OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
CANADA
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# Projected Growth in Provincial and Territorial Government Health Spending

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The mandate of the Parliamentary Budget Officer (PBO) is to provide independent analysis to Parliament on the state of the nation's finances, the government's estimates and trends in the national economy; and upon request from a committee or parliamentarian, to estimate the financial cost of any proposal for matters over which Parliament has jurisdiction.

This note responds to the June 7, 2012 request by Mr. James Rajotte on behalf of the Standing Committee on Finance (FINA) to "provide the Committee – before June 22, 2012 – with the expected rates of percentage growth of healthcare spending by *individual* province and territory for the [11-]year period from 2012-13 to 2022-23".

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## Introduction

On June 7, 2012 the PBO received a request from the Chair of the Standing Committee on Finance (FINA) to provide the Committee with "the expected rates of percentage growth of healthcare spending by *individual* province and territory for the [11-]year period from 2012-13 to 2022-23".

PBO has previously produced long-term projections of total provincial-territorial government health spending in its Fiscal Sustainability Reports[1] (FSRs); however, these projections were based on national trends and were not constructed at the level of individual provinces and territories. Producing individual health spending projections using PBO's methodology (see Annex A), which has also been used by the Congressional Budget Office (CBO) and the Organisation for Economic Co-operation and Development (OECD), would require estimating trends in provincial and territorial economies. While PBO's mandate includes providing independent analysis to Parliament on trends in the national economy, PBO would – upon request – explore possibilities to analyze trends in individual provincial and territorial economies in order to improve its health spending projections.

Nonetheless, PBO is providing the Committee with a range of projected average annual growth rates of health spending by individual province and territory over the period 2012-13 to 2022-23. These projections are based on alternative assumptions for real GDP per capita growth and assume uniform rates of "enrichment"[2] and GDP inflation across provinces and territories. Specifically, PBO has mechanically applied its approach and assumptions at the national level to project health spending for individual provinces and territories, taking into account their individual demographic trends and spending patterns across age groups. Consequently, these projections are not intended to represent predictions of growth in health spending over short-term horizons. As such, they are not directly comparable to short-term forecasts presented in recent budgets rather they are intended to project the current structure of health spending across age groups over the longer term, allowing for changing demographics and assuming a historical rate of enrichment.

Further, to provide additional context, and in light of discussions at FINA Meeting No. 54 on April 26, 2012, PBO is also providing the Committee with projections of the growth in Canada Health Transfer (CHT) cash transfers to individual provinces and territories over the period 2012-13 to 2022-23.

## Projection Results

Table 1 reports projected average annual growth rates in provincial and territorial government health spending for the period 2012-13 to 2022-23 under alternative real GDP per capita growth assumptions (1.4, 0.9 and 0.4 per cent annually)[3] and assuming annual enrichment rates of 0.4 per cent and 2.0 per cent annual rates of GDP inflation (i.e., the same assumptions used in PBO's 2011 FSR).

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[1] See http://www.parl.gc.ca/PBO-DPB/documents/FSR_2011.pdf and http://www.parl.gc.ca/PBO-DPB/documents/FSR_2010.pdf.

[2] In some studies this factor is called excess-cost growth or residual-cost growth. In PBO's projection, the rate of enrichment represents growth in health spending that exceeds growth in nominal gross domestic product (GDP) and growth in spending due to changes in the age structure of the population.

[3] In the 2011 FSR, PBO projected real GDP per capita to grow at 0.9 per cent annually, on average, over 2012 to 2023.

**Table 1 – Projected Average Annual Growth in Provincial and Territorial Government Health Spending, 2012-13 to 2022-23 (per cent)**

| Real GDP per capita growth: | Canada | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.4** | 5.9 | 5.8 | 6.0 | 5.6 | 5.7 | 5.8 | 6.0 | 5.5 | 5.0 | 6.1 | 6.0 | 5.4 | 6.9 | 6.1 |
| **0.9** | 5.4 | 5.3 | 5.5 | 5.1 | 5.2 | 5.4 | 5.6 | 5.0 | 4.5 | 5.6 | 5.6 | 4.9 | 6.4 | 5.6 |
| **0.4** | 4.9 | 4.8 | 5.0 | 4.7 | 4.7 | 4.9 | 5.1 | 4.5 | 4.1 | 5.1 | 5.1 | 4.4 | 5.9 | 5.1 |

Source: Office of the Parliamentary Budget Officer.

With few exceptions, the projected average growth rates in health spending by province and territory shown in Table 1 are less than their observed growth rates over the past 11 years (see Table B-1 in Annex B). PBO also reviewed recent provincial and territorial budgets and found that only one jurisdiction (Quebec) published a forecast of health spending out to 2016-17 – six years shorter than the horizon over which PBO has been asked to project (see Table B-2 in Annex B).

Consistent with the Government of Canada's December 2011 announcement and based on the 2011 FSR projection of nominal GDP, PBO estimates that CHT cash transfers will grow by 4.9 per cent annually, on average, over the period 2012-13 to 2022-23 (see Annex C). This reflects 6 per cent annual growth to 2016-17. Beyond 2016-17, however, growth in CHT cash is tied to growth in nominal GDP as per the Government's December 2011 announcement. Further, starting in 2014-15, the Government will allocate CHT cash transfers to provinces and territories on an equal per capita basis.[4] Table 2 provides PBO's estimates of the average annual growth in CHT cash transfers. Of note, CHT cash transfers to the Government of Alberta are projected to grow by 8.2 per cent annually, on average, over 2012-13 to 2022-23. This higher growth in CHT cash primarily reflects the shift to the equal per capita allocation formula which results in a redistribution of CHT cash to Alberta.

**Table 2 – Projected Average Annual Growth in CHT Cash Transfers to Provinces and Territories, 2012-13 to 2022-23 (per cent)**

| Canada | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.9 | 2.9 | 4.4 | 4.2 | 4.2 | 4.4 | 4.8 | 4.6 | 4.1 | 8.2 | 4.8 | 4.0 | 6.7 | 3.7 |

Source: Office of the Parliamentary Budget Officer.

With few exceptions, projected average growth in CHT cash transfers by province and territory is less than projected growth in health spending shown in Table 1. In only one instance – Alberta – does projected growth in CHT cash transfers exceed projected growth in health spending under all the real GDP per capita growth rates considered.

[4] Presently, CHT transfer payments include both cash and tax points, which are allocated on an equal per capita basis (the per capita value of tax points varies across provinces and territories). Beginning in 2014-15, CHT transfers will be allocated on an equal per capita cash basis only (http://www.fin.gc.ca/fedprov/cht-eng.asp).

## Annex A – Projecting Provincial-Territorial Government Health Spending

### PBO's Projection Methodology and Data

PBO's approach to projecting health spending is based on the methodology used by the CBO and the OECD which decomposes growth in nominal health spending (HEXP) into three key drivers, namely: age composition (AGE); an "enrichment" factor (X); and, nominal income (GDP).[5] The age composition factor attempts to capture the impact of changes in the population's age structure over time. Specifically, it is constructed as an index of the weighted shares of age groups in the population. The weights are based on health expenditure data on a per capita age-group basis produced by the Canadian Institute for Health Information (CIHI).[6]

$$\left(\frac{HEXP_t}{HEXP_{t-1}}\right)=\left(\frac{AGE_t}{AGE_{t-1}}\right)\cdot\left(\frac{X_t}{X_{t-1}}\right)\cdot\left(\frac{GDP_t}{GDP_{t-1}}\right)$$

Nominal *GDP* can be expanded to include the price level (P), population (POP) and real GDP per capita (RGDPPC), which results in:

$$\left(\frac{HEXP_t}{HEXP_{t-1}}\right)=\left(\frac{AGE_t}{AGE_{t-1}}\right)\cdot\left(\frac{X_t}{X_{t-1}}\right)\cdot\left(\frac{P_t}{P_{t-1}}\right)\cdot\left(\frac{POP_t}{POP_{t-1}}\right)\cdot\left(\frac{RGDPPC_t}{RGDPPC_{t-1}}\right).$$

Using the CIHI data on which the 2011 FSR health spending projection was based[7], PBO has used the above approach to project growth over the 11-year period 2012-13 to 2022-23 by individual province and territory.[8] Over the projection period, PBO has assumed that growth in the enrichment factor for each province and territory is equal to 0.4 per cent, which is the average (nationally) calculated over 1976-2010 in the 2011 FSR. Further, consistent with the 2011 FSR, PBO has assumed that GDP inflation will average 2.0 per cent over the projection period. Therefore, for a given growth rate in real GDP per capita, the variation in projected growth in provincial and territorial health spending simply reflects differences in the demographic structure and the profile of age-group specific spending across provinces and territories.

Demographic projections are taken from Statistics Canada's current medium (M1) projection for the provinces and territories (released in June 2010).[9]

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[5] For additional detail, see Annex B in http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/87xx/doc8758/11-13-lt-health.pdf and the OECD Working Paper, "Projecting OECD Health and Long-Term Care Expenditures: What Are the Main Drivers?" http://www.oecd.org/dataoecd/57/7/36085940.pdf. PBO's approach was first described in its 2010 FSR in Annex B in http://www.parl.gc.ca/PBO-DPB/documents/FSR_2010.pdf.

[6] CIHI provides data for provincial-territorial government health expenditures per capita by age group from 1998 to 2008. 1998 is used as the base year in constructing the age composition factor over history. Over the projection horizon 2011 to 2023, expenditures per capita by age group for 2008 are used to construct the weights.

[7] *National Health Expenditure Trends, 1975 to 2010* published in October 2010.

[8] As in the 2011 FSR, provincial-territorial government health spending is projected on a calendar-year basis and converted into fiscal years using weights of 0.75 (current year) and 0.25 (subsequent year).

[9] http://www.statcan.gc.ca/pub/91-520-x/91-520-x2010001-eng.pdf.

## Alternative Real GDP Per Capita Growth Assumptions

The central case assumes average annual real GDP per capita growth of 0.9 per cent, which is the projected average growth rate in the 2011 FSR over the period 2012 to 2023. However, since growth in real GDP per capita will likely vary across provinces and territories going forward, assumed growth rates of 0.4 and 1.4 per cent (i.e., -/+ 50 per cent of the central case) are also considered. PBO believes that these assumptions provide a wide but reasonable range of projected average real GDP per capita growth rates by province and territory. Compared to historical experience, deviations of 50 per cent of the national average annual growth in real per capita GDP would – with the exception of Newfoundland and Labrador and New Brunswick – span the range of average annual growth rates observed over 1982-2010 (Table A-1).

**Table A-1 – Average Annual Growth in Real GDP Per Capita, 1982 to 2010 (per cent)**

| Canada | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4 | 2.9 | 2.0 | 1.8 | 2.2 | 1.3 | 1.2 | 1.4 | 1.8 | 1.1 | 0.7 | 2.0 | - | - |

Source: Statistics Canada; Office of the Parliamentary Budget Officer.
Note: Complete series for Northwest Territories and Nunavut do not exist for the 1981-2010 period.

## Annex B – Historical and Forecasted Growth in Provincial and Territorial Health Spending

Table B-1 presents average growth rates of health spending by provincial and territorial governments over the past 11 years (2001 to 2011) based on CIHI's *National Health Expenditure Trends, 1975 to 2011*.[10]

**Table B-1 – Average Annual Growth in Provincial and Territorial Health Spending, 2001 to 2011 (per cent)**

| Canada | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.7 | 6.8 | 7.6 | 7.0 | 6.8 | 5.9 | 6.7 | 6.6 | 7.4 | 9.7 | 5.5 | 8.5 | 6.2 | 7.9 |

Sources: Canada Institute for Health Information; Office of the Parliamentary Budget Officer.

Table B-2 presents the most recent provincial and territorial budget forecasts of health spending growth. As indicated at FINA meeting No. 54, the Ontario government forecasted health spending to grow at 2.1 per cent annually, on average, over the 3-year period 2012-13 to 2014-15.[11] While provincial governments in the past have reduced health spending growth over relatively short periods of time, provincial government health spending has never grown at 2 per cent or less for 10 consecutive years, on average, based on CIHI data from 1975 to 2011.

**Table B-2 – Forecasted Annual Growth in Provincial and Territorial Health Spending, 2012-13 to 2016-17 (per cent)**

| | N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2012-13** | 2.7 | 4.1 | 2.7 | 1.7 | 4.7 | 2.3 | 4.9 | 5.8 | 7.0 | 3.8 | 5.4 | -0.5 | -6.0 |
| **2013-14** | | 3.7 | | | 4.8 | 2.1 | | | 4.6 | 3.3 | | | |
| **2014-15** | | 3.5 | | | 5.0 | 2.1 | | | 4.5 | 2.6 | | | |
| **2015-16** | | | | | 5.0 | | | | | | | | |
| **2016-17** | | | | | 5.0 | | | | | | | | |

Sources: Provincial and territorial budgets; Office of the Parliamentary Budget Officer.

Note: Includes both current and capital expenditure where possible. Growth rates in 2012-13 are calculated using the most recent estimates for 2011-12. Forecasts are for aggregate health sector spending when reported; otherwise, estimates are for departmental expenditure by ministry.

[10] Available at: http://www.cihi.ca/CIHI-ext-portal/internet/EN/Products/products/cihi000005. CIHI includes its forecasts of provincial-territorial health spending for the years 2010 and 2011 which, according to CIHI, are based on "the growth rates of major programs reported in provincial/territorial government main estimates and budgets".

[11] In the case of Ontario, there appears to be evidence of persistent "optimism" in terms of provincial expectations for controlling growth in public health spending. For example, over the period 2000 to 2009 Ontario budgets underestimated growth in health spending for the current year (the Fiscal Plan forecast) by an average of 2.0 percentage points, with underestimates occurring in ten out of ten of the years considered.

Table B-3 shows projected average growth in health spending by province and territory based on budget forecasts from 2012-13 to 2016-17 (where available) and PBO's projected growth rates over the remainder of the projection, assuming real GDP per capita grows at 0.9 per cent annually. Incorporating the short-term budget forecasts of health spending growth reduces projected average growth rates by 0.4 percentage points (on average) relative to the projections in Table 1 based on the assumption of 0.9 per cent growth in real GDP per capita.

**Table B-3 – Projected Average Annual Growth in Provincial and Territorial Government Health Spending Based on Budget Forecasts and PBO Projections, 2012-13 to 2022-23 (per cent)**

| N.L. | P.E.I. | N.S. | N.B. | Que. | Ont. | Man. | Sask. | Alta. | B.C. | Y.T. | N.W.T | Nun. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.1 | 5.0 | 4.9 | 4.9 | 5.1 | 4.6 | 5.0 | 4.7 | 5.5 | 4.9 | 5.0 | 5.7 | 4.5 |

Sources: Provincial and territorial Budgets; Office of the Parliamentary Budget Officer.

## Annex C – Projecting CHT Cash Transfers to Provinces and Territories

### PBO's Projection Methodology and Data

PBO has also projected growth in Canada Health Transfers (CHT) cash transfers by individual province and territory. Following the Government of Canada's renewal of the CHT in December 2011, PBO updated[12] its September 2011 FSR projections to incorporate the change to the CHT escalator: the CHT would continue to grow at 6 per cent annually until 2016-17; however, starting in 2017-18, the CHT would then grow in line with a 3-year moving average of nominal GDP growth (with a 3 per cent minimum increase guaranteed). Based on the 2011 FSR projection of nominal GDP, PBO estimates that CHT cash transfers will grow by 4.9 per cent annually, on average, over the period 2012-13 to 2022-23.

Presently, CHT transfer payments include both cash and tax points. However, starting in 2014-15 CHT transfer payments will be allocated on an equal per capita cash basis only. In essence, under the current allocation formula, tax-point transfers are included and the cash portion is determined residually to ensure that total CHT transfers (cash plus tax-point transfers, including Associated Equalization) are allocated on an equal per capita basis. Therefore, as a general result, the greater the value of the tax-point transfer, the smaller is the cash payment. Using Finance Canada's estimates of CHT cash transfers by province and territory in 2011-12 and 2012-13, for 2014-15 and beyond, the allocation of CHT cash is determined by each province and territory's share of the total population. Finance Canada states (http://www.fin.gc.ca/fedprov/cht-eng.asp) that "[t]he move to an equal capita cash allocation is part of a long-term plan announced by the Government in Budget 2007 to provide comparable treatment for all Canadians, regardless of where they live".

Demographic projections are taken from Statistics Canada's current medium (M1) projection for the provinces and territories (released in June 2010).[13]

As shown in Table 2, CHT cash to Alberta is projected to grow at 8.2 per cent annually, on average, over 2012-13 to 2022-23. Since the value of Alberta's CHT tax-point transfers under the current formula is well above the national average, moving to an equal per capita cash allocation results in a redistribution of CHT cash toward Alberta.

[12] http://www.parl.gc.ca/PBO-DPB/documents/Renewing_CHT.pdf.
[13] http://www.statcan.gc.ca/pub/91-520-x/91-520-x2010001-eng.pdf.