

August 2008

# Cost Burden of Prescription Drug Spending in Canada and the United States, 2008 edition

## Main Conclusions

- Canada's heavy government involvement in prescription drug markets offers no cost advantages for consumers compared to relatively more free-market policies in the United States.
- Consumers in Canada and the United States spend roughly the same proportion of their per capita gross incomes on prescription drugs (1.5 percent in Canada; 1.7 percent in the US).
- As a percentage of per capita *after-tax* income, the cost burden of prescription drug spending is slightly higher in Canada (2.5 percent in Canada; 2.3 percent in the US).
  - The number of prescriptions dispensed per capita in both countries is roughly equal (13.7 in Canada; 12.6 in the US).
  - The findings are explained by two facts: brand-name drugs in Canada are about 53 percent less expensive on average than in the United States, but generic drugs in Canada are about 112 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 those drugs.



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## Introduction

There is a common misconception that American prices for prescription medications are excessive because they are often higher than prices in Canada. This leads some people to suggest that the overall cost burden of prescription drug spending in the United States is unfair. However, the fact is that the relative burden of prescription drug spending is roughly equivalent in both countries. This 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 (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 2007, the most recent year for which data are available. GDP is a measure of national income while PDI is a measure of after-tax income. By observing 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 gives a way to estimate the realistic 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 2007, 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 1.7 percent for Americans.

**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 2007 (domestic currency)**

	Canada	United States
Total prescription drug spending (\$ millions)	\$22,473	\$231,331
Total gross domestic product (\$ millions)	1,531,427	13,841,300
Total personal disposable income (\$ millions)	889,101	10,163,821
Total population	33,143,600	303,146,284
Per capita prescription drug spending	678.05	763.10
Per capita GDP	46,205.81	45,658.81
Per capita personal disposable income	26,825.72	33,527.78
Proportion of prescription drug spending to PDI	2.5%	2.3%
Proportion of prescription drug spending to GDP	1.5%	1.7%
Total number of prescriptions dispensed (thousands)	455,481	3,809,300
Per capita number of prescriptions dispensed	13.7	12.6

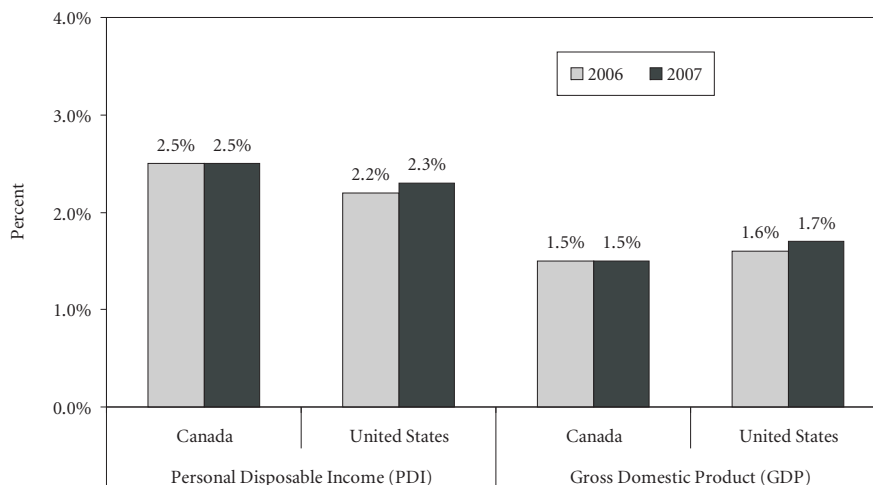
Sources: Canadian Institute for Health Information (CIHI) 2008; Centers for Medicaid and Medicare Services (CMS), 2008; Statistics Canada, 2008(a),(b),(c); US Census Bureau, 2007; IMS Health, 2008; IMS Health Canada, 2008; US Bureau of Economic Analysis (BEA), 2008; calculations by authors.

Table 1 also shows that in 2007, 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 2.3 percent for Americans.

These results 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 2007, 13.7 prescriptions were dispensed per person in Canada versus 12.6 prescriptions per person in the United States.

These findings are almost identical to the results that were found in a previous study using 2006 data. As figure 1 shows, in both 2006 and 2007, Canadians (on average) spent approximately 2.5 percent of their per capita PDI on prescription drugs. Americans spent less of their per capita after-tax income on prescription drugs than Canadians, but the US figures were up slightly in 2007 compared to the previous year. On average, Americans spent 2.2 percent of their after-tax income on prescription drugs in 2006 compared to 2.3 percent in 2007. Similar results were found when comparing the proportion of per capita GDP spent on prescription drugs in Canada and the United States in those same years. On average, Canadians spent around 1.5 percent of their per capita GDP on prescription drugs in 2006 and 2007 (figure 1). However, Americans spent a larger proportion of their per capita GDP on prescription drugs in 2007 than

**Figure 1: Annual Change in the Personal Prescription Drug Cost Burden in Canada and the United States, 2006 and 2007**



Sources: Canadian Institute for Health Information (CIHI) 2008; Centers for Medicaid and Medicare Services (CMS), 2008; Statistics Canada, 2008(a),(b),(c); US Census Bureau, 2007; IMS Health, 2008; IMS Health Canada, 2008; US Bureau of Economic Analysis (BEA), 2008; Skinner and Rovere, 2007; calculations by authors.

they did in 2006. In 2006, Americans spent approximately 1.6 percent of their per capita GDP on prescription drugs compared to 1.7 percent in 2007.

### Analysis

Canadian prices for brand-name prescription drugs are lower than US prices for identical drugs. But overall, Americans spend roughly the same percentage of their personal income on prescription drugs, mostly 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 53 percent less expensive on average than those in the US, generic drugs in Canada are about 112 percent more expensive

on average than the same generic drugs in the United States (Skinner and Rovere, 2008a). 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. 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. (Income figures in table 1 are stated in domestic currency and are not directly comparable because of the significantly higher purchasing power of the US dollar versus the Canadian dollar.) 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 assume that Canadian prescription drug policies produce a lower relative burden of drug costs for Canadians than do American prescription drug policies. When taking into account the positive influence that US prescription drug policies have on incentives for global innovation in medicines, American outcomes might even be viewed as superior. To a much 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). If this scenario were to occur, potential health benefits from the improvement of old drugs and the development of new treatments would be lost. Such a situation would have significant consequences for consumers in other countries, including Canada.

Moreover, research suggests that Americans have better access to new, innovative drugs than do many Canadians (Lexchin 2006; Skinner and Rovere, 2008b).

The data presented in this paper refute the notion that American drug prices are excessive for consumers. The Canadian example illustrates the negative effect of government regulations and central planning on the prices of generic drugs. In contrast, competitive market forces, such as those found in the US, produce drug prices that are appropriately matched to income and represent good value for money. Just as importantly, US consumers have more choice and US drug policy provides drug manufacturers with appropriate market incentives to encourage the invention of new medicines.

## Data sources

This study uses the most recently available statistics in all cases, and where available government sources of data were preferred. 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 used.

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 methodologies 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

*... research suggests that Americans have better access to new, innovative drugs than do many Canadians, which is a direct result of Canada's prescription drug policies.*

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 2008. US economic data were updated in March 2008, and population data in December 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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ISSN 1714-6720

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### Date of issue

August 2008.

Update 1.1: September 24, 2008

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### Editing, design, and production

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## Acknowledgements

The authors would like to thank the peer reviewers of this report for their comments and suggestions. As the authors have worked independently, the conclusions and findings of this study do not necessarily represent those of the board, the supporters, or the staff of The Fraser Institute.

Because the author's employer receives charitable donations from research-based pharmaceutical manufacturers, the author has chosen to disclose financial relationships in accordance with the policies of the International Committee of Medical Journal Editors [Clever *et al.*, 1997; Davidoff *et al.*, 2001]. The author acknowledges with sincere gratitude those who financially support The Fraser Institute and this research including research-based pharmaceutical companies (whose contributions make up less than 5 percent of The Fraser Institute's budget) as well as the general membership and other supporters of the Institute. With respect to this manuscript, no drug-maker or other donor had any input into the collection, analysis, or interpretation of the research, nor in the manuscript's writing. Nor did any drug-maker or other donor preview this manuscript before publication. The Fraser Institute accepts no government funding and no private contracts for research. The donations we receive are unrestricted and come only from private foundations, organizations, or individuals.

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