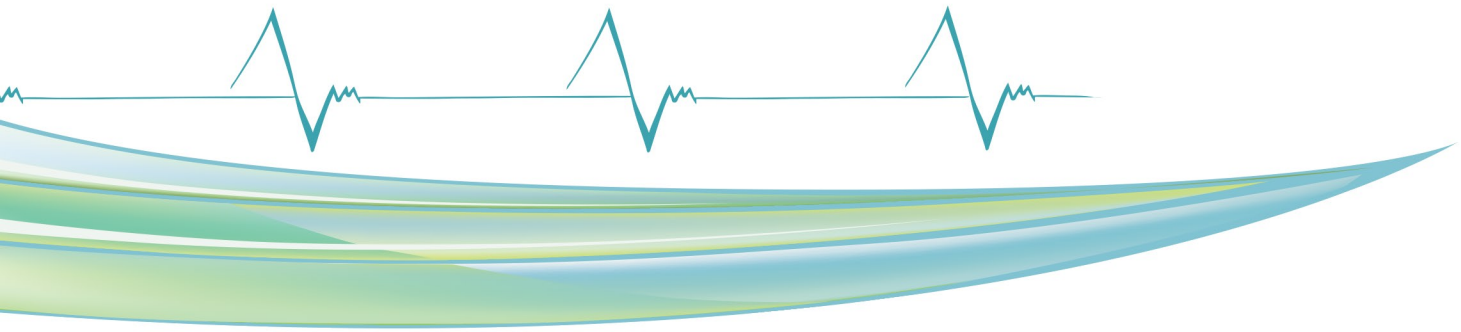
Sustainability of the Canadian Health Care System and Impact of the 2014 Revision to the Canada Health Transfer

September 2013



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Executive Summary

The cost of the Canadian health care system has been increasing steadily with health care expenditures of provinces and territories over the last five years outpacing the annual rate of inflation by nearly 4 percent. The question of how to fund and even contain growing health care costs is the topic of significant discussion and debate in Canada. While Canadian provinces and territories are predominantly responsible for their own health care delivery, the federal government provides funding support through the Canada Health Transfer (CHT). The objective of this report is to estimate the future costs of the Canadian health care system, assess the sustainability of the system over a 25-year horizon, and analyze the implications of the changes to the CHT proposed on Dec. 19, 2011 by the federal government.

The findings indicate that, without significant government intervention, the Canadian health care system in its current form is not sustainable. Key findings from the analysis show that:

- Assuming no governmental steps to curb health care expenditures, provincial/territorial spending on health care is estimated to increase at 5.1 percent real growth per year, increasing from 44 percent today to 103 percent of total provincial/territorial revenues by 2037.
- Even after assuming some governmental action (for the base scenario, see Appendix 4) to limit real growth rates to 3.5 percent—and thus to decrease 2037 health care expenditures by 30 percent—health care will still absorb 69 percent of total revenues available to provinces/territories by 2037 (86 percent of own-source revenues).
- The proposed changes to the CHT will impact total revenues available to provinces/territories, reducing the federal government's portion of provincial/territorial health care expenditures from the current 21.0 percent to 14.3 percent by 2037.
- The supply of physicians needs to increase by at least 46 percent over the next 25 years just to keep up with increased demand for services as a result of aging and population growth.

In summary, the research shows that in order to safeguard the sustainability of its health care system, Canada has to significantly limit health care cost increases, or boost GDP growth, or raise taxes/fees, or substantially reduce or cut altogether other government programs/services, or implement some combination of these.

Unlike studies that have attempted to forecast and discuss the future costs of the Canadian health care system using a macroeconomic approach, this report uses a demographic approach and the application of actuarial techniques to directly capture the increase in health care costs associated with the aging of the population. Table ES.1 summarizes the findings of the research on the cost to provincial/territorial governments and f urther illustrates the need for sizable changes to current policies to preserve the Canadian health care system.

Table ES.1: Summary of Findings

Summary of Findings		2012	2037	
			With Current CHT Formula	With Proposed CHT Formula
Provincial/Territorial Health Care Spending Using Historical Trends	$ billion	135.0	466.7	
	% of GDP	8.1%	18.9%	
Provincial/Territorial Health Care Spending Assuming Some Government Action (Appendix 4)	$ billion	135.0	315.2	
	% of GDP	8.1%	12.7%	
Health Care Expenditures as a % of Provincial/Territorial Own-Source Revenues, Assuming Some Government Action		55.1%	85.9%	
Health Care Expenditures as a % of Total Revenues Available to Provinces/Territories		44.3%	65.4%	69.3%
Canada Health Transfer (CHT) Cash Transfer	$ Billion	28.4	72.2	45.0
% of Provincial/Territorial Health Care Expenditures Funded by the CHT		21.0%	22.9%	14.3%

There are two key causes of the estimated growth in the proportion of provincial/territorial budgets used for health care:

(1) Real growth in health care expenditures (much due to the aging population), and
(2) Reduced GDP growth as the population ages and the ratio of working Canadians declines as a percentage of the total population.

Each of the above two causes has a significant impact, so any solution will likely have to address both issues.

Provinces/territories are funding health care expenditures from their own-source revenues and from federal cash transfers. This includes the CHT. The CHT currently funds 21 percent of provincial/territorial health care expenditures ($28.4 billion) and that percentage would stay relatively stable if its calculation formula remains unchanged (22.9 percent or 72.2 billion) over the 25-year horizon. On Dec. 19, 2011, the federal government announced its intention to modify the way the CHT will be calculated, effective April 1, 2014. The revised formula would see the future share of the federal government drop to 14.3 percent (45 billion) by 2037.

Provincial/territorial own-source revenues will grow at a real annual rate of 1.5 percent over the next 25 years, while their total available revenues (under the current CHT formula) would grow at a real annual rate of 1.9 percent. Therefore, health care expenditures would use up to 86 percent of own-source revenues of provinces/territories in 2037 (55 percent in 2012) and 65 percent of their total available revenues (44 percent in 2012). Should the proposed CHT calculation formula be used, provinces and territories would commit 69 percent of their total available revenues. This means that resources available to them to fund other program expenditures or to pay debt charges will be further reduced in the future.

These high growth rates in health care expenditures will make it almost impossible for provinces/territories to service their debts and to fund other services, (such as education, social welfare and infrastructure). This means that without significant changes—improved GDP growth, increased taxes, significant controls on health care cost increases or cutbacks in other government programs—the Canadian health care system will collapse.

One way to reduce the impact of increasing health care costs on provincial/territorial budgets would be to improve GDP growth. Historically, economic productivity gains increased by 1.3 percent per year which, when combined with the growth in the working population, has resulted in a growth in real GDP of 2.7 percent per year. However, the working population will likely grow at only 0.4 percent per year in the

future, resulting in real GDP growth of 1.7 percent per year. A return to real GDP growth of 2.7 percent per year, which would require an increase in economic productivity gains from 1.3 percent to 2.3 percent per year, would bring the 2037 health care budgets closer to their current situation (53 percent of total available revenues, compared to 44 percent in 2012).

This report confirms that funding future health care expenditures will be challenging for provinces/territories. Should the CHT remain unchanged, the share of their total revenues directed to health care will increase from 44 percent in 2012 to 65 percent by 2037, most likely leading to either cutbacks in other program expenditures or tax increases. Proposed changes to the allocation of the CHT will further increase that proportion from 65 percent to 69 percent by 2037, making the situation even more challenging. It is hoped that policymakers will consider the results of this research in developing funding strategies while maintaining high quality standards in the Canadian health care system. Such strategies will undoubtedly need to include initiatives to contain the cost of delivering health care and economic stimulus to increase provincial/territorial revenues. This is necessary to ensure the survival of the Canadian health care system.

Chapter 1—Introduction

The Canadian health care system is governed by the *Canada Health Act* of 1984, setting the standards associated to insured health care services—namely physician and hospital services—which provinces/territories must satisfy to receive federal funding. These standards are comprehensiveness, universality, accessibility, portability and public administration.

The cost of the Canadian health care system has been increasing steadily, health care expenditures of provinces/territories having increased at an annual real rate of 3.9 percent from 1997 to 2012—on top of inflation. The private sector (including out-of-pocket payments from Canadians), which funds about 30 percent of the total health care expenditures, has seen them increasing at an annual real rate of 4.6 percent—on top of inflation—over the same period of time. In aggregate, the Canadian health care system consumes resources equal to 12.4 percent of GDP, or 5.4 percent when only considering physician and hospital services.

> *As of 2011, provincial health spending in Ontario and Quebec currently consumes more than 50% of total revenues. […] Projections of the most recent ten-year trend show that in Saskatchewan, Alberta, British Columbia, and New Brunswick government health spending is on pace to consume 50% of revenues by 2017. In Manitoba and Prince Edward Island, health spending will reach 50% of total available revenues by 2028.*[1] *Excluding federal transfers, health spending consumes 87.7% of total available provincial own-source revenue in Nova Scotia, 74.2% in New Brunswick, 71.9% in Quebec, 65.5% in Prince Edward Island, 63.1% in Ontario, 62.8% in Manitoba, 60.3% in Newfoundland & Labrador, 55.2% in Saskatchewan, 54.6% in British Columbia, and 48.0% in Alberta.*[2]

Federal funding support to provinces/territories is through the Canada Health Transfer (CHT). In 2011, the federal government announced a review of the calculation formula of CHT cash transfers. Starting with fiscal year 2017-2018, in addition to allocating CHT cash transfers to provinces/territories on an equal-per-capita basis, total CHT cash transfers will cease to grow at a fixed annual nominal rate of 6 percent, as is currently the case, and will instead track the growth of the gross domestic product (GDP), subject to a minimum increase of 3 percent.

The Conference of Premiers has united against the unilateral move from the federal government. The Parliamentary Budget Officer (PBO) has also analyzed the proposed changes in the CHT calculation formula, suggesting it would create undue pressure on provinces/territories in balancing their budgets.

> *[…] PBO projects that the share of federal CHT cash payments in provincial-territorial health spending will decrease substantially from 20.4 per cent in 2010-11 to average 18.6 per cent over 2011-12 to 2035-36; then 13.8 per cent over the following 25 years; and, 11.9 per cent over the remainder of the projection horizon. This would ultimately bring the level of federal cash support to historical lows observed under the 1996-97 to 2001-02 period of CHST (Canada Health and Social Transfer) funding.*[3]

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[1] Skinner and Rovere made an editorial decision not to show figures for Newfoundland & Labrador and Nova Scotia as their total available revenues grew over the past 10 years at the same rate or faster than government health expenditures.

[2] Skinner, Brett J., and Mark Rovere. 2011. *Canada's Medicare Bubble: Is Government Health Spending Sustainable without User-based Funding?* Studies in Health Care Policy. Fraser Institute.

[3] Matier, Chris. 2012. *Reviewing the Canada Health Transfer: Implications for Federal and Provincial-Territorial Fiscal Sustainability*. Ottawa: Office of the Parliamentary Budget Officer.

The objective of this report is to evaluate the future costs of the Canadian health care system, to evaluate and analyze the implications of the proposed changes to the CHT calculation formula, and to assess the sustainability of the Canadian health care system over a 25-year horizon.

Several research, studies, papers and articles have attempted to forecast and discuss the future cost of the Canadian health care system, some of them adopting a macroeconomic approach. The distinguishing feature of this report is the adoption of a demographic approach to the question and the application of actuarial techniques. The clear advantage of such approach is to directly capture the increasing health care costs associated with the aging of the population.

This report is structured as follows:

- Chapter 2 is mostly educational in nature and presents a brief description of the Canadian health care system.
- Chapter 3 is intended to evaluate the current cost of the Canadian health care system and to define the metrics that will be projected in assessing the impacts of the proposed changes to the CHT on the financial position of provinces/territories.
- Chapter 4 presents the demographic model used to project future health care expenditures. Consideration is given to issues related to the supply of physicians. It also describes the economic model developed for this report.
- Chapters 5 to 10 discuss the current costs of the following types of health care expenditures, develop a set of projection assumptions associated with these health care expenditures, and project them for the next 25 years:
    - Chapter 5—physician expenditures
    - Chapter 6—hospital expenditures
    - Chapter 7—other institutions expenditures
    - Chapter 8—other professionals expenditures
    - Chapter 9—drug expenditures
    - Chapter 10—other health spending.
- Chapter 11 combines the projections for each type of health care expenditures and compares them to the revenues available to provinces/territories. The proposed changes to the CHT are described and their implications discussed from the perspective of the *Canada Health Act* of 1984 as well as from a broader perspective.
- Chapter 12 presents the impact of projected health care expenditures on other payers: the federal government, municipal governments, social security funds and the private sector (including out-of-pocket payments from Canadians).
- Chapter 13 summarizes the main conclusions of this report.

Finally, appendices are included, allowing the reader to refer to more detailed information and to gain additional insight and background about the discussions presented in this report.

Chapter 2—Description of the Canadian Health Care System

This chapter briefly describes the Canadian health care system[4]. It is not meant to be exhaustive and comprehensive, but merely a way to introduce the reader to the Canadian environment prior to analyzing its cost. Differences and subtleties exist across the different provincial/territorial health care programs that may not be addressed here.

Introduction

Health care in Canada is mainly delivered through a publicly funded Medicare system, which is mostly free at the point of use and has most services provided by private entities. It is governed by the provisions of the *Canada Health Act* of 1984, which gives the federal government the levers to assure the quality of care through national standards.

The Canadian health care system is described in this chapter by looking at (1) the government's involvement, (2) the scope of health care coverage, (3) how health care is delivered, and (4) how it is funded.

Government Involvement

In Canada, health care delivery is considered a provincial jurisdiction, and provinces/territories effectively directly administer most of the health care system. Still, the federal government sets national standards by providing funding support—the Canada Health Transfer (CHT)—to provinces/territories for health care expenditures.[5] International data shows that, in 2010, about 71 percent of Canadian health care expenditures were paid from public sources, effectively placing it below most OECD countries.[6]

The largest provincial/territorial health program is, by far, Medicare, which in fact consists of two programs: (1) Hospital Insurance, which started in 1958,[7] and with all provinces/territories having programs in place by 1961; and (2) Medical Insurance, which started in 1968,[8] and with all provinces/territories having programs in place by 1972. The *Canada Health Act* of 1984 established criteria that must be complied with for provinces/territories to receive federal grants:

[4] Appendix 6 contains a brief description of the U.S. health care system and outlines some differences between the U.S. and Canadian health care systems.
[5] The *Constitution Act* of 1867 (formerly known as the *British North America Act* of 1867) did not give anyone explicit responsibility for health care, as it was then a minor concern. The act gave responsibility for regulating hospitals to the provinces, who then claimed that their general responsibility for local and private matters encompassed health care. The federal government felt that the health of the population fell under the "peace, order, and good government" part of its responsibilities. Eventually, the Judicial Committee of the Privy Council decided that the administration and delivery of health care would be a provincial jurisdiction and that the federal government would also have the responsibility of protecting the health and well-being of the population.
[6] OECD Health Data 2012.
[7] With the adoption of the *Hospital Insurance and Diagnostic Services Act* of 1957, it must be noted that some provinces had taken some earlier initiatives, notably Saskatchewan in 1946 and Alberta in 1950.
[8] With the adoption of the *Medical Care Act* of 1966.

- *Comprehensiveness: All medically required hospital and physician services must be covered under the plan;*
- *Universality: All legal residents of a province or territory must be entitled to the insured health services provided for by the plan on uniform terms and conditions;*
- *Accessibility: Reasonable access by residents to hospital and physician services must not be impeded by charges made to them;*
- *Portability: The plan may not impose a waiting period in excess of 3 months for new residents and coverage must be maintained when a resident moves or travels within Canada or is temporarily out of the country;*
- *Public administration: The plan must be administered and operated on a non-profit basis by a public authority.*[9]

There is cause for debate over the *comprehensiveness* criterion regarding the scope of what should be included as "insured health services" under the *Canada Health Act* of 1984. Historically, the definition of insured health services has been largely restricted to care delivered in hospitals or by physicians. However, since the 1950s and the 1960s, care has moved beyond the scope of the *Canada Health Act* of 1984*,* from hospitals to home and community.

The Canadian federal government also directly administers health care for groups such as the military and inmates of federal prisons. They also provide some level of health care to the Royal Canadian Mounted Police (RCMP) and to veterans.[10] The largest group that the federal government is directly responsible for is First Nations, as Native people are a federal responsibility and are guaranteed complete coverage of their health care needs.

Scope of Coverage

The Canadian Medicare system is actually a collection of separate public health insurance programs—10 provincial, three territorial and one federal—that are very similar in the scope of their coverage. They include coverage for physician care, surgery and hospitalization.[11] Some services are, however, not covered or their coverage is limited. For instance, dental care is only covered for children up to age 10 in some provinces,[12] and vision care is only covered in some provinces and most often only for children under a certain age.

Under the *Canada Health Act* of 1984, outpatient prescription drugs are not required to be covered,[13] but some provinces have drug programs that provide coverage for certain populations, such as seniors, low-income families, those on social assistance, or those with certain medical conditions. Quebec has a universal drug insurance program that guarantees access to prescription drug coverage to all residents, either through employer-provided private group plans or from a public-sponsored insurance program. Some other provinces cover the costs of prescription drugs exceeding a certain level of a family's income.

[9] W.F. Bluhm, 2007.
[10] These groups, however, mostly use the public system.
[11] Refer to Appendix 1 for a more detailed description of what is generally covered under Canadian Medicare programs.
[12] Section 9 of the *Canada Health Act* of 1984 states that all provincial/territorial health insurance programs must cover *"all insured health services provided by hospitals, medical practitioners or dentists*." Still, by virtue of Section 2 of the act, insured services is defined so as to be limited to hospital and physician services, as before the adoption of the *Canada Health Act* of 1984. This means that surgical dental services are only covered if provided in a hospital.
[13] Drugs and medications administered in a health care facility on an inpatient basis must, however, be covered by the provincial/territorial health insurance programs.

Finally, the private insurance industry agreed, starting in 2013, to pool the costs of expensive recurrent drug claims reimbursed by private fully insured benefit plans.

Health Care Delivery System

In Canada, hospital care is delivered by publicly funded hospitals that are independent institutions incorporated separately from the provincial governments but that are required by law to operate within their budget.

> *Health ministries have delegated the daily administration and management of these services to smaller public bodies generically called regional health authorities (RHAs). […] RHAs are not responsible for managing prescription drug plans or physician plans, two areas that continue to be administered centrally by all provincial and territorial ministries. At the same time, the federal government also has significant responsibilities for health infrastructure in Canada, including health data collection, health research through the Canadian Institute of Health Research and drug regulation through Health Canada, the Patented Medicine Prices Review Board and the Patent Act. In addition, the federal government has responsibility for First Nations and Inuit peoples' health.*[14]

Even though they are not forced to contract with their provincial/territorial health insurance program, most physicians actually do. This obliges them to provide services within the framework of the provincial/territorial program on an exclusive basis. Those opting not to contract with the public program are free to practice medicine on a private basis. However, private insurance of hospital and medical services provided outside the public program is prohibited if such services would have otherwise been covered under the provincial/territorial program.[15]

Family physicians in Canada are chosen by individuals. A patient wishing or needing to see a specialist must be referred by a general practitioner. Most physicians receive a fee per visit, at rates negotiated between the provinces/territories and the medical associations.

Each province/territory regulates its medical profession through a self-governing College of Physicians and Surgeons, which is responsible for licensing physicians, setting practice standards, and investigating and disciplining its members.

Health Care Funding

In Canada, private insurance does not play a dominant role in the overall health care system. About 30 percent of the cost of health care is assumed by the non-public sector, including the private sector (insurance companies and private employee benefit plans) and out-of-pocket payments from Canadians. This mostly goes toward services not covered or only partially covered by Medicare, such as prescription drugs, complementary medical services, dental care and vision care. About three-quarters of Canadians

[14] CIHI, 2011b.

[15] In June 2005, the Supreme Court of Canada ruled in *Chaoulli v. Quebec (Attorney General)* that Quebec's prohibition of private health insurance for medically necessary services violated the *Quebec Charter of Human Rights and Freedoms*, potentially opening the door to much more private sector participation in the health care system. To date, this has not resulted in any significant development of a private medical care insurance market since further legislation by Quebec limited this market to eye, hip and knee surgery, in compliance with the Supreme Court ruling.

have some form of supplementary private health insurance, most of them through their employers. In 2012, the federal, provincial and territorial governments funded 68 percent of Canadians' health care costs.[16] This covered most hospital and physician expenditures, with patients generally receiving services free of charge.

In general, health care expenditures are paid by provinces/territories using funds from their general revenues. Only British Columbia directly imposes a fixed monthly premium to citizens,[17] which is waived or reduced for those on low income. Ontario and Quebec also impose some kind of premium, sometimes referred to as a tax or contribution, which is based on income. General revenues available to provinces/territories to fund the costs of health care include payroll[18] and income taxes, any income or tariffs not allocated to other programs, and federal transfers.

The CHT[19] is a block transfer with funds used by provinces/territories for the purpose of "maintaining the national criteria" for publicly provided health care in Canada (as set out in the *Canada Health Act* of 1984).[20] The CHT is made up of a cash transfer and a tax transfer.[21,22] Annual cash levels are set in legislation up to fiscal year 2013-2014 as a result of the *September 2004 Health Accord* between the federal government and the provinces/territories,[23] growing by 6 percent annually as a result of the automatic escalator. While the CHT is allocated on an equal per capita basis, the CHT cash component is not because it takes into account the value of provincial/territorial tax points.

In order for the federal government to effectively enforce the standards set out in the *Canada Health Act* of 1984, the CHT is reduced dollar-for-dollar for any extra-billing charges or other fees that patients must pay. Initially, the federal government's contribution to Medicare represented 50 percent of publicly covered health care costs. This share has reduced significantly over time as a result of health care expenditures outpacing federal transfers to provinces/territories. In 2012, the federal government assumes a share of about 21 percent of publicly covered health care costs (close to 35 percent when only considering hospital and physician expenditures).

[16] CIHI, 2012b.
[17] Until 2008, Alberta was also imposing premiums for the Alberta Health Care Insurance Plan (AHCIP). They have now been eliminated.
[18] A payroll-based tax is levied in Newfoundland & Labrador, Quebec, Ontario, Manitoba, the Northwest Territories and Nunavut.
[19] The CHT was made independent from the Canada Health and Social Transfer (CHST) program on April 1, 2004 to allow for greater accountability and transparency for federal health funding. From 1996 to 2004, federal grants for Medicare were combined with all other social transfer payments under the CHST.
[20] In addition, Yukon, the Northwest Territories and Nunavut receive federal cash transfers through the Territorial Formula Financing, which is an unconditional transfer from the federal government to give territorial residents access to a range of public services—including health care—comparable to those offered by provincial governments, at comparable levels of taxation.
[21] A tax transfer occurs when the federal government agrees to lower its tax rate so that provinces and territories can raise theirs by the same amount.
[22] In fiscal year 2008-2009, CHT cash transfer payments from the federal government to provinces and territories were $22.6 billion, and tax point transfers were worth $13.9 billion (Canadian Department of Finance).
[23] The CHT cash transfer will reach $29 billion in 2012 to 2013 and over $30 billion in 2013 to 2014. CHT tax transfers amount to $14.7 billion in 2012 to 2013 and will continue to grow in line with the economy (Canadian Department of Finance).

Chapter 3—Current Cost of the Canadian Health Care System

Discussing and making projections about the future cost of the Canadian health care system requires an understanding of the different types of health care expenditures and sources of funds for which reliable information is available. Avoiding confusion in using the conclusions of this report justifies using sources of information that are objective, independent and generally accepted in the Canadian environment and that are also referred to by other research, studies, papers and articles.

This chapter first presents and discusses the current cost of the Canadian health care system for each type of use of funds and for each payer. It then defines the measurement items that will be used when assessing the sustainability of the system and the impacts of the proposed changes to the CHT on the financial position of provinces/territories.

Comment on Data

Health care expenditures may be classified in a variety of ways. This report uses the Canadian Institute for Health Information's (CIHI's) NHEX Database as the starting point for the forecasts. This is justified by the fact that CIHI's data is widely recognized as being both reliable and objective and is most often used by other researchers interested with health care public policy issues. Also, it allows for a greater and easier breakdown of expenditures components. Still, the reader must keep in mind CIHI's own warning:

> *[Statistics Canada's Financial Management System (FMS)'s] public-sector health spending estimates are lower than those reported by CIHI because different classification methods are applied and a narrower definition of health expenditures is used in the FMS.*[24]

Even though the Canada Health Transfer (CHT) is managed on the basis of fiscal years ending on March 31 of each year, this report looks at health expenditures on a calendar-year basis. This is justified by the fact that the NHEX Database provides more details on a calendar-year basis than on a fiscal-year basis. In Chapter 11, CHT payments are converted from a fiscal-year basis to a calendar-year basis using rules consistent with CIHI's methodology.

The starting point for projections is calendar year 2012. It must be noted that CIHI's figures for 2012 are estimates, which are taken as is so as to initiate discussions on solid ground that is widely recognized.

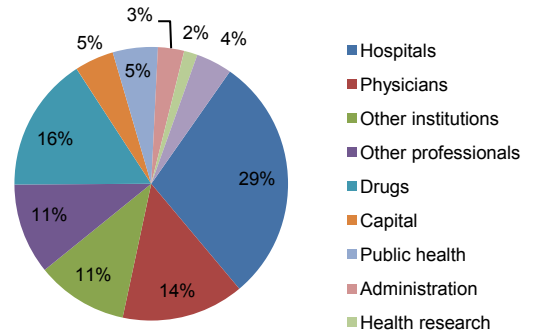
Health expenditures funded by provinces/territories are available by age and gender for some types of expenditures. These are, however, only available up to the year 2010. They are then projected to 2012 in a way that ensures that the resulting total health expenditures, by type of expenditures, match CIHI's estimates. They are also used in some instances as a basis for projecting health care expenditures funded by other public and private sectors and directly by Canadians.

[24] CIHI, 2011c.

Current Cost of the Canadian Health Care System

Health care expenditures are broken down using a two-dimension matrix, based on types of expenditures and payers.[25] Figure 3.1 shows how total health care expenditures are distributed amongst the various types, for all payers combined. Excluding expenditures related to capital, public health, administration, health research and other health spending, it shows that hospital and physician expenditures use about 54 percent of total health care expenditures. Thus, about 46 percent of total health care expenditures—close to one-half—are used for services that were not originally covered by the *Canada Health Act* of 1984.

Figure 3.1: Distribution of Health Care Expenditures, 2012, by Use of Funds



Source: CIHI, 2012b.

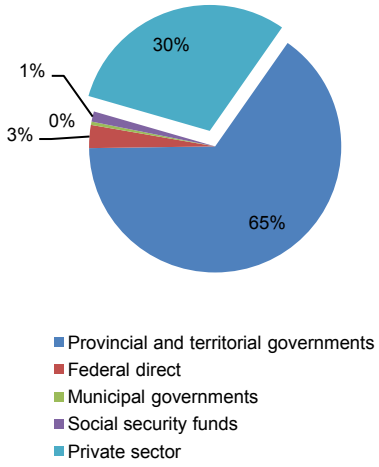
Figure 3.2 shows how total health expenditures are distributed by payers. They include the public sector and the private sector, the latter including payments made by insurance companies[26] or employer-sponsored benefit plans, and out-of-pocket payments by Canadians. The public sector is also broken down into the following segments:

- The provincial and territorial government sector includes health care expenditures of provinces/territories, including what is financially supported by the CHT.
- The federal direct sector includes health care expenditures of the federal government—excluding the CHT—typically for special groups, such as the First Nations,[27] the military, the RCMP and veterans, as well as direct expenditures for research and health promotion.
- The municipal government sector includes health care expenditures of municipalities for institutional services, public health and dental services in some provinces. Fund transfers from provinces/territories are not counted here, but rather stay under the provincial and territorial government sector.
- Finally, the social security funds sector includes health care expenditures of workers' compensation boards, plus the premium paid by participants to the Quebec Drug Insurance Fund.[28]

[25] What is included under each type of health care expenditures is defined in Chapters 5 to 10.
[26] Including not-for-profit companies and including the administrative costs, out-of-pocket health care expenditures, plus any other private health-related expenditure such as private capital expenditures and private research.
[27] First Nations is the largest group that the federal government is directly responsible for, as Native people are a federal responsibility and are guaranteed complete coverage of their health care needs.
[28] The excess of drug expenditures paid out of the Quebec Drug Insurance Fund over the premium contributed is funded with Quebec's general revenues and is included in the respective provincial government health care expenditures sector.

Figure 3.2 shows that provinces/territories are funding 65 percent of the total health care expenditures and the private sector 30 percent (including out-of-pocket payments by Canadians), leaving 5 percent to the remaining public-sector participants.

Figure 3.2: Distribution of Health Care Expenditures, 2012, by Payer



Source: CIHI, 2012b.

International Comparison

Table 3.1 compares the health care expenditures in Canada to selected OECD countries, showing what is funded by public and private sources (including out-of-pocket payments by Canadians) on a per capita basis. Total per capita health care expenditures are significantly (46 percent) lower in Canada than in the United States. However, Canada still ranks as the fifth most expensive country on a per capita basis. As a percentage of GDP, the United States stands out again as having an expensive health care system, while Canada also ranks in the second quartile of the most expensive countries.

Table 3.1: Comparison of Canadian Health Care Expenditures with Selected OECD Countries, 2010 ($US)

Country	Public Health Care Expenditures		Private and Out-of-Pocket Health Care Expenditures		Total Health Care Expenditures		Public Share of Total Health Care Expenditures
	Per capita	% of GDP	Per capita	% of GDP	Per capita	% of GDP	
Austria	3,349	8.4%	1,046	2.6%	4,395	11.0%	76%
Belgium	3,000	7.9%	969	2.6%	3,969	10.5%	76%
Canada	3,158	8.1%	1,287	3.3%	4,445	11.4%	71%
Chile	579	3.9%	623	4.1%	1,202	8.0%	48%
Czech Republic	1,578	6.3%	306	1.2%	1,884	7.5%	84%
Denmark	3,800	9.4%	664	1.7%	4,464	11.1%	85%
Estonia	1,020	5.0%	274	1.3%	1,294	6.3%	79%
Finland	2,422	6.6%	829	2.3%	3,251	8.9%	75%
France	3,061	8.9%	913	2.7%	3,974	11.6%	77%
Germany	3,331	8.9%	1,007	2.7%	4,338	11.6%	77%
Hungary	1,037	5.1%	564	2.7%	1,601	7.8%	65%
Iceland	2,662	7.5%	647	1.8%	3,309	9.3%	80%
Ireland	2,585	6.4%	1,133	2.8%	3,718	9.2%	70%
Italy	2,359	7.4%	605	1.9%	2,964	9.3%	80%
Korea	1,185	4.1%	850	3.0%	2,035	7.1%	58%
Mexico	433	2.9%	483	3.3%	916	6.2%	47%
New Zealand	2,515	8.4%	507	1.7%	3,022	10.1%	83%
Norway	4,607	8.0%	781	1.4%	5,388	9.4%	86%
Poland	995	5.0%	394	2.0%	1,389	7.0%	72%
Slovak Republic	1,351	5.8%	744	3.2%	2,095	9.0%	64%
Slovenia	1,768	6.6%	660	2.4%	2,428	9.0%	73%
Sweden	3,046	7.8%	712	1.8%	3,758	9.6%	81%
Switzerland	3,437	7.4%	1,833	4.0%	5,270	11.4%	65%
United Kingdom	2,857	8.0%	576	1.6%	3,433	9.6%	83%
United States	3,967	8.5%	4,266	9.1%	8,233	17.6%	48%

Source: OECD Health Data 2012.

Measurement Items to Project

With the Canada Health Transfer being meant to support provinces/territories in funding the principles of the *Canada Health Act* of 1984, a *strict view* on total health care expenditures is limited to hospital and physician services (those falling under the act) in isolation from other types of expenditures. The current costs of such health care services are summarized in Table 3.2. Provinces/territories are funding close to the entire cost, with support from the federal government through the CHT, and with 65 percent of the funds going to hospitals and 35 percent to physicians. This is referred to as the *Canada Health Act* perspective in Chapter 11.

Table 3.2: Health Care Expenditures, *Canada Health Act* Perspective (strict), 2012 (millions of dollars)

	Provincial/ Territorial Governments	Federal Direct	Total	% of GDP
Physician Expenditures	29,015.0	224.8	29,239.8	1.7%
Hospital Expenditures	53,924.8	326.0	54,250.7	3.2%
Total	82,939.8	550.8	83,490.6	5.0%
	99.3%	0.7%	100.0%	

Source: CIHI, 2012b.

Then, and in order to recognize the interests of other stakeholders, a *broad view* on total health care expenditures also forecasts health care expenditures not required by the *Canada Health Act* which may be funded by provinces/territories or other parties (municipal governments, social security funds and the private sector, including out-of-pocket payments). The current cost of these health care services is summarized in Table 3.3.

Table 3.3: Health Care Expenditures, Broad Perspective, 2012 (millions of dollars)

	Provincial/ Territorial Governments	Federal Direct	Municipal Governments	Social Security Funds	Private Sector and Out-of-Pocket Payments	Total	% of GDP
Physician Expenditures	29,015.0	224.8	0.0	316.5	400.4	29,956.7	1.8%
Hospital Expenditures	53,924.8	326.0	36.2	370.9	5,864.9	60,522.7	3.6%
Other Institutions	15,913.9	124.2	0.0	13.2	6,397.0	22,448.2	1.3%
Other Professionals	1,102.5	346.2	0.8	343.9	20,482.3	22,275.7	1.3%
Drugs	10,677.1	597.0	0.0	1,005.7	20,695.6	33,025.5	2.0%
Other Health Spending	24,318.4	4,495.4	842.7	592.4	8,939.2	39,188.1	2.3%
Total	134,951.7	6,113.5	879.7	2,692.5	62,779.4	207,416.9	12.4%
	65.1%	2.9%	0.4%	1.3%	30.3%	100.0%	

Source: CIHI, 2012b. For the definition of "Other Institutions" see Chapter 7; "Other Professionals" Chapter 8 and "Other Health Spending" Chapter 10.

Chapter 4—Economic and Demographic Models

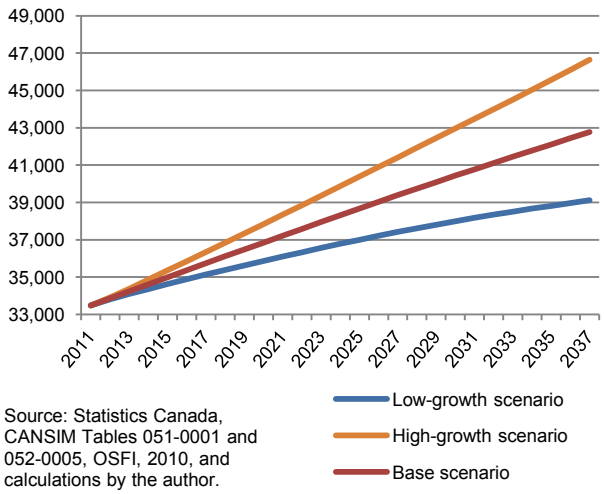
This report is distinguished from other similar work by adopting an actuarial approach to the task of forecasting the future costs of the Canadian health care system: instead of projecting health care expenditures using macroeconomic techniques, they are modeled using assumptions about the expected demographic profile. Likewise, the ability of the Canadian economy to absorb the expected costs of the health care system is assessed using an economic model that also relies on demographic projections.

This chapter briefly introduces the demographic model used in this research, the reader being invited to refer to Appendix 2 for a more detailed discussion. Then, consideration is given to issues in relation to the supply of physicians. Finally, the economic model is presented, with the reader invited to refer to Appendix 3 for more details.

Demographic Model

The starting point is the Canadian demographic profile as published by Statistics Canada and taken from the 2011 census. Then, population forecasts published by Statistics Canada are analyzed and used, with this report referring to their medium-growth scenario as our base scenario. Projections are based on assumptions about fertility, mortality, international immigration, emigration and inter-provincial migration. Population projections using different demographic scenarios are displayed in Figure 4.1. Under the base scenario, the Canadian population is expected to grow from 33.9 million in 2012 to 42.8 million in 2037, a 0.9 percent annual growth rate. This is consistent with other research, including Drummond.[29] By contrast, the growth rate would be equal to 0.6 percent under the low-growth scenario, and 1.3 percent under the high-growth scenario. Ontario, Alberta and British Columbia are expected to grow faster than the national average, with Quebec growing at a slower pace and the Atlantic provinces only marginally growing (except for Prince Edward Island).[30]

Figure 4.1: Projected Population, Total Canada, 2011 to 2037 (in thousands)



Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, OSFI, 2010, and calculations by the author.

[29] Drummond, Don, and Derek Burleton. 2010. *Charting a Path to Sustainable Healthcare in Ontario: 10 Proposals to Restrain Cost Growth Without Compromising Quality of Care*. TD Economics, May 27.

[30] Refer to Table A2.10 in Appendix 2 to see the expected growth rates by province and territory under the three demographic scenarios.

Sensitivity of the results of this report was tested. For instance, this research found that the low-growth scenario would result in health care expenditures of provinces/territories to be 6.1 percent lower in 25 years.

Supply of Physicians Considerations

A significant cost escalator of the Canadian health care system relates to the supply of physicians. Firstly, physicians impact the cost of the Canadian health care system as a direct result of the dollars spent for their services. Secondly, *"[they play a] role in generating other costs in the system, such as ordering laboratory tests, diagnostic procedures, medications and admitting patients to health care facilities."*[31] There are instances where governments have used—and may still be using—controls over the supply of physicians as a health care cost containment tool. Meanwhile, interest groups claim that there is a shortage of medical practitioners in Canada.

This report considers staffing issues, taking a neutral and objective position. Our finding is that the supply of physicians needs to increase by at least 46 percent over the next 25 years just to keep up with increased demand resulting from the aging of the population.

Economic Model

Future health care expenditures are compared to the ability of the Canadian economy and, more specifically, to the financial position of provinces/territories, to assess the sustainability of the Canadian health care system and to evaluate the eventual implications of the proposed changes to the Canada Health Transfer (CHT). The metric used by this report is the gross domestic product (GDP), expressed in constant 2012 dollars.

A detailed presentation of the economic model developed in this research is found in Appendix 3. Briefly, real GDP is projected using an expected working population growth pattern consistent with that used in the projection of health care expenditures, and an assumed productivity gain factor of 1.31 percent (consistent with the average over the past 25 years), on average for Canada. The resulting real GDP forecast is shown on Table 4.1. Under the base scenario, real GDP is expected to grow at an annual rate of 1.6 percent in aggregate from 2012 to 2037 (it would grow at annual rates of 1.3 percent and 1.9 percent, respectively, if using the low-growth or high-growth demographic scenarios). This falls short of the 2.7 percent historical real growth rate observed from 1981 to 2008. This is explained by demographic factors, the working population expected to grow at an annual rate of 0.4 percent over the next 25 years, whereas it has historically grown at an annual rate of 1.4 percent. This implies that achieving future economic growth similar to past

Table 4.1: GDP Projections, Total Canada, 2012 to 2037 (millions of constant 2012 dollars)

Year	Low-Growth Scenario	Base Scenario	High-Growth Scenario
2012	1,675,443	1,676,310	1,677,115
2013	1,705,412	1,709,366	1,713,320
2014	1,735,000	1,742,226	1,749,461
2015	1,763,929	1,774,686	1,785,415
2016	1,791,761	1,806,251	1,820,676
2017	1,817,938	1,836,296	1,854,761
2018	1,841,954	1,864,421	1,887,066
2019	1,863,903	1,890,781	1,917,958
2020	1,885,009	1,916,258	1,948,268
2021	1,905,557	1,941,629	1,978,470
2022	1,925,094	1,966,228	2,008,371
2023	1,944,495	1,990,965	2,038,488
2024	1,964,528	2,016,412	2,069,843
2025	1,983,762	2,041,459	2,100,908
2026	2,003,394	2,066,947	2,132,792
2027	2,024,157	2,093,944	2,166,351
2028	2,044,647	2,121,088	2,200,502
2029	2,066,667	2,149,748	2,236,434
2030	2,089,958	2,181,737	2,276,986
2031	2,116,654	2,218,183	2,323,136
2032	2,145,711	2,258,035	2,374,077
2033	2,175,427	2,299,566	2,428,357
2034	2,205,052	2,342,380	2,484,968
2035	2,234,881	2,385,857	2,542,984
2036	2,265,378	2,430,366	2,602,593
2037	2,296,554	2,476,011	2,663,987

Source: Statistics Canada, CANSIM Tables 051-0001 and 384-0002 and calculations by the author.

[31] Conference Board of Canada. 2004. *Understanding Health Care Cost Drivers and Escalators.*

experience would require future productivity gains to be about 1 percent higher, at a level of 2.3 percent instead of the historical average of 1.31 percent. Should action take place resulting in such result, then total health care expenditures of provinces/territories will be equal to 55.6 percent of their total revenues, as opposed to 70.6 percent under the base scenario. Likewise, it will use 4.0 percent less economic resources (GDP) than under the base scenario.

Chapter 5—Projection of Physician Expenditures

Physician expenditures are the second-largest use of health care funds in Canada, representing 14 percent of all health care expenditures, for all payers combined, and 22 percent of the health care expenditures of provinces/territories. This chapter first looks at the current structure of physician expenditures, before projecting them for the next 25 years. Physician supply considerations are then discussed.

Introduction

Physician expenditures consist mainly in payments made to physicians and specialists by the provincial/territorial health insurance programs.[32] These may be in relation to services rendered in private clinics or in hospitals. Remuneration associated to physicians who are on the payrolls of hospitals or other public-sector health agencies is not included in this category.

Current Costs

Table 5.1 shows physician expenditures by payer and by province/territory. It shows that provinces/territories are responsible for close to 97 percent of all physician expenditures, leaving a mere 2 percent to other public sectors. The private sector (including out-of-pocket payments by Canadians) assumes slightly more than 1 percent of costs, essentially as a result of some patients electing to use physicians who are not enrolled in the public health insurance programs.

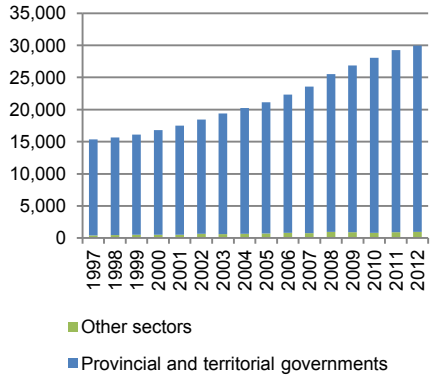
Table 5.1: Total Physician Expenditures, 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector			Private Sector and Out-of-Pocket Payments			Total		
	Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	451.8	887		1.9	4		461.9	907	2.0%
Prince Edward Island	103.3	706		0.4	2		104.9	717	2.0%
Nova Scotia	741.1	783		10.2	11		764.7	808	2.2%
New Brunswick	590.3	781		3.7	5		607.2	803	2.1%
Quebec	5,643.6	702		148.4	18		5,834.2	726	1.7%
Ontario	12,089.7	894		71.0	5		12,325.5	911	1.8%
Manitoba	1,030.2	816		11.0	9		1,077.2	853	2.0%
Saskatchewan	907.9	849		0.0	0		938.0	877	1.9%
Alberta	3,518.6	913		79.2	21		3,733.7	969	1.4%
British Columbia	3,807.4	819		74.5	16		3,975.8	856	1.9%
Yukon	29.9	854		0.0	0		30.6	873	1.4%
Northwest Territories	50.8	1,152		0.0	0		52.0	1,179	1.4%
Nunavut	50.4	1,496		0.0	0		51.2	1,518	3.4%
Total Canada	29,015.0	832		400.4	11		29,956.7	859	1.8%
Prov./Terr. Governments	29,015.0	832							
Federal Direct	224.8	6							
Social Security Funds	316.5	9							
Total	29,556.3	848		400.4	11		29,956.7	859	1.8%

Source: CIHI, 2012b.

[32] CIHI, 2012b. Physician expenditures are defined so as to "*include primarily professional fees paid by provincial/territorial medical care insurance plans to physicians in private practice. Fees for services rendered in hospitals are included when paid directly to physicians by the plans. Also included are other forms of professional income (salaries, sessional, capitation).*"

Figure 5.1: Historical Physician Expenditures, 1997 to 2012 (millions of constant 2012 dollars)



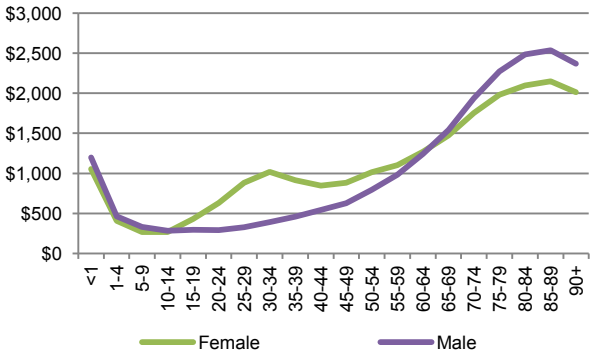
It is noteworthy that $29.2 billion of physician expenditures (98 percent of the total physician expenditures) fall under the scope of the *Canada Health Act* of 1984,[33] which the Canada Health Transfer (CHT) is designed to support. Also, they account for 35 percent of the total health care expenditures falling under the scope of the *Canada Health Act* of 1984.

Figure 5.1 shows that total physician expenditures have increased at an annual real rate of 4.5 percent—on top of inflation—over the past 15 years (from $15.4 billion of constant 2012 dollars in 1997 to $30.0 billion in 2012). Meanwhile, per capita physician expenditures have increased at a real rate of 3.5 percent.

Per capita physician expenditures of provinces/territories follow the pattern shown on Figure 5.2 by age and gender. Actual data for the year 2010 is published by the Canadian Institute for Health Information (CIHI). It is then projected to 2012 using the demographic model presented in Chapter 4 by ensuring that the total resulting physician expenditures match the estimate shown on Table 5.1.

After consuming significant physician resources in their early years, an individual's usage drops to the lowest level of his lifetime—between ages 5 and 14 for females and 5 and 29 for males—before climbing gradually. Women appear to be using more physician resources than males during their working lives—especially during their child-bearing years—with costs being 160 percent higher at ages 30 to 34 and 28 percent higher at ages 50 to 54. Men use more physician resources in the later years, with costs being 15 percent higher at ages 75 to 79 and 18 percent higher at ages 85 to 89.

Figure 5.2: Per Capita Physician Expenditures of Provinces/Territories, 2012



Source: CIHI, 2012b and calculations by the author.

Projections

The actual physician expenditures from 1996 to 2010 are analyzed to identify components of growth.[34] Table 5.2 shows that aging and population growth appear to have a consistent effect across

[33] Equal to the sum of $29.0 billion paid by provinces/territories and $0.2 billion paid directly by the federal government.

[34] Isolating components of real growth follow the following methodology:

Step 1. Calculate the rate of growth in the actual per capita expenditures from 1996 to 2010 for each age and gender cell, on a constant dollar basis. This gives the rate in increases—on top of inflation—in the price of health care services provided for each age/gender cell.

Step 2. Then, the resulting real rate of increase for each age/gender cell is applied to the actual total expenditures in 1996. This gives the total expenditures that would result from "real price inflation" assuming no change in the demographic mix.

Step 3. Finally, the result from Step 2 is subtracted from the total actual health care expenditures in 2010. This gives the expenditure increase associated with the effect of aging and population growth.

provinces/territories, typically staying in the 0.6 to 1.9 percent range with the exception of Alberta (due to significant positive inter-provincial migration resulting from developments in the oil and gas sector). Real price inflation in physician expenditures, on an age/gender-neutral basis, has averaged 3 percent. It is composed of: (1) increases in fee-for-service prices, and (2) trends in the utilization of physician services by the population—mostly variations in the supply of physicians on a per capita basis—except because of aging and population growth.

Table 5.2: Components of Physician Expenditures Growth, 1996 to 2010, by Province and Territory (constant 2012 dollar basis)

Province	Aging and Population Growth	Real Price Inflation	Total Real Growth
Newfoundland & Labrador	0.6%	5.7%	6.3%
Prince Edward Island	0.6%	5.9%	6.5%
Nova Scotia	1.0%	4.5%	5.5%
New Brunswick	0.8%	4.6%	5.4%
Quebec	1.5%	2.6%	4.0%
Ontario	1.9%	2.6%	4.6%
Manitoba	1.1%	4.7%	5.8%
Saskatchewan	0.6%	5.2%	5.8%
Alberta	2.9%	4.9%	7.8%
British Columbia	1.9%	1.5%	3.4%
Canada	1.8%	3.0%	4.8%

Source: CIHI, 2012b and calculations by the author.

Labour costs are a significant driver of health-sector inflation. The most notable areas of inflation have been the cost of physician services and the differential between wages in the health and social assistance sector. […] The relative increases in fees and payments for physician services will be an important issue for health system decision-makers to monitor in the future […].[35]

Using the observed historical trends in physician remuneration (that is, assuming that per capita expenditures will grow at an annual real rate of 3.0 percent—on top of inflation—over the entire projection period) would result in total physician expenditures of provinces/territories growing at an annual rate of 4.5 percent, from $29.0 billion (1.7 percent of GDP) in 2012 to 88.4 billion of constant 2012 dollars (3.6 percent of GDP) in 2037.[36] The share of physician expenditures of provinces/territories would grow at an annual real rate of 4.6 percent. Such assumption assumes that historical trends will continue in the future, with no action taken to contain costs. This report considers this scenario as extreme since it is very unlikely that governments will let those expenditures sky-rocket in such a way as they will then simply become unaffordable. Therefore, this report assumes that some unspecified public action will be taken, resulting in future expenditure increases to eventually converge closer to general inflation.

Consequently, the projection model used in this report assumes that the real per capita physician expenditures will grow at an annual rate of 2.5 percent per year for the first five years, and then at a decreasing rate (reflecting action taken to reduce the growth rate) until reaching 1.0 percent in 2037, on top of general inflation and in addition to the combined effects of aging and population growth. With the assumed government action to limit the increase in physicians remuneration, total projected physician expenditures for all payers are equal to 67.1 billion of constant 2012 dollars in 2037 (down from 88.4 billion assuming no government action—a savings of 24 percent).

Table 5.3 summarizes key findings from the projection of physician expenditures of provinces/territories and the sensitivities of the assumptions used.

[35] CIHI, 2011b.

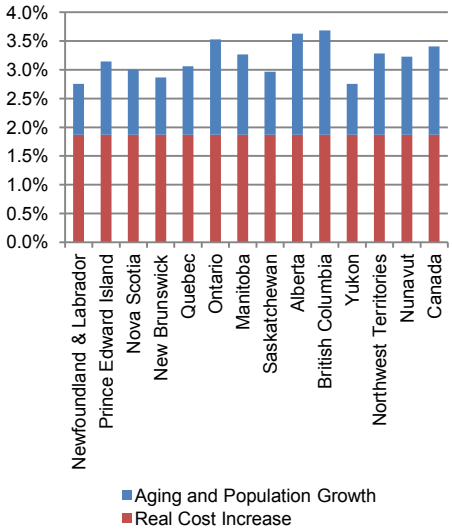
[36] The methodology adopted by this research consists in applying real per capita physician expenditures of provinces/territories to the projected demography to arrive at total real physician expenditures. This technique captures the combined effects of population growth and aging. It also reflects an implicit assumption that the actual supply of physicians follows the increasing needs of an aging population.

Table 5.3: Summary of Projections of Physician Expenditures of Provinces/Territories

Physician Expenditures of Provinces/Territories (millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Physician Expenditures of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	1.8%	3.0%	4.8%	2012 :	29,015	1.7%
Projection Using Historical Real Cost Growth	1.6%	3.0%	4.6%	2037 :	88,404	3.6%
Projection Using Base Scenario	1.5%	1.9%	3.4%	2037 :	67,076	2.7%
Projection Assumption Under Base Scenario	Trend of 2.5% for five years, dropping to 1.0% after 25 years					
Sensitivity Testing						
Projection Assumptions Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Physician Expenditures of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	1.3%	1.9%	3.1%	2037 :	62,661	2.7%
Pessimistic: High-Growth	1.8%	1.9%	3.7%	2037 :	71,630	2.7%
Physician Cost						
Optimistic: -1.0%	1.5%	0.9%	2.4%	2037 :	52,415	2.1%
Pessimistic: +1.0%	1.6%	2.9%	4.4%	2037 :	85,631	3.5%

Table 5.4 shows the projected physician expenditures of provinces/territories from 2012 to 2037 under the base scenario. They grow at an average rate of 3.4 percent per year, on top of general inflation—1.9 percent due to price increases and 1.5 percent due to aging and population growth. This research shows that the combined effects of aging and population growth vary by province/territory, from 0.9 percent in Newfoundland & Labrador and Yukon to 1.8 percent in Alberta and British Columbia, with a national average of 1.5 percent, as displayed in Figure 5.3. By contrast, Drummond uses a c ombined trend factor of 2.0 percent in Ontario for aging and population growth, [37] compared to 1.5 percent for physician services in this report.

Figure 5.3: Components of Projected Physician Expenditure Growth, 2012 to 2036, Base Scenario (constant 2012 dollar basis)



[37] Drummond, Don, and Derek Burleton. 2010. *Charting a Path to Sustainable Healthcare in Ontario: 10 Proposals to Restrain Cost Growth Without Compromising Quality of Care*. TD Economics, May 27.

Table 5.4: Projected Physician Expenditures of Provinces/Territories, 2012 to 2037, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% GDP
2012	452	103	741	590	5,644	12,090	1,030	908	3,519	3,807	30	51	50	29,015	1.7%
2013	469	108	770	613	5,872	12,631	1,071	940	3,680	3,985	31	53	53	30,275	1.8%
2014	485	112	800	636	6,108	13,194	1,115	974	3,846	4,169	32	55	55	31,579	1.8%
2015	503	116	830	660	6,353	13,776	1,159	1,009	4,019	4,360	33	57	57	32,932	1.9%
2016	522	120	862	685	6,605	14,381	1,205	1,045	4,197	4,558	34	60	60	34,334	1.9%
2017	541	126	896	711	6,866	15,011	1,253	1,083	4,383	4,765	35	62	62	35,793	1.9%
2018	561	131	930	738	7,128	15,652	1,302	1,122	4,573	4,977	36	64	65	37,280	2.0%
2019	580	136	964	765	7,394	16,305	1,353	1,161	4,765	5,193	38	67	68	38,788	2.1%
2020	600	141	1,000	791	7,664	16,969	1,404	1,201	4,962	5,413	39	69	70	40,322	2.1%
2021	620	146	1,035	819	7,934	17,644	1,456	1,241	5,161	5,637	40	72	73	41,878	2.2%
2022	640	152	1,071	846	8,206	18,331	1,508	1,282	5,365	5,865	41	74	75	43,457	2.2%
2023	660	157	1,107	874	8,478	19,024	1,561	1,323	5,573	6,098	43	77	77	45,052	2.3%
2024	680	163	1,142	901	8,753	19,725	1,615	1,365	5,781	6,333	44	79	79	46,660	2.3%
2025	699	168	1,178	927	9,027	20,434	1,669	1,407	5,996	6,571	46	82	83	48,287	2.4%
2026	718	173	1,213	954	9,299	21,144	1,723	1,449	6,209	6,810	47	85	84	49,908	2.4%
2027	737	179	1,248	980	9,567	21,853	1,777	1,491	6,426	7,050	48	88	86	51,530	2.5%
2028	755	184	1,283	1,005	9,834	22,566	1,832	1,533	6,644	7,293	49	91	90	53,159	2.5%
2029	773	189	1,316	1,031	10,097	23,278	1,886	1,575	6,864	7,536	50	94	92	54,781	2.5%
2030	791	194	1,350	1,055	10,359	23,992	1,940	1,617	7,083	7,779	51	97	94	56,401	2.6%
2031	807	199	1,382	1,078	10,614	24,698	1,994	1,657	7,301	8,019	52	99	96	57,997	2.6%
2032	823	204	1,413	1,100	10,860	25,394	2,047	1,696	7,518	8,256	54	102	98	59,565	2.6%
2033	838	208	1,443	1,121	11,100	26,083	2,099	1,736	7,734	8,492	55	105	100	61,113	2.7%
2034	852	212	1,471	1,141	11,336	26,766	2,151	1,775	7,949	8,726	56	107	103	62,645	2.7%
2035	866	217	1,500	1,162	11,564	27,440	2,202	1,812	8,162	8,958	58	109	105	64,154	2.7%
2036	879	220	1,526	1,180	11,781	28,099	2,252	1,849	8,367	9,182	59	111	108	65,611	2.7%
2037	892	224	1,552	1,197	11,998	28,760	2,302	1,885	8,575	9,407	59	114	112	67,076	2.7%

Source: CIHI, 2012b and calculations by the author.

Also, reducing the real per capita physician expenditure growth rate by 1.0 percent per year would reduce the expected growth rate of physician expenditures of provinces/territories from 3.4 percent per year to 2.4 percent, and would result in savings to provinces/territories equal to 22 percent of their physician expenditures and 4.7 percent of their total health care expenditures in the next 25 years.

Direct physician expenditures of the federal government are assumed to grow proportionately to those of provinces/territories, at an expected real annual rate of 3.4 percent—on top of inflation. Those paid by social security funds, by the private sector and directly by Canadians are also assumed to grow proportionately to those of provinces/territories, however only considering the population between ages 20 and 64, to reflect the fact that they generally provide coverage to the working population. They are expected to grow at an annual real rate of 2.3 percent—on top of inflation.

Table 5.5 summarizes the projected physician expenditures, by payer, over the next 25 years. Physician services cost 1.8 percent of GDP in 2012. Their importance is projected to grow to 2.8 percent by 2037.

Table 5.5: Projected Physician Expenditures, 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	29,015	225	0	316	29,556	400	29,957	1.8%
2013	30,275	235	0	328	30,837	414	31,251	1.8%
2014	31,579	245	0	339	32,163	428	32,592	1.9%
2015	32,932	255	0	351	33,539	443	33,981	1.9%
2016	34,334	266	0	363	34,963	457	35,421	2.0%
2017	35,793	277	0	375	36,445	472	36,917	2.0%
2018	37,280	289	0	386	37,955	485	38,441	2.1%
2019	38,788	301	0	397	39,486	498	39,984	2.1%
2020	40,322	312	0	407	41,042	511	41,552	2.2%
2021	41,878	324	0	418	42,620	523	43,143	2.2%
2022	43,457	337	0	427	44,221	534	44,755	2.3%
2023	45,052	349	0	437	45,838	545	46,383	2.3%
2024	46,660	362	0	446	47,468	556	48,024	2.4%
2025	48,287	374	0	455	49,116	566	49,682	2.4%
2026	49,908	387	0	463	50,758	576	51,333	2.5%
2027	51,530	399	0	471	52,400	585	52,985	2.5%
2028	53,159	412	0	478	54,049	594	54,643	2.6%
2029	54,781	424	0	486	55,691	603	56,294	2.6%
2030	56,401	437	0	494	57,331	614	57,945	2.7%
2031	57,997	449	0	503	58,949	625	59,574	2.7%
2032	59,565	462	0	513	60,539	637	61,177	2.7%
2033	61,113	473	0	523	62,110	650	62,759	2.7%
2034	62,645	485	0	533	63,664	662	64,326	2.7%
2035	64,154	497	0	543	65,195	675	65,869	2.8%
2036	65,611	508	0	553	66,673	687	67,360	2.8%
2037	67,076	520	0	563	68,159	699	68,858	2.8%

Supply of Physicians Considerations

Tables 5.6 and 5.7 show the total number of physicians and per capita number of physicians in Canada in 2010,[38] as well as comparative per capita metrics for other industrialized countries.[39] Canada ranks as the seventh lowest (out of 34) among the OECD countries in terms of per capita number of physicians, and the lowest among the G7 countries.

Table 5.6: Comparison of Supply of Physicians in Canada and the OECD, 2012

	per 1,000
Canada	2.03
United States	2.44
Other G7 Countries:	
- France	3.27
- Germany	3.73
- Italy	3.68
- Japan	2.23
- United Kingdom	2.71
G7 Average	2.87
OECD Average	3.10

Source: CIHI, 2011d and OECD Health Data 2012.

Table 5.7: Supply of Physicians, 2010, by Province and Territory, 2010

	Total	per 100,000
Newfoundland & Labrador	1,152	226
Prince Edward Island	236	164
Nova Scotia	2,126	225
New Brunswick	1,546	205
Quebec	17,797	224
Ontario	25,044	189
Manitoba	2,311	186
Saskatchewan	1,778	169
Alberta	7,882	211
British Columbia	9,708	213
Yukon	72	210
Northwest Territories	34	78
Nunavut	13	39
Canada	69,699	203

Source: CIHI, 2011d

[38] CIHI, 2011d.
[39] OECD Health Data, 2012.

Now, applying the adopted demographic model to the current age/gender per capita physician expenditures curve implies that the supply of physicians will increase by about 46 percent on average in Canada over the 25-year projection period as shown on Table 5.8. Ontario, Alberta and British Columbia will need to increase their supply of physicians by at least 50 percent just to keep up with demand for services as a result of aging and population growth—not to fill any perceived gap—while the requirement for the Atlantic provinces, Quebec and Saskatchewan will be more modest.

Table 5.8: Implied Cumulative Increase in Supply of Physicians, 2012 to 2037, by Province and Territory, Base Scenario

Newfoundland & Labrador	24%
Prince Edward Island	37%
Nova Scotia	32%
New Brunswick	28%
Quebec	34%
Ontario	50%
Manitoba	41%
Saskatchewan	31%
Alberta	53%
British Columbia	56%
Yukon	24%
Northwest Territories	41%
Nunavut	39%
Canada	46%

It is interesting to note that the 46 percent implied increase in the supply of physicians in Canada over the 25-year projection period is pretty close to the current gap of 41 percent between the per capita supply of physicians in Canada and the average of the G7 countries. Care must however be used as no definite conclusion can be reached from this simple fact. The current gap between Canada and the average of the G7 countries may result from structural differences in the delivery of health care, which has no impact on the outcomes and from different demographics. Also, it would not be surprising to see the G7 countries changing their way of delivering health care in the next 25 years.

Chapter 6—Projection of Hospital Expenditures

Hospital services are at the center, with physician services, of the *Canada Health* Act of 1984. They are the largest expenditures component, accounting for 29 percent of all health care expenditures from all sources of funds, and 40 percent of health care expenditures of provinces/territories. This chapter first looks at the current structure of hospital expenditures, before projecting them into the future.

Introduction

Hospital expenditures are the cost of treating patients in institutions recognized as hospitals on an inpatient or outpatient basis.[40] Treatments typically consist of diagnostic and therapeutic services provided to patients under continued medical care. Expenditures include salaries paid to nurses and physicians and other professionals who are on the payrolls of hospitals,[41] the cost of drugs and medical supplies used during a period of hospitalization, plus the administrative costs of the hospitals.

Current Costs

Table 6.1 shows hospital expenditures by payer and by province/territory. It shows that provinces/territories are responsible for 89 percent of all hospital expenditures, leaving virtually nothing to other public sectors. The private sector (including out-of-pocket payments by Canadians) assumes less than 10 percent of expenditures, essentially paying the cost of semi-private and private rooms.

It is worth noting that $54.3 billion of hospital expenditures[42] (90 percent of the total hospital expenditures) fall under the scope of the *Canada Health Act* of 1984. They also account for 65 percent of the health care expenditures falling under the scope of the act.

[40] CIHI, 2011c. Hospitals are defined as: "*Institutions where patients are accommodated on the basis of medical need and are provided with continuing medical and supporting diagnostic and therapeutic services. Hospitals are licensed or approved as hospitals by a provincial/territorial government, or are operated by the government of Canada, and include those providing acute care, extended and chronic care, rehabilitation and convalescent care, as well as nursing stations or outpost hospitals."* This definition includes psychiatric hospitals.

[41] This means that all payments made to physicians by the provincial/territorial health insurance program are not counted here but rather considered as physician expenditures and discussed in Chapter 5.

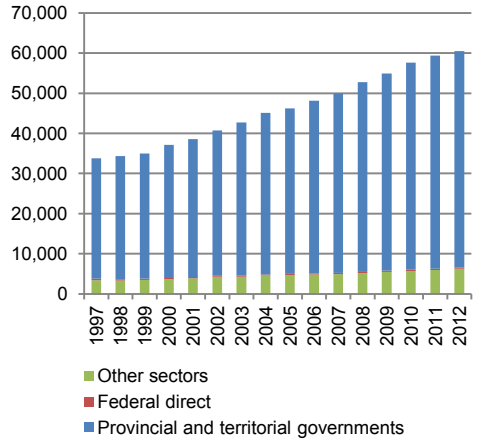
[42] Equal to the sum of $53.9 billion paid by provinces/territories and $0.3 billion paid directly by the federal government.

Table 6.1: Total Hospital Expenditures, 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector			Private Sector and Out-of-Pocket Payments			Total		
	Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	1,266.7	2,487		66.9	131		1,349.9	2,651	5.9%
Prince Edward Island	263.9	1,803		9.3	63		277.3	1,894	5.4%
Nova Scotia	1,615.6	1,708		228.7	242		1,895.5	2,004	5.4%
New Brunswick	1,444.2	1,910		117.1	155		1,600.9	2,117	5.5%
Quebec	10,996.9	1,368		470.2	58		11,575.0	1,440	3.4%
Ontario	18,314.2	1,354		3,375.8	250		21,936.2	1,621	3.3%
Manitoba	2,306.7	1,828		222.8	176		2,549.1	2,020	4.7%
Saskatchewan	1,868.8	1,747		117.1	109		2,025.3	1,893	4.0%
Alberta	8,344.4	2,166		742.3	193		9,196.3	2,387	3.5%
British Columbia	7,136.6	1,536		484.4	104		7,717.9	1,661	3.7%
Yukon	70.9	2,023		4.5	128		76.3	2,177	3.4%
Northwest Territories	150.1	3,406		21.8	496		172.7	3,920	4.5%
Nunavut	145.7	4,321		4.0	118		150.2	4,453	9.9%
Total Canada	53,924.8	1,546		5,864.9	168		60,522.7	1,736	3.6%
Prov./Terr. Governments	53,924.8	1,546							
Federal Direct	326.0	9							
Municipal Governments	36.2	1							
Social Security Funds	370.9	11							
Total	54,657.8	1,567		5,864.9	168		60,522.7	1,736	3.6%

Source: CIHI, 2012b.

Figure 6.1: Historical Hospital Expenditures, 1997 to 2012 (millions of constant 2012 dollars)



Source: CIHI, 2012b.

Figure 6.1 shows that the hospital expenditures have increased at an annual real rate of 4.0 percent over the past 15 years—on top of inflation—from $34.7 billion of constant 2012 dollars in 1997 to $60.5 billion in 2012. Meanwhile, per capita hospital expenditures have increased at a real rate of 2.9 percent over the same period of time.

Table 6.2 shows the distribution of hospital expenditures by type of expense. Quebec and Nunavut are excluded as drug expenses are not currently identifiable for Quebec and data from Nunavut is not available. It shows that compensation is the largest expense component for hospitals, ranging from 60 percent to 75 percent. Drugs account for only 3.5 percent of total expenses on average.

Table 6.2: Distribution of Hospital Expenses by Broad Financial Group, Fiscal Year 2009-2010, by Province/Territory

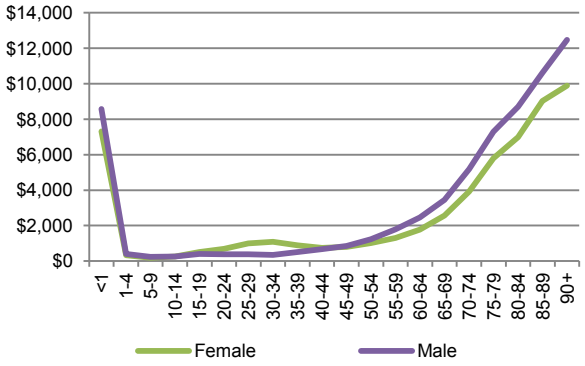
Province/Territory	Compen-sation	Drugs	Supplies	Equip-ment	Building and Grounds	Out-Sourcing	Total
Newfoundland & Labrador	70.8%	3.1%	15.4%	3.8%	3.4%	3.6%	100.0%
Prince Edward Island	73.2%	3.1%	19.4%	1.7%	0.9%	1.7%	100.0%
Nova Scotia	70.8%	2.7%	17.5%	5.1%	2.8%	1.3%	100.0%
New Brunswick	70.5%	3.8%	16.2%	4.7%	2.6%	2.2%	100.0%
Ontario	66.1%	3.8%	19.2%	5.8%	3.1%	2.1%	100.0%
Manitoba	65.4%	2.2%	14.7%	4.1%	2.5%	11.1%	100.0%
Saskatchewan	74.9%	2.3%	15.4%	3.8%	2.4%	1.2%	100.0%
Alberta	71.4%	3.6%	12.7%	5.0%	3.3%	4.1%	100.0%
British Columbia	69.0%	3.9%	14.0%	5.4%	4.2%	3.5%	100.0%
Yukon	60.1%	2.4%	18.6%	3.6%	8.5%	6.8%	100.0%
Northwest Territories	66.4%	2.7%	23.9%	1.5%	2.8%	2.6%	100.0%
Total Canada	68.1%	3.5%	16.8%	5.3%	3.2%	3.1%	100.0%

Source: CIHI, CMDB 2012

Per capita hospital expenditures of provinces/territories follow the pattern shown on Figure 6.2 by age and gender. Actual data for the year 2010 is published by CIHI. It is then projected to 2012 using the demographic model presented in Chapter 4 by ensuring that the total resulting hospital expenditures match the estimate shown on Table 6.1.

Except for newborns, hospital expenditures are quite stable until ages 50 to 54, when they start to climb. Costs for males rise more rapidly than for females (costs are 21 percent higher at ages 50 to 54 for males, 35 percent at ages 65 to 69, 26 percent at ages 75 to 79, and 18 percent at ages 85 to 89). Females cost more than males between ages 20 and 44, in their child-bearing years. Interestingly, newborns cost almost as much as those aged 80 to 84.

Figure 6.2: Per Capita Hospital Expenditures of Provinces/Territories, 2012



Source: CIHI, 2011c.

Projections

The actual hospital expenditures from 1996 to 2010 are analyzed to identify components of growth. Table 6.3 shows that aging and population growth have a consistent effect across provinces/territories, typically staying in the 0.8 to 2.2 percent range, with the exception of Alberta whose population growth was higher than average as a result of developments in the oil and gas sector. Real price inflation in hospital expenditures on an age/gender-neutral basis has averaged 1.7 percent, with Saskatchewan experiencing increases as high as 4.9 percent and Quebec being in the lower end of the range at 0.3 percent. It is composed of: (1) increases in compensation, (2) real changes in the price of supplies and in the cost of managing the facilities, and (3) trends in the utilization of hospital services by the population, including the supply of physicians and regulated nurses,[43] except because of aging and population growth.

Table 6.3: Components of Hospital Expenditures Growth, 1996 to 2010, by Province and Territory (constant 2012 dollar basis)

Province	Aging and Population Growth	Real Price Inflation	Total Real Growth
Newfoundland & Labrador	1.0%	4.1%	5.1%
Prince Edward Island	1.4%	2.2%	3.6%
Nova Scotia	1.3%	3.1%	4.4%
New Brunswick	1.5%	2.9%	4.4%
Quebec	2.0%	0.3%	2.4%
Ontario	2.2%	1.1%	3.2%
Manitoba	1.3%	2.8%	4.1%
Saskatchewan	0.8%	4.9%	5.6%
Alberta	3.3%	4.4%	7.7%
British Columbia	2.2%	1.5%	3.7%
Canada	2.2%	1.7%	3.8%

Source: CIHI, 2012b and calculations by the author.

Using the observed historical trends in hospital costs (that is, assuming that per capita expenditures will grow at an annual real rate of 1.7 percent—on top of inflation—over the entire projection period) would result in total hospital expenditures of provinces/territories growing at an annual real rate of 3.9 percent from $53.9 billion (3.2 percent of GDP) in 2012 to 139.8 billion of constant 2012 dollars (5.6 percent of GDP) in 2037.

Instead, this report uses projection assumptions that are built from the different types of hospital expenses but that produce similar overall results. Therefore, the projection model used in this report combines the following trend factors, net of inflation:

[43] It must be noted that physician fees are not allocated to hospital expenditures. Still, the supply of physicians is a factor to consider as literature suggests that they have significant control over the offering of care and procedures such as diagnostic tests, surgeries, etc.

- 1.0 percent for compensation for the first five years, then converging to 0.5 percent after 25 years
- 5.0 percent for drugs for the first five years, then converging to 3.0 percent after 25 years[44]
- 0.0 percent for supplies, equipment, buildings and grounds.

The weights applied to each component are: 70 percent for compensation, 15 percent for supplies, 5 percent for equipment, buildings and grounds, 5 percent for drugs, and 5 percent for outsourcing.[45] They are consistent with the findings shown in Table 6.2.

On top of that, an additional trend is factored in to capture the effect of innovation and the introduction of new technologies and treatments. It is assumed to be equal to 1.0 percent of total hospital expenditures for the first 5 years, then converging to 0.5 percent after 25 years (counted as part of real cost increases in Figure 6.3). This is consistent with a study of the U.S. Congressional Budget Office that estimates innovation to contribute to between 38 percent and 65 percent of total increases in per capita health care costs.[46] In fact, new technologies—including imaging, surgical advances and genetic advances—are estimated to account for as much as 27 percent to 48 percent of the real growth in per capita health care expenditures in the United States over the period from 1960 to 2007.[47] The C.D. Howe Institute estimates that the "residual" technology factor is equivalent to a 1.1 percent growth rate of real per capita health care spending (over 1996 to 2009 period).[48] However, Drummond uses a higher assumption (2.0 percent) for what he refers to as "increase in intensity," which is described as "*being down from 3% over the past decade when 1% reflected catch-up after the cutbacks of the 1990s."*[49]

All combined, this produces an average real trend of 1.8 percent, net of the effect of aging and population growth. This is consistent with observed historical trends.

Table 6.4 summarizes key findings from the projection of hospital expenditures of provinces/territories and the sensitivities of the assumptions used.

[44] Using projection assumptions for drugs administered in hospitals that differ from those used to project drug expenditures is appropriate as drugs administered in hospitals are usually for chronic conditions for which innovative—and expensive—drug therapies are likely to be introduced in the future.
[45] As no specific information is available about what is covered by hospital outsourcing, this research projects these expenditures assuming that they are similar to other hospital costs. More specifically, the model actually projects expenditures related to compensation, drugs supplies, equipment, buildings and ground separately and then divides the total projected expenditures by 0.95.
[46] U.S. Congressional Budget Office, *Technological Change and the Growth of Health Care Spending* (Washington, D.C.: CBO, 2008).
[47] Smith, Newhouse and Freeland, 2009.
[48] Dodge, David A., and Richard Dion. 2011, *Chronic Healthcare Spending Disease: A Macro Diagnosis and Prognosis*, C.D. Howe Institute Commentary, The Health Papers, No. 327.
[49] Drummond, Don, and Derek Burleton. 2010. *Charting a Path to Sustainable Healthcare in Ontario: 10 Proposals to Restrain Cost Growth Without Compromising Quality of Care*. TD Economics, May 27.

Table 6.4: Summary of Projections of Hospital Expenditures of Provinces/Territories

Hospital Expenditures of Provinces/Territories (millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Hospital Expenditures of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	2.2%	1.7%	3.8%	2012 :	53,925	3.2%
Projection Using Historical Real Cost Growth	2.2%	1.7%	3.9%	2037 :	139,774	5.6%
Projection Using Base Scenario	2.2%	1.8%	3.9%	2037 :	141,631	5.7%
Projection Assumption Under Base Scenario	70% compensation—trend of 1.0% for five years, dropping to 0.5% after 25 years 25% supplies, equipment, buildings and grounds—no trend 5% drugs—trend of 3% for 25 years Innovation—trend of 1.0% for five years, dropping to 0.5% after 25 years					
Sensitivity Testing						
Projection Assumptions Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Hospital Expenditures of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	1.9%	1.8%	3.7%	2037 :	133,033	5.8%
Pessimistic: High-Growth	2.4%	1.8%	4.2%	2037 :	150,392	5.6%
Compensation Costs						
Optimistic: -1.0%	2.2%	1.2%	3.4%	2037 :	123,765	5.0%
Pessimistic: +1.0%	2.2%	2.5%	4.7%	2037 :	169,643	6.9%
Drugs Costs						
Optimistic: -1.0%	2,2%	1.6%	3.8%	2037 :	137,564	5.6%
Pessimistic: +1.0%	2.2%	1.9%	4.1%	2037 :	146,752	5.9%
Supplies, Equipment, Buildings & Grounds Costs						
Pessimistic: +1.0%	2.2%	1.9%	4.1%	2037 :	148,012	6.0%
Innovation						
Optimistic: -1.0%	2,2%	1.0%	3.1%	2037 :	116,342	4.7%
Pessimistic: +1.0%	2.2%	2.8%	5.0%	2037 :	181,280	7.3%

Table 6.5 shows projected hospital expenditures of provinces/territories from 2012 to 2037.

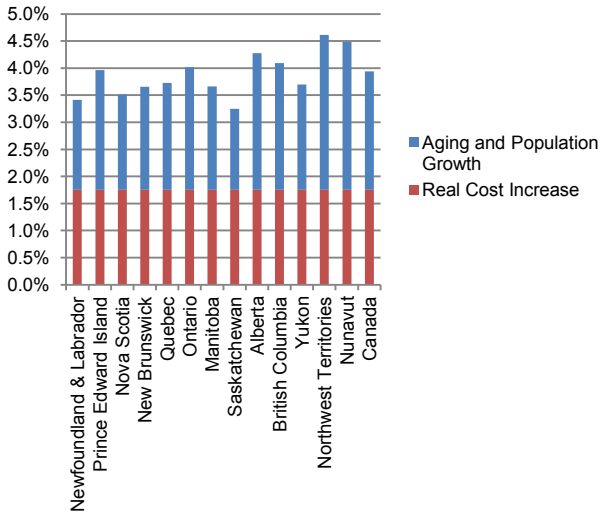
Table 6.5: Projected Hospital Expenditures by Provinces/Territories, 2012 to 2037, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% of GDP
2012	1,267	264	1,616	1,444	10,997	18,314	2,307	1,869	8,344	7,137	71	150	146	53,925	3.2%
2013	1,316	278	1,680	1,504	11,455	19,139	2,396	1,928	8,740	7,462	73	159	161	56,292	3.3%
2014	1,365	289	1,744	1,565	11,937	19,998	2,487	1,993	9,146	7,798	76	168	166	58,732	3.4%
2015	1,417	302	1,809	1,625	12,445	20,888	2,580	2,059	9,571	8,148	80	175	174	61,275	3.5%
2016	1,475	315	1,880	1,690	12,982	21,819	2,680	2,127	10,015	8,513	82	186	182	63,948	3.5%
2017	1,534	332	1,957	1,760	13,552	22,803	2,784	2,199	10,482	8,899	87	193	190	66,772	3.6%
2018	1,598	347	2,036	1,835	14,133	23,818	2,890	2,275	10,966	9,299	92	203	200	69,692	3.7%
2019	1,660	361	2,116	1,907	14,735	24,857	3,002	2,350	11,461	9,708	95	214	210	72,675	3.8%
2020	1,725	379	2,200	1,980	15,350	25,927	3,115	2,431	11,978	10,129	98	223	218	75,752	4.0%
2021	1,795	393	2,285	2,062	15,979	27,032	3,235	2,510	12,510	10,566	105	234	228	78,932	4.1%
2022	1,865	408	2,376	2,145	16,623	28,193	3,358	2,597	13,069	11,026	107	249	237	82,254	4.2%
2023	1,934	427	2,468	2,232	17,275	29,383	3,487	2,684	13,652	11,502	111	259	250	85,664	4.3%
2024	2,008	443	2,559	2,317	17,958	30,600	3,620	2,777	14,244	11,990	117	271	258	89,162	4.4%
2025	2,080	462	2,653	2,406	18,657	31,849	3,756	2,870	14,866	12,491	124	280	274	92,766	4.5%
2026	2,155	481	2,746	2,496	19,370	33,127	3,894	2,966	15,499	13,006	129	298	279	96,445	4.7%
2027	2,225	498	2,845	2,590	20,090	34,452	4,041	3,064	16,164	13,541	131	317	287	100,246	4.8%
2028	2,299	518	2,944	2,686	20,834	35,816	4,193	3,166	16,853	14,093	137	334	316	104,190	4.9%
2029	2,376	537	3,041	2,780	21,589	37,194	4,345	3,270	17,561	14,658	141	345	324	108,163	5.0%
2030	2,453	555	3,142	2,876	22,364	38,605	4,498	3,377	18,282	15,232	147	364	334	112,227	5.1%
2031	2,524	575	3,242	2,971	23,128	40,029	4,658	3,483	19,022	15,810	150	382	344	116,317	5.2%
2032	2,597	596	3,343	3,071	23,884	41,485	4,826	3,588	19,784	16,403	156	398	355	120,485	5.3%
2033	2,663	618	3,444	3,165	24,634	42,961	4,987	3,702	20,571	17,010	157	414	367	124,692	5.4%
2034	2,732	637	3,540	3,262	25,373	44,450	5,157	3,814	21,363	17,620	167	426	377	128,916	5.5%
2035	2,801	659	3,639	3,358	26,091	45,956	5,325	3,928	22,166	18,236	174	443	389	133,164	5.6%
2036	2,866	678	3,733	3,450	26,769	47,456	5,496	4,038	22,962	18,842	175	453	409	137,328	5.7%
2037	2,934	697	3,831	3,545	27,467	49,002	5,671	4,153	23,790	19,465	176	464	436	141,631	5.7%

Source: CIHI, 2012b and calculations by the author.

Figure 6.3 shows that hospital expenditures are expected to grow at an average rate of 3.9 percent per year on a constant 2012 dollar basis—1.8 percent due to price increases and 2.2 percent due to aging and population growth. The combined effects of aging and population growth vary by province/territory, from 1.5 percent in Saskatchewan to 2.5 percent in Alberta and even 2.7 percent in Nunavut and 2.9 percent in the Northwest Territories, with a national average of 2.2 percent. By contrast, Drummond uses a combined trend factor of 2.0 percent in Ontario for aging and population growth,[50] compared to 2.2 percent for hospital services in this report.

Figure 6.3: Components of Hospital Expenditure Growth Rates, 2012 to 2037, Base Scenario



Sensitivity of provinces/territories to changes in the hospital expenditures projection assumptions was tested. Here is a selection of key findings:

- Containing the growth of the compensation component by 1.0 percent per year over the next 25 years would reduce the expected growth rate of hospital expenditures of provinces/territories from 3.9 percent per year to 3.4 percent, and would result in savings to provinces/territories equal to 13 percent of their hospital expenditures and 6 percent of their total health care expenditures in 2037.
- Containing the increase in costs relative to innovation by 1.0 percent per year would have a material effect to provinces/territories, actually limiting the rate of growth of their hospital expenditures to 3.1 percent (instead of 3.9 percent under the base scenario) and resulting in savings equal to 18 percent of their hospital expenditures, 8 percent of their total health care expenditures, and 6 percent of their total available revenues in 2037.

Direct hospital expenditures of the federal government are assumed to grow proportionately to those of provinces/territories, at an expected real annual rate of 3.9 percent. Those paid by municipal governments, by social security funds, by the private sector and by Canadians are also assumed to grow proportionately to those of provinces/territories, however only considering the population between ages 20 and 64, in order to reflect the fact that most of the hospital expenditures they are responsible for are associated with the working population. They are expected to grow at real rates ranging from 2.2 percent to 2.3 percent.

Table 6.6 summarizes the projected hospital expenditures, by payer, over the next 25 years. Hospital services were using resources equal to 3.6 percent of GDP in 2012. Their economic importance is projected to grow by almost 75 percent, growing to 6.2 percent of GDP, by 2037.

[50] Drummond, Don, and Derek Burleton. 2010. *Charting a Path to Sustainable Healthcare in Ontario: 10 Proposals to Restrain Cost Growth Without Compromising Quality of Care*. TD Economics, May 27.

Table 6.6: Projected Hospital Expenditures, 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	53,925	326	36	371	54,658	5,865	60,523	3.6%
2013	56,292	340	37	383	57,053	6,061	63,114	3.7%
2014	58,732	355	39	395	59,521	6,270	65,791	3.8%
2015	61,275	370	40	408	62,093	6,484	68,578	3.9%
2016	63,948	387	41	421	64,797	6,698	71,495	4.0%
2017	66,772	404	42	434	67,651	6,911	74,562	4.1%
2018	69,692	421	43	446	70,602	7,116	77,718	4.2%
2019	72,675	439	45	457	73,616	7,310	80,927	4.3%
2020	75,752	458	46	468	76,724	7,497	84,221	4.4%
2021	78,932	477	47	478	79,934	7,679	87,613	4.5%
2022	82,254	497	48	488	83,286	7,845	91,132	4.6%
2023	85,664	518	48	497	86,727	8,009	94,736	4.8%
2024	89,162	539	49	506	90,256	8,169	98,425	4.9%
2025	92,766	561	50	515	93,892	8,318	102,210	5.0%
2026	96,445	583	51	523	97,602	8,452	106,054	5.1%
2027	100,246	606	52	530	101,434	8,577	110,011	5.3%
2028	104,190	630	52	537	105,409	8,689	114,099	5.4%
2029	108,163	654	53	545	109,414	8,806	118,220	5.5%
2030	112,227	678	54	553	113,513	8,943	122,456	5.6%
2031	116,317	703	55	564	117,639	9,112	126,751	5.7%
2032	120,485	728	56	575	121,844	9,300	131,144	5.8%
2033	124,692	754	57	587	126,090	9,494	135,584	5.9%
2034	128,916	779	58	600	130,353	9,691	140,044	6.0%
2035	133,164	805	60	612	134,641	9,892	144,533	6.1%
2036	137,328	830	61	624	138,843	10,095	148,938	6.1%
2037	141,631	856	62	637	143,186	10,298	153,484	6.2%

Chapter 7—Projection of "Other Institutions Expenditures"

Institutions other than hospitals represent an increasing type of expenditures for both the public and private sectors, including out-of-pocket payments by Canadians. Demand for their services may further increase in the future as a result of aging and possible shifts in the organization of the Canadian health care system. This chapter first looks at the current structure of "other institutions expenditures" before projecting them in the future.

Introduction

"Other institutions" include, among other facilities, registered nursing facilities for the aged, the chronically ill or disabled, or to treat alcohol and drug problems.[51] These expenditures are not, strictly speaking, covered by the *Canada Health Act* of 1984. It must be realized, nevertheless, that these are costs that governments assume more and m ore, especially in the context of an agi ng population. Most provinces/territories apply strict income tests to have access to long-term care facilities or ask for income-based contributions from patients.

Current Costs

Table 7.1: Total "Other Institutions Expenditures," 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector			Private Sector and Out-of-Pocket Payments			Total		
	Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	378.9	744		87.0	171		468.0	919	2.0%
Prince Edward Island	79.2	541		47.0	321		127.4	870	2.5%
Nova Scotia	640.3	677		152.0	161		802.6	848	2.3%
New Brunswick	405.9	537		140.6	186		550.3	728	1.9%
Quebec	4,138.4	515		1,885.5	234		6,070.7	755	1.8%
Ontario	6,013.0	444		2,548.0	188		8,603.5	636	1.3%
Manitoba	763.0	605		218.2	173		983.2	779	1.8%
Saskatchewan	710.6	664		188.5	176		899.7	841	1.8%
Alberta	1,565.0	406		352.2	91		1,926.1	500	0.7%
British Columbia	1,123.6	242		738.1	159		1,880.4	405	0.9%
Yukon	29.5	841		31.3	893		61.1	1,743	2.7%
Northwest Territories	27.2	618		7.2	164		34.4	781	0.9%
Nunavut	39.4	1,168		1.4	42		40.8	1,210	2.7%
Total Canada	15,913.9	456		6,397.0	183		22,448.2	644	1.3%
Prov./Terr. Governments	15,913.9	456							
Federal Direct	124.2	4							
Social Security Funds	13.2	0							
Total	16,051.2	460		6,397.0	183		22,448.2	644	1.3%

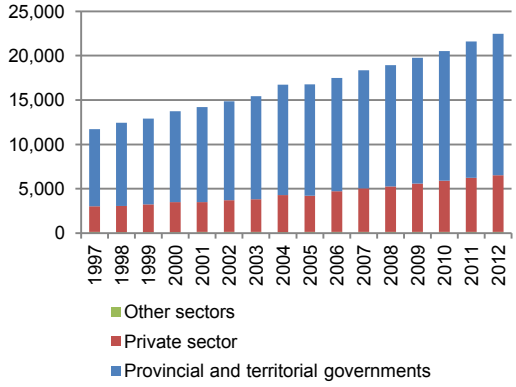
Source: CIHI, 2012b.

[51] CIHI, 2011c. "*[Other institutions] include residential care types of facilities (for the chronically ill or disabled, who reside at the institution more or less permanently) and which are approved, funded or licensed by provincial or territorial departments of health and/or social services. Residential care facilities include homes for the aged (including nursing homes), facilities for persons with physical disabilities, developmental delays, psychiatric disabilities and alcohol and drug problems, and facilities for emotionally disturbed children. Facilities solely of a custodial or domiciliary nature and facilities for transients or delinquents are excluded."*

Table 7.1 shows "other institutions expenditures" by payer and by province/territory. It shows that provinces/territories are responsible for close to 71 percent of all "other institutions expenditures" and the private sector (including direct payments by Canadians) close to 29 percent, leaving virtually nothing to other public sectors.

Figure 7.1 shows that the "other institutions expenditures" have increased at an annual real rate of 4.4 percent—on top of inflation—over the past 15 years, from 10.1 billion of constant 2012 dollars in 1997 to $22.4 billion in 2012. Meanwhile, per capita expenditures have increased at an annual real rate of 3.4 percent over the same period of time. It is interesting to note that historical growth patterns for "other institutions expenditures" were similar, whether funded by provinces/territories, by the private sector or by out-of-pocket payments.

Figure 7.1: Historical "Other Institutions Expenditures," 1997 to 2012 (millions of constant 2012 dollars)

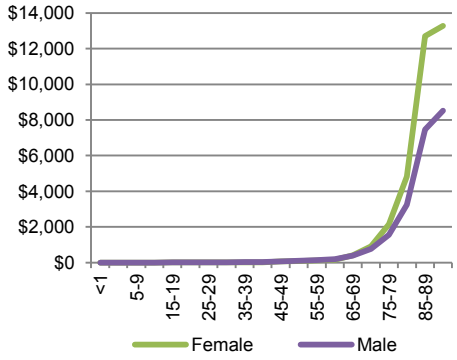


Source: CIHI, 2012b.

Per capita "other institutions expenditures" of provinces/territories follow the pattern displayed on Figure 7.2 by age and gender. Actual data for the year 2010 is published by CIHI. It is then projected to 2012 using the demographic model presented in Chapter 4 by ensuring that the total resulting "other institutions expenditures" match the estimate shown on Table 7.1.

The graph shows that "other institutions expenditures" are important for the elderly and that females consume significantly more of such services than males, probably due to the fact that they are more likely to survive their husband and, as a consequence, eventually lack adequate support at home to maintain their autonomy.

Figure 7.2: Per Capita "Other Institutions Expenditures" of Provinces/Territories, 2012



Source: CIHI, 2011c.

Projections

The actual "other institutions expenditures" from 1996 to 2010 are analyzed to identify components of growth. Table 7.2 shows that real price inflation in "other institutions expenditures," on an age-/gender-neutral basis, has averaged 4.1 percent—on top of inflation—with wide variations between provinces/territories. Such variations may indicate that the organization of "other institutions" has evolved significantly during the observation period and in different manners by province/territory.

Table 7.2: Components of "Other Institutions Expenditures" Growth, 1996 to 2010, by Province and Territory (constant 2012 dollar basis)

Province	Aging and Population Growth	Real Price Inflation	Total Real Growth
Newfoundland & Labrador	-0.1%	4.2%	4.3%
Prince Edward Island	-0.4%	4.8%	4.4%
Nova Scotia	0.6%	8.0%	8.5%
New Brunswick	0.7%	4.9%	5.6%
Quebec	1.8%	7.5%	9.3%
Ontario	1.7%	4.1%	5.8%
Manitoba	0.2%	4.0%	4.2%
Saskatchewan	-0.5%	5.4%	4.9%
Alberta	1.9%	3.0%	5.0%
British Columbia	1.4%	-2.9%	-1.5%
Canada	1.4%	4.1%	5.5%

Using the observed historical trends in "other institutions expenditures" (that is, assuming that per capita expenditures will grow at an annual real rate of 4.1 percent—on top of inflation—over the entire projection period) would result in total "other institutions expenditures" of provinces/territories growing at an annual rate of 7.5 percent from $15.9 billion (1.0 percent of GDP) in 2012 to 97.5 billion of constant 2012 dollars (3.9 percent of GDP) in 2037.

Instead, this report uses projection assumptions that recognize the expense components of "other institutions expenditures" and that are consistent with the projection assumptions used to project hospital expenditures. Consequently, it uses a combination of the following trend factors, net of inflation:

- 1.0 percent for compensation for the first five years, then converging to 0.5 percent after 25 years
- 0.0 percent for other costs.

It is further assumed that 75 percent of current "other institutions expenditures" are in relation to compensation. The effect of aging and population growth is applied on top of these trend factors. This results in an implied real annual rate of increase of 3.9 percent—on top of inflation—which is consistent with observed historical trends.

Real per capita "other institutions expenditures" of provinces/territories are applied to the projected demography to arrive at total real "other institutions expenditures."

Table 7.3 summarizes key findings from the projection of "other institutions expenditures" of provinces/territories and the sensitivities of the assumptions used.

Table 7.3: Summary of Projections of "Other Institutions Expenditures" of Provinces/Territories

"Other Institutions Expenditures" of Provinces/Territories						
(millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other Institutions Expenditures" of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	1.4%	4.1%	5.5%	2012 :	15,914	1.0%
Projection Using Historical Real Cost Growth	3.4%	4.1%	7.5%	2037 :	97,546	3.9%
Projection Using Base Scenario	3.3%	0.6%	3.9%	2037 :	41,603	1.7%
Projection Assumption Under Base Scenario	75% compensation—trend of 1.0% for five years, dropping to 0.5% after 25 years 25% others—no trend					
Sensitivity Testing						
Projection Assumptions Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other Institutions Expenditures" of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	3.0%	0.6%	3.6%	2037 :	38,931	1.7%
Pessimistic: High-Growth	3.6%	0.6%	4.2%	2037 :	44,276	1.7%
Compensation Costs						
Optimistic: -1.0%	3.3%	0.0%	3.3%	2037 :	35,722	1.4%
Pessimistic: +1.0%	3.3%	1.4%	4.8%	2037 :	50,822	2.1%
Other Costs						
Pessimistic: +1.0%	3.3%	0.8%	4.2%	2037 :	44,051	1.8%

Table 7.4 shows "other institutions expenditures" of provinces/territories. They will grow, on average, at an annual rate of 3.9 percent—on top of inflation—0.6 percent due to price increases and 3.3 percent due to aging and population growth.

Table 7.4: Projected "Other Institutions Expenditures" of Provinces/Territories, 2012 to 2037, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% of GDP
2012	379	79	640	406	4,138	6,013	763	711	1,565	1,124	30	27	39	15,914	1.0%
2013	392	84	660	420	4,292	6,238	783	724	1,632	1,164	30	29	46	16,496	1.0%
2014	404	86	676	433	4,445	6,460	801	740	1,698	1,204	31	38	48	17,064	1.0%
2015	416	90	691	443	4,603	6,689	818	754	1,769	1,246	38	40	50	17,647	1.0%
2016	434	92	714	457	4,767	6,928	838	767	1,842	1,289	38	42	52	18,260	1.0%
2017	451	98	736	471	4,936	7,166	858	780	1,919	1,332	41	43	54	18,886	1.0%
2018	470	102	760	487	5,098	7,412	877	797	1,995	1,378	43	47	57	19,524	1.1%
2019	486	105	787	502	5,264	7,653	897	810	2,075	1,424	44	55	59	20,159	1.1%
2020	506	111	812	517	5,433	7,906	918	827	2,158	1,471	44	57	60	20,820	1.1%
2021	529	114	840	537	5,615	8,179	941	841	2,246	1,524	49	59	62	21,537	1.1%
2022	552	118	876	557	5,802	8,484	966	861	2,342	1,581	51	65	64	22,320	1.1%
2023	578	123	911	580	5,999	8,803	994	881	2,444	1,642	52	67	77	23,152	1.2%
2024	607	127	946	601	6,222	9,137	1,024	903	2,549	1,706	55	70	78	24,026	1.2%
2025	635	132	984	626	6,462	9,486	1,054	926	2,664	1,773	69	72	85	24,967	1.2%
2026	667	138	1,025	652	6,729	9,869	1,088	954	2,787	1,849	73	84	84	25,998	1.3%
2027	699	143	1,074	681	7,016	10,312	1,128	983	2,925	1,932	73	95	86	27,146	1.3%
2028	735	149	1,125	712	7,322	10,788	1,173	1,017	3,074	2,021	77	101	93	28,387	1.4%
2029	777	156	1,173	743	7,641	11,266	1,216	1,052	3,227	2,114	79	103	94	29,643	1.4%
2030	817	162	1,225	775	7,976	11,756	1,259	1,089	3,384	2,208	84	115	95	30,945	1.4%
2031	861	168	1,278	806	8,319	12,274	1,306	1,127	3,552	2,305	85	132	97	32,313	1.5%
2032	905	178	1,339	846	8,674	12,891	1,365	1,173	3,745	2,421	96	144	101	33,878	1.5%
2033	946	187	1,399	882	9,019	13,504	1,419	1,222	3,945	2,536	96	156	104	35,415	1.6%
2034	991	194	1,454	919	9,374	14,105	1,475	1,272	4,142	2,651	108	157	103	36,948	1.6%
2035	1,031	201	1,511	955	9,720	14,714	1,533	1,324	4,343	2,767	121	171	117	38,508	1.6%
2036	1,073	209	1,564	990	10,058	15,320	1,591	1,376	4,545	2,880	121	173	121	40,020	1.7%
2037	1,117	217	1,621	1,027	10,410	15,953	1,651	1,431	4,757	2,997	121	175	126	41,603	1.7%

Source: CIHI, 2012b and calculations by the author.

Direct "other institutions expenditures" of the federal government and by social security funds are assumed to grow proportionately to those of provinces/territories. They are expected to grow at a real rate of 3.9 percent.

As no reliable information is available about per capita "other institutions expenditures" paid by the private sector and by out-of-pocket payments, this research assumes no difference in such cost according to age and gender. They are expected to grow at a real rate of 1.0 percent, resulting from the growth of the working population and real price increases.

Table 7.5 summarizes the projected "other institutions expenditures," by payer, over the next 25 years. Expenditures associated with institutions other than hospitals were equal to 1.3 percent of GDP in 2012. Their economic importance is projected to grow to 2.0 percent of GDP by 2037.

Table 7.5: Projected "Other Institutions Expenditures," 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	15,914	124	0	13	16,051	6,397	22,448	1.3%
2013	16,496	129	0	14	16,638	6,494	23,132	1.4%
2014	17,064	133	0	14	17,211	6,589	23,800	1.4%
2015	17,747	138	0	15	17,799	6,682	24,481	1.4%
2016	18,260	142	0	15	18,418	6,771	25,188	1.4%
2017	18,886	147	0	16	19,049	6,853	25,903	1.4%
2018	19,524	152	0	16	19,693	6,927	26,620	1.4%
2019	20,159	157	0	17	20,333	6,992	27,325	1.4%
2020	20,820	162	0	17	21,000	7,052	28,051	1.5%
2021	21,537	168	0	18	21,723	7,109	28,832	1.5%
2022	22,320	174	0	18	22,512	7,162	29,674	1.5%
2023	23,152	181	0	19	23,352	7,213	30,565	1.5%
2024	24,026	187	0	20	24,233	7,265	31,498	1.6%
2025	24,967	195	0	21	25,183	7,313	32,495	1.6%
2026	25,998	203	0	22	26,223	7,361	33,584	1.6%
2027	27,146	212	0	22	27,380	7,413	34,793	1.7%
2028	28,387	221	0	23	28,632	7,463	36,095	1.7%
2029	29,643	231	0	25	29,898	7,515	37,413	1.7%
2030	30,945	241	0	26	31,212	7,576	38,788	1.8%
2031	32,313	252	0	27	32,592	7,651	40,243	1.8%
2032	33,878	264	0	28	34,171	7,736	41,906	1.9%
2033	35,415	276	0	29	35,720	7,823	43,543	1.9%
2034	36,948	288	0	31	37,267	7,912	45,179	1.9%
2035	38,508	300	0	32	38,840	8,001	46,841	2.0%
2036	40,020	312	0	33	40,366	8,089	48,455	2.0%
2037	41,603	325	0	34	41,962	8,178	50,140	2.0%

Chapter 8—Projection of "Other Professionals Expenditures"

Expenditures associated to health care practitioners other than physicians, regulated nurses (however including private-duty nurses) and pharmacists represented 11 percent of total health care expenditures in 2012. They are mostly assumed by the private sector and by out-of-pocket payments. This chapter first looks at the current structure of "other professionals expenditures," before projecting them in the future.

Introduction

"Other professionals" include all health care practitioners in a private practice, such as dentists, denturists, chiropractors, optometrist, massage therapists, osteopaths, physiotherapists, podiatrists, psychologists, private duty nurses and naturopaths, hence excluding physicians and s pecialists, and pharmacists.[52] These expenditures were not intended to be considered as insured health services under the *Canada Health Act* of 1984.

Current Costs

Table 8.1 shows "other professionals expenditures"[53] by payer and by province/territory. It shows that the private sector and Canadian citizens (through out-of-pocket payments) are responsible for 92 percent of all "other professionals expenditures," with the provinces/territories assuming close to 5 percent of them and leaving the federal government and social security funds paying for the remainder.

Table 8.1: Total "Other Professionals Expenditures," 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector		Private Sector and Out-of-Pocket Payments		Total		
	Total (millions of $)	Per capita ($)	Total (millions of $)	Per capita ($)	Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	11.6	23	203.1	399	225.1	442	1.0%
Prince Edward Island	2.5	17	65.1	445	69.4	474	1.3%
Nova Scotia	13.2	14	576.6	610	621.4	657	1.7%
New Brunswick	6.7	9	416.4	551	436.2	577	1.5%
Quebec	203.4	25	4,269.6	531	4,593.5	571	1.4%
Ontario	404.4	30	7,716.4	570	8,303.8	614	1.2%
Manitoba	28.7	23	680.8	539	759.7	602	1.4%
Saskatchewan	25.8	24	554.6	518	647.9	606	1.3%
Alberta	235.2	61	2,729.5	708	3,037.9	789	1.2%
British Columbia	162.8	35	3,233.1	696	3,509.2	755	1.7%
Yukon	2.4	68	15.3	438	23.6	673	1.1%
Northwest Territories	2.4	54	14.8	335	28.8	655	0.7%
Nunavut	3.5	104	6.9	205	19.2	569	1.3%
Total Canada	1,102.5	32	20,482.3	587	22,275.7	639	1.3%
Prov./Terr. Governments	1,102.5	32					
Federal Direct	346.2	10					
Municipal Governments	0.8	0					
Social Security Funds	343.9	10					
Total	1,793.4	51	20,482.3	587	22,275.7	639	1.3%

Source: CIHI, 2012b.

[52] CIHI, 2011c. Fees paid to pharmacists outside of hospitals are not counted under "other professionals expenditures" but under drug expenditures (Chapter 9).

[53] Expenditures associated with oral surgical procedures performed in a hospital are not counted here but rather with hospital expenditures.

Table 8.2 isolates the "other professionals expenditures" related to dental care and vision care.[54,55]

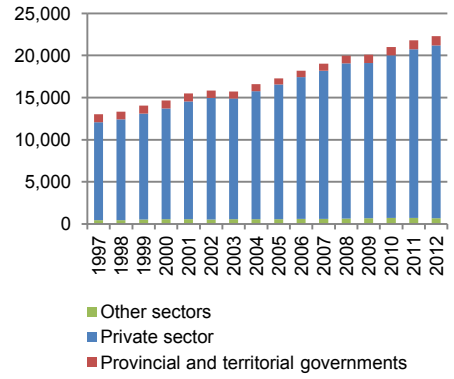
Table 8.2: Total "Other Professionals Expenditures" by Type of Expenditures, 2012 (millions of dollars)

Type of Expenditures	Public Sector	Private Sector	Total
Dental Care			
Newfoundland & Labrador	10	89	99
Prince Edward Island	3	35	39
Nova Scotia	16	274	290
New Brunswick	11	257	268
Quebec	178	2,164	2,342
Ontario	82	5,820	5,902
Manitoba	46	360	407
Saskatchewan	50	276	326
Alberta	169	1,616	1,785
British Columbia	138	2,088	2,226
Yukon	5	10	15
Northwest Territories	9	11	20
Nunavut	13	3	16
Total Canada	732	13,004	13,736
Vision Care	350	4,510	4,860
Other	711	2,969	3,680
Total	1,793	20,482	22,276

Source: CCPA, 2011, CIHI, 2012b and calculations by the author.

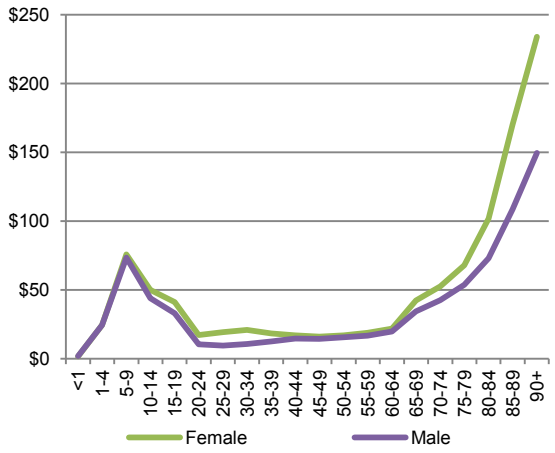
Figure 8.1 shows that the "other professionals expenditures" have increased at an annual real rate of 3.6 percent—on top of inflation—over the past 15 years, from 12.2 billion of constant 2012 dollars in 1997 to $22.3 billion in 2012. However, the share of total "other professionals expenditures" that provinces/territories are responsible for has only increased at an annual real rate of 0.9 percent over the same period of time due to the de-listing of some services by "other professionals," from 1.0 billion of constant 2012 dollars in 1997 to $1.1 billion in 2012 (meaning that the "other professionals expenditures" of the private sector (including out-of-pocket payments by Canadians) have increased at an annual real rate of 3.8 percent—on top of inflation). Meanwhile, per capita expenditures have increased at an annual real rate of 2.6 percent (-0.1 percent for the share assumed by provinces/territories, and 2.8 percent for the share assumed by the private sector, including direct payments by Canadians).

Figure 8.1: Historical "Other Professionals Expenditures," 1997 to 2012 (millions of constant 2012 dollars)



Source: CIHI, 2012b.

Figure 8.2: Per Capita "Other Professionals Expenditures" of Provinces/Territories, 2012



Source: CIHI, 2012b.

Per capita "other professionals expenditures" of provinces/territories follow the pattern shown on Figure 8.2 by age and gender. Actual data for the year 2010 is published by CIHI. It is then projected to 2012 using the demographic model presented in Chapter 4 by ensuring that the total resulting "other professionals expenditures" match the estimate shown on Table 8.1. It is important to note that Figure 8.2 only reflects expenditures of provinces/territories. These are most certainly different than for the private

[54] CIHI, 2011c. Dental services expenditures are defined as "*expenditures for professional fees of dentists (includes dental assistants and hygienists) and denturists, as well as the cost of dental prostheses, including false teeth, and laboratory charges for crowns and other dental appliance*," and vision care expenditures are defined as "*expenditures for the professional services of optometrists and dispensing opticians, as well as expenditures for eyeglasses and contact lenses."*

[55] Breakdown of dental care by provinces is a pro forma calculation by the author based on total dental care expenditures for 2012 and the provincial/territorial distribution for 2010.

sector (including out-of-pocket payments by Canadians), because of the concentration of the public sector in dental care, the fact that its clientele consists mostly of children, the elderly and those on social assistance, while the private sector mostly caters to employer-sponsored group benefit plans covering working Canadians.

Projections

By contrast with other types of health care expenditures, analyzing historical per capita expenditures trying to isolate the real price inflation is not as useful for "other professionals expenditures." This is explained by the fact that per capita expenditures are only available for those that are funded by provinces/territories, which only account for less than 5 percent of total "other professionals expenditures." It is therefore not as easy to project future "other professionals expenditures" assuming the historical trends continue into the future.

It is felt that remuneration trends for dentists may track those of other physicians and specialists, while the remuneration of other health practitioners may not increase as quickly. In addition, it is assumed that the growth in their respective remuneration will decrease after a certain period of time (here five years) to reflect another assumption that public policy will work to make them converge closer to general inflation. Therefore, the projection model used in this report combines the following trend factors, net of inflation:

- 2.0 percent for dental care for the first five years, then decreasing to 1.0 percent after 25 years
- 1.0 percent for vision care for the first five years, then decreasing to 0.5 percent after 25 years
- 1.0 percent for other types of care for the first five years, then decreasing to 0.5 percent after 25 years.

For "other professionals expenditures" of provinces/territories, the weights applied to each type of care are: 40 percent for dental care, 20 percent for vision care, and 40 percent for other types of care. This produces an average real annual trend of 1.1 percent, net of the effect of aging and population growth.

Real per capita "other professionals expenditures" of provinces/territories are applied to the projected demography to arrive at total real "other professionals expenditures."

Table 8.3 summarizes key findings from the projection of "other professionals expenditures" of provinces/territories and the sensitivities of the assumptions used.

Table 8.3: Summary of Projections of "Other Professionals Expenditures" of Provinces/Territories

"Other Professionals Expenditures" of Provinces/Territories (millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other professionals expenditures" of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	-	-	0.1%	2012 :	1,103	0.1%
Projection Using Historical Real Cost Growth	-	-	0.1%	2037 :	1,131	0.1%
Projection Using Base Scenario	1.7%	1.1%	2.9%	2037 :	2,241	0.1%
Projection Assumption Under Base Scenario	40% dental—trend of 2.0% for five years, dropping to 1.0% after 25 years 20% vision—trend of 1.0% for five years, dropping to 0.5% after 25 years 40% other—trend of 1.0% for five years, dropping to 0.5% after 25 years					
Sensitivity Testing						
Projection Assumptions Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other Professionals Expenditures" of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	1.4%	1.1%	2.5%	2037 :	2,046	0.1%
Pessimistic: High-Growth	2.1%	1.1%	3.2%	2037 :	2,445	0.1%
Dental Care Costs						
Optimistic: -1.0%	1.7%	0.7%	2.4%	2037 :	2,017	0.1%
Pessimistic: 1.0%	1.8%	1.6%	3.4%	2037 :	2,526	0.1%
Vision Care Costs						
Optimistic: -1.0%	1.7%	1.0%	2.7%	2037 :	2,169	0.1%
Pessimistic: +1.0%	1.8%	1.3%	3.1%	2037 :	2,355	0.1%
Other Care Costs						
Optimistic: -1.0%	1.7%	0.9%	2.6%	2037 :	2,097	0.1%
Pessimistic: +1.0%	1.8%	1.5%	3.3%	2037 :	2,469	0.1%

Table 8.4 shows projected "other professionals expenditures" of provinces/territories from 2012 to 2037. They are expected to grow at an annual rate of 2.9 percent on a constant 2012 dollar basis—1.1 percent due to price increases and 1.7 percent due to aging and population growth.

Table 8.4: Projected "Other Professionals Expenditures" of Provinces/Territories, 2012 to 2037, base scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% of GDP
2012	12	2	13	7	203	404	29	26	235	163	2	2	4	1,103	0.1%
2013	12	3	14	7	209	421	29	26	242	168	2	3	4	1,139	0.1%
2014	12	3	14	7	216	437	30	27	249	173	3	3	4	1,176	0.1%
2015	12	3	14	7	222	454	31	27	256	178	3	3	4	1,214	0.1%
2016	12	3	15	7	228	472	32	28	264	183	3	3	4	1,254	0.1%
2017	12	3	15	8	234	491	32	28	272	189	3	3	4	1,294	0.1%
2018	12	3	15	8	240	510	33	29	280	195	3	3	4	1,336	0.1%
2019	12	3	16	8	245	529	34	30	289	201	3	3	4	1,378	0.1%
2020	12	3	16	8	251	550	35	30	297	206	3	3	4	1,420	0.1%
2021	13	3	16	8	256	571	36	31	306	212	3	4	5	1,464	0.1%
2022	13	3	17	9	261	594	37	31	314	218	4	4	5	1,510	0.1%
2023	13	3	17	9	266	617	38	32	323	224	4	4	5	1,555	0.1%
2024	13	4	18	9	272	641	39	33	331	230	4	4	5	1,601	0.1%
2025	13	4	18	9	277	665	40	33	340	236	4	4	5	1,648	0.1%
2026	13	4	18	10	282	691	41	34	348	242	4	4	5	1,696	0.1%
2027	13	4	19	10	287	719	41	34	356	248	4	5	5	1,745	0.1%
2028	13	4	19	10	291	749	42	35	364	254	4	5	5	1,795	0.1%
2029	13	4	19	10	296	778	43	35	371	259	4	5	6	1,844	0.1%
2030	13	4	19	11	300	808	44	35	378	265	5	5	6	1,894	0.1%
2031	13	4	20	11	304	838	45	36	385	270	5	5	6	1,942	0.1%
2032	13	4	20	11	308	870	46	36	392	276	5	5	6	1,993	0.1%
2033	14	5	20	11	312	903	46	37	399	281	5	5	6	2,043	0.1%
2034	14	5	20	12	315	935	47	37	405	286	5	5	6	2,092	0.1%
2035	14	5	20	12	319	967	48	37	412	292	5	5	6	2,142	0.1%
2036	14	5	20	12	322	1,000	49	38	418	297	5	5	6	2,191	0.1%
2037	14	5	21	12	325	1,034	49	38	424	302	5	6	6	2,241	0.1%

Source: CIHI, 2012b and calculations by the author.

Direct “other professionals expenditures” of the federal and municipal governments are assumed to grow proportionately to those of provinces/territories. They are expected to grow at a real rate of 2.9 percent.

As the only reliable per capita “other professionals expenditures” information available is in relation to what is paid by provinces/territories (hence mostly for seniors and t he poor), this research prefers assuming no differences in per capita “other professionals expenditures” by age and gender for the working population. In addition, the weights applied to each type of care are also changed to: 65 percent for dental care, 20 percent for vision care, and 15 percent for other types of care (as supported by figures on Table 8.2). Consequently, “other professionals expenditures” paid by social security funds, by the private sector and by Canadians (through out-of-pocket payments) are expected to grow at real rates ranging from 1.7 percent to 1.8 percent.

Table 8.5 summarizes the projected “other professionals expenditures,” by payer, over the next 25 years. Their weight on the Canadian economy will almost remain unchanged, forecasted to represent 1.4 percent of GDP in 2037, compared to 1.3 percent in 2012.

Table 8.5: Projected “Other Professionals Expenditures,” 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	1,103	346	1	344	1,793	20,482	22,276	1.3%
2013	1,139	357	1	352	1,849	21,001	22,851	1.3%
2014	1,176	369	1	361	1,906	21,525	23,431	1.3%
2015	1,214	381	1	369	1,966	22,049	24,014	1.4%
2016	1,254	394	1	378	2,026	22,567	24,593	1.4%
2017	1,294	406	1	386	2,088	23,073	25,161	1.4%
2018	1,336	419	1	394	2,150	23,551	25,701	1.4%
2019	1,378	433	1	401	2,212	24,001	26,213	1.4%
2020	1,420	446	1	408	2,275	24,436	26,711	1.4%
2021	1,464	460	1	414	2,340	24,862	27,201	1.4%
2022	1,510	474	1	421	2,406	25,272	27,678	1.4%
2023	1,555	488	1	427	2,472	25,675	28,148	1.4%
2024	1,601	503	1	434	2,539	26,081	28,620	1.4%
2025	1,648	518	1	440	2,607	26,472	29,079	1.4%
2026	1,696	533	1	446	2,676	26,858	29,534	1.4%
2027	1,745	548	1	452	2,746	27,253	29,999	1.4%
2028	1,795	564	1	458	2,818	27,637	30,456	1.4%
2029	1,844	579	1	465	2,890	28,030	30,920	1.4%
2030	1,894	595	1	472	2,961	28,458	31,419	1.4%
2031	1,942	610	1	479	3,033	28,931	31,963	1.4%
2032	1,993	626	1	487	3,107	29,435	32,542	1.4%
2033	2,043	641	1	496	3,181	29,949	33,130	1.4%
2034	2,092	657	2	504	3,255	30,464	33,718	1.4%
2035	2,142	673	2	512	3,328	30,974	34,302	1.4%
2036	2,191	688	2	520	3,401	31,482	34,883	1.4%
2037	2,241	704	2	529	3,476	31,990	35,465	1.4%

Chapter 9—Projection of Drug Expenditures

Drug therapies play an increasing role in the delivery of health care in Canada, with the associated expenditures having grown significantly in the past years. This chapter first looks at the current structure of drug expenditures, before projecting them in the future.

Introduction

Drugs are typically classified as prescribed drugs or non-prescribed drugs.[56] Expenditures include what is paid out of a public or private insurance plan as well as out-of-pocket payments by Canadians and also include over-the-counter drugs and personal health supplies.[57] It is important to note that drugs dispensed in hospitals are accounted for as hospital expenditures and discussed in Chapter 6.

From a strict point of view, drug expenditures (for drugs taken outside a hospital) are not considered as insured health services in the context of the *Canada Health Act* of 1984. Still, they are becoming increasingly important from a public policy perspective as a result of shifts in medical practice toward less invasive procedures, shorter hospital stays and increased use of drug therapies (particularly taken outside the hospital, often at home).

Current Costs

Table 9.1 shows drug expenditures by payer and by province/ territory. It shows that the private sector and Canadian citizens, through out-of-pocket payments, are responsible for 63 percent of drug expenditures, with provinces/territories assuming 32 percent.

Table 9.1: Total Drug Expenditures, 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector			Private Sector and Out-of-Pocket Payments			Total		
	Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)		Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	157.0	308		384.0	754		554.5	1,089	2.4%
Prince Edward Island	36.4	249		97.8	668		137.6	940	2.7%
Nova Scotia	320.0	338		740.3	783		1,097.5	1,160	3.1%
New Brunswick	195.7	259		617.6	817		839.8	1,110	2.9%
Quebec	2,521.2	314		5,077.5	631		8,547.6	1,063	2.5%
Ontario	4,560.2	337		8,126.3	601		12,926.0	955	1.9%
Manitoba	308.5	244		710.1	563		1,103.3	874	2.0%
Saskatchewan	318.7	298		559.5	523		958.8	896	1.9%
Alberta	1,274.2	331		2,005.0	520		3,363.2	873	1.3%
British Columbia	969.8	209		2,336.1	503		3,418.0	736	1.6%
Yukon	7.3	208		13.9	397		26.1	744	1.2%
Northwest Territories	5.5	124		15.5	351		30.9	702	0.8%
Nunavut	2.6	76		12.1	358		22.2	657	1.4%
Total Canada	10,677.1	306		20,695.6	593		33,025.5	947	2.0%
Prov./Terr. Governments	10,677.1	306							
Federal Direct	597.0	17							
Social Security Funds	1,055.7	30							
Total	12,329.9	354		20,695.6	593		33,025.5	947	2.0%

Source: CIHI, 2012b.

Provinces/territories provide drug insurance coverage as follows:

[56] CIHI, 2011c. Drug expenditures "*include expenditures on prescribed drugs and non-prescribed products purchased in retail stores. Estimates represent the final costs to consumers including dispending fees, markups and appropriate taxes."*

[57] CIHI, 2011c. Personal health supplies "*include items used primarily to promote or maintain health, for example, oral hygiene products, diagnostic items such as diabetic test strips and medical items such as incontinence products."*

- Newfoundland & Labrador—has a pharmacare program for seniors, those on welfare and those with chronic conditions, with an income-based deductible. Some coverage is also available to others, again based on income.
- Prince Edward Island—has a pharmacare program for seniors and for those with a chronic condition. No coverage is available to others.
- Nova Scotia—has a voluntary pharmacare program for seniors and families, with income-based premiums. Residents with certain chronic conditions also have pharmacare coverage.
- New Brunswick—provides pharmacare coverage to low-income seniors. Other seniors may enroll into a voluntary program for a premium. At the time of drafting this report, there was no coverage available to other residents; however, something is said to be in preparation.
- Quebec—all residents with no access to a private drug plan must enroll into a universal public pharmacare program funded with income-based premiums.[58]
- Ontario—has a pharmacare program for seniors with an income-based deductible. A catastrophic income-tested program is also available. The following quote from the C.D. Howe Institute illustrates the Ontario Drug Benefit program (ODB):

> *Ontarians aged 65 and over qualify for coverage of prescription drugs under the ODB. Residents can also qualify for ODB coverage if they reside in long-term or special care homes, if they receive support from Ontario Works or Ontario Disability, if they receive professional home services or qualify for the Trillium Drug Program[59] […] The ODB manages a list of covered drugs—a formulary—and considers exceptional requests case-by-case. There are co-payments and deductibles in the program: single income seniors aged 65+ with annual income of $16,018 or more and couples with income of $24,175 currently pay an annual deductible of $100 and pay up to $6.11 towards a dispensing fee; people with income below these levels pay $2.00 for each prescription filled. […] 69% of ODB beneficiaries in 2007 were seniors.[60,61]*

- Manitoba—has a pharmacare program with an income-based deductible that can be reimbursed by a private plan.
- Saskatchewan—has an income-based pharmacare program for seniors, a pharmacare program covering some prescription drugs for children under 15 for free, and a pharmacare program with an income-based deductible that can be reimbursed by a private plan.
- Alberta—has a pharmacare program for seniors. Others may voluntarily enroll into the premium-funded Alberta Blue Cross Non-Group Coverage when they have no access to private coverage.
- British Columbia—has a pharmacare program with income-based deductibles which can be reimbursed by private plans.
- Yukon, the Northwest Territories and Nunavut—have pharmacare programs for seniors, as second payer, and for those with a chronic condition (income-base deductible in Yukon). No coverage is available to others.

[58] It must be noted that the Quebec Drug Insurance Fund is broken down in two parts for the purpose of this report: (1) an amount corresponding to the contributions of enrollees (akin to insurance premium) is counted under the social security funds sector, and (2) the balance, essentially being funded by the general revenues of the province, is counted under the provincial government sector.

[59] The Trillium Drug Program is a program for Ontario residents, not based on age, who face relatively onerous prescription drug costs relative to net household income.

[60] Trillium beneficiaries make up about 6 percent; the remaining 25 percent of beneficiaries qualify either through social assistance or are residents of special care homes (Ontario Ministry of Health and Long-Term Care 2009).

[61] Busby, C., and W.B.P. Robson, C.D. Howe Institute. 2011. *A Social Insurance Model for Pharmacare: Ontario's Options for a More Sustainable Cost-Effective Drug Program*.

As shown on Table 9.2, more than 74 percent of drug expenditures from the private sector (including out-of-pocket payments by Canadians) are in relation to prescribed drugs, the remainder being split between over-the-counter drugs and personal health supplies. In addition, private benefit plans [62] are reimbursing approximately two-thirds of the cost of prescribed drugs.

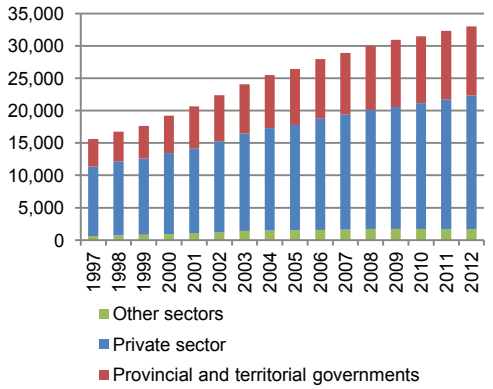
Table 9.2: Private Drug Expenditures by Type of Drug Expenditures, 2009 to 2012 (millions of constant 2012 dollars)

	2009	2010	2011	2012
Reimbursements from Benefit Plans	9,295	9,717	n/a	n/a
Out-of-Pocket Expenditures	4,593	4,740	n/a	n/a
Subtotal Prescribed Drugs	13,888	14,457	14,963	15,404
Over-the-Counter Drugs	2,889	2,779	n/a	n/a
Personal Health Supplies	2,086	2,178	n/a	n/a
Subtotal Non-Prescribed Drugs	4,975	4,957	5,127	5,292
Total private drug expenditures	18,863	19,414	20,090	20,696

Source: CIHI, 2011a, CIHI, 2012b.

It must be noted that purchases of non-prescribed drugs by Canadians result in the federal government collecting goods & services taxes (GST). This corresponds to revenues of approximately $0.2 billion in 2012.[63] Some may argue that this amount could be removed from the health care costs that the federal government claims to be assuming. For the sake of simplicity, the impact of GST or other tax revenues on the financial burden of different payers of health care services is ignored by this report; it must be noted, however, that the amounts of GST and other taxes paid when purchasing OTC drugs and personal health supplies are included in the expenditures figures.

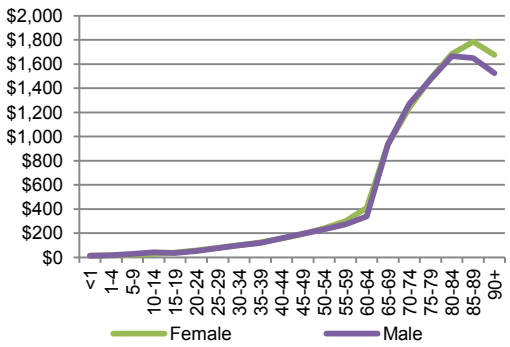
Figure 9.1: Historical Drug Expenditures, 1997 to 2012 (millions of constant 2012 dollars)



Source: CIHI, 2012b.

Figure 9.1 shows that the drug expenditures have increased at an annual real rate of 5.1 percent—on top of inflation—over the past 15 years (the share assumed by provinces/territories, however, increased at a real rate of 6.3 percent and that assumed by the private sector and by Canadians at a real rate of 4.5 percent). Meanwhile, per capita expenditures have increased at a real rate of 4.0 percent (5.2 percent for the share assumed by provinces/territories and 3.4 percent for the share assumed by the private sector, including out-of-pocket payments by Canadians). The fact that total and per capita drug expenditures increased more rapidly for provinces/territories than for the private sector (including out-of-pocket payments by Canadians) is due to aging as governments are covering older people—the fastest growing section of the population.

Figure 9.2: Per Capita Drug Expenditures of Provinces/Territories, 2012



Source: CIHI, 2012b.

Per capita drug expenditures of provinces/territories follow the pattern shown on Figure 9.2 by age and gender. Actual data for the year 2010 is published by CIHI. It is then projected to 2012 using the demographic model

[62] This includes reimbursements from private insurers (under individual and group insurance policies) and from all employee benefit plans (whether self-insured, ASO or fully insured).

[63] Some provinces are also collecting sales tax revenues as well as premium tax and/or HST/PST. However, the figures are difficult to assess as there are not enough provincial breakdowns available.

presented in Chapter 4 by ensuring that the total resulting drug expenditures match the estimate shown on Table 9.1.

Drug expenditures by the provinces/territories increase smoothly from young ages to age 65.[64] They then climb sharply, being multiplied by a factor of at least 4 by age 85, before starting to decline. This decline at older ages may be related to the fact that elders on drug therapy are possibly either hospitalized or institutionalized, with the costs related to their drug therapy being accounted for in these respective categories (discussed in Chapters 6 and 7).

Projections

The actual drug expenditures of provinces/territories from 1996 to 2010 are analyzed to identify components of growth. The combined effect of aging and population growth averages 2.9 percent per year. Real price inflation in drugs, on an age-/gender-neutral basis, has averaged 4.3 percent per year—on top of inflation—with Saskatchewan experiencing increases as high as 9.2 percent and British Columbia being in the lower end of the range at 2.0 percent. Real price inflation is composed of: (1) increases in market prices, (2) changes in drugs mixes, (3) trends in utilization of drug therapies (except because of aging and population growth), and (4) introduction of new drugs.

Table 9.3: Components of Drug Expenditures Growth, 1996 to 2010, by Province and Territory (constant 2012 dollar basis)

Province	Aging and Population Growth	Real Price Inflation	Total Real Growth
Newfoundland & Labrador	-	-	-
Prince Edward Island	-	-	-
Nova Scotia	1.5%	6.7%	8.2%
New Brunswick	1.4%	6.4%	7.8%
Quebec	2.4%	4.6%	7.0%
Ontario	2.6%	3.9%	6.5%
Manitoba	-	-	-
Saskatchewan	0.8%	9.2%	9.9%
Alberta	3.5%	5.7%	9.1%
British Columbia	2.2%	2.0%	4.3%
Canada	2.9%	4.3%	7.2%

Source: CIHI, 2012b and calculations by the author.

Fixing an assumption for the future increase in drug expenditures is challenging. On one hand, expecting an increase in the volume and intensity of drug therapies is not unreasonable, which will bring people out of hospitals into their homes. As a result, drug expenditures may go up faster, with a corresponding offset in some hospital costs. Meanwhile, some very expensive drugs are coming on the market that can have a significant impact on their own even though they may only target a tiny portion of the population. On the other hand, arguments are made that some factors may come into play to contain the increases in drug expenditures:

> *[…] The many upward pressures on pharmacare costs are likely to abate in future years as large patents expire, more generic drugs come to market, […] and recent policy reforms to save costs take effect.*[65]

> *[…] The generic share of the Canadian prescription drug market is expected to increase in the coming years as patents of many blockbuster medicines expire. […] This suggests that there is potential for significant savings due to new generic competition, particularly in the coming three to five years.*[66]

Using the observed historical trends in drug expenditures (that is, assuming that real prices will grow at an annual rate of 4.3 percent—on top of inflation—over the entire projection period) would result in total

[64] It is important for the reader to remember that this observation only applies to the population eligible for government-sponsored drug plans and effectively spreads their costs to the entire population. It must be realized that a sizable portion of the population is not benefiting from these plans. The behavior of members of a private group benefit plan is likely different.
[65] Busby, C., and W.B.P. Robson, C.D. Howe Institute. 2011. *A Social Insurance Model for Pharmacare: Ontario's Options for a More Sustainable Cost-Effective Drug Program*.
[66] CIHI, 2011b.

drug expenditures growing at an annual real rate of 5.2 percent, from $33.0 billion (2.0 percent of GDP) in 2012 to $117.0 billion (4.7 percent of GDP) in 2037. The share of drug expenditures of provinces/territories would grow at an annual real rate of 5.9 percent. Such an assumption assumes that historical trends will continue in the future, with no action taken to contain costs. Instead, this research assumes that action will be taken to contain costs, resulting in future expenditures increases to eventually converge closer to general inflation.

Consequently, the projection model assumes that the real per capita drug expenditures will increase at an annual rate of 3 percent.

Real per capita drug expenditures of provinces/territories are applied to the projected demography to arrive at total real drug expenditures. They are expected to grow at an annual rate of 4.6 percent on a constant 2012 dollar basis—3.0 percent due to price increases and 1.6 percent due to aging and population growth.

Table 9.4 summarizes key findings from the projection of drug expenditures of provinces/territories and the sensitivities of the assumptions used.

Table 9.4: Summary of Projections of Drug Expenditures of Provinces/Territories

Drug Expenditures of Provinces/Territories						
(millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Drug Expenditures of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	2.9%	4.3%	7.2%	2012 :	10,677	0.6%
Projection Using Historical Real Cost Growth	1.6%	4.3%	5.9%	2037 :	44,904	1.8%
Projection Using Base Scenario	1.6%	3.0%	4.6%	2037 :	32,818	1.3%
Projection Assumption Under Base Scenario	Trend of 3% for 25 years					
Sensitivity Testing						
Projection Assumptions Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Drug Expenditures of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	1.4%	3.0%	4.4%	2037 :	31,066	1.4%
Pessimistic: High-Growth	1.8%	3.0%	4.8%	2037 :	34.596	1.3%
Drug Costs						
Optimistic: -1.0%	1.6%	2.0%	3.6%	2037 :	25,715	1.0%
Pessimistic: +1.0%	1.6%	4.0%	5.6%	2037 :	41,784	1.7%

Table 9.5 shows projected drug expenditures of provinces/territories from 2012 to 2037. Direct drug expenditures of the federal government and by social security funds are assumed to grow proportionately to those of provinces/territories. They are expected to grow at a real rate of 4.6 percent.

The per capita drug expenditures curve from provinces/territories, where the clientele consists mainly of the poor and the elderly, is most certainly different than that of the private sector (including out-of-pocket payments by Canadians), covering the working population. Therefore, it is not a reliable basis for projecting private drug expenditures (including out-of-pocket payments). No other reliable information being available, they are instead projected assuming that they grow at an annual real rate of 3 percent in addition to the effect of growth of the working population. In consequence, the private sector (including out-of-pocket payments by Canadians) drug expenditures are expected to grow at a real rate of 3.4 percent.

Table 9.5: Projected Drug Expenditures of Provinces/Territories, 2012 to 2037, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% GDP
2012	157	36	320	196	2,521	4,560	309	319	1,274	970	7	5	3	10,677	0.6%
2013	164	38	335	205	2,639	4,806	322	332	1,344	1,017	8	6	3	11,217	0.7%
2014	170	40	351	214	2,762	5,060	335	346	1,416	1,066	8	6	3	11,777	0.7%
2015	177	42	367	224	2,890	5,325	350	361	1,492	1,117	8	6	3	12,362	0.7%
2016	185	45	383	234	3,021	5,604	364	376	1,571	1,170	9	7	3	12,972	0.7%
2017	192	47	400	245	3,156	5,895	379	392	1,654	1,226	9	7	3	13,606	0.7%
2018	200	49	418	257	3,297	6,202	395	409	1,741	1,284	9	7	4	14,273	0.8%
2019	208	51	436	269	3,445	6,528	411	427	1,833	1,344	10	8	4	14,973	0.8%
2020	216	54	455	281	3,599	6,873	429	446	1,930	1,406	10	8	4	15,711	0.8%
2021	224	56	475	295	3,756	7,234	447	466	2,030	1,472	11	8	4	16,478	0.8%
2022	232	59	496	309	3,919	7,614	465	487	2,134	1,540	11	8	4	17,279	0.9%
2023	241	62	517	324	4,086	8,011	484	508	2,242	1,610	11	9	5	18,111	0.9%
2024	250	64	539	339	4,258	8,428	504	530	2,354	1,684	12	9	5	18,977	0.9%
2025	258	67	562	354	4,435	8,871	525	553	2,471	1,762	12	9	5	19,886	1.0%
2026	267	70	586	370	4,615	9,335	546	577	2,590	1,841	13	10	5	20,825	1.0%
2027	276	73	610	386	4,795	9,812	568	602	2,712	1,923	13	10	5	21,787	1.0%
2028	285	77	635	403	4,979	10,317	592	627	2,838	2,009	14	11	6	22,790	1.1%
2029	294	80	660	420	5,167	10,839	615	653	2,968	2,097	14	11	6	23,825	1.1%
2030	304	83	686	437	5,360	11,376	640	679	3,100	2,190	14	11	6	24,888	1.1%
2031	313	87	711	454	5,553	11,910	666	706	3,234	2,286	15	12	7	25,951	1.2%
2032	323	90	735	471	5,743	12,438	693	732	3,368	2,384	15	12	7	27,010	1.2%
2033	332	94	759	487	5,935	12,980	720	759	3,505	2,486	16	12	7	28,094	1.2%
2034	341	97	784	504	6,134	13,543	749	787	3,648	2,592	16	13	7	29,215	1.2%
2035	351	100	810	523	6,339	14,124	778	815	3,796	2,701	17	13	8	30,377	1.3%
2036	361	104	837	540	6,551	14,721	809	845	3,948	2,813	18	14	8	31,569	1.3%
2037	372	108	864	559	6,772	15,347	841	876	4,108	2,930	18	15	8	32,818	1.3%

Source: CIHI, 2012b and calculations by the author.

Table 9.6 summarizes the projected drug expenditures, by payer, over the next 25 years. Drugs were using economic resources equivalent to 2.0 percent of GDP in 2012. Their importance is projected to grow to 3.5 percent by 2037.

Table 9.6: Projected Drug Expenditures, 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	10,677	597	0	1,056	12,330	20,696	33,025	2.0%
2013	11,217	627	0	1,109	12,953	21,478	34,430	2.0%
2014	11,777	659	0	1,164	13,600	22,278	35,878	2.1%
2015	12,362	691	0	1,222	14,276	23,096	37,372	2.1%
2016	12,972	725	0	1,283	14,980	23,923	38,903	2.2%
2017	13,606	761	0	1,345	15,713	24,754	40,467	2.2%
2018	14,273	798	0	1,411	16,482	25,581	42,063	2.3%
2019	14,973	837	0	1,481	17,291	26,405	43,695	2.3%
2020	15,711	879	0	1,554	18,143	27,238	45,382	2.4%
2021	16,478	921	0	1,629	19,029	28,092	47,121	2.4%
2022	17,279	966	0	1,709	19,954	28,956	48,910	2.5%
2023	18,111	1,013	0	1,791	20,914	29,844	50,758	2.5%
2024	18,977	1,061	0	1,876	21,915	30,765	52,680	2.6%
2025	19,886	1,112	0	1,966	22,964	31,704	54,668	2.7%
2026	20,825	1,164	0	2,059	24,048	32,674	56,723	2.7%
2027	21,787	1,218	0	2,154	25,159	33,694	58,853	2.8%
2028	22,790	1,274	0	2,253	26,317	34,741	61,059	2.9%
2029	23,825	1,332	0	2,356	27,513	35,842	63,355	2.9%
2030	24,888	1,392	0	2,461	28,740	37,025	65,765	3.0%
2031	25,951	1,451	0	2,566	29,969	38,319	68,287	3.1%
2032	27,010	1,510	0	2,671	31,191	39,708	70,899	3.1%
2033	28,094	1,571	0	2,778	32,443	41,168	73,611	3.2%
2034	29,215	1,634	0	2,889	33,737	42,691	76,429	3.3%
2035	30,377	1,699	0	3,004	35,079	44,271	79,350	3.3%
2036	31,569	1,765	0	3,121	36,455	45,912	82,368	3.4%
2037	32,818	1,835	0	3,245	37,898	47,621	85,519	3.5%

Chapter 10—Projection of "Other Health Spending"

This chapter is interested with the health care expenditures in relation to capital expenditures, health research, public health, the administration of health insurance plans and other expenditures. It first looks at the current structure of "other health spending" before projecting its components in the future.

Introduction

"Other health spending" includes the following categories:

- Capital expenditures on hospitals and facilities, equipment, etc.[67]
- Public health expenditures such as food and drug safety, health promotion, disease control programs, etc.[68]
- Administration costs of health insurance programs and operating costs of health agencies [69]
- Health research[70]
- Home care, which only includes the health professional component (such as support for bathing, eating, etc.), not the home support component (such as support for preparing meals, doing the lawn, etc.)
- Medical transportation
- Medical devices, appliances and prostheses.

These expenditures are not meant to be covered under the *Canada Health Act* of 1984.

[67] CIHI, 2011c. Capital expenditures "*include expenditures on construction, machinery, equipment and some software of hospitals, clinics, first-aid stations and residential care facilities. It is based on full-cost or cash-basis accounting principles."*

[68] CIHI, 2011c. Public health expenditures by governments and government agencies "*include expenditures for items such as food and drug safety, health inspections, health promotion activities, community mental health programs, public health nursing, measures to prevent the spread of communicable disease and occupational health to promote and enhance health and safety at the workplace in public-sector agencies."*

[69] CIHI, 2011c. Administration expenditures are defined as: "*expenditures related to the cost of providing health insurance programs by the government and private health insurance companies and all costs for the infrastructure to operate health departments. The administrative costs of operating hospitals, drug programs, long-term care programs and other non-insured health services are not included under the category of administration, but rather are included under the category of service, for example, hospitals, other institutions and drugs."*

[70] CIHI, 2011c. Health research expenditures are defined as: "*expenditures for research activities designed to further knowledge of the determinants of health, health status or methods of providing health care, evaluation of health care delivery or of public health programs. The category does not include research carried out by hospitals or drug companies in the course of product development. These amounts would be included with either the hospital or drug category."*

Current Costs

Table 10.1 shows "other health spending" by payer and by province/territory. It shows that the public sector is responsible for 77 percent of "other health spending," with provinces/territories assuming close to 80 percent of that amount.

Table 10.1: Total "Other Health Spending," 2012, by Payer

Province/Territory	Provincial/Territorial Government Sector		Private Sector and Out-of-Pocket Payments		Total		
	Total (millions of $)	Per capita ($)	Total (millions of $)	Per capita ($)	Total (millions of $)	Per capita ($)	% of GDP
Newfoundland & Labrador	377.0	740	101.8	200	534.6	1,050	2.3%
Prince Edward Island	137.1	937	25.2	172	210.8	1,440	4.1%
Nova Scotia	588.1	622	215.8	228	963.9	1,019	2.7%
New Brunswick	452.1	598	172.7	228	743.7	983	2.6%
Quebec	4,746.2	590	1,635.6	203	7,355.2	915	2.2%
Ontario	9,031.1	668	3,679.6	272	15,041.7	1,112	2.2%
Manitoba	1,020.5	809	304.3	241	1,753.5	1,389	3.2%
Saskatchewan	960.2	898	215.9	202	1,463.5	1,368	2.9%
Alberta	2,809.8	729	1,248.7	324	4,763.3	1,236	1.8%
British Columbia	3,942.9	849	1,326.6	286	5,984.3	1,288	2.9%
Yukon	65.7	1,873	4.9	141	94.9	2,706	4.2%
Northwest Territories	64.0	1,453	4.5	103	115.3	2,616	3.0%
Nunavut	123.8	3,670	3.4	101	163.3	4,843	10.7%
Total Canada	24,318.4	697	8,939.2	256	39,188.1	1,124	2.3%
Prov./Terr. Governments	24,318.4	697					
Federal Direct	4,495.4	129					
Municipal Governments	842.7	24					
Social Security Funds	592.4	17					
Total	30,248.9	867	8,939.2	256	39,188.1	1,124	2.3%

Source: CIHI, 2012b.

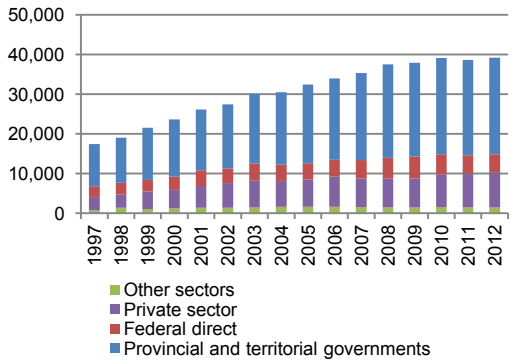
Table 10.2 summarizes how public and private spending, including direct payments by Canadians, is distributed by category of "other health spending."

Table 10.2: "Other Health Spending" by Type of Expenditures, 2012 (millions of dollars)

Type of Expenditures	Public Sector			Private Sector	Total
	Provincial/ Territorial Gov'ts	Other Public Sector	Total		
Capital	7,101	369	7,470	2,131	9,601
Public Health	8,855	2,178	11,033	0	11,033
Administration	1,637	959	2,595	3,839	6,434
Health Research	n/a	n/a	1,890	1,381	3,272
Other	n/a	n/a	7,260	1,588	8,848
Total	24,318	5,930	30,249	8,939	39,188

Source: CIHI, 2012b.

Figure 10.1: Historical "Other Health Spending," 1997 to 2012 (millions of constant 2012 dollars)



Source: CIHI, 2012b.

Figure 10.1 shows that "other health spending" has increased at an annual real rate of 5.6 percent—on top of inflation—over the past 15 years (the share assumed by provinces/territories, however, increased at a real rate of 5.7 percent). Meanwhile, per capita expenditures have increased at a real rate of 4.5 percent (4.6 percent for the share assumed by provinces/territories).

Projections

"Other health spending" cannot be projected similarly to other expenditures as per capita numbers are not available and would have little meaning anyway. Each category of "other health spending" is projected

separately, not all of them being influenced by demographic factors. Using the observed trends in "other health spending" (that is, assuming that they grow at an annual real rate of 5.6 percent—on top of inflation—over the entire projection period) would result in total "other health spending" of provinces/territories growing from $24.3 billion (1.5 percent of GDP) in 2012 to 95.0 billion of constant 2012 dollars (3.8 percent of GDP) in 2037. Assumptions used in the model are:

- Capital—Real capital expenditures grow with the growth of the population.
- Public health—Expenses are assumed to remain fixed on a constant 2012 dollar basis (meaning that they will actually be rising at the rate of inflation).
- Administration—Expenses are assumed to remain fixed on a constant 2012 dollar basis.
- Health research—Real expenses are assumed to grow with the real GDP.
- Other—Real other expenditures, which include home care,[71] are assumed to grow with the growth of the population, plus 1.0 percent for the first five years, and then at a decreasing rate reaching 0.5 percent by 2037, to reflect the expectations that provinces/territories will increase their efforts to provide care outside hospitals, putting more emphasis on home care.

Table 10.3 summarizes key findings from the projection of "other health spending" of provinces/territories and the sensitivities of the assumptions used.

Table 10.3: Summary of Projections of "Other Health Spending" of Provinces/Territories

"Other Health Spending" of Provinces/Territories						
(millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other Health Spending" of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	-	5.6%	5.6%	2012 :	24,318	1.5%
Projection Using Historical Real Cost Growth	-	5.6%	5.6%	2037 :	94,957	3.8%
Projection Using Base Scenario	-	0.8%	0.8%	2037 :	29,812	1.2%
Projection Assumption Under Base Scenario	Capital—trend with population growth Public health—no trend Administration—no trend Health research—trend with real GDP growth Other—trend with population growth plus 1.0% for five yrs, dropping to 0.5% after 25 yrs					
Sensitivity Testing						
Projection Assumption Tested	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total "Other Health Spending" of Provinces/Territories		as a % of GDP
Demographic Model						
Optimistic: Low-Growth	-	0.6%	0.6%	2037 :	28,205	1.2%
Pessimistic: High-Growth	-	1.0%	1.0%	2037 :	31,508	1.2%

Table 10.4 summarizes the projected "other health spending" of provinces/territories from 2012 to 2037 under the base scenario. They are expected to grow at a real rate of 0.8 percent.

[71] Technically, it would be justified to make home care expenditures vary by age. However, no per capita age-/gender-dependent data is available for "other health spending." Therefore, the author has no choice but to resort to a more simple projection assumption.

Table 10.4: Projected "Other Health Spending" of Provinces/Territories, 2012 to 2037, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada	% of GDP
2012	377	137	588	452	4,746	9,031	1,020	960	2,810	3,943	66	64	124	24,318	1.5%
2013	378	138	591	455	4,780	9,123	1,029	967	2,839	3,987	66	64	125	24,543	1.4%
2014	379	139	595	457	4,815	9,215	1,039	973	2,868	4,031	66	65	125	24,767	1.4%
2015	381	140	598	459	4,849	9,308	1,048	979	2,897	4,076	67	65	127	24,994	1.4%
2016	382	142	602	462	4,882	9,401	1,057	986	2,925	4,121	67	66	128	25,220	1.4%
2017	383	143	605	464	4,916	9,495	1,066	992	2,954	4,165	67	66	129	25,446	1.4%
2018	385	144	608	467	4,948	9,587	1,075	999	2,983	4,209	68	67	131	25,671	1.4%
2019	386	145	611	469	4,980	9,679	1,084	1,005	3,010	4,253	78	67	132	25,892	1.4%
2020	388	146	615	471	5,011	9,771	1,093	1,011	3,038	4,297	68	67	133	26,111	1.4%
2021	389	147	618	474	5,043	9,864	1,103	1,018	3,066	4,341	69	68	134	26,333	1.4%
2022	390	148	621	476	5,073	9,957	1,112	1,024	3,093	4,386	69	68	135	26,553	1.4%
2023	392	150	624	478	5,103	10,049	1,121	1,030	3,120	4,430	70	69	136	26,773	1.3%
2024	393	151	627	480	5,134	10,143	1,130	1,037	3,147	4,474	70	69	137	26,992	1.3%
2025	394	152	631	482	5,163	10,235	1,139	1,043	3,175	4,518	70	70	139	27,211	1.3%
2026	395	153	633	485	5,192	10,328	1,148	1,049	3,201	4,563	71	70	139	27,428	1.3%
2027	396	154	636	487	5,221	10,420	1,157	1,056	3,228	4,607	71	71	139	27,644	1.3%
2028	398	155	639	489	5,250	10,512	1,167	1,062	3,255	4,651	72	71	141	27,861	1.3%
2029	399	156	642	491	5,278	10,603	1,176	1,068	3,282	4,696	72	72	142	28,075	1.3%
2030	400	157	645	492	5,306	10,695	1,185	1,075	3,309	4,740	72	72	143	28,291	1.3%
2031	401	158	648	494	5,334	10,787	1,194	1,081	3,336	4,785	73	73	144	28,508	1.3%
2032	402	159	651	496	5,362	10,881	1,204	1,088	3,363	4,829	73	73	144	28,726	1.3%
2033	403	160	653	498	5,390	10,974	1,213	1,095	3,390	4,874	74	74	145	28,943	1.3%
2034	404	161	656	500	5,418	11,066	1,223	1,101	3,417	4,919	74	74	147	29,161	1.2%
2035	406	162	659	502	5,445	11,159	1,232	1,108	3,444	4,963	75	75	148	29,378	1.2%
2036	407	163	662	504	5,472	11,251	1,242	1,115	3,471	5,007	75	75	149	29,593	1.2%
2037	408	164	665	506	5,500	11,345	1,252	1,122	3,498	5,052	75	76	151	29,812	1.2%

Source: CIHI, 2012b and calculations by the author.

Table 10.5 summarizes the projected "other health spending," by payer, over the next 25 years. "Other health spending" is the only type of health care expenditures whose weight on the Canadian economy is expected to lighten, the associated expenditures expected to decrease from 2.3 percent of GDP in 2012 to 2.0 percent in 2037.

Table 10.5: Projected "Other Health Spending," 2012 to 2037, by Payer, Base Scenario (millions of constant 2012 dollars)

Years	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total	% of GDP
2012	24,318	4,495	843	592	30,249	8,939	39,188	2.3%
2013	24,543	4,537	851	598	30,529	9,026	39,555	2.3%
2014	24,767	4,579	859	603	30,809	9,114	39,922	2.3%
2015	24,994	4,622	866	609	31,091	9,201	40,292	2.3%
2016	25,220	4,665	874	615	31,374	9,288	40,662	2.3%
2017	25,446	4,707	882	620	31,656	9,373	41,029	2.2%
2018	25,671	4,750	890	626	31,937	9,457	41,394	2.2%
2019	25,892	4,792	898	631	32,214	9,540	41,753	2.2%
2020	26,111	4,835	906	637	32,490	9,621	42,111	2.2%
2021	26,333	4,878	915	643	32,769	9,703	42,471	2.2%
2022	26,553	4,922	923	649	33,046	9,784	42,830	2.2%
2023	26,773	4,966	931	654	33,324	9,865	43,189	2.2%
2024	26,992	5,011	939	660	33,602	9,946	43,548	2.2%
2025	27,211	5,056	948	666	33,881	10,027	43,907	2.2%
2026	27,428	5,101	956	672	34,157	10,107	44,264	2.1%
2027	27,644	5,147	965	678	34,434	10,189	44,623	2.1%
2028	27,861	5,194	974	684	34,713	10,270	44,982	2.1%
2029	28,075	5,241	983	691	34,989	10,351	45,341	2.1%
2030	28,291	5,289	992	697	35,269	10,435	45,704	2.1%
2031	28,508	5,339	1,001	704	35,552	10,522	46,074	2.1%
2032	28,726	5,390	1,010	710	35,837	10,611	46,448	2.1%
2033	28,943	5,441	1,020	717	36,121	10,701	46,822	2.0%
2034	29,161	5,494	1,030	724	36,409	10,791	47,200	2.0%
2035	29,378	5,547	1,040	731	36,695	10,882	47,577	2.0%
2036	29,593	5,600	1,050	738	36,981	10,972	47,953	2.0%
2037	29,812	5,644	1,058	744	37,258	11,065	48,322	2.0%

Chapter 11—Public Accounts and the Canada Health Transfer

After having described the Canadian health care system, after having reviewed its current cost by types of expenditures, after having set projection assumptions, and after having projected health care expenditures from 2012 to 2037, this chapter discusses the implication of future health care expenditures on the financial position of provinces/territories.

Then, the Canada Health Transfer (CHT) is described, including the calculation formula that currently prevails and the new calculation formula proposed by the federal government. Any implication on the financial position of provinces/territories is assessed as well as that of the federal government, from a broad perspective as well as from the narrower perspective of the *Canada Health Act* of 1984.

Introduction

Historically, health care expenditures of provinces/territories have grown at an annual real rate of 4.2 percent, on top of inflation—1.0 percent from aging and population growth and 3.2 percent from real price increases. Assuming such trend continues in the future would result in total health care expenditures of provinces/territories growing at an annual real rate of 5.1 percent—on top of inflation—from $135.0 billion (8.2 percent of GDP) in 2012 to 466.7 billion of constant 2012 dollars (19.2 percent of GDP) in 2037. Instead, this report assumes that unspecified public policies will be implemented to limit future health care cost increases (effectively resulting in total health care expenditures being more than 30 percent lower in 2037 than if no action is taken). The assumptions adopted result in an expected growth rate in provincial/territorial health care expenditures equal to 3.5 percent on top of inflation. This is shown in Table 11.1.

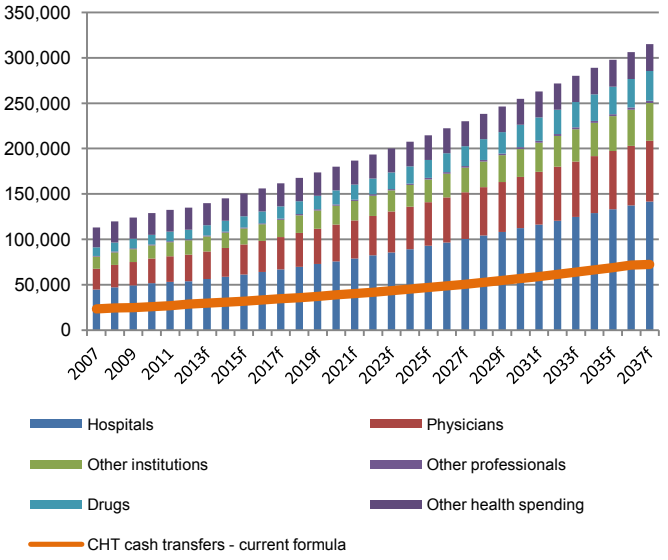
Table 11.1: Summary of Projections of Total Health Care Expenditures of Provinces/Territories

Total Health Care Expenditures of Provinces/Territories (millions of constant 2012 dollars, where applicable)						
Expenditures Growth	Annual Increase Due to Aging and Population Growth	Annual Increase Due to Real Cost	Total Annual Increase	Total Health Care Expenditures of Provinces/Territories		as a % of GDP
Historical Pattern from 1996 to 2010	1.0%	3.2%	4.2%	2012 :	134,952	8.2%
Projection Using Historical Real Cost Growth	1.9%	3.2%	5.1%	2037 :	466,716	19.2%
Projection Using Base Scenario	1.9%	1.6%	3.5%	2037 :	315,182	12.7%

Figure 11.1 summarizes the projected health care expenditures of provinces/territories. Under our model (which assumes government action to reduce the real rate of growth), they are expected to grow from $135.0 billion in 2012 to $315.2 billion in 2037, on a constant 2012 dollar basis. That's an annualized real increase of 3.5 percent—on top of inflation. Looking by type of expenditures, physician expenditures are expected to grow at an annual real rate of 3.4 percent over the next 25 years, hospital expenditures at an annual real rate of 3.9 percent, "other institutions expenditures" at an annual real rate of 3.9 percent, "other professionals expenditures" at an annual real rate of 2.9 percent, drug expenditures at an annual real rate of 4.6 percent, and "other health spending" at an annual real rate of 0.8 percent.

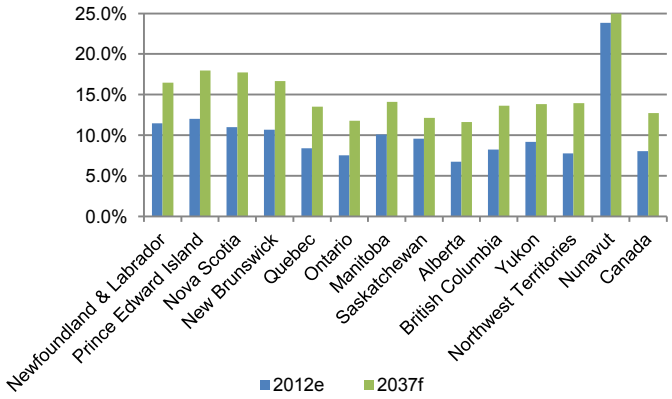
In addition, Figure 11.1 shows the evolution of the cash component of the CHT. It shows that, using the current calculation formula, it is expected to grow from $28.4 billion in 2012 to $72.2 billion in 2037, a real annual increase of 4.0 percent.

Figure 11.1: Distribution of Total Health Care Expenditures of Provinces/Territories, 2007 to 2037, Base Scenario (millions of constant 2012 dollars)



Then, Figure 11.2 shows how projected total health care expenditures of provinces/territories, on a constant 2012 dollar basis, are expected to compare to real GDP for selected projection years and for each province/territory. On average for Canada, they are expected to increase significantly, from 8.2 percent of GDP in 2012 to 12.7 percent in 2037. There will be provincial/territorial differences, with the Atlantic provinces having to devote a larger share of their economy to health care, mostly as a result of a demographic slowdown that is projected to affect the level of economic production and which also puts more pressure on the health care system as the population ages.

Figure 11.2: Total Health Care Expenditures of Provinces/Territories, Selected Years (as a % of GDP)



Implications on Public Accounts

The impact of increasing health care expenditures will create issues for provinces/territories in balancing their budgets. Assessing these impacts requires an estimation for future available revenues, for future program expenditures—other than health care—as well as for the debt charges. These will all be affected by fiscal and social policies, and their projection is beyond the scope of this research.

Instead, this report compares future health care expenditures to expected future revenues available to provinces/territories, broken down in two categories:

- Own-source revenues—These mainly consist of personal and corporate income taxes, sales taxes, plus all tariffs and payroll taxes. It is assumed, for the purpose of this report, that own-source revenues increase at the same rate as GDP. An implicit assumption is that all tax rates will remain unchanged for the next 25 years and/or public policies will be adopted to keep the growth of own-source revenues in line with that of the economy (either through cutbacks in social programs or tax rate increases if the growth of own-source revenues falls short of GDP growth, and vice versa).

- Federal cash transfers—These consist of the CHT, the Canada Social Transfer, the Equalization Program plus any other cash transfer from the federal government to provinces/territories. The CHT is projected according to the method described in the next section of this chapter. All other federal cash transfers are projected to grow at a rate equal to that of the GDP.[72]

Figure 11.3: Total Health Care Expenditures of Provinces/Territories Compared to Total Available Revenues, 2007 to 2037, Base Scenario (millions of constant 2012 dollars)

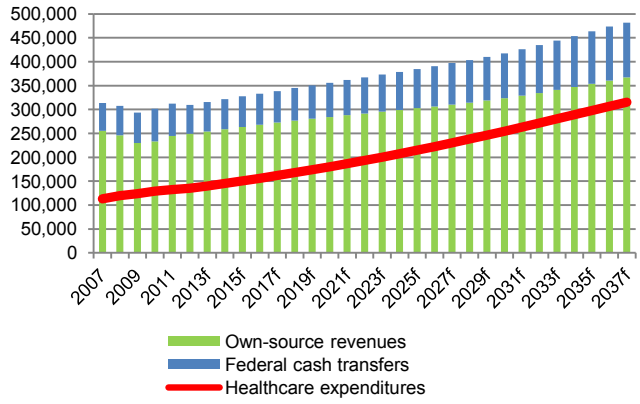


Figure 11.3 shows how total revenues available to provinces/territories are expected to compare to total health care expenditures of the provinces/territories, based on the current calculation formula of the CHT cash transfer. It shows that, while real health care expenditures are expected to grow at an annual rate of 3.5 percent—on top of inflation—total available revenues, on a constant 2012 dollar basis, are expected to increase at an annual rate of 1.9 percent (1.5 percent growth in own-source revenues and 2.1 percent growth in federal cash transfers).

Figure 11.4: Total Health Care Expenditures of Provinces/Territories, Selected Years, Base Scenario (as a % of Total Own-Source Revenues)

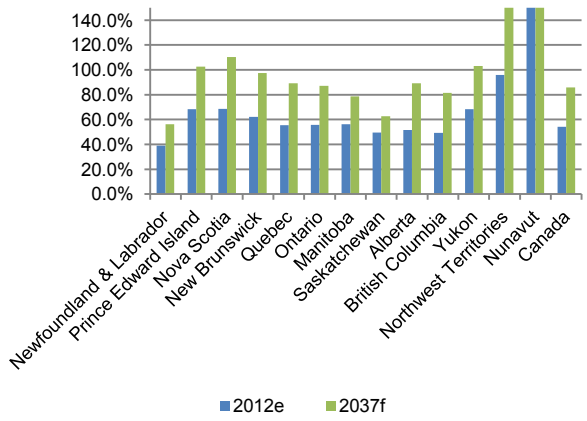


Figure 11.5: Total Health Care Expenditures of Provinces/Territories, Selected Years, Base Scenario (as a % of Total Available Revenues) with Current CHT Formula

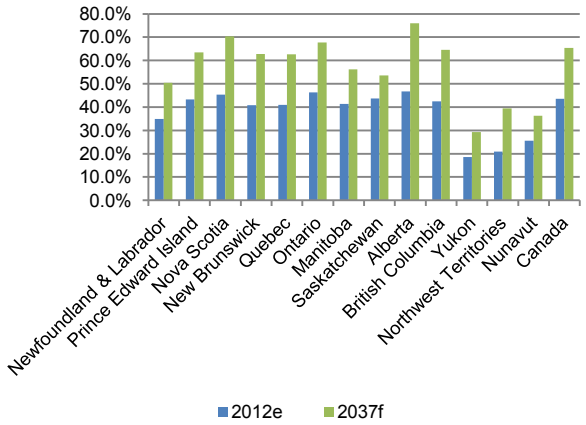


Figure 11.4 demonstrates that health care expenditures will consume a material portion of provincial/territorial own-source revenues, increasing their dependence on federal transfers. It is interesting to note, as shown in Figure 11.5, that the share of total available revenues (including own-source revenues and federal cash transfers) needed to fund health care expenditures will be higher in 2037 in provinces such as Ontario and Alberta than in a province such as Newfoundland & Labrador.

[72] In fact, some federal cash transfers will not grow in the same manner as the economy, at least for some provinces or territories. For example, it is reasonable to assume that Equalization payments will increase in favor of provinces and territories whose economies grow at a s lower pace than the national average. Still, this report uses the assumption that all federal cash transfers—except the CHT—grow at a rate equal to that of the GDP. This makes the projections easier to make and interpret. Also, the reader is reminded that the focus of this research is on the CHT, with discussions about other federal cash transfers being out of scope.

Figure 11.6: Total Health Care Expenditures of Provinces/Territories vs. Real GDP, Own-Source Revenues and Total Available Revenues, 2007 to 2037, Base Scenario with Current CHT Formula

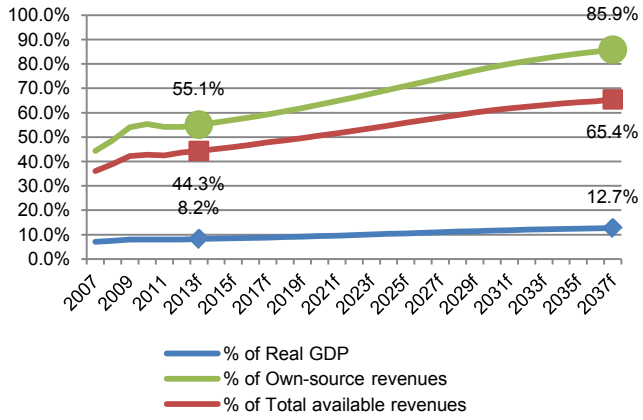


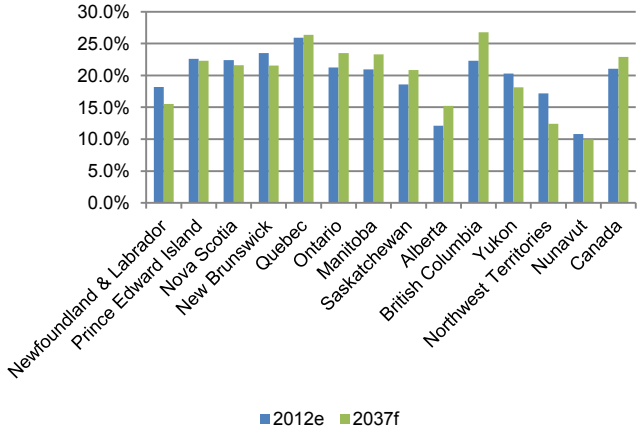
Figure 11.6 shows that total health care expenditures would be expected to use about 65 percent of the revenues available to provinces/territories in 2037 (assuming continuation of the current CHT formula). That's up from 44 percent in 2012. They will, however, consume close to the totality (86 percent) of their own-source revenues. This means that the resources available to provinces/territories to fund other program expenditures and to pay debt charges will be significantly reduced. A corollary is that other public and social programs will have to be downsized and/or taxes and tariffs will have to be increased. There are several financial and societal implications to this. In terms of the capacity of the Canadian economy to sustain the cost of health care services paid for by provinces/territories, it must be noted that it will be using close to 13 percent of economic resources in 2037, up from less than 8 percent in 2012.

Canada Health Transfer

The federal government supports provinces/territories with the funding of health care expenditures using the CHT. Currently, it includes tax points and cash transfers.

- CHT tax points are the result of the federal government significantly decreasing its income tax rates in the late 1970s, allowing provinces/territories to use that tax space. The tax points that are appropriated to the CHT are impacted by the evolution of the tax base (personal and corporate income) and are expected to grow in line with the economy.
- Total CHT cash transfers were initially set at fixed amounts for fiscal years 2004-2005 and 2005-2006 [73] in accordance with the prescription of the *Federal-Provincial Fiscal Arrangements Act*. They are then increasing at a nominal annual rate of 6 percent until fiscal year 2013-2014. Total CHT cash transfers are allocated to each province/territory in a way that results in each province/territory receiving a total CHT entitlement (tax point plus cash transfer) proportionate to its population (in other words, each province/territory is entitled to equal-

Figure 11.7: Share of Total Health Care Expenditures of Provinces/Territories Funded by the CHT, Selected Years, by Province and Territory, Base Scenario, Current Calculation Formula



[73] In this research, CHT cash transfers are converted from a fiscal-year basis to a calendar-year basis using rules that are consistent with those adopted by CIHI for their NHEX Database.

per-capita total CHT, which usually translates in different CHT cash transfers by province/territory).[74]

Using the current CHT calculation formula, the federal cash transfers associated with the CHT will be funding 22.9 percent, on average, of total health care expenditures of provinces/territories in 2037, at a slightly higher level than in 2012 (21.0 percent). Figure 11.7 shows the variation by province/territory.

Now, two significant changes are proposed on Dec. 19, 2011 to the CHT formula, effective April 1, 2014:

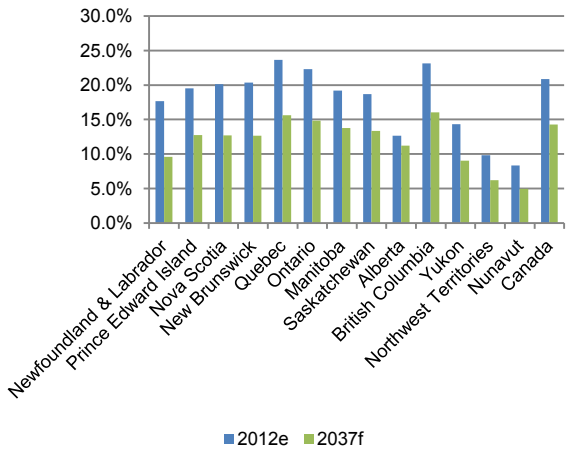
- Firstly, CHT cash transfers will be allocated differently by province/territory. They are currently allocated on the basis of equal-per-capita total CHT entitlement (including tax points and cash transfers). Starting with fiscal year 2014-2015, they will be allocated on the basis of equal-per-capita CHT cash transfers. The federal government has committed to this measure in its Budget 2007. It is expected to benefit the most to Alberta and to be the most detrimental to Newfoundland & Labrador.
- Secondly, starting with fiscal year 2017-2018, the aggregate CHT cash transfer envelope will be increasing at an annual rate equal to a three-year moving average of the GDP growth. There is a further guarantee that total cash transfers will increase by at least 3 percent every year.

Table 11.2: Reduction in CHT Cash Transfers Resulting from the Proposed Changes to the Calculation Formula, 2013 to 2037, Base Scenario

	millions of constant 2012 dollars	% of Total available revenues
Newfoundland & Labrador	341	3.0%
Prince Edward Island	135	6.1%
Nova Scotia	759	6.2%
New Brunswick	611	5.6%
Quebec	6,721	6.7%
Ontario	10,537	5.9%
Manitoba	1,120	5.3%
Saskatchewan	711	4.0%
Alberta	1,821	3.1%
British Columbia	4,315	6.9%
Yukon	41	2.7%
Northwest Territories	53	2.5%
Nunavut	42	1.8%
Canada	27,208	5.6%

As discussed earlier, using the current calculation formula, [75] the CHT cash transfer would be expected to grow from $28.4 billion in 2012 to $72.2 billion in 2037, a real increase of 4.0 percent. With the proposed change, it would grow to $45.0 billion, a real increase of 2.1 percent. Table 11.2 shows the monetary impact of the proposed changes in the CHT calculation formula for each province/territory. The provinces of Prince Edward Island, Nova Scotia, Quebec and British Columbia will suffer a reduction of more than 6 percent in their total available revenues. The impact for New Brunswick, Ontario and Manitoba will be slightly less pronounced—however still substantial—and even less severe

Figure 11.8: Share of Total Health Care Expenditures of Provinces/Territories Funded by the CHT, Selected Years, by Province and Territory, Base Scenario, New Proposed Calculation Formula



[74] In reality, another cash transfer, referred to as "associated equalization," is made to arrive at such result. For the purpose of this research, any reference to the CHT cash transfer is assumed to include the "associated equalization" payment. In addition, it is also including the often-called Health Reform Transfer, which was introduced in fiscal year 2004-2005 to support provinces with the funding of initiatives in relation to primary care, home care and catastrophic drug coverage, and which amounted to 24 percent of the total CHT cash transfers in fiscal year 2008- 2009.

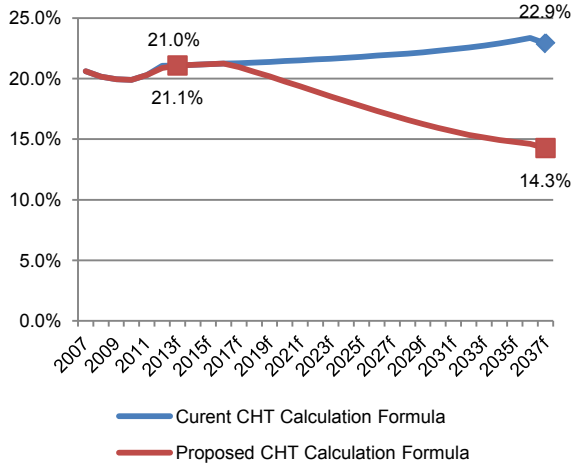
[75] For sake of simplicity, the "current CHT calculation formula" refers to the formula that prevails for fiscal year 2011-2012. This report assumes that it would continue to apply for the next 25 years. However, it is important to realize that there has been no formal commitment from the federal government to continue its application past fiscal year 2016-2017.

for Newfoundland & Labrador, Saskatchewan, Alberta and the three territories. The province that will end up in the best position is Alberta, who can expect virtually no change to the cumulative CHT cash transfers it will be receiving over the entire 25-year projection period as it will see its CHT cash transfer increase substantially in 2016.

Using the proposed calculation formula, federal cash transfers associated with the CHT will be funding 14.3 percent, on average (22.9 percent using the current calculation formula), of total health care expenditures of provinces/territories in 2037, down from 21.1 percent in 2012. Figure 11.8 shows the variation by province/ territory.

It is obvious that the proposed CHT calculation formula will have a significant effect on the ability of provinces/territories to continue supporting the health care system. In fact, and as shown in Figure 11.9, they will have to find new sources of funding corresponding to 8.6 percent of total health care expenditures by 2037 (equal to the difference between 22.9 percent of total health care expenditures of provinces/territories that would be supported by the CHT under the current calculation formula in 2037, and 14.3 percent under the proposed calculation formula).

Figure 11.9: Comparison of Share of Total Health Care Expenditures of Provinces/Territories Funded by the CHT under the Current and the Proposed Calculation Formulas, 2007 to 2037, Base Scenario



Similarly, Figure 11.11 shows that total health care expenditures of provinces/territories will be equal to 69.3 percent of their total available revenues under the proposed CHT calculation formula. That's up from 65.4 percent under the current calculation formula, meaning that the extra funding gap due to the change in the CHT formula will be equal to 3.9 percent of their total available revenues.

Figure 11.10: Total Health Care Expenditures of Provinces/Territories, Selected Years, Base Scenario (as a % of total available revenues) with Proposed CHT Formula

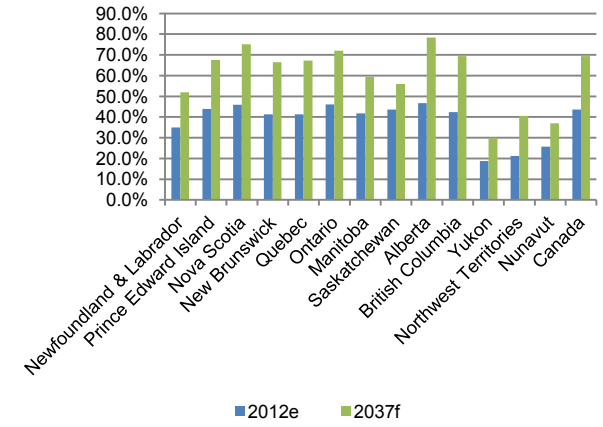
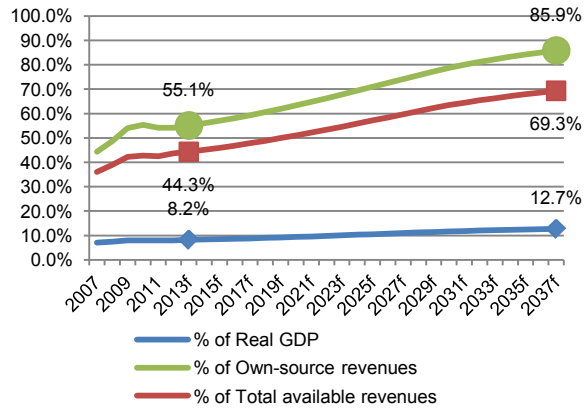


Figure 11.11: Total Health Care Expenditures of Provinces/Territories vs. Real GDP, Own-Source Revenues and Total Available Revenues, 2007 to 2037, Base Scenario with Proposed CHT Formula



Canada Health Act Perspective

In order to make this research as objective as possible, in order to properly reflect the financial responsibilities that the federal government is already assuming, and in order to counter critics that the conclusions of this report present provinces/territories as "victims" of the proposed changes to the CHT, the issue needs to be considered from a different point of view: that of the *Canada Health Act* of 1984.

This alternative perspective essentially draws from the findings so far in this report, with two slight modifications:

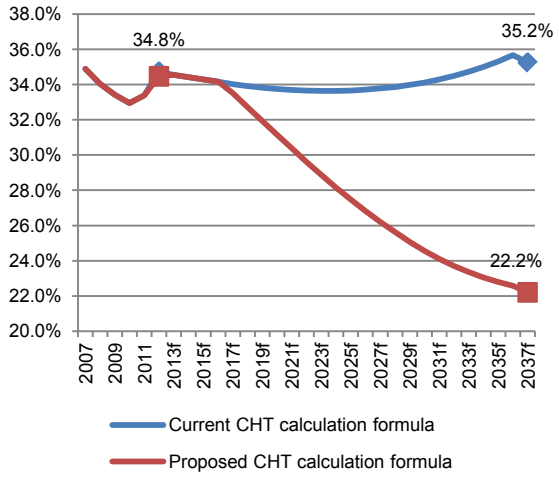
- In recognition of the fact that the federal commitment to support provinces/territories was initially limited to hospital and physician services, any expenditures associated to "other institutions," "other professionals," drugs and "other health spending" is removed. The federal government could argue that such expenditures are the result of social programs introduced by provinces/territories—and which fall under their respective jurisdictions—that it is not to be held accountable for.
- Direct expenditures by the federal government related to hospital and physician services are added to its financial contribution to the Canadian health care system.

It can then be shown that projected hospital and physician expenditures of the federal government and of provinces/territories are expected to grow from $83.4 billion in 2012 to 208.7 billion of constant 2012 dollars in 2037—an annualized real increase of 4.0 percent, on top of inflation. In addition, this research demonstrates that, using the current CHT calculation formula, the total contribution of the federal government to health care would be expected to grow from $29.0 billion in 2012 to 73.6 billion of constant 2012 dollars in 2037—a real increase of 4.0 percent. With the proposed changes to the CHT calculation formula, the growth by 2037 would be expected to be limited to 46.4 billion of constant 2012 dollars—a real increase of 2.1 percent—significantly reducing its share of expenditures.

Using the current CHT calculation formula, the contribution of the federal government to the Canadian health care system will equal 35.2 percent, on average, of total hospital and physician expenditures of the federal government and of provinces/territories in 2037, up from 34.8 percent in 2012.

By contrast, using the proposed CHT calculation formula, the contribution of the federal government to the Canadian health care system would equal 22.2 percent, on average, of total hospital and physician expenditures of the federal government and of provinces/territories in 2037, down from 34.8 percent in 2012.

Figure 11.12: Comparison of Share of Total Health Care Expenditures of Provinces/Territories Funded by the CHT under the Current and the Proposed Calculation Formula, *Canada Health Act* Perspective, 2007 to 2037, Base Scenario



Again, even when adopting the narrower *Canada Health Act* perspective, this research demonstrates that the proposed CHT calculation formula would have a s ignificant impact on the ability of provinces/territories to support the Canadian health care system. As shown in Figure 11.12, by 2037, they will have to find new sources of funding corresponding to 13.0 percent of total hospital and physician expenditures.

Chapter 12—Impact on Private and Other Public Sectors

The previous chapter presented the effect of projected health care expenditures on the financial position of provinces/territories, addressing the prime objective of this report. This chapter now recognizes that other parties will be impacted as well by the projections presented in this report.

Introduction

Table 12.1 shows the distribution of health care expenditures by type of service for each payer[76] in 2012. These numbers were mostly discussed in Chapter 3 and in Chapters 5 to 10.

Table 12.1: Total Health Care Expenditures, 2012, by Use of Funds and by Payer (millions of dollars)

Type of Health Care Services	Provincial/ Territorial Governments	Federal Government	Municipal Governments	Social Security Funds	Total Public Sector	Private Sector and Out-of-Pocket Payments	Total
Physicians	29,153	225	0	316	29,556	400	29,957
Hospitals	53,925	326	36	371	54,658	5,865	60,523
Other Institutions	15,914	124	0	13	16,051	6,397	22,448
Other Professionals	1,103	346	1	344	1,793	20,482	22,276
Drugs	10,677	597	0	1,056	12,330	20,696	33,025
Other Health Spending	24,318	4,495	843	592	30,249	8,939	39,188
Total	134,952	6,114	880	2,693	144,637	62,779	207,417

[76] Please refer to Chapter 3 for the definition of each payer.

Federal Government

Table 12.2 shows the projected direct health care expenditures, by type of service, of the federal government, from 2012 to 2037. In aggregate, they will grow at a real annual rate of 1.9 percent, as opposed to 3.5 percent for provinces/territories. This is explained by their larger relative exposure to "other health spending" as opposed to physician and hospital expenditures. In absence of policies to control health care costs, total direct health care expenditures of the federal government would be growing at an annualized real rate of 5.4 percent.

Table 12.1: Projected Direct Health Care Expenditures of the Federal Government, 2012 to 2037, by Use of Funds, Base Scenario (millions of constant 2012 dollars)

Years	Physicians	Hospitals	Other Institutions	Other Professionals	Drugs	Other Health Spending	Total	as a % of GDP
2012	225	326	124	346	597	4,495	6,114	0.4%
2013	235	340	129	357	627	4,537	6,225	0.4%
2014	245	355	133	369	659	4,579	6,340	0.4%
2015	255	370	138	381	691	4,622	6,458	0.4%
2016	266	387	142	394	725	4,665	6,579	0.4%
2017	277	404	147	406	761	4,707	6,703	0.4%
2018	289	421	152	419	798	4,750	6,830	0.4%
2019	301	439	157	433	837	4,792	6,959	0.4%
2020	312	458	162	446	879	4,835	7,092	0.4%
2021	324	477	168	460	921	4,878	7,229	0.4%
2022	337	497	174	474	966	4,922	7,370	0.4%
2023	349	518	181	488	1,013	4,966	7,515	0.4%
2024	362	539	187	503	1,061	5,011	7,662	0.4%
2025	374	561	195	518	1,112	5,056	7,815	0.4%
2026	387	583	203	533	1,164	5,101	7,971	0.4%
2027	399	606	212	548	1,218	5,147	8,130	0.4%
2028	412	630	221	564	1,274	5,194	8,295	0.4%
2029	424	654	231	579	1,332	5,241	8,462	0.4%
2030	437	678	241	595	1,392	5,289	8,632	0.4%
2031	449	703	252	610	1,451	5,339	8,804	0.4%
2032	462	728	264	626	1,510	5,390	8,980	0.4%
2033	473	754	276	641	1,571	5,441	9,157	0.4%
2034	485	779	288	657	1,634	5,494	9,337	0.4%
2035	497	805	300	673	1,699	5,547	9,520	0.4%
2036	508	830	312	688	1,765	5,600	9,704	0.4%
2037	520	856	325	704	1,835	5,644	9,883	0.4%
Growth Rate	3.4%	3.9%	3.9%	2.9%	4.6%	0.9%	1.9%	

Municipal Governments

Table 12.3 shows the projected health care expenditures of municipal governments, by type of service, from 2012 to 2037. They will grow at an aggregate real annual rate of 1.0 percent. This is explained by the fact that they are not assuming any expenditure for drugs and physician services, and their expenditures for hospital services are limited.

Table 12.3: Projected Health Care Expenditures of Municipal Governments, 2012 to 2037, by Use of Funds, Base Scenario (millions of constant 2012 dollars)

Years	Physicians	Hospitals	Other Institutions	Other Professionals	Drugs	Other Health Spending	Total	as a % of GDP
2012	0	36	0	1	0	843	880	0.1%
2013	0	37	0	1	0	851	889	0.1%
2014	0	39	0	1	0	859	898	0.1%
2015	0	40	0	1	0	866	907	0.1%
2016	0	41	0	1	0	874	916	0.1%
2017	0	42	0	1	0	882	926	0.1%
2018	0	43	0	1	0	890	935	0.1%
2019	0	45	0	1	0	898	944	0.0%
2020	0	46	0	1	0	906	953	0.0%
2021	0	47	0	1	0	915	962	0.0%
2022	0	48	0	1	0	923	971	0.0%
2023	0	48	0	1	0	931	981	0.0%
2024	0	49	0	1	0	939	990	0.0%
2025	0	50	0	1	0	948	999	0.0%
2026	0	51	0	1	0	956	1,008	0.0%
2027	0	52	0	1	0	965	1,018	0.0%
2028	0	52	0	1	0	974	1,027	0.0%
2029	0	53	0	1	0	983	1,037	0.0%
2030	0	54	0	1	0	992	1,047	0.0%
2031	0	55	0	1	0	1,001	1,057	0.0%
2032	0	56	0	1	0	1,010	1,068	0.0%
2033	0	57	0	1	0	1,020	1,079	0.0%
2034	0	58	0	2	0	1,030	1,090	0.0%
2035	0	60	0	2	0	1,040	1,101	0.0%
2036	0	61	0	2	0	1,050	1,112	0.0%
2037	0	62	0	2	0	1,058	1,122	0.0%
Growth Rate	-	2.2%	-	2.9%	-	0.9%	1.0%	

Social Security Funds

Table 12.4 shows the projected health care expenditures of social security funds, by type of service, from 2012 to 2037. They will grow at a real annual rate of 3.1 percent, somewhat comparable to provinces/territories, however profiting from the fact that their clientele is mostly the working population, which is expected to be in better health and which is definitely younger. In absence of policies to control health care costs, total health care expenditures of social security funds would be growing at an annualized real rate of 4.8 percent.

Table 12.4: Projected Health Care Expenditures of Social Security Funds, 2012 to 2037, by Use of Funds, Base Scenario (millions of constant 2012 dollars)

Years	Physicians	Hospitals	Other Institutions	Other Professionals	Drugs	Other Health Spending	Total	as a % of GDP
2012	316	371	13	344	1,056	592	2,693	0.2%
2013	328	383	14	352	1,109	598	2,783	0.2%
2014	339	395	14	361	1,164	603	2,877	0.2%
2015	351	408	15	369	1,222	609	2,975	0.2%
2016	363	421	15	378	1,283	615	3,074	0.2%
2017	375	434	16	386	1,345	620	3,175	0.2%
2018	386	446	16	394	1,411	626	3,279	0.2%
2019	397	457	17	401	1,481	631	3,383	0.2%
2020	407	468	17	408	1,554	637	3,491	0.2%
2021	418	478	18	414	1,629	643	3,600	0.2%
2022	427	488	18	421	1,709	649	3,712	0.2%
2023	437	497	19	427	1,791	654	3,825	0.2%
2024	446	506	20	434	1,876	660	3,942	0.2%
2025	455	515	21	440	1,966	666	4,063	0.2%
2026	463	523	22	446	2,059	672	4,184	0.2%
2027	471	530	22	452	2,154	678	4,308	0.2%
2028	478	537	23	458	2,253	684	4,435	0.2%
2029	486	545	25	465	2,356	691	4,566	0.2%
2030	494	553	26	472	2,461	697	4,702	0.2%
2031	503	564	27	479	2,566	704	4,842	0.2%
2032	513	575	28	487	2,671	710	4,985	0.2%
2033	523	587	29	496	2,778	717	5,130	0.2%
2034	533	600	31	504	2,889	724	5,280	0.2%
2035	543	612	32	512	3,004	731	5,434	0.2%
2036	553	624	33	520	3,121	738	5,590	0.2%
2037	563	637	34	529	3,245	744	5,751	0.2%
Growth Rate	2.3%	2.2%	3.9%	1.7%	4.6%	0.9%	3.1%	

Private Sector (including out-of-pocket payments)

Table 12.5 shows the projected health care expenditures of the private sector (including out-of-pocket payments by Canadians), by type of service, from 2012 to 2037. The expenditures will grow at a real rate of 2.3 percent, profiting from the private sector's little relative exposure to physician and hospital services, which allows it to absorb cost increases associated with drugs. In absence of policies to control health care costs, total health care expenditures of the private sector (including out-of-pocket payments by Canadians) would be growing at an annualized real rate of 3.7 percent.

Table 12.5: Projected Health Care Expenditures of the Private Sector (including out-of-pocket payments), 2012 to 2037, by Use of Funds, Base Scenario (millions of constant 2012 dollars)

Years	Physicians	Hospitals	Other Institutions	Other Professionals	Drugs	Other Health Spending	Total	as a % of GDP
2012	400	5,865	6,397	20,482	20,696	8,939	62,779	3.7%
2013	414	6,061	6,494	21,001	21,478	9,026	64,475	3.8%
2014	426	6,270	6,589	21,525	22,278	9,114	66,204	3.8%
2015	443	6,484	6,682	22,049	23,096	9,201	67,954	3.8%
2016	457	6,698	6,771	22,567	23,923	9,288	69,704	3.9%
2017	472	6,911	6,853	23,073	24,754	9,373	71,437	3.9%
2018	485	7,116	6,927	23,551	25,581	9,457	73,118	3.9%
2019	498	7,310	6,992	24,001	26,405	9,540	74,746	4.0%
2020	511	7,497	7,052	24,436	27,238	9,621	76,355	4.0%
2021	523	7,679	7,109	24,862	28,092	9,703	77,967	4.0%
2022	534	7,845	7,162	25,272	28,956	9,784	79,554	4.0%
2023	545	8,009	7,213	25,675	29,844	9,865	81,151	4.1%
2024	556	8,169	7,265	26,081	30,765	9,946	82,782	4.1%
2025	566	8,318	7,313	26,472	31,704	10,027	84,399	4.1%
2026	576	8,452	7,361	26,858	32,674	10,107	86,028	4.2%
2027	585	8,577	7,413	27,253	33,694	10,189	87,711	4.2%
2028	594	8,689	7,463	27,637	34,741	10,270	89,395	4.2%
2029	603	8,806	7,515	28,030	35,842	10,351	91,148	4.2%
2030	614	8,943	7,576	28,458	37,025	10,435	93,051	4.3%
2031	625	9,112	7,651	28,931	38,319	10,522	95,160	4.3%
2032	637	9,300	7,736	29,435	39.708	10,611	97,427	4.3%
2033	650	9,494	7,823	29,949	41,168	10,701	99,784	4.3%
2034	662	9,691	7,912	30,464	42,691	10,791	102,212	4.4%
2035	675	9,892	8,001	30,974	44,271	10,882	104,693	4.4%
2036	687	10,095	8,089	31,482	45,912	10,972	107,238	4.4%
2037	699	10,298	8,178	31,990	47,621	11,065	109,851	4.4%
Growth Rate	2.3%	2.3%	1.0%	1.8%	3.4%	0.9%	2.3%	

Consideration was given to the possibility of limiting, to some extent, projected hospital expenditures paid by the private sector and by Canadians (through out-of-pocket payments). In fact, they mainly consist of costs charged by hospitals for board and room in semi-private or private rooms, which are in some instances covered by group benefit plans. An argument can be made that increases of these charges could be limited to general inflation, not being as much impacted by the cost of therapies, except in respect of the length of stay. However, a counter-argument can be made that it is not unreasonable to assume that hospitals will make these charges increase at a faster pace than general inflation. Moreover, by adopting a broader view of hospital expenditures, irrespective of the payer, it must be realized that the expense of one s ector is the revenue of another. This means that capping the increase in hospital expenditures supported by the private sector and by out-of-pocket payments would require increasing the hospital expenditures that the provinces/territories are responsible for. Therefore, for sake of simplicity, this report assumes that the costs charged by hospitals to users for board and room will follow the actual increase in the costs of operating the hospitals.

Chapter 13—Conclusion

Canada ranks as the fifth most expensive country of the OECD in terms of per capita health care expenditures, dedicating resources equal to 11.4 percent of GDP to health care. About 44 percent of such expenditures are directed to hospitals and physicians, and provinces/territories are funding 65 percent of total health care expenditures. When adopting a strict view on total health care expenditures (perspective of the *Canada Health Act* of 1984, which limits insured health services to physician and hospital services), almost the totality (92 percent) of health care expenditures are actually paid by provinces/territories using, among other sources of funds, the Canada Health Transfer (CHT). Provinces/territories are currently devoting 44 percent of their total available revenues to health care, ranging from about 20 percent in the territories to 46 percent in Ontario and Nova Scotia and 47 percent in Alberta. Table 13.1 summarizes current provincial/territorial health care expenditures.

Table 13.1: Summary of Current Health Care Expenditures by Provinces/Territories, 2012

Province/Territory	(millions of dollars)							as a % of		
	Physicians	Hospitals	Other Institutions	Other Professionals	Drugs	Other Health Spending	Total	GDP	Own-Source Revenues	Total Available Revenues
Newfoundland & Labrador	452	1,267	379	12	157	377	2,643	11.5%	39%	35%
Prince Edward Island	103	263	79	3	36	137	622	12.0%	68%	44%
Nova Scotia	741	1,616	640	13	320	588	3,918	11.0%	69%	46%
New Brunswick	590	1,444	406	7	196	452	3,095	10.7%	62%	41%
Quebec	5,644	10,997	4,138	203	2,521	4,746	28,250	8.4%	55%	41%
Ontario	12,090	18,314	6,013	404	4,560	9,031	50,413	7.5%	56%	46%
Manitoba	1,030	2,307	763	29	309	1,021	5,458	10.1%	56%	42%
Saskatchewan	908	1,869	711	26	319	960	4,792	9.6%	49%	44%
Alberta	3,519	8,344	1,565	235	1,274	2,810	17,747	6.7%	52%	47%
British Columbia	3,807	7,137	1,124	163	970	3,943	17,143	8.2%	49%	42%
Yukon	30	71	30	2	7	66	206	9.2%	68%	19%
Northwest Territories	51	150	27	2	6	64	300	7.8%	96%	21%
Nunavut	50	146	39	4	3	124	365	23.8%	278%	26%
Total	29,015	53,925	15,914	1,103	10,677	24,318	134,952	8.1%	54%	44%

In this report, future health care expenditures are projected from 2012 to 2037 using a demographic model developed by Statistics Canada. Under the base scenario, the Canadian population is expected to grow at an annual rate of 0.9 percent. Then, an economic model is built to project GDP growth using the demographic model, resulting in expected real GDP growth of 1.6 percent per year when assuming productivity gains of 1.3 percent.

Projections are first made assuming that observed historical trends in real price increases from 1996 to 2010 will continue in the future. Total health care expenditures of provinces/territories would then grow at an annual real rate of 5.1 percent—on top of inflation—over the next 25 years, to be equal to 19.2 percent of GDP and using all of the financial resources available to provinces/territories. Clearly, such scenario is not viable.

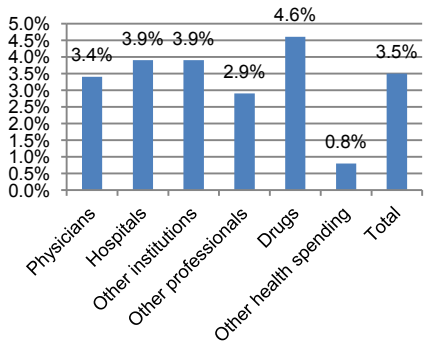
Instead of simply relying on historical trends, this report makes an explicit assumption that public policies will be implemented to limit future health care price increases. Under our base scenario, provincial/territorial health care expenditures would be growing at an annual real rate of 3.5 percent—on top of inflation—and would be more than 30 percent lower in 2037 than if no action had taken place. This is shown on Table 13.2.

Looking at the types of expenditures, health care expenditures of provinces/territories are expected to grow as shown in Figure 13.1.

Table 13.2: Summary of Projected Health Care Expenditures by Provinces/Territories, 2012 to 2037 (millions of constant 2012 dollars)

	Current	Projected Using Historical Trend	Projected Under Base Scenario
	2012	2037	2037
Physician Expenditures	29,015	88,404	67,076
Hospital Expenditures	53,925	139,774	141,631
Other Institutions Expenditures	15,914	97,546	41,603
Other Professionals Expenditures	1,103	1,131	2,241
Drug Expenditures	10,677	44,904	32,818
Other Health Spending	24,318	94,957	48,322
Total Health Care Expenditures	134,952	466,716	315,182
as a % of GDP	8.2%	18.9%	12.7%
as a % of Own-Source Revenues	54%	127%	86%
as a % of Total Available Revenues			
… Using Current CHT Formula	44%	97%	65%
… Using New CHT Formula	-	103%	69%
Real Rate of Growth	-	5.1%	3.5%

Figure 13.1: Expected Growth Rates of Health Care Expenditures of Provinces/Territories, 2012 to 2037, by Use of Funds, Base Scenario



Also, as a consequence of population aging, this report suggests that the supply of physicians will need to increase by at least 46 percent over the next 25 years just to keep up with demand for health care services.

Sensitivity tests have identified the assumptions that provinces/territories are the most sensitive to. Table 13.3 presents a summary. It shows that the health care projection assumptions that provinces/territories are the most sensitive to are demographic growth, physician costs, hospital compensation, hospital innovation and economic productivity.

Table 13.3: Summary of Some Health Care Projection Sensitivity Tests

Assumptions Tested	Optimistic/ Pessimistic	Provincial/Territorial Health Care Spending in 2037		
		millions of $	Rate of growth	% of GDP
Base Scenario	-	315,182	3.5%	12.7%
Demographics Scenario	Low-growth	296,090	3.2%	12.0%
	High-growth	334,847	3.7%	13.5%
Physician Costs	-1.0%	300,521	3.3%	12.1%
	+1.0%	333,737	3.7%	13.5%
Hospital Compensation	-1.0%	297,316	3.2%	12.0%
	+1.0%	343,194	3.8%	13.9%
Hospital Innovation	-1.0%	289,893	3.1%	11.7%
	+1.0%	354,831	3.9%	14.3%
Economic Productivity	-1.0%	314,731	3.4%	16.6%
	+1.0%	315,753	3.5%	9.8%

While health care expenditures are expected to grow at an annual rate of 3.5 percent on a constant dollar basis, over the next 25 years, total revenues available to provinces/territories will grow at an annual rate of 1.9 percent assuming that the current CHT formula remains unchanged. Health care expenditures are then expected to consume about 65 percent of revenues available to provinces/territories in 2037, representing 86 percent of their own-source revenues. This means that the resources available to provinces/territories to fund other program expenditures and to pay debt charges will be significantly reduced. Looking at the extremes, Alberta will be dedicating more than 76 percent of its total available revenues to health care in 2037.

With the current calculation formula, federal cash transfers associated with the CHT will be funding 22.9 percent of total health care expenditures of provinces/territories in 2037, slightly up from 21.0 percent in 2012, with CHT cash transfers expected to grow at a real annual rate of 4.0 percent for the next 25 years. With the proposed changes to the calculation formula, they will grow at a real annual rate of 2.1 percent and will be funding only a much lower 14.3 percent of health care expenditures by 2037. New sources of funds equal to 8.6 percent of total health care expenditures will need to be found by provinces/territories

to support the impacts of the proposed changes to the CHT calculation formula. Prince Edward Island, Nova Scotia, Quebec and British Columbia will be the most penalized by the proposed changes.

It is then expected, with the proposed CHT formula, that health care will consume more than 69 percent of total revenues available to provinces/territories in 2037 in all provinces but Newfoundland & Labrador, Manitoba and Saskatchewan. Excluding federal cash transfers, health care expenditures will exceed own-source revenues in Prince Edward Island, Nova Scotia and in the territories.

This research shows that projected real GDP will not grow at the same pace as observed historically. This is due to demographic factors, with the working population not growing as fast as in the past. Still, enacting policies to boost economic productivity gains to 2.3 percent, up 1.0 percent from the assumption under the base scenario, could permit similar economic growth in the future. This would actually lead to the total revenues available to provinces/territories to grow at an annual rate of 2.7 percent over the next 25 years and using the current CHT calculation formula (up from 1.9 percent under the base scenario). Health care expenditures would then consume about 53 percent of their revenues in 2037 (up from 44 percent in 2012), representing 67 percent of their own-source revenues (up from 54 percent in 2012). That is better than under the base scenario; however increases in health care expenditures would still be a significant hit for provinces/territories to absorb. Also, assuming such economic growth implies that the CHT cash transfers would grow at an annual rate of 2.9 percent under the proposed calculation formula, with the *Canada Health Transfer* then funding 17.3 percent (down from 21.0 percent in 2012) of health care expenditures of provinces/territories by 2037.

This report focuses mostly on the funding of the Canadian health care system. As a side-note, Drummond recently developed an argument that Canadians should expect better value for each health care dollar spent, suggesting that the issues are not limited to costs and funding of health care, and that quality and effectiveness of care also present challenges. He makes a prognosis that the future of the Canadian health care system, unless changed, is troubling. Possible remedies include *"greater emphasis on health promotion, system reorganization to make [it] patient-centric and more responsive to growing chronic care needs, and payment methods to hospitals and physicians that incent quality care, efficiency and greater use of information."*[77]

Meanwhile, it is very possible that forces will work to effectively control the rising costs of health care. For instance, the C.D. Howe Institute judges that *"[…] three factors: i) better price incentives and bottom-up accountability measures leading to more cost-effective treatments and practices; ii) a slower rate of increase in new procedures and drugs; or iii) faster creation and diffusion of cost-reducing technology—could result in a major reduction in the rate of growth of costs, provided that very significant efforts are deployed."*[78] Public policymakers would be well advised to put more emphasis on programs to control risk factors associated with chronic diseases as a way to contain future increases in physician and hospital expenditures.

In conclusion, this report demonstrates that, in absence of some government action, the Canadian health care system may not be sustainable. Such federal and provincial/territorial government initiatives should aim at limiting future increases in health care costs, at improving economic productivity and at finding new or additional sources of funds to support the principles of the *Canada Health Act* of 1984.

[77] Drummond, Don, C.D. Howe Institute. 2011. *Therapy or Surgery? A Prescription for Canada's Health System*.
[78] Dodge, David A., and Richard Dion. 2011, *Chronic Healthcare Spending Disease: A Macro Diagnosis and Prognosis*, C.D. Howe Institute Commentary, The Health Papers, No. 327.

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Appendix 1—Benefits Covered under Canadian Medicare Programs[79]

Benefits covered under the Canadian Medicare programs include:

- Hospital services:
  - Room and board in a public ward
  - Physicians' services, diagnostics, anesthesia, nursing, drugs, supplies and therapy (these services are available on either an inpatient or an outpatient basis)
  - Room and board in a nursing home or long-term care hospital (partial coverage in most provinces).

- Physicians' services, including services of a general practitioner, specialist, psychiatrist, surgeon, anesthetist or obstetrician.

- Other professionals with coverage varying considerably among provinces/territories[80]:
  - Chiropractors—some form of coverage only in Manitoba, Saskatchewan and British Columbia
  - Massage therapists—some form of coverage only in British Columbia
  - Naturopaths—some form of coverage only in British Columbia
  - Physiotherapists—some form of coverage in all provinces/territories except Nova Scotia
  - Podiatrists—some form of coverage only in Ontario, Saskatchewan, Alberta and British Columbia
  - Osteopaths—some form of coverage only in Alberta and British Columbia
  - Psychologists—some form of coverage only in Saskatchewan, the Northwest Territories and Nunavut.

- Prescription drugs for social assistance recipients and residents over age 65 in most provinces/territories.[81]

- Prostheses and therapeutic equipment.

- Other diagnostic services, such as laboratory tests and X-rays performed outside a hospital.

- Dental care:
  - Medically required oral and dental surgery performed in hospital (extractions and fillings are usually not covered except for medical complications)
  - Diagnostic, preventive and minor restorative services performed out of hospital are covered as follows:
    - Prince Edward Island—no coverage
    - Newfoundland & Labrador—no coverage
    - Nova Scotia—coverage for young children (under 10) and seniors

[79] Most of the information shown in the appendix is taken from Bluhm (2007) and Towers Watson (2010).
[80] In several instances, services are only covered when performed in a hospital.
[81] See Chapter 9 for additional details.

- New Brunswick—no coverage
- Quebec—coverage for children and seniors
- Ontario—coverage for children and seniors
- Manitoba—coverage for children and seniors
- Saskatchewan—coverage for children, seniors and those on welfare
- Alberta—coverage for children and seniors
- British Columbia—coverage for children and seniors
- Yukon—coverage for seniors
- Northwest Territories—coverage for seniors
- Nunavut—coverage for seniors.

- Out-of-province coverage:
  - Hospital and medical expenses incurred in other provinces are usually paid according to the amount payable in the province where the person is treated.
  - Hospital expenses incurred out of Canada are reimbursed only in part (on a per diem basis); medical expenses out of Canada are reimbursed up to the amount that would have been paid for the same treatments in the province of residence.

Appendix 2—Demographic Projection Model

2011 Population

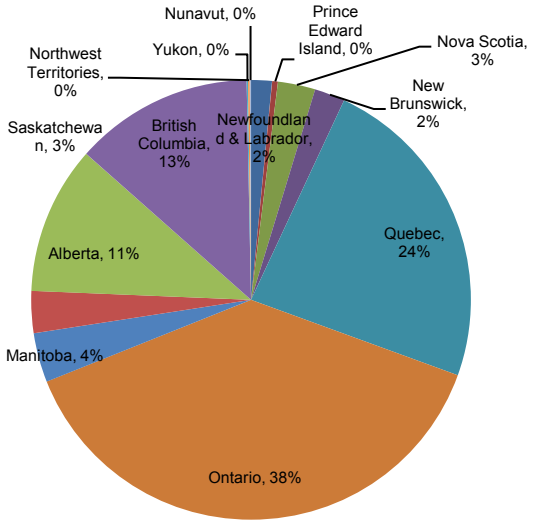
This report paper relies on population data as published by Statistics Canada. It is based on the recently released 2011 census.[82] Table A2.1 and Figure A2.1 show how the population was distributed in 2011 by province/territory, and by age and gender.

Table A2.1: Population Geographic Distribution, 2011 (in thousands)

Province/Territory	Males	Females	Total	Distribution
Newfoundland & Labrador	251	264	515	1.5%
Prince Edward Island	68	73	140	0.4%
Nova Scotia	446	476	922	2.8%
New Brunswick	366	385	751	2.2%
Quebec	3,876	4,027	7,903	23.6%
Ontario	6,263	6,589	12,852	38.4%
Manitoba	595	614	1,208	3.6%
Saskatchewan	512	522	1,033	3.1%
Alberta	1,828	1,817	3,645	10.9%
British Columbia	2,157	2,243	4,400	13.1%
Yukon	17	17	34	0.1%
Northwest Territories	21	20	41	0.1%
Nunavut	16	16	32	0.1%
Canada	16,414	17,063	33,477	100.0%

Source: Statistics Canada, 2011 Census.

Figure A2.1: Population Geographic Distribution, 2011



Source: Statistics Canada, 2011 Census.

[82] Some adjustments were necessary since the 2011 census report did not provide breakdowns for all age bands at the time of using the data. Such adjustments are based on preliminary postcensal estimates, which are themselves based on the 2006 census.

Table A2.2 shows how the population is distributed by age and gender, and by province/territory.

Table A2.2: Population Distribution by Age and Gender, 2011, by Province/Territory (in thousands)

	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada
	Females													
<1	2	1	4	4	43	69	8	7	25	21	0	0	0	184
1-4	10	3	17	14	172	275	30	27	94	86	1	1	2	732
5-9	12	4	22	18	196	347	36	31	107	107	1	1	2	884
10-14	13	4	24	20	205	372	38	32	108	116	1	1	2	936
15-19	14	5	27	20	237	403	41	34	113	125	1	2	1	1,024
20-24	15	5	30	24	248	437	42	36	130	146	1	2	1	1,117
25-29	15	4	27	21	247	421	40	35	144	147	1	2	1	1,106
30-34	15	4	27	22	264	411	38	33	134	139	1	2	1	1,091
35-39	17	4	30	25	250	446	39	31	130	146	1	1	1	1,122
40-44	20	5	32	26	258	469	39	31	126	161	1	2	1	1,171
45-49	22	6	39	32	315	544	46	38	141	182	2	2	1	1,368
50-54	22	6	40	32	325	508	45	39	137	181	1	2	1	1,338
55-59	22	5	37	31	296	448	40	35	115	167	1	1	1	1,198
60-64	20	5	34	28	260	393	35	29	91	148	1	1	0	1,045
65-69	15	4	26	21	216	311	27	23	67	113	1	0	0	823
70-74	10	3	18	14	149	216	19	16	46	78	0	0	0	570
75-79	8	2	15	12	131	194	17	16	41	66	0	0	0	505
80-84	6	2	12	10	107	158	15	14	33	55	0	0	0	411
85-89	4	1	8	7	68	106	11	10	21	37	0	0	0	272
90+	2	1	6	4	40	60	7	7	13	24	0	0	0	165
Subtotal	264	73	476	385	4,027	6,589	614	522	1,817	2,243	17	20	16	17,063
	Males													
<1	2	1	5	4	45	72	8	7	26	22	0	0	0	193
1-4	10	3	18	15	181	289	31	28	100	91	1	1	2	769
5-9	13	4	23	19	204	365	38	32	112	112	1	1	2	926
10-14	14	4	26	21	214	392	41	33	113	122	1	1	2	984
15-19	15	5	28	22	243	420	42	35	116	130	1	2	2	1,061
20-24	16	5	32	24	254	456	44	39	138	154	1	2	2	1,164
25-29	14	4	26	21	248	406	39	36	148	146	1	2	1	1,092
30-34	14	3	24	21	263	377	37	33	137	132	1	2	1	1,045
35-39	16	4	27	23	253	410	38	30	134	136	1	2	1	1,076
40-44	18	5	29	25	258	443	38	30	128	151	1	1	1	1,130
45-49	21	6	37	30	318	524	44	37	143	174	1	2	1	1,339
50-54	21	5	37	31	314	486	45	38	139	168	2	2	1	1,289
55-59	21	5	34	29	288	423	40	35	118	159	1	1	1	1,156
60-64	19	5	32	27	248	366	33	28	91	141	1	1	0	994
65-69	14	4	24	20	195	282	25	22	63	107	1	0	0	757
70-74	10	2	17	14	135	195	17	15	44	74	0	0	0	524
75-79	7	2	12	10	102	160	14	13	35	60	0	0	0	416
80-84	4	1	8	7	69	115	10	10	25	43	0	0	0	293
85-89	2	1	4	4	33	58	6	6	12	22	0	0	0	147
90+	1	0	2	2	13	23	3	3	5	10	0	0	0	61
Subtotal	251	68	446	366	3,876	6,263	595	512	1,828	2,157	17	21	16	16,414
Total	515	140	922	751	7,903	12,852	1,208	1,033	3,645	4,400	34	41	32	33,477

Source: Statistics Canada, Census 2011

Population Projection Methodology

This report makes projections about future health care expenditures over the next 25 years. This requires population data to be projected from 2013 to 2037. Projections published by Statistics Canada are used,[83] which are presented under three scenarios:

[83] In fact, Statistics Canada publishes projections up to the year 2036. These are then extrapolated linearly by the author to the year 2037.

- Low-growth scenario
- Medium-growth scenario[84]
- High-growth scenario.

This report defines the medium-growth scenario as the base scenario, with the low-growth and high-growth scenarios used to test the sensitivity of health care cost projections to the demographic assumptions.

The projections are based on assumptions about fertility, mortality, international immigration, emigration and inter-provincial migration.

Fertility—Assumptions are set by Statistics Canada for each province/territory based on their own specific variations. In aggregate, the fertility assumption for the medium-growth scenario is set at 1.7 children per woman, and the mean age at childbearing is set at 30.17 years. These assumptions are fixed for the next 25 years. Under the low-growth scenario, the fertility rate gradually declines to 1.5 children per woman by 2014 and remains fixed until 2036, with the mean age at childbearing increasing to 30.77 years over the same period of time. Under the high-growth scenario, the fertility rate increases to 1.9 children per woman, and the mean age at childbearing increases to 30.37 years. Table A2.3 shows ultimate fertility assumptions, by the year 2036.

Table A2.3: Projected Fertility Rates, 2036, by Province and Territory

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland and Labrador	1.28	1.46	1.65
Prince Edward Island	1.46	1.66	1.86
Nova Scotia	1.33	1.51	1.69
New Brunswick	1.34	1.53	1.73
Quebec	1.52	1.72	1.92
Ontario	1.44	1.63	1.81
Manitoba	1.73	1.98	2.23
Saskatchewan	1.78	2.03	2.30
Alberta	1.70	1.93	2.17
British Columbia	1.39	1.57	1.74
Yukon	1.41	1.61	1.80
Northwest Territories	1.87	2.14	2.41
Nunavut	2.53	2.93	3.35
Total Canada	1.50	1.70	1.90

Source: Statistics Canada, 2010.

By comparison, the fertility assumption used by the Canada Pension Plan (CPP) is 1.66 children per woman in 2007, decreasing to 1.65 children per woman in 2015 and remaining fixed thereafter.[85] This is slightly lower than the base scenario. The Quebec Pension Plan (QPP), on its part, assumes a fertility rate of 1.73 children per woman in 2010, decreasing to an ultimate level of 1.65 children per woman in 2018.[86] Again, this is lower than what is assumed by Statistics Canada, as shown in Table A2.4, which compares the number of births projected by the CPP, the QPP and by Statistics Canada.

Table A2.4: Comparison of Projected Number of Births, Selected Years (in thousands)

Selected Years	Canada without Quebec (CPP)	Quebec Only (QPP)	Total Canada (CPP+QPP)	Base Scenario
2012	307	89	396	400
2013	310	89	399	405
2014	313	89	402	409
2015	315	89	404	413
2020	320	86	406	427
2025	315	82	397	429
2030	311	79	390	425
2035	n/a	81	n/a	433
2040	332	84	416	455

Source: Statistics Canada, 2010, OSFI, 2010 and QPP, 2010.

Mortality—In setting the assumption for mortality rates, Statistics Canada uses a parametric model (Li-Lee) based on observed changes in mortality rates, by province/territory, over the

[84] Statistics Canada also presents four variations to the medium-growth scenario, bringing the total of scenarios considered to six. The variations are in relation to inter-provincial migration.
[85] OSFI, 2010.
[86] QPP, 2010.

period from 1981 to 2006, capturing the recent trends in the improvement of Canadian mortality and, also, the narrowing of the gap between life expectancies for males and females. The low-growth and high-growth scenarios are derived using the 1 percent confidence intervals of the ARIMA model used to project a parameter of the Li-Lee model.

Comparing Statistics Canada's mortality assumptions to those used by the CPP and the QPP is not as straightforward as for the fertility assumption. It is easier to compare the resulting number of projected deaths, as shown in Table A2.5. The base scenario appears to be projecting a larger population at the end of the horizon.

Table A2.5: Comparison of Projected Number of Deaths, Selected Years (in thousands)

Selected Years	Canada without Quebec (CPP)	Quebec Only (QPP)	Total Canada (CPP+QPP)	Base Scenario
2012	191	61	252	251
2013	194	62	256	255
2014	197	63	260	259
2015	201	64	265	263
2020	219	70	289	282
2025	242	76	318	304
2030	272	85	357	332
2035	n/a	95	n/a	368
2040	346	105	451	407

Source: Statistics Canada, 2010, OSFI, 2010 and QPP, 2010.

International migration—The assumed number of immigrants is set by Statistics Canada at a total fixed number of 240,000 for the years 2011 and 2012 under the low-growth scenario, of 252,500 under the base scenario, and of 265,000 under the high-growth scenario. These are taken directly from the low and high assumptions of the 2009 Immigration Plan of Citizenship and Immigration Canada. For the years 2013 to 2036, population is assumed to grow as a result of immigration at a rate of 6.0 per thousand under the low-growth scenario, at 7.5 per thousand under the base scenario, and at 9.0 per thousand under the high-growth scenario. Then, the resulting total number of immigrants is allocated to each province/territory and by age and gender based on the actual observation for the years 2006 to 2008. Table A2.6 shows the number of projected immigrants for the year 2036.

Table A2.6: Projected number of immigrants, 2036, by province and territory and by demographic scenario (in thousands)

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland and Labrador	0.4	0.5	0.7
Prince Edward Island	0.7	1.0	1.3
Nova Scotia	2.1	2.8	3.6
New Brunswick	1.3	1.7	2.2
Quebec	39.3	52.9	68.3
Ontario	121.5	166.3	217.7
Manitoba	9.6	13.2	17.4
Saskatchewan	2.8	3.8	4.8
Alberta	22.3	30.2	39.2
British Columbia	44.5	60.8	79.6
Yukon	0.1	0.1	0.1
Northwest Territories	0.1	0.1	0.2
Nunavut	0.0	0.0	0.0
Total Canada	244.8	333.6	435.1

Source: Statistics Canada, 2010.

Emigration—Of lesser importance than fertility, mortality and immigration, Statistics Canada sets an assumption for emigration, broken down into three components:

- Emigrants—The number of people leaving Canada, as a percentage of the total population, is fixed, for the entire projection period, at a level equal to the average observed emigration rate from 1992 to 2008.
- Returning emigrants—The number of people returning to Canada after having left is equal to 44.5 percent of the number of emigrants, corresponding to the average observation from 1992 to 2008.
- Persons temporarily abroad—The number of Canadians being temporarily abroad is fixed, for the entire projection period, at 21,180 persons.

For all three components of emigration, the projections are allocated by province/territory and by age and gender according to the observed actual distribution from 2006 to 2008. The same assumption is used for the low-growth, the base, and the high-growth scenarios.

Inter-provincial migration—Several variations have been observed over the past 30 years in the movement of persons between provinces/territories. With that in mind, Statistics Canada developed four scenarios (this report uses internal migration scenario 1):

- Internal migration scenario 1—Inter-provincial migration follows the historical trends from 1981 to 2008. This reflects broad long-term patterns in Canada. This scenario exhibits movements favorable to Western Canada and to Ontario, and less favorable to Eastern Canada and Quebec.
- Internal migration scenario 2—Inter-provincial migration follows the historical trends from 1988 to 1996. This scenario is favorable to British Colombia, due to the continuing expansion of Asian emerging economies and the reduced weight of the manufacturing industry, resulting in the province suffering less than other provinces/territories from economic difficulties.
- Internal migration scenario 3—Inter-provincial migration follows the historical trends from 2001 to 2006. This reflects the recent expansion of Alberta's oil and gas sector. This period also proved favorable to Quebec.
- Internal migration scenario 4—Inter-provincial migration follows the historical trends from 2006 to 2008. This reflects more recent shifts in internal migration, notably for Saskatchewan and Newfoundland & Labrador, where it increased significantly, and for Ontario, where it declined significantly as a result of difficulties in the automotive sector.

For comparison purposes, the net migration assumption (i.e., the excess of immigration over emigration) used for the CPP is 0.58 percent of the population. On its part, the QPP assumes net migration of 31,500 persons throughout the projection period. Table A2.7 compares the resulting projected net migration under the CPP and QPP and as projected under the base scenario. Again, consistent with the fertility and mortality assumptions, Statistics Canada is projecting the population in a way that makes it relatively larger at the end of the horizon.

Table A2.7: Comparison of net migration, selected years (in thousands)

Selected Years	Canada without Quebec (CPP)	Quebec Only (QPP)	Total Canada (CPP+QPP)	Base Scenario
2012	165	32	197	205
2013	162	32	194	215
2014	163	32	195	218
2015	164	32	196	221
2020	181	32	213	236
2025	195	32	227	250
2030	202	32	234	264
2035	n/a	32	n/a	278
2040	213	32	245	291

Source: Statistics Canada, 2010, OSFI, 2010 and QPP, 2010.

2013 to 2037 Population Projections

The assumptions about fertility, mortality, international immigration, emigration and inter-provincial migration are combined by Statistics Canada to develop projections from 2010 to 2036, using 2009 postcensal population estimates.[87] For the purpose of this report paper, projections from 2013 to 2036 are adjusted based on a comparison of the then-projected 2011 population to the 2011 census population. This effectively forces the demographic projection model to use the year 2011 as a reference, assuming that any variance will be evenly distributed by province/territory and by age-gender cells. Population projection for the year 2037 is an extrapolation from the year 2036.

[87] At the time of using the data, Statistics Canada hadn't updated their population forecasts after publishing results of the 2011 census. Therefore, this report resorts to work from Statistics Canada based on 2009 postcensal population estimates.

Table A2.8 shows the population projections, for Canada, from 2011 to 2037. The last column of the table shows the projected population numbers assumed by the CPP for selected years, sitting somewhere between the low-growth and the base scenarios.

Now, projections vary significantly by province/territory. Table A2.9 shows the projected population by province/territory under the base scenario.

Table A2.8: Projected Population, Total Canada, 2011 to 2037, by Demographic Scenario (in thousands)

Year	Low-Growth Scenario	Base Scenario	High-Growth Scenario	CPP
2011	33,477	33,477	33,477	
2012	33,803	33,854	33,899	34,773
2013	34,088	34,237	34,378	35,107
2014	34,359	34,617	34,866	35,435
2015	34,624	34,995	35,357	35,763
2016	34,886	35,371	35,850	
2017	35,141	35,744	36,344	
2018	35,389	36,116	36,841	
2019	35,629	36,482	37,338	
2020	35,867	36,847	37,837	37,393
2021	36,103	37,215	38,341	
2022	36,333	37,583	38,848	
2023	36,560	37,948	39,357	
2024	36,782	38,311	39,869	
2025	37,000	38,674	40,382	39,004
2026	37,212	39,031	40,895	
2027	37,417	39,386	41,408	
2028	37,614	39,740	41,924	
2029	37,807	40,087	42,439	
2030	37,991	40,432	42,956	40,462
2031	38,171	40,773	43,472	
2032	38,342	41,111	43,989	
2033	38,508	41,444	44,510	
2034	38,667	41,778	45,032	
2035	38,819	42,111	45,560	
2036	38,967	42,439	46,091	
2037	39,124	42,780	46,639	*41,669*

Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, OSFI, 2010, and calculations by the author.

Table A2.9: Projected Population, 2011 to 2037, by Province/Territory, Base Scenario (in thousands)

Year	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada
2011	515	140	922	751	7,903	12,852	1,208	1,033	3,645	4,400	34	41	32	33,477
2012	515	141	926	754	7,967	13,019	1,221	1,040	3,694	4,468	34	42	32	33,854
2013	515	143	931	758	8,031	13,188	1,233	1,046	3,744	4,537	35	42	33	34,237
2014	515	144	936	761	8,093	13,358	1,246	1,052	3,794	4,607	35	43	33	34,617
2015	515	145	940	764	8,155	13,526	1,259	1,059	3,843	4,676	35	43	34	34,995
2016	516	147	945	767	8,215	13,694	1,272	1,066	3,892	4,745	35	43	34	35,371
2017	516	148	950	770	8,275	13,862	1,285	1,072	3,940	4,813	35	44	34	35,744
2018	517	150	954	774	8,334	14,028	1,298	1,079	3,988	4,881	35	44	35	36,116
2019	517	151	959	777	8,391	14,194	1,311	1,086	4,035	4,948	35	44	35	36,482
2020	517	152	964	779	8,447	14,360	1,324	1,093	4,081	5,015	35	44	35	36,847
2021	518	153	968	782	8,503	14,528	1,337	1,099	4,127	5,083	36	45	36	37,215
2022	518	154	973	786	8,558	14,697	1,350	1,106	4,173	5,151	36	45	36	37,583
2023	519	156	977	789	8,612	14,865	1,363	1,113	4,219	5,218	36	45	36	37,948
2024	519	157	982	791	8,665	15,033	1,376	1,119	4,263	5,286	36	46	36	38,311
2025	520	159	986	794	8,717	15,201	1,389	1,126	4,308	5,354	36	46	37	38,674
2026	520	160	990	797	8,768	15,369	1,402	1,133	4,352	5,422	37	46	37	39,031
2027	520	161	995	799	8,817	15,535	1,415	1,139	4,396	5,489	37	47	37	39,386
2028	520	162	999	801	8,865	15,702	1,428	1,146	4,439	5,556	37	47	37	39,740
2029	520	163	1,002	804	8,911	15,867	1,441	1,152	4,482	5,623	37	47	38	40,087
2030	521	164	1,006	806	8,956	16,030	1,453	1,158	4,525	5,689	37	48	38	40,432
2031	520	165	1,010	808	9,000	16,193	1,466	1,165	4,567	5,755	38	48	38	40,773
2032	520	167	1,013	810	9,043	16,355	1,479	1,171	4,609	5,820	38	49	38	41,111
2033	520	168	1,016	812	9,084	16,515	1,491	1,178	4,650	5,885	38	49	38	41,444
2034	520	169	1,019	813	9,126	16,675	1,504	1,184	4,692	5,950	39	49	39	41,778
2035	520	170	1,023	816	9,166	16,833	1,517	1,191	4,735	6,016	39	49	39	42,111
2036	520	170	1,026	817	9,205	16,991	1,530	1,197	4,775	6,080	39	50	39	42,439
2037	520	171	1,029	818	9,248	17,154	1,543	1,204	4,818	6,146	39	50	40	42,780

Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, and calculations by the author.

Tables A2.10 and A2.11 show the annual population growth rate over the projection period by province/territory for the entire population, as well as for the working population. Under the base scenario, the total Canadian population will grow at a rate of 0.9 percent per year, with Ontario, Alberta and British Columbia all growing faster than the national average, Quebec growing at a mere 0.6 percent per year, and the Atlantic provinces—except Prince Edward Island—growing at a near-zero rate. Meanwhile, the working population will only grow at a rate of 0.4 percent per year, with the Atlantic provinces likely to see their workforce decline over the next 25 years.

Table A2.10: Population Growth Rate, 2012 to 2037, by Province and Territory, by Demographic Scenario

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland & Labrador	-0.2%	0.0%	0.3%
Prince Edward Island	0.4%	0.8%	1.1%
Nova Scotia	0.2%	0.4%	0.7%
New Brunswick	0.1%	0.3%	0.6%
Quebec	0.3%	0.6%	0.9%
Ontario	0.7%	1.1%	1.5%
Manitoba	0.6%	0.9%	1.3%
Saskatchewan	0.3%	0.6%	0.9%
Alberta	0.7%	1.1%	1.4%
British Columbia	0.9%	1.3%	1.7%
Yukon	0.3%	0.5%	0.8%
Northwest Territories	0.4%	0.7%	1.0%
Nunavut	0.4%	0.8%	1.1%
Canada	0.6%	0.9%	1.3%

Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, OSFI, 2010, and calculations by the author.

Table A2.11: Working Population Growth Rate, 2012 to 2037, by Province and Territory, by Demographic Scenario

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland & Labrador	-1.0%	-0.8%	-0.7%
Prince Edward Island	-0.1%	0.1%	0.4%
Nova Scotia	-0.5%	-0.3%	-0.1%
New Brunswick	-0.6%	-0.4%	-0.2%
Quebec	-0.2%	0.0%	0.3%
Ontario	0.3%	0.6%	0.9%
Manitoba	0.2%	0.5%	0.8%
Saskatchewan	-0.1%	0.1%	0.3%
Alberta	0.2%	0.5%	0.7%
British Columbia	0.4%	0.8%	1.1%
Yukon	-0.3%	-0.1%	0.2%
Northwest Territories	-0.3%	0.0%	0.2%
Nunavut	0.1%	0.4%	0.6%
Canada	0.1%	0.4%	0.7%

Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, OSFI, 2010, and calculations by the author.

Appendix 3—Economic Projections

Introduction

This appendix presents the projection basis used in this report to forecast economic growth, which certainly influences the future cost of health care services—either as a result of price inflation or in terms of the ability of the economy to consume health care services—and also provides a basis for their funding from both public and private sources.

The key economic indicator referred to in this report is the gross domestic product (GDP), which is defined as the value of goods and services produced by the Canadian working population. Projections are developed on that basis, allowing the use of projected population growth (developed in Chapter 4) and assumptions about expected productivity gains. GDP growth is then defined as:

$$\Delta GDP_t = \frac{GDP_{t+1}}{GDP_t} - 1 = \frac{WP_{t+1}}{WP_t} \times (1 + \pi_t) \times (1 + PG_t) - 1,$$

where:

- GDP_t is the gross domestic product at time *t*
- WP_t is the working population at time *t*, defined as the number of people between ages 20 and 64
- π_t is the general price inflation factor at time *t*
- PG_t is the productivity gain factor at time *t*.

Here, the productivity gain factor PG_t combines the effects of (1) variations in the proportion of the population between ages 20 and 64 actually participating in some economic activity, (2) capital expenditures and the introduction of new technologies reducing the cost of production and/or producing higher levels of output, (3) changes in the level of total compensation to the working population, on a constant 2012 dollar basis, including any direct and indirect taxes and aggregate changes in the tax burdens, and (4) variations in the actual productivity of people participating in the economy.

Using this model, GDP projections are made for each province/territory using specific and reasonable assumptions.

Real GDP Growth Parameters

Referring to the formula discussed above for ΔGDP_t real GDP growth, $\Delta^R GDP_t$, can be defined as follows:

$$\Delta^{R}GDP_t = \frac{\Delta GDP_t}{1+\pi_t} = \frac{WP_{t+1}}{WP_t} \times (1+PG_t) - 1$$

This means that forecasting real GDP growth only requires setting assumptions about future demographic growth projections—which were developed in Chapter 4—and productivity gain. An assumption about general inflation is still required, though, as discussed later in this appendix, since the Canada Health Transfer is currently growing at a nominal annual rate of 6 percent. Table A3.1 shows the growth in the average working population over the next 25 years, by province/territory, using different demographic scenarios. It shows that Newfoundland & Labrador, Nova Scotia and New Brunswick will suffer significant decreases of their working population base under all scenarios, whereas Ontario, Manitoba, Alberta, British Columbia and Nunavut will see theirs growing. The other provinces/territories will see their working population growing under some demographic scenarios, and decreasing under others. In addition to the direct effect of demography on the projected actual health care expenditures, this will have varying effects, for provinces/territories, on their future ability to generate funds through taxes, etc., and thus to financially support their respective health care systems. In aggregate, Canada will see its working population growing over the next 25 years, at a rate of 0.4 percent under the base scenario, compared to 0.9 percent for the entire population.

Table A3.1: Projected Working Population Growth Rates, 2012 to 2037, by Province and Territory and by Demographic Scenario

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland & Labrador	-1.0%	-0.8%	-0.7%
Prince Edward Island	-0.1%	0.1%	0.4%
Nova Scotia	-0.5%	-0.3%	-0.1%
New Brunswick	-0.6%	-0.4%	-0.2%
Quebec	-0.2%	0.0%	0.3%
Ontario	0.3%	0.6%	0.9%
Manitoba	0.2%	0.5%	0.8%
Saskatchewan	-0.1%	0.1%	0.3%
Alberta	0.2%	0.5%	0.7%
British Columbia	0.4%	0.8%	1.1%
Yukon	-0.3%	-0.1%	0.2%
Northwest Territories	-0.3%	0.0%	0.2%
Nunavut	0.1%	0.4%	0.6%
Canada	0.1%	0.4%	0.7%

Source: Statistics Canada, CANSIM Tables 051-0001 and 052-0005, and calculations by the author.

Next, an assumption about productivity gain needs to be set, used in conjunction with population growth factors in the real GDP growth model proposed in this report. It is based on a review of historical real GDP growth, the idea being to remove the working population growth component from the actual real GDP growth to arrive at the productivity gain factor.

Figure A3.1: Historical Real GDP and Working Population Growth Rates, 1981 to 2008, by Province and Territory

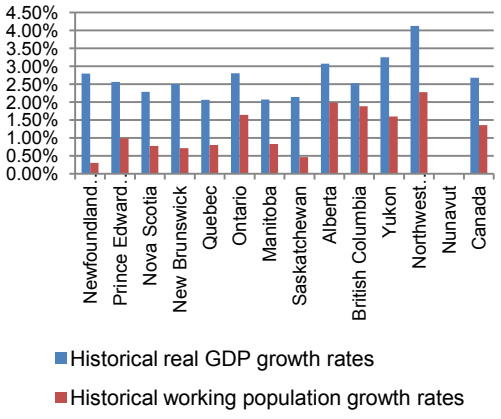


Table A3.2: Productivity Gain, 1981 to 2008, by Province and Territory

Province/Territory	Real GDP Growth	Working Population Growth	Productivity Gain
Newfoundland & Labrador	2.79%	0.30%	2.49%
Prince Edward Island	2.56%	0.99%	1.55%
Nova Scotia	2.28%	0.78%	1.50%
New Brunswick	2.50%	0.71%	1.78%
Quebec	2.06%	0.80%	1.25%
Ontario	2.80%	1.65%	1.13%
Manitoba	2.07%	0.83%	1.23%
Saskatchewan	2.14%	0.46%	1.68%
Alberta	3.07%	1.98%	1.07%
British Columbia	2.52%	1.88%	0.63%
Yukon	3.25%	1.60%	1.62%
Northwest Territories	4.12%	2.28%	1.81%
Nunavut	n/a	n/a	n/a
Canada	2.68%	1.35%	1.31%

Source: Statistics Canada, CANSIM Tables 051-0001 and 384-0002 and calculations by the author.

Figure A3.1 shows the historical real GDP growth rates from 1981 to 2008, and the historical working population growth rates over the same period, by province/territory.

Finally, Table A3.2 shows the resulting historical productivity gain by province/territory, from 1981 to 2008, using the real GDP growth model.

For the purpose of forecasting how the Canadian

economy grows over the next 25 years, this report assumes productivity gains that vary by province/territory, with an aggregate average of 1.31 percent per year for Canada. This corresponds to the observation from 1981 to 2008 and is consistent with assumptions adopted by other researchers.[88]

Real GDP Growth Forecast

Tables A3.3, A3.4 and A3.5 show the resulting real GDP forecasts for the next 25 years, under the base scenario and also under the low-growth and high-growth demographic scenarios, and the resulting economic growth rates by province/territory.

Table A3.3: Projected Real GDP Growth Rates, 2012 to 2037, by Province and Territory, by Demographic Scenario

Province/Territory	Low-Growth Scenario	Base Scenario	High-Growth Scenario
Newfoundland & Labrador	1.5%	1.7%	1.8%
Prince Edward Island	1.4%	1.7%	2.0%
Nova Scotia	1.0%	1.2%	1.4%
New Brunswick	1.2%	1.4%	1.6%
Quebec	1.0%	1.3%	1.5%
Ontario	1.4%	1.7%	2.1%
Manitoba	1.4%	1.8%	2.1%
Saskatchewan	1.6%	1.8%	2.0%
Alberta	1.3%	1.6%	1.8%
British Columbia	1.0%	1.4%	1.7%
Yukon	1.3%	1.5%	1.9%
Northwest Territories	1.5%	1.8%	2.0%
Nunavut	1.9%	2.2%	2.4%
Canada	1.3%	1.6%	1.9%

Source: Statistics Canada, CANSIM Tables 051-0001 and 384-0002 and calculations by the author.

Table A3.4: Projected GDP, 2012 to 2037, Total Canada, by Demographic Scenario (in millions of constant 2012 dollars)

Year	Low-Growth Scenario	Base Scenario	High-Growth Scenario
2012	1,675,443	1,676,310	1,677,115
2013	1,705,412	1,709,366	1,713,320
2014	1,735,000	1,742,226	1,749,461
2015	1,763,929	1,774,686	1,785,415
2016	1,791,761	1,806,251	1,820,676
2017	1,817,938	1,836,296	1,854,761
2018	1,841,954	1,864,421	1,887,066
2019	1,863,903	1,890,781	1,917,958
2020	1,885,009	1,916,258	1,948,268
2021	1,905,557	1,941,629	1,978,470
2022	1,925,094	1,966,228	2,008,371
2023	1,944,495	1,990,965	2,038,488
2024	1,964,528	2,016,412	2,069,843
2025	1,983,762	2,041,459	2,100,908
2026	2,003,394	2,066,947	2,132,792
2027	2,024,157	2,093,944	2,166,351
2028	2,044,647	2,121,088	2,200,502
2029	2,066,667	2,149,748	2,236,434
2030	2,089,958	2,181,737	2,276,986
2031	2,116,654	2,218,183	2,323,136
2032	2,145,711	2,258,035	2,374,077
2033	2,175,427	2,299,566	2,428,357
2034	2,205,052	2,342,380	2,484,968
2035	2,234,881	2,385,857	2,542,984
2036	2,265,378	2,430,366	2,602,593
2037	2,296,554	2,476,011	2,663,987

Source: Statistics Canada, CANSIM Tables 051-0001 and 384-0002 and calculations by the author.

Projected real GDP is expected to grow at an annual rate of 1.6 percent from 2012 to 2037. This falls short of the 2.7 percent historical real growth rate observed from 1981 to 2008. Such gap is mainly explained by demographic factors, the working population being expected to grow at an annual rate of 0.4 percent over the next 25 years, whereas it has historically grown at an annual rate of 1.4 percent. This implies that achieving future economic growth similar to past experience would require the future productivity gains to be about 1 percent higher, at a level of 2.3 percent, instead of the assumed 1.31 percent.

[88] For example, Busby and Robson (2011) refer to productivity for the population aged 18 to 64 growing at historical rates of 1.5 percent.

Table A3.5: Projected Real GDP, 2012 to 2037, by Province/Territory, Base Scenario (millions of constant 2012 dollars)

Years	Newfoundland & Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Northwest Territories	Nunavut	Canada
2012	23,047	5,184	35,602	29,042	336,650	668,631	54,020	50,015	234,042	208,503	2,246	3,858	1,533	1,676,310
2013	23,451	5,295	36,122	29,521	342,205	683,469	55,118	51,091	269,176	212,197	2,292	3,915	1,578	1,709,366
2014	23,831	5,395	36,662	30,008	347,481	698,454	56,293	52,096	274,310	215,835	2,299	4,027	1,598	1,742,226
2015	24,208	5,491	37,204	30,457	352,640	713,455	57,422	53,147	279,337	219,323	2,336	4,057	1,672	1,774,686
2016	24,621	5,595	37,716	30,926	357,457	728,092	58,503	54,149	284,227	222,761	2,374	4,174	1,720	1,806,251
2017	24,974	5,708	38,228	31,349	362,051	742,181	59,549	55,109	288,815	226,028	2,402	4,205	1,761	1,836,296
2018	25,355	5,815	38,675	31,770	366,119	755,572	60,535	56,015	293,104	229,035	2,430	4,267	1,793	1,864,421
2019	25,722	5,899	39,074	32,175	369,688	768,339	61,482	56,836	297,082	231,872	2,459	4,374	1,844	1,890,781
2020	26,091	5,991	39,475	35,542	373,089	780,852	62,427	57,604	300,903	234,601	2,487	4,391	1,868	1,916,258
2021	26,472	6,077	39,860	32,905	376,516	793,211	63,355	58,429	304,604	237,303	2,516	4,502	1,942	1,941,629
2022	26,847	6,151	40,220	33,263	379,699	805,339	64,264	59,228	308,290	239,970	2,546	4,520	1,956	1,966,228
2023	27,271	6,246	40,524	33,631	382,817	817,471	65,178	60,066	312,033	242,623	2,587	4,601	1,982	1,990,965
2024	27,651	6,329	40,880	34,017	386,102	829,901	66,121	60,886	315,916	245,399	2,617	4,651	2,007	2,016,412
2025	28,023	6,420	41,244	34,367	389,410	841,954	67,027	61,756	319,787	248,109	2,611	4,752	2,064	2,041,459
2026	28,437	6,505	41,565	34,743	392,980	853,943	67,954	62,648	323,777	250,897	2,666	4,804	2,097	2,066,947
2027	28,865	6,591	41,925	35,128	397,147	866,079	68,962	63,626	328,157	253,827	2,721	4,873	2,106	2,093,944
2028	29,307	6,671	42,308	35,517	401,415	877,985	70,045	64,650	332,656	256,707	2,791	4,943	2,156	2,121,088
2029	29,743	6,760	42,702	35,958	406,118	890,316	71,170	65,733	337,511	259,746	2,798	5,051	2,206	2,149,748
2030	30,226	6,865	43,191	36,387	411,145	904,121	72,375	66,976	342,962	263,352	2,830	5,124	2,246	2,181,737
2031	30,715	7,003	43,797	36,931	417,154	919,709	73,770	68,385	349,005	267,375	2,889	5,216	2,298	2,218,183
2032	31,303	7,128	44,452	37,544	423,913	936,782	75,279	69,901	355,402	271,712	2,976	5,368	2,340	2,258,035
2033	31,902	7,255	45,157	38,211	431,159	954,611	76,878	71,483	361,949	276,148	3,025	5,445	2,407	2,299,566
2034	32,572	7,417	45,949	38,900	438,645	972,985	78,459	73,133	368,650	280,572	3,115	5,583	2,463	2,342,380
2035	33,307	7,591	46,711	39,628	446,276	991,746	80,058	74,794	375,344	285,075	3,180	5,704	2,507	2,385,857
2036	34,045	7,726	47,487	40,332	454,139	1,011,032	81,721	76,515	382,028	289,706	3,231	5,889	2,579	2,430,366
2037	34,803	7,865	48,284	41,055	462,232	1,030,776	83,427	78,286	388,873	294,443	3,286	6,088	2,656	2,476,011

General Inflation

Projecting future health care expenditures and economic output in real terms removes the need to set an assumption about expected general inflation. Still, the fact that, under the current Canada Health Transfer calculation formula, federal cash transfers grow at a nominal annual rate of 6 percent until fiscal year 2016-2017 means that the impact of the proposed changes to the Canada Health Transfer may somewhat be influenced by fluctuations in general inflation. Therefore, this report assumes that the general inflation factor will be equal to 2.0 percent, under the base scenario. This is in line with the target of the Bank of Canada and is consistent with the assumption used by Drummond.[89]

[89] Drummond, Don, and Derek Burleton, 2010. *Charting a Path to Sustainable Healthcare in Ontario: 10 Proposals To Restrain Cost Growth Without Compromising Quality Of Care*. TD Economics, May 27.

Appendix 4—Projections Using Different Scenarios

Health Care Expenditures of Provinces/Territories

(millions of constant 2012 dollars, where applicable)

HISTORICAL PATTERN FROM 1996 TO 2010

Type of Expenditures	Annual Increase Due to…			Actual Health Care Expenditures of Provinces/Territories		Projection Assumptions
	Aging and Population Growth	Real Cost	Total	2012	as a % of GDP	
Physicians	1.8%	3.0%	4.8%	29,015	1.7%	n/a
Hospitals	2.2%	1.7%	3.8%	53,925	3.2%	n/a
Other Institutions	1.4%	4.1%	5.5%	15,914	1.0%	n/a
Other Professionals	-	-	0.1%	1,103	0.1%	n/a
Drugs	2.9%	4.3%	7.2%	10,677	0.6%	n/a
Other Health Spending	-	-	5.6%	24,318	1.5%	n/a
Total				134,952	8.2%	

PROJECTION USING HISTORICAL REAL COST GROWTH

Type of Expenditures	Annual Increase Due to…			Actual Health Care Expenditures of Provinces/Territories		Projection Assumptions
	Aging and Population Growth	Real Cost	Total	2037	as a % of GDP	
Physicians	1.6%	3.0%	4.6%	88,404	3.6%	Trend of 3.0%
Hospitals	2.2%	1.7%	3.9%	139,774	5.6%	Trend of 1.7%
Other Institutions	3.4%	4.1%	7.5%	97,546	3.9%	Trend of 4.1%
Other Professionals	-	-	0.1%	1,131	0.1%	Trend of 0.1%
Drugs	1.6%	4.3%	5.9%	44,904	1.8%	Trend of 4.3%
Other Health Spending	-	-	5.6%	94,957	3.8%	Trend of 5.6%
Total			5.1%	466,716	18.9%	

PROJECTION USING BASE SCENARIO

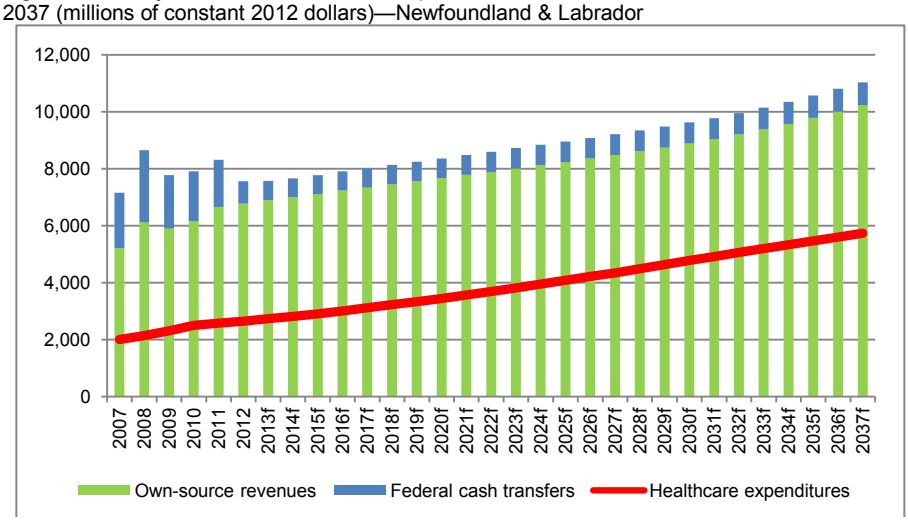
Type of Expenditures	Annual Increase Due to…			Actual Health Care Expenditures of Provinces/Territories		Projection Assumptions
	Aging and Population Growth	Real Cost	Total	2037	as a % of GDP	
Physicians	1.5%	1.9%	3.4%	67,076	2.7%	Trend of 2.5% for five years, dropping to 1.0% after 25 years
Hospitals	2.2%	1.8%	3.9%	141,631	5.7%	70% compensation—trend of 1.0% for five years dropping to 0.5% after 25 years; 25% supplies, equipment, buildings and grounds—no trend; 5% drugs—trend of 3% for 25 years; Innovation—trend of 1.0% for five years dropping to 0.5% after 25 years
Other Institutions	3.3%	0.6%	3.9%	41,603	1.7%	75% compensation—trend of 1.0% for five years dropping to 0.5% after 25 years; 25% others—no trend
Other Professionals	1.7%	1.1%	2.9%	2,241	0.1%	40% dental—trend of 2.0% for five years dropping to 1.0% after 25 years; 20% vision—trend of 1.0% for five years dropping to 0.5% after 25 years; 40% others—trend of 1.0% for five years dropping to 0.5% after 25 years
Drugs	1.6%	3.0%	4.6%	32,818	1.3%	Trend of 3.0% for 25 years
Other Health Spending	-	-	0.8%	48,322	1.2%	Capital—trend with population growth; Public health—no trend; Administration—no trend; Health research—trend with real GDP growth Other—trend with population growth plus 1.0% for five years dropping to 0.5% after 25 years
Total				315,182	12.7%	

Appendix 5—Provincial/Territorial Public Accounts

Introduction

Chapter 11 discusses the sustainability of the Canadian health care system in aggregate. This appendix presents selected results for each province/territory. All figures assume that the proposed changes to the Canada Health Transfer calculations formula will be implemented.

Figure A5.1: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Newfoundland & Labrador



Newfoundland & Labrador

Table A5.1: Summary of Projections, Base Scenario, 2012 to 2037, Newfoundland & Labrador

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	2,643	6,773	785	7,558	23,047	39.0%	35.0%	11.5%
2013	2,730	6,892	680	7,572	23,451	39.6%	36.1%	11.6%
2014	2,816	7,003	656	7,659	23,831	40.2%	36.8%	11.8%
2015	2,906	7,114	656	7,770	24,208	40.9%	37.4%	12.0%
2016	3,011	7,236	669	7,904	24,621	41.6%	38.1%	12.2%
2017	3,114	7,339	675	8,014	24,974	42.4%	38.9%	12.5%
2018	3,227	7,451	681	8,132	25,355	43.3%	39.7%	12.7%
2019	3,333	7,559	687	8,246	25,722	44.1%	40.4%	13.0%
2020	3,447	7,668	693	8,360	26,091	45.0%	41.2%	13.2%
2021	3,570	7,780	698	8,478	26,472	45.9%	42.1%	13.5%
2022	3,692	7,890	703	8,593	26,847	46.8%	43.0%	13.8%
2023	3,818	8,014	708	8,722	27,271	47.6%	43.8%	14.0%
2024	3,950	8,126	713	8,839	27,651	48.6%	44.7%	14.3%
2025	4,080	8,235	718	8,953	28,023	49.5%	45.6%	14.6%
2026	4,216	8,357	723	9,080	28,437	50.4%	46.4%	14.8%
2027	4,347	8,483	728	9,210	28,865	51.2%	47.2%	15.1%
2028	4,486	8,613	733	9,346	29,307	52.1%	48.0%	15.3%
2029	4,633	8,741	738	9,479	29,743	53.0%	48.9%	15.6%
2030	4,778	8,883	744	9,627	30,226	53.8%	49.6%	15.8%
2031	4,919	9,026	751	9,777	30,715	54.5%	50.3%	16.0%
2032	5,063	9,199	758	9,957	31,303	55.0%	50.8%	16.2%
2033	5,195	9,375	767	10,142	31,902	55.4%	51.2%	16.3%
2034	5,334	9,572	776	10,349	32,572	55.7%	51.5%	16.4%
2035	5,469	9,788	787	10,575	33,307	55.9%	51.7%	16.4%
2036	5,600	10,005	798	10,803	34,045	56.0%	51.8%	16.4%
2037	5,736	10,228	802	11,030	34,803	56.1%	52.0%	16.5%
Growth Rate	3.1%	1.7%	0.1%	1.5%	1.7%			

Prince Edward Island

Figure A5.2: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Prince Edward Island

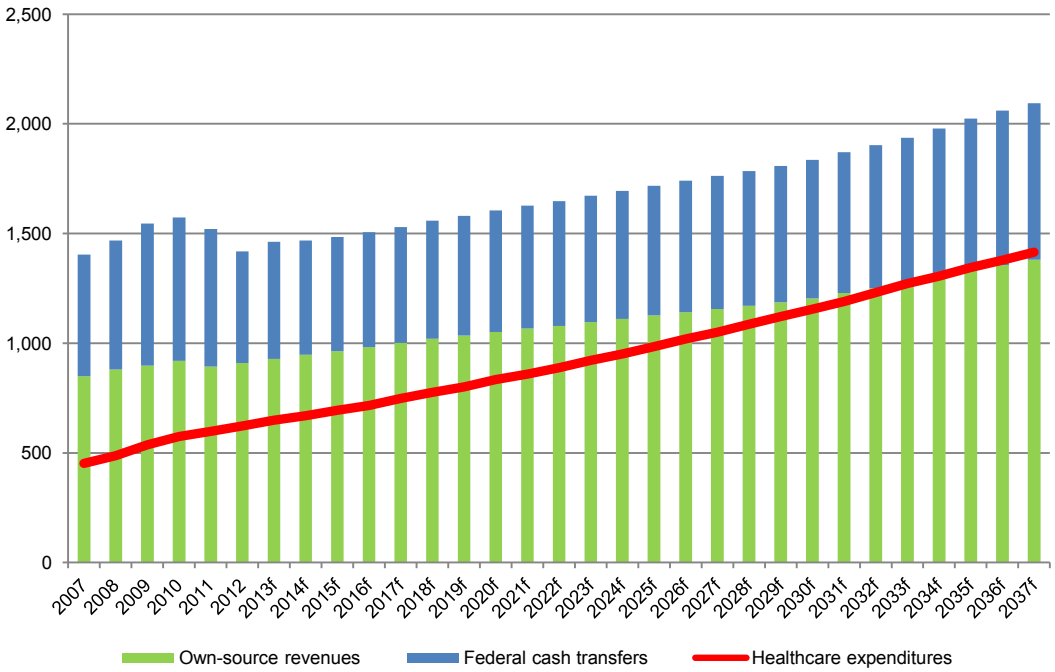


Table A5.2: Summary of Projections, Base Scenario, 2012 to 2037, Prince Edward Island

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	622	910	509	1,419	5,184	68.4%	43.9%	12.0%
2013	649	929	534	1,463	5,295	69.8%	44.4%	12.3%
2014	669	947	522	1,469	5,395	70.7%	45.6%	12.4%
2015	694	964	520	1,484	5,491	72.0%	46.7%	12.6%
2016	716	982	525	1,507	5,595	72.9%	47.5%	12.8%
2017	749	1,001	528	1,529	5,708	74.8%	49.0%	13.1%
2018	776	1,020	537	1,558	5,815	76.1%	49.8%	13.3%
2019	801	1,035	545	1,581	5,899	77.3%	50.7%	13.6%
2020	835	1,051	553	1,605	5,991	79.4%	52.0%	13.9%
2021	859	1,066	561	1,628	6,077	80.6%	52.8%	14.1%
2022	888	1,079	568	1,647	6,151	82.3%	53.9%	14.4%
2023	922	1,096	576	1,672	6,246	84.1%	55.2%	14.8%
2024	952	1,111	584	1,694	6,329	85.7%	56.2%	15.0%
2025	985	1,127	591	1,718	6,420	87.4%	57.3%	15.3%
2026	1,019	1,141	599	1,741	6,505	89.3%	58.6%	15.7%
2027	1,050	1,157	607	1,763	6,591	90.8%	59.6%	15.9%
2028	1,086	1,171	614	1,784	6,671	92.8%	60.9%	16.3%
2029	1,122	1,186	621	1,808	6,760	94.6%	62.1%	16.6%
2030	1,156	1,205	631	1,835	6,865	96.0%	63.0%	16.8%
2031	1,191	1,229	642	1,871	7,003	96.9%	63.7%	17.0%
2032	1,231	1,251	653	1,903	7,128	98.5%	64.7%	17.3%
2033	1,272	1,273	664	1,937	7,255	99.9%	65.7%	17.5%
2034	1,306	1,301	677	1,979	7,417	100.3%	66.0%	17.6%
2035	1,345	1,332	692	2,024	7,591	100.9%	66.4%	17.7%
2036	1,379	1,356	704	2,060	7,726	101.7%	66.9%	17.8%
2037	1,414	1,380	714	2,094	7,865	102.5%	67.5%	18.0%
Growth Rate	3.3%	1.7%	1.4%	1.6%	1.7%			

Nova Scotia

Figure A5.3: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Nova Scotia

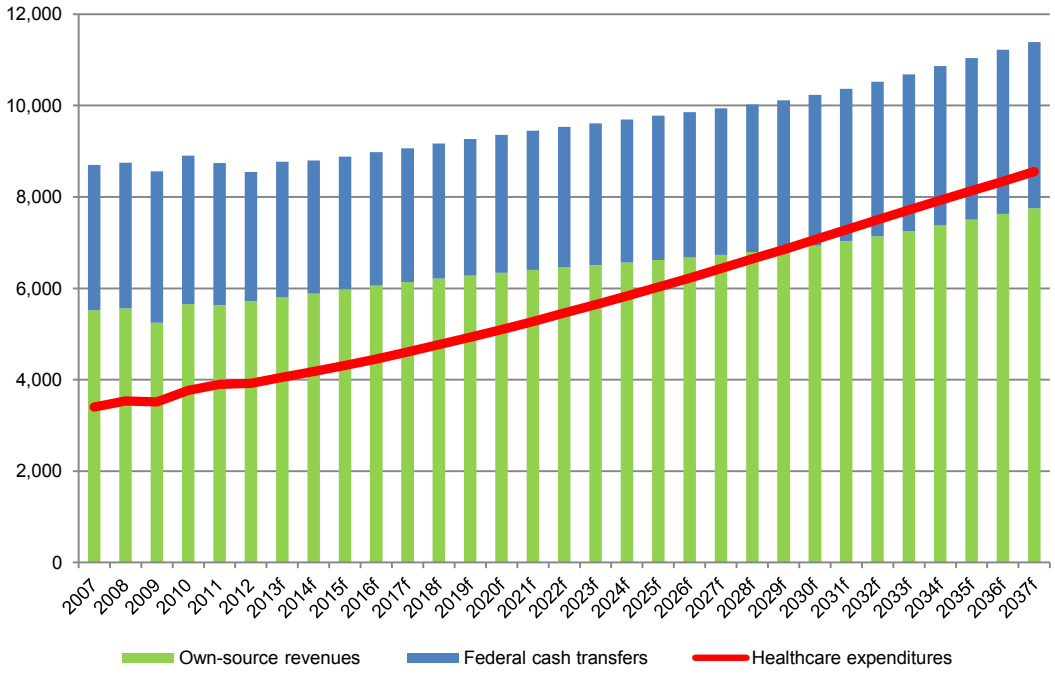


Table A5.3: Summary of Projections, Base Scenario, 2012 to 2037, Nova Scotia

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	3,918	5,717	2,827	8,545	35,602	68.5%	45.9%	11.0%
2013	4,050	5,801	2,967	8,768	36,122	69.8%	46.2%	11.2%
2014	4,178	5,888	2,912	8,799	36,662	71.0%	47.5%	11.4%
2015	4,309	5,975	2,905	8,879	37,204	72.1%	48.5%	11.6%
2016	4,456	6,057	2,921	8,978	37,716	73.6%	49.6%	11.8%
2017	4,610	6,139	2,924	9,063	38,228	75.1%	50.9%	12.1%
2018	4,768	6,211	2,959	9,169	38,675	76.8%	52.0%	12.3%
2019	4,930	6,275	2,990	9,264	39,074	78.6%	53.2%	12.6%
2020	5,098	6,339	3,020	9,359	39,475	80.4%	54.5%	12.9%
2021	5,270	6,401	3,049	9,450	39,860	82.3%	55.8%	13.2%
2022	5,458	6,459	3,076	9,535	40,220	84.5%	57.2%	13.6%
2023	5,644	6,508	3,100	9,608	40,524	86.7%	58.7%	13.9%
2024	5,830	6,565	3,126	9,691	40,880	88.8%	60.2%	14.3%
2025	6,025	6,623	3,152	9,776	41,244	91.0%	61.6%	14.6%
2026	6,222	6,675	3,177	9,852	41,565	93.2%	63.2%	15.0%
2027	6,432	6,733	3,203	9,936	41,925	95.5%	64.7%	15.3%
2028	6,645	6,794	3,231	10,026	42,308	97.8%	66.3%	15.7%
2029	6,850	6,857	3,260	10,117	42,702	99.9%	67.7%	16.0%
2030	7,067	6,936	3,294	10,230	43,191	101.9%	69.1%	16.4%
2031	7,281	7,033	3,335	10,369	43,797	103.5%	70.2%	16.6%
2032	7,500	7,139	3,380	10,519	44,452	105.1%	71.3%	16.9%
2033	7,717	7,252	3,429	10,681	45,157	106.4%	72.3%	17.1%
2034	7,926	7,379	3,484	10,863	45,949	107.4%	73.0%	17.3%
2035	8,139	7,501	3,538	11,040	46,711	108.5%	73.7%	17.4%
2036	8,342	7,626	3,594	11,220	47,487	109.4%	74.4%	17.6%
2037	8,553	7,754	3,636	11,390	48,284	110.3%	75.1%	17.7%
Growth Rate	3.2%	1.2%	1.0%	1.2%	1.2%			

New Brunswick

Figure A5.4: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—New Brunswick

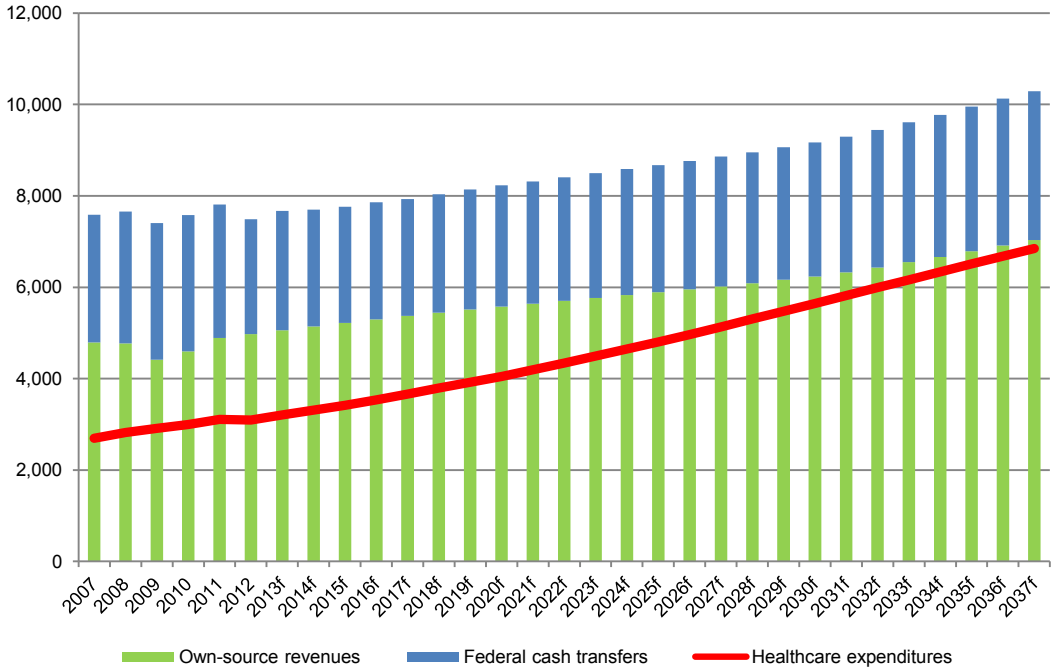


Table A5.4: Summary of Projections, Base Scenario, 2012 to 2037, New Brunswick

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	3,095	4,976	2,509	7,485	29,042	62.2%	41.3%	10.7%
2013	3,203	5,058	2,612	7,670	29,521	63.3%	41.8%	10.9%
2014	3,313	5,142	2,554	7,696	30,008	64.4%	43.0%	11.0%
2015	3,419	5,219	2,544	7,763	30,457	65.5%	44.1%	11.2%
2016	3,537	5,299	2,558	7,857	30,926	66.7%	45.0%	11.4%
2017	3,659	5,372	2,559	7,931	31,349	68.1%	46.1%	11.7%
2018	3,792	5,444	2,592	8,036	31,770	69.7%	47.2%	11.9%
2019	3,920	5,513	2,623	8,136	32,175	71.1%	48.2%	12.2%
2020	4,049	5,576	2,651	8,227	32,542	72.6%	49.2%	12.4%
2021	4,194	5,638	2,679	8,317	32,905	74.4%	50.4%	12.7%
2022	4,342	5,700	2,705	8,405	33,263	76.2%	51.7%	13.1%
2023	4,497	5,763	2,732	8,495	33,631	78.0%	52.9%	13.4%
2024	4,647	5,829	2,760	8,589	34,017	79.7%	54.1%	13.7%
2025	4,805	5,889	2,786	8,674	34,367	81.6%	55.4%	14.0%
2026	4,966	5,953	2,813	8,766	34,743	83.4%	56.6%	14.3%
2027	5,134	6,019	2,840	8,860	35,128	85.3%	58.0%	14.6%
2028	5,305	6,086	2,868	8,954	35,517	87.2%	59.2%	14.9%
2029	5,474	6,161	2,899	9,061	35,958	88.8%	60.4%	15.2%
2030	5,646	6,235	2,930	9,165	36,387	90.6%	61.6%	15.5%
2031	5,815	6,328	2,969	9,297	36,931	91.9%	62.6%	15.7%
2032	5,995	6,433	3,012	9,445	37,544	93.2%	63.5%	16.0%
2033	6,165	6,548	3,059	9,607	38,211	94.2%	64.2%	16.1%
2034	6,339	6,665	3,109	9,774	38,900	95.1%	64.9%	16.3%
2035	6,512	6,790	3,162	9,952	39,628	95.9%	65.4%	16.4%
2036	6,676	6,911	3,214	10,125	40,332	96.6%	65.9%	16.6%
2037	6,847	7,035	3,255	10,289	41,055	97.3%	66.5%	16.7%
Growth Rate	3.2%	1.4%	1.0%	1.3%	1.4%			

Quebec

Figure A5.5: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Quebec

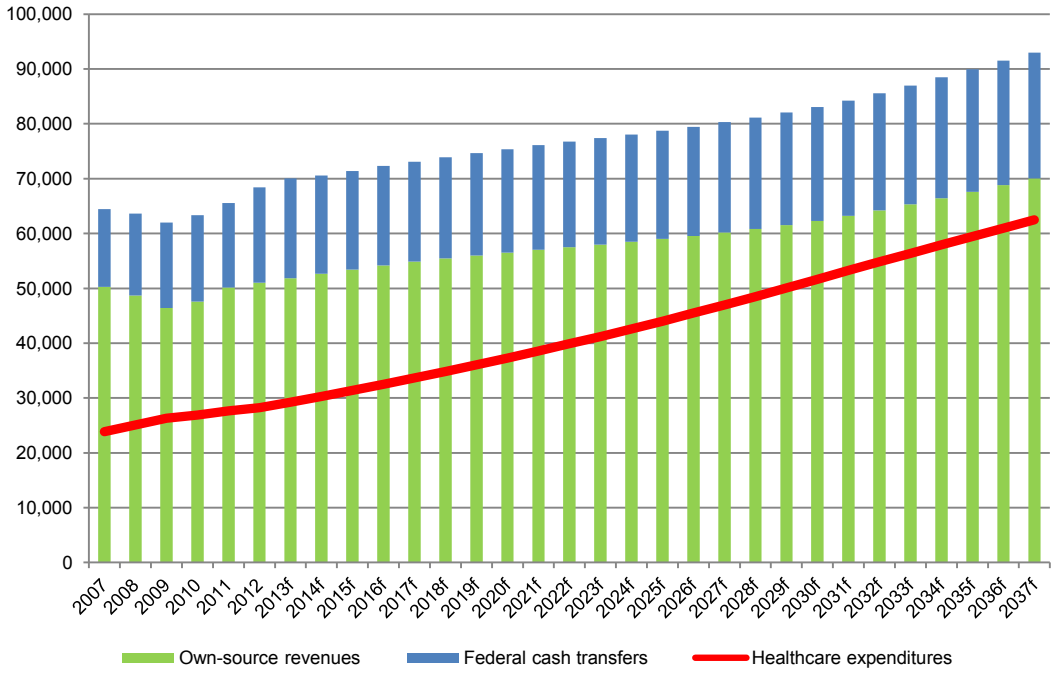


Table A5.5: Summary of Projections, Base Scenario, 2012 to 2037, Quebec

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	28,250	51,002	17,431	68,433	336,650	55.4%	41.3%	8.4%
2013	29,247	51,844	18,209	70,053	342,205	56.4%	41.8%	8.5%
2014	30,282	52,643	17,903	70,546	347,481	57.5%	42.9%	8.7%
2015	31,362	53,425	17,938	71,363	352,640	58.7%	43.9%	8.9%
2016	32,487	54,155	18,143	72,297	357,457	60.0%	44.9%	9.1%
2017	33,661	54,851	18,227	73,077	362,051	61.4%	46.1%	9.3%
2018	34,845	55,467	18,455	73,922	366,119	62.8%	47.1%	9.5%
2019	36,063	56,008	18,663	74,671	369,688	64.4%	48.3%	9.8%
2020	37,307	56,523	18,858	75,381	373,089	66.0%	49.5%	10.0%
2021	38,583	57,042	19,046	76,088	376,516	67.6%	50.7%	10.2%
2022	39,885	57,524	19,222	76,747	379,699	69.3%	52.0%	10.5%
2023	41,208	57,997	19,393	77,390	382,817	71.1%	53.2%	10.8%
2024	42,595	58,494	19,567	78,061	386,102	72.8%	54.6%	11.0%
2025	44,021	58,995	19,741	78,736	389,410	74.6%	55.9%	11.3%
2026	45,486	59,536	19,922	79,458	392,980	76.4%	57.2%	11.6%
2027	46,976	60,168	20,120	80,288	397,147	78.1%	58.5%	11.8%
2028	48,510	60,814	20,322	81,136	401,415	79.8%	59.8%	12.1%
2029	50,069	61,527	20,539	82,066	406,118	81.4%	61.0%	12.3%
2030	51,665	62,288	20,769	83,058	411,145	82.9%	62.2%	12.6%
2031	53,252	63,199	21,035	84,233	417,154	84.3%	63.2%	12.8%
2032	54,831	64,223	21,333	85,556	423,913	85.4%	64.1%	12.9%
2033	56,390	65,321	21,659	86,979	431,159	86.3%	64.8%	13.1%
2034	57,950	66,455	22,004	88,458	438,645	87.2%	65.5%	13.2%
2035	59,478	67,611	22,361	89,972	446,276	88.0%	66.1%	13.3%
2036	60,953	68,802	22,729	91,531	454,139	88.6%	66.6%	13.4%
2037	62,471	70,028	22,972	93,000	462,232	89.2%	67.2%	13.5%
Growth Rate	3.2%	1.3%	1.1%	1.2%	1.3%			

Ontario

Figure A5.6: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Ontario

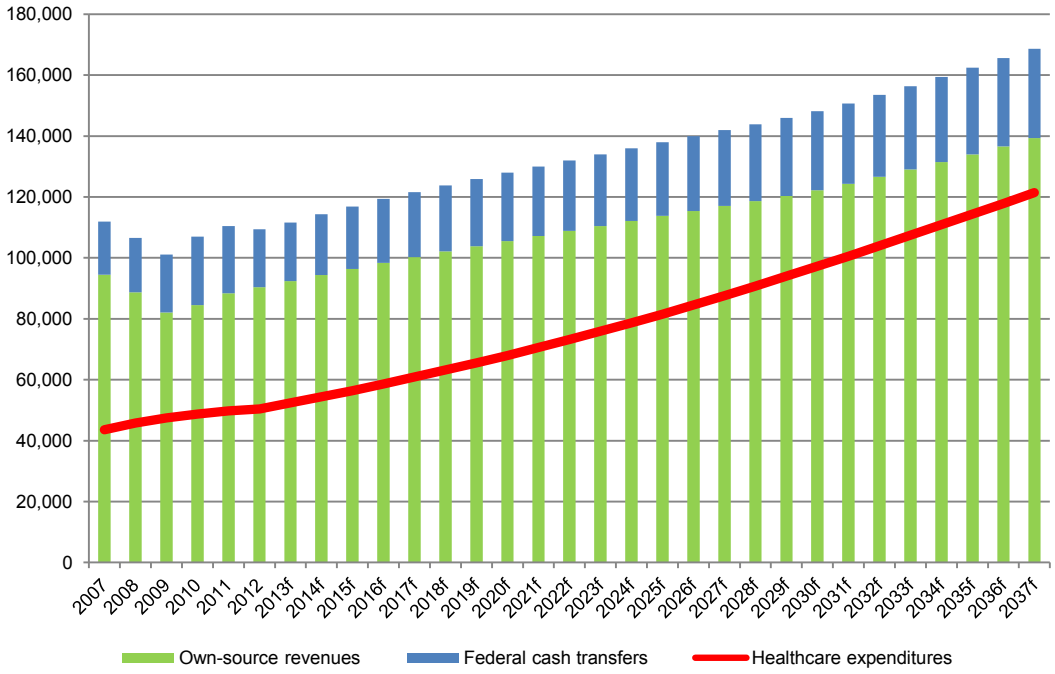


Table A5.6: Summary of Projections, Base Scenario, 2012 to 2037, Ontario

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	50,413	90,346	19,085	109,430	668,631	55.8%	46.1%	7.5%
2013	52,358	92,351	19,234	111,584	683,469	56.7%	46.9%	7.7%
2014	54,364	94,376	19,900	114,275	698,454	57.6%	47.6%	7.8%
2015	56,441	96,402	20,459	116,862	713,455	58.5%	48.3%	7.9%
2016	58,605	98,380	20,969	119,349	728,092	59.6%	49.1%	8.0%
2017	60,861	100,284	21,288	121,572	742,181	60.7%	50.1%	8.2%
2018	63,182	102,093	21,688	123,782	755,572	61.9%	51.0%	8.4%
2019	65,551	103,818	22,072	125,891	768,339	63.1%	52.1%	8.5%
2020	67,997	105,509	22,443	127,952	780,852	64.4%	53.1%	8.7%
2021	70,524	107,179	22,801	129,980	793,211	65.8%	54.3%	8.9%
2022	73,172	108,818	23,151	131,968	805,339	67.2%	55.4%	9.1%
2023	75,888	110,457	23,497	133,954	817,471	68.7%	56.7%	9.3%
2024	78,674	112,137	23,845	135,982	829,901	70.2%	57.9%	9.5%
2025	81,540	113,765	24,190	137,955	841,954	71.7%	59.1%	9.7%
2026	84,494	115,385	24,536	139,921	853,943	73.2%	60.4%	9.9%
2027	87,568	117,025	24,887	141,912	866,079	74.8%	61.7%	10.1%
2028	90,747	118,634	25,240	143,874	877,985	76.5%	63.1%	10.3%
2029	93,959	120,300	25,603	145,903	890,316	78.1%	64.4%	10.6%
2030	97,232	122,165	25,992	148,157	904,121	79.6%	65.6%	10.8%
2031	100,537	124,272	26,414	150,686	919,709	80.9%	66.7%	10.9%
2032	103,959	126,578	26,876	153,454	936,782	82.1%	67.7%	11.1%
2033	107,404	128,988	27,373	156,361	954,611	83.3%	68.7%	11.3%
2034	110,864	131,470	27,901	159,371	972,985	84.3%	69.6%	11.4%
2035	114,361	134,005	28,449	162,454	991,746	85.3%	70.4%	11.5%
2036	117,847	136,611	29,013	165,624	1,011,032	86.3%	71.2%	11.7%
2037	121,441	139,279	29,341	168,620	1,030,776	87.2%	72.0%	11.8%
Growth Rate	3.6%	1.7%	1.7%	1.7%	1.7%			

Manitoba

Figure A5.7: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Manitoba

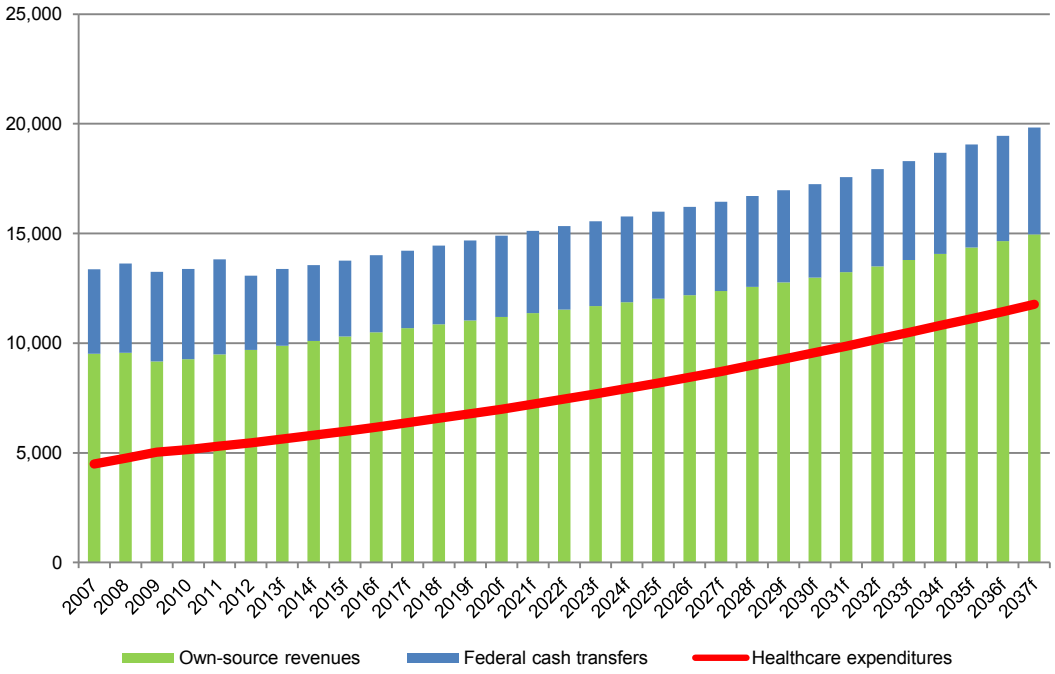


Table A5.7: Summary of Projections, Base Scenario, 2012 to 2037, Manitoba

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	5,458	9,690	3,390	13,080	54,020	56.3%	41.7%	10.1%
2013	5,631	9,887	3,500	13,387	55,018	57.0%	42.1%	10.2%
2014	5,807	10,098	3,454	13,552	56,293	57.5%	42.8%	10.3%
2015	5,985	10,300	3,468	13,768	57,422	58.1%	43.5%	10.4%
2016	6,175	10,494	3,510	14,004	58,503	58.8%	44.1%	10.6%
2017	6,373	10,682	3,533	14,215	59,549	59.7%	44.8%	10.7%
2018	6,572	10,858	3,593	14,451	60,535	60.5%	45.5%	10.9%
2019	6,782	11,028	3,650	14,678	61,482	61.5%	46.2%	11.0%
2020	6,993	11,198	3,706	14,903	62,427	62.5%	46.9%	11.2%
2021	7,217	11,364	3,760	15,124	63,355	63.5%	47.7%	11.4%
2022	7,447	11,527	3,813	15,340	64,264	64.6%	48.5%	11.6%
2023	7,685	11,691	3,866	15,557	65,178	65.7%	49.4%	11.8%
2024	7,932	11,860	3,919	15,780	66,121	66.9%	50.3%	12.0%
2025	8,182	12,023	3,972	15,995	67,027	68.1%	51.2%	12.2%
2026	8,439	12,189	4,025	16,214	67,954	69.2%	52.0%	12.4%
2027	8,714	12,370	4,081	16,452	68,962	70.4%	53.0%	12.6%
2028	8,999	12,564	4,141	16,706	70,045	71.6%	53.9%	12.8%
2029	9,283	12,766	4,204	16,970	71,170	72.7%	54.7%	13.0%
2030	9,565	12,982	4,270	17,252	72,375	73.7%	55.4%	13.2%
2031	9,863	13,232	4,345	17,577	73,770	74.5%	56.1%	13.4%
2032	10,181	13,503	4,426	17,929	75,279	75.4%	56.8%	13.5%
2033	10,485	13,790	4,514	18,304	76,878	76.0%	57.3%	13.6%
2034	10,802	14,074	4,603	18,676	78,459	76.8%	57.8%	13.8%
2035	11,119	14,360	4,694	19,054	80,058	77.4%	58.4%	13.9%
2036	11,438	14,659	4,788	19,447	81,721	78.0%	58.8%	14.0%
2037	11,767	14,965	4,863	19,828	83,427	78.6%	59.3%	14.1%
Growth Rate	3.1%	1.8%	1.5%	1.7%	1.8%			

Saskatchewan

Figure A5.8: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Saskatchewan

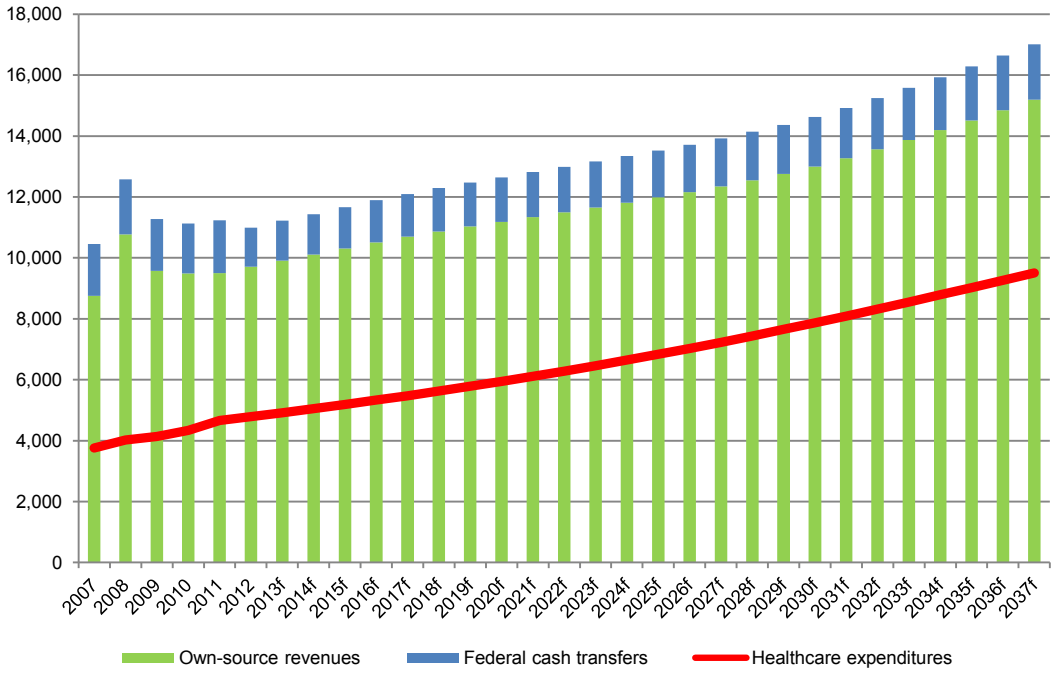


Table A5.8: Summary of Projections, Base Scenario, 2012 to 2037, Saskatchewan

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	4,792	9,705	1,282	10,987	50,015	49.4%	43.6%	9.6%
2013	4,917	9,914	1,306	11,220	51,091	49.6%	43.8%	9.6%
2014	5,053	10,109	1,326	11,435	52,096	50.0%	44.2%	9.7%
2015	5,190	10,313	1,354	11,667	53,147	50.3%	44.5%	9.8%
2016	5,330	10,508	1,387	11,895	54,149	50.7%	44.8%	9.8%
2017	5,475	10,694	1,405	12,099	55,109	51.2%	45.3%	9.9%
2018	5,631	10,870	1,425	12,295	56,015	51.8%	45.8%	10.1%
2019	5,782	11,029	1,444	12,473	56,836	52.4%	46.4%	10.2%
2020	5,947	11,178	1,461	12,639	57,604	53.2%	47.1%	10.3%
2021	6,108	11,338	1,478	12,816	58,429	53.9%	47.7%	10.5%
2022	6,282	11,493	1,494	12,987	59,228	54.7%	48.4%	10.6%
2023	6,459	11,656	1,510	13,165	60,066	55.4%	49.1%	10.8%
2024	6,645	11,815	1,526	13,340	60,886	56.2%	49.8%	10.9%
2025	6,833	11,984	1,542	13,525	61,756	57.0%	50.5%	11.1%
2026	7,029	12,157	1,558	13,715	62,648	57.8%	51.3%	11.2%
2027	7,229	12,346	1,575	13,922	63,626	58.6%	51.9%	11.4%
2028	7,439	12,545	1,593	14,138	64,650	59.3%	52.6%	11.5%
2029	7,653	12,755	1,611	14,367	65,733	60.0%	53.3%	11.6%
2030	7,871	12,996	1,632	14,628	66,976	60.6%	53.8%	11.8%
2031	8,090	13,270	1,654	14,924	68,385	61.0%	54.2%	11.8%
2032	8,313	13,564	1,679	15,243	69,901	61.3%	54.5%	11.9%
2033	8,550	13,871	1,706	15,577	71,483	61.6%	54.9%	12.0%
2034	8,786	14,191	1,736	15,927	73,133	61.9%	55.2%	12.0%
2035	9,025	14,514	1,766	16,280	74,794	62.2%	55.4%	12.1%
2036	9,261	14,848	1,798	16,646	76,515	62.4%	55.6%	12.1%
2037	9,505	15,191	1,814	17,005	78,286	62.6%	55.9%	12.1%
Growth Rate	2.8%	1.8%	1.4%	1.8%	1.8%			

Alberta

Figure A5.9: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Alberta

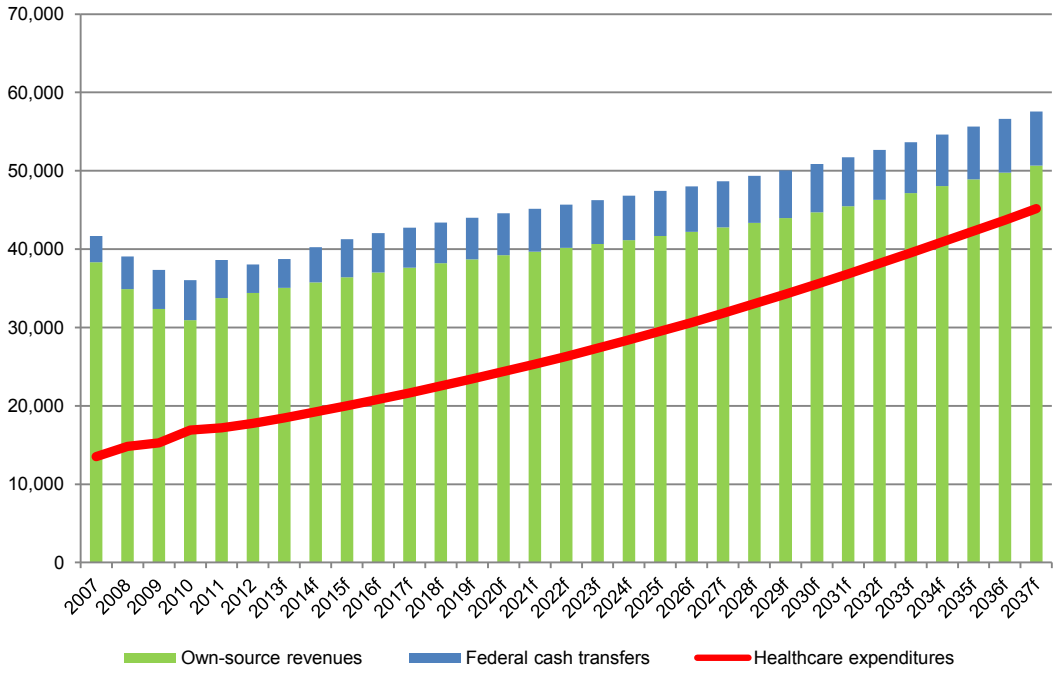


Table A5.9: Summary of Projections, Base Scenario, 2012 to 2037, Alberta

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	17,747	34,408	3,628	38,036	264,042	51.6%	46.7%	6.7%
2013	18,477	35,077	3,643	38,720	269,176	52.7%	47.7%	6.9%
2014	19,222	35,746	4,495	40,241	274,310	53.8%	47.8%	7.0%
2015	20,003	36,401	4,873	41,274	279,337	55.0%	48.5%	7.2%
2016	20,815	37,038	5,015	42,053	284,227	56.2%	49.5%	7.3%
2017	21,663	37,636	5,102	42,738	288,815	57.6%	50.7%	7.5%
2018	22,538	38,195	5,195	43,391	293,104	59.0%	51.9%	7.7%
2019	23,433	38,714	5,284	43,997	297,082	60.5%	53.3%	7.9%
2020	24,363	39,211	5,368	44,579	300,903	62.1%	54.7%	8.1%
2021	25,319	39,694	5,448	45,141	304,604	63.8%	56.1%	8.3%
2022	26,318	40,174	5,525	45,699	308,290	65.5%	57.6%	8.5%
2023	27,355	40,662	5,602	46,263	312,033	67.3%	59.1%	8.8%
2024	28,407	41,168	5,678	46,846	315,916	69.0%	60.6%	9.0%
2025	29,511	41,672	5,753	47,426	319,787	70.8%	62.2%	9.2%
2026	30,634	42,192	5,830	48,022	323,777	72.6%	63.8%	9.5%
2027	31,811	42,763	5,909	48,672	328,157	74.4%	65.4%	9.7%
2028	33,027	43,349	5,990	49,339	332,656	76.2%	66.9%	9.9%
2029	34,273	43,982	6,073	50,055	337,511	77.9%	68.5%	10.2%
2030	35,536	44,692	6,163	50,855	342,962	79.5%	69.9%	10.4%
2031	36,831	45,480	6,259	51,738	349,005	81.0%	71.2%	10.6%
2032	38,169	46,313	6,362	52,676	355,402	82.4%	72.5%	10.7%
2033	39,544	47,167	6,475	53,641	361,949	83.8%	73.7%	10.9%
2034	40,925	48,040	6,595	54,635	368,650	85.2%	74.9%	11.1%
2035	42,322	48,912	6,720	55,632	375,344	86.5%	76.1%	11.3%
2036	43,711	49,783	6,848	56,631	382,028	87.8%	77.2%	11.4%
2037	45,153	50,675	6,908	57,583	388,873	89.1%	78.4%	11.6%
Growth Rate	3.8%	1.6%	2.6%	1.7%	1.6%			

British Columbia

Figure A5.10: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—British Columbia

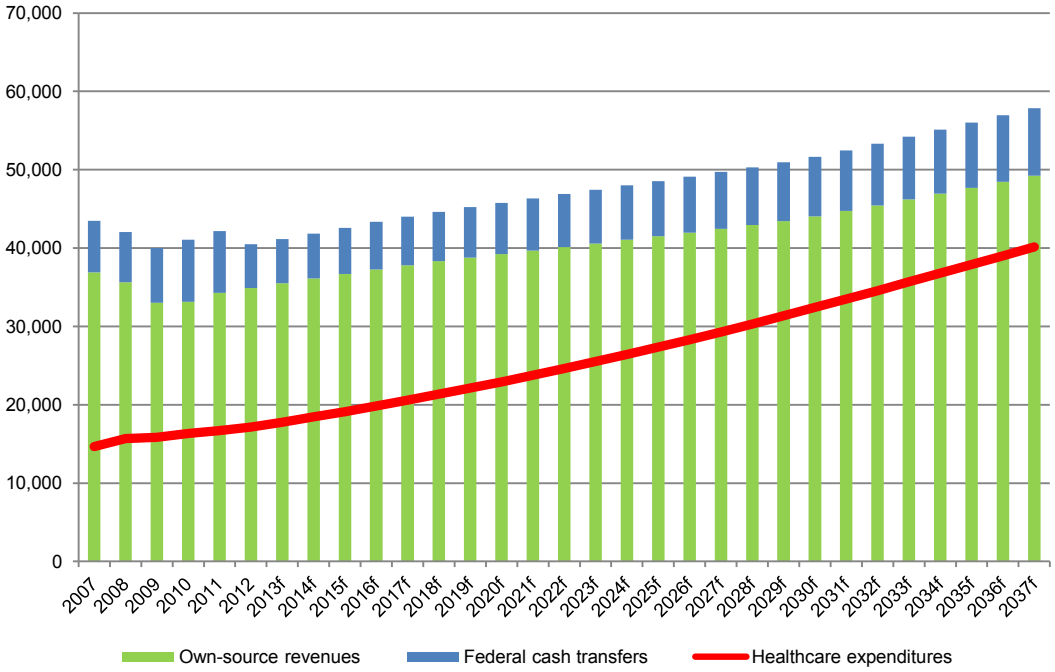


Table A5.10: Summary of Projections, Base Scenario, 2012 to 2037, British Columbia

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Provincial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	17,143	34,879	5,636	40,515	208,503	49.1%	42.3%	8.2%
2013	17,783	35,497	5,654	41,151	212,197	50.1%	43.2%	8.4%
2014	18,440	36,106	5,754	41,860	215,835	51.1%	44.1%	8.5%
2015	19,124	36,689	5,902	42,591	219,323	52.1%	44.9%	8.7%
2016	19,834	37,264	6,080	43,344	222,761	53.2%	45.8%	8.9%
2017	20,576	37,811	6,193	44,004	226,028	54.4%	46.8%	9.1%
2018	21,342	38,314	6,312	44,626	229,035	55.7%	47.8%	9.3%
2019	22,122	38,789	6,427	45,216	231,872	57.0%	48.9%	9.5%
2020	22,923	39,245	6,537	45,782	234,601	58.4%	50.1%	9.8%
2021	23,752	39,697	6,644	43,341	237,303	59.8%	51.3%	10.0%
2022	24,617	40,143	6,748	46,891	239,970	61.3%	52.5%	10.3%
2023	25,506	40,587	6,850	47,437	242,623	62.8%	53.8%	10.5%
2024	26,418	41,051	6,953	48,004	245,399	64.4%	55.0%	10.8%
2025	27,351	41,505	7,056	48,561	248,109	65.9%	56.3%	11.0%
2026	28,311	41,971	7,160	49,131	250,897	67.5%	57.6%	11.3%
2027	29,302	42,461	7,267	49,728	253,827	69.0%	58.9%	11.5%
2028	30,320	42,943	7,374	50,317	256,707	70.6%	60.3%	11.8%
2029	31,360	43,451	7,485	50,937	259,746	72.2%	61.6%	12.1%
2030	32,414	44,055	7,604	51,658	263,352	73.6%	62.7%	12.3%
2031	33,475	44,728	7,730	52,458	267,375	74.8%	63.8%	12.5%
2032	34,569	45,453	7,868	53,321	271,712	76.1%	64.8%	12.7%
2033	35,679	46,195	8,015	54,210	276,148	77.2%	65.8%	12.9%
2034	36,794	46,935	8,172	55,107	280,572	78.4%	66.8%	13.1%
2035	37,916	47,689	8,335	56,023	285,075	79.5%	67.7%	13.3%
2036	39,020	48,463	8,503	56,966	289,706	80.5%	68.5%	13.5%
2037	40,154	49,256	8,586	57,841	294,443	81.5%	69.4%	13.6%
Growth Rate	3.5%	1.4%	1.7%	1.4%	1.4%			

Yukon

Figure A5.11: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Yukon

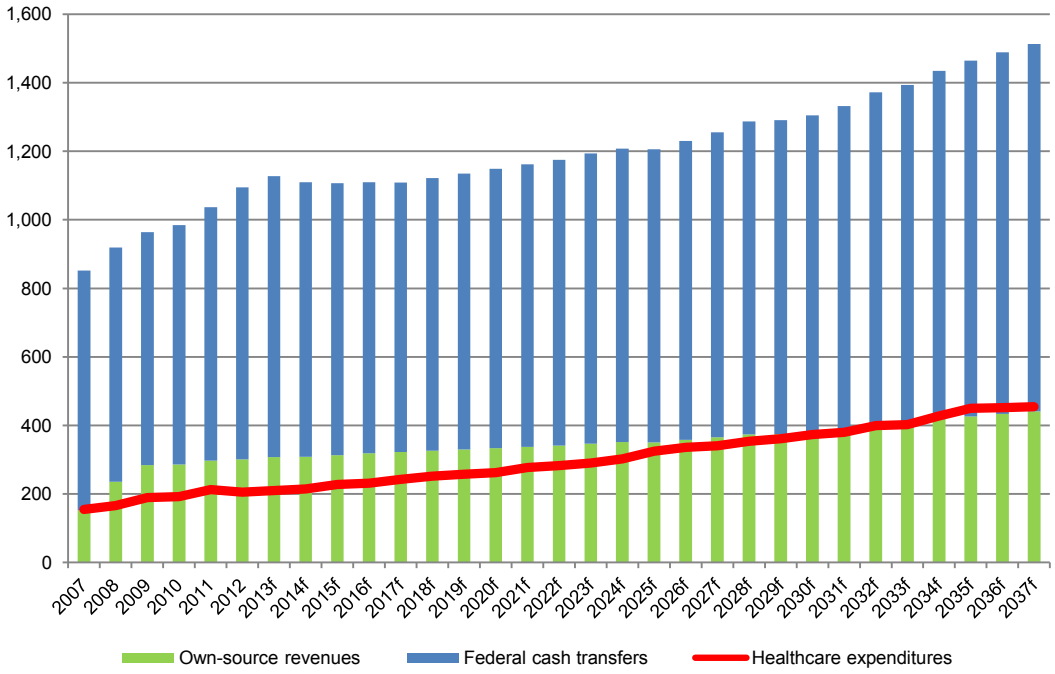


Table A5.11: Summary of Projections, Base Scenario, 2012 to 2037, Yukon

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Territorial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	206	301	794	1,095	2,246	68.3%	18.8%	9.2%
2013	210	307	820	1,127	2,292	68.3%	18.6%	9.2%
2014	215	308	801	1,110	2,299	69.7%	19.4%	9.3%
2015	228	313	793	1,107	2,336	72.7%	20.6%	9.7%
2016	232	318	792	1,110	2,374	72.7%	20.9%	9.8%
2017	243	322	787	1,109	2,402	75.4%	21.9%	10.1%
2018	252	326	796	1,122	2,430	77.2%	22.4%	10.4%
2019	258	330	805	1,135	2,459	78.2%	22.7%	10.5%
2020	262	334	815	1,148	2,487	78.5%	22.8%	10.5%
2021	277	337	824	1,162	2,516	82.2%	23.9%	11.0%
2022	283	341	834	1,175	2,546	82.9%	24.1%	11.1%
2023	290	347	847	1,194	2,587	83.7%	24.3%	11.2%
2024	303	351	857	1,208	2,617	86.2%	25.1%	11.6%
2025	325	350	855	1,205	2,611	92.8%	27.0%	12.4%
2026	336	358	873	1,230	2,666	94.0%	27.3%	12.6%
2027	340	365	891	1,256	2,721	93.2%	27.1%	12.5%
2028	354	374	913	1,287	2,791	94.5%	27.5%	12.7%
2029	361	375	915	1,290	2,798	96.2%	28.0%	12.9%
2030	373	380	925	1,305	2,830	98.3%	28.6%	13.2%
2031	380	387	944	1,332	2,889	98.1%	28.5%	13.2%
2032	399	399	972	1,371	2,976	100.0%	29.1%	13.4%
2033	402	406	988	1,394	3,025	99.2%	28.9%	13.3%
2034	427	418	1,017	1,435	3,115	102.3%	29.8%	13.7%
2035	450	426	1,038	1,464	3,180	105.5%	30.7%	14.2%
2036	452	433	1,055	1,488	3,231	104.3%	30.4%	14.0%
2037	454	441	1,072	1,513	3,286	103.1%	30.0%	13.8%
Growth Rate	3.2%	1.5%	1.2%	1.3%	1.5%			

Northwest Territories

Figure A5.12: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Northwest Territories

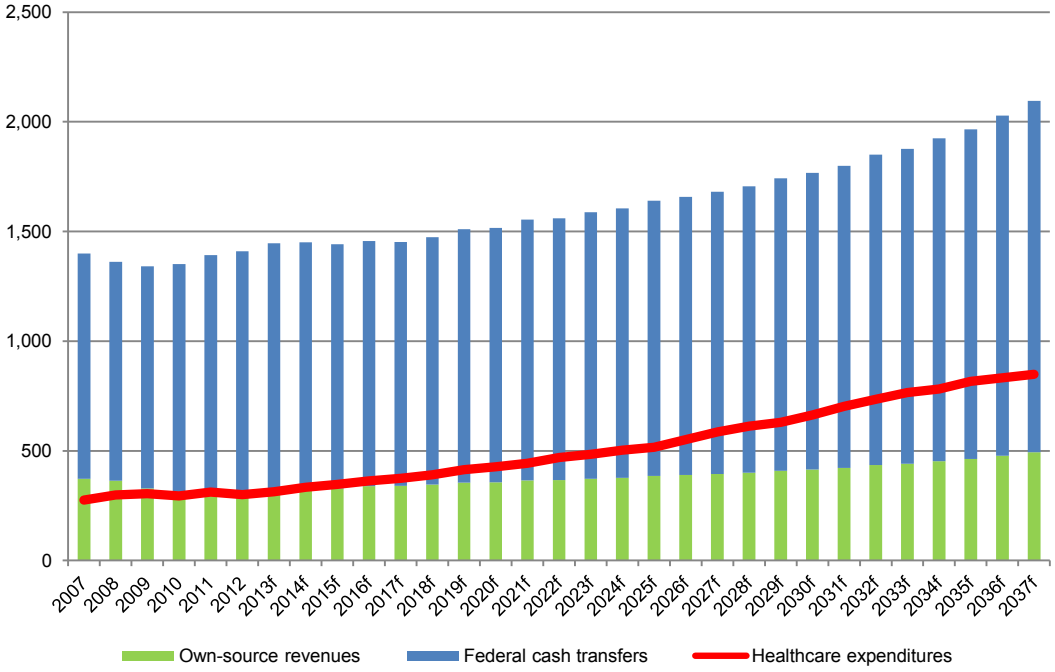


Table A5.12: Summary of Projections, Base Scenario, 2012 to 2037, Northwest Territories

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Territorial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	300	313	1,097	1,410	3,858	95.9%	21.3%	7.8%
2013	314	317	1,129	1,447	3,915	98.8%	21.7%	8.0%
2014	335	326	1,124	1,450	4,027	102.5%	23.1%	8.3%
2015	347	329	1,114	1,442	4,057	105.5%	24.0%	8.6%
2016	363	338	1,118	1,457	4,174	107.3%	24.9%	8.7%
2017	374	341	1,112	1,453	4,205	109.7%	25.8%	8.9%
2018	390	346	1,128	1,474	4,267	112.9%	26.5%	9.2%
2019	414	355	1,156	1,510	4,374	116.8%	27.4%	9.5%
2020	427	356	1,161	1,517	4,391	120.0%	28.2%	9.7%
2021	444	365	1,189	1,554	4,502	121.5%	28.5%	9.9%
2022	469	366	1,194	1,561	4,520	128.0%	30.1%	10.4%
2023	485	373	1,215	1,588	4,601	129.9%	30.5%	10.5%
2024	503	377	1,229	1,606	4,651	133.3%	31.3%	10.8%
2025	517	385	1,255	1,640	4,752	134.2%	31.5%	10.9%
2026	551	389	1,268	1,658	4,804	141.6%	33.3%	11.5%
2027	586	395	1,286	1,681	4,873	148.3%	34.8%	12.0%
2028	613	401	1,305	1,706	4,943	152.9%	35.9%	12.4%
2029	629	409	1,333	1,742	5,051	153.7%	36.1%	12.5%
2030	664	415	1,352	1,767	5,124	159.9%	37.6%	13.0%
2031	703	423	1,376	1,799	5,216	166.2%	39.1%	13.5%
2032	734	435	1,415	1,850	5,368	168.8%	39.7%	13.7%
2033	766	441	1,436	1,877	5,445	173.6%	40.8%	14.1%
2034	782	453	1,472	1,924	5,583	172.8%	40.7%	14.0%
2035	817	462	1,503	1,965	5,704	176.7%	41.6%	14.3%
2036	832	477	1,551	2,028	5,889	174.4%	41.0%	14.1%
2037	849	493	1,602	2,095	6,088	172.0%	40.5%	13.9%
Growth Rate	4.2%	1.8%	1.5%	1.6%	1.8%			

Nunavut

Figure A5.13: Projected Total Health Care Expenditures vs. Total Available Revenues, 2007 to 2037 (millions of constant 2012 dollars)—Nunavut

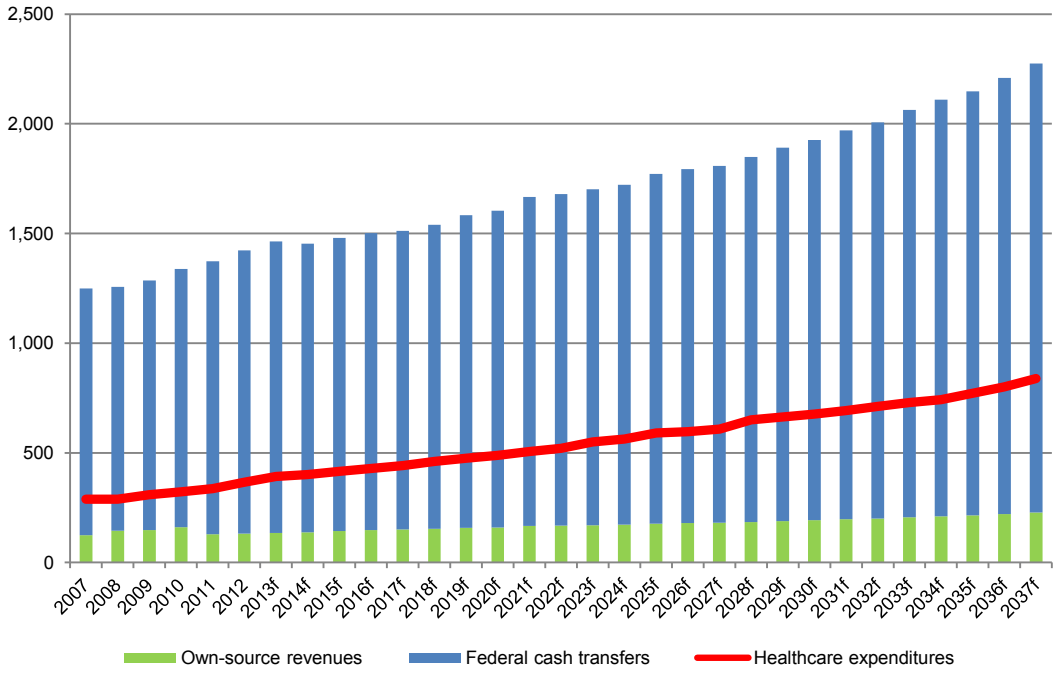


Table A5.13: Summary of Projections, Base Scenario, 2012 to 2037, Nunavut

Years	(millions of constant 2012 dollars)					Health Care Expenditures as a % of		
	Territorial Health Care Expenditures	Own-Source Revenues	Federal Cash Transfers	Total Revenues	GPD	Own-Source Revenues	Total Revenues	GPD
2012	365	132	1,291	1,423	1,533	277.7%	25.7%	23.8%
2013	392	135	1,329	1,464	1,578	289.2%	26.8%	24.8%
2014	401	137	1,316	1,453	1,598	292.2%	27.6%	25.1%
2015	416	143	1,336	1,480	1,672	289.9%	28.1%	24.9%
2016	429	148	1,354	1,502	1,720	290.8%	28.6%	25.0%
2017	442	151	1,361	1,513	1,761	292.6%	29.2%	25.1%
2018	460	154	1,386	1,540	1,793	299.1%	29.9%	25.7%
2019	476	158	1,426	1,584	1,844	300.8%	30.1%	25.8%
2020	489	160	1,444	1,604	1,868	304.8%	30.5%	26.2%
2021	506	167	1,500	1,667	1,942	303.7%	30.4%	26.1%
2022	520	168	1,512	1,679	1,956	309.9%	31.0%	26.6%
2023	550	170	1,531	1,701	1,982	323.4%	32.3%	27.8%
2024	563	172	1,550	1,723	2,007	326.7%	32.7%	28.0%
2025	590	177	1,594	1,771	2,064	333.2%	33.3%	28.6%
2026	597	179	1,614	1,794	2,091	332.6%	33.3%	28.5%
2027	609	181	1,627	1,807	2,106	336.6%	33.7%	28.9%
2028	651	185	1,664	1,849	2,156	351.9%	35.2%	30.2%
2029	663	189	1,702	1,892	2,206	350.2%	35.1%	30.1%
2030	677	193	1,733	1,926	2,246	351.4%	35.2%	30.2%
2031	693	197	1,773	1,970	2,298	351.4%	35.2%	30.2%
2032	711	201	1,805	2,006	2,340	354.1%	35.4%	30.4%
2033	729	207	1,856	2,063	2,407	352.9%	35.3%	30.3%
2034	743	211	1,899	2,111	2,463	351.5%	35.2%	30.2%
2035	771	215	1,933	2,148	2,507	358.5%	35.9%	30.8%
2036	801	221	1,988	2,209	2,579	361.9%	36.3%	31.1%
2037	839	228	2,047	2,275	2,656	368.1%	36.9%	31.6%
Growth Rate	3.4%	2.2%	1.9%	1.9%	2.2%			

Appendix 6—Description of the U.S. Health Care System

This appendix briefly describes the U.S. health care system and identifies some differences and subtleties between the U.S. and Canadian health care systems. It is not meant to be exhaustive and comprehensive. More information on the Canadian health care system can be found in chapter 2.

Introduction

Both Canada and the United States had similar health care systems before Canada reformed its own in the 1960s and 1970s. They now have a different mix of funding mechanisms, the major differences residing in how health insurance is provided.

The U.S. health care system is described by looking at (1) the government's involvement, (2) the scope of health care coverage, (3) how health care is delivered, and (4) how it is funded.

Government Involvement

Governments of both nations are closely involved in health care. The main structural difference between the two is in relation to health insurance.

In Canada, health care delivery is considered a provincial jurisdiction, and provinces/territories effectively directly administer most of the health care system with funding support from the federal government. In the United States, government programs directly cover 31 percent of the population,[90] including the elderly, disabled, children, veterans and some of the poor. Health programs sponsored by the U.S. government include:

- Federal Employees Health Benefits Program—manages a competition network through which care is provided to civilian government employees and annuitants
- Indian Health Service—provides care to Native Americans from recognized tribes
- Medicaid/State Health Insurance Assistance Program (SHIP)—generally covers low income people in certain categories, including children, pregnant women and the disabled (administered by the states)
- Medicare—generally covers citizens and long-term residents who are 65 years and older and the disabled
- Military Health System[91]—provides care to active duty and retired U.S. Military personnel and their dependents
- State Children's Health Insurance Program (CHIP)—provides health insurance for low-income children who do not qualify for Medicaid (administered by the states)

[90] U.S. Census Bureau, 2010.
[91] Including TRICARE, which provides civilian health benefits for military personnel, retirees and their dependents.

- Veterans Health Administration—provides care to veterans, their families and survivors through medical centers and clinics.

The United States used to be one of two member countries of the Organization for Economic Co-Operation and Development (OECD) lacking some form of universal health coverage after Mexico established a universal health care program in 2008, the other being Turkey.[92]

On March 23, 2010, the Patient Protection and Affordable Care Act (PPACA) became law, providing for major changes in health insurance to gradually take effect until 2018 and which effectively introduces the concept of universal health care coverage to the United States. On June 28, 2012, the U.S. Supreme Court upheld the constitutionality of most of PPACA.[93] Briefly, the provisions of PPACA include:

- Making people earning up to 133 percent of the federal poverty limit (FPL)[94] eligible for Medicaid
- Subsidizing insurance premiums for people earning up to 400 percent of FPL to limit their maximum out-of-pocket premium to between 2 percent and 9.8 percent of family income
- Providing incentives for employers to provide group health care benefits
- Prohibiting denial of coverage and denial of claims based on pre-existing conditions
- Establishing health insurance exchanges
- Prohibiting insurers from establishing annual spending caps
- Supporting medical research.

In May 2011, Vermont became the first state to make health care in the state a "human right" and making the state responsible to provide a health care system that best meets the needs of its citizens.

Scope of Coverage

The Canadian Medicare system is actually a collection of separate public health insurance programs that are very similar in the scope of their coverage including coverage for physician care, surgery and hospitalization.

U.S. public health insurance programs generally cover inpatient hospital care for those eligible. In some instances, outpatient hospital care and medical services are also covered, as well as prescription drugs. Dental care for children may also be part of the coverage. The *Emergency Medical Treatment and Active Labor Act* (EMTALA) ensures public access to emergency services: emergency treatment cannot be withheld for lack of evidence of insurance coverage or other evidence of the ability to pay.[95]

[92] An early step toward a universal health care system was made with the adoption of the *Massachusetts 2006 Health Reform Statute*, which (1) mandates all residents to purchase health insurance (unless they cannot afford it), (2) provides subsidized insurance plans so that nearly everyone can afford health insurance, and (3) provides a "Health Safety Net Fund" to pay for necessary treatments for those who cannot find affordable health insurance or who are not eligible. In July 2009, Connecticut introduced a plan called SustiNet, with the goal of achieving health care coverage of 98 percent of its residents by 2014.

[93] *National Federation of Independent Business v. Sebelius.*

[94] In 2016, the FPL is projected to be about $11,800 for a single person and about $24,000 for a family of four (U.S. Congressional Budget Office, 2009).

[95] However, EMTALA does not remove the right of the hospital to seek payment for the cost of emergency health care provided. Also, the act does not provide access to non-emergency room care for patients who cannot afford to pay for health care, nor does it provide the benefit of preventive care and the continuity of a primary care physician.

Health Care Delivery System

How health care is actually delivered is not materially different in Canada than in the United States, except for areas such as freedom of choice and whether the facilities are operated privately or publicly.

In the United States, health care is provided by many separate legal entities that are largely owned and operated by the private sector, though federal, state, county and city governments also own certain facilities. Also, the Department of Defense operates field hospitals as well as permanent hospitals (the Military Health System) to provide military-funded health care to active military personnel. The Veterans Health Administration operates hospitals open only to veterans. Finally, the Indian Health Service operates facilities open only to Native Americans from recognized tribes.

Extensive regulation applies to health care at both the federal and state levels, covering the licensing of health care providers at the state level and the testing and approval of pharmaceuticals and medical devices by the Food and Drug Administration. These regulations are designed to protect patients from ineffective health care. In addition, states regulate the private health insurance market, often requiring that health insurance companies cover certain procedures.[96]

Individuals with private or government health insurance are generally limited to medical facilities that accept the particular type of health insurance they are covered for. Visits to facilities outside the plan's network are typically either not covered or else the patient must assume a larger share of the cost.

Physicians and hospitals are generally paid directly by patients or by insurance plans in return for services provided, generally on a fee-for-service basis.[97]

Health Care Funding

As mentioned earlier, funding is one of the main differentiating factors of the U.S. and Canadian health care systems, especially in relation to health insurance. In Canada, generally health care expenditures are paid by provinces/territories using funds from their general revenues. Yet, about 30 percent of the cost of health care is assumed by the non-public sector, including the private sector (insurance companies and private employee benefit plans) and out-of-pocket payments from Canadians. This mostly goes toward services not covered or only partially covered by Medicare, such as prescription drugs, complementary medical services, dental care and vision care.

In the United States, health insurance is now primarily provided by the public sector, with close to two-thirds of health care spending coming from programs such as Medicare, Medicaid, TRICARE, the Children's Health Insurance Program and the Veterans Health Administration.

[96] However, state mandates generally do not apply to the self-funded health care plans offered by larger employers, which are exempt from state laws under pre-emption clause of the *Employee Retirement Income Security Act* (ERISA).

[97] Other insurance models exist under which compensation is not on a fee-for-service basis. Health maintenance organizations (HMOs) and capitation plans are examples of situations where physicians and/or facilities are paid a fixed fee to provide care regardless of its intensity.

About 84 percent of Americans had some form of health insurance in 2010, either through an employer (55 percent), a private individual plan (10 percent) or government programs (31 percent).[98] Workers covered under an employer-sponsored group plan are usually required to contribute part of the cost of the insurance, with the employer usually selecting the insurance company. Most covered workers also face additional payments when they use health care services, in the form of deductibles and copayments. Americans whose employers do not offer health insurance, as well as those who are self-employed or unemployed, must purchase it on their own. The introduction of PPACA encourages employers to provide coverage to workers and eases access to coverage for the poor and the unhealthy.

Sources of health care funds for government programs include payroll and income taxes. Private plans are funded with direct contributions from employees and employers as well as deductibles and copayments. Furthermore, governments indirectly contribute to the cost of private group plans through favorable tax treatment. Similarly, the government allows full tax shelter at the highest marginal rate to investors in health savings accounts (HSAs). Finally, PPACA brings new sources of funds, a variety of taxes, fees and cost-savings measures, such as new Medicare taxes for high-income brackets, taxes on indoor tanning, cuts to the Medicare Advantage program in favor of traditional Medicare, and fees on medical devices and pharmaceutical companies. There is also a tax penalty for citizens who do not purchase or enroll in a health insurance program (unless they are exempt due to low income or other reasons).

[98] U.S. Census Bureau, 2010. There is some overlap in these figures.