

**Online Materials: Cost Control in a Parallel Universe:
Medicare Spending in the U.S. and Canada**

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Emethods: Cost Control in a Parallel Universe: Medicare Spending in the U.S. and Canada

We analyzed health spending in Canada and the U.S. from 1980 (the first year for which Canadian provincial government spending by age group is available) through 2009. We also performed supplemental analyses beginning in 1971, the year the Canadian program became operational in all provinces (the Northwest Territories and the Yukon – with about 0.5% of Canada’s population - joined the program by the end of 1972).

For the U.S. we obtained figures from the Center for Medicare and Medicaid Services (CMS) Office of the Actuary on Medicare Part A and Part B spending, excluding payments for disabled and ESRD enrollees younger than 65. These figures also encompass Medicare Parts A and B payments to managed care organizations (MCOs). Since our analysis focuses on time trends, we excluded Medicare Part D because this new benefit was added in 2006.

For Canada, we calculated figures for per capita health spending for persons over 64 by provincial/territorial governments (hereinafter “provincial governments”), which disburse Medicare payments. Because no single data source provides figures covering the entire study period, we combined three sources. For 1998-2009, we obtained provincial government health spending figures for individual age groups from the Canadian Institute for Health Information (CIHI)¹. For 1980-2000, Health Canada provided us with comparable data from a 2001 report². Finally, our supplemental analyses of 1971-1980 are based on a 1982 Health and Welfare Canada report³.

These three data sources, although all presenting official Canadian statistics, provide slightly different spending estimates. For instance, both the most recent (CIHI) and the oldest (Health and Welfare Canada) figures are for calendar years, while the intermediate data (from Health Canada) tabulated figures for fiscal years ending March 31. Fortunately, the data sources include overlapping years – 1980-81 and 1998-2000 - allowing us to verify that, as expected, the calendar year figures closely approximate the figures for the fiscal year that overlap for 9 of the 12 months. For instance, Health Canada’s estimate that spending for fiscal 1999-2000 was \$1,928 per capita resembles CIHI’s calendar year 1999 estimate of \$1,919.

The CIHI and Health Canada breakdowns by individual age groups showed greater divergence in absolute terms, but their estimates of the percentage change in year-to-year per capita spending were closely similar. For this reason, we based our calculation of the percentage change in per capita spending for the elderly on the yearly percentage changes, not the absolute dollar figures.

The data for the years before 1980 that served as the basis for our supplemental analyses was less detailed than that for 1980-2009. For instance, the 1971-1974 data did not separate provincial from other (federal and local) government spending. Hence, for these years we estimated provincial spending by adjusting the reported total government spending by the average ratio of provincial:total government spending (.938347) from 1975-1980². In addition, because the 1971-1979 data did not include figures for individual age groups, we used an estimation procedure to calculate per elder spending from per capita expenditures for all age groups combined based upon the following formula:

$$P_{elderly} = Pall \div (POPSHARE_{elderly} + R \times POPSHARE_{nonelderly})$$

Where: $P_{elderly}$ = Per elder spending

$Pall$ = Per capita spending, all ages combined

$POPSHARE_{elderly}$ = Proportion of population > 64

$POPSHARE_{nonelderly}$ = Proportion of population < 65

R = per capita spending for the non elderly in 1980/per capita health spending for the elderly in 1980

This calculation adjusts for the aging of the population over time, and assumes that per capita health costs rose at the same rate for the elderly and non-elderly.

When we present dollar figures in the text for illustrative purposes, we adjust the data for years prior to 1998 by the average percent difference in the CIHI and Health Canada data sources for the three years for which overlapping data were available, and present the figures in U.S. dollars adjusted for purchasing power parity.

We first calculated the percentage change between 1980 and 2009 in per capita spending for the elderly in each nation and then adjusted for inflation using each country’s consumer price index. We then compared actual U.S. Medicare expenditures in each year since 1980 to the level of expenditure that would

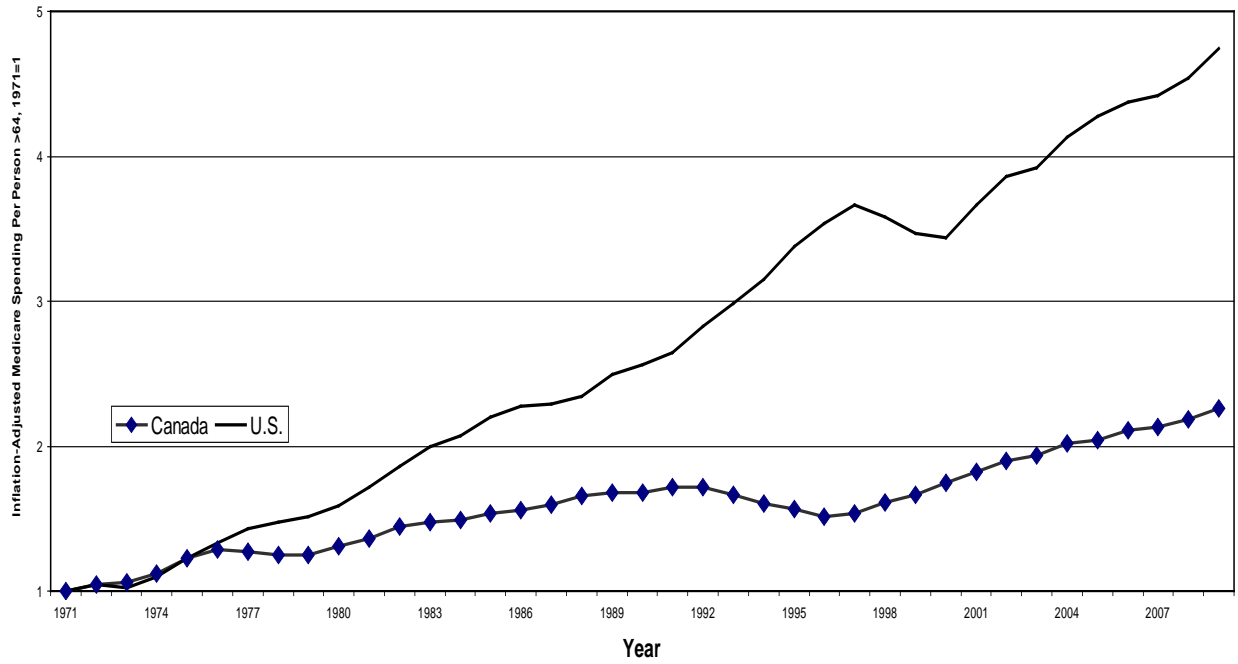
have occurred had U.S. Medicare spending per elderly enrollee increased at the same rate as the actual rate of increase in Canada. We present projected savings for each year, as well as cumulative savings for 1981-2009.

We also analyzed time trends in hospital and physician spending, the two largest components of Medicare. To assess Medicare hospital spending for the elderly in the U.S. we added Medicare Part A hospital spending and the portion of Part A payments to MCOs attributable to hospital costs, assuming that hospital costs account for the same proportion of Part A payments for Medicare MCO enrollees (excluding hospice costs, which MCOs don't cover) as for fee-for-service Medicare enrollees. For instance, in 2009, hospital payments accounted for 77.7% of fee-for-service Part A Medicare expenditures for elderly enrollees, excluding hospice costs. Hence, we estimated that 77.7% of the \$59.4 billion in Part A payments to MCOs plans was for hospital care. For Canada, we used Health Canada and CIHI figures for provincial spending for hospitals on behalf of the elderly.

For our analysis of U.S. Medicare's expenditures for physician services, we included Part B payments for physicians' fees at any site (including hospital outpatient departments), as well as services such as laboratory testing and drug administration that occurred in doctors' offices. We excluded Part B expenditures for durable medical equipment, home health, hospital laboratory services, and "other intermediary services". We estimated physicians' share of Part B payments to MCOs in a similar manner to that described above for hospitals. For Canada, we used figures for provincial spending for physician services in Canada.

Finally, we performed supplemental analyses repeating the calculations of the growth in total Medicare spending in the two nations using 1971 rather than 1980 as the base year.

Efigure: Change since 1971 in inflation-adjusted Medicare spending per person over age 64, U.S. and Canada



EReferences

¹ Canadian Institute for Health Information. National health expenditure trends, 1975-2000: Analytical focus: Provincial and territorial government expenditure by age and sex. Available at: <http://publications.gc.ca/collections/Collection/H118-2-2000E.pdf> (accessed March 1, 2012).

² Grenon A. Health expenditures in Canada by age and sex, 1980-81 to 2000-2001: Statistical annex. Ottawa: Health Canada, 2001.

³ Health and Welfare Canada. National health expenditures in Canada 1970-1982: With comparative data for the United States, provincial data and sectoral analysis. Ottawa: Health and Welfare Canada, 1982.