

Cost Burden of Prescription Drug Spending in Canada and the United States

Main Conclusions

- Government pharmaceutical policies in Canada offer no cost advantage over US pharmaceutical policies. The average total personal cost burden of prescription drug spending is roughly the same for consumers in both countries.
- Consumers in Canada and the United States spend roughly the same proportion of their per capita gross incomes on prescription drugs (1.5% in Canada; 1.6% in US).
- As a percentage of per capita *after-tax* income, the cost burden of prescription drug spending is slightly higher in Canada (2.5% in Canada; 2.2% in US).



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- The number of prescriptions dispensed per capita in both countries is roughly equal (13.0 in Canada; 12.3 in US).
- The findings are explained by two facts: brand name drugs in Canada are about 51 percent less expensive on average than in the United States, but generic drugs in Canada are about 115 percent more expensive on average than the same generic drugs in the United States.
- Lower brand name drug prices in Canada are a result of strategies used by patented drug makers to match prices to local market conditions, particularly lower Canadian incomes. American incomes are significantly higher than Canadian incomes, so it is not surprising that Americans pay higher prices for brand name drugs.
- High prices for generic drugs in Canada are due to Canadian government policies that shield retail pharmacies and generic drug manufacturers from competitive market forces that would put downward pressure on the prices of generic drugs.

Introduction

Some people think that American prices for prescription medications are excessive because they are often higher than prices in Canada and that this means the overall cost burden of prescription drug spending in the United States is unfair. But the fact is that the relative burden of prescription drug spending is roughly equivalent in both countries.

This finding is partly explained by the fact that many drugs, generics in particular, are significantly more expensive in Canada than they are in the United States. On balance between the higher prices paid for brand name drugs and the much lower prices paid for generic drugs in the US, Americans spend about the same percentage of their incomes on prescription drugs as Canadians.

Findings

Table 1 displays total and per capita (or per person) figures for spending on prescription (Rx) drugs, gross domestic product (GDP), personal disposable income (PDI) and the number of prescriptions dispensed in both Canada and the United States for the year 2006, the most recent year of data available.

GDP is a measure of national income. PDI is a measure of after-tax income. By examining per capita drug spending as a proportion of per capita income we can compare the relative average cost burden of drug spending for Canadians and Americans. The method is a way to estimate the practical impact of prescription drug costs on consumers in Canada and the US

as a proportion of their own particular standards of living.

As table 1 shows, in 2006, per capita prescription drug expenditures made up roughly the same percentage of personal income before taxes in both countries. Specifically, the figures show that per capita spending on prescription drugs was 1.5 percent of per capita GDP for Canadians compared to 1.6 percent for Americans.

Table 1 also shows that in 2006, per capita prescription drug expenditures were a slightly higher percentage of after-tax income in Canada than they were in the United States: Canadians spent 2.5 percent of their personal income after taxes on prescription drugs compared to only 2.2 percent for Americans.

These findings cannot be explained by differences in the use of prescription drugs in the two countries. Using the only available data, table 1 indicates that the number of prescriptions dispensed per capita in each country is approximately the same. In 2006, 13.0 prescriptions were dispensed per person in Canada versus 12.3 prescriptions per person in the United States.

Analysis

Although Canadian prices for brand name drugs are lower than US

prices for identical drugs, Americans spend roughly the same percentage of their personal income on drugs, partly because the price of Canadian generics is more than double US prices for identical drugs.

Previous research has established that although brand name drugs in Canada are about 51 percent less expensive on average than those in the United States, generic drugs in Canada are about 115 percent more expensive on average than the same generic drugs in the United States (Skinner and Rovere, 2007).

Although Canadian prices for brand name drugs are lower than US prices for identical drugs, Americans spend roughly the same percentage of their personal income on drugs, partly because the price of Canadian generics is more than double US prices for identical drugs.

Lower Canadian prices for brand name drugs are partly a result of the fact that Canadian incomes are lower than American incomes (Danzon and Furukawa, 2003). This is because when markets can be segmented, manufacturers of products such as drugs (with high research and development costs, but very low marginal production costs) can charge different prices in

Table 1: Per Capita Spending on Prescription (Rx) Drugs as a Percentage of Per Capita Personal Disposable Income (PDI) and Per Capita Gross Domestic Product (GDP), Canada and the United States in 2006 (domestic currency)

	Canada	United States
Total Prescription Drug Spending (\$ millions)	\$21,090.3	\$213,700
Total Gross Domestic Product (\$ millions)	\$1,439,291	\$13,392,300
Total Personal Disposable Income (\$ millions)	\$835,928	\$9,799,200
Total population	32,623,000	301,296,371
Per Capita Prescription Drug Spending	\$646.49	\$709.27
Per Capita GDP	\$44,118.90	\$44,448.93
Per Capita Personal Disposable Income	\$25,623.88	\$32,523.46
Proportion of Prescription Drug Spending to PDI	2.5%	2.2%
Proportion of Prescription Drug Spending to GDP	1.5%	1.6%
Total Number of Prescriptions Dispensed (thousands)	422,580	3,706,700
Per Capita Number of Prescriptions Dispensed	13.0	12.3

Sources: Canadian Institute for Health Information (CIHI) 2007; Centers for Medicaid and Medicare Services (CMS), 2007; Statistics Canada, 2007; US Census Bureau, 2007; IMS Health, 2007; US Bureau of Economic Analysis (BEA), 2007.

each market that are appropriate for the average income levels in each. This pricing strategy, called “price differentiation,” benefits consumers in lower income markets because it allows the prices of goods to be more appropriately matched to their income levels.

Sellers also have an incentive to differentiate prices based on income conditions in the market, because they can better match prices and supply to the separate realities of income and demand in each nation. American incomes are significantly higher than Canadian incomes, so it is not surprising that Americans pay higher prices for brand name drugs. If Canadians had to pay American prices, fewer drugs would be sold in Canada than if prices were adjusted to match Canadian income levels.

By contrast, evidence suggests that the high cost of generic drugs in

Canada is due to public policies in Canada that shield retail pharmacies and generic drug manufacturers from competitive market forces that would naturally put downward pressure on the prices of generic drugs (Skinner and Rovere, 2007).

Taken together, consumers in both countries spend roughly the same proportion of their incomes on drugs because although American prices for brand name drugs are more expensive on average than in Canada, generic prices are much higher in Canada.

Conclusion

These findings suggest that it is incorrect to think that Canadian prescription drug policies produce a lower relative burden of drug costs for Canadians than do American prescription drug policies.

American outcomes might even be viewed as better if one also considers the positive influence that US prescription drug policies have on incentives for global innovation in medicines. To a greater degree than in Canada, American prescription drug policies allow market forces to determine the premium paid for the most innovative brand name products while allowing competition to discount the price of generic copies. The US is the largest and most important market for prescription drugs in the world, and research suggests that any attempt by US governments to arbitrarily force American prices for patented brand name drugs down to Canadian levels would significantly reduce the incentives for companies to develop new, more advanced medicines (Giaccotta *et al.*, 2005; Vernon, 2005). Were this to happen, potential health benefits from the improvement of old drugs and the

development of new treatments would be lost. This would not only harm consumers in the US, but would adversely affect consumers in the rest of the world, including Canada.

Moreover, research suggests that Americans have better access to new innovative drugs than do many Canadians, a direct consequence of Canada's prescription drug policies. Canadians who rely on the country's public drug programs suffer delayed access to many new medicines compared to Americans, and are in many cases not able to access the same number of life saving or life improving drugs that are more commonly available to Americans (Skinner, Rovere, and Glen, 2007).

The evidence presented in this paper refutes the notion that American drug prices are excessive. The Canadian example illustrates the negative effect of government regulations and central planning on the prices of generic drugs and access to new medicines. Competitive market forces produce drug prices that are appropriately matched to income and represent good value for money, while protecting consumer choice and encouraging the invention of new medicines.

Data sources

This study uses the most recently available statistics in all cases. Government sources of data were preferred in all cases where it was available. Where government data were not available, private sector data from organizations that operate in both markets and use similar methodology for collecting

statistical information in both markets were preferred.

To achieve the highest degree of comparability possible with available data, national health expenditure data was sourced from the Canadian Institute for Health Information (CIHI) and the US Centers for Medicaid and Medicare Services (CMS). Both organizations use similar methodology for collecting and reporting data on drug expenditures. Both CIHI and CMS also provide a detailed breakdown of drug expenditures by prescription and non-prescription types.

General economic data on GDP, PDI, and population were taken from comparable government sources. For Canada, economic and population data were obtained from Statistics Canada. For the US, economic data were obtained from the US Bureau of Economic Analysis and population data were obtained from the US Census Bureau. Canadian data were updated in April 2007. US economic data were updated in August 2007, and population data in June 2007.

There was no government source of data for the number of prescriptions dispensed in either country. The only available source of this data was IMS Health Inc. The data were comparable between countries because a similar methodology is used to collect it in both markets.

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