

## Why are Drug Prices Lower in Canada?

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There is an overwhelming concern in the United States that prices of prescription drugs are too high. Evidence for this claim is the fact that Canadian drug prices are significantly lower than prices in the United States. Many American politicians have proposed measures to bring American drug prices down to the level of Canadian prices, an approach that likely has great appeal to American patients and healthcare managers. However, both Canada and the United States should beware of current efforts to equalize prices between the two neighbors.

First of all, it helps to know the size of the difference. Politicians such as Hillary Clinton and Senator Slade Gorton have produced lists of drugs with huge price differences between the two countries. Inspired by such lists, Maine and other states are writing laws to equalize drug prices with those north of the border.

The Patented Medicine Prices Review Board (PMPRB), the Canadian government agency that imposes price controls on patented pharmaceuticals, figures that the average manufacturer's gate price of patented drugs sold in the United States was 62% higher than that in Canada in 1998.<sup>1</sup> However, it is not realistically possible to come to such a precise conclusion. There are many different ways to design price indexes, each of which will give different results. For example, should one use American or Canadian consumption patterns for comparison? In addition, drugs that have low volume but high prices will have a large influence on the level of a classically constructed price index. However, such drugs may not impact the drug budgets of the average consumer. For example, epoetin alpha (recombinant DNA origin) was the sixth largest selling drug (in dollar volume) in the United States in 1998, but so few units are sold that the FDA classifies it as an orphan drug. Its market volume is due to the fact that it sells for hundreds of dollars per vial. The drug weighs significantly in the national US-weighted drug basket, but clearly does not figure in the drug costs of the average American patient. Should the blunt tool of price regulation, with its

host of unintended consequences, be used on all prescription or patented drugs in order to remedy the catastrophic effects of extremely high prices for drugs used by a small number of patients?

Furthermore, because regulatory approval is so slow in Canada, innovative and highly priced drugs may be included in the US price index before they are included in Canada's. In the United States, many of these drugs are priced at a premium compared with existing drugs, but nevertheless earn significant market share. Recent examples include sildenafil citrate, rofecoxib, and celecoxib. For any given year, the US price index may include several such new drugs, but the Canadian index will not.

Most importantly, these lists and indexes only contain patented drugs, not off-patent branded drugs or generic drugs. This is a significant failing, because generics comprise 47.1% of the US prescription drug market by volume.<sup>2</sup> Canadian generics are often more expensive than American generics. Indeed, common generic drugs in Canada such as atenolol, cyclobenzaprine, doxycycline, ranitidine, and sustained-release verapamil are more than double the price of their American counterparts. Using a volume-weighted sample that contained generic, patented, and branded off-patent drugs, a recently completed Fraser Institute survey found that the Canadian price discount was only 28% at the retail level.<sup>3</sup>

When Danzon constructed a price index with US consumption patterns and compared drugs with the same molecular composition (rather than brand name) and by standard dosage unit (rather than gram of active ingredient), she found that the price index for Canadian drugs was 3% higher than that in the United States. At the other extreme, using Canadian consumption patterns while still comparing molecular composition and standard dosage units, she determined that the Canadian price index was only 45% of the US level.<sup>4</sup>

Even if we accept the PMPRB's claim that US patented drug prices are 60% higher than Canadian prices, it does not necessarily follow that the PMPRB deserves the credit for this achievement. The PMPRB was set up in 1987, when its measurements showed US drug prices to be 36% higher than Canadian prices. Canadian prices at that time reflected the program of compulsory licensing in which Canadian

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generic drug producers could copy patented medicines and pay their inventors a 4% licensing fee. The government established the PMPRB to ameliorate concerns that the pharmaceutical companies would significantly increase prices after the abolition of compulsory licensing. In fact, as we note, drug prices have fallen further relative to those in the United States. Could something other than the PMPRB have caused this increased Canadian discount?

In fact, most of the increased difference in drug prices is explained through a macroeconomic factor: the decline in the Canada-US exchange rate from purchasing power parity. The real price level of goods and services in the United States in 1998 was 25% higher than that in Canada.<sup>5</sup> In 1987, the difference was only 6%. This 19% widening of the gap between Canadian and US aggregate price levels explains all but 5% of the increasing pharmaceutical price difference between the two countries.

Therefore, it is not surprising to find that large price differences between the two countries are not unique to pharmaceuticals. Many American-made products of intellectual property sell at significantly lower prices in foreign countries, including Canada. For example, the CD-ROM version of Intuit's Quicken Basic 2000, a popular personal financial planning software package, can be ordered for \$34.95 from the company's web site. However, the Canadian version, purchased from the company's Canadian web site, costs the equivalent of US \$20 (before the Goods and Services Tax). America Online (AOL) charges \$21.95 for unlimited monthly Internet access in the United States, but AOL Canada charges less than US \$16 for the same service. Intuit's and AOL's American customers pay premiums of approximately 70% and 40%, respectively. (Inclusion of sales taxes does not alter the substantive result.)

The price differences for these products must arise solely from the competitive market. We do not have a "Patented Software Prices Review Board" to take credit for them. These are software products with very low manufacturing and distribution costs.

Research and development costs comprise much of the total cost of providing drugs (or software). These costs are incurred before the final products are packaged and sold and before the manufacturer receives any revenue. Since the marginal costs of manufacturing and distribution are a lesser part of the total costs, manufacturers charge different prices to different customers in order to recover the costs of research and development, which cannot be attributed to specific units of output. When segmenting markets by country, they often use mea-

asures of national income to guide them in setting their prices: higher income countries pay more.<sup>6</sup>

Canadians' personal incomes have shrunk significantly relative to Americans' during the period in question, leading companies to increase the differences in prices charged in the 2 markets. However, even if incomes were the same on both sides of the border, we would expect to see higher prices in the United States. The litigious atmosphere in the marketplace contributes significantly to high American prices.

Manning found evidence that one third to one half of any pharmaceutical price differentials in 1990 were due to the higher cost of legal liability protection in the United States.<sup>7</sup> Canada, unlike the United States, does not see multibillion dollar liability suits. In Canadian courts, personal injury compensation is capped at Can \$250,000, and judges rarely award large liability settlements. Pharmaceutical companies charge higher prices in the United States to compensate for the risk of litigation. If American politicians want to effectively lower the prices of pharmaceuticals in America, the place to start might be meaningful tort reform rather than Canadian drug price controls.

Managed care managers who are unhappy with high drug prices in America must realize that they are a consequence of the increased risk of litigation, as well as a reflection of the fact that the American consumer has become increasingly wealthier than the Canadian consumer during the past decade. Blunt government price controls will not satisfactorily address the issue of high drug prices. Rather, buyers of pharmaceuticals must look to more imaginative ways to contain their drug costs.

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... REFERENCES ...

1. *Patented Medicine Prices Review Board: 1999 Annual Report*. Ottawa, ON: Patented Medicine Prices Review Board; 2000:23.
2. Pharmaceutical Research and Manufacturers of America. *Pharmaceutical Industry Profile 2000*. Washington, DC: Pharmaceutical Research and Manufacturers of America; 2000:69.
3. Robson B, Graham JR. Prescription Drug Prices in Canada and the United States: A Comparative Survey. *Public Policy Sources* #42. Vancouver, Canada: The Fraser Institute; August 2000.
4. Danzon P. The uses and abuses of international price comparisons. In: Helms RB, ed. *Competitive Strategies in the Pharmaceutical Industry*. Washington, DC: The AEI Press; 1996:85-106.
5. Kemp K. Purchasing power parities and real expenditures, United States and Canada: An update to 1998. *National Income and Expenditure Accounts* 47,3:98-138. Ottawa: Statistics Canada, 2000.
6. Danzon P. Price discrimination for pharmaceuticals: Welfare effects in the US and the EU. *Int J Econ Business* 1997;4:301-321.
7. Manning RL. Products liability and prescription drug prices in Canada and the United States. *J Law Econ* 1997;XL(1):203-243.