

The Canadian Health Care Mystery:

Where are the Exports?



by Roger Martin

At first blush, it is a mystery that Canada does not produce many globally-competitive health care firms. But closer scrutiny unveils the problem; and without significant changes to our demand conditions, the situation will be quite stable.

Health care represents the biggest application by far of the resources that Canadians collectively create: each year, we spend over \$100 billion on it – 12 per cent of GDP, and the percentage is rising. Canada boasts a sophisticated network of providers, many globally-recognized hospitals, and a number of major centres for health research. We spend aggressively in global terms on health research, which is supported nationally by the **Canadian Institutes of Health Research (CIHR)**. Our single-payer system, with universal coverage of the population, is considered a model by many. Indeed, more so than any other feature, Canadians believe that our health care system is what makes us unique.

But against this backdrop lies a mystery: why do so few Canadian health care firms sell their products and services in the international market? Only nine sell as much as \$100 million of any product or service to customers outside the country, with total sector sales outside Canada of less than \$5 billion. This sector total compares unfavourably with the foreign sales of individual firms such as **Bombardier** at \$22 billion, and **Magna International** at \$14 billion; overseas health-care sales are even dominated by the export of sawn logs, at \$9 billion.

One would think that this sophisticated sector would have bred numerous globally-competitive export powerhouses. To better understand why it hasn't, it is necessary to step back and look at the conditions that tend to cause internationally-competitive enterprise to flourish.

The Drivers of Global Competitiveness

Michael Porter's groundbreaking work on competitiveness suggests that four inter-related factors work together to produce globally-competitive firms from a given environment, as depicted in **Figure One**.

Porter's model is fundamentally a model of pressure and upgrading: a favourable context is one that creates con-

prices down without regard for quality or innovation, they will contribute to producing a non-competitive industry. However, when consumers are demanding and sophisticated – as the Japanese are with consumer electronics and the French with wine – they will make serving foreign markets seem a breeze in comparison to the tough home market.

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tinuous pressure for firms to upgrade the source and sophistication of their advantage, while at the same time providing support for the upgrading process.

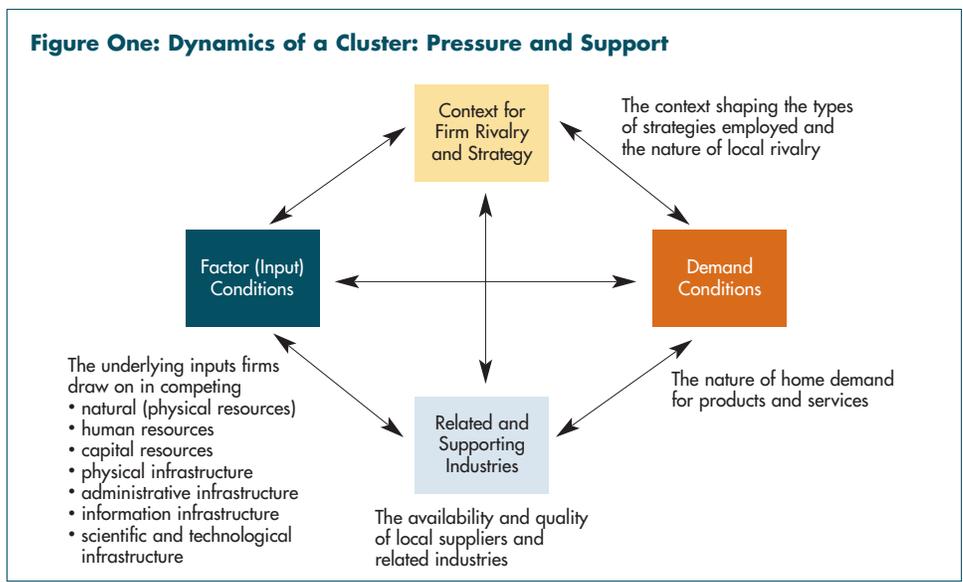
Pressure for upgrading is supplied by sophisticated and demanding customers, whose demands spur local firms to innovate in order to upgrade their offerings. It is vital that customers not be easy to satisfy, and thereby relentlessly push firms to improve their offerings. However, they also need to be sophisticated in their understanding of the nuances of product improvements, and willing to pay more for a better product.

If customers are simply aggressively demanding – like North American automobile OEMs have been over the last decade – and simply drive their providers'

It is also helpful if the pressure from customers anticipates the nature of demand elsewhere in the world. For example, American demand for ever-bigger automobiles in the 1960s and 70s did not help the U.S. 'Big Three' in most international markets, where consumers wanted smaller, more fuel-efficient automobiles. **MTV**, on the other hand, spread quickly around the world because American tastes for music videos anticipated similar tastes emerging around the world. And of course, it is always helpful to have many customers, as this enables providers to learn, from their individual needs, how to upgrade a particular product or service.

If many firms compete vigorously for the same customers, they will have a powerful incentive to innovate and upgrade, and this is particularly the case when all of the providers hail from the same geographic area, where they all face the same labour costs, tax rates, transportation logistics, etc. Given the lack of advantages in these areas, they have little choice but to win customers by out-investing and out-innovating their rivals.

Support for upgrading is provided by an abundant supply of 'factor inputs', including basic factors such as natural resources and capital resources, as well as advanced and specialized factors such as scientific infrastructure and pools of specialized labour. As countries become more advanced, the quality of support is increasingly influenced by advanced (e.g. graduate-educated labour)



and specialized factors (e.g. research universities) rather than basic factors (e.g. raw material supply, abundant unskilled labour), because basic factors can be readily purchased from abroad.

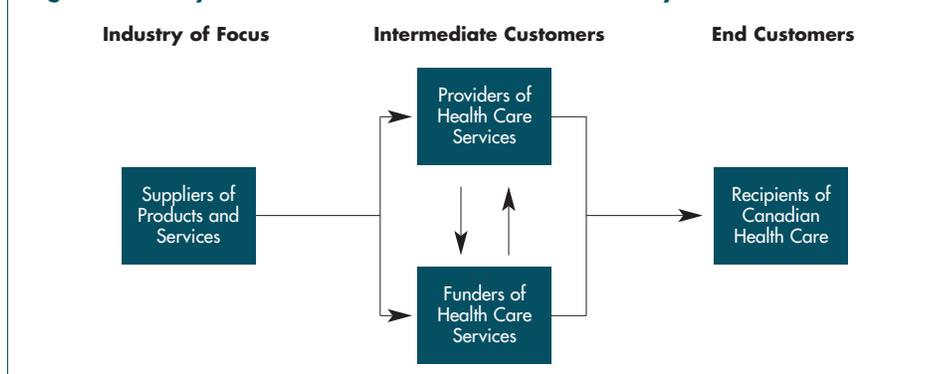
Finally, support for upgrading is enhanced by the presence of high quality related and supporting industries. This includes suppliers of inputs such as raw materials or capital, like venture capitalists, or producers of products or services that are sold in conjunction with the firms' products. For example, for computer hardware firms, the presence of specialized software producers (e.g. Value Added Resellers or 'VARs') who sell in conjunction with them can help them meet customer needs without needing to make all the investments themselves.

The key to competitiveness does not lie within one or another of the four drivers, but rather in their combination: each reinforces the others. For example, the presence of numerous competitors draws skilled human capital, educational institutions and related and supporting industries, thus improving factor conditions. This in turn enables firms to innovate more quickly and effectively, which in turn makes customers value the product or service more highly, and at the same time, become ever-more sophisticated in their demands. And this, in turn, encourages yet more innovation and upgrading, which is aided by related and supplying industries that are drawn to the location by the vibrant cluster of rivals. Industries that rely on one driver – and often it is a factor condition advantage like low-cost raw materials or labour – will likely find any advantage they generate to be fleeting.

The Canadian Conundrum

In this context, it is not difficult to understand the source of Canada's problem: simply put, we have a decidedly-unbalanced 'diamond' in our health sector. To understand the weakness of the Canadian diamond, it must be analyzed from the perspective of the suppliers of products and services to health care providers. As shown in **Figure Two**, the immediate customers for potential products and services are health care providers (hospitals, clinics, doctors, nurses) or those who fund them (governments or insurance companies), while the eventual customers are the patients of the health care system.

Figure Two: Key Elements of the Canadian Health Care System



The fundamental question is, to what extent do the suppliers to health care providers benefit from the kind of pressure and support for upgrading and innovation that is associated with globally-competitive firms? Let's look at each point of the diamond in turn.

Arguably, the factor conditions represent a strength for Canada in this sector: there is significant funding of medically-related research and high production of medically-trained professionals; there is a broad and deep medical infrastructure, including many world-class teaching hospitals; and as mentioned earlier, this is a huge sector with massive resources applied against it. So arguably, any would-be supplier of products and services to the health provision sector should face attractive factor conditions in Canada.

Demand conditions are another story. Suppliers face a very powerful 'monopsonist' intermediate buyer – the single payer – in each jurisdiction. This is a situation less conducive to firms entering a business, because the monopsonist buyer tends to operate as a demanding but unsophisticated buyer. Governments are so concerned about cost containment that their overwhelming concern is price. In addition, their budgets are so segmented that it is hard for suppliers to create complex value propositions, which may involve increasing one budget item (e.g. drug costs) to produce a still greater reduction in another budget item (e.g. hospital costs).

Compounding the situation is the fact that the monopsonist buyer is also a monopoly supplier. Canadian patients typically face a monopoly supplier for medical services, and monopolists don't really need

to be highly responsive to customer demands. And by and large, they aren't: the monopoly health provider dictates what drugs are on the formulary, what medical devices can and cannot be purchased, and how long waiting periods need to be to minimize costs to the system. Fabulous new ideas from their suppliers aren't exactly at the top of their wish list.

The Outsourcing Factor

Outsourcing activities to more effective suppliers tends to be a result of a competitive environment that creates relentless pressure to improve a firm's value equation. In the case of Canadian health care, there is little pressure from rivals or customers for improving effectiveness through outsourcing. In fact, the only potential source of pressure is the government, but this source is blunted by the framing of the outsourcing issue as a question of 'privatization' of health care – widely considered a dangerous thing.

The decision by a monopoly supplier to outsource can be a powerful driver of new business creation. No situation demonstrates this better than the contrast between **Ontario Hydro** and **Hydro Quebec**. Faced with exactly the same circumstances – the need to electrify their large and physically-challenging jurisdictions – they chose opposite tracks: Ontario Hydro assembled a huge internal engineering and construction operation, which built its facilities; while Hydro Quebec created considerably more modest internal operations and outsourced much of the construction to local engineering consulting firms.

The contrast in results is dramatic. Hydro Quebec was instrumental in build-

ing two firms that would first go on to global prominence separately, then later merge into **SNC-Lavalin**, one of the most globally-competitive firms in the engineering and construction industry. On the other hand, Ontario Hydro did not contribute to the creation of any notable globally-competitive firms, and had to lay-off the bulk of its construction and engineering workers once the electrification had been substantially completed.

Returning to the health sector, the net result is that the demand conditions facing Canadian would-be suppliers of new products and services to health providers are weak and do not contribute to innovation and upgrading by suppliers. Health care providers are overly demanding, but less sophisticated, and not as open to innovation as they would be if they faced more competition and more demand from patients.

This is in stark contrast to American suppliers of new products or services to the U.S. health care providers. By and large, they face a wider variety of intermediate customers – both providers and funders thereof, all of whom face demanding end customers that have multiple choices of providers. It is no surprise that this environment has produced powerhouse exporters in pharmaceuticals, medical devices, medical technologies, and medical software and services.

The demand characteristics in Canada render would-be suppliers less-inclined to undertake such initiatives, and if they do, they are less inclined to invest in the kind of upgrading and innovation that is required for global competitiveness. The lower the level of entry, the less productive the firm rivalry among the small number of competitors. This further diminishes the inclination to innovate and upgrade among those who choose to compete. In turn, this has a negative impact on related and supporting industries, which only spring up in response to the presence of a robust cluster of rivals in a business, because they benefit from having a number of customers to supply. This is particularly true for a key related and supporting industry: venture capital.

The Role of Venture Capital

Specialized venture capital firms spring up in response to the availability of entrepre-

neurial firms with attractive prospects to finance: if there are few firms, there will be even fewer venture capitalists, which in turn makes it harder for firms to establish operations, and so on. In addition, venture capitalists tend to be nervous about financing firms that face monopsonist customers; they would rather have a firm serve a multitude of customers, so that an adverse decision by one customer can't destroy a firm they have financed. One major contagion effect of this is on factor conditions – in particular, the availability of business entrepreneurs in health-related fields. The Canadian health system produces a wealth of medical scientists, doctors and nurses, but it won't produce entrepreneurs in the health-related fields if there are few health-related startups and venture capitalists.

Typical of Canada's predicament is Toronto's biopharmaceutical cluster. Despite having excellent human and capital resources available to it and being the eight-largest in North America, it represents untapped potential for Ontario's competitiveness and prosperity. In spite of impressive factor conditions, the cluster has not produced many world-leading companies; wages are well below levels achieved in comparable U.S. clusters; patent output is lower than its fair share, and per capita research and development is well below levels achieved in many other developed countries.

As is so often the case, the cluster suffers from a poor environment with respect to demand conditions. Pharma companies are not benefiting from the pressure created by sophisticated customers; the dominant buyer is so concerned about cost containment that its overwhelming motive is to keep the pressure on low prices. With fundamental weaknesses at the level of demand, the support from related and supporting industries has not developed to the level observed in other regions. This is in contrast to U.S. suppliers of new products and services to their health care providers and payers: that environment has produced a powerhouse of innovative providers of pharmaceuticals and technologies.

Towards a Solution

Given the constraints of the single-payer system to which we are apparently committed, what can be done about the dearth of glob-

ally-competitive Canadian health firms? Following are five steps that can be taken to improve demand drivers in the sector.

1) Encourage Competition Among Providers

Health care providers will become more demanding and sophisticated customers to the extent that they are driven to compete by their customers. If health care providers have a monopoly, their customers can't be demanding, and as a consequence, the providers won't be demanding and sophisticated either. Alternatively, if there were many more specialized clinics and hospitals that competed to outdo one another, they would be more inclined to demand innovative products and services from firms who could supply them.

Within the current system, it is not easy to conceive of a dramatic positive change in the level of competition among health care providers. However, any movement towards more competition will enhance the demand quality of health care providers. For example, the system would benefit from having a greater number of specialized clinics like Toronto's **Shouldice Clinic**, which specializes in hernia operations and has made dramatic innovations with that procedure.

2) Enforce More Outsourcing

It is essential that health care providers act more like Hydro Quebec than Ontario Hydro with respect to outsourcing to entrepreneurial firms. In essence, Canada needs to have more of its health care spending end up in the hands of entrepreneurial firms that are given the incentive to innovate and upgrade for the global market, rather than remaining in the bowels of large health care providers.

The default assumption needs to change from, "this procedure must be performed within the health care provider organization unless a compelling case can be made to outsource," to "this procedure must be outsourced, unless a compelling case can be made to perform it internally". This is critically important, because with a greater revenue stream available to entrepreneurial firms, venture capitalists will be more inclined to finance these firms. This will be doubly reinforced if there is more competition among health care providers, because

the venture capitalists will no longer have to fear the power of the monopsonist. With more firms serving health care providers, there will be more rivalry, greater likelihood of related and supporting industries taking shape, and greater development of health sector entrepreneurs.

3) Enforce More Sophisticated Purchasing by Providers

Regardless of how unfavourable the demand conditions, rivalry, and related and supporting industries are, the government can attempt to enforce more sophisticated consumption on its own part and on the part of health care providers. In its decisions on drug formularies, it needs to get beyond the funding silos to look at overall benefits of innovative new medications or procedures. If individual ministries or budget managers can't look beyond their narrow interests, then new mechanisms will have to be created that do so.

Similarly, hospitals and clinics must become more sophisticated in their demands. If they can't do so because of budget constraints, or a lack of competitive pressures, it may be necessary to create an 'overlay structure' of some sort, to ensure that as many activities as possible are outsourced and that, where possible, entrepreneurial ventures are utilized to provide new products and services.

4) Provide Targeted Support for Venture Capitalists

While it is tricky to find an effective way to support venture capital in the health sector, it warrants an attempt. The Accounts Receivable Insurance program of the **Export Development Corporation** (EDC) provides a model. EDC recognized that new potential exporters can be dissuaded from exporting due to legitimate fears that they might experience receivables problems with foreign buyers, and that those problems would be difficult to solve due to foreign laws in legal systems that favour the home-country debtor. EDC helps Canadian exporters overcome these concerns by providing insurance for their foreign accounts receivables. This highly-targeted service is designed to help potential exporters overcome obstacles that might prevent them from getting started.

The greatest early danger for a venture capitalist in funding a start-up is the first 'reference sale' – getting the first trial or sale with a sufficiently prestigious client that, if successful, provides a powerful reference for other would-be clients. Without that first reference client, a start-up is almost certain to fail. Perhaps a program could be created that enables venture capitalists to apply to a federal agency for 'reference sale' insurance; a panel of medical experts could decide whether to insure a venture-funded start-up against the possibility of failure to secure a reference client (within a certain period of time and further investment), thereby encouraging the venture capitalist to fund or continue to fund the start-up in question. As with the EDC program, one would hope that in the majority of cases, the insurance would not cost the agency a penny, and that the agency investment would be restricted to those situations in which a reference client cannot be acquired.

Hopefully, the award of reference-client insurance would have the beneficial side-effect of enhancing the credibility of the start-up with potential reference-clients, in the same way receiving a SSHRC or CIHR grant confers added credibility on a grant recipient. This service could provide a 'pump-priming' effect that would cause more venture capital money to support start-ups in the medical sector.

5) Support for Health Sector Entrepreneurs

It is similarly tricky to find an effective way to support and encourage would-be entrepreneurs. One approach would be to further strengthen the commercialization efforts of Canada's research-intensive universities, by giving researching professors more support to take their ideas from lab to market. However, it is somewhat questionable just how much more entrepreneurship can be generated by pushing scientists harder and further.

Alternatively, an initiative could be developed to foster entrepreneurial demand for commercialization of health-related innovations. Business schools could create a program that brings together research scientists and professors interested in commercializing their health-related ideas with like-minded entrepreneurs.

The notional design of such a program could be as follows: a class would consist of 15 scientists and 15 entrepreneurs; the program would have three modules of three-to-five days each, with significant gaps between each. The content would be focused on issues related to commercialization of health-related innovations – i.e. product/service development; marketing and sales in the health sector, etc. The first module would provide an introduction to the content, after which the scientists and entrepreneurs would pair off to create a health-related business plan. The second module would examine the draft business plans, providing critique for their improvement. The pairs would refine their business plans between the second and third modules, in order to come to the third ready to present to a board of venture capitalists. The desired output would be several projects that would gain immediate venture capital support, plus a number of research scientists and would-be entrepreneurs that have a much better understanding of innovation and entrepreneurship in the health sector.

Concluding Thoughts

While at first blush, it is a mystery that Canada doesn't produce many globally-competitive health care firms, closer scrutiny shows that we get exactly what we should expect, and without significant changes, the situation will be quite stable.

Currently, health care competition in Canada is a zero-sum game where the participants divide value instead of creating it, because competition is focused primarily on containing costs. This restricts choice and access to services instead of making health care better and more efficient. We can dramatically improve the production of globally-competitive health care product and services firms, but only if we work to significantly improve the demand side of our innovation equation. **R**

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