and then, a few years later, piling on other quick fixes in the hopes of rectifying problems created by the previous quick fixes.[5] While we will be drawing on the US experience for some of the evidence we will adduce for the arguments which we will make below, we intend to discuss market-based health care delivery, and the US system should never be thought of as a market-based system. US health care delivery is the outcome of a massively complicated game, where the players who are most conspicuously absent from the process through which the game's players decide on their moves are patients. A properly designed market system would put patients first.

The US health care system should never be thought of as market-based.

The first point to make is that economics is not just about adding up the costs of various aspects of care. Rather, it is about the way people respond to incentives, on both the supply and demand sides of any system, whether incentives contained in the signals sent by individuals on the other side of the market or, in cases where the government is heavily involved in the market, incentives contained in the rules and institutional detail imposed by regulators. While institutional detail is important, it is also important to bear in mind what Aristotle said, in the context of proposals that all property should be held in common: while such laws might have a specious appearance of benevolence and seem to promise to eliminate the evils which are manifest in the present system, the true source of the evils is not the system within which men live, it is the wickedness of human nature. People who would abuse one system will abuse others – changing the structure of the system will simply change the specifics of the abuse.

In this paper we will take a look at some of the key issues that have arisen in the context of health care and tackle them from the economist's perspective. The issues analysed include insurance, organization of supply, demand for health care, the feedbacks between health care prices and health care consumers, and the role of government. Next we will discuss what a health care system that took those insights seriously would look like. A health care system that takes economics seriously would not look like the current Canadian system. Perhaps more importantly, it would not look anything like the current US system. It would serve the patient better than either system.

So is Health Care Fundamentally Different From Other Areas of Human Economic Activity?

We can certainly list the features of the health care market which make it look very different from the textbook market: demand is highly uncertain and often associated with dramatic negative events; there is often imperfect information about the efficacy of treatments and providers tend to know more about the range of treatment choices and their effectiveness than the recipients of care; and it demands a long-term perspective in that choices made today may well not have visible consequences until well into the future.

On the one hand, these individual characteristics are by no means unique to health care; on the other hand, the particular combination of characteristics associated with health care certainly raises sector-specific issues. This does not mean that economic theory should be ignored, but it does mean that any policies under consideration have to take into account the specifics of the health care sector.

Economics is concerned with the allocation of scarce resources among unlimited wants and if there is one area where wants seem truly unlimited, it is health care.[6] Sometimes the word *rationing* is used instead of *allocating*, which implies economics is a tool to withhold resources instead of a way of thinking about how already scarce resources are spread throughout society.

As part of sorting out how best to allocate scarce resources, economics focuses on how people respond to incentives. In health policy debates, claims are often made either that people do not respond to incentives or that their response to incentives produces perverse and socially undesirable outcomes. At the same time, health care policy is aimed at manipulating incentives and putting constraints on responses on both the supply and demand side. The result is an immensely complicated structure of constraints and incentives.

The euphemism *unintended consequences* is used when we really mean "we made a mess of the policy by not thinking about how all the parts of the system interact". The more constraints and constrained incentives that we build into a system the greater the opportunities for unintended consequences and for what economists sometimes refer to as *unproductive entrepreneurship* and sometimes as *gaming the system*. The first rule of designing a health care system must be that the incentives built into it direct everybody involved to behave in a manner that is best for the patient.

We sometimes read about stakeholders in the health care system. In the health care system there is only one ultimate stakeholder: the patient. A health care system must be designed with benefit to the patient as the ultimate outcome.

> *In the health care system there is only one ultimate stakeholder: the patient.*

Participants in the contemporary health care debate tend to fall into two camps: those who think that ensuring that the system is directed to the benefit of the patient means that it must be publicly run, and those who believe the system will most benefit the patient if it is organized on strictly private grounds. This paper takes the view that there is a role for government but as Adam Smith argued, there are things that government does badly and that the private sector does better. Smith's argument was based not on ideology, but on analysis. We propose to take the same approach.

In brief, an economically rational system would be based around competitive provision of insur-

ance with government setting a minimum core of coverage, as in the case of Switzerland today, for example.[7] Such insurance would incorporate guaranteed renewability, perhaps along the lines tried out under the German and Australian systems, to protect people who develop chronic illness. It would probably incorporate reference pricing,[8] as do several European drug plans and as certain insurers are experimenting with in California (Robinson and Brown 2013) as a way of paying for some hospital care. Under reference pricing not only do consumers respond to pricing incentives but the prices suppliers charge respond in their turn to consumers' responses (Robinson and Brown 2013). And it would remove government from the role of mandating the organization of medical practice, recognizing that not only do the providers of care have a powerful incentive to organize provision efficiently, they also (and as a consequence) have a better understanding of the mechanics of the provision of care than do most health policy analysts.

A health care system that takes economics seriously would not look like the current Canadian system.

Insurance

One feature of health care that marks it as fundamentally different from many other commodities is the uncertainty surrounding the occurrence of major expenditures. This is not to suggest that there is no uncertainty in other areas, but there are specific features of health care uncertainty that not only call for the presence of insurance but raise technical issues that are not present to the same degree in other insurable areas of life. At the same time, political decisions with regards to the structure of health insurance in many countries have led to health insurance not being designed in an economically efficient way. This is particularly the case in the US, and the failings of the US health insurance system have been interpreted in other countries as failures inherent to private insurance in general, seriously hindering policy discussion in those countries.

To begin with a definition, insurance is a device for sharing financial risk associated with events that are statistically predictable in the aggregate, but not foreseeable at the level of the individual – major acute illness being the obvious example. Political battles surrounding ObamaCare in the US have created the impression that insurance is a mechanism by which a group termed "the healthy" subsidizes a group termed "the sick", but this is not a correct reading of the nature of insurance; rather it is the consequence of a political objective that may well work at cross-purposes to the goal of universal health insurance in the US, regardless of the dictates of the *Affordable Care Act*.

One group subsidizing another is not insurance.

It is true an insurance pool works by collecting premiums from all of its members in advance of any of them getting sick, then using the funds in the pool to pay the medical bills of the members of the pool who become ill during the year. In this structure, the people who do not get sick are making a contribution towards the medical bills of those who do, but this should not be thought of as a matter of "the healthy" subsidizing "the sick". One goal of the ObamaCare process in the US was to find a way to put the young and healthy into the same plan as sicker individuals, with the aim of spreading costs across risk classes. This kind of subsidization across risk classes is not a proper function of insurance, nor is the implied intergenerational transfer well designed.

The Mechanics of Insurance

To take a simple illustration of how a classical insurance plan works, consider an individual

who has the bad luck to be hit by a disease which costs $100,000 to cure. In the absence of insurance he will have to pay his bill out-of-pocket. Now suppose we bring together 1000 people, each with a 1 in 1000 chance of getting this illness over the next year, meaning that there is virtually a 100 percent chance that one individual of the 1000 will face a bill of $100,000. Let each person contribute $100 at the start of the period to a reserve fund, or mutual insurance pool, totaling $100,000, which will be used to pay the bill of whichever member of the pool is hit with the disease. Each would have paid $100 for the right to have their cost covered should they be the one to fall ill. Those who do not fall ill that year will have contributed to paying the costs of the individual who did. Being in the pool does not affect the risk of getting sick, but it does spread the financial risk associated with the illness across the members of the pool. The key is that the pool has to be large enough so that the premiums are reasonably low and it has to have enough money in it to meet the amount it is expected to have to pay out during the year.

Now suppose that an individual comes along who has never been a member of the pool in the past, has already been diagnosed with the illness, and wants to pay the $100 to join the pool. This is the pre-existing condition issue, and one of the selling points of ObamaCare was preventing insurers from refusing coverage to someone with a pre-existing condition.

Odd though it sounds, this person does not bring any additional *risk* to the pool in the purely technical sense in which risk refers to a situation in which there are a number of possible outcomes, each associated with a particular probability of occurrence. There is no risk involved because the existing members will, with complete certainty, have to pay $100,000 for the treatment of the new member since he already has the illness. The total expected outlay for the pool will be $200,000; $100,000 for the new member and $100,000 for whichever other member of the pool gets the illness that year. This means that to cover the expected costs, each member's premiums will double to $200, with half of that dedicated to the treatment of the new member. This aspect of the pre-existing condition problem is as much a problem for mutual insurance pools as it is for commercial insurers.

Risk *refers to a situation in which there are a number of possible outcomes.*

In practice an insurance pool is likely to contain individuals whose risk of having to draw on it differs. In our example, if half of the pool is at higher risk of drawing on the pool's funds (but falls short of 100 percent as in the pre-existing condition case) the procedure is to calculate how much the particular pool is expected to have to pay out in a year and to allocate the cost across the pool members proportionately to their probability of making a claim. This gives what is known as *actuarially fair premiums*, or risk rating of premiums, and satisfies one notion of fairness in that what people pay into the pool is proportional to what they expect to draw out of it.

In automobile insurance it has meant that groups that tend to be safer drivers pay lower premiums than riskier drivers, so traditionally young women drivers paid lower premiums than did young men. In health insurance it is somewhat controversial, since it is often seen as a penalty imposed on the sick. One alternative device has been for governments to require that everyone in a pool be charged the same premium regardless of risk – what is known as community rating of premiums. This involves subsidization of sicker groups by healthier ones, and is tolerable for relatively small differences in risk rates, but as the differences in risk increase, the healthier groups discover an incentive to drop out of the pool, leaving the sicker groups behind, and causing the pool's premiums to rise so that the pool's expected costs can be covered.

Community rating can only survive in the long run in the face of large differences in risks if participation in the pool is mandatory, so the healthy are forced to subsidize the sick. While this is seen by some as socially desirable, it is not clear that current health status is the optimal basis for imposing what is in essence a redistributive tax.[9]

This description of how insurance pooling works is not unique to health insurance: we could tell exactly the same story about automobile insurance. Where we get into the peculiarities of health insurance is when we consider chronic conditions. In the example above we assumed that the illness was acute in the sense that it struck an individual suddenly, was curable, and was unrelated to any illnesses he may have had in the past, and also that the pool's books had to be balanced every year. That model is only really useful for insuring against acute illnesses, and not of much use in the case of a population with individuals suffering from chronic illnesses. Again, this arises from the fact that in the presence of a chronic illness, like the case of the pre-existing illness discussed above, there is no pure risk to be insured, because the probability that someone with a chronic illness will make a claim in the next year is by definition 100 percent. Since there is no more risk to be spread (in other words, no role for insurance) their actuarially fair premium would exactly equal the cost of their treatment.

If, however, we leave behind the year-to-year view of an individual's health status and instead look at things on a lifetime basis, even if there is a 100 percent probability that any given individual will develop a chronic illness at some point in their life, the age at which they develop the illness can be treated as being subject to a probability distribution. In other words, their lifetime insurance payout is still risky. It could then be assumed that everybody faces the same lifetime probability distribution over claims, and a total lifetime premium could be set based on insuring their expected lifetime expenditure. Rather than pay an upfront lump sum, the premiums would be spread out over a lifetime, with an individual perhaps paying less than their actuarially fair rate in some periods and more in others.

It may seem at first blush that private insurers would drop individuals who develop chronic illnesses, in the same way as it is assumed that they do not want to insure individuals with pre-existing conditions. Strictly speaking, insurers will have no objection to insuring someone with a chronic illness, so long as the structure of insurance allows them to charge the appropriate premium. This would mean, however, that these people would be charged a premium each year equal to the full cost of the treatment of their chronic disease in that year, which is something that most people would regard as inequitable. Clearly this is something to consider in designing an economically rational health care system.[10]

The Supply of Care

We need to focus on two aspects of the supply side in the process of designing an economically rational health care system. One is the question of the amount of output – here, medical care – that will be produced with existing capacity and the other, the organization of supply, is the question of how the care will be produced.

Balancing demand and supply is what markets do.

In competitive markets the interaction of demand and supply determines the price at which a good or service will be exchanged. Prices act as a signaling device in markets to convey the value that is attached to a particular good or service. The further we get from a competitive market, the more we have to rely on other mechanisms to infer what the appropriate prices should be. So it is with health care markets across Canada: administrators have to set fees for hundreds if not thousands of individual services because there is no operating market mechanism. The informational requirement here is huge and in the absence of crystal balls, policy planners have to do their best to arrive at estimates of what they think it costs to provide different services. Beyond that, they have to anticipate how suppliers will respond to changes in fees, a task which is much more difficult even than estimating costs.

The likelihood of planners managing to balance the demand and supply for various services is exceedingly small. On the other hand, balancing demand and supply is what markets do.

In Canada, physician fees are a product of the negotiation process between medical associations and the relevant provincial government. The same is true for nurse and other allied professional salaries, for the fees that laboratories charge for specific lab tests, for the per diem rates charged by publicly funded long term care facilities for particular kinds of patients, and for pharmaceuticals covered by provincial formularies. In each case the provincial Ministry representatives sit across the table from provider associations to hammer out fees and rates of increase for health care services that will apply over the life of the contract.

This means that the prices in the health care system are the product of a bargaining game between the public funder on one side and the particular association on the other, with patients noticeably absent from the process. Historically, payers have been concerned more with cost control than with the mix of services provided and suppliers have aimed at increasing their incomes without having to change their practice patterns. Some say that government can use its power to bargain down prices, but if that were true then military hardware would be cheap.

If the government's buying power meant bargain prices, military hardware would be cheap.

In the end the prices that are negotiated are set and the actors in the system respond accordingly. Contrary to popular opinion, the absence of an operating competitive market does not mean absence of incentives for providers. Providers of all stripes, whether not-for-profit, public, or for-profit will operate (produce goods and services) at the point where the marginal cost (the cost of producing the next good or service) is just equal to the price they can get by selling another unit of the good or service. If the price set through the negotiations between the Ministry of Health and the providers is higher than the price that would have prevailed in an open market, then the provider will tend to supply more of that health care good or service than would be warranted under the actual demand conditions that are present in the market.

In the current system, resources are allocated based on what is most profitable instead of what is most valued by patients.

In other words, in this case, scarce health care resources end up directed toward the provision of services which are less valued by patients but are most profitable to providers. Since there is a fixed amount of health care resources this also means that other potentially more valued services are not being provided. To get things just right, the public funder would need to be able to observe not just the value[11] (undistorted by the presence of insurance) of these services to patients, but also the marginal cost of the various goods and services provided by the various providers in the health care system. To make things even more difficult, these costs will differ by such factors as location of practice and number of patients with a particular condition. For some services, particularly those that are procedure-based and rely on a particular piece of technology, it is easier to get a handle at least on the average cost of production.[12] For others the challenge is daunting.

It is true that fees can be revised when contracts expire and are once again open to negotiation, but this only happens once every three to five years. Further, providers will have organized their practices according to the incentives that prevailed in the previous contract, perhaps by purchasing new equipment or focusing on

building up a practice composed of particular kinds of patients. A new contract that would significantly change those incentives would be bound to negatively affect sub-groups of providers. Again, a bargaining game will take place, not just between the Ministry of Health and the relevant associations over fees but also amongst the association membership itself. One result of this has been that, historically, MD fees have tended to be set with an eye to preserving income relativities among specialty groups, regardless of whether this has produced sensible economic incentives. Fees for procedures whose cost of production has fallen over time, for example, have tended not to be cut if that would threaten specialty group incomes. This is precisely the opposite of what happens in those segments of the health care market where providers are forced to respond to market pressures.

Increasingly, in recent years, public payers have concerned themselves not just with what care should cost but with how providers are compensated. This concern emanates from the fact that the prices that are negotiated may or may not be closely related to the actual value of that service in promoting the health and well-being of patients and since patients do not pay at point of service for the care they receive, they cannot signal their view of the value of the services they have received or that they would like to receive.

A majority of physicians are paid on a fee-for-service basis in most provinces, but with rising health care costs, provincial governments such as Ontario's became convinced that under this payment regime there was significant scope and incentive for physicians to over-service their patients. There was also a belief that preventive care was being neglected, which would simply lead to a shift in care costs into the future if chronic conditions were either less likely to be prevented or to be treated in their early stages. The primary care models that have been established to address these concerns have for the most part dramatically increased the salary portion of physician compensation; that is, the amount they are paid irrespective of the number of patients they see or the amount of care they provide. Most of these models have had to build in a minimum roster size to counteract the incentive on the part of physicians to reduce to a minimum the number of patients they see and treat.

In terms of the organization of supply, in recent years provincial governments have attempted to restructure primary care and in particular to promote the use of alternative care providers (such as nurse practitioners, registered nurses, therapists, and so on), which had lagged significantly in that sector. By comparison, if we look at dental care, we observe that dental practices make much more use of ancillary labour, such as dental hygienists, than GP offices, and have done so for a long time.

The average dental practice has long been more efficient than the average GP practice.

From a comparative advantage point of view, the average dental practice has long been more efficient than the average GP practice. This is because the dentists could employ hygienists to focus on the provision of the less complex services (cleaning teeth) and focus their own efforts on providing the more complex treatments. Since most provinces have historically not permitted physicians to bill medicare for services provided by other professionals working in the physician's practices, physicians have not been encouraged to hire other professionals in the same way, which has severely limited their use in primary care.[13] Moreover, the dental market has seen the emergence of clinics that have been set up by dental hygienists themselves that focus on preventive dental services and while their services are eligible for private insurance coverage, these clinics have also increased access to the uninsured patient population who pay for care out-of-pocket. We have not seen a comparable emergence of nurse practitioner clinics in Canada despite the fact that they are widespread and successful in the US. In Canada, they have historically been limited to clinics established directly by provincial Ministries of Health in remote areas.

It is worth emphasizing here that in the dental care market, dominated by private insurance, the use of alternative care providers, a goal promoted by many medical policy pundits who oppose private medical insurance, was accomplished long ago. The reason is that in contrast to public payers, private insurers have been willing to pay for health care services rendered rather than basing payment on who provided the service. Introducing this to physician practice would immediately increase the flexibility of organization and delivery of care, and increase the efficiency with which existing resources are used.[14]

The Demand for Health Care

Canadian attitudes to the applicability of the economic concept of the demand curve to medical care grew up in the 1980s and 1990s around a couple of popular but erroneous notions. One was that patients had no basis for judging the value of the services they received, so that if they had to pay out-of-pocket for care they would tend to cut back on necessary medical care. The other, related assumption was that because of the informational asymmetry between patients and physicians, physicians could manipulate patients into having treatments whose sole function was to increase the incomes of providers – *remunerectomies*,[15] they were often called. These stylized facts, taken as gospel by many Canadian health planners, were fatal to the idea that a market could work in health care. This in turn was formalized in the *Canada Health Act* banning user fees.

This argument was backed up by the claim, based, as it happened on US, not Canadian research, that roughly 30 percent of medical care was unnecessary.[16] The 30 percent figure relates to the existence of a demand curve for medical care in a direct manner. Standard economic theory holds that the demand curve for any commodity is downward sloping, where the price of a commodity is on the vertical, and quantity demanded by consumers on the horizontal. The negative slope indicates that at higher prices, all else being equal, quantity demanded will be less and at lower prices it will be more.[17]

While apparently still a mystery to some health policy experts, this relationship is so fundamental to economic theory that it is often referred to as the law of demand. With any commodity, we would assume that the individual is able to assess the benefit he will derive from consuming more or less of that good. The key question is whether this assumption applies to medical care.

Consider, then, the claim that 30 percent of medical care is unnecessary. In the context of a system in which insurance has reduced the out-of-pocket payment by the consumer to a very low level – zero, in the Canadian case – we would expect the marginal units of care to be low marginal value units.[18] Whether the 30 percent number is a reasonable one to use as a stylized fact is a technical matter, but in a system where the price of care out-of-pocket was very low, our starting assumption would be that some units of care will be of very low marginal value, meaning that they add very little to the state of health of patients.

So does the rule that if quantity demanded falls as price rises, apply to health care? And if it does, how does this affect the health of the people paying the bill?

Moving from a co-insurance rate of 0 to 25 percent led to the largest change in consumer behaviour.

There has been much more research done on the demand for medical care since the RAND Health Insurance Experiment (HIE) of the late 1970s, but the HIE retains iconic status in the literature for a number of reasons. One is that it was as close to a controlled trial as economics ever gets. Some 5800 individuals below the age of 62 in the US were assigned to insurance

plans that differed in terms of the patient's out-of-pocket payment: 1294 adults and 599 children were assigned to a free plan, with no out-of-pocket payment, while 2664 adults and 1245 children were assigned to cost sharing plans with various levels of co-insurance (patients were randomized into groups in which the patient paid 25 percent, 50 percent, or 95 percent of the service fee) (Newhouse 1993). The estimated responsiveness of utilization to price was based on comparing utilization across the co-insurance categories.[19] Interestingly, the largest change in consumer behaviour in response to prices was observed in going from a co-insurance rate of 0 to a co-insurance rate of 25 percent – in other words it wasn't necessary to make people pay all that high a price to get them to change their behaviour and lower their demand for low value care (Newhouse 1993).

The RAND researchers also made an effort to determine which types of services were *not* taken as the out-of-pocket price rose. Medical conditions were categorized, based on the state of medical science in the late 1970s, according to whether formal medical care was regarded as highly effective (pneumonia), quite effective (asthma), less effective (cerebrovascular disease) or rarely effective – but self-care might be effective – (obesity or viral influenza). The researchers then looked at the impact of out-of-pocket payments on the utilization of care for conditions in these categories but did not look at things like whether the individual patient had got all the care normally deemed effective and had moved on to consuming further less effective quantities of care. The conclusion that is usually cited is that co-insurance reduced appropriate and inappropriate (often referred to as necessary and unnecessary) care in equal proportions (Newhouse 1993). Expressed that way, it looks bad for demand theory – people are not being selective in reducing unnecessary care, they are reducing use of all types of care. There are, however, a few caveats.

The first follows from what we have already said about how appropriate care was defined – it was based on chart review rather than actual patient examinations. The second is that in reporting these results the RAND team compared the free care group with all of the co-insurance groups combined. We noted above that the largest effect on utilization came in going from 0 to 25 percent co-insurance; as the appropriateness results are reported we are looking at figures for all of the co-insurance groups combined, so we cannot tell where along the demand curve the reduction occurs. In terms of our definition of demand curves, it would not be surprising if in going to a 95 percent co-insurance level some relatively high marginal benefit services were cut.

Also, the RAND researchers found that, despite the judgments with regards to appropriateness, out-of-pocket payments had virtually no impact on measurable indicators of health. There was a slight improvement in blood pressure among higher risk groups, and an improvement in vision, amounting to going from 20/25 to 20/24 vision for those on the free plan, but overall the conclusion was that there was *no measurable effect on health from having to pay out-of-pocket for care* (Newhouse 1993).

No measurable effect on health was found due to having to pay out-of-pocket for care.

The RAND results strongly suggest that, at least as of 1981, the reduction in utilization associated with going from free care to a 25 percent co-insurance rate would not noticeably reduce health status, a result which is consistent with the way we have defined the demand curve for medical care. With regards to those cases where there did seem to be a measurable impact on certain health status indicators, the RAND team concluded that it would be much more cost-effective to determine which interventions for which patient groups were really effective and to subsidize them, rather than aiming to provide universal free care (Newhouse 1993).

A much more recent randomization experiment is the 2008 Oregon Medicaid expansion (Finkel-

stein et al. 2012) in which the state of Oregon decided that it could increase enrolment in the Oregon Health Plan Standard (OHP Standard) by 10,000 people. Because it was anticipated that demand would exceed the number of slots available, Oregon conducted a lottery. Thirty-five thousand individuals out of 90,000 who were eligible for Medicaid coverage were selected and then given the chance to apply for OHP standard coverage.

A 2013 paper looked at the effects of free coverage on roughly 6000 enrolled lottery winners, comparing them with an equal number of controls – individuals who had not been selected in the lottery. It found that Medicaid coverage increased utilization of health care (office visits, prescription drugs received, perceived access to care, and probability of cholesterol screening, Pap smear, mammography in women 50 years and older, and PSA tests in males 50 and older). In addition, the probability of being diagnosed with diabetes was significantly increased among the treatment group. There was no improvement, however, in standard objective measures of health state – blood pressure or high cholesterol, for example – as a result of having Medicaid coverage, nor in the use of medication for hypertension or high cholesterol. They found, in short, no improvement in the measures of physical health which they investigated, although they did find a significant drop in the probability of being diagnosed with depression and, interestingly enough, an increase, relative to the control group, in the probability of reporting that the treatment group's health was the same or better than a year previously (Baicker et al. 2013).

They also found that being enrolled in Medicaid resulted in a significant improvement in financial hardship scores – coverage nearly eliminated catastrophic out-of-pocket medical expenditures and significantly reduced the incidence of medical debt. The authors argue that this is a positive result, since health insurance is a financial product aimed at protecting people from catastrophic medical expenditure and ensuring that their health care providers are paid (Baicker et al. 2013). They have been criticized on various websites[20] for making this argument, but in terms of insurance theory, their statement is correct. The purpose of insurance, as we have said before, is to allow individuals to spread the financial risk of a negative event, like suffering a serious illness.

These two studies, the RAND HIE and the Oregon Medicaid experiment, both support the view that the extra health care services people will consume when those services are provided free actually don't produce any real change in the health of the population overall. Just because care is "free," we shouldn't assume that people are healthier. This should not be taken to mean that health insurance, properly structured, is not valuable and it should not be taken to mean that charging very high prices out-of-pocket would have no negative health impacts. Clearly neither statement is true.

Just because care is "free," we shouldn't assume that people are healthier.

People Respond to Prices But Do Prices Respond to People?

When applying basic economic theory to health care, the proposition that prices respond to demand and supply conditions is a hard sell. This is the area where we are most likely to encounter the flat assertion that the health care sector bears no resemblance to the models of introductory economics textbooks. In fact, however, once we allow for institutional details, and in particular for the perverse effects of price regulation, the Economics 101 model works quite satisfactorily here. In particular, this means that making patients aware of how much medical care costs by asking them to make an out-of-pocket payment

when they receive services would not be damaging to their health, and that hiding the true cost of medical care in income taxes and the national debt is not a particularly good approach to controlling the costs of care. Nevertheless, the view that this approach is good policy is reflected in the *Canada Health Act's* ban on extra billing.

Part of the reason it is difficult to convince not just the general public but also policy-makers of the claim that the competitive market model works is that over the years, most countries have done their best to eliminate the market or to prevent its operating. We have to look for evidence of the price mechanism in the few still-untouched areas of its natural habitat. When we do that, however, we find that not only do people behave as one would expect and as our introductory economics textbooks tell us, but when demand increases so do prices, and when supply increases, prices fall. If we hunt a bit further we will find that the chapters on imperfectly competitive markets and monopoly pricing also apply, and that the monopolist's power of price-setting in health care is subject to the same kind of constraints emerging from the demand side as it is in any other market.

Elective cosmetic procedures, often not covered by insurance, tend to be price sensitive.

To take the competitive case first, consider the case of elective cosmetic procedures, which generally are not covered either by public or private insurance. These procedures tend to be price sensitive: a 2008 online story on male plastic surgery from *US News and World Report* (Voiland March 21) noted that procedures that saw the steepest decline also had the greatest price increase while the price of increasingly popular non-invasive procedures dropped. In other words, when we look at services for which patients must pay out-of-pocket, we see that when prices rose, quantity demanded fell and that those services for which quantity demanded rose were ones for which price had fallen. They also tend to be procedures whose prices show notable sensitivity to competition and where consumer demand responds to price movements. In recent years, LASIK eye surgery has increased in popularity and declined in price – according to a 2013 paper by Devon M. Herrick from the National Center for Policy Analysis,[21] the price of conventional LASIK in the US declined steeply through the late 1990s and then leveled off, while other medical prices rose through the whole period. According to Herrick's figures, while the price of medical care rose 118 percent from 1992 to 2012 and the overall CPI rose 64 percent, the price of cosmetic services rose only 30 percent. Discussion of elective cosmetic procedures tends to veer off into disparagement of their value: the salient point is that because of their lack of insurance coverage they tend to be one of the best sources of evidence for the statement that not only do consumers respond to price, but prices respond to market conditions in precisely the manner predicted by introductory economics textbooks. In the case of LASIK surgery, profit potential has resulted in an increase in the number of suppliers in the market over time and the increase in supply, combined with the fact that patients pay for the services out of their own pockets and are therefore aware of and sensitive to the price of those services, has driven the price down. A March 25, 2013 *National Post* article by Tom Blackwell on the state of the dental market in Toronto implies a similar effect: in order to attract patients, dentists in Toronto are advertising "deals" (price cuts) on cosmetic procedures for which patients are likely to have to pay out-of-pocket. The aim, presumably, is to persuade those patients to come back to the same dentist for their insured treatments.

The dental example illustrates another facet of the operation of price competition in medical care. The introductory economics textbook discussion of the competitive market typically assumes that the whole of the price is paid out-of-pocket by the consumer. In health care, it is often the case that the price is distributed across several payers, insurers and patients, for example, with the patient's out-of-pocket share being the smallest one and with the price setting mechanism differing across payers.

In recent years, LASIK eye surgery has increased in popularity and declined in price.

Some of the most obvious examples of this kind of pricing incidence arise in the case of the market for pharmaceuticals. Along with the expiry of patent protection for Pfizer's cholesterol drug Lipitor in the US came one of the most interesting examples of pricing decisions by drug companies. When a brand name drug loses patent protection, generic manufacturers can enter the field, with the timing and pattern of generic entry depending on the details of the patent expiry. In the case of Lipitor this meant that the first entrants were Watson Pharmaceuticals, which produced an authorized generic, and Ranbaxy Laboratories, which had a 180-day window before other non-authorized generic manufacturers could enter.[22] The market for generic drugs in the US has become highly price competitive in recent years, so the 180-day period of generic exclusivity is extremely valuable – it is in that period that generics manufacturers make most of their economic profit. The first generic entrant into the US market typically sets a price roughly 25 percent lower than the brand name price. When the exclusivity period expires and other generic firms enter, the generic price typically drops to about 10 percent of the brand name price (Johnson August 20, 2012).

At the time of the initial generics entry, the full price of Lipitor (as judged by the typical price to an uninsured patient) was roughly $175 for a month's supply (Johnson August 20, 2012). The price to the patient in the US depended on the details of their insurance coverage. For drug coverage, a great many Americans are on co-payment insurance, meaning that the patient pays a flat dollar amount out-of-pocket for each insured good or service (with the price to the patient varying according to the commodity involved) as opposed to co-insurance style insurance, where the out-of-pocket payment is calculated as a percentage of the full price of the commodity. For example, Express Scripts, a pharmaceuticals benefit management firm, listed Lipitor as a Tier 2 drug, meaning that the co-pay was roughly $30 for a month's supply of Lipitor (Kamp January 27, 2012). Generics were typically Tier 1 drugs with a co-pay of $10.

Pfizer used coupons to offset the appearance of generic substitutes for Lipitor.

When Ranbaxy was given permission to enter the US market for its 180-day period of generic exclusivity, Pfizer did something historically unusual for brand name drug companies: it entered into direct competition with Ranbaxy for the pharmaceutical benefits market by offering patients coupons that would cover most of their co-pay amount. Under Pfizer's plan the aim was to reduce the out-of-pocket price to most patients to match Walmart's standard $4 co-pay for generic drugs. Pfizer's coupons covered up to a maximum of $75 in co-pay, so the insured patient paid more than $4 only if their co-pay was more than $79. If the patient was uninsured, the coupon could still be used and reduced the monthly price[23] by $75. Health plans responded by stopping coverage of Lipitor altogether (Kamp February 9, 2012). This meant that any patient who insisted on being prescribed brand name Lipitor would be charged the full price out-of-pocket, as if they were uninsured. While Pfizer's coupon would presumably still apply, patients would still be faced with paying $100 out-of-pocket for Lipitor versus $10 for a generic version.

Pfizer ended its extraordinary attempt to preserve the market for Lipitor (Rockoff May 9, 2012).

How does this example show prices responding to patients? In the Lipitor case, Pfizer effectively slashed the out-of-pocket price to patients to discourage them from shifting to cheaper (in terms of co-pay) generics; when the insurer responded by in effect making patients pay 100 percent of

the brand name drug's price, Pfizer capitulated to the downward sloping nature of the demand curve. Pharmaceuticals aren't the only sector where price sensitivity has been shown to be important. When the California Public Employees' Retirement System (CalPERS) insurance plan recently realized that it was paying widely varying fees (from $20,000 to $120,000 for hip and knee replacement surgery) for members getting the same procedure, they introduced a base amount or reference price of $30,000 noting that there were at least 41 hospitals that had good quality outcomes that charged less than this base price. The enrollees were to pay the difference between the reimbursement amount offered by the CalPERS insurance plan and the price the hospital charged for the procedure. The aim was to incentivize the patients to seek out hospitals that charged a lower price, thereby encouraging hospitals to reduce their prices in order to attract patients. Robinson and Brown (2013) analysed data from two years before the introduction of this reference pricing initiative and found that one year after implementation, the volumes of surgeries at the lower priced hospitals increased by just over 20 percent and decreased by about 34 percent at the high priced hospitals. Prices charged to CalPERS members by hospitals also declined and by more at high-priced hospitals (34 percent compared 5.6 percent). The study concludes that reference pricing saved the plan almost $3 million and resulted in lower out-of-pocket payments for its members.

To put this in the Canadian context, reference pricing is precisely equivalent to extra-billing by physicians, which involves allowing the physician to charge patients an extra fee on top of the fee that the insurance plan pays them to provide the service. Presumably this means that reference pricing, which gives patients some skin in the pricing game and which as a result has proven very effective in keeping prices down, would like extra-billing, be banned under the *Canada Health Act*.[24]

In short, the empirical evidence supports the standard economic model in which the price of a commodity responds to both demand and supply conditions. The institutional and administrative constraints that have been imposed on the health care market are such that we sometimes have to hunt to figure out where to look for evidence on price responsiveness, but careful modeling of the market in question will generally provide an answer to the question of where in the pricing chain prices can adjust and what the incentives are at that point in the chain.

Reference pricing is precisely equivalent to extra-billing by physicians.

Clearly the next question is whether this result can be harnessed for policy development. We will leave a detailed discussion of this point for the concluding section of this paper, but note here a blog post by health economist Martin Gaynor (February 27, 2013) that cites evidence from the recent deregulation of hospital prices (and hence greater market determination of prices) in the Netherlands over time. According to Gaynor, price growth in the market determined sector was significantly slower than in the regulated sector from 2006 onward. As Gaynor puts it, the Netherlands is a good place to look for evidence on rate setting versus market determined pricing, since they have experienced both. This example illustrates the fact that Canadian health policy-making would benefit from greater awareness of what goes on in the rest of the world.[25] The Macdonald-Laurier Institute is contributing to creating that awareness with this series of papers, including "A European flavour for medicare: Learning from experiments in Switzerland and Sweden" by Mattias Lundbäck of the Ratio Institute in Stockholm, and a forthcoming paper on systems in Asia.

The Role of Government in an Economically Rational Health Care System

There is no question that there is an important role for government in the health care system but the question is, what is the best way for government to perform that role? Clearly universality of health insurance coverage is desirable so that all Canadians have access to and can afford to have health insurance that covers them in case of serious illness. This does not mean that we need to have a monopoly public supplier and funder of medical insurance. Universal access to medical insurance does need to be secured through legislation, but that is true whether the system is publicly or privately financed as evidenced by the fact that even now, we rely on the *Canada Health Act* to define the minimum standards and obligations of provincial governments in terms of the provision and funding of physician and hospital services. There is no reason that the minimum standards could not be expanded to include long-term care, home care, and pharmacare services.

Minimum standards could be expanded to include long-term care, home care, and pharmacare services.

There are those who argue that there is already a significant private provider role on the supply side. However, in reality even though most doctors are, technically, independent practitioners and hospitals are private not-for-profits, government effectively runs the system. There is for example, little scope for hospitals to select the range of services they provide and even less ability to set the prices for their services. In the case of home care, across many provinces there is a mix of private-for-profit and not-for-profit providers that receive public funding to provide care in the community, but patients have little to no choice about which provider provides their care; they must simply accept care from the provider that won the contract from the health region or whichever level of government was responsible for negotiating the contracts with providers that year. If quality of care is poor, patients have little recourse; they cannot seek care from a competitor unless they hire a private provider and pay entirely out-of-pocket.

The emergence of Family Health Teams, as in Ontario, has also tended to include restrictions on the ability of patients to seek care from other providers outside the Team to which they are affiliated. This limits the ability of patients to seek care elsewhere if their GP is unavailable or has provided less than satisfactory care from the perspective of the patient and serves to bolster the income of physicians without increasing the responsiveness of the services they deliver to the care needs of their patients. The function of government should not be to create local monopolies that are not directly accountable to patients.

All providers should be required to meet minimum quality standards. All physicians and nurses for example, should be accredited with their professional Colleges and be in good standing to be allowed to practice. All clinics, hospitals, and laboratories, whether public or private, should be regularly inspected and should meet or exceed minimum quality standards set by the government. One could argue that the results of inspections and the records of medical professionals should be publicly reported. There are currently only limited discussions about public reporting of malpractice suits and offenses committed by physicians being made publicly available to patients.

It is interesting to note that restaurants in the City of Toronto and other jurisdictions across the country are inspected and must post the results of their inspections at the entrance to the establishment. We are moving slowly towards compre-

hensive public reporting of inspection results in the long-term care and community care sectors, akin to what has been pursued in the hospital sector. Governments should continue to do this, as quality control is an important and appropriate role for the state. We could argue that more needs to be done. It is probably fair to say that the health care sector has a distance to go before it reaches the reliability and accountability that has been achieved in other heavily regulated sectors such as the airline industry in which human life is also potentially at stake.

There is also scope for some but not all public provision of health care services, particularly in the case of community general hospitals or hospitals in rural or remote communities. This is akin to the role of Canada Post. There are private courier services that compete in some aspects of the mail delivery market, but there is a basic public provider of service to ensure that mail gets delivered to and can be sent from communities across the country. Similarly public provision of health care could be expanded or contracted to ensure that necessary services are in place. There is also a case to be made for ongoing government involvement in teaching hospitals, given their role in training and conducting research. Other hospitals and clinics that are private (for-profit and not-for-profit) should be allowed to operate in the marketplace alongside public providers, subject to quality standards set and enforced by the government regulator.

What Would an Economically Rational Health Care System Look Like?

The question remains, of course, as to why we would even need to consider changing medicare. The answer lies in something we noted earlier – that we have, for too long, judged the Canadian system's performance solely against the US benchmark, a comparison designed to make any system look good. While Canadian policy-makers do need to look further afield when making international comparisons, we also need to consider the absolute performance of the Canadian system.

On this absolute, as opposed to relative metric, we must face the fact that our system is nothing like as good as we like to believe. (And after all, if it were that good, why has no other country copied it? When not long ago the Swiss were asked in a referendum whether they wanted to switch from their system of competing, regulated insurers to a single-payer system they opted to stay with their existing model, not to change.) We have long waits to get in to see the doctor – that is the motivation for changes to physician payment mechanisms which have been made in a number of provinces recently. And while it is true that most people express satisfaction with medicare, most people have not needed major medical care at any point in their lifetime. Even that is not something the system can reasonably take credit for: steadily improved population health has been more a product of steadily increasing income than of steadily improving medical care. As the population ages the rate of interaction with the health care system will increase, and for that we will need greater efficiency.

Efficiency requires patients to give serious thought to whether treatment is necessary and physicians to organize their practices as they best see fit.

Greater efficiency will not come from central managerial decisions, it will only come if we create incentives for greater efficiency at the coalface. That will require patients to give serious thought to whether treatment is necessary and will require that we let physicians organize their

practices as they best see fit. The role of policymakers must be to ensure that the rewards encourage doing the best possible job for the patient (in other areas of economics this is referred to as the incentive compatibility problem). While there are those who object to what they see as the commercialization of medicine, greater efficiency will not come from the bureaucratization of medicine, which moves doctors to payment systems that do not reward effort, and dictates from above the precise mix of personnel which must be in an approved practice.

A health system that takes economics seriously must be structured so that price incentives operate on both demand and supply sides of the market and price signals are sent across both sides of the market. There should always be some element of out-of-pocket payment for medical care, although insurance should be structured so that there is a stop-loss provision or ceiling protecting individuals from massive costs. Out-of-pocket payment must be combined with price flexibility, so that low cost suppliers have an incentive to use their cost advantage to attract patients.

There should always be some element of out-of-pocket payment for medical care.

One of the clearest illustrations of the problems that arise in the absence of a proper pricing mechanism comes from the medical arms race period in the US in the 1980s, when the generosity of insurance coverage (often first-dollar coverage, meaning health care was provided at no cost to the patient) was so great that there was no point in suppliers competing through price signals. Instead, hospitals competed through visible indicators of quality – having the latest equipment and specialized services, whether or not they could attract enough patients to run those facilities at optimal scale, and having air ambulances were among the most common. Since patients (operating through their doctors) had no incentive to respond to price competition, hospitals in particular engaged in cost-increasing competition and insurers simply passed these costs on to the sponsoring employers of the plans they were managing.[26]

It is often argued that facing patients with out-of-pocket charges will result in them not having necessary medical care. The results of the RAND Health Insurance Experiment in the late 1970s and early 1980s and the Oregon Medicaid experiment in 2011–2013 cast doubt on this as a general proposition, as does the widespread belief that the US is operating on the "flat of the curve" of medical productivity, meaning that additional applications of current medical technology (as distinct from medical advances) don't really add all that much to the health of the US population as a whole. Still, there is no doubt that responsiveness to price is greatest at the lowest income levels, and it is also true that the lowest income groups tend to have the lowest lifetime states of health,[27] so any rational health care system must include income-based transfers. Should privacy concerns prove manageable, these transfers could be run through the income tax system as a form of negative income tax, and should apply both to insurance premiums and to out-of-pocket payments.

Any rational health care system must include income-based transfers.

Income based transfers have been criticized in the past as stigmatizing their beneficiaries. This is because people tend to have the early model of the US food stamp program in mind, under which it was obvious who was a welfare recipient. Payment technology today, however, makes such stigmatization unlikely – a health insurance card could act as a credit card, with part of the bill being paid by the insurer and part by the individual. A low income individual could be given a positive credit on their health payment account, which would mean that the tax system was picking up a certain portion of their out-of-

pocket payment. The higher the income the less the credit until at a certain level it phased out altogether. The aim here is not to equalize out-of-pocket payment in dollar terms across individuals but rather to equalize the impact of the out-of-pocket payment, up to some upper limit. This may be a little more complicated than handing over an OHIP card, but the exercise would make the patient acutely aware of the costs involved.

We could think of the out-of-pocket payment as a deductible, but a better way of framing it in the health care case would be as a reference price. The European evidence shows that in market segments with a reasonable degree of competition the full price (the sum of the reference price and the extra amount the supplier charges) drops quickly to a level only slightly above the reference price, so that the out-of-pocket payment is relatively low. It is important to note that this happens because consumers are responsive to price and because there are competing suppliers in the market. In the case of medical care, a reference pricing system would give low cost producers an opportunity and incentive to compete on a price basis against high cost producers and the tendency of consumers to move to lower price suppliers would give the notion of price competition teeth. The effectiveness of the reference pricing system in inducing consumers to change suppliers does not depend on the out-of-pocket price being high, but its effectiveness in driving the market price down does depend on there being no barriers to entry by new suppliers other than through quality control, which should be aggressively monitored by government, perhaps on a mystery shopper basis.[28]

Consider the Family Health Teams in Ontario. These are capitated (fixed price per patient) or mixed payment mode practices, which the province decided would be more efficient suppliers of medical care than the fee-for-service practices that had dominated the delivery of physician services. In order to induce physicians to switch to this alternative payment mode, the province had to arrange the payment structure so that physicians would earn more, and hence cost the system more, than under fee-for-service. Since capitated payment reduces the incentive to supply services by eliminating any element of payment based on the quantity of services supplied, the province instituted a system of shadow billing to allow it to monitor the output of the practices.[29] Family Health Teams (FHT) are also required to run out-of-hours clinics; if any patient registered with one FHT goes to a different Team's clinic, the patient's FHT will be billed the cost of the visit. Patients can be removed from a FHT's list by the FHT if they go to the wrong walk-in clinic. It is worth noting that, back in the 1980s, walk-in after hours clinics were becoming quite common in parts of Ontario, notably Toronto. These clinics were not approved of by the Ministry or health policy analysts, since they were regarded as entrepreneurial medicine, and obtained their funding as a result of what was regarded by planners as a loophole in the OHIP fee schedule. That loophole was closed and the number of out-of-hours clinics was greatly reduced, despite the fact that there was an obvious demand for their services in parts of the province. Under the rules of OHIP the option did not exist for patients who found it convenient to use such a clinic to pay for its services out of their own pockets.

In a rational system the role of government on the supply side would be greatly reduced. There would still be a need for government-run community and teaching hospitals, but otherwise the organization of practice would be left to the suppliers to determine, since they are the individuals with the greatest incentive for getting it right. Specialty clinics would be permitted, given no particular benefits and faced with no particular hindrance. It has sometimes been argued that specialty clinics will select their service line so as to attract the low cost cases away from hospitals. Whatever the merits of this argument in the present US system (which should be changed so that the implicit cross-subsidy argument no longer works) it makes no sense in the Canadian case to argue that Canadian hospitals should have their beds filled with low cost cases. The essential thing here is that there must be free entry into the market: if that applies then under a reference pricing system, capacity will expand to the efficient level and prices will be driven down to eliminate any monopoly rents. In other words it will attack both the problem of waiting times and rising prices simultaneously.

While a rational health care system must include universal coverage, mandated by law, there is no

need for it to be a single-payer insurance system. It is sometimes said that a public monopoly has administrative cost advantages compared to private insurers. In fact, the load administrative costs impose on a system depend on the size of the system. In the US, small employer-based plans tend to be administratively costly, but there are limits to the gains from making the pools bigger; beyond a certain size administrative complexity multiplies rapidly. The claimed cost advantages of the Canadian single payer system over other countries' multi-payer systems tend to depend on economies of scale, which are exhausted well below the level of the national population (US numbers are distorted by the number of very small pool plans in the US) and also reflect the fact that the primary function of the Canadian payers was simply to write cheques. For much of the history of Canadian medicare the single payer had very little to do, which helped keep costs down. In a rational system there would be competing suppliers, who operated under a set of centrally determined rules. All of the suppliers would have to offer core major medical coverage, so that no one would be denied necessary medical care for financial reasons, but in a rational system the concept of *necessary medical care* would actually be defined – have content – and not simply be a buzz phrase. This was never done under Canadian medicare, primarily because to do so would have been politically courageous, so *medically necessary* came implicitly to refer to any service which could be performed in a doctor's office, and although provinces have de-listed certain cosmetic services or never listed certain new services (LASIK eye surgery), they have generally done so on an ad hoc basis, behind closed doors. Insurers would be free to cover other services, but those services would not be part of the universal system. Insurers would, however, have to structure their plans on a reference price basis, and would not be allowed to sell insurance that covered payments in excess of the reference price. This restriction already exists in the Australian medicare system.

Insurance would not be employer-provided. Instead, individuals would buy their health insurance the way they buy automobile insurance, or perhaps through health insurance exchanges. This would ensure that individuals who changed jobs would be able to keep their preferred insurance provider. There would be an income-based negative income tax type subsidy for premiums, phasing out as income rose but not at such a rate as to create a poverty trap situation, so that individuals who lost their job would still be able to stay with their existing plan. Insurance would be guaranteed renewable on both sides, meaning that the insurer and the insured would be locked into the system. This would ease concern that an individual who developed a chronic illness would be denied coverage not in the year in which the condition manifested but in the following year. To make this economically feasible, individuals would also have to be locked into the system; hence the notion of guaranteed renewability on both sides. The yearly premiums would be structured to contain two parts: one to cover acute illnesses which might strike the individual in that year and another which essentially takes the form of a deposit into an investment account, the funds in which will be drawn upon if and when the individual develops a chronic illness. An alternative way of looking at the second part of the payment is as an premium insurance: each individual in the health insurance system will be paying into a second insurance plan which pays off if they develop a chronic illness which would force their annually calculated premiums to rise on a permanent basis. In other words, the second part protects the insured against an increase in their actuarially fair premium.

An economically rational system would change the way the medical care system is funded.

An economically rational system would also need to change the way the medical care system is funded. Canadian medicare has traditionally been funded from general revenues. This approach was adopted when the dependency ratio,[30] and in particular the aged dependency ratio, was low. What is referred to as the ageing of the population is a consequence of the conjuncture of the post war Baby Boom and the

Baby Bust which followed it, creating a situation in which the ratio of older, non-working individuals to the working population is beginning to increase significantly. Some Canadian policy analysts have argued that it is fallacious to claim that the aging of the population will raise the cost of the health care system.[31] Whether this argument is true or not, it is irrelevant to the question of the ratio of the number of taxpayers to the number of benefit recipients. This issue, which arises in both Canada and the US, has been termed the problem of health care's unfunded liability, and reflects a broader issue than simply the effect of the ageing of the Baby Boom group. An economically rational health care system would be structured to minimize the effects of changing age dependency rates. Rather than being a pure pay as you go system, an economically rational system would involve a health savings component, aimed at having working age individuals pre-fund their own later health care expenditures. Pure transfers through the tax system would then be aimed at ensuring that lower income individuals were not disadvantaged in health saving and at ensuring that the benefits of recent economic growth were shared with the older population. Were the population age distribution to remain stable there would need be no significant difference between the outcomes of this system and those of a pure pay as you go system, but it would cushion the possible disruptions associated with future changes in the population age distribution.

A system which involved individual saving against future health bills and under which core health coverage did not necessarily cover everything that could be done in a doctor's office, as is presently the case, could allow a range of insurance providers to compete to supply coverage. This pattern already exists in some European countries that have universal coverage, so a competitive insurance market would not need to, and indeed should not, look anything like the US insurance system.

We began with a quote from Ben Bernanke about the relation between policy and fact. At a lunch at the Bank of England, shortly before his death, John Maynard Keynes remarked that he found himself increasingly turning for the solution to policy problems to that invisible hand which he had worked so hard to drive out of policy thinking. A rethink of Canadian health care policy should take the same approach.

About the Author

Audrey Laporte is Director of the Canadian Centre for Health Economics and an Associate Professor of Health Economics at the Institute for Health Policy, Management and Evaluation, University of Toronto. Material for this paper is drawn from material that she is developing for a textbook on health economics co-authored with Brian S. Ferguson of the University of Guelph.

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Endnotes

1 It is important to keep cost increases in perspective. Health care is a much more labour-intensive sector than many other sectors of the economy, so costs per unit of output will tend to rise more rapidly than in more capital intensive sectors, where technological change can more easily be incorporated in new capital equipment. What matters is that the cost increase not be increases in what economists refer to as economic rent – payments in excess of the level necessary to induce suppliers to provide specific levels of output. Most of the increase in US costs over the decades has been increases in economic rents. Canada has tended to do better in that regard. Part of the reason for cost increases in Canada lies in the incentives built into the system, which have focused primarily on rewarding finding ways to do more, even at higher cost, rather than on finding ways to do what we already do at lower cost. There is nothing at all wrong with advancing the technological frontier, but there should also be rewards in place for the person who figures out how to cut the cost of things that the system can already do, without compromising quality of care. We must reward medical entrepreneurship along both of these margins.

2 A statement which blithely ignores the fact that what is covered in introductory textbooks is by no means the entire body of economic theory.

3 The wording of the CHA is the shibboleth of Canadian health care debate. The problem is not with the intent of the *Act*, it is with the assumption that because the *Act's* intentions are good, the rules set out in it must necessarily and naturally be the right ones to realize those intentions.

4 In addition, the US is a good source of illustrations of some of the points we wish to make. This is a reflection of the old maxim that bad policy makes for good teaching material.

5 Typical of US health policy-making, ObamaCare has deliberately not touched the most important obstacle to rescuing US health care, the tax breaks that lead to most Americans getting (or expecting to get) their health insurance as a benefit of employment, a policy that was the product of a war time ruling about the applicability of wage and price controls to benefits as opposed to cash wages and a tax ruling from the 1950s that meant that employer provided health benefits were not treated as taxable income to employees.

6 Obviously people will not demand heart transplants just because the price happens to be low. The latest diagnostic tests and drugs, however, are a different matter. Underestimation of the effect of free care on health care costs is a leitmotif of health policy: the British NHS blew through its budget projections very early in its history, and contrary to Sir William Beveridge's expectations, did not slow their ascent once the pool of unmet need was satisfied. This led to cutbacks in NHS coverage and to the imposition of user charges early in the life of the NHS (Hennessy 1994.)

7 We recognize the risk that, as seems to be the case under ObamaCare, items would come to be included in the mandated list as a result of political pressure. The mandated list should include coverage for catastrophic costs and for such primary care and preventive services as can actually be shown to work. The fact that dental insurance typically includes coverage for preventive care shows that private insurers are not averse to the idea.

8 Reference pricing refers to the base price (or reference price) that an insurer or public payer will pay for any class of health care goods or services, but allows the suppliers to set their own retail prices. The patient pays the difference between the reference price and retail price out-of-pocket. The rationale is that those covered under such a system have skin in the game – an incentive to seek out providers who offer quality care at the best price.

9 Risk rating would include charging smokers higher pool premiums than non-smokers, for example. Interestingly, opponents of risk rating often favour imposing sin taxes on cigarettes, fatty foods, and the like. It is not clear whether this is based on a particular model of differential incidence of cigarette taxes versus health pool premiums, or on a misunderstanding about who actually pays the taxes. In the US, under ObamaCare, plans are allowed to charge higher premiums to smokers, but the issue is about to become even more complicated with a recent decision to the effect that the addiction associated with smoking is a pre-existing condition, and therefore must be treated differently.

10 It might be argued that the features which we have just described, which are specific to health problems are sufficient to justify having a government run single payer system. That is to push the case too far. They justify having large pool insurance and designing it on a lifetime, rather than year-to-year basis, which would almost certainly involve incorporating a savings element into the system. That does not require that all competition in insurance design be eliminated.

11 Significant resources have been devoted in recent years to collecting information not just about the process of care (particular tests and procedures that have been conducted) but about the outcomes of the care that has been provided. It is however a difficult challenge, even provided accurate outcome information can be collected, to apportion any health improvements across various providers and settings.

12 Although generally not the marginal cost of production, and it is the marginal cost which is key to output decisions.

13 We cannot blame the *Canada Health Act* for this: in defining comprehensiveness the Act says that "the health care insurance plan of a province must insure all insured health services provided by hospitals, medical practitioners or dentists, and where the law of the province so permits, similar or additional services rendered by other health care practitioners."

14 Increased efficiency can be expected to lead to increased profitability. The *Canada Health Act's* requirement that provincial Medicare plans be publicly administered on a non-profit basis has been used as a justification for blocking openly for-profit delivery of care. This has also retarded Canadian acceptance of innovations like specialty clinics, by discouraging entrepreneurial doctors from establishing them.

15 In the Canadian literature this term probably dates back to Robert G. Evans (1976).

16 The inappropriate 30 percent figure should not be confused with reports of the proportion of bed blockers in hospital wards. A *bed blocker* is a patient who needs medical care at a degree of capital intensity beyond that which can be obtained by going to a primary care physician, but does not need hospital level care. They are in hospital because there is no other place for them to get the care they need. Increasingly, bed blockers are elderly patients who could be treated in nursing homes or long term care facilities, but who are hospitalized because of a lack of alternative sites of inpatient care. This type of inappropriate use can often be attributed to a lack of foresight on the part of health system planners.

17 Economists use the term "change in quantity demanded" to refer to a change in consumption that results from a change in price. The term "change in demand" refers to a change due to any other factor – to a change in age, income, or health status.

18 Marginal here does not mean small, necessarily. It is a term economists use to mean "at some margin" – marginal benefit is the benefit to be derived from consuming the last unit of a commodity, where last here really means one more on top of the ones already consumed. Marginal, then, really means additional.

19 There were a couple of other insurance conditions, including an HMO, but we will focus on the co-insurance conditions.

20 See, for example, Tyler Cowen (May 1, 2013), which raises the issue of how the Oregon results would compare with simply giving people cash. See also the comments on the statistical analysis of some of the results by Megan McArdle, (May 13, 2013). For a criticism of this criticism, see Casey Mulligan (2013).

21 See also Ha T. Tu and Jessica May (2007).

22 Under US law at that point in time.

23 The uninsured typically pay the full list price out-of-pocket.

24 Reference pricing can be used for pharmaceuticals under public drug plans in Canada since those do not fall under the *Canada Health Act*.

25 Martin Gaynor is an expert on hospital economics, who has been an author on a number of studies on the effects of competition on the cost and quality of hospital care in the UK and the US. Since posting the blog post referred to above, he has accepted an appointment as Director of the US Federal Trade Commission's Bureau of Economics. A recent paper considers the effects of market competition in the UK and, according to the abstract, "we estimate the impact of the introduction of competition on not only clinical outcomes but also productivity and expenditure. We find that the effect of competition is to save lives without raising costs" (Gaynor, Moreno-Serra, and Propper 2013).

26 This period brought forth the first era of HMOs, as insurers began to try to restrain costs, but these efforts typically resulted in the insurers being pilloried for putting profits ahead of people's health and well-being, so the insurers essentially gave up and went back to simply passing costs back to employers and ultimately to the insured themselves. A few HMOs survived this period, notably Kaiser Permanente's staff model, which came to be seen as the ideal form of medical care. The Kaiser model proved impossible to translate across the US, however, and in 2013 Kaiser has emerged as one of the highest cost plans offered on California's ObamaCare Health Insurance Exchange.

27 Economists refer to an individual's state of health broadly defined as their stock of health capital – like any capital good it can be built up through investment and maintained at modest costs, but will run down if not actively maintained. As with any investment project it is often the case that the act of investing today has a payoff that is spread out over many future years.

28 See for example, *The Wall Street Journal* article on the subject by Shirley S. Wang (August 8, 2006).

29 The province of New Brunswick, having instituted a system of salaried general practice, is reported to be putting in place a system of monitoring what are termed accountability benchmarks: the number of patients in the practice and the number of patients seen per day along with shadow billing the services provided (CBC News June 20, 2013).

30 The dependency ratio is a ratio of the number of people in the labour force (usually the number of people between the ages of 15 and 64 years) to the number of people not in the labour force (usually those 65 years and older).

31 The standard Canadian reference on this point is Evans, McGrail, Morgan, Barer, and Hertzman (2001).

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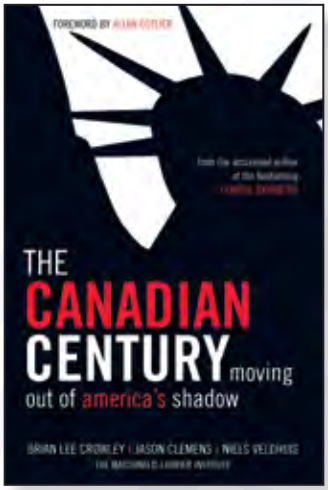

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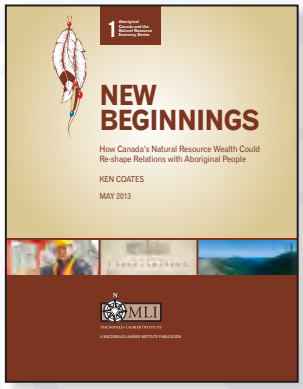

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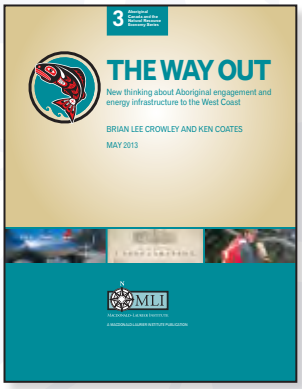

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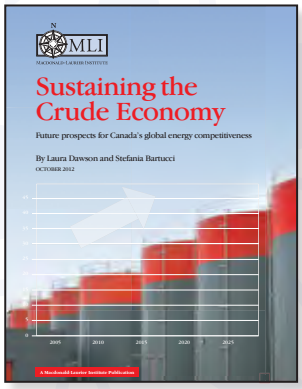

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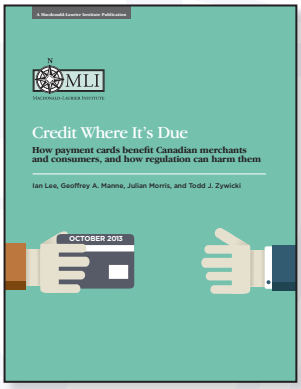
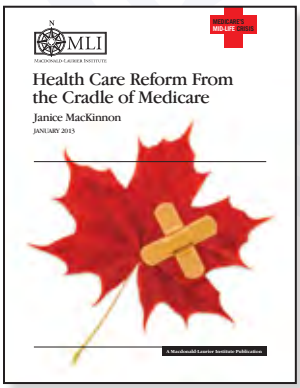
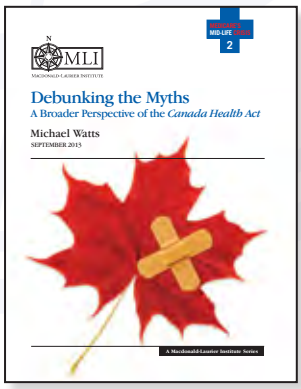


Credit Where It's Due
Ian Lee, Geoff Rey A. Manne, Julian Morris, and Todd J. Zywicki

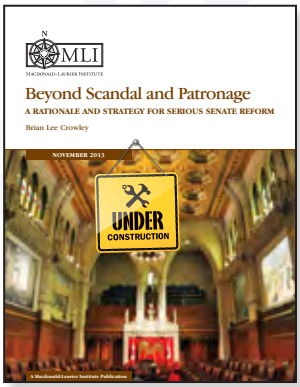


Health Care Reform From the Cradle of Medicare
Janice MacKinnon

A European Flavour For Medicare
Mattias Lundbäck



Debunking the Myths
Michael Watts



Beyond Scandal and Patronage
Brian Lee Crowley

MACDONALD-LAURIER INSTITUTE

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I commend Brian Crowley and the team at MLI for your laudable work as one of the leading policy think tanks in our nation's capital. The Institute has distinguished itself as a thoughtful, empirically-based and non-partisan contributor to our national public discourse.

PRIME MINISTER STEPHEN HARPER

As the author Brian Lee Crowley has set out, there is a strong argument that the 21st Century could well be the Canadian Century.

BRITISH PRIME MINISTER DAVID CAMERON

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PETER NICHOLSON, FORMER SENIOR POLICY ADVISOR TO PRIME MINISTER PAUL MARTIN

I saw your paper on Senate reform [Beyond Scandal and Patronage] and liked it very much. It was a remarkable and coherent insight -- so lacking in this partisan and anger-driven, data-free, ahistorical debate – and very welcome.

SENATOR HUGH SEGAL, NOVEMBER 25, 2013

Very much enjoyed your presentation this morning. It was first-rate and an excellent way of presenting the options which Canada faces during this period of "choice"... Best regards and keep up the good work.

PRESTON MANNING, PRESIDENT AND CEO, MANNING CENTRE FOR BUILDING DEMOCRACY