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du prix des médicaments
brevetés

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Pharmaceutical Trends Overview Report

Alberta, Saskatchewan, Manitoba,
Ontario, New Brunswick, Nova Scotia,
and First Nations and Inuit Health
Branch of Health Canada
1997-1998 to 2003-2004

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Analytical Study Series

National Prescription Drug
Utilization Information System

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Executive Summary



Background

Drugs are an essential component of the health care system and an integral aspect of the health status of Canadians. In Canada, pharmaceutical sales are forecasted to have reached \$21.8 billion in 2004, accounting for 16.7% of health expenditures. Drug expenditures have increased at a faster rate than total health expenditures, making it the second largest component, following hospital expenditures. As a source of funding, an increasing share of drug expenditures is being carried by the public system; the public share of drug expenditures increased from 31.6% in 1997 to 37.3% in 2002. For 2004, the public share of drug expenditures is expected to have increased further to 39.0%.^{1,2} There is a great need to better understand why drug expenditures are increasing; thereby enabling decision makers to allocate limited resources more efficiently and to better plan and provide services.

The Patented Medicine Prices Review Board previously produced “Cost Driver” reports that examined trends in pharmaceutical expenditures up to the fiscal year 1999-2000, using data from five provincial drug plans. The Pharmaceutical Trends Overview Report (PTOR) examines spending on drugs utilizing the data from seven public drug plans that include six provinces and the Non-Insured Health Benefits (NIHB) drug program of the First Nations and Inuit Health Branch of Health Canada. The six participating provinces are Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick and Nova Scotia. Seven years of data, 1997-1998 to 2003-2004, were submitted for all jurisdictions with the exception of Manitoba and NIHB drug program which submitted four and five years of data respectively. While recognizing that public drug plans differ in their coverage, beneficiaries, types of benefits and adjudication processes, this study provides analysis across all of the jurisdictions’ drug plans for which data were submitted.

1 Canadian Institute for Health Information (CIHI), Drug Expenditure in Canada, 1985 to 2004.

2 Canadian Institute for Health Information (CIHI), National Health Expenditure Trends, 1975 to 2004

This research has been carried out as part of the National Prescription Drug Utilization Information System (NPDUIS), whose purpose is to provide Canada's health system with comprehensive information on the utilization and costs associated with pharmaceuticals.

Highlights

- Drug costs increased in all jurisdictions, ranging from 32.0% in Nova Scotia to 66.6% in Manitoba over the 2000-2001 to 2003-2004.
- More than 75% of drug costs were spent on Brand Name drugs whose expenditures grew faster than Generic drugs in most jurisdictions.
- Across all jurisdictions, significant contributors to the growth in expenditures included the following therapeutic groups:
 - Drugs for acid-related disorders, i.e. proton pump inhibitors
 - Serum lipid reducing agents, i.e. "statin" group of drugs
 - Psychoanaleptics i.e. antidepressants and anti-dementia drugs
 - Agents acting on the renin-angiotensin system i.e. ACE inhibitors
- Individual drugs, such as Lipitor ("statin" drug) and Altace (ACE-inhibitor drug), contributed anywhere from 2.3% to 13.3% to the increase in expenditures.
- The growth in expenditures was largely affected by increases in utilization – not price inflation.
- The effect of "switching" from lower-priced to higher-priced drugs within a therapeutic group occurred in some of the therapeutic groups of drugs, i.e. drugs for acid related disorders and psychoanaleptics.
- For other therapeutic groups, there was a "switching" from higher-priced to lower-priced drugs within a therapeutic group, i.e. serum lipid reducing agents and agents acting on the renin-angiotensin system.

Expenditures

Amongst those provinces that submitted seven years of data, drug costs³ increased and varied significantly, ranging from 64.2% in Nova Scotia to 155.6% in Alberta over the 1997-1998 to 2003-2004 time period. When looking across all jurisdictions over the latter four year period, the three jurisdictions with the highest percentage increases were Manitoba (66.6%); Alberta (59.4%); and NIHB drug program (54.0%).

The costs paid out by public drug plans, including drug costs, dispensing fees and mark-ups, grew at an annual average rate between 6.1% in Nova Scotia and 18.8% in Manitoba over the 2000-2001 to 2003-2004 study period.⁴ The dispensing fee portion of Program-Paid costs grew at a slower rate than drug costs for all jurisdictions except Manitoba.

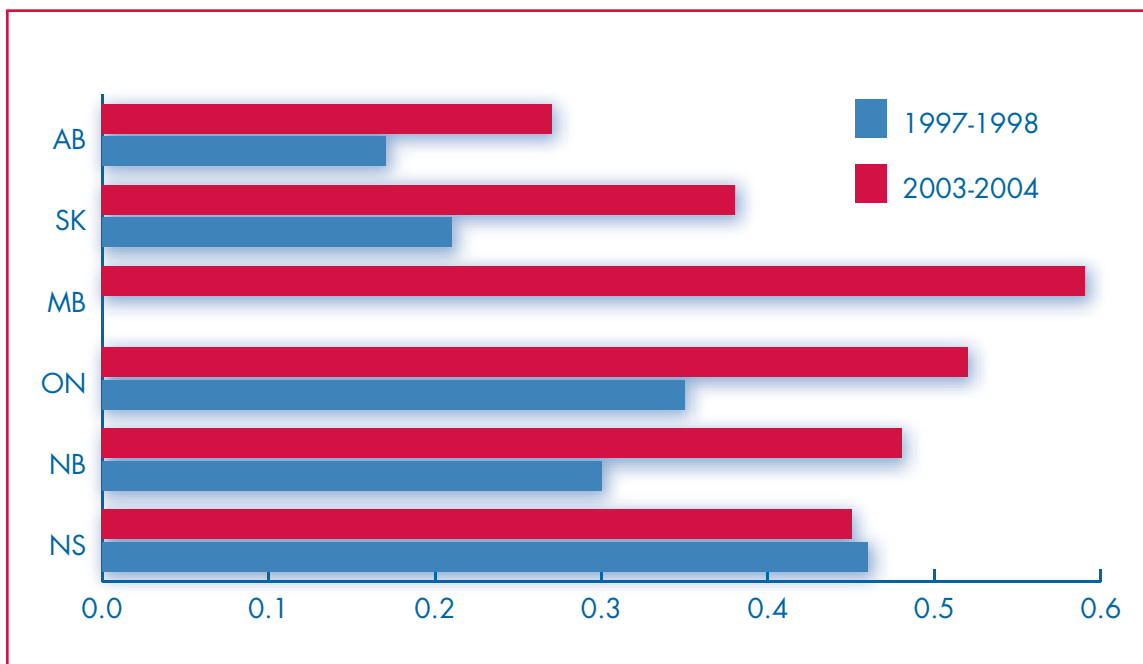
3 Drug costs refer to the cost of the drug itself, excluding dispensing fees and other mark-ups. For Ontario and NIHB drug plans this amount is what the public plan paid out. For other jurisdictions, a portion of drug cost may have been paid by the claimant or other third party payor.

4 In addition to analysis based on seven years of data, results are provided on a four-year basis for the following reasons: allows for comparison across jurisdictions based on the same number of years; provides a more recent picture of expenditures, encompassing all seven participating public drug plans.

With the exception of Nova Scotia, the amount paid out by these public drug plans as a percentage of both provincial Gross Domestic Product (GDP) and provincial budget, increased in each jurisdiction during the study period. The relationship between drug plan expenditures and provincial GDP is demonstrated in Figure 1.

Figure 1

Drug Plan Expenditures as % of GDPs



Drug Cost Analysis by Market Segment

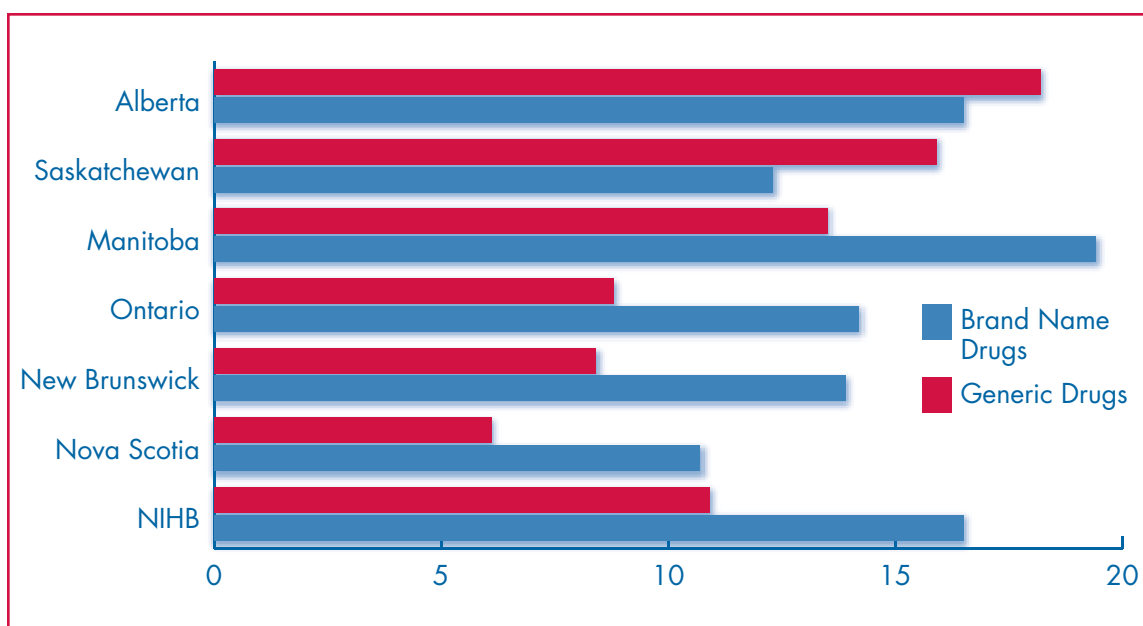
When the market is divided into patented and non-patented drugs, the larger share of drug costs was spent on patented drugs, ranging from 58.6% in Nova Scotia to 72.0% in Manitoba, in 2003-2004. The average annual growth rate for patented drug costs ranged from 12.3% in Nova Scotia to 21.1% for Manitoba over the 2000-2001 to 2003-2004 time period. The remaining portion of drug costs was spent on non-patented drugs whose average annual growth rate was lower than that of patented drugs, ranging from a low of 6.4% for Nova Scotia to a high of 13.2% for Alberta.

Similarly, when the market is divided into Brand Name and Generic drug products⁵, a higher portion of drug costs was spent on Brand Name, ranging from 79.2% in Nova Scotia to 86.5% in Manitoba. The remaining portion of drug costs was spent on Generic drugs. As demonstrated in Figure 2, the average annual growth rates for Brand Name drugs exceeded that of Generic drugs for all participating plans with the exceptions of Alberta and Saskatchewan. For Brand Name drugs, the average annual growth rates ranged from 10.7% in Nova Scotia to 19.4% in Manitoba. For Generic drugs, the average annual growth rate was highest for Alberta at 18.2% and lowest in Nova Scotia at 6.1%.

⁵ Brand Name and Generic drugs are mainly classified according to whether or not they belong to Canada's Research Based Pharmaceutical Companies or Generic associations. See Appendix 1.

Figure 2

**Brand Name and
Generic Drugs:
Average Annual
Growth Rates
2000-2001-
2003-2004**



Contribution to Change in Drug Costs

The top therapeutic drug groups were identified by their contribution to the change in drug costs. Although the ranking of the therapeutic drug groups varied across the jurisdictions, the four therapeutic groups consistently in the top 10 ranking across the jurisdictions included drugs for acid-related disorders, serum lipid reducing agents, psychoanaleptics (i.e. antidepressants and anti-dementia drugs) and agents acting on the renin-angiotensin system.

For drugs used for acid-related disorders, for example, the percentage increase in drug costs ranged from 6.3% in Nova Scotia to 11.2% in Alberta over a four year period. Serum lipid reducing agents, including Lipitor and Zocor, also made significant contributions to the changes in drug costs, ranging from 7.1% for Manitoba to 16.0% in Nova Scotia. The impact of psychoanaleptics on the change in drug costs was most pronounced in Saskatchewan at 11.6%; Alberta had the lowest percent contribution for this class of drugs at 8.2%. For agents acting on the renin-angiotensin system, the greatest impact to the change in drug costs occurred in Saskatchewan (14.9%) and the lowest impact occurred in Manitoba (6.5%).

At an individual drug level, atorvastatin (Lipitor) and ramipril (Altace) were the most consistent contributors to changes in drug costs across all of the jurisdictions. Lipitor alone contributed as much as 13.3% of the change in drug costs in Nova Scotia over a four-year period. Ontario, Alberta and New Brunswick also reported a significant impact of this drug on their changes in drug costs, 12.9, 10.5 and 9.9% respectively. Altace, an ACE inhibitor drug⁶, also made a strong, positive contribution to change in drug costs. Over the 2000-2001 to 2003-2004 time period, Altace contributed positively to the change in drug costs, ranging from 2.3% in Manitoba to 8.6% in Nova Scotia.

⁶ Angiotensin-converting-enzyme inhibitors are more commonly called ACE inhibitors. Altace is used to treat high blood pressure and reduce the risks of heart and stroke complications.

Utilization and Change to Drug Costs

The analysis indicated that utilization had a major effect on the change in drug costs. Quantity indices were used to measure trends in utilization over the years. Although similar in structure to price indices, quantity indices use “quantity” (e.g. number of tablets) as the changing unit of measure.

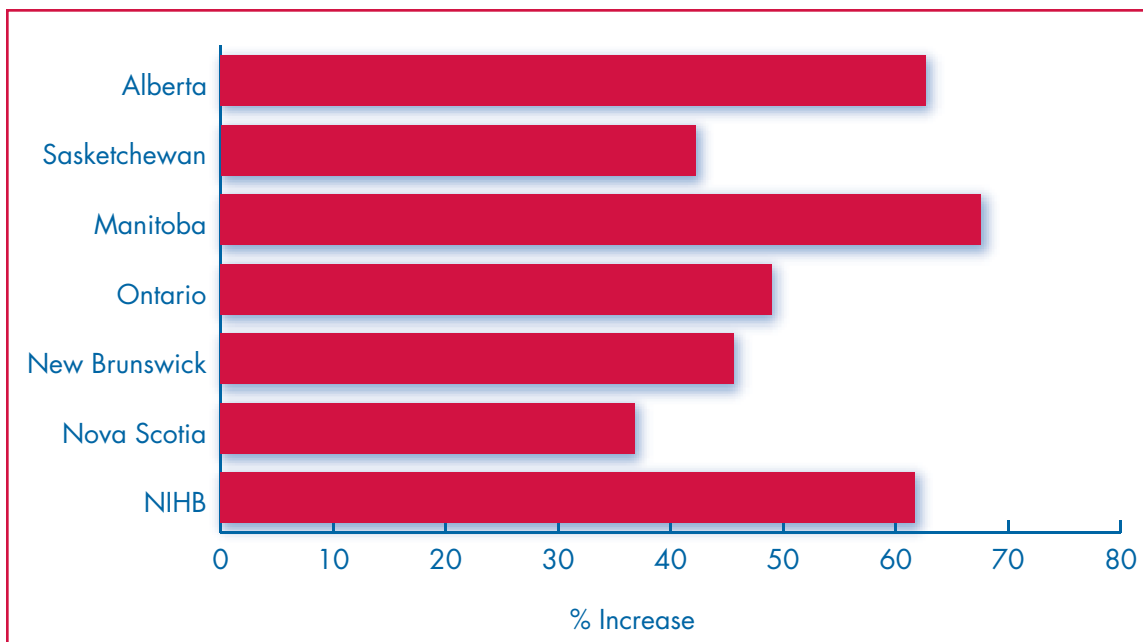
Figure 3 shows the percentage change in quantity indices across all jurisdictions from 2000-2001 to 2003-2004. These significant increases in utilization ranged from 36.8% in Nova Scotia to 67.6% in Manitoba.

For those jurisdictions with seven years of data, there was a strong cumulative increase in utilization for all drugs, ranging from 80.0% in Nova Scotia to 148.7% in Alberta. Manitoba had a 67.6% increase in quantity level from 2000-2001 to 2003-2004 and the NIHB drug plan had a 90.1% increase in quantity level from 1999-2000 to 2003-2004.

The increase in quantity is stronger for patented drugs, as compared to non-patented drugs, for all jurisdictions and time periods. For example, there was a 108.1% increase in quantity level for patented drugs in Ontario and a more limited increase of 64.9% for non-patented drugs over the same time period: 1997-1998 to 2003-2004.

For the market segments of Brand Name and Generic drugs, the increases in quantity were significantly greater for the former as compared to the latter. Using Ontario, as an example, the increase in quantity for Brand Name drugs was 126.0%, while Generic drugs had a 25.8% increase over 1997-1998 to 2003-2004.

Figure 3
Change in
Quantity Indices,
2000-2001 to
2003-2004



Price and Change in Drug Costs

Price had either a negative effect or small positive effect on drug costs. As seen in Figure 4, the percent changes in price levels or indices for all drugs were relatively small and negative for most of the jurisdictions, ranging from -3.7% in Alberta to 1.3% in Saskatchewan over the 2000-2001 to 2003-2004 time period.

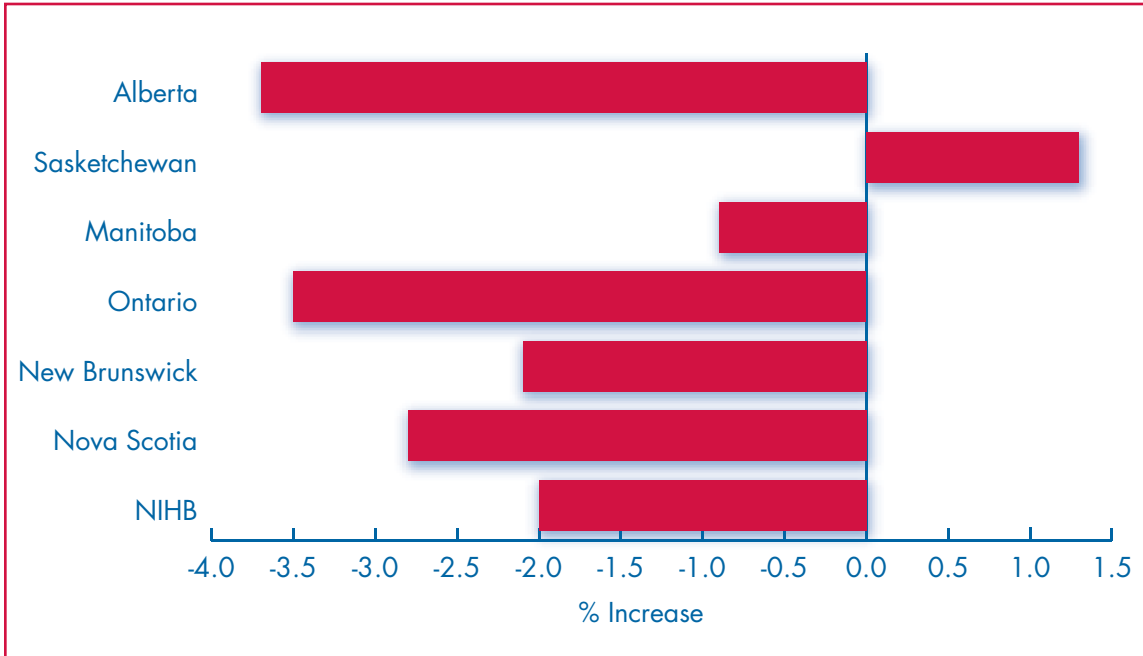


Figure 4

% Change in Price Indices, 2000-2001 to 2003-2004

Price indices for all drugs⁷ indicated a cumulative decline that ranged from -9.1% in Saskatchewan to -6.7% in Nova Scotia over the 1997-1998 to 2003-2004 time period. For the jurisdictions with limited years of data, Manitoba had a small cumulative decrease of 0.9% in its price index for all drugs for 2000-2001 to 2003-2004, while NIHB drug plan had a somewhat greater cumulative decrease in its prices: 2.8% from 1999-2000 to 2003-2004. Similar negative or small positive changes in price levels were seen for patented and non-patented, as well as Brand Name and Generic drugs.

Looking at the distribution of price increases, the majority of drugs, ranging from 78.4% for the NIHB drug plan to 84.1% in Ontario, had increases of 2% or less over the 2000-2001 to 2003-2004 time period.

⁷ A chained Laspeyeres' methodology was used for both price and quantity indices. See appendix 1.3.1 for an explanation on the methodology.

Defined Daily Dose Analysis

The Defined Daily Dose (DDD) is the estimated average daily adult maintenance dose for a drug when used for its main indication. DDDs, produced and published by the World Health Organization (WHO), are available for most major drug products. The use of DDDs allows for the transformation of physical quantities of drugs (i.e. capsules, tablets) into equivalent treatment-day volumes, providing researchers with an alternative measure of utilization.

The number of DDDs per day per 1,000 claimants informs us about the intensity of use for a therapeutic group. As can be seen in the table Ex1, this utilization measure can vary widely across therapeutic groups and jurisdictions.

Table 1
Number of DDDs per day per 1,000 claimants, 2003-2004

Jurisdiction	Drugs for Acid Related Disorders	Serum Lipid Reducing Agents	Psychoanaleptics	Agents acting on the Renin-Angiotensin System
Nova Scotia	186.9	307.7	155.5	524.3
New Brunswick	154.3	258.1	155.4	441.3
Ontario	175.3	362.7	155.1	572.1
Manitoba	184.8	348.9	275.7	433.9
Alberta	163.4	310.0	136.7	553.6

Both Saskatchewan and NIHB results are not presented in the above table because their results are not directly comparable to the other jurisdictions.⁸

Decomposition of the Change in Drug Expenditures

The change in drug costs from the base year (2001-2002) to the current year (2003-2004) can be “decomposed” into several effects:

- quantity alone (keeping price constant)
- price alone (keeping quantity constant)
- switching amongst differently priced drugs within a therapeutic group (therapeutic mix effect)
- new drug products
- drug products exiting / leaving
- cross effect – an interaction term that measures the interaction between change in price and change in quantity.

The sum of these different effects totals 100%. That is, all of the increase (decrease) in drug costs can be categorized into one of these effects.

⁸ NIHB utilization, measured by the number of DDDs per day per 1,000 claimants, was much lower. This was largely attributed to its much younger population. Saskatchewan results are calculated on an eligible beneficiary basis. See “Results by Jurisdiction” for further explanation.

Decomposition of the change in drug costs for various therapeutic groups, using DDDs as the unit of utilization, revealed the expected signs (positive or negative) and magnitude of price, quantity, new drug, exiting drug, and cross effects.

The therapeutic mix effect, which may be positive or negative, varied between the different therapeutic groups. The therapeutic mix effect was positive for drugs for acid-related disorders and psychoanaleptics but decidedly negative for serum lipid reducing agents. A positive therapeutic mix effect indicates that there is a shifting towards more costly daily drug treatment, while a negative therapeutic mix effect indicates that there is a shifting towards lower-cost daily drug treatment.

There was a notable spread or variance of the therapeutic mix effect, across jurisdictions. For the therapeutic group, drugs for acid-related disorders, the therapeutic mix effect ranged from 18.2% in Alberta to 58.4% in New Brunswick, while the therapeutic mix effect for psychoanaleptics ranged from 17.5% in Manitoba to 37.3% in Saskatchewan. For serum lipid reducing agents, the therapeutic mix effect was negative for most provinces, ranging from -2.3% in Alberta to -19.3% in Manitoba. Saskatchewan was the only jurisdiction with a positive therapeutic mix effect of 16.5% for this latter therapeutic group. The therapeutic mix effect for agents acting on the renin-angiotensin system was negative and significant (-50.0% in Alberta to -92.9% in Nova Scotia), signalling for this therapeutic group that utilization moved towards lower-priced individual drugs.

1

Introduction



1.1 Background

In September 2001, Federal / Provincial / Territorial Ministers of Health announced the establishment of the National Prescription Drug Utilization Information System (NPDUIS) based on a Business Case prepared by the Patented Medicine Prices Review Board (PMPRB) and the Canadian Institute for Health Information (CIHI). The purpose of the NPDUIS is to provide critical analyses of drug price, utilization and cost trends so that Canada's health system has more comprehensive, accurate information on how prescription drugs are being used and on sources of cost increases.

The Minister of Health established the responsibilities of the PMPRB in this undertaking, pursuant to Section 90 of the *Patent Act*. In a letter of October 2002, the Minister requested that the PMPRB "inquire into trends in pharmaceutical prices, expenditures and cost drivers, and such other analytical studies, as described in the Business Case, and endorsed by the Steering Committee." The provisions of this letter are established through a Memorandum of Understanding between Health Canada and the PMPRB initially covering the period from April 1, 2002 until March 31, 2005. This Memorandum of Understanding has been extended for an additional three years (2005-2006 to 2007-2008).



Overview of Report

2

The Pharmaceutical Trends Overview Report (PTOR) analyses data from seven public drug plans: six provincial plans and the Non-Insured Health Benefits (NIHB) drug program of the First Nations and Inuit Health Branch, Health Canada. The six participating provinces are Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick and Nova Scotia. This report examines the trends of drug expenditures, price levels, per-unit costs, and drug utilization over the 1997-1998 to 2003-2004 time period. Interesting results were also obtained by splitting expenditures into therapeutic groups, market segments and daily units of treatment.

The Pharmaceutical Trends Overview Report is organized into two main sections: the front part of the report, Section 3 through 7, provides a broad presentation of the research findings; the latter portion includes Results by Jurisdiction and Appendices 1 to 9.

Section 3 of the report provides an overview of health and drug spending in Canada, using various sources of data. Sections 4 through 7 are based on data submitted by the provincial drug plans and the NIHB drug program. Section 4 examines the general trends of the different types of drug expenditures, benchmark analysis and statistics using claimant counts. Section 5 provides expenditure analysis based on market segments, therapeutic groups, and top drugs. Prescription transaction analysis by therapeutic group is also provided. Price and quantity analysis is provided in Section 6 of the report, while Section 7 provides analysis using daily units of treatment (Defined Daily Doses) as the unit of measure.

The Results by Jurisdiction provide more detailed statistics. Appendix 1 explains the concepts, terminology and methodologies used in the report, while Appendix 2 contains information on data sources and its limitations. Appendices 3 to 7 provide supporting text and statistics. Finally, Appendix 9 provides descriptions of provincial and territorial public drug plans.

3

Health and Drug Expenditures in Canada



3.1 Overview

This section is intended to provide the reader with an overview of health and drug expenditures in Canada. The main sources of information for this section include the Canadian Institute for Health Information (CIHI), Statistics Canada, and First Nations and Inuit Health Branch of Health Canada.

CIHI publishes annual estimates of health and drug expenditures for Canada and for provincial, territorial and federal jurisdictions. Drug expenditures include prescribed pharmaceuticals, non-prescribed or over-the-counter drugs and personal health supplies. Pharmaceuticals dispensed in hospitals are excluded from its definition.

The role of pharmaceuticals in patient care and their associated costs have increased significantly in Canada over recent years. In 1997, drug expenditures surpassed those for physicians to become the second-largest component, following hospital expenditures. In 2004, forecasted expenditures on hospitals constituted 30.2% of health expenditures, while drug and physician expenditures are forecasted to make up 16.9% and 12.9% respectively. Figure 3.1 breaks down the components of total health expenditures by use of funds in 2004.^{9,10}

⁹ Canadian Institute for Health Information (CIHI), *National Health Expenditure Trends, 1975 to 2005*. CIHI's estimates have been assembled from several data sources: Statistics Canada's Annual Survey of Household Spending (for private out-of-pocket expenditure on prescribed drugs), provincial and federal public accounts (for public drug expenditure), data provided by the Canadian Life and Health Insurance Association (for drug benefits paid by private insurers) and information provided by the market research firm A.C. Nielson (Canada) (for expenditure on over-the-counter drugs). Additional information about the source report and about CIHI is available from its Web site at www.cihi.ca.

¹⁰ Canadian Institute for Health Information (CIHI), *Drug Expenditure in Canada, 1985 to 2004*.

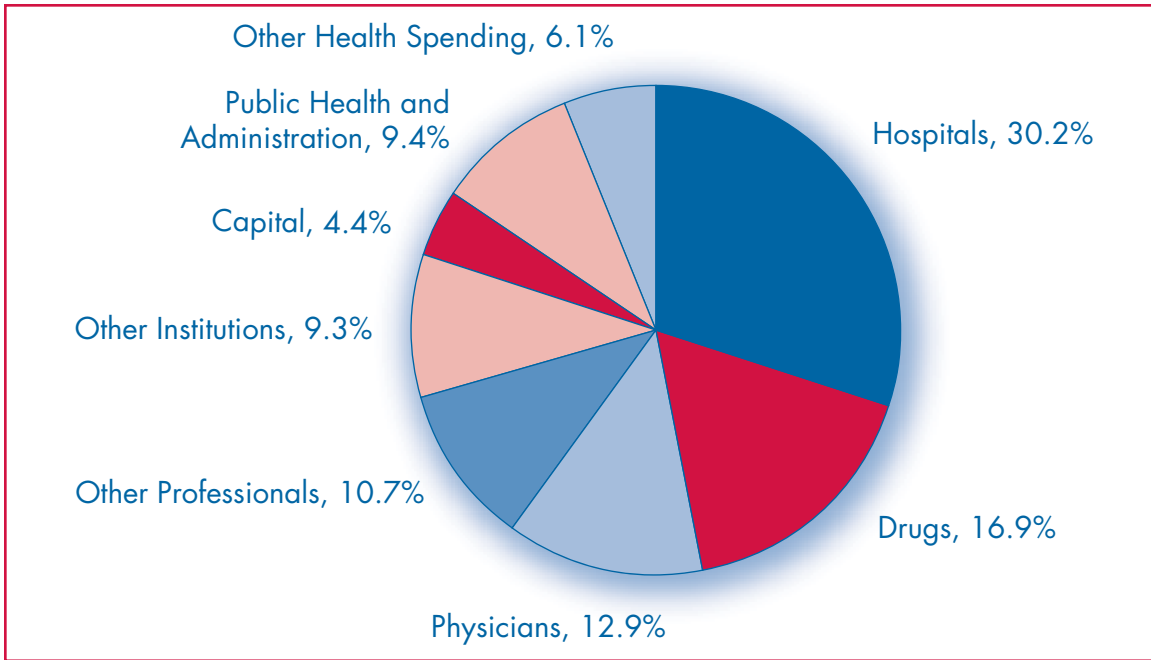


Figure 3.1
Total Health Expenditures by Use of Funds, 2004(f)

While health expenditures in Canada are forecasted to have reached \$131.8 billion in 2004, drug expenditures were expected to have increased by 10.9%, reaching \$22.3 billion in 2004.^{11,12} The increasing share of drug expenditures relative to health expenditures is clearly demonstrated in Figure 3.2. In 2004, drug expenditures are expected to have constituted 16.9% of total health expenditures—an increase of 2.3 percentage points since 1997.

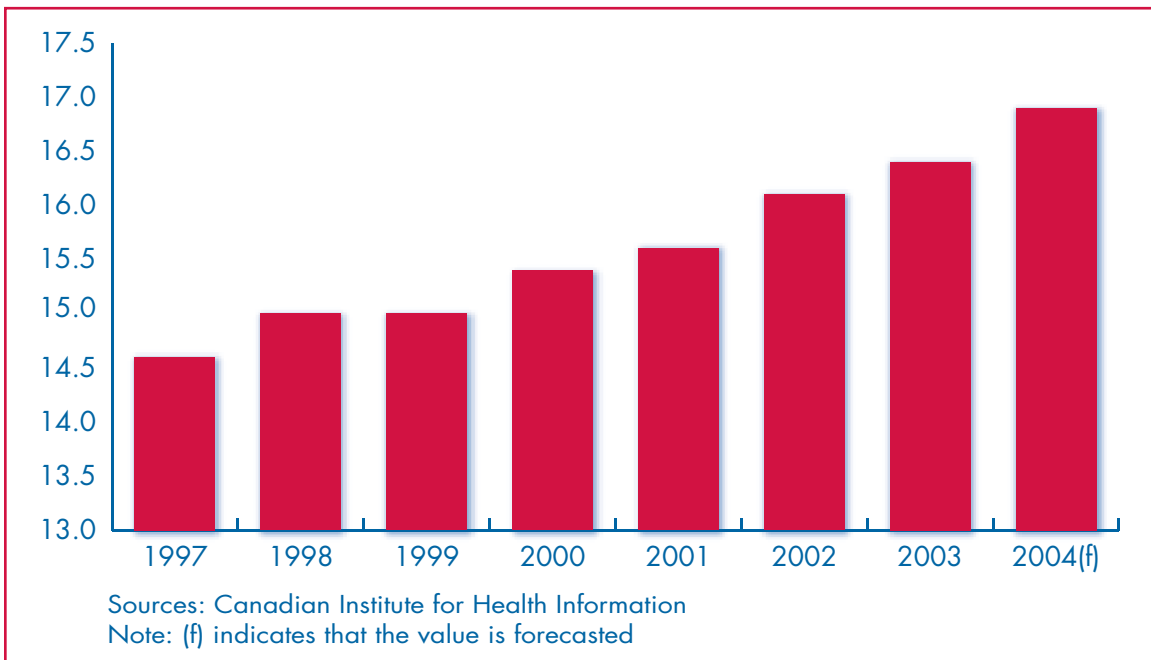


Figure 3.2
Share of Drug Expenditure in Total Health Expenditures in Canada 1997-2004

11 Canadian Institute for Health Information (CIHI), National Health Expenditure Trends, 1975 to 2004

12 Canadian Institute for Health Information (CIHI), Drug Expenditure in Canada, 1985 to 2004.

Factors that may contribute to increasing drug expenditures in Canada include increases in population and changes in demographics and health status of a population (i.e. towards those with increased medication needs). New drug therapies to treat diseases, for which effective pharmaceutical therapies did not previously exist, also come onto the marketplace. As modern medicine evolves, physician practice patterns change. For instance, physicians may prescribe newer and more expensive drug therapies, drug treatment on an individual basis may be intensified, or surgical treatment may be reduced or replaced by pharmaceutical therapy. Lastly, per-unit costs of medications, dispensing fees and mark-ups can also contribute significantly to overall prescription costs.

Table 3.1 provides an overview of health and drug expenditures for each province and territory, as well as per-capita statistics for 2004. The average annual growth rates for both health and drug expenditures cover the period 1997 to 2004. With the exception of Prince Edward Island and the Northwest Territories & Nunavut¹³, the average annual growth rate of drug expenditures exceeded that of health expenditures in every jurisdiction over the time period. Total drug expenditures grew the fastest in Alberta (11.0%) followed by Quebec (10.4%) and Manitoba (9.6%).

The national per capita health expenditures totalled \$4,130 (in 2004), while the national per-capita drug expenditures were \$682 in 2004. On a per-capita basis, health spending was lowest in Quebec at \$3,689 and highest in the Northwest Territories & Nunavut at \$8103.

As compared to the provinces, the territories¹⁴ have higher per-capita total health expenditures but lower per-capita drug spending with the exception of British Columbia. For the provinces, per-capita drug spending was highest in Ontario at \$733 and lowest in British Columbia at \$543 with a per-capita average of \$682 for all Canada.

Quebec spent the largest share of its health care budget on drugs, at 19.5%, compared to the national average of 16.5%. The lowest share of health expenditures devoted to drugs occurs in Northwest Territories & Nunavut, at 5.6%, followed by the Yukon at 10.5%.

¹⁴ For the time period of 1997-2004, expenditures for Nunavut and Northwest Territories have been combined for consistency, since Nunavut did not become a separate territory until April 1, 1999.

Table 3.1

Total Health Care and Drug Expenditures for Provinces, Territories, and Federal Programs, 2004

Average Annual Growth Rates (AAGR) of Health and Drug Expenditures, 1997-2004

Per-Capita Health and Drug Expenditures, 2004

Drug Expenditures as % Share of Health Care Expenditures, 2004

	Health Care Expenditures			Drug Expenditures			Drug Expenditures as % Share of Health Care Expenditures 2004
	Current Dollars (f) (\$000,000) 2004	AAGR of total Health Expenditures 1997-2004	Per-Capita Health Expenditures 2004	Current Dollars (f) (\$000,000) 2004	AAGR of Drug Expenditures 1997-2004	Per-Capita Drug Expenditures 2004	
British Columbia	17,050.3	6.7%	4,069	2274.3	9.1%	543	13.3%
Alberta	13,985.0	10.2%	4,376	1979.9	11.0%	619	14.2%
Saskatchewan	4,103.0	6.4%	4,123	612.5	8.1%	615	14.9%
Manitoba	5,258.5	7.9%	4,498	725.6	9.6%	621	13.8%
Ontario	53,179.7	8.1%	4,298	9065.3	9.3%	733	17.0%
Quebec	27,801.3	6.6%	3,689	5408.5	10.4%	718	19.5%
New Brunswick	3,012.6	7.2%	4,010	539.3	9.1%	718	17.9%
Nova Scotia	3,900.2	7.4%	4,161	669.5	9.2%	714	17.2%
Prince Edward Island	551.4	7.2%	4,002	86.0	7.2%	624	15.6%
Newfoundland and Labrador	2,165.9	7.5%	4,184	346.2	9.3%	669	16.0%
Northwest Territories & Nunavut	585.0	9.6%	8,103	32.9	7.3%	456	5.6%
Yukon	174.2	7.9%	5,605	18.3	8.3%	589	10.5%
Canada	131,767.2	7.7%	4,130	21758.4	9.6%	682	16.5%
Federal Direct ¹⁵	5436.1	9.8%	n/a	482.7	9.7%	n/a	10.2%

Sources: Canadian Institute of Health Information, Statistics Canada.

Table 3.2 provides drug expenditures as a percentage share of Gross Domestic Product (GDP)¹⁶, provincial / territorial budget, and total health expenditures for 2003.¹⁷ The percentage of GDP dedicated to drug expenditures ranges from 0.7% in the Northwest Territories to 2.2% in New Brunswick. Alberta, British Columbia and the three territories were the only jurisdictions whose share was below the national average.

15 Federal Direct: Expenditure by federal government as described in National Health Expenditures, 1985-2005. Population figures not available.

16 Gross Domestic Product (GDP) is the value of all final goods and services produced in a year within the boundaries of the jurisdiction. Figures are available at a provincial, territorial and national level.

17 2003 figures are presented because data on provincial and territorial budgets were not available for 2004. For consistency, the percent of total health expenditures is also calculated for 2003 and will differ somewhat from the 2004 figures reported in table 3.1.

Drug expenditures as a percentage of their respective provincial budgets were highest for Ontario (12.4%), followed by Nova Scotia at 11.7%. Ontario, New Brunswick and Nova Scotia were above the Canadian average of 9.8%. Of the provinces, drug expenditures as a proportion of the 2003 provincial budget were lowest in British Columbia at 7.5% in 2003. Meanwhile, drug expenditures as a percentage of territorial budget, ranged from 0.7% in Nunavut to 2.6% in the Yukon Territory.

Drug expenditures, as a percentage of total health expenditures for each jurisdiction, were highest in Quebec (18.9%); other regions that were also above the national average (16.3%) included New Brunswick, Nova Scotia and Ontario.

Table 3.2

Drug Expenditures as % of GDP, Provincial / Territorial Budget and Total Health Expenditures, 2003

	% of GDP	% of Provincial / Territorial Budget	% of Total Health Expenditures¹⁸
British Columbia	1.5	7.5	12.9
Alberta	1.0	8.2	14.0
Saskatchewan	1.6	8.0	15.1
Manitoba	1.8	8.8	13.8
Ontario	1.7	12.4	16.9
Quebec	2.0	9.2	18.9
New Brunswick	2.2	9.9	18.2
Nova Scotia	2.1	11.7	17.4
Prince Edward Island	2.1	8.0	15.3
Newfoundland and Labrador	1.8	7.9	15.2
Nunavut	0.8	0.7	2.6
Northwest Territories	0.7	2.0	7.8
Yukon	1.3	2.6	10.7
National Average	1.6	9.8	16.3

Source: Canadian Institute for Health Information, Statistics Canada.

3.2 Public Sector Spending on Drugs

Canadians have access to insured hospital and physician services at no cost at the point of access. Outside of hospital, the present Canadian scene is characterized by a mix of private and public drug plans, plus out-of-pocket expenses for some individuals.

Most provincial and territorial pharmacy programs provide coverage for seniors, and low-income groups or a combination of these two populations. The Federal Government provides coverage for drug expenditures for the members of the Canadian Armed Forces, the Royal Canadian Mounted Police, veterans, refugee claimants, inmates of the federal penitentiaries and eligible First Nations, Inuit and Innu.

¹⁸ Canadian Institute for Health Information (CIHI), *National Health Expenditure in Canada, 1975 to 2004*, Figures differ from table 3.1 due to year (2003) being used. 2004 figures for GDP and Budget were not available at time of publication.

The public sector share of drug expenditures in Canada increased from 14.7% in 1975 to 29.4% in 1985 and to 33.3% in 1995. This figure is forecasted to have reached 39% in 2004.¹⁹ This increasing public share is clearly demonstrated in Figure 3.3 which compares 1997 and 2004 public shares of drug expenditures for each province and territory.²⁰

As seen in Figure 3.3, in 1997, the Northwest Territories and Nunavut had the highest public share of drug expenditures at 49.3% in 1997, followed by Yukon (38.1%) and British Columbia (37.9%). As well, for the provinces of Quebec and Newfoundland and Labrador, the public share of total drug expenditures was higher than the national average of 31.6%.

In 2004, Northwest Territories and Nunavut continued to have the highest public share at 62.3% followed by the Yukon at 52.5%. Amongst the provinces, the public share of drug expenditures was highest in Quebec (45.2%). Two other provinces (Saskatchewan and Manitoba) had public sector expenditures on drugs above the Canadian average (39.0%). In other provinces, the public share of total drug expenditures ranged from 26.3% (PEI) to 37.9% (British Columbia).

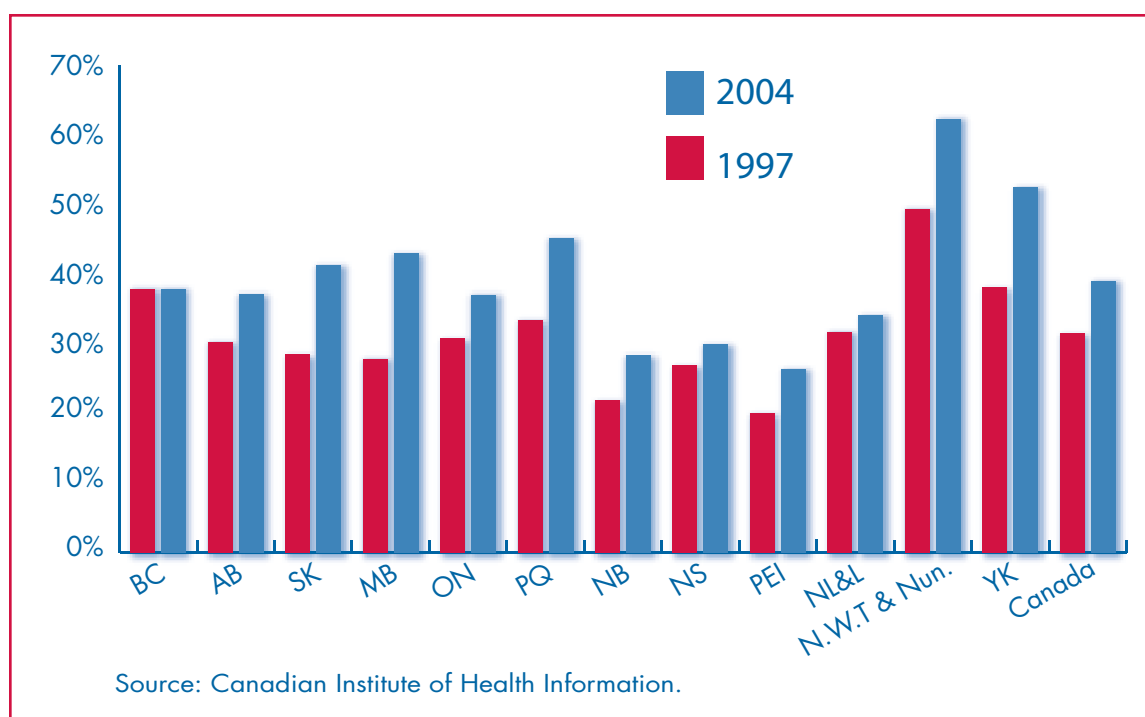


Figure 3.3
Public Share of Total Drug Expenditures 1997 and 2004

19 Canadian Institute for Health Information (CIHI), *Drug Expenditure in Canada, 1985 to 2004*, pages 56-57.

20 For the time period of 1997-2004, expenditures for Nunavut and Northwest Territories have been combined for consistency, since Nunavut did not become a separate territory until April 1, 1999.

4

Public Drug Plan Expenditures



The following section utilizes the data submitted from the public drugs plans and reports on broad findings. More detailed jurisdiction-by-jurisdiction findings are provided later in the report.

4.1 Growth of Drug Expenditures

The initial analysis included three different types of expenditures: program-paid costs, drug costs and dispensing fees. Program-paid costs are the amount of dollars paid out by the public drug plans; program-paid costs may include drug costs, dispensing fees and mark-ups. Drug costs pertain to the cost of the drug alone, while dispensing fee expenditures refer to the pharmacist or professional fees associated with dispensing the prescription.²¹

The four-year average annual growth rates (AAGR) and, where applicable, the percentage point difference between the four and seven-year AAGRs of each of these expenditure types, are provided in Table 4.1. It shows that the four-year AAGR for program-paid costs varied from 6.1% in Nova Scotia to 18.8% in Manitoba. The Manitoba drug program experienced the highest four-year average annual (18.6%) for drug costs, while Nova Scotia had the lowest four-year AAGR for drug costs (9.7%). The four-year AAGR for dispensing fees was highest (21.1%) in Manitoba and lowest in Nova Scotia (4.1%).

With the exception of Manitoba, the AAGR for drug costs were higher than that for dispensing fees in all of the jurisdictions.

²¹ Data variable, *drug paid*, was available in Ontario and NIHB drug program. For other jurisdictions *drug approved* was used for analysis. Dispensing fee paid was available for Manitoba, New Brunswick, Ontario and NIHB drug plan. Dispensing fee approved was provided by Alberta, Saskatchewan and Nova Scotia.

Table 4.1

Average Annual Growth Rates of Program-Paid Costs, Drug Costs and Dispensing Fees, 2000-2001 to 2003-2004

	Average Annual Growth Rate (%) 2000-2001 to 2003-2004			Percentage Point Differences = (4-year AAGR – 7 year AAGR)		
	Program-Paid Costs	Drug Costs	Dispensing Fees ²²	Program-Paid Costs	Drug Costs	Dispensing Fees
Alberta	16.9	16.8	12.4	0.2	-0.1	1.7
Saskatchewan	14.3	13.0	8.9	-0.3	0.5	0.8
Manitoba	18.8	18.6	21.1	–	–	–
Ontario	13.3	13.2	12.5	0.6	0.4	2.5
New Brunswick	13.1	12.9	8.6	-0.6	-1.0	1.7
Nova Scotia	6.1	9.7	4.1	0.5	1.1	-0.5
Non-Insured Health Benefits	14.1	15.5	10.7	–	–	–

Positive and larger percentage point differences indicate that the rate of growth in recent years has increased. A comparison of the four-year and seven-year AAGR for program-paid costs and drug costs shows very limited difference in percentage points, ranging from -1.0 to 1.1. For Alberta, Saskatchewan, Ontario, and New Brunswick drug programs, more significant differences occur in dispensing fee expenditures, 1.7, 0.8, 2.5 and 1.7 respectively.

4.2 Benchmark Comparisons of Drug Expenditures

Program-paid drug expenditures were compared to standard benchmarks: provincial gross domestic product (GDP)²³, provincial budget, total provincial health expenditures, total provincial public drug expenditures and per capita analysis.

Program-paid expenditures as a percentages of GDP and provincial budgets provided a comparative measure—monies spent (Program-Paid costs) as compared to the jurisdiction wealth (GDP) or ability to pay (GDP and provincial budgets). With the exception of Nova Scotia, both program-paid expenditures as a percentage of GDPs and program-paid expenditures as a percentage of provincial budgets have increased over the 1997-1998 to 2003-2004 time period. In 2003-2004, provinces' program-paid expenditures were 0.2 to 0.3% of their provincial GDP. As a percentage of their respective budgets, program-paid expenditures ranged from a low of 2.0% in Saskatchewan to 3.8% in Ontario in 2003-2004.

In 2003-2004, program-paid expenditures as a percentage of total provincial government health expenditures ranged from 5.5% in Alberta to 8.5% in Ontario. With the exception of Nova Scotia, where the percentage share decreased from 6.0% to 5.7%, this percentage share increased in all other jurisdictions over the 1997-1998 to 2003-2004 time period.

22 Dispensing fees do not include retail mark-ups. Some of the jurisdictions do not reimburse / allow for mark-ups on drug costs.

23 Gross Domestic Product (GDP) is the value of all final goods and services produced in a year within the boundaries of the jurisdiction. Figures are available at a provincial, territorial and national level.

Program-paid costs as a percentage of total provincial public drug expenditures inform the reader about the percentage of public drug expenditures that is being captured by the current database for each of the jurisdictions. Jurisdictions may also absorb expenditures for pharmaceuticals through various programs that are not included in the submitted databases. In 2003-2004, program-paid expenditures as a percentage of provincial public drug expenditures ranged from a low of 75.3% in New Brunswick to a high of 95.7% in Manitoba.

Per-capita program-paid expenditures²⁴ were expressed in constant dollars, adjusting for inflationary effects. Amongst the provinces, the range in per capita program-paid costs extended from \$124.03 in Nova Scotia to \$186.78 in Ontario in 2003-2004. All of the jurisdictions experienced an increase in per capita program-paid expenditures (constant dollars), ranging from 22.8% in Nova Scotia to 107.7% in Saskatchewan for the time period of 1997-1998 to 2003-2004.

4.3 Eligible Beneficiary and Claimant Analysis

The coverage rate is defined as the percentage of a jurisdiction's total population that is covered or eligible to apply for benefits. As seen in table 4.2, the coverage rate ranges from 14.0 % in New Brunswick to 61.3 % in Saskatchewan in 2003-2004. Most coverage rates remained stable or declined slightly over the years.²⁵

In turn, we also present the percentage of these eligible beneficiaries which have made at least one claim and received benefit during the respective fiscal year. This latter statistic is referred to as the participation rate and ranges from 29.0 % in Saskatchewan to 93.7 % in New Brunswick in 2003-2004. Over the seven-year period, Alberta experienced a significant increase in its participation rate (27.8 percentage points). Over the same time period, Saskatchewan and Ontario drug plans experienced smaller increases of 3.9 and 1.9 percentage points respectively. Much less variability in the change in percentage points was seen over the 2000-2001 to 2003-2004 time period.

Another statistic (C-P Rate) represents the percentage of the population that has actually made a claim. This figure can be derived by simply multiplying the coverage and participation rates together, if the number of eligible beneficiaries is available. Should the number of eligible beneficiaries not be available, however, the calculation can still be derived by calculating the number of claimants as a percentage of the population.²⁶ Although we are limited to results from six jurisdictions²⁷, there was notably less variance in this statistic which ranged from 13.1 % in New Brunswick to 17.8 % in Saskatchewan. Although a jurisdiction may have a high coverage rate, the population that is actually reimbursed for claims may be limited by program policies. Alternatively, a drug program may cover a smaller portion of their population but have fewer constraints, such as no deductibles.

24 Per capita calculations are based on population figures.

25 Results are shown in table 3 of Results by Jurisdiction section.

26 Since the number of eligible beneficiaries was not available for Manitoba and Nova Scotia, the results are limited to Combined C-P rate.

27 A population figure, comparative to the provinces, is not readily available / defined for the NIHB program. The population described by NIHB Annual Reports are referred to as "eligible beneficiaries" in this report.

Table 4.2**Public Drug Plan Participation Rates, Number of Prescription Transactions per Claimant, Drug Costs per Claimant, 2003-2004**

	Coverage Rate	Participation Rate	Combined C-P Rate	Drug Costs per Claimant ²⁸ (constant dollars)	Number of Prescription Transactions per Claimant
Alberta	15.8%	86.0%	13.6%	\$987	22.9
Saskatchewan ²⁹	61.3%	29.0%	17.8%	–	–
Manitoba	n/a	n/a	10.9%	\$1366	35.8
Ontario	23.3%	74.6%	17.4%	\$941	31.5
New Brunswick	14.0%	93.7%	13.1%	\$884	24.7
Nova Scotia	n/a	n/a	14.6%	\$853	26.8
Non-Insured Health Benefits	n/a	68.2%	n/a	\$336	17.1

Both the drug costs (constant dollars) and number of prescription transactions per claimant were highest in Manitoba. The provinces of Alberta, Ontario, New Brunswick and Nova Scotia were fairly closely clustered with a range of \$853 to \$987 for drug costs per claimant and 22.9 to 31.5 prescription transactions per claimant.³⁰ The NIHB drug program has significantly lower drug costs per claimant (\$336) and number of prescription transactions per claimant (17.1). These latter statistics may be at least partially explained by the younger population covered through the NIHB drug program.

28 Drug cost per claimant statistics may be higher for jurisdictions where drug cost approved versus drug cost paid was used. Drug cost paid was used for Ontario and NIHB drug program. For all other jurisdictions, drug cost approved was used. "Claimant" refers to eligible beneficiary that has made at least one claim.

29 Due to data limitations, Saskatchewan "per claimant" analyses are not available. See Results by Jurisdiction, table 3 for further details.

30 "Claimant" refers to an eligible beneficiary that has made at least one claim.

5

Drug Costs and Prescription Transactions



In this section of PTOR, percentage changes in drug costs are presented on a year-over-year, four-year and seven-year basis. Drug costs are also examined by market segments, top anatomical therapeutic chemical classification level 2 (ATC-2) groups and top drugs. Prescription transactions are also categorized by top ATC-2 groups. “Top” ATC-2 groups and drugs were identified and ranked by their contribution to the change in drug expenditures or their contribution to the change in the number of prescriptions. Detailed information on a jurisdiction-by-jurisdiction basis is provided later in the report.

5.1 Percentage Increases in Drug Costs

Table 5.1 demonstrates the year-over-year, four-year and seven-year percentage increases. For those jurisdictions that submitted seven years of data, the percentage increase over the seven years ranged from 64.2% in Nova Scotia to 155.6% in Alberta.

For all jurisdictions, the four-year (2000-2001 to 2003-2004) percentage change ranged from a low of 32.0% in Nova Scotia to a high of 66.6% for the Manitoba drug plan. The percentage increase in Manitoba is followed by Alberta at 59.4% and NIHB drug program at 54.0%. Saskatchewan, Ontario and New Brunswick had similar four-year percentage increases of 44.4%, 44.9% and 43.9% respectively.

Table 5.1

Percent Changes in Drug Costs: Year-over-Year, 4-Year and 7-Year

Year	AB	SK	MB	ON	NB	NS	NIHB
1997-1998 to 1998-1999	13.2%	11.5%	—	11.2%	13.2%	14.6%	—
1998-1999 to 1999-2000	22.3%	10.1%	—	9.8%	12.8%	6.1%	—
1999-2000 to 2000-2001	15.8%	14.5%	—	16.1%	18.7%	2.3%	15.9%
2000-2001 to 2001-2002	20.1%	13.3%	23.3%	13.6%	15.6%	9.3%	16.6%
2001-2002 to 2002-2003	13.2%	15.9%	17.9%	14.1%	11.9%	10.3%	17.2%
2002-2003 to 2003-2004	17.2%	9.9%	14.7%	11.9%	11.2%	9.5%	12.7%
4-Year % Increase – 2000-2001 to 2003-2004	59.4%	44.4%	66.6%	44.9%	43.9%	32.0%	54.0%
7-Year % Increase – 1997-1998 to 2003-2004	155.6%	103.0%	—	105.5%	117.9%	64.2%	—

5.2 Drug Costs by Market Segment Analysis

Drug expenditures³¹ were examined by market segments which were identified in two ways: patent status and Brand Name-Generic drug split.

Table 5.2 shows the results for patented and non-patented drug costs across the jurisdictions. Patented drugs, as a percentage of total drug cost expenditures, ranged from a low of 58.6% in Nova Scotia to a high of 71.9% in Manitoba. Since patented and non-patented drugs make up the total, it follows that the percentages of non-patented drugs were highest in Nova Scotia (41.4%) and lowest in Manitoba (28.1%). For 2000-2001 to 2003-2004, Nova Scotia had the lowest average annual growth rates for both patented and non-patented drug costs at 12.3% and 6.4% respectively, while the Manitoba drug program had the highest average annual growth rates for patented drugs (21.1%) and Alberta has the highest average annual growth rate for non-patented drugs (13.2%).

Table 5.2

Market Segment Analysis: Patented and Non-Patented Drugs

	AB	SK	MB	ON	NB	NS	NIHB
Patented Drug Costs							
• % of All Drug Costs, 2003-2004	69.4	62.6	71.9	66.9	61.9	58.6	62.7
• 4-Year AAGR, 2000-2001 to 2003-2004	18.5	13.9	21.1	14.9	15.1	12.3	20.3
Non-Patented Drug Costs							
• % of All Drug Costs, 2003-2004	30.6	37.4	28.1	33.1	38.1	41.4	37.3
• 4-Year AAGR, 2000-2001 to 2003-2004	13.2	11.5	12.9	9.9	9.6	6.4	8.8

31 Drug cost "paid" was used for Ontario and NIHB drug program. For all other jurisdictions, drug cost "approved" was used.

Table 5.3 shows the results for Brand Name and Generic drug costs across the jurisdictions. The split of drug costs into Brand Name and Generic drug market segments was most heavily focused on Brand Name drugs, representing 79.2% of drug costs in Nova Scotia and 86.5% in Manitoba. The average annual growth rates for Brand Name and Generic drug costs were lowest in Nova Scotia at 10.7% and 6.1% respectively. The Manitoba drug plan had the highest average annual growth rate in drug cost expenditures for Brand Name drugs (19.4%), while Alberta had the highest average annual growth rate for Generic drugs (18.2%).

Table 5.3

Market Segment
Analysis: Brand
Name and
Generic Drugs

	AB	SK	MB	ON	NB	NS	NIHB
Brand Name Drug Costs							
• % of All Drug Costs, 2003-2004	84.5	80.0	86.5	82.1	82.6	79.2	82.8
• 4-Year AAGR (%), 2000-2001 to 2003-2004	16.5	12.3	19.4	14.2	13.9	10.7	16.5
Generic Drug Costs							
• % of All Drug Costs, 2003-2004	15.5	19.9	13.5	17.9	17.4	20.7	17.8
• 4-Year AAGR (%), 2000-2001 to 2003-2004	18.2	15.9	13.5	8.8	8.4	6.1	10.9

5.3 Drug Costs by Top Anatomical Therapeutic Chemical Classification

For each of the jurisdictions, the top ten ATC level 2 groups were ranked and identified by their contribution to the change in drug expenditures from 2000-2001 to 2003-2004. These top ATC level 2 groups showed much consistency but were not identical across the jurisdictions (Results by Jurisdiction, Table 6).

The top ATC level 2 groups that were identified in four or more of the seven jurisdictions included Drugs for Acid-Related Disorders (7/7), Serum Lipid Reducing Agents (7/7), Psychoanaleptics (7/7), Agents acting on the Renin-Angiotensin (7/7), Drugs used in Diabetes (6/7), Immunosuppressive Agents (6/7), Psycholeptics (5/7), Drugs for Obstructive Airway disease (5/7), Calcium Channel Blockers (5/7), Analgesics (5/7) and Immunostimulants (4/7). In addition to the change in drug expenditures, the four-year AAGR and percentage of expenditures (2003-2004) are provided for individual jurisdictions later in report. As well, results for the four ATC level 2 groups that are consistently in the top 10 for all of the jurisdictions are presented in Tables 5.4 to 5.7.

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	11.2	7.5	8.1	9.2	8.8	6.3	10.6
Average Annual Growth Rate (2000-2001 to 2003-2004)	17.4	18.9	17.6	12.3	18.3	6.7	19.1
% Share of Drug Costs (2003-2004)	11.0	5.7	8.4	9.7	6.8	8.6	9.1

Table 5.4
Drugs for Acid-Related Disorders (A02)

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	12.0	9.5	7.1	12.5	10.4	16.0	8.7
Average Annual Growth Rate (2000-2001 to 2003-2004)	17.8	14.3	16.7	12.5	14.6	12.8	25.4
% Share of Drug Costs (2003-2004)	11.5	8.8	7.6	13.0	9.5	12.8	6.2

Table 5.5
Drugs for Serum Lipid Reducing Agents (C10)

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	8.2	11.6	9.4	11.0	8.5	10.9	8.3
Average Annual Growth Rate (2000-2001 to 2003-2004)	22.9	17.7	21.3	20.6	16.9	15.5	16.8
% Share of Drug Costs (2003-2004)	6.6	9.3	8.6	7.9	6.9	7.5	7.8

Table 5.6
Drugs for Psychoanaleptics (N06)

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	13.0	14.9	6.5	10.3	7.8	14.1	8.2
Average Annual Growth Rate (2000-2001 to 2003-2004)	17.6	15.9	16.2	12.7	11.9	11.7	17.4
% Share of Drug Costs (2003-2004)	12.6	12.8	7.1	10.6	8.3	12.1	7.6

Table 5.7
Agents Acting on Renin-Angiotensin System (C09)

5.4 Drug Costs by Top Individual drugs

For each of the jurisdictions, the top twenty-five individual drugs were ranked and identified by their contribution to the change in drug expenditures over the 2000-2001 to 2003-2004 time period. These top 25 individual drugs showed some consistency but were not identical across the jurisdictions.

The top individual drugs that were identified in four or more of the seven jurisdictions include atorvastatin (7/7), ramipril (7/7), omeprazole (6/7), olanzapine (5/7), fluticasone propionate (5/7), venlafaxine (5/7) and clopidogrel (4/7). In addition to their contribution to the change in drug cost expenditures, the four-year average annual growth rates, and percentage of drug cost expenditures for 2003-2004. These are also shown for the two drugs that are consistently in the top 25 drugs for all jurisdictions are included below in Tables 5.8 and 5.9. Results on the top 25 drugs for each jurisdiction are presented later in the report.

At the individual drug level, the average annual growth rate in drug costs can be greatly affected by the month and year of introduction on the jurisdiction's formulary. If a drug is introduced in the latter part of the first year of analysis, the average annual growth rate is expected to be significant because the individual drug costs will likely be minimal in the first year, as compared to those in the last year of analysis.

Table 5.8

Individual Drug #1: Atorvastatin

Brand Name: Lipitor

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	10.5	8.1	6.5	12.9	9.9	13.3	7.0
Average Annual Growth Rate (%) (2000-2001 to 2003-2004)	36.3	24.8	40.2	29.0	33.1	27.6	43.6
% Share of Drug Costs (2003-2004)	6.5	5.2	4.1	7.6	5.4	6.4	3.8

Table 5.9

Individual Drug #2 Ramipril

Brand Name: Altace

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Drug Costs (2000-2001 to 2003-2004)	4.8	6.0	2.3	6.8	7.0	8.64	4.7
Average Annual Growth Rate (2000-2001 to 2003-2004)	54.0	57.4	49.0	35.4	45.8	35.7	52.2
% Share of Drug Costs (2003-2004)	2.5	2.5	1.3	3.6	3.2	3.6	2.3

5.5 Prescription Transactions by Top Anatomical Therapeutic Chemical Classification

For each of the jurisdictions, the top ten ATC level 2 groups, ranked by their contribution to the change in the number of prescription transactions over the 2000-2001 to 2003-2004 time period, were identified. These top ATC level 2 groups showed much consistency but were not identical across the jurisdictions.

The top ATC level 2 groups that were identified in four or more of the seven jurisdictions included: Serum Lipid Reducing Agents (7/7), Agents acting on the Renin-Angiotensin (7/7), Psychoanaleptics (7/7), Drugs used in Diabetes (7/7), Psycholeptics (6/7), Diuretics (6/7), Beta Blocking Agents (5/7), Drugs for Acid-Related Disorders (5/7), Antiepileptics (4/7), Antithrombotic Agents (4/7), and Sex Hormones and Modulators of the Genital System (4/7). It is interesting to note that some of these therapeutic groups include those that have lower cost individual drugs and are used on an ongoing basis to treat chronic diseases.

The four ATC level 2 groups which are consistently in the top ten for all of the jurisdictions include Serum Lipid Reducing agents, Agents acting on the Renin-Angiotensin System, Psychoanaleptics and Drugs Used in Diabetes. The results for these ATC level 2 groups are shown in Table 5.10 to 5.13.

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Prescription Transactions (2000-2001 to 2003-2004)	11.0	15.2	7.5	8.1	14.2	26.0	6.7
Average Annual Growth Rate (2000-2001 to 2003-2004)	20.4	16.8	22.0	22.8	13.9	13.7	32.3
% Share of Prescription Transactions (2003-2004)	5.3	5.0	4.5	5.0	4.3	5.3	2.5

Table 5.10

ATC level 2 - Serum Lipid Reducing Agents (C10)

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Prescription Transactions (2000-2001 to 2003-2004)	13.4	28.0	9.2	10.2	12.7	28.3	9.6
Average Annual Growth Rate (2000-2001 to 2003-2004)	13.4	14.3	16.8	19.5	8.3	9.7	20.1
% Share of Prescription Transactions (2003-2004)	8.8	10.4	6.6	7.0	5.8	7.6	4.8

Table 5.11

ATC level 2 - Agents acting on the Renin-Angiotensin (C09)

Table 5.12**ATC level 2 -
Psychoanaleptics
(N06)**

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Prescription Transactions (2000-2001 to 2003-2004)	8.3	15.8	10.6	12.9	15.2	19.9	8.5
Average Annual Growth Rate (2000-2001 to 2003-2004)	12.4	10.1	15.9	24.4	9.0	8.0	15.4
% Share of Prescription Transactions (2003-2004)	5.8	7.7	7.9	7.6	6.5	6.3	5.2

Table 5.13**ATC level 2 –
Drugs Used in
Diabetes (A10)**

	AB	SK	MB	ON	NB	NS	NIHB
% Contribution to Change in Prescription Transactions (2000-2001 to 2003-2004)	6.2	5.7	6.6	3.9	7.0	9.7	9.1
Average Annual Growth Rate (2000-2001 to 2003-2004)	9.7	5.8	16.2	12.4	5.8	4.8	14.7
% Share of Prescription Transactions (2003-2004)	5.3	4.4	4.6	3.8	4.4	4.9	5.8



Price and Quantity Analysis

6

This section of the paper provides information on price and quantity indices, distribution analysis of price increases and cost-savings analysis using high-low price ratios. Detailed information on a jurisdiction-by-jurisdiction basis is provided later in the report.

6.1 – Price and Quantity Indices

The Chained Laspeyres Price and Quantity Indices (CLPI, CLQI) were calculated for all drugs, patented drugs, non-patented drugs, Brand Name drugs, Generic drugs and four ATC level 2 groups. As per convention, the base year for price and quantity indices is equal to 100. To facilitate the comparison across jurisdictions, indices have been calculated using 2000-2001 as the base year. These results are shown in Tables 6.1 to 6.3.

For all drugs, patented drugs, and non-patented drugs, the changes in price levels were small, ranging from -3.7% for “all drugs” in Alberta to 2.0% for patented drugs in Manitoba.³²

Quantity levels, however, increased significantly for all jurisdictions and all three categories of drugs: all drugs, patented drugs and non-patented drugs. For “all drugs”, the quantity indices rose from 42.2% in Saskatchewan to 67.6% in Manitoba. Across all of the jurisdictions, the increase in quantity indices was greater for patented drugs as compared to non-patented drugs.

32 The percentage change in price (quantity) levels is calculated by the following formula:
$$\frac{\text{Price (Quantity) level in current period}}{[\text{Price (Quantity) level in base period} - 1]} * 100.$$

Table 6.1

Price and Quantity Indices for All, Patented and Non-Patented Drugs, 2003-2004

Base Year (2000-2001) =100

	Price Indices			Quantity Indices		
	All Drugs	Patented Drugs	Non-Patented Drugs	All Drugs	Patented Drugs	Non-Patented Drugs
Alberta	96.3	97.5	96.8	162.7	161.1	149.0
Saskatchewan	101.3	98.1	109.4	142.2	142.3	129.2
Manitoba	99.1	102.0	98.1	167.6	163.2	134.5
Ontario	96.5	97.6	98.5	149.0	145.6	126.7
New Brunswick	97.9	98.6	98.5	145.6	145.1	132.4
Nova Scotia	97.2	100.0	98.5	136.8	134.7	127.6
Non-Insured Health Benefits	98.1	100.3	99.2	161.6	168.6	143.7

When drug costs are divided into either Brand Name or Generic drugs, a similar pattern of negative or slightly positive increases in price level is seen. For Brand Name drugs, the change in price indices ranged from -3.5% in both Ontario and Alberta to 1.0% in Manitoba. With the exception of Manitoba, price indices increased more for Generic drugs, as compared to Brand Name drugs.

The change in quantity indices for both Brand Name and Generic drugs was positive and significant. Quantity indices for Brand Name drugs increased greater than those for Generic drugs across all of the jurisdictions. For Brand Name drugs, the increase in quantity indices ranged from 38.1% in Saskatchewan to 62.7% in Manitoba. Quantity indices for Generic drugs increased from a low of 14.6% in Nova Scotia to 54.4% in Alberta.

Table 6.2

Price and Quantity Indices for Brand Name and Generic Drugs, 2003-2004

Base Year (2000-2001) =100

	Price Indices		Quantity Indices	
	Brand Name	Generic Drugs	Brand Name	Generic Drugs
Alberta	96.5	99.5	155.5	154.4
Saskatchewan	97.8	121.7 ³³	139.0	121.3
Manitoba	101.0	100.7	162.7	119.2
Ontario	96.5	101.0	149.4	108.9
New Brunswick	98.1	101.7	146.6	117.3
Nova Scotia	97.3	101.1	138.1	114.6
Non-Insured Health Benefits	99.3	101.3	162.1	137.7

³³ There was steady decrease in price levels for Generic drugs in Saskatchewan from 1999-2000 to 2001-2002, while price levels for generic drugs have increased in more recent years.

In view of their significant contribution to the change in drug costs in all jurisdictions, four ATC level 2 groups of drugs were also selected for the analysis in this section of price and quantity indices. The four ATC level 2 groups were Drugs for Acid-Related Disorders, Serum Lipid Reducing Agents, Psychoanaleptics and Agents acting on the Renin-Angiotensin System. Once again, there is the general trend of small changes in price indices and positive and significant increases in the quantity indices.

The changes in price levels for Drugs for Acid-Related Disorders and Agents acting on the Renin-Angiotensin System were consistently greater than those for the other two therapeutic groups. With the exception of Saskatchewan, the changes in price levels for Drugs for Acid-Related Disorders were fairly similar, ranging from -1.0% in Manitoba to 4.2% for the NIHB drug program. In Saskatchewan, the price level increased by 24.0% for Drugs for Acid-Related Disorders. For Agents acting on the Renin-Angiotensin System, the changes in price level ranged from -0.6% in Ontario to 1.6% in Manitoba.

The decrease in price levels for Serum Lipid Reducing Agents was greater than that for psychoanaleptics, ranging from 16.7% in Manitoba to 12.3% for the NIHB drug program. For psychoanaleptics, the change in price levels ranged -2.4% in Nova Scotia to 2.0% in Manitoba.

Nova Scotia had the lowest increases in quantity indices for three of the therapeutic groups: Drugs for Acid-Related Disorders (22.5%), Psychoanaleptics (42.7%) and Agents for the Renin-Angiotensin System (37.7%). Ontario had the lowest increase in quantity index for Serum Lipid Reducing Agents at 64.6%.

The NIHB drug program had the greatest increase in quantity levels for three of the therapeutic groups: Drugs for Acid-Related Disorders (67.6%), Serum Lipid Reducing Agents (124.5%), and Agents acting on the Renin-Angiotensin System (62.8%). Alberta experienced the highest increase in quantity index at for psychoanaleptics at 85.7%.

Table 6.3

Price and Quantity Indices for ATC level 2 groups, 2003-2004

Base Year (2000-2001) =100

- A02: Drugs for Acid-Related Disorders
- C10: Serum Lipid Reducing Agents
- N06: Psychoanaleptics
- C09: Agents acting on the Renin-Angiotensin System

	Price Indices			
	A02	C10	N06	C09
Alberta	102.0	84.2	99.1	100.9
Saskatchewan	124.0	86.3	99.7	100.4
Manitoba	99.0	83.3	102.0	101.6
Ontario	99.5	84.0	99.1	99.4
New Brunswick	100.5	85.9	98.6	100.5
Nova Scotia	99.3	85.2	97.6	101.2
Non-Insured Health Benefits	104.2	87.7	98.3	99.5
	Quantity Indices			
	A02	C10	N06	C09
Alberta	158.4	188.4	185.7	160.4
Saskatchewan	138.8	172.7	161.7	154.3
Manitoba	163.0	206.1	177.3	154.3
Ontario	140.4	164.6	176.4	143.3
New Brunswick	166.2	180.8	156.4	139.5
Nova Scotia	122.5	166.0	142.7	137.7
Non-Insured Health Benefits	167.6	224.5	160.8	162.8

6.2 – Distribution Analysis

Drug equivalent product identification numbers (DEPINs) are groups of drugs with the same ingredient(s), strength(s), dosage(s), route of administration, and form(s). As shown in Table 6.4, categorizing and distributing these DEPINs by their average annual growth rates demonstrated that the vast majority of DEPINs (76.7% to 84.1%) increased in the range of 2% or less.³⁴ The next category of >2% to 5% average annual growth rates contained much fewer DEPINs for all of the jurisdictions. For other ranges, the percentages of DEPINs distributed amongst other categories ranged from 1.6% to 5.6%.

Table 6.4

% Distribution of DEPINs

Average Annual Growth Rate for Price All Drugs, 2000-2001 to 2003-2004

	AB	SK	MB	ON	NB	NS	NIHB
<= 2% ³⁵	80.63	76.71	78.70	84.14	82.70	82.09	78.4
> 2% - 5%	5.83	5.22	7.82	3.38	5.54	6.69	7.8
> 5% - 10%	3.51	4.93	4.44	3.12	3.15	2.45	4.8
> 10% - 20%-	2.23	4.15	3.68	2.34	1.63	2.26	3.3
> 20% - 50-%	4.63	5.60	2.91	4.16	3.63	3.49	3.3
> 50%	3.17	3.38	2.45	2.86	3.35	3.02	2.5

34 The majority of DEPINs in this category are limited, having a single Drug Identification Number (DIN). See appendix for further explanation on DEPIN.

35 Please note that most of the DEPINs within the "<=2%" category contain a single DIN entry.

Within a DEPIN, there may be differently priced drugs at the DIN level. The price ratio of a DEPIN was calculated by comparing the highest price drug (DIN level) within a DEPIN to the lowest price drug (DIN level) within that same DEPIN. A price ratio of 1.0 would indicate that there were no price differences amongst those drugs. As seen in Table 6.5, a distribution analysis indicated that 1.4% to 8.3% of total drug cost expenditures could have been saved if the lower-priced DIN-level drug was in effect.

The potential for savings was greatest for those DEPINs with price ratios that were greater than 1.5. For Alberta, New Brunswick, Nova Scotia and NIHB drug plans, the second greatest savings were seen in DEPINs whose price ratios are greater than 1.3 and up to 1.5. For Saskatchewan, Manitoba and Ontario, the second greatest savings were for DEPINs whose price ratios ranged from greater than 1.1 to 1.3.

High-to-Low Price Ratios	AB	SK	MB	ON	NB	NS	NIHB
Min = Max	–	–	–	–	–	–	–
1 < Max/Min ≤ 1.1	0.2%	0.3%	0.4%	0.1%	0.6%	0.1%	0.4%
1.1 < Max/Min ≤ 1.3	0.8%	1.0%	0.7%	0.3%	0.4%	0.1%	0.5%
1.3 < Max/Min ≤ 1.5	0.9%	0.8%	0.5%	0.3%	0.7%	1.3%	1.5%
Max/Min > 1.5	1.6%	3.7%	2.6%	0.7%	2.0%	2.6%	6.0%
Total	3.5%	5.7%	4.2%	1.4%	3.7%	4.1%	8.3%

Table 6.5
Potential Savings as % of Total Drug Costs for High-to-Low Price Ratios, All Drugs, 2003-2004

7

Defined Daily Dose Analysis



Associated with the classification system for therapeutic groups, the World Health Organization also provides Defined Daily Doses (DDD) for many drugs. A DDD is a unit of measure based on the daily average maintenance dose for a drug used for its main indication in adults.

This section provides DDD analysis for four therapeutic groups (ATC-2)—groups that include Drugs for Acid-Related Disorders, Serum Lipid Reducing Agents, Psychoanaleptics and Agents acting on the Renin-Angiotensin System. For each therapeutic group, the DDD analysis provides information on the number of DDDs per day per 1,000 claimants, the cost per DDD for a therapeutic group of drugs, and the decomposition of the change in drug expenditures using DDDs as the metric unit of utilization.

The number of DDDs per day per 1,000 claimants provides a rough estimate of the proportion of claimants treated daily for a specific therapeutic group of drugs. Due to data limitations, Saskatchewan results using claimants were not comparable to other jurisdictions. For further details, please see jurisdiction-specific analyses later in the report.

The average cost per DDD for an ATC-2 group was expected to vary from one therapeutic group (ATC-2) to another; there may also be considerable variation across the jurisdictions for the same therapeutic group. Some of the variation between jurisdictions can be understood by examining the cost per DDD at the individual drug level and the distribution of DDDs within a therapeutic class. Let us imagine a scenario where we have one therapeutic group with three individual drugs within that same therapeutic group. Table 7.1 indicates that jurisdiction A's DDD share is heavily focused on the relatively expensive individual drug # 3, while jurisdiction B has the bulk of its DDDs with the lowest cost individual drug # 1. It is reasonable, in this case, to expect that the average cost per DDD for the ATC-2 group ("Z") will be lower for jurisdiction B. In fact, the average cost per DDD for jurisdiction A is \$0.91, while the average cost per DDD for jurisdiction B is \$0.63.

	Jurisdiction A		Jurisdiction B	
	Cost per DDD	% Share of DDDs	Cost per DDD	% Share of DDDs
Individual drug #1	0.32	23.5	0.35	55.6
Individual drug #2	0.47	10.8	0.46	17.3
Individual drug #3	1.20	65.7	1.30	27.1

Table 7.1

Calculation of Average Cost per DDD for ATC-2 group "Z"

It is not possible to evaluate whether or not an increased share of a high-cost individual drug within a therapeutic class is superior. To evaluate the "right" share, patient diagnosis and clinical practice guidelines would also have to be considered.

As explained in Appendix 1, the change in drug cost expenditures can be "decomposed" into the following effects: price, quantity, therapeutic mix, new drug, exiting drug and cross effects. The variance between the jurisdictions may have, in part, been explained by the differing shares of DDDs amongst individual drugs, the listing and delisting of drugs from provincial formularies and other policy decisions.

Due to the different demographics of the NIHB drug plan, as compared to other jurisdictions, the results for NIHB for the number of DDDs per day per 1,000 claimants are presented separately in Section 7.5.

7.1 – Drugs for Acid-Related Disorders

As seen in Table 7.2, the number of DDDs per day per 1,000 claimants varied from a low of 154.3 in New Brunswick to 186.9 in Nova Scotia for this therapeutic group. The average cost per DDD appeared to cluster in two groupings. While Saskatchewan, New Brunswick and Nova Scotia demonstrated relatively lower costs per DDD (\$1.18 to \$1.24), the remaining jurisdictions had comparatively higher costs per DDD, ranging from \$1.51 in the NIHB drug program to \$2.02 in Alberta.

Jurisdiction	# of DDDs per day per 1,000 claimant	Average Cost per DDD (\$)
Alberta	163.4	2.02
Saskatchewan	—	1.24
Manitoba	184.8	1.88
Ontario	175.3	1.58
New Brunswick	154.3	1.18
Nova Scotia	186.9	1.18
Non-Insured Health Benefits	—	1.51

Table 7.2

Number of DDDs per day per 1,000 claimants, Average Cost per DDD for top ATC groups across all jurisdictions, Drugs for Acid-Related Disorders (A02), 2003-2004

As shown in Table 7.3, the price effect for this therapeutic group was generally small (-7.0 to 4.3%) with the exception of Saskatchewan where the price effect was responsible for 40.0% of the change in drug cost expenditures. Quantity effect was consistently positive and ranged between 14.2% in Saskatchewan and 77.1% in Manitoba. For this ATC-2 group, the therapeutic mix effect was positive and indicated that there has been a shift from lower-priced to higher-priced individual drugs within this therapeutic group. The new drug effect was positive as expected and varied between 3.1% in New Brunswick and 30.6% in Nova Scotia. Although the exiting drug effect is expected to be negative, “0”% effect indicated that there very few or no individual drugs for which expenditures disappeared in the last year of analysis. The cross effect was limited, ranging from -0.9% to 4.1%.

Table 7.3

Average Percentage Contribution to the Change in Drug Costs, Drugs for Acid-Related Disorders (A02), 2000-2001 to 2003-2004

	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Alberta	2.6	73.6	18.2	4.2	0.0	1.4
Saskatchewan	40.0	14.2	39.8	6.9	0.0	-0.9
Manitoba	-2.2	77.1	21.9	3.6	–	-0.4
Ontario	-2.1	39.6	36.6	25.6	0.0	0.3
New Brunswick	-0.4	37.4	58.4	3.1	0.0	1.5
Nova Scotia	-7.0	37.3	35.0	30.6		4.1
Non-Insured Health Benefits	4.3	47.8	34.1	10.4	–	3.4

7.2 – Serum Lipid Reducing Agents

As seen in Table 7.4, the number of DDDs per day per 1,000 claimants varied widely from a low of 258.1 to 362.7 DDDs per day per 1,000 claimants in New Brunswick and Ontario respectively.

The average costs per DDD were closely clustered together, ranging from \$0.91 in Manitoba to \$1.11 in Alberta.

Table 7.4

Number of DDDs per day per 1,000 claimants, Average Cost per DDD for top ATC groups across all jurisdictions, Serum Lipid Reducing Agents (C10), 2003-2004

Jurisdiction	# of DDDs per day per 1,000 claimants	Average Cost per DDD (\$)
Alberta	310.0	1.11
Saskatchewan	–	1.07
Manitoba	348.9	0.91
Ontario	362.7	1.03
New Brunswick	258.1	0.99
Nova Scotia	307.7	1.08
Non-Insured Health Benefits	–	1.02

As seen in Table 7.5, the price effect for this therapeutic group was significant, ranging from -19.0% for the NIHB drug program to -51.2% in Ontario. At the same time, the quantity effect was largely positive, reaching a high of 232.2 in Manitoba. The Therapeutic Mix Effect for serum lipid reducing agents was negative with the exception of Saskatchewan where there was a positive therapeutic mix effect of 16.6%. The new drug effect was positive as expected and was counterbalanced by the exiting drug effect. The cross effect or interaction term between price and quantity change was negative and substantial for this group of drugs.

Jurisdiction	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Alberta	-34.8	173.7	-2.3	9.7	-7.2	-39.1
Saskatchewan	-37.5	185.6	16.6	13.7	-17.0	-61.3
Manitoba	-42.3	232.2	-19.3	5.5	-9.1	-67.0
Ontario	-51.2	203.9	-14.4	8.3	-8.2	-38.3
New Brunswick	-42.2	217.4	-6.8	0.8	-14.5	-54.7
Nova Scotia	-46.9	201.0	-3.9	12.4	-14.3	-48.3
Non-Insured Health Benefits	-19.0	155.9	-5.6	2.9	-4.5	-29.7

Table 7.5

Average Percentage Contribution to the Change in Drug Costs, Serum Lipid Reducing Agents (C10), 2000-2001 to 2003-2004

7.3 – Psychoanaleptics

As seen in Table 7.6, most of the values related to the number of DDDs per day per 1,000 claimants fell within the range of 136.7 in Alberta and 155.5 in Nova Scotia. For the same year of analysis, Saskatchewan and Manitoba figures were relatively high at 298.5 and 275.7 DDDs per day per 1,000 claimants. The average cost per DDD for psychoanaleptics ranged from \$1.11 in Saskatchewan to \$1.44 in Ontario.

Jurisdiction	# of DDDs per day per 1,000 claimants	Average Cost per DDD (\$)
Alberta	136.7	1.39
Saskatchewan	–	1.11
Manitoba	275.7	1.25
Ontario	155.1	1.44
New Brunswick	155.4	1.19
Nova Scotia	155.5	1.22
Non-Insured Health Benefits	–	1.12

Table 7.6

Number of DDDs per day per 1,000 claimants, Average Cost per DDD for top ATC groups across all jurisdictions, Psychoanaleptics (N06), 2003-2004

Decomposition of the change in drug cost expenditures is shown in Table 7.7. The price effect was relatively small (-8.3% to 0.2%) and the quantity effect was positive and significant, ranging from 51.1% in Ontario to 87.9% for the NIHB drug program. The therapeutic mix effect was consistently positive with values ranging from 17.5% to 37.3%, indicating that there had been a shift from lower-priced individual drugs to higher-priced individual drugs within this therapy group. With the exception of the NIHB drug program, the introduction of new drugs was significant in most jurisdictions, ranging from 10.1% to 31.6%. The exiting and cross effect for the psychoanaleptic therapeutic group was relatively small.

Table 7.7

Average Percentage Contribution to the Change in Drug Costs, Psychoanaleptics (N06), 2000-2001 to 2003-2004

	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Alberta	-3.1	64.7	29.3	11.9	-0.0	-2.6
Saskatchewan	0.2	55.3	37.3	10.4	-0.0	-3.2
Manitoba	-4.4	79.6	17.5	10.1	-0.0	-2.7
Ontario	-2.8	51.1	34.6	15.1	–	2.0
New Brunswick	-4.6	62.1	28.9	17.1	-0.0	-3.5
Nova Scotia	-8.3	57.9	22.6	31.6	-0.0	-3.9
Non-Insured Health Benefits	-7.4	87.9	24.3	0.6	-0.0	-5.4

7.4 – Agents acting on Renin-Angiotensin System

As seen in Table 7.8, most of the values related to the number of DDDs per day per 1,000 claimants fell within the range of 433.9 in Manitoba to 632.1 in Saskatchewan. The average cost per DDD for agents acting on renin-angiotensin ranged from \$0.49 for the NIHB program to \$0.60 in Alberta.

Table 7.8

Number of DDDs per day per 1,000 claimants, Average Cost per DDD for top ATC groups across all jurisdictions, Agents acting on Renin-Angiotensin System (C09), 2003-2004

Jurisdiction	# of DDDs per day per 1,000 claimants	Average Cost per DDD (\$)
Alberta	553.6	0.60
Saskatchewan	–	0.57
Manitoba	433.9	0.59
Ontario	572.1	0.50
New Brunswick	441.3	0.50
Nova Scotia	524.3	0.54
Non-Insured Health Benefits	–	0.49

Decomposition of the change in drug cost expenditures is shown in Table 7.9. For this therapeutic group, there was a notable negative price effect that ranged from -16.2% in Alberta to -27.6% in Ontario. The quantity effect was positive and significant, ranging from 176.8% in Alberta to 235.9% in Nova Scotia. The therapeutic mix effect was consistently negative with values ranging from -50.0% in Manitoba to -92.9% in Nova Scotia, indicating that there had been a shift from higher-priced individual drugs to lower-priced individual drugs within this therapy group. The effect of the introduction of new drugs was small in all of the jurisdictions, ranging from 0.4% to 1.4%. The exiting effect was null and the cross effect for this therapeutic group ranges from -11.9 to -21.0.

	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Alberta	-16.2	176.8	-50.0	1.3	–	-11.9
Saskatchewan	-20.3	206.4	-66.4	1.3	–	-21.0
Manitoba	-20.1	182.9	-50.8	1.2	–	-13.2
Ontario	-27.6	222.1	-78.0	0.5	–	-17.1
New Brunswick	-25.2	231.7	-87.4	0.4	–	-19.5
Nova Scotia	-26.4	235.9	-92.9	1.4	–	-18.0
Non-Insured Health Benefits	-18.2	201.5	-70.3	0.4	–	-13.5

Table 7.9
Average Percentage Contribution to the Change in Drug Costs, Agents acting on Renin-Angiotensin System (C09), 2000-2001 to 2003-2004

7.5 – Number of DDDs per Day per 1,000 Claimants – NIHB Drug Plan

For the NIHB drug plan, the number of DDDs per day per 1,000 claimants is not comparable to other jurisdictions due mainly to demographic differences in the covered population. Over 70% of the population covered by the NIHB program is under the age of 40 years and 40% of the population are children. Since drugs for acid related disorders, serum lipid reducing agents and psychoanaleptic are not typically prescribed for children, it is reasonable that this utilization statistic would be considerably lower, As well, the WHO assigns values for DDDs based on the average maintenance doses for adults.

By looking at table 7.10, we note that the utilization of these therapeutic groups ranged from 59.4 to 144.7 DDDs per day per 1,000 claimants for drugs for acid-related disorders and agents acting on renin-angiotensin system respectively. For serum lipid reducing agents, the number of DDDs per day per 1,000 claimants was 61.8, while the number of DDDs per day per 1,000 claimants for psychoanaleptics was 70.0.

		# of DDDs per day per 1,000 beneficiaries
Drugs for Acid-Related Disorders	A02	59.4
Serum Lipid Reducing Agents	C10	61.8
Psychoanaleptics	N06	70.0
Agents Acting on Angiotensin System	C09	144.7

Table 7.10
Number of DDDs per day per 1,000 claimants for ATC level 2 Groups Group, 2003-2004

Results by Jurisdiction



ALBERTA

Drug Expenditures of Public Drug Plans

Table 1

Public Drug Plan Expenditures

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate	
		2000-2001 to 2003-2004	1997-1998 to 2003-2004
Program-Paid Costs	458.6	16.9%	16.7%
Drug Costs Approved	473.4	16.8%	16.9%
Dispensing Fees Approved	99.7	12.4%	10.7%

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 1997-1998 and 2003-2004

	1997-1998	2003-2004
Program-Paid Expenditures as % of Provincial GDP	0.2%	0.3%
Program-Paid Expenditures as % of Provincial Budget ³⁶	1.3%	2.1%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	4.0%	5.5%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	71.4%	80.1%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	64.08	129.70

³⁶ Fiscal year expenditures were divided by calendar year budgets.

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	15.8%	15.5%	15.4%	15.4%	15.5%	115.6%	15.8%
Public Drug Plan Participation Rates (%)	58.3%	59.0%	84.5%	84.6%	84.7%	84.8%	86.0%
Combined C-P Rates (%)	9.2%	9.1%	13.0%	13.0%	13.1%	13.2%	13.6%
Number of Prescription Transactions per Claimant	24.6	25.6	19.7	20.0	21.1	21.5	22.9
Drug Costs Per Claimant (constant 1997 dollars)	710.99	772.23	638.78	707.97	804.30	883.46	986.57

Table 3
Utilization by Claimant Counts

	Drug Cost (\$million)	Year-over-year % Increase
1997-1998	185.2	
1998-1999	209.7	13.2%
1999-2000	256.5	22.3%
2000-2001	297.1	15.8%
2001-2002	356.9	20.1%
2002-2003	404.1	13.2%
2003-2004	473.4	17.2%
4-Year (2000-2001 to 2003-2004)% Increase	59.4%	
7-Year (1997-1998 to 2003-2004)% Increase	155.6%	

Table 4
Drug Cost and Percentage Increase by Year Period

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	328.7	69.43	18.54
Non-Patented Drugs	144.7	30.57	13.20
All Drugs	473.4	100.0	16.8

Table 5a
Drug Costs Paid for Patented and Non-Patented Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	400.1	84.5	16.5
Generic Drugs	73.2	15.5	18.2

Table 5b
Drug Costs Paid for Brand Name and Generic Market Segments

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Agents Acting on the Renin-Angiotensin System	C09	13.02	12.61	17.56
Serum Lipid Reducing Agents	C10	11.98	11.49	17.81
Drugs for Acid-Related Disorders	A02	11.23	10.96	17.36
Psychoanaleptics	N06	8.17	6.60	22.90
Drugs Used in Diabetes	A10	5.77	4.03	28.87
Calcium Channel Blockers	C08	5.19	6.88	11.63
Immunostimulants	L03	4.97	3.40	30.01
Drugs for Obstructive Airway Diseases	R03	4.43	5.03	14.15
Analgesics	N02	3.74	3.04	22.70
Drugs for Treatment of Bone Diseases	M05	3.58	2.70	25.54
Immunosuppressive Agents	L04	3.57	1.43	144.15

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Agents Acting on the Renin-Angiotensin System	C09	13.41	8.75	13.35
Serum Lipid Reducing Agents	C10	11.00	5.27	20.36
Psychoanaleptics	N06	8.32	5.76	12.39
Diuretics	C03	6.80	6.53	8.30
Beta Blocking Agents	C07	6.42	4.30	12.88
Drugs Used in Diabetes	A10	6.21	5.25	9.67
Psycholeptics	N05	5.97	6.55	7.11
Thyroid Therapy	H03	5.17	3.59	12.33
Sex Hormones and Modulators of the Genital System	G03	-5.06	2.31	-11.60
Drugs for Acid-Related Disorders	A02	5.01	4.75	8.45
Drugs for Treatment of Bone Diseases	M05	4.60	2.19	20.55

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	10.49	6.53	36.30
RAMIPRIL	Altace	4.83	2.50	54.01
PANTOPRAZOLE	Panto, Pantoloc	4.41	2.42	47.21
ROFECOXIB	Vioxx	4.03	1.86	76.49
AMLODIPINE BESYLATE	Amlodipine	3.73	3.60	17.90
OMEPRAZOLE	Losec, Omeprazole	3.48	5.61	9.27
LANSOPRAZOLE	HP-Pac, Prevacid	3.33	2.17	33.35
FLUTICASON PROPRIONATE	Flonase, Advair, Flovent	3.19	2.24	29.29
DARBEPOETIN ALFA ³⁷	Aranesp	2.87	1.08	n/a
ROSIGLITAZONE	Avandamet, Avandia	2.74	1.12	133.74
VENLAFAXINE	Effexor	2.36	1.24	52.50
INTERFERON BETA-1A	Avonex, Rebif	2.29	1.43	35.88
VALSARTAN	Diovan	2.27	1.40	37.00
CLOPIDOGREL	Plavix	2.25	1.11	62.16
CELECOXIB	Celebrex	-2.21	2.50	-9.14
ALENDRONATE	Fosamax, Alendronate	2.07	1.26	37.99
IRBESARTAN	Avapro, Avalide	1.95	1.06	47.82
CITALOPRAM	Celexa, Citalopram	1.92	0.98	55.82
INFLIXIMAB ³⁸	Remicade	1.90	0.72	n/a
TAMSULOSIN HCL	Flomax	1.90	0.94	60.31
GLATIRAMER ACETATE	Copaxone	1.81	1.34	26.66
SIMVASTATIN	Zocor, Simvastatin	1.67	2.10	12.58
OLANZAPINE	Zyprexa	1.56	1.05	31.50
OXYCODONE HCL	Percocet, Percodan ³⁹	1.50	0.83	46.52
DONEPEZIL HCL	Aricept	1.46	0.97	31.96

37 Average annual growth rate is not available because the expenditures for this drug began in 2002-2003.

38 Average annual growth rate is not available because the expenditures for this drug began in 2003-2004.

39 Brand Names also include Endocet, Endodan, Oxy-ir, Oxycontin, Percocet, Percodan, Ratio-Oxycocet, Ratio-Oxycodan, Roxicet, Supeudol.

Price and Quantity Analysis

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1997-1998	100.00	100.00	100.00	100.00	100.00	100.00
1998-1999	98.26	99.02	97.83	113.70	114.14	110.38
1999-2000	95.55	98.36	95.09	133.98	127.80	127.06
2000-2001	94.98	97.68	94.41	152.89	147.21	125.65
2001-2002	93.60	96.77	92.30	185.55	181.11	142.90
2002-2003	92.81	95.87	91.82	214.27	212.37	157.41
2003-2004	91.49	95.26	91.37	248.70	237.15	187.25
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-1.24%	-0.83%	-1.49%	17.61%	17.23%	14.22%
1997-1998 to 2003-2004	-1.47%	-0.81%	-1.08%	16.40%	15.48%	11.02%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices			
	Brand Name	Generic	Brand Name	Generic		
1997-1998	100.00	100.00	100.00	100.00		
1998-1999	98.56	98.59	112.53	109.12		
1999-2000	97.31	96.36	127.55	123.35		
2000-2001	96.79	95.39	150.76	109.57		
2001-2002	95.68	94.28	180.36	124.90		
2002-2003	94.63	95.59	208.48	137.75		
2003-2004	93.45	94.96	234.48	169.17		
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-1.16%	-0.15%		15.86%		15.58%
1997-1998 to 2003-2004	-1.12%	-0.86%		15.26%		9.16%

Table 11

	Price Indices					Quantity Indices				
	C09	C10	A02	N06	A10	C09	C10	A02	N06	A10
1997-1998	100.00	100.0	100.0	100.0	100.00	100.00	100.0	100.0	100.0	100.00
1998-1999	99.88	96.5	100.0	97.1	95.93	114.76	125.3	116.9	115.8	119.48
1999-2000	95.57	94.2	98.8	94.2	86.23	137.62	160.0	143.4	138.5	144.55
2000-2001	99.47	91.1	98.6	87.5	86.08	157.61	190.2	165.9	173.3	157.14
2001-2002	99.84	85.1	99.2	86.5	85.23	190.00	243.9	198.7	218.3	284.61
2002-2003	99.86	84.5	99.7	87.7	83.69	219.57	303.2	225.4	265.5	352.56
2003-2004	100.37	76.7	100.6	86.7	83.92	252.82	358.4	262.8	321.9	437.43
Average Annual Growth Rate										
	C09	C10	A02	N06	A10	C09	C10	A02	N06	A10
2000-2001 to 2003-2004	0.30%	-5.54%	0.65%	-0.28%	-0.84%	17.06%	23.52%	16.58%	22.94%	40.67%
1997-1998 to 2003-2004	0.06%	-4.31%	0.09%	-2.35%	-2.88%	16.72%	23.71%	17.47%	21.51%	27.88%

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

C09: Agents Acting on the Renin-Angiotensin System

C10: Serum Lipid Reducing Agents

A02: Drugs for Acid-Related Disorders

N06: sychoanaleptics

A10: Drugs Used in Diabetes

Table 12

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	80.63	84.43	76.57	47.94	50.22	55.81
> 2% - 5%	5.83	6.47	4.29	7.38	5.05	6.80
> 5% - 10%	3.51	3.73	1.79	10.55	8.35	9.30
> 10% - 20%	2.23	1.64	3.04	13.29	12.86	11.45
> 20% - 50%	4.63	2.52	7.87	11.41	12.53	8.77
> 50%	3.17	1.21	6.44	9.43	10.99	7.87
Total # of DEPINS	1167	912	559	1166	910	559

% Distribution of DEPINS

Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

Table 13

High-to-Low Price Ratios	% Distribution of DEPINS	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	58.8	—	0.0%
1 < Max/Min <= 1.1	22.8	581.6	0.2%
1.1 < Max/Min <= 1.3	8.2	3,260.7	0.8%
1.3 < Max/Min <= 1.5	3.5	3,512.3	0.9%
Max/Min > 1.5	6.8	6,256.4	1.6%
Total	100.0	13,611.0	3.5%

Note: Few of these DEPINS (1/757) have more than 1 DIN-level drug within the respective DEPIN category.

High-to-Low Price Ratios, 2003-2004

Defined Daily Dose (DDD) Analysis

Table 14

Utilization of DDDs

of DDDs per Day per 1,000 Claimants

Average Cost per DDD

% Share of Drug Costs, 2003-2004

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁴⁰
Agents Acting on the Renin-Angiotensin System	C09	553.6	0.60	86.9%
Serum Lipid Reducing Agents	C10	310.0	1.11	99.6%
Drugs for Acid-Related Disorders	A02	163.4	2.02	99.6%
Psychoanaleptics	N06	136.7	1.39	95.2%
Drugs Used in Diabetes	A10	141.9	0.65	75.7%

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents Acting on the Renin-Angiotensin System, C09, 2003-2004

Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.45	0.5%	0.4%
CANDESARTAN CILEXETIL	Atacand	0.75	2.3%	4.2%
CAPTOPRIL	Capoten, Captopril, Capto, Capril,	0.58	2.4%	0.8%
CILAZAPRIL	Inhibace	0.49	6.0%	3.4%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	0.95	19.9%	10.9%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.11	0.0%	0.1%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.89	6.8%	4.3%
IRBESARTAN	Avapro, Avalide	0.86	3.3%	4.5%
LISINAPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.58	20.9%	12.2%
LOSARTAN POTASSIUM	Cozaar	0.95	6.7%	4.5%
PERINDOPRIL ERBUMINE	Coversyl	0.84	2.9%	2.6%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.67	3.2%	2.5%
RAMIPRIL	Altace	0.34	17.7%	40.0%
TELMISARTAN	Micardis	0.59	1.3%	2.8%
TRANDOLAPRIL	Mavik	0.95	0.0%	0.1%
VALSARTAN	Diovan	0.82	6.1%	6.6%

⁴⁰ Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.15	41.5%	55.1%
BEZAFIBRATE	Bezalip, Bezafibrate	2.61	0.4%	0.3%
CERIVASTATIN SODIUM ⁴¹	Baycol	—	6.1%	—
CLOFIBRATE ⁴²	Atromid, Fibrate	—	0.0%	—
COLESTIPOL HCL	Colestid	5.34	0.0%	0.0%
EZETIMIBE	Ezetrol	1.70	0.0%	0.1%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.30	7.0%	4.9%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.29	2.3%	0.9%
GEMFIBROZIL	Lopid, Gemfibrozil	1.45	1.3%	0.5%
LOVASTATIN	Mevacor, Lovastatin	1.66	4.2%	1.7%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.96	20.3%	11.6%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.26	0.0%	3.2%
SIMVASTATIN	Zocor, Simvastatin	0.94	16.9%	21.6%

Table 17

Average Cost per DDD and % Share of DDDs at the Individual drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimetine, Cimet	0.24	1.9%	0.7%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	1.10	0.0%	1.2%
LANSOPRAZOLE	Prevacid, HP-Pac	2.15	2.8%	18.4%
MAGNESIUM HYDROXIDE	Magnesia, Roloids, Dermagran, Gaviscon, Dioval,	0.47	11.5%	0.0%
MISOPROSTOL	Cytotec, Misoprostol,	1.16	0.0%	0.2%
NIZATIDINE	Axid, Nizatidine	1.04	0.6%	0.7%
OMEPRAZOLE	Losec	2.30	1.8%	45.0%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	2.07	52.8%	21.6%
PIRENZEPINE HCL	Gastrozepin		10.2%	0.0%
RABEPRAZOLE SODIUM	Pariet	1.42	0.0%	2.3%
RANITIDINE BISMUTH CITRATE ⁴³		—	0.0%	—
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.80	18.0%	9.5%
SUCRALFATE	Sulcrate, Sucralfate	1.17	0.4%	0.2%

41 Drug costs equal to zero for 2003-2004

42 Drug costs equal to zero for 2003-2004

43 Drug costs equal to zero for 2003-2004

Table 18

Average Cost per DDD and % Share of DDDs at the Individual drug Level, Psychoanaesthetics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.24	11.7%	8.5%
AMOXAPINE	Asendin	1.02	0.1%	0.0%
CITALOPRAM (CITALOPRAM HYDROBROMIDE)	Celexa, Citalopram	1.20	7.4%	18.2%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.86	0.9%	0.6%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.91	0.7%	0.3%
DEXTOAMPHETAMINE SULFATE	Dexedrine	0.66	1.6%	1.6%
DONEPEZIL HCL	Aricept	4.25	3.7%	5.1%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.58	2.2%	1.3%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.11	12.2%	8.2%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.93	3.6%	2.0%
GALANTAMINE (GALANTAMINE HYDROBROMIDE)	Reminyl	5.70	0.0%	0.9%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.55	1.4%	0.9%
MAPROTILINE HCL	Ludiomol, Maprotiline	1.87	0.2%	0.1%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.61	1.3%	0.9%
MIRTAZAPINE	Remeron, Mirtazapine	1.35	0.0%	2.0%
MOCLOBEMIDE	Manerix, Moclobemide	0.73	0.9%	0.4%
MODAFINIL	Alertec	3.89	0.1%	0.1%
NEFAZODONE HCL	Serzone, Nefazadone	1.46	2.2%	0.6%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.79	1.2%	0.8%
PAROXETINE HCL	Paxil, Paroxetine	1.54	19.8%	16.2%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.43	0.2%	0.1%
PROTRIPTYLINE HYDROCHLORIDE ⁴⁴	Triptil	–	0.0%	–
RIVASTIGMINE	Exelon	7.71	0.0%	0.4%
SERTRALINE HCL	Zoloft, Sertraline	0.80	17.7%	12.1%
TRANLYCPROMINE SULFATE	Parnate	0.37	0.4%	0.2%
TRAZODONE HCL	Desyrel, Trazodone	1.24	2.4%	2.1%
TRIMIPRAMINE (TRIMIPRAMINE MALEATE)	Trimipramine, Rhotrimine, Surmontil	0.65	1.7%	1.0%
VENLAFAXINE	Effexor	1.76	6.6%	15.5%

44 Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ACARBOSE	Prandase	1.33	1.2%	0.6%
CHLORPROPAMIDE	Propamide, Diabinese, Chlorpropamide	0.08	0.3%	0.1%
GLICLAZIDE	Diamicon, Gliclazide	0.56	16.7%	15.3%
GLYBURIDE	Diabeta, Eugluson, Glybe, Glyburide, Penta	0.10	47.6%	32.2%
METFORMIN HCL	Metformin, Glucophage, Glycon	0.49	31.1%	35.2%
PIOGLITAZONE HCL	Actos	3.25	0.1%	2.2%
REPAGLINIDE	Gluconorm	0.75	2.0%	5.7%
ROSIGLITAZONE (ROSIGLITAZONE MALEATE)	Avandia, Avandamet	2.79	0.8%	8.6%
TOLBUTAMIDE	Orinase, Mobenol, Butamide, Tolbutamide	0.23	0.2%	0.0%

Table 19

Average Cost per DDD and % Share of DDDs at the Individual drug Level, Drugs Used in Diabetes, A10, 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Agents Acting on the Renin-Angiotensin System	C09	-16.16	176.83	-50.02	1.25		-11.91
Serum Lipid Reducing Agents	C10	-34.81	173.68	-2.32	9.72	-7.15	-39.12
Drugs for Acid-Related Disorders	A02	2.59	73.60	18.17	4.20	0.00	1.44
Psychoanaleptics	N06	-3.13	64.67	29.27	11.87	-0.03	-2.64
Drugs Used in Diabetes	A10	-1.02	26.05	88.72			-13.75

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

SASKATCHEWAN

Drug Expenditures of Public Drug Plans

Table 1

Public Drug Plan Expenditures

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate	
		2000-2001 to 2003-2004	1997-1998 to 2003-2004
Program-Paid Costs	140.8	14.3%	14.6%
Drug Costs Approved	233.4	13.0%	12.5%
Dispensing Fees Approved	58.3	8.9%	8.1%

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 1997-1998 and 2003-2004

	1997-1998	2003-2004
Program-Paid Expenditures as % of Provincial GDP	0.2%	0.4%
Program-Paid Expenditures as % of Provincial Budget ⁴⁵	1.3%	2.0%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	3.5%	5.6%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	89.6%	83.9%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	60.99	126.65

Table 3

Utilization by Claimant Counts

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	59.6%	60.2%	60.9%	61.5%	61.5%	61.0%	61.3%
Public Drug Plan Participation Rates (%)	25.1%	28.2%	29.5%	30.0%	30.9%	30.6%	29.0%
Combined C-P Rates (%)	15.0%	17.0%	18.0%	18.5%	19.0%	18.7%	17.8%
Number of Prescription Transactions per Active Beneficiary ⁴⁶	10.1	10.6	11.1	11.9	12.6	13.4	13.7
Drug Costs Per Active Beneficiary ⁴⁷ (constant 1997 dollars)	\$189	\$205	\$219	\$244	\$270	\$314	\$342

45 Fiscal year expenditures were divided by calendar year budgets.

46 Since the number of prescription transactions and drug costs are captured for all those who are available for Saskatchewan beneficiaries, whether they qualify for benefits or not, it is only appropriate to present "per eligible beneficiary" analysis only.

47 Same as previous footnote.

	Drug Cost (\$million)	Year-over-year % Increase
1997-1998	115.0	
1998-1999	128.2	11.5%
1999-2000	141.2	10.1%
2000-2001	161.6	14.5%
2001-2002	183.2	13.3%
2002-2003	212.4	15.9%
2003-2004	233.4	9.9%
4-Year (2000-2001 to 2003-2004)% Increase	44.4%	
7-Year (1997-1998 to 2003-2004)% Increase	103.0%	

Table 4

Drug Cost and Percentage Increase by Year Period

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	146.2	62.62	13.95
Non-Patented Drugs	87.2	37.38	11.55
All Drugs	233.4	100.0	13.0

Table 5a

Drug Costs Paid for Patented and Non-Patented Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	186.8	80.0	12.3
Generic Drugs	46.4	19.9	15.9

Table 5b

Drug Costs Paid for Brand Name and Generic Market Segments

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Agents Acting on the Renin-Angiotensin System	C09	14.91	12.82	15.89
Psychoanaleptics	N06	11.64	9.27	17.66
Immunosuppressive Agents	L04	9.77	4.36	47.62
Serum Lipid Reducing Agents	C10	9.48	8.80	14.35
Drugs for Acid-Related Disorders	A02	7.48	5.68	18.89
Psycholeptics	N05	5.89	4.57	18.31
Drugs Used in Diabetes	A10	4.99	3.38	22.33
Calcium Channel Blockers	C08	4.63	6.25	9.00
Analgesics	N02	4.25	2.82	23.03
Immunostimulants	L03	3.62	3.34	14.43
Beta Blocking Agents	C07	2.73	1.99	20.03

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Beta Blocking Agents	C09	28.02	10.37	14.34
Psychoanaleptics	N06	15.82	7.71	10.14
Serum Lipid Reducing Agents	C10	15.21	5.00	16.82
Beta Blocking Agents	C07	8.09	4.64	8.34
Sex Hormones and Modulators of the Genital System	G03	-7.28	4.48	-5.87
Antibacterials for Systemic Use	J01	-5.81	6.54	-3.39
Calcium Channel Blockers	C08	5.68	4.18	6.26
Drugs Used in Diabetes	A10	5.67	4.44	5.84
Anti-thrombotic Agents	B01	4.99	2.11	12.06
Psycholeptics	N05	4.34	5.21	3.66
Antiepileptics	N03	4.11	2.28	8.65

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	8.06	5.20	24.83
RAMIPRIL	Altace	5.98	2.52	57.44
VENLAFAXINE	Effexor	4.78	2.76	29.99
INFLIXIMAB	Remicade	3.73	1.17	
ETANERCEPT	Enbrel	3.38	1.06	
AMLODIPINE BESYLATE	Amlodipine	3.11	2.70	16.18
RANITIDINE HCL	Zantac, Ranitidine	2.81	1.60	30.62
PANTOPRAZOLE	Panto, Pantoloc	2.70	1.20	50.35
CLOPIDOGREL	Plavix	2.48	1.19	42.42
CITALOPRAM	Celexa, Citalopram	2.43	1.05	53.52
VALSARTAN	Diovan	2.33	1.02	52.02
GLATIRAMER ACETATE	Copaxone	2.15	1.46	22.95
CANDESARTAN CILEXETIL	Atacand	2.12	0.90	56.09
INTERFERON BETA-1A	Avonex, Rebif	2.11	1.06	38.59
SIMVASTATIN	Zocor, Simvastatin	1.99	1.69	16.63
HYDROCHLOROTHIAZIDE	Hydrodiuril, Hydrochlorothiazide, Aldoril, Hydropres, Aldactazide, Urozide, Doparil, Methazide, Timolide, Viskazide, Spirozine, Inhibace, Inderide, Hyzaar, Accuretic	1.96	1.15	29.29
TOPIRAMATE	Topamax	1.84	0.93	38.34
ROSIGLITAZONE	Avandamet, Avandia	1.83	0.65	101.99
QUETIAPINE FUMARATE	Seroquel	1.81	0.62	124.88
ATENOLOL	Atenol, Atenolol	1.77	0.97	32.73
EPOETIN ALFA	Epex	1.61	0.87	33.71
OXYCODONE HCL	Percocet, Percodan	1.60	0.54	135.34
PAROXETINE HCL	Paxil, Paroxetine	1.60	2.15	9.27
RISPERIDONE	Risperdal	1.59	1.53	14.05
FENTANYL	Fentanyl Citrate, Sublimaze, Duragesic	1.45	0.90	26.48

Price and Quantity Analysis

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1997-1998	100.00	100.00	100.00	100.00	100.00	100.00
1998-1999	96.77	98.80	95.09	111.85	115.37	107.71
1999-2000	93.03	97.83	89.86	124.48	122.39	118.52
2000-2001	89.73	97.04	83.68	147.19	146.74	120.60
2001-2002	87.54	96.13	79.77	170.44	173.63	131.99
2002-2003	91.05	96.14	89.08	191.82	198.77	141.52
2003-2004	90.93	95.17	91.56	209.24	208.85	155.85
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	0.45%	-0.65%	3.04%	12.44%	12.48%	8.92%
1997-1998 to 2003-2004	-1.57%	-0.82%	-1.46%	13.09%	13.06%	7.68%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
1997-1998	100.00	100.00	100.00	100.00
1998-1999	98.42	93.27	111.99	108.20
1999-2000	97.56	85.19	120.04	121.33
2000-2001	97.01	75.07	147.47	117.20
2001-2002	96.28	70.35	168.75	124.12
2002-2003	96.11	86.24	189.99	133.22
2003-2004	94.91	91.36	204.92	142.22
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	-0.72%	6.76%	11.59%	6.66%
1997-1998 to 2003-2004	-0.87%	-1.49%	12.70%	6.05%

	Price Indices					Quantity Indices				
	C09	N06	L04	C10	A02	C09	N06	L04	C10	A02
1997-1998	100.00	100.0	100.00	100.0	100.0	100.00	100.0	100.00	100.0	100.0
1998-1999	99.96	96.8	94.19	96.1	93.8	112.02	112.4	126.67	120.7	112.4
1999-2000	94.34	94.2	93.20	94.5	85.3	129.52	129.2	127.40	150.6	128.6
2000-2001	97.32	87.1	93.98	90.1	75.4	153.13	155.6	151.83	184.4	155.8
2001-2002	96.68	83.1	94.98	85.6	75.3	182.07	189.8	175.79	225.3	184.4
2002-2003	97.20	87.9	95.11	85.2	89.3	214.11	222.0	194.57	290.3	202.0
2003-2004	97.71	86.8	96.09	77.8	93.5	236.29	251.6	212.73	318.5	216.2
Average Annual Growth Rate										
	C09	N06	L04	C10	A02	C09	N06	L04	C10	A02
2000-2001 to 2003-2004	0.14%	-0.11%	0.74%	-4.75%	7.40%	15.55%	17.37%	11.90%	19.97%	11.54%
1997-1998 to 2003-2004	-0.38%	-2.33%	-0.66%	-4.09%	-1.12%	15.41%	16.62%	13.41%	21.30%	13.71%

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

C09: Agents Acting on the Renin-Angiotensin System

N06: Psychoanaleptics

L04: Immunosuppressive Agents

C10: Serum Lipid Reducing Agents

A02: Drugs for Acid-Related Disorders

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	76.71	81.30	60.26	56.91	58.62	64.85
> 2% - 5%	5.22	5.19	5.68	7.05	5.31	6.99
> 5% - 10%	4.93	4.46	6.99	10.53	7.12	10.70
> 10% - 20%	4.15	4.34	7.42	8.60	9.17	5.24
> 20% - 50%	5.60	3.74	12.23	10.24	10.98	6.11
> 50%	3.38	0.97	7.42	6.67	8.81	6.11
Total # of DEPINs	1034	829	458	1035	829	458

Table 12

% Distribution of DEPINs

Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINs	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	56.3	—	0.0%
1 < Max/Min <= 1.1	22.2	463.0	0.3%
1.1 < Max/Min <= 1.3	9.6	1,772.7	1.0%
1.3 < Max/Min <= 1.5	3.7	1,416.6	0.8%
Max/Min > 1.5	8.1	6,773.3	3.7%
Total	100.0	10,425.5	5.7%

Note: None of these DEPINs have more than 1 DIN level drug within the respective DEPIN category.

Table 13

High-to-Low Price Ratios, 2003-2004

Defined Daily Dose (DDD) Analysis

Table 14

Utilization of DDDs

of DDDs per Day per 1,000 Claimants

Average Cost per DDD

% Share of Drug Costs, 2003-2004

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Beneficiaries ⁴⁹	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁵⁰
Agents Acting on the Renin-Angiotensin System	C09	183.1	0.57	77.4%
Psychoanaleptics	N06	86.4	1.11	98.4%
Immunosuppressive Agents	L04	2.3	9.28	46.3%
Serum Lipid Reducing Agents	C10	85.8	1.07	99.2%
Drugs for Acid-Related Disorders	A02	47.3	1.24	98.9%

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents Acting on the Renin-Angiotensin System, C09, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.39	1.5%	0.6%
CANDESARTAN CILEXETIL	Atacand	0.74	3.0%	5.3%
CAPTAPRIL	Capoten, Captopril, Capto, Capril,	0.52	3.6%	1.2%
CILAZAPRIL	Inhibace	0.50	3.6%	2.2%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	0.96	19.9%	10.4%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.10	0.0%	0.1%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.88	6.4%	3.3%
IRBESARTAN	Avapro, Avalide	0.83	3.3%	2.9%
LISINOPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.64	21.2%	10.4%
LOSARTAN POTASSIUM	Cozaar	0.89	6.2%	5.0%
PERINDOPRIL ERBUMINE	Coversyl	0.85	2.1%	2.5%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.61	6.6%	4.5%
RAMIPRIL	Altace	0.32	17.2%	44.7%
TELMISARTAN	Micardis	0.57	2.0%	2.5%
TRANDOLAPRIL	Mavik	1.02	0.0%	0.1%
VALSARTAN	Diovan	0.84	3.4%	4.2%

⁴⁹ Since the number of drug costs are captured for all those who are available for Saskatchewan beneficiaries, whether they qualify for benefits or not, it is only appropriate to present "per eligible beneficiary" analysis only.

⁵⁰ Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaleptics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.26	14.5%	10.9%
AMOXAPINE	Asendin	1.03	0.3%	0.0%
CITALOPRAM (CITALOPRAM HYDROBROMIDE)	Celexa, Citalopram	1.14	4.1%	11.2%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.86	1.0%	0.6%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.83	0.9%	0.6%
DEXTOAMPHETAMINE SULFATE	Dexedrine	0.64	1.4%	1.2%
DONEPEZIL HCL	Aricept	4.06	0.3%	1.0%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.57	1.7%	1.0%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	0.85	11.8%	8.3%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.80	3.5%	2.3%
GALANTAMINE (GALANTAMINE HYDROBROMIDE)	Reminyl	4.77	0.0%	0.2%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.62	2.0%	1.1%
MAPROTIHNE HCL	Ludiomol, Maprotiline	1.82	0.3%	0.1%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.66	8.4%	6.6%
MIRTAZAPINE	Remeron, Mirtazapine	1.34	0.0%	2.1%
MOCLOBEMIDE	Manerix, Moclobemide	0.64	0.7%	0.4%
MODAFINIL	Alertec	3.91	0.0%	0.0%
NEFAZODONE HCL	Serzone, Nefazadone	1.31	2.6%	0.7%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.66	1.8%	1.2%
PAROXETINE HCL	Paxil, Paroxetine	1.44	17.0%	18.1%
PEMOLINE	Cylert	0.74	0.0%	0.0%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.45	0.1%	0.0%
PROTRIPTYLINE HYDROCHLORIDE ⁵¹	Triptil	—	0.0%	—
RIVASTIGMINE	Exelon	6.72	0.0%	0.1%
SERTRALINE HCL	Zoloft, Sertraline	0.63	12.3%	10.0%
TRANLYCPROMINE SULFATE	Parnate	0.37	0.6%	0.3%
TRAZODONE HCL	Desyrel, Trazodone	1.06	1.2%	1.3%
TRIMIPRAMINE (TRIMIPRAMINE MALEATE)	Trimipramine, Rhotrimine, Surmontil	0.62	1.6%	1.0%
VENLAFAXINE (VENLAFAXINE HCL)	Effexor	1.69	12.0%	19.7%

51 Drug costs equal to zero for 2003-2004

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Immunosuppressive Agents, L04, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AZATHIOPRINE	Imuran, Azathioprine	1.64	47.6%	42.1%
CYCLOSPORINE	Sandimmune, Neoral, Cyclosporine	14.83	25.2%	16.2%
LEFLUNOMIDE	Arava	10.55	5.4%	12.3%
MYCOPHENOLATE MOFETIL	Cellcept	17.57	13.7%	16.5%
SIROLIMUS	Rapamune	42.30	0.0%	0.9%
TACROLIMUS	Prograf, Protopic	13.46	8.1%	11.9%

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.22	46.9%	51.9%
BEZAFIBRATE	Bezalip, Bezafibrate	2.56	0.0%	0.0%
CERIVASTATIN SODIUM ⁵²	Baycol	—	10.5%	—
CLOFIBRATE ⁵³	Atromid, Fibrate	—	0.2%	—
COLESTIPOL HCL	Colestid	4.98	0.0%	0.0%
EZETIMIBE	Ezetrol	1.66	0.0%	0.1%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.09	0.8%	1.5%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.33	5.1%	2.0%
GEMFIBROZIL	Lopid, Gemfibrozil	1.11	5.3%	3.5%
LOVASTATIN	Mevacor, Lovastatin	1.55	3.0%	1.2%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.79	13.9%	9.4%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.34	0.0%	3.4%
SIMVASTATIN	Zocor, Simvastatin	0.77	14.2%	26.8%

⁵² Drug costs equal to zero for 2003-2004

⁵³ Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE Cimetidine, Cimet	Tagamet, Cimetidine, Peptol, 0.20	5.1%	2.3%	
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	0.96	4.3%	2.8%
LANSOPRAZOLE	Prevacid, HP-Pac	2.14	5.2%	7.4%
MAGNESIUM HYDROXIDE	Magnesia, Roloids, Dermagran, Gaviscon, Dioval,	0.47	0.0%	0.0%
MISOPROSTOL	Cytotec, Misoprostol,	1.16	0.8%	0.4%
NIZATIDINE	Axid, Nizatidine	0.96	2.0%	1.0%
OMEPRAZOLE	Losec, Omeprazole	2.26	16.4%	17.2%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	2.05	4.3%	13.0%
RABEPRAZOLE SODIUM	Pariet	1.41	0.0%	2.5%
RANITIDINE BISMUTH CITRATE ⁵⁴		—	0.0%	
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.65	61.3%	53.0%
SUCRALFATE	Sulcrate, Sucralfate	1.01	0.6%	0.4%

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Agents Acting on the Renin-Angiotensin System	C09	-20.26	206.36	-66.41	1.32		-21.01
Psychoanaleptics	N06	0.19	55.32	37.27	10.44	-0.03	-3.19
Immunosuppressive Agents	L04	5.80	67.58	12.04	11.95		2.63
Serum Lipid Reducing Agents	C10	-37.52	185.57	16.59	13.67	-17.01	-61.29
Drugs for Acid-Related Disorders	A02	40.02	14.22	39.80	6.86	0.00	-0.90

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

⁵⁴ Drug costs equal to zero for 2003-2004

MANITOBA

Drug Expenditures of Public Drug Plans

Table 1
Public Drug Plan Expenditures

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate 2000-2001 to 2003-2004
Program-Paid Costs	225.1	18.8%
Drug Costs Approved	193.5	18.6%
Dispensing Fees Approved	35.8	21.1%

Table 2
Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 2003-2004

Program-Paid Expenditures as % of Provincial GDP	0.6%
Program-Paid Expenditures as % of Provincial Budget ⁵⁵	2.9%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	7.1%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	95.7%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	173.28

Table 3
Utilization by Claimant Counts

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)							
Public Drug Plan Participation Rates (%)							
Combined C-P Rates (%)	7.4%	7.4%	7.7%	8.3%	9.8%	10.3%	10.9%
Number of Prescription Transactions per Claimant	—	—	—	34.7	33.8	35.1	35.8
Drug Costs Per Claimant (constant 1997 dollars)	—	—	—	\$1,133	\$1,145	\$1,274	\$1,365

⁵⁵ Fiscal year expenditures were divided by calendar year budgets.

	Drug Cost (\$million)	Year-over-year % Increase
2000-2001	116.1	
2001-2002	143.2	23.3%
2002-2003	168.8	17.9%
2003-2004	193.5	14.7%
4-Year (2000-2001 to 2003-2004)% Increase	66.6%	

Table 4
Drug Cost and
Percentage
Increase by
Year Period

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	139.2	71.95	21.08
Non-Patented Drugs	54.3	28.05	12.92
All Drugs	193.5	100.0	18.6

Table 5a
Drug Costs
Paid for
Patented and
Non-Patented
Market
Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	167.5	86.5	19.4
Generic Drugs	26.0	13.5	13.5

Table 5b
Drug Costs
Paid for Brand
Name and
Generic Market
Segments

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Psycholeptics	N05	9.44	8.76	20.70
Psychoanaleptics	N06	9.44	8.59	21.28
Drugs for Acid-Related Disorders	A02	8.09	8.38	17.64
Immunostimulants	L03	7.16	6.30	22.38
Serum Lipid Reducing Agents	C10	7.05	7.62	16.66
Immunosuppressive Agents	L04	6.69	3.20	83.20
Agents Acting on the Renin-Angiotensin System	C09	6.45	7.11	16.20
Analgesics	N02	5.27	4.09	27.34
Drugs for Obstructive Airway Diseases	R03	4.15	4.50	16.58
Drugs Used in Diabetes	A10	3.83	2.96	27.39
Antithrombotic Agents	B01	3.80	3.06	25.78

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Psychoanaleptics	N06	10.56	7.91	15.85
Psycholeptics	N05	9.89	10.36	10.32
Agents Acting on the Renin-Angiotensin System	C09	9.15	6.55	16.84
Serum Lipid Reducing Agents	C10	7.52	4.47	22.01
Drugs Used in Diabetes	A10	6.66	4.91	16.18
Diuretics	C03	5.97	5.30	12.67
Drugs for Acid-Related Disorders	A02	5.88	5.11	13.06
Beta Blocking Agents	C07	4.99	3.33	18.62
Analgesics	N02	4.59	6.22	7.61
Antiepileptics	N03	4.51	3.77	13.72
Antithrombotic Agents	B01	4.27	2.53	22.21

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	6.51	4.12	40.22
OLANZAPINE	Zyprexa	5.68	4.07	31.77
OMEPRAZOLE	Losec, Omeprazole	5.30	5.39	18.32
CLOPIDOGREL	Plavix	3.89	2.41	42.12
INTERFERON BETA-1A	Avonex, Rebif	3.49	2.34	35.98
FLUTICASONE PROPIONATE	Flonase, Advair, Flovent	3.10	2.49	26.10
VENLAFAXINE	Effexor	2.74	1.94	32.32
ETANERCEPT	Enbrel	2.64	1.07	
FENTANYL	Fentanyl Citrate, Sublimaze, Duragesic	2.39	1.43	45.25
RAMIPRIL	Altace	2.26	1.31	48.97
CITALOPRAM	Celexa, Citalopram	2.25	1.28	50.90
INFLIXIMAB	Remicade	2.05	0.83	
AMLODIPINE BESYLATE	Amlodipine	2.04	1.85	21.61
PANTOPRAZOLE	Panto, Pantoloc	1.90	1.30	34.73
ROSIGLITAZONE	Avandamet, Avandia	1.85	0.79	165.29
INTERFERON BETA-1B	Betaseron	1.81	1.76	19.63
FILGRASTIM	Neupogen	1.76	1.58	22.07
ROFECOXIB	Vioxx	1.72	1.59	20.95
EPOETIN ALFA	Eprex	1.64	0.90	55.60
IMATINIB	Gleevec	1.64	0.66	
PAROXETINE HCL	Paxil, Paroxetine	1.62	1.86	15.47
BOSENTAN	Tracleer	1.55	0.62	
QUETIAPINE FUMARATE	Seroquel	1.52	0.88	49.61
SIMVASTATIN	Zocor, Simvastatin	1.42	1.76	14.03
RISPERIDONE	Risperdal	1.30	1.72	12.89

Price and Quantity Analysis

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001	100.00	100.00	100.00	100.00	100.00	100.00
2001-2002	99.83	100.73	98.58	124.68	126.05	114.10
2002-2003	99.86	100.74	98.77	146.79	152.67	125.16
2003-2004	99.09	102.01	98.11	167.58	163.23	134.51
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-0.30%	0.67%	-0.63%	18.78%	17.74%	10.39%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
2000-2001	100.00	100.00	100.00	100.00
2001-2002	100.42	100.04	123.20	107.22
2002-2003	100.33	101.75	147.51	111.94
2003-2004	100.98	100.69	162.65	119.15
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	0.33%	0.23%	17.60%	6.01%

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

N05: Psycholeptics

N06: Psychoanaleptics

A02: Drugs for Acid-Related Disorders

C10: Serum Lipid Reducing Agents

L04: Immunosuppressive Agents

	Price Indices					Quantity Indices				
	N05	N06	A02	C10	L04	N05	N06	A02	C10	L04
2000-2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001-2002	100.2	99.6	100.2	102.8	84.5	126.4	125.8	124.2	124.9	178.4
2002-2003	99.6	101.1	98.9	101.3	119.5	155.1	151.8	146.1	156.4	200.4
2003-2004	101.8	102.0	99.0	83.3	114.8	174.8	177.3	163.0	206.1	254.9
Average Annual Growth Rate										
	N05	N06	A02	C10	L04	N05	N06	A02	C10	L04
2000-2001 to 2003-2004	0.60%	0.66%	-0.33%	-5.92%	4.70%	20.46%	21.04%	17.69%	27.25%	36.60%

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	78.70	84.40	74.04	46.74	46.18	55.10
> 2% - 5%	7.82	7.12	7.01	5.52	3.66	7.17
> 5% - 10%	4.44	4.50	3.18	10.34	8.27	9.08
> 10% - 20%	3.68	2.20	5.89	13.18	13.61	9.71
> 20% - 50%	2.91	1.36	4.94	14.33	15.60	9.39
> 50%	2.45	0.42	4.94	9.89	12.67	9.55
Total # of DEPINs	1305	955	628	1305	955	628

Table 12

% Distribution of DEPINs
Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINs	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	59.3	—	0.0%
1 < Max/Min <= 1.1	21.6	578.2	0.4%
1.1 < Max/Min <= 1.3	5.7	1,061.0	0.7%
1.3 < Max/Min <= 1.5	2.9	691.3	0.5%
Max/Min > 1.5	10.5	3,774.4	2.6%
Total	100.0	6,104.9	4.2%

Note: None of these DEPINs have more than 1 DIN-level drug within the respective DEPIN category.

Table 13

High-to-Low Price Ratios, 2003-2004

Defined Daily Dose (DDD) Analysis

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁵⁶
Psycholeptics	N05	224.2	1.60	98.2%
Psychoanaleptics	N06	275.7	1.25	96.1%
Drugs for Acid-Related Disorders	A02	184.8	1.88	99.1%
Serum Lipid Reducing Agents	C10	348.9	0.91	99.6%
Immunosuppressive Agents	L04	5.6	9.20	38.7%

Table 14

Utilization of DDDs
of DDDs per Day per 1,000 Claimants
Average Cost per DDD
% Share of Drug Costs, 2003-2004

56 Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psycholeptics, N05, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ALPRAZOLAM	Xanax, Alprazolam, Alpraz, Alprazol	0.17	6.1%	7.9%
AMOBARBITAL SODIUM	Amytal	0.18	0.0%	0.0%
BROMAZEPAM	Lectopam, Bromazepam	0.28	1.4%	1.0%
BUSPIRONE HCL	Buspar, Linbuspirone, Buspirone, Bustab	1.63	1.6%	0.9%
CHLORALHYDRATE ⁵⁷		—	0.0%	—
CHLORDIAZEPOXIDE HCL	Poxide, Librax, Chlordiazepoxide, Corium, Chlordiazepoxyde HCL, Chlorax	0.14	0.8%	0.5%
CHLORPROMAZINE	Chlorpromazine, Chlorpromanyl, Largacil	0.47	1.2%	0.7%
CLOBAZAM	Frisium, Clobazam	0.45	1.3%	1.0%
CLORAZEPATE DIPOTASSIUM	Tranxene, Clopate, Clorazepate	0.42	0.3%	0.2%
CLOZAPINE	Leponex, Clozapine	11.27	1.4%	1.3%
DIAZEPAM	Valium, Vivol, Dipam, E Pam, Diazepam, Diazemuls, Diastat	0.13	10.0%	8.6%
FLUPENTHIXOL DIHYDROCHLORIDE	Fluanxol	1.60	0.4%	0.3%
FLUPHENAZINE HCL	Fluphenazine, Moditen	0.42	0.4%	0.3%
FLURAZEPAM HCL	Dalmane, Som Pam, Somnol, Flupam, Flurazepam	0.07	1.2%	1.3%
HALOPERIDOL	Haldol, Peridol, Haloperidol	0.28	2.3%	1.2%
HYDROXYZINE HCL	Atarax, Hydroxyzine, Multipax	0.17	1.9%	1.9%
LITHIUM CARBONATE	Carbolith, Lithizine, Lithane, Duralith, Lithium Carbonate	0.21	3.0%	3.2%
LORAZEPAM	Ativan, Lorazem, Lorazepam, Loraz	0.13	18.4%	15.9%
LOXAPINE	Loxapac, Loxapine	1.92	0.5%	0.2%
MEPROBAMATE ⁵⁸		—	0.0%	—
MESORIDIAZINE BESYLATE ⁵⁹		—	0.0%	—
METHOTRIMEPRAZINE	Nozinan, Meprazine, Methotrimeprazine, Methoprazine	1.40	0.5%	0.3%
NITRAZEPAM	Mogadon, Nitrazadon, Nitrazepam	0.08	1.4%	1.0%
OLANZAPINE	Zyprexa	7.47	6.2%	10.2%
OXAZEPAM	Serax, Oxazepam, Novoxapam	0.16	1.6%	1.3%
PENTOBARBITAL ⁶⁰	Nembutal, Pentobarb, Cafergot	—	0.0%	—
PERICIAZINE	Neuleptil	1.38	0.1%	0.0%
PERPHENAZINE	Trilafon, Triavil, Etrafon, Elavil, Phenazine, Proavil, Levazine	0.26	0.2%	0.1%

57 Drug costs equal to zero for 2003-2004

58 Drug costs equal to zero for 2003-2004

59 Drug costs equal to zero for 2003-2004

60 Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
PIMOZIDE	Orap, Pimozide	0.61	0.5%	0.4%
PROCHLORPERAZINE	Prochlorperazine, Prochlorazine, Stemetil, Prochlor	1.78	0.1%	0.1%
QUETIAPINE FUMARATE	Seroquel	5.83	1.2%	2.8%
RISPERIDONE	Risperdal	5.97	5.5%	5.2%
SECOBARBITAL SODIUM ⁶¹		–	0.0%	–
TEMAZEPAM	Restoril, Temazepam,	0.10	10.3%	9.4%
TETRABENAZINE	Nitoman	8.67	0.0%	0.0%
THIORIDAZINE	Mellaril, Ridazine, Thioridazine	0.77	0.5%	0.2%
THIOTHIXENE	Navane	2.14	0.0%	0.0%
TRIAZOLAM	Halcion, Triazolam, Triazo,	0.08	2.2%	1.7%
TRIFLUOPERAZINE HCL	Flurazine, Trifluzine, Terfluzine, Trifluoperazine, Stelazine	0.22	1.9%	2.0%
ZALEPLON	Starnoc	1.35	0.0%	0.0%
ZOPICLONE	Imovane, Rhovane, Zopiclone	0.46	15.3%	18.8%
ZUCLOPENTHIXOL	Clopixol	1.18	0.1%	0.1%

⁶¹ Drug costs equal to zero for 2003-2004

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaléptics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.29	10.7%	7.5%
AMOXAPINE	Asendin	1.01	0.1%	0.0%
CITALOPRAM (CITALOPRAM HYDROBROMIDE)	Celexa, Citalopram	1.14	8.0%	17.0%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.91	1.0%	0.7%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.99	0.9%	0.5%
DEXTOAMPHETAMINE SULFATE	Dexedrine	0.67	1.1%	1.4%
DONEPEZIL HCL	Aricept	4.03	2.9%	3.2%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.60	1.9%	1.0%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.08	8.5%	5.3%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.95	3.4%	2.2%
GALANTAMINE (GALANTAMINE HYDROBROMIDE)	Reminyl	5.55	0.0%	0.1%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.62	1.0%	0.6%
MAPROTIHNE HCL	Ludiomol, Maprotiline	1.76	0.4%	0.1%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.66	3.4%	3.0%
MIRTAZAPINE	Remeron, Mirtazapine	1.10	0.0%	2.1%
MOCLOBEMIDE	Manerix, Moclobemide	0.23	0.9%	1.5%
MODAFINIL	Alertec	3.97	0.0%	0.1%
NEFAZODONE HCL	Serzone, Nefazadone	0.88	2.1%	0.7%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.81	1.0%	0.7%
PAROXETINE HCL	Paxil, Paroxetine	1.72	17.7%	16.4%
PEMOLINE	Cylert	0.74	0.0%	0.0%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.46	0.0%	0.0%
PROTRIPTYLINE HYDROCHLORIDE ⁶²	Triptil	—	0.0%	—
RIVASTIGMINE	Exelon	8.26	0.0%	0.3%
SERTRALINE HCL	Zoloft, Sertraline	0.68	18.7%	14.1%
TRANLYCPROMINE SULFATE	Parnate	0.38	1.1%	0.8%
TRAZODONE HCL	Desyrel, Trazodone	1.22	2.5%	1.8%
TRIMIPRAMINE (TRIMIPRAMINE MALEATE)	Trimipramine, Rhotrimine, Surmontil	0.67	0.6%	0.3%
VENLAFAXINE	Effexor	1.59	12.2%	18.5%

⁶² Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimetine, Cimet	0.26	2.3%	1.0%
ESOMEPRAZOLE	Nexium	1.10	0.0%	0.1%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	0.91	3.6%	2.2%
LANSOPRAZOLE	Prevacid, HP-Pac	2.04	5.9%	6.6%
MAGNESIUM HYDROXIDE	Magnesia, Roloids, Dermagran, Gaviscon, Dioval,	0.45	0.0%	0.0%
MISOPROSTOL	Cytotec, Misoprostol,	1.39	1.0%	0.4%
NIZATIDINE	Axid, Nizatidine	1.14	1.1%	0.5%
OMEPRAZOLE	Losec, Omeprazole	2.27	48.7%	53.7%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	2.08	8.8%	14.1%
RABEPRAZOLE SODIUM	Pariet	1.19	0.0%	2.1%
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.88	28.3%	18.9%
SUCRALFATE	Sulcrate, Sucralfate	1.29	0.3%	0.2%

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, *Drugs for Acid-Related Disorders, A02, 2003-2004*

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.10	34.9%	44.9%
BEZAFIBRATE	Bezalip, Bezafibrate	2.63	1.0%	0.7%
CERIVASTATIN SODIUM	Baycol	—	7.3%	—
COLESTIPOL HCL	Colestid	5.25	0.0%	0.0%
EZETIMIBE	Ezetrol	1.69	0.0%	0.0%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.44	6.5%	4.0%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.29	2.3%	0.8%
GEMFIBROZIL	Lopid, Gemfibrozil	1.53	1.5%	0.6%
LOVASTATIN	Mevacor, Lovastatin	1.65	7.0%	2.2%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.89	12.8%	6.2%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.12	0.0%	1.7%
SIMVASTATIN	Zocor, Simvastatin	0.54	26.7%	39.0%

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, *Serum Lipid Reducing Agents, C10, 2003-2004*

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Immunosuppressive Agents, L04, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AZATHIOPRINE	Imuran, Azathioprine	1.78	49.0%	39.3%
CYCLOSPORINE	Sandimmune, Neoral, Cyclosporine	14.30	10.9%	4.5%
LEFLUNOMIDE	Arava	11.40	0.1%	11.0%
MYCOPHENOLATE MOFETIL	Cellcept	18.02	15.0%	20.3%
SIROLIMUS	Rapamune	44.65	0.0%	0.3%
TACROLIMUS	Prograf, Protopic	11.45	24.9%	24.6%

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Psycholeptics	N05	1.89	48.62	49.14	0.01	-0.01	0.35
Psychoanaleptics	N06	-4.43	79.56	17.52	10.05	-0.02	-2.69
Drugs for Acid-Related Disorders	A02	-2.20	77.06	21.94	3.60		-0.40
Serum Lipid Reducing Agents	C10	-42.26	232.20	-19.33	5.50	-9.07	-67.04
Immunosuppressive Agents	L04	4.44	68.61	16.21	2.58		8.16

ONTARIO

Drug Expenditures of Public Drug Plans

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate	
		2000-2001 to 2003-2004	1997-1998 to 2003-2004
Program-Paid Costs	2,561.2	13.3%	12.7%
Drug Costs Paid	2,241.7	13.2%	12.8%
Dispensing Fees Paid	434.1	12.5%	10.0%

Table 1

Public Drug Plan Expenditures

	1997-1998	2003-2004
Program-Paid Expenditures as % of Provincial GDP	0.3%	0.5%
Program-Paid Expenditures as % of Provincial Budget ⁶³	2.5%	3.8%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	6.6%	8.5%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	88.2%	88.5%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	111.17	186.78

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 1997-1998 and 2003-2004

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	26.7%	25.8%	24.8%	24.0%	23.5%	23.2%	23.3%
Public Drug Plan Participation Rates (%)	72.8%	73.2%	73.7%	73.9%	73.6%	74.2%	74.6%
Combined C-P Rates (%)	19.5%	18.9%	18.3%	17.7%	17.3%	17.2%	17.4%
Number of Prescription Transactions per Claimant	18.7	19.7	21.0	23.2	25.8	28.7	31.5
Drug Costs Per Claimant (constant 1997 dollars)	\$499	\$551	\$607	\$696	\$773	\$867	\$941

Table 3

Utilization by Claimant Counts

63 Fiscal year expenditures were divided by calendar year budgets.

Table 4**Drug Cost and Percentage Increase by Year Period**

	Drug Cost (\$Million)	Year-over-year % Increase
1997-1998	1,091.1	
1998-1999	1,213.8	11.2%
1999-2000	1,332.6	9.8%
2000-2001	1,547.1	16.1%
2001-2002	1,756.9	13.6%
2002-2003	2,003.8	14.1%
2003-2004	2,241.7	11.9%
4-Year (2000-2001 to 2003-2004)% Increase	44.9%	
7-Year (1997-1998 to 2003-2004)% Increase	105.5%	

Table 5a**Drug Costs Paid for Patented and Non-Patented Market Segments**

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	1,499.7	66.90	14.93
Non-Patented Drugs	742.0	33.10	9.88
All Drugs	2,241.7	100.00	13.16

Table 5b**Drug Costs Paid for Brand Name and Generic Market Segments**

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	1,839.9	82.08	14.20
Generic Drugs	401.5	17.91	8.83

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Serum Lipid Reducing Agents	C10	12.51	13.02	12.50
Psychoanaleptics	N06	11.00	7.93	20.60
Agents Acting on the Renin-Angiotensin System	C09	10.25	10.56	12.68
Drugs for Acid-Related Disorders	A02	9.21	9.70	12.31
Psycholeptics	N05	7.08	5.56	18.21
Analgesics	N02	5.69	3.42	27.30
Calcium Channel Blockers	C08	4.87	7.56	7.71
Drugs for Treatment of Bone Diseases	M05	4.78	2.33	40.03
Drugs for Obstructive Airway Diseases	R03	4.08	5.09	9.97
Anti thrombotic Agents	B01	3.02	2.12	21.46

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Psychoanaleptics	N06	12.91	7.62	24.41
Agents Acting on the Renin-Angiotensin System	C09	10.24	7.03	19.46
Psycholeptics	N05	9.16	8.78	12.42
Diuretics	C03	8.81	6.39	18.02
Serum Lipid Reducing Agents	C10	8.06	4.98	22.76
Drugs for Acid-Related Disorders	A02	7.00	5.62	15.66
Beta Blocking Agents	C07	5.41	4.10	16.94
Calcium Channel Blockers	C08	4.21	4.00	12.54
Drugs used in Diabetes	A10	3.92	3.75	12.44
Anti thrombotic Agents	B01	3.71	2.24	23.59

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	12.89	7.58	28.96
RAMIPRIL	Altace	6.78	3.56	35.41
AMLODIPINE BESYLATE	Amlodipine	3.96	3.85	13.85
OLANZAPINE	Zyprexa	3.70	3.04	17.40
OMEPRAZOLE	Losec, Omeprazole	3.30	4.48	9.16
PANTOPRAZOLE	Panto, Pantoloc	3.26	1.50	46.66
DONEPEZIL HCL	Aricept	3.18	1.68	35.28
FLUTICASON PROPRIONATE	Flonase, Advair, Flovent	2.99	2.67	15.57
CLOPIDOGREL	Plavix	2.99	1.14	77.50
MELOXICAM	Mobicox, Meloxicam	2.94	0.94	309.94
CITALOPRAM	Celexa, Citalopram	2.69	1.07	67.37
OXYCODONE HCL	Percocet, Percodan ⁶⁴	2.53	0.94	85.82
FENTANYL	Fentanyl Citrate, Sublimaze, Duragesic	2.39	1.07	49.33
VENLAFAXINE	Effexor	2.38	1.12	44.34
RABEPRAZOLE SODIUM	Pariet	2.32	0.73	
ALENDRONATE	Fosamax, Alendronate	2.25	0.80	106.72
RISEDRONATE SODIUM	Actonel	2.08	0.67	268.90
QUETIAPINE FUMARATE	Seroquel	1.89	0.74	69.99
EPOETIN ALFA	Epex	1.86	0.66	101.13
PRAVASTATIN SODIUM	Pravachol, Pravastatin	-1.76	1.07	-12.95
LANSOPRAZOLE	HP-Pac, Prevacid	1.70	1.09	24.86
SIMVASTATIN	Zocor, Simvastatin	1.59	2.79	6.82
ENALAPRIL MALEATE	Vaseretic, Enalapril	-1.41	1.87	-6.83
IMATINIB	Gleevec	1.34	0.42	
VALSARTAN	Diovan	1.28	0.55	54.35

⁶⁴ Brand Names also include Endocet, Endodan, Oxy-ir, Oxycontin, Percocet, Percodan, Ratio-Oxycocet, Ratio-Oxycodan, Roxicet, Supeudol.

Price and Quantity Analysis

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1997-1998	100.00	100.00	100.00	100.00	100.00	100.00
1998-1999	99.12	99.53	98.91	112.05	117.43	103.69
1999-2000	96.39	98.53	95.02	125.68	128.18	112.62
2000-2001	95.37	98.00	94.75	148.78	147.73	124.99
2001-2002	94.01	96.67	93.98	171.36	168.00	140.93
2002-2003	93.84	96.49	93.93	196.72	198.05	152.30
2003-2004	92.07	95.66	93.30	221.63	215.12	158.39
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-1.16%	-0.80%	-0.51%	14.21%	13.35	8.22%
1997-1998 to 2003-2004	-1.37%	-0.74%	-1.51%	14.18%	13.62	7.97%

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
1997-1998	100.00	100.00	100.00	100.00
1998-1999	99.41	99.18	113.81	103.84
1999-2000	97.82	96.06	124.81	108.30
2000-2001	97.33	95.42	150.42	115.51
2001-2002	96.24	95.23	171.11	123.08
2002-2003	95.82	96.77	200.96	124.49
2003-2004	93.97	96.35	224.74	125.78
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	-1.16%	0.32%	14.32%	2.88%
1997-1998 to 2003-2004	-1.03%	-0.62%	14.45%	3.90%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

C10: Serum Lipid Reducing Agents

N06: Psychoanaleptics

C09: Agents Acting on the Renin-Angiotensin System

A02: Drugs for Acid-Related Disorders

N05: Psycholeptics

	Price Indices					Quantity Indices				
	C10	N06	C09	A02	N05	C10	N06	C09	A02	N05
1997-1998	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1998-1999	97.5	99.2	99.8	100.0	99.6	125.2	114.3	114.3	108.1	142.8
1999-2000	96.6	94.0	99.6	97.9	98.6	153.9	130.2	132.8	112.6	202.6
2000-2001	94.5	88.2	99.7	97.0	98.6	186.7	166.3	159.5	133.2	253.2
2001-2002	87.9	87.3	98.8	96.9	99.6	221.8	202.7	182.5	154.0	298.6
2002-2003	87.1	87.5	99.0	96.5	102.2	271.0	245.4	207.70	171.1	346.1
2003-2004	79.4	87.4	99.1	96.5	103.6	307.4	293.4	228.6	187.0	397.1
Average Annual Growth Rate										
	C10	N06	C09	A02	N05	C10	N06	C09	A02	N05
2000-2001 to 2003-2004	-5.64%	-0.32%	-0.22%	-0.16%	1.66%	18.10%	20.84%	12.77%	11.97%	16.17%
1997-1998 to 2003-2004	-3.78%	-2.22%	-0.16%	-0.59%	0.59%	20.58%	19.65%	14.78%	10.99%	25.84%

Table 12

% Distribution of DEPINS

Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	84.14	86.27	77.80	57.28	54.19	71.46
> 2% - 5%	3.38	5.03	1.06	6.07	4.51	6.34
> 5% - 10%	3.12	3.88	2.33	8.84	8.28	6.98
> 10% - 20%	2.34	2.73	4.23	8.75	8.60	7.19
> 20% - 50%	4.16	1.99	7.82	9.27	12.58	4.44
> 50%	2.86	0.10	6.77	9.79	11.84	3.59
Total # of DEPINS	1154	954	473	1154	954	473

Table 13

High-to-Low Price Ratios, 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINS	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	57.9	—	0.0%
1 < Max/Min <= 1.1	19.5	1,139.1	0.1%
1.1 < Max/Min <= 1.3	10.4	5,839.5	0.3%
1.3 < Max/Min <= 1.5	3.5	5,043.8	0.3%
Max/Min > 1.5	8.7	13,600.0	0.7%
Total	100.0	25,622.4	1.4%

Note: None of these DEPs have more than 1 DIN-level drug within the respective DEP category.

Defined Daily Dose (DDD) Analysis

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁶⁵
Serum Lipid Reducing Agents	C10	362.7	1.03	99.5%
Psychoanaleptics	N06	155.1	1.44	97.9%
Agents Acting on the Renin-Angiotensin System	C09	572.1	0.50	94.3%
Drugs for Acid-Related Disorders	A02	175.3	1.58	99.0%
Psycholeptics	N05	120.5	1.30	97.8%

Table 14

Utilization of DDDs

of DDDs per Day per 1,000 Claimants

Average Cost per DDD

% Share of Drug Costs, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.01	47.8%	59.3%
BEZAFIBRATE	Bezalip, Bezafibrate	2.40	0.5%	0.3%
CERIVASTATIN SODIUM ⁶⁶	Baycol	–	4.5%	–
COLESTIPOL HCL	Colestid	4.73	0.0%	0.0%
EZETIMIBE	Ezetrol	1.57	0.0%	0.0%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.24	4.9%	3.4%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.19	1.4%	0.7%
GEMFIBROZIL	Lopid, Gemfibrozil	1.19	0.7%	0.3%
LOVASTATIN	Mevacor, Lovastatin	1.60	5.2%	2.1%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.96	15.0%	8.8%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.12	0.0%	2.3%
SIMVASTATIN	Zocor, Simvastatin	0.97	20.0%	22.9%

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

65 Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

66 Drug costs equal to zero for 2003-2004

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaesthetics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.25	10.7%	7.7%
AMOXAPINE	Asendin	0.87	0.1%	0.0%
CITALOPRAM (CITALOPRAM HYDROBROMIDE)	Celexa, Citalopram	1.15	5.2%	17.4%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.88	0.7%	0.5%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.89	0.7%	0.4%
DEXTOAMPHETAMINE SULFATE	Dexedrine	0.80	0.6%	0.6%
DONEPEZIL HCL	Aricept	4.06	4.5%	7.7%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.60	2.2%	1.3%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.01	11.2%	6.8%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.94	3.8%	1.9%
GALANTAMINE (GALANTAMINE HYDROBROMIDE)	Reminyl	4.84	0.0%	1.4%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.55	1.2%	0.7%
MAPROTIHNE HCL	Ludiomol, Maprotiline	1.66	0.3%	0.1%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.56	3.0%	2.3%
MIRTAZAPINE	Remeron, Mirtazapine	1.24	0.0%	2.2%
MOCLOBEMIDE	Manerix, Moclobemide	0.73	0.8%	0.4%
MODAFINIL	Alertec	3.78	0.0%	0.0%
NEFAZODONE HCL	Serzone, Nefazadone	1.49	1.5%	0.3%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.80	1.4%	1.0%
PAROXETINE HCL	Paxil, Paroxetine	1.54	21.2%	17.0%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.32	0.1%	0.0%
PROTRIPTYLINE HCL	Triptil	1.04	0.0%	0.0%
RIVASTIGMINE	Exelon	6.48	0.0%	0.9%
SERTRALINE HCL	Zoloft, Sertraline	0.81	21.5%	14.1%
TRANLYCPROMINE SULFATE	Parnate	0.33	0.3%	0.2%
TRAZODONE HCL	Desyrel, Trazodone	1.26	2.4%	2.4%
TRIMIPRAMINE (TRIMIPRAMINE MALEATE)	Trimipramine, Rhotrimine, Surmontil	0.65	0.7%	0.4%
VENLAFAXINE	Effexor	1.69	5.6%	12.3%

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents Acting on the Renin-Angiotensin System, C09, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.38	0.3%	0.2%
CANDESARTAN CILEXETIL	Atacand	0.71	1.1%	2.8%
CAPTOPRIL	Capoten, Captopril, Capto, Capril,	0.58	2.7%	0.8%
CILAZAPRIL	Inhibace	0.45	3.4%	2.0%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	0.95	20.2%	9.9%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.02	0.0%	0.1%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.86	5.5%	3.2%
IRBESARTAN	Avapro, Avalide	0.83	1.7%	2.5%
LISINOPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.59	13.3%	6.7%
LOSARTAN POTASSIUM	Cozaar	0.92	4.6%	3.4%
PERINDOPRIL ERBUMINE	Coversyl	0.79	2.8%	2.2%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.62	5.3%	3.6%
RAMIPRIL	Altace	0.31	37.0%	57.9%
TELMISARTAN	Micardis	0.56	0.6%	1.7%
TRANDOLAPRIL	Mavik	0.91	0.0%	0.1%
VALSARTAN	Diovan	0.78	1.6%	2.9%

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimetine, Cimet	0.24	2.1%	0.9%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	1.10	6.4%	3.7%
LANSOPRAZOLE	Prevacid, HP-Pac	2.03	5.5%	8.6%
MISOPROSTOL	Cytotec, Misoprostol,	1.18	1.3%	0.5%
NIZATIDINE	Axid, Nizatidine	1.05	4.4%	2.2%
OMEPRAZOLE	Losec, Omeprazole	2.19	33.1%	33.5%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	1.90	5.3%	12.9%
RABEPRAZOLE SODIUM	Pariet	1.28	0.0%	9.3%
RANITIDINE BISMUTH CITRATE ⁶⁷		—	0.0%	—
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.81	41.4%	28.1%
SUCRALFATE	Sulcrate, Sucralfate	1.18	0.5%	0.3%

⁶⁷ Drug costs equal to zero for 2003-2004

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psycholeptics, N05, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ALPRAZOLAM	Xanax, Alprazolam, Alpraz, Alprazol	0.22	5.1%	4.7%
AMOBARBITAL SODIUM	Amytal	0.14	0.1%	0.0%
BROMAZEPAM	Lectopam, Bromazepam	0.27	1.9%	1.6%
BUSPIRONE HCL	Buspar, Linbuspirone, Buspirone, Bustab	2.99	0.1%	0.1%
CHLORAL HYDRATE ⁶⁸		—	0.0%	—
CHLORDIAZEPOXIDE HCL	Poxide, Librax, Chlordiazepoxide, Corium, Chlordiazepoxyde HCL, Chlorax	0.16	1.3%	0.9%
CHLORPROMAZINE	Chlorpromazine, Chlorpromanyl, Largacil	0.62	0.8%	0.5%
CLOBAZAM	Frisium, Clobazam	0.43	1.0%	1.0%
CLORAZEPATE DIPOTASSIUM	Tranxene, Clopate, Clorazepate	0.39	0.4%	0.3%
CLOZAPINE	Leponex, Clozapine	11.25	0.0%	0.0%
DIAZEPAM	Valium, Vivol, Dipam, E Pam, Diazepam, Diazemuls, Diastat	0.12	9.8%	8.8%
FLUPENTHIXOL DIHYDROCHLORIDE	Fluanxol	1.42	0.2%	0.1%
FLUPHENAZINE HCL	Fluphenazine, Moditen	0.60	0.1%	0.1%
FLURAZEPAM HCL	Dalmane, Som Pam, Somnol, Flupam, Flurazepam	0.10	2.3%	1.6%
HALOPERIDOL	Haldol, Peridol, Haloperidol	0.28	1.6%	1.1%
HYDROXYZINE HCL	Atarax, Hydroxyzine, Multipax	0.16	0.0%	0.0%
LITHIUM CARBONATE	Carbolith, Lithizine, Lithane, Duralith, Lithium Carbonate	0.18	2.9%	2.8%
LORAZEPAM	Ativan, Lorazem, Lorazepam, Loraz	0.12	26.4%	26.3%
LOXAPINE	Loxapac, Loxapine	1.74	0.4%	0.3%
MESORIDAZINE BESYLATE	Serentil	2.84	0.0%	0.0%
METHOTRIMEPRAZINE	Nozinan, Mepazine, Methotrimeprazine, Methoprazine	1.39	0.3%	0.2%
NITRAZEPAM	Mogadon, Nitrazadon, Nitrazepam	0.07	5.9%	5.3%
OLANZAPINE	Zyprexa	6.75	6.9%	10.8%
OXAZEPAM	Serax, Oxazepam, Novoxapam	0.15	8.3%	7.5%
PENTOBARBITAL	Nembutal, Pentobarb, Cafergot	0.06	0.0%	0.0%
PERICIAZINE	Neuleptil	1.34	0.0%	0.0%
PERPHENAZINE	Trilafon, Triavil, Etrafon, Elavil, Phenazine, Proavil, Levazine	0.22	0.5%	0.3%
PIMOZIDE	Orap, Pimozide	0.65	0.4%	0.3%
PROCHLORPERAZINE	Prochlorperazine, Prochlorazine, Stemetil, Prochlor	1.45	0.2%	0.2%

⁶⁸ Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
QUETIAPINE FUMARATE	Seroquel	5.61	0.7%	3.2%
RISPERIDONE	Risperdal	5.87	3.6%	4.4%
SECOBARBITAL SODIUM	Seconal, Secobarb, Tuinal Pulvule	0.11	0.3%	0.1%
TEMAZEPAM	Restoril, Temazepam,	0.11	14.2%	13.9%
TETRABENAZINE	Nitoman	7.72	0.0%	0.0%
THIORIDAZINE	Mellaril, Ridazine, Thioridazine	0.80	0.3%	0.2%
THIOTHIXENE	Navane	1.62	0.0%	0.0%
TRIAZOLAM	Halcion, Triazolam, Triazo,	0.08	3.1%	2.4%
TRIFLUOPERAZINE HCL 0.5%	Flurazine, Trifluzine, Terfluzine, Trifluoperazine, Stelazine		0.46	0.8%
ZOPICLONE	Imovane, Rhovane, Zopiclone	0.67	0.1%	0.1%
ZUCLOPENTHIXOL	Clopixol	1.08	0.0%	0.0%

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Serum Lipid Reducing Agents	C10	-51.23	203.86	-14.43	8.31	-8.18	-38.34
Psychoanaleptics	N06	-2.78	51.08	34.60	15.13		1.98
Agents Acting on the Renin-Angiotensin System	C09	-27.58	222.12	-77.97	0.49		-17.06
Drugs for Acid-Related Disorders	A02	-2.05	39.62	36.58	25.57	0.00	0.28
Psycholeptics	N05	11.02	5.50	82.73		0.00	0.75

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

NEW BRUNSWICK

Drug Expenditures of Public Drug Plans

Table 1

Public Drug Plan Expenditures

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate	
		2000-2001 to 2003-2004	1997-1998 to 2003-2004
Program-Paid Costs	107.4	13.1%	13.7%
Drug Costs Approved	97.3	12.9%	13.9%
Dispensing Fees Approved	21.5	8.6%	6.9%

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 1997-1998 and 2003-2004

	1997-1998	2003-2004
Program-Paid Expenditures as % of Provincial GDP	0.3%	0.5%
Program-Paid Expenditures as % of Provincial Budget ⁶⁹	1.3%	2.1%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	4.1%	6.1%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	88.7%	94.8%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	66.20	127.95

Table 3

Utilization by Claimant Counts

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	n/a	16.0%	15.2%	14.7%	14.5%	14.2%	14.0%
Public Drug Plan Participation Rates (%)	n/a	91.3%	92.8%	93.1%	92.3%	92.9%	93.7%
Combined C-P Rates (%)	15.2%	14.6%	14.1%	13.7%	13.3%	13.2%	13.1%
Number of Prescription Transactions per Claimant	17.0	18.6	19.9	21.4	22.8	23.7	24.7
Drug Costs Per Claimant (constant 1997 dollars)	\$392	\$452	\$515	\$615	\$708	\$796	\$884

⁶⁹ Fiscal year expenditures were divided by calendar year budgets.

	Drug Cost (\$million)	Year-over-year % Increase
1997-1998	44.7	
1998-1999	50.5	13.2%
1999-2000	57.0	12.8%
2000-2001	67.7	18.7%
2001-2002	78.2	15.6%
2002-2003	87.5	11.9%
2003-2004	97.3	11.2%
4-Year (2000-2001 to 2003-2004)% Increase	43.9%	
7-Year (1997-1998 to 2003-2004)% Increase	117.9%	

Table 4

Drug Cost and Percentage Increase by Year Period

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	60.2	61.88	15.09
Non-Patented Drugs	37.1	38.12	9.64
All Drugs	97.3	100.0	12.9

Table 5a

Drug Costs Paid for Patented and Non-Patented Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	80.4	82.6	13.9
Generic Drugs	16.9	17.4	8.4

Table 5b

Drug Costs Paid for Brand Name and Generic Market Segments

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Psycholeptics	N05	14.88	11.40	18.42
Serum Lipid Reducing Agents	C10	10.43	9.48	14.58
Drugs for Acid-Related Disorders	A02	8.84	6.81	18.28
Psychoanaleptics	N06	8.52	6.94	16.91
Immunostimulants	L03	8.00	5.35	22.52
Agents Acting on the Renin-Angiotensin System	C09	7.84	8.32	11.95
Immunosuppressive Agents	L04	5.86	3.12	32.82
Drugs for Obstructive Airway Diseases	R03	4.80	5.80	10.17
Drugs Used in Diabetes	A10	4.46	3.26	19.72
Antianemic Preparations	B03	4.23	1.83	49.90
Calcium Channel Blockers	C08	3.99	6.11	7.68

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Psycholeptics	N05	16.02	13.76	4.09
Psychoanaleptics	N06	15.15	6.50	8.96
Serum Lipid Reducing Agents	C10	14.21	4.29	13.86
Agents Acting on the Renin-Angiotensin System	C09	12.66	5.77	8.33
Sex Hormones and Modulators of the Genital System	G03	-9.58	2.25	-10.90
Diuretics	C03	8.28	5.65	5.26
Drugs for Acid-Related Disorders	A02	7.56	4.98	5.47
Drugs Used in Diabetes	A10	6.98	4.35	5.81
Antibacterials for Systemic Use	J01	-6.89	3.93	-5.11
Antiepileptics	N03	5.73	3.40	6.15
Antithrombotic Agents	B01	5.62	1.85	12.41

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	9.94	5.38	33.12
OLANZAPINE	Zyprexa	7.98	5.18	24.37
RAMIPRIL	Altace	6.98	3.21	45.77
INTERFERON BETA-1A	Avonex, Rebif	5.17	3.35	24.39
OMEPRAZOLE	Losec, Omeprazole	3.86	3.13	17.54
CLOPIDOGREL	Plavix	3.63	1.62	48.98
EPOETIN ALFA	Eprex	3.30	1.51	46.67
FLUTICASON PROPIONATE	Flonase, Advair, Flovent	3.05	2.61	16.29
VENLAFAXINE	Effexor	3.01	1.38	46.07
RISPERIDONE	Risperdal	2.73	2.30	16.64
SIMVASTATIN	Zacor, Simvastatin	2.59	2.37	14.93
CITALOPRAM	Celexa, Citalopram	2.49	1.13	47.20
NIFEDIPINE	Adalat, Nifed, Nifedipine	2.31	1.87	17.52
QUETIAPINE FUMARATE	Seroquel	2.15	0.93	53.28
RANITIDINE HCL	Zantac, Ranitidine	2.08	1.30	25.77
ROSIGLITAZONE	Avandamet, Avandia	1.76	0.74	56.51
INFLIXIMAB	Remicade	1.69	0.53	
LANSOPRAZOLE	HP-Pac, Prevacid	1.68	0.97	29.65
CIPROFLOXACIN	Cipro, Ciloxan, Ciprofloxacin	-1.67	0.16	-38.25
AMLODIPINE BESYLATE	Amlodipine	1.64	1.28	18.48
PAROXETINE HCL	Paxil, Paroxetine	1.60	2.13	9.25
PANTOPRAZOLE	Panto, Pantoloc	1.57	0.76	40.76
MYCOPHENOLATE MOFETIL	Cellcept	1.46	0.71	40.45
MELOXICAM	Mobicox, Meloxicam	1.41	0.44	501.46
IMATINIB	Gleevec	1.39	0.43	

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1997-1998	100.00	100.00	100.00	100.00	100.00	100.00
1998-1999	97.89	99.69	97.12	116.00	120.94	110.58
1999-2000	95.00	97.51	95.58	131.84	126.44	124.84
2000-2001	95.28	96.85	95.40	155.02	157.97	123.67
2001-2002	94.46	95.98	94.80	179.66	188.27	133.98
2002-2003	94.33	96.15	94.56	202.66	215.44	145.08
2003-2004	93.24	95.46	94.00	225.67	229.24	163.74
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-0.72%	-0.48%	-0.49%	13.33%	13.22%	9.81%
1997-1998 to 2003-2004	-1.16%	-0.77%	-1.03%	14.53%	14.83%	8.57%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
1997-1998	100.00	100.00	100.00	100.00
1998-1999	98.41	98.48	118.09	105.96
1999-2000	96.49	96.70	127.34	119.61
2000-2001	96.00	96.46	162.35	106.61
2001-2002	95.59	96.46	187.81	113.10
2002-2003	95.11	98.72	213.45	118.50
2003-2004	94.17	98.12	238.08	125.03
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	-0.64%	0.57%	13.61%	5.46%
1997-1998 to 2003-2004	-1.00%	-0.32%	15.55%	3.79%

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

N05: Psycholeptics

C10: Serum Lipid Reducing Agents

A02: Drugs for Acid-Related Disorders

N06: Psychoanaesthetics

C09: Agents Acting on the Renin-Angiotensin System

	Price Indices					Quantity Indices				
	N05	C10	A02	N06	C09	N05	C10	A02	N06	C09
1997-1998	100.00	100.0	100.0	100.0	100.00	100.00	100.0	100.0	100.0	100.00
1998-1999	98.48	98.2	99.8	98.3	97.62	153.47	132.4	131.6	113.5	110.58
1999-2000	97.39	95.7	99.0	94.0	88.45	193.92	168.9	156.6	129.5	124.41
2000-2001	97.81	93.4	99.1	88.4	98.06	246.85	209.8	185.9	151.5	147.71
2001-2002	98.65	89.9	99.7	87.4	97.70	294.55	256.7	224.9	176.7	168.98
2002-2003	100.63	88.2	99.4	89.2	97.74	344.20	319.4	269.9	206.3	189.94
2003-2004	101.52	80.2	99.6	87.2	98.54	393.75	379.4	309.0	237.0	206.10
Average Annual Growth Rate										
	N05	C10	A02	N06	C09	N05	C10	A02	N06	C09
2000-2001 to 2003-2004	1.25%	-4.95%	0.17%	-0.47%	0.16%	16.84%	21.83%	18.45%	16.08%	11.74%
1997-1998 to 2003-2004	0.25%	-3.61%	-0.06%	-2.26%	-0.24%	25.66%	24.89%	20.69%	15.47%	12.81%

Table 12

% Distribution of DEPINs

Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	82.70	86.46	79.06	55.35	50.06	66.88
> 2% - 5%	5.54	6.26	2.56	6.12	3.70	7.26
> 5% - 10%	3.15	3.32	2.78	8.22	7.66	5.98
> 10% - 20%	1.63	1.02	2.35	10.80	11.62	5.77
> 20% - 50%	3.63	2.17	6.84	10.61	14.69	7.69
> 50%	3.35	0.77	6.41	8.89	12.26	6.41
Total # of DEPINs	1046	783	468	1046	783	468

Table 13

High-to-Low Price Ratios, 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINs	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	59.0	—	0.0%
1 < Max/Min <= 1.1	29.4	424.2	0.6%
1.1 < Max/Min <= 1.3	4.1	329.4	0.4%
1.3 < Max/Min <= 1.5	2.6	515.5	0.7%
Max/Min > 1.5	5.0	1,506.6	2.0%
Total	100.0	2,775.7	3.7%

Note: Few of these DEPINs (4/683) have more than 1 DIN-level drug within the respective DEPIN category.

Defined Daily Dose (DDD) Analysis

Table 14

Utilization of DDDs

of DDDs per Day per 1,000 Claimants

Average Cost per DDD

% Share of Drug Costs, 2003-2004

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁷⁰
Psycholeptics	N05	234.0	1.29	98.0%
Serum Lipid Reducing Agents	C10	258.1	0.99	99.4%
Drugs for Acid-Related Disorders	A02	154.3	1.18	98.4%
Psychoanaleptics	N06	155.4	1.19	98.1%
Agents Acting on the Renin-Angiotensin System	C09	441.3	0.50	97.4%

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psycholeptics, N05, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ALPRAZOLAM	Xanax, Alprazolam, Alprazol, Alprazol	0.20	8.9%	8.9%
BROMAZEPAM	Lectopam, Bromazepam	0.25	3.5%	3.1%
BUSPIRONE HCL	Buspar, Linbuspirone, Buspirone, Bustab	1.96	0.4%	0.4%
CHLORDIAZEPOXIDE HCL	Poxide, Librax, Chlordiazepoxide, Corium, Chlordiazepoxyde HCL, Chlorax	0.14	1.5%	1.2%
CHLORPROMAZINE	Chlorpromazine, Chlorpromanyl, Largacil	0.58	0.9%	0.6%
CLOBAZAM	Frisium, Clobazam	0.43	1.5%	1.5%
CLORAZEPATE DIPOTASSIUM	Tranxene, Clopate, Clorazepate	0.38	1.8%	1.4%
CLOZAPINE	Leponex, Clozapine	12.25	0.8%	1.0%
DIAZEPAM	Valium, Vival, Dipam, E Pam, Diazepam, Diazemuls, Diastat	0.11	5.3%	4.9%
FLUPENTHIXOL DIHYDROCHLORIDE	Fluanxol	1.42	0.2%	0.1%
FLUPHENAZINE HCL	Fluphenazine, Moditen	0.49	0.2%	0.2%
FLURAZEPAM HCL	Dalmane, Som Pam, Somnol, Flupam, Flurazepam	0.09	3.3%	2.3%
HALOPERIDOL	Haldol, Peridol, Haloperidol	0.22	3.4%	2.1%
HYDROXYZINE HCL	Atarax, Hydroxyzine, Multipax	0.17	1.8%	1.7%
LITHIUM CARBONATE	Carbolith, Lithizine, Lithane, Duralith, Lithium Carbonate	0.23	2.0%	1.6%
LORAZEPAM	Ativan, Lorazem, Lorazepam, Loraz	0.13	23.3%	22.1%
LOXAPINE	Loxapac, Loxapine	1.87	0.3%	0.2%
MEPROBAMATE ⁷¹	Mepro, Meprobamate, Equanil	—	0.1%	—

⁷⁰ Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

⁷¹ Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
MESORIDAZINE BESYLATE ⁷²	Serentil	–	0.1%	–
METHOTRIMEPRAZINE	Nozinan, Meprazine, Methotrimeprazine, Methoprazine	1.53	0.3%	0.2%
NITRAZEPAM	Mogadon, Nitrazadon, Nitrazepam	0.07	2.8%	2.5%
OLANZAPINE	Zyprexa	7.29	4.7%	8.2%
OXAZEPAM	Serax, Oxazepam, Novoxapam	0.15	6.4%	6.8%
PENTOBARBITAL	Nembutal, Pentobarb, Cafergot	–	0.0%	–
PERICIAZINE	Neuleptil	1.44	0.2%	0.2%
PERPHENAZINE	Trilafon, Triavil, Etrafon, Elavil, Phenazine, Proavil, Levazine	0.25	0.2%	0.1%
PIMOZIDE	Orap, Pimozide	0.59	0.5%	0.3%
PROCHLORPERAZINE	Prochlorperazine, Prochlorazine, Stemetil, Prochlor	1.52	0.1%	0.1%
QUETIAPINE FUMARATE	Seroquel	5.90	0.6%	1.8%
RISPERIDONE	Risperdal	6.14	3.4%	4.3%
TEMAZEPAM	Restoril, Temazepam,	0.10	7.4%	7.3%
TETRABENAZINE	Nitoman	8.28	0.0%	0.0%
THIOPROPERAZINE MESYLATE	Majeptil	2.42	0.0%	0.0%
THIORIDAZINE	Mellaril, Ridazine, Thioridazine	0.74	1.0%	0.5%
THIOTHIXENE	Navane	1.88	0.0%	0.0%
TRIAZOLAM	Halcion, Triazolam, Triazo,	0.07	2.7%	2.2%
TRIFLUOPERAZINE HCL	Flurazine, Trifluzine, Terfluzine, Trifluoperazine, Stelazine	0.51	0.8%	0.5%
ZOPICLONE	Imovane, Rhovane, Zopiclone	0.46	9.2%	11.6%
ZUCLOPENTHIXOL	Clopixol	1.17	0.2%	0.2%

⁷² Drug costs equal to zero for 2003-2004

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.02	42.8%	55.2%
BEZAFIBRATE	Bezalip, Bezafibrate	2.55	0.1%	0.1%
CERIVASTATIN SODIUM	Baycol	—	9.3%	—
COLESTIPOL HCL	Colestid	5.44	0.0%	0.0%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.18	5.7%	3.6%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.35	2.7%	1.0%
GEMFIBROZIL	Lopid, Gemfibrozil	1.44	0.7%	0.3%
LOVASTATIN	Mevacor, Lovastatin	1.64	6.6%	2.8%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.93	10.9%	6.9%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.16	0.0%	0.2%
SIMVASTATIN	Zocor, Simvastatin	0.83	21.2%	29.8%

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimet	0.24	53.8%	31.4%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	1.12	0.2%	0.2%
LANSOPRAZOLE	Prevacid, HP-Pac	2.10	4.4%	7.8%
MISOPROSTOL	Cytotec, Misoprostol,	1.17	1.1%	0.6%
NIZATIDINE	Axid, Nizatidine	1.06	0.1%	0.0%
OMEPRAZOLE	Losec, Omeprazole	2.26	19.3%	24.3%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	2.06	3.0%	6.5%
RABEPRAZOLE SODIUM	Pariet	1.41	0.0%	1.1%
RANITIDINE BISMUTH CITRATE ⁷³		—	0.0%	—
RANITIDINE HCL	Zantac, Ranitidine, Ranit	0.81	17.3%	27.5%
SUCRALFATE	Sulcrate, Sucralfate	1.18	0.8%	0.6%

⁷³ Drug costs equal to zero for 2003-2004

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaleptics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.25	0.6%	8.7%
AMOXAPINE	Asendin	1.00	2.3%	0.0%
CITALOPRAM (CITALOPRAM HYDROBROMIDE)	Celexa, Citalopram	1.20	2.8%	16.4%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.90	2.1%	0.8%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.95	2.2%	0.3%
DEXTOAMPHETAMINE SULFATE	Dexedrine	0.63	1.5%	1.4%
DONEPEZIL HCL	Aricept	4.17	9.7%	0.6%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.60	1.4%	1.8%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.04	2.4%	4.9%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.94	2.2%	2.2%
GALANTAMINE (GALANTAMINE HYDROBROMIDE)	Reminyl	5.15	12.0%	0.2%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.57	1.3%	0.7%
MAPROTIHNE HCL	Ludimol, Maprotiline	1.61	3.8%	0.1%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.60	1.4%	3.8%
MIRTAZAPINE	Remeron, Mirtazapine	1.34	3.1%	2.8%
MOCLOBEMIDE	Manerix, Moclobemide	0.73	1.7%	0.4%
MODAFINIL	Alertec	3.91	9.1%	0.0%
NEFAZODONE HCL	Serzone, Nefazadone	1.49	3.5%	0.4%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.81	1.9%	0.3%
PAROXETINE HCL	Paxil, Paroxetine	1.53	3.6%	24.3%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.45	3.4%	0.1%
RIVASTIGMINE	Exelon	7.11	16.6%	0.1%
SERTRALINE HCL	Zoloft, Sertraline	0.83	1.9%	13.5%
TRANLYCPROMINE SULFATE	Parnate	0.37	0.9%	0.2%
TRAZODONE HCL	Desyrel, Trazodone	1.25	2.9%	1.5%
TRIMIPRAMINE (TRIMIPRAMINE MALEATE)	Trimipramine, Rhotrimine, Surmontil	0.64	1.5%	0.6%
VENLAFAXINE	Effexor	1.72	4.0%	14.0%

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents Acting on the Renin-Angiotensin System, C09, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.42	1.1%	0.4%
CANDESARTAN CILEXETIL	Atacand	0.76	0.6%	2.1%
CAPTOPRIL	Capoten, Captopril, Capto, Capril,	0.59	3.8%	1.1%
CILAZAPRIL	Inhibace	0.47	7.7%	4.5%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	0.99	25.5%	12.7%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.10	0.0%	0.0%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.90	0.4%	0.3%
IRBESARTAN	Avapro, Avalide	0.84	1.1%	1.4%
LISINOPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.60	24.5%	12.7%
LOSARTAN POTASSIUM	Cozaar	0.82	2.3%	2.5%
PERINDOPRIL ERBUMINE	Coversyl	0.82	0.4%	0.3%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.65	0.3%	0.3%
RAMIPRIL	Altace	0.33	31.4%	59.9%
TELMISARTAN	Micardis	0.58	0.1%	0.5%
TRANDOLAPRIL	Mavik	0.92	0.0%	0.0%
VALSARTAN	Diovan	0.81	0.7%	1.3%

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Psycholeptics	N05	8.48	16.25	74.49	0.00	-0.43	1.21
Serum Lipid Reducing Agents	C10	-42.22	217.38	-6.82	0.80	-14.47	-54.66
Drugs for Acid-Related Disorders	A02	-0.38	37.44	58.36	3.11	0.00	1.48
Psychoanaleptics	N06	-4.55	62.11	28.89	17.07	-0.02	-3.49
Agents Acting on the Renin-Angiotensin System	C09	-25.15	231.71	-87.44	0.38		-19.51

NOVA SCOTIA

Drug Expenditures of Public Drug Plans

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate	
		2000-2001 to 2003-2004	1997-1998 to 2003-2004
Program-Paid Costs	129.8	6.1%	5.6%
Drug Costs Approved	130.4	9.7%	8.6%
Dispensing Fees Approved	33.5	4.1%	4.6%

Table 1

Public Drug Plan Expenditures

	1997-1998	2003-2004
Program-Paid Expenditures as % of Provincial GDP	0.5%	0.4%
Program-Paid Expenditures as % of Provincial Budget ⁷⁴	2.3%	2.5%
Program-Paid Expenditures as % of Total Provincial Health Expenditures	6.0%	5.7%
Program-Paid Expenditures as % of Total Provincial Drug Expenditures ⁷⁵	107.6%	83.4%
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	100.19	124.03

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 1997-1998 and 2003-2004

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	—	—	—	—	—	—	—
Public Drug Plan Participation Rates (%)	—	—	—	—	—	—	—
Combined C-P Rates (%)	17.1%	17.7%	19.6%	15.4%	14.9%	14.7%	14.6%
Number of Prescription Transaction per Claimant	20.3	20.9	19.0	23.9	24.9	26.0	26.8
Drug Costs Per Claimant (constant 1997 dollars)	\$499	\$540	\$506	\$643	\$705	\$782	\$853

Table 3

Utilization by Claimant Counts

74 Fiscal year expenditures were divided by calendar year budgets.

75 Program drug manager to review. Program-paid expenditures as a percentage of total provincial government expenditures is expected to be less than 100%.

Table 4

Drug Cost and Percentage Increase by Year Period

	Drug Cost (\$million)	Year-over-year % Increase
1997-1998	79.4	
1998-1999	91.0	14.6%
1999-2000	96.6	6.1%
2000-2001	98.8	2.3%
2001-2002	108.0	9.3%
2002-2003	119.1	10.3%
2003-2004	130.4	9.5%
4-Year (2000-2001 to 2003-2004)% Increase		32.0%
7-Year (1997-1998 to 2003-2004)% Increase		64.2%

Table 5a

Drug Costs Paid for Patented and Non-Patented Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	76.4	58.57	12.27
Non-Patented Drugs	54.0	41.43	6.44
All Drugs	130.4	100.00	9.70

Table 5b

Drug Costs Paid for Brand Name and Generic Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	103.3	79.24	10.72
Generic Drugs	27.1	20.74	6.11

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Serum Lipid Reducing Agents	C10	16.02	12.82	12.79
Agents Acting on the Renin-Angiotensin System	C09	14.14	12.12	11.73
Psychoanaleptics	N06	10.87	7.50	15.54
Psycholeptics	N05	9.14	5.97	16.72
Drugs for Acid-Related Disorders	A02	6.27	8.62	6.68
Drugs used in Diabetes	A10	5.59	3.84	15.63
Calcium Channel Blockers	C08	5.05	8.30	5.47
Drugs for Treatment of Bone Diseases	M05	4.88	2.03	33.79
Immunosuppressive Agents	L04	4.20	1.10	140.33
Endocrine Therapy	L02	3.84	3.28	11.77

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Agents Acting on the Renin-Angiotensin System	C09	28.26	7.61	9.69
Serum Lipid Reducing Agents	C10	25.95	5.29	13.72
Psychoanaleptics	N06	19.85	6.28	8.01
Sex Hormones and Modulators of the Genital System	G03	-12.70	1.43	-14.13
Beta Blocking Agents	C07	11.41	5.79	4.69
Diuretics	C03	9.78	6.02	3.80
Drugs used in Diabetes	A10	9.74	4.87	4.77
Drugs for Treatment of Bone Diseases	M05	9.42	1.15	29.08
Anti-inflammatory and Antirheumatic Products	M01	-8.71	2.68	-6.22
Thyroid Therapy	H03	8.10	3.05	6.54

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	13.29	6.43	27.58
RAMIPRIL	Altace	8.64	3.61	35.70
OLANZAPINE	Zyprexa	5.06	2.92	20.96
CLOPIDOGREL	Plavix	4.64	1.82	40.46
AMLODIPINE BESYLATE	Amlodipine	4.19	3.76	11.52
SIMVASTATIN	Zocor, Simvastatin	3.84	3.44	11.54
CITALOPRAM	Celexa, Citalopram	3.31	1.13	56.02
VENLAFAXINE	Effexor	3.15	1.37	32.95
OMEPRAZOLE	Losec, Omeprazole	2.79	2.65	10.73
FLUTICASONE PROPIONATE	Flonase, Flovent, Advair	2.68	1.89	15.77
RISEDRONATE SODIUM	Atonel	2.56	0.65	280.66
ALENDRONATE	Fosamax, Alendronate	2.43	1.02	35.25
QUETIAPINE FUMARATE	Seroquel	2.20	0.73	59.32
VERTEPORFIN	Visudyne	1.99	0.50	
DONEPEZIL HCL	Aricept	1.94	0.49	
ROSUVASTATIN	Crestor	1.90	0.48	
ENALAPRIL MALEATE	Vaseretic	-1.90	2.57	-5.51
VALSARTAN	Diovan	1.84	0.68	45.60
ETANERCEPT	Enbrel	1.83	0.46	
INFLIXIMAB	Remicade	1.79	0.45	
RABEPRAZOLE SODIUM	Pariet	1.79	0.45	
CANDESARTAN CILEXETIL	Atacand	1.65	0.58	50.33
ROSIGLITAZONE	Avandia, Avandamet	1.58	0.40	
GOSERELIN	Zoladex	1.55	1.00	17.77
HYDROCHLOROTHIAZIDE	Hydrodiuril, Hydrochlorothiazide, Aldoril, Hypopres, Aldactazide, Urozide, Doparil, Methazide, Timolide, Viskazide, Spirozine, Inhibace, Inderide, Hyzaar, Accuretic	1.55	0.67	33.59

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1997-1998	100.00	100.00	100.00	100.00	100.00	100.00
1998-1999	98.36	99.51	98.24	115.99	120.72	111.04
1999-2000	96.37	99.12	96.45	125.77	130.06	114.08
2000-2001	95.90	98.33	95.82	131.49	140.51	111.88
2001-2002	95.18	98.34	95.13	146.43	159.90	118.72
2002-2003	95.16	98.32	95.17	163.33	184.94	125.45
2003-2004	93.26	98.30	94.36	179.82	189.25	142.71
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-0.93%	-0.01%	-0.51%	11.00%	10.44%	8.45%
1997-1998 to 2003-2004	-1.16%	-0.29%	-0.96%	10.27%	11.22%	6.11%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, by Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
1997-1998	100.00	100.00	100.00	100.00
1998-1999	98.95	98.48	117.26	108.92
1999-2000	98.10	96.82	126.99	108.90
2000-2001	97.25	96.33	137.13	100.84
2001-2002	97.00	96.46	151.89	107.57
2002-2003	96.58	98.23	173.43	108.61
2003-2004	94.63	97.43	189.39	115.58
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	-0.91%	0.38%	11.36%	4.65%
1997-1998 to 2003-2004	-0.92%	-0.43%	11.23%	2.44%

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

C10: Serum Lipid Reducing Agents

C09: Agents Acting on the Renin-Angiotensin System

N06: Psychoanaleptics

N05: Psycholeptics

A02: Drugs for Acid-Related Disorders

	Price Indices					Quantity Indices				
	C10	C09	N06	N05	A02	C10	C09	N06	N05	A02
1997-1998	100.0	100.00	100.0	100.00	100.0	100.0	100.00	100.0	100.00	100.0
1998-1999	98.1	97.86	97.7	98.87	100.9	140.4	115.21	121.2	142.95	116.2
1999-2000	95.7	95.20	94.4	97.76	100.8	170.9	128.45	134.1	177.98	124.7
2000-2001	94.3	98.85	88.9	97.98	100.8	191.8	140.81	148.2	212.25	131.2
2001-2002	90.5	98.70	87.1	99.69	100.3	231.9	159.39	164.7	245.83	143.0
2002-2003	90.0	98.98	88.2	102.74	99.3	281.8	177.96	186.6	286.18	152.3
2003-2004	80.3	100.03	86.8	104.25	100.1	318.3	193.91	211.5	325.90	160.7
Average Annual Growth Rate										
	C10	C09	N06	N05	A02	C10	C09	N06	N05	A02
2000-2001 to 2003-2004	-5.25%	0.40%	-0.81%	2.09%	-0.21%	18.39%	11.26%	12.60%	15.37%	7.00%
1997-1998 to 2003-2004	-3.6%	0.01%	-2.34%	0.70%	0.02%	21.29%	11.67%	13.30%	21.76%	8.23%

Table 12

% Distribution of DEPINs

Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	82.09	83.41	79.01	60.04	57.94	71.09
> 2% - 5%	6.69	8.89	3.00	6.41	5.33	4.71
> 5% - 10%	2.45	2.96	2.36	8.86	8.18	7.07
> 10% - 20%	2.26	2.25	3.21	9.14	9.12	5.35
> 20% - 50%	3.49	1.54	6.42	9.05	11.14	7.71
> 50%	3.02	0.95	6.00	6.50	8.29	4.07
Total # of DEPINs	1061	844	467	1061	844	467

Table 13

High-to-Low Price Ratios, 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINs	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	58.9	—	0.0%
1 < Max/Min <= 1.1	24.9	150.7	0.1%
1.1 < Max/Min <= 1.3	5.5	115.3	0.1%
1.3 < Max/Min <= 1.5	4.2	1,383.6	1.3%
Max/Min > 1.5	6.5	2,807.3	2.6%
Total	100.0	4,456.9	4.1%

Note: Few of these DEPINs (3/701) have more than 1 DIN-level drug within the respective DEPIN category.

Defined Daily Dose (DDD) Analysis

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁷⁶
Serum Lipid Reducing Agents	C10	307.7	1.08	99.3%
Agents Acting on the Renin-Angiotensin System	C09	524.3	0.54	89.2%
Psychoanaleptics	N06	155.5	1.22	97.3%
Psycholeptics	N05	174.7	0.87	97.1%
Drugs for Acid-Related Disorders	A02	186.9	1.18	98.3%

Table 14

Utilization of DDDs

of DDDs per Day per 1,000 Claimants

Average Cost per DDD

% Share of Drug Costs, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.14	40.7%	47.8%
BEZAFIBRATE	Bezalip, Bezafibrate	2.57	0.2%	0.2%
CERIVASTATIN SODIUM ⁷⁷	Baycol	—	8.1%	—
CLOFIBRATE ⁷⁸	Atromid, Fibrate	—	0.0%	—
COLESTIPOL HCL	Colestid	5.16	0.0%	0.0%
DEXTROTHYROXINE ⁷⁹		—	0.0%	—
EZETIMIBE	Ezetrol	1.69	0.0%	0.0%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.32	6.0%	3.9%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.33	1.7%	0.8%
GEMFIBROZIL	Lopid, Gemfibrozil	1.53	0.9%	0.3%
LOVASTATIN	Mevacor, Lovastatin	1.66	5.9%	2.4%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.96	12.2%	9.4%
ROSUVASTATIN (ROSUVASTATIN CALCIUM)	Crestor	1.20	0.0%	3.4%
SIMVASTATIN	Zocor, Simvastatin	0.92	24.3%	31.9%

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

76 Due to the limitations to oral solids and provision of DDDs by WHO, some drug costs are not included in the calculations.

77 Drug costs equal to zero for 2003-2004

78 Drug costs equal to zero for 2003-2004

79 Drug costs equal to zero for 2003-2004

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents Acting on the Renin-Angiotensin System, C09, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.48	0.3%	0.1%
CANDESARTAN CILEXETIL	Atacand	0.75	1.8%	3.3%
CAPTAPRIL	Capoten, Captopril, Capto, Capril,	0.59	2.6%	0.8%
CILAZAPRIL	Inhibace	0.49	4.4%	2.4%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	1.04	23.4%	11.9%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.13	0.0%	0.1%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.89	3.4%	1.9%
IRBESARTAN	Avapro, Avalide	0.84	2.4%	2.6%
LISINAPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.61	15.0%	7.9%
LOSARTAN POTASSIUM	Cozaar	0.89	5.9%	4.5%
PERINDOPRIL ERBUMINE	Coversyl	0.81	2.3%	1.8%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.62	3.3%	2.4%
RAMIPRIL	Altace	0.32	32.9%	55.6%
TELMISARTAN	Micardis	0.56	0.1%	1.6%
TRANDOLAPRIL	Mavik	0.98	0.0%	0.1%
VALSARTAN	Diovan	0.86	2.1%	3.1%

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaleptics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.27	13.24%	9.98%
AMOXAPINE	Asendin	0.97	0.11%	0.00%
CITALOPRAM HYDROBROMIDE	Celexa, Citalopram	1.22	5.45%	15.53%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.93	1.16%	0.69%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.98	1.02%	0.56%
DEXTROAMPHETAMINE SULFATE	Dexedrine	0.64	1.55%	1.69%
DONEPEZIL HCL	Aricept	4.07	0.00%	2.01%
DOXEPIN HCL	Sinequan, Triadapin, Zonalon, Doxepine	0.60	4.85%	2.74%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.15	8.76%	5.86%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.99	4.29%	2.38%
(GALANTAMINE HYDROBROMIDE	Reminyl	5.32	0.00%	0.45%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.62	1.94%	1.11%
MAPROTILINE HCL	Ludiomol, Maprotiline	1.73	0.23%	0.08%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.63	3.91%	2.95%
MIRTAZAPINE	Remeron, Mirtazapine	1.33	0.00%	1.81%
MOCLOBEMIDE	Manerix, Moclobemide	0.77	0.45%	0.28%
MODAFINIL	Alertec	3.88	0.01%	0.02%
NEFAZODONE HCL	Serzone, Nefazadone	1.58	2.79%	0.62%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.85	0.45%	0.49%
PAROXETINE HCL	Paxil, Paroxetine	1.46	21.97%	21.10%
PEMOLINE	Cylert	0.74	0.00%	0.01%
PHENELZINE (PHENELZINE SULFATE)	Nardil	1.45	0.12%	0.08%
PROTRIPTYLINE HYDROCHLORIDE ⁸⁰	Triptil	—	0.02%	—
RIVASTIGMINE	Exelon	6.78	0.00%	0.16%
SERTRALINE HCL	Zoloft, Sertraline	0.86	15.87%	12.28%
TRANLYCPROMINE SULFATE	Parnate	0.35	0.57%	0.41%
TRAZODONE HCL	Desyrel, Trazodone	1.29	3.39%	3.39%
TRIMIPRAMINE	Trimipramine, Rhotrimine, Surmontil	0.71	0.90%	0.54%
VENLAFAXINE HCL	Effexor	1.80	6.97%	12.80%

80 Drug costs equal to zero for 2003-2004

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psycholeptics, N05, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ALPRAZOLAM	Xanax, Alprazolam, Alpraz, Alprazol	0.22	9.0%	8.2%
BROMAZEPAM	Lectopam, Bromazepam	0.25	4.4%	4.1%
BUSPIRONE HCL Bustab	Buspar, Linbuspirone, Buspirone, 2.05	0.8%	0.7%	
CHLORDIAZEPOXIDE HCL	Poxide, Librax, Chlordiazepoxide, Corium, Chlordiazepoxyde HCL, Chlorax	0.14	1.9%	1.5%
CHLORPROMAZINE	Chlorpromazine, Chlorpromanyl, Largactil	0.60	0.9%	0.6%
CLOBAZAM	Frisium, Clobazam	0.46	1.4%	1.6%
CLORAZEPATE DIPOTASSIUM	Tranxene, Clopate, Clorazepate	0.41	0.6%	0.4%
CLOZAPINE	Leponex, Clozapine	0.11	0.0%	0.0%
DIAZEPAM	Valium, Vivol, Dipam, E Pam, Diazepam, Diazemuls, Diastat	0.12	13.0%	13.5%
FLUPENTHIXOL DIHYDROCHLORIDE	Fluanxol	1.43	0.2%	0.2%
FLUPHENAZINE HCL	Fluphenazine, Moditen	0.72	0.1%	0.1%
FLURAZEPAM HCL	Dalmane, Som Pam, Somnol, Flupam, Flurazepam	0.09	0.0%	0.0%
HALOPERIDOL	Haldol, Peridol, Haloperidol	0.26	1.7%	1.3%
HYDROXYZINE HCL	Atarax, Hydroxyzine, Multipax	0.17	0.1%	0.2%
LITHIUM CARBONATE	Carbolith, Lithizine, Lithane, Duralith, Lithium Carbonate	0.22	2.1%	2.0%
LORAZEPAM	Ativan, Lorazem, Lorazepam, Loraz	0.12	24.2%	23.4%
LOXAPINE	Loxapac, Loxapine	2.21	0.4%	0.3%
MEBROBAMATE ⁸¹		–	0.0%	–
MESORIDIAZINE BESYLATE ⁸²		–	0.0%	–
METHOTRIMEPRAZINE	Nozinan, Meprazine, Methotrimeprazine, Methoprazine	1.54	0.4%	0.3%
NITRAZEPAM	Mogadon, Nitrazadon, Nitrazepam	0.11	0.1%	0.1%
OLANZAPINE	Zyprexa	7.31	3.5%	6.0%
OXAZEPAM	Serax, Oxazepam, Novoxapam	0.15	8.1%	7.4%
PERICIAZINE	Neuleptil	1.46	0.1%	0.1%
PERPHENAZINE	Trilafon, Triavil, Etrafon, Elavil, Phenazine, Proavil, Levazine	0.26	0.3%	0.2%
PIMOZIDE	Orap, Pimozide	0.57	0.6%	0.4%
PROCHLORPERAZINE	Prochlorperazine, Prochlorazine, Stemetil, Prochlor	1.51	0.1%	0.1%
QUETIAPINE FUMARATE	Seroquel	5.68	0.5%	1.9%

81 Drug costs equal to zero for 2003-2004

82 Drug costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
RISPERIDONE	Risperdal	6.09	2.1%	2.6%
TEMAZEPAM	Restoril, Temazepam,	0.05	9.3%	8.4%
TETRABENAZINE	Nitoman	8.63	0.0%	0.0%
THIORIDAZINE	Mellaril, Ridazine, Thioridazine	0.72	0.7%	0.4%
THIOTHIXENE	Navane	1.88	0.0%	0.0%
TRIAZOLAM	Halcion, Triazolam, Triazo,	0.08	5.0%	4.3%
TRIFLUOPERAZINE HCL	Flurazine, Trifluzine, Terfluzine, Trifluoperazine, Stelazine	0.46	1.1%	0.7%
ZALEPLON	Starnoc	0.07	0.0%	0.0%
ZOPICLONE	Imovane, Rhovane, Zopiclone	0.08	7.4%	8.9%
ZUCLOPENTHIXOL	Clopixol	1.06	0.0%	0.0%

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimetine, Cimet	0.24	4.4%	2.4%
ESOMEPRAZOLE	Nexium	1.09	0.0%	0.3%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	0.83	2.2%	1.5%
LANSOPRAZOLE	Prevacid, HP-Pac	2.07	2.8%	3.7%
MISOPROSTOL	Cytotec, Misoprostol,	1.21	2.5%	1.2%
NIZATIDINE	Axid, Nizatidine	0.90	0.8%	0.5%
OMEPRAZOLE	Losec, Omeprazole	2.24	13.9%	16.6%
PANTOPRAZOLE (PANTOPRAZOLE SODIUM)	Pantoloc, Panto	2.06	3.2%	4.6%
RABEPRAZOLE SODIUM	Pariet	1.41	0.0%	4.4%
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.83	69.4%	64.2%
SUCRALFATE	Sulcrate, Sucralfate	1.24	0.8%	0.6%

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Serum Lipid Reducing Agents	C10	-46.89	200.97	-3.89	12.39	-14.30	-48.26
Agents Acting on the Renin-Angiotensin System	C09	-26.40	235.85	-92.86	1.42		-18.01
Psychoanaleptics	N06	-8.26	57.90	22.62	31.64	-0.04	-3.86
Psycholeptics	N05	14.36	2.26	83.66	0.01	-0.27	-0.02
Drugs for Acid-Related Disorders	A02	-7.02	37.33	35.03	30.58		4.08

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

NON-INSURED HEALTH BENEFITS

Drug Expenditures of Public Drug Plans

Table 1

Public Drug Plan Expenditures

Type of Expenditures	Current dollars (\$000,000)	Average Annual Growth Rate 2000-2001 to 2003-2004
Program-Paid Costs	\$259.1	14.1%
Drug Costs Paid	\$188.9	15.5%
Dispensing Fees Paid	\$62.9	10.7%

Table 2

Program-Paid Expenditures relative to Provincial GDP, Provincial Budget, Total Health Expenditures, and Total Provincial Drug Expenditures, Per-Capita Program-Paid Expenditures, 2003-2004

Program-Paid Expenditures as % of Provincial GDP	n/a
Program-Paid Expenditures as % of Provincial Budget ⁸³	n/a
Program-Paid Expenditures as % of Total Provincial Health Expenditures	n/a
Program-Paid Expenditures as % of Total Provincial Drug Expenditures	n/a
Per-Capita Program-Paid Expenditures (constant 1997 dollars)	n/a

Table 3

Utilization by Claimant Counts

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Public Drug Plan Coverage Rates (%)	n/a	n/a	n/a	n/a	n/a
Public Drug Plan Participation Rates (%)	68.4%	68.4%	67.8%	68.1%	68.2%
Number of Prescription Transactions per Claimant	13.7	14.3	15.2	16.3	17.1
Drug Costs Per Claimant (constant 1997 dollars)	219.3	241.1	269.3	305.9	335.5

83 Fiscal year expenditures were divided by calendar year budgets.

	Drug Cost (\$million)	Year-over-year % Increase
1999-2000	\$105.8	—
2000-2001	\$122.7	15.9%
2001-2002	\$143.0	16.6%
2002-2003	\$167.5	17.2%
2003-2004	\$189.0	12.7%
4-Year (2000-2001 to 2003-2004)% Increase		54.0%

Table 4

Drug Cost (Paid) and Percentage Increase by Year Period

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Patented Drugs	\$118.4	62.7%	20.3%
Non-Patented Drugs	\$70.5	37.3%	8.8%
All Drugs	\$188.9	100.0%	15.5%

Table 5a

Drug Costs Paid for Patented and Non-Patented Market Segments

	2003-2004 (\$000,000)	% of All Drugs	Average Annual Growth Rate (%) 2000-2001 to 2003-2004
Brand Name Drugs	\$156.4	82.8%	16.5%
Generic Drugs	\$32.4	17.8%	10.9%

Table 5b

Drug Costs Paid for Brand Name and Generic Market Segments

Table 6

Top 10 ATC-2 Groups, ranked by contribution to change in Drug Costs Paid

	ATC – level 2	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
Drugs for Acid-Related Disorders	A02	10.55	9.08	19.07
Serum Lipid Reducing Agents	C10	8.66	6.17	25.38
Drugs used in Diabetes	A10	8.64	6.00	26.41
Psychoanaleptics	N06	8.29	7.81	16.79
Agents Acting on the Renin-Angiotensin System	C09	8.23	7.56	17.42
Psycholeptics	N05	7.83	5.41	26.68
Analgesics	N02	7.29	5.95	20.60
Immunosuppressive Agents	L04	6.34	3.01	56.53
Drugs for Obstructive Airway Diseases	R03	4.39	5.62	11.26
Antiinflammatory and Antirheumatic Products	M01	3.06	4.71	9.01

Table 7

Top 10 ATC Groups, ranked by contribution to change in Prescription Transactions

	ATC – level 2	% Contribution 2003-2004	% of Total Prescription Transactions 2003-2004	Average Annual Growth Rate of Prescription Transactions 2000-2001 to 2003-2004
Analgesics	N02	11.69	14.19	6.67
Agents Acting on the Renin-Angiotensin System	C09	9.55	4.83	20.07
Drugs used in Diabetes	A10	9.08	5.75	14.71
Psychoanaleptics	N06	8.48	5.18	15.43
Psycholeptics	N05	7.43	7.18	8.69
Serum Lipid Reducing Agents	C10	6.65	2.50	32.31
Drugs for Acid-Related Disorders	A02	5.24	4.28	10.66
Diuretics	C03	4.43	2.47	17.48
Anti-inflammatory and Antirheumatic Products	M01	4.13	5.19	6.41
Antiepileptics	N03	3.58	2.24	14.93

Table 8

Contribution to Change in Drug Costs and % of Drug Costs for Top 25 Individual Drugs, 2003-2004

Individual Drug Name	Brand Name	% Contribution 2003-2004	% of Total Drug Costs	Average Annual Growth Rate of Drug Costs 2000-2001 to 2003-2004
ATORVASTATIN	Lipitor	7.03	3.78	43.57
OMEPRAZOLE	Losec	4.91	4.22	19.53
RAMIPRIL	Altase	4.70	2.33	52.23
ETANERCEPT	Embrel	4.65	1.65	
ROSIGLITAZONE	Avandia, Avandamet	3.98	1.74	74.20
OLANZAPINE	Zyprexa	3.79	2.22	36.61
FLUTICASONE PROPIONATE	Flonase, Flovent, Advair	3.76	3.41	18.11
VENLAFAXINE	Effexor	3.43	1.90	41.03
PANTOPRAZOLE	Pantoloc, Panto	2.72	1.29	58.67
CITALOPRAM	Celexa, Citalopram	2.68	1.23	64.83
OXYCODONE HCL ⁸⁴	Percocet, Percodan	2.20	1.02	63.07
CLOPIDOGREL	Plavix	2.00	0.93	61.36
PIOGLITAZONE HCL	Actos	1.67	0.62	200.88
NICOTINE	Nicorette, Habitrol, Nocoderm	1.63	0.89	42.13
SIMVASTATIN	Zocor, Simvastatin	1.61	1.21	23.79
ROFECOXIB	Vioxx	1.60	0.96	34.78
LANSOPRAZOLE	Prevacid, HP-PAC	1.59	1.06	28.86
METFORMIN HCL	Glucophage, Glycon	1.47	1.27	19.42
FENTANYL	Sublimaze, Fentanyl Citrate, Duragesic	1.45	0.72	52.59
PAROXETINE HCL	Paxil, Paroxetine	1.43	2.31	8.66
AMLODIPINE BESYLATE	Amlodipine	1.41	1.33	17.11
QUETIAPINE FUMARATE	Seroquel	1.36	0.58	80.17
DARBEPOETIN ALFA	Aranesp	1.35	0.48	
CODEINE ⁸⁵	Atasol, Exdol	1.32	1.12	19.87
AZITHROMYCIN	Zinthromax	1.21	0.94	22.47

84 Brand Names also include Endocet, Endodan, Oxy-ir, Oxycontin, Percocet, Percodan, Ratio-Oxycocet, Ratio-Oxycodan, Roxicet, Supeudol.

85 Codeine is identified as the main drug in the following brand name medications: Atasol, Exdol, Emtec, Parafon, Empracet, Acet, Triatec, Acetazone, Pentuss, Tussaminic, Dimetapp, Robitussin, Robaxacet, Cheracol, Mersyndol, Novahistex, Calmylin, Methoxacet, Dimetane.

Table 9

Price and Quantity Indices and their Average Annual Growth Rates, by Patented, Non-Patented, and All Drugs Market Segments

	Price Indices			Quantity Indices		
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
1999-2000	100.0	100.0	100.0	100.0	100.0	100.0
2000-2001	99.1	99.9	99.9	117.6	117.8	108.8
2001-2002	98.3	99.5	99.8	140.7	146.1	121.77
2002-2003	97.8	98.8	100.3	166.8	177.2	138.2
2003-2004	97.2	100.2	99.1	190.1	198.6	156.3
Average Annual Growth Rate						
	All Drugs	Patented	Non-Patented	All Drugs	Patented	Non-Patented
2000-2001 to 2003-2004	-0.7%	0.1%	-0.3%	17.4%	19.0%	12.8%

Table 10

Price and Quantity Indices and their Average Annual Growth Rates, By Brand Name and Generic Drug Market Segments

	Price Indices		Quantity Indices	
	Brand Name	Generic	Brand Name	Generic
1999-2000	100.0	100.0	100.0	100.0
2000-2001	100.2	98.9	119.5	103.8
2001-2002	100.1	98.5	143.59	113.5
2002-2003	99.3	102.1	170.6	128.8
2003-2004	99.5	100.2	193.75	142.9
Average Annual Growth Rate				
	Brand Name	Generic	Brand Name	Generic
2000-2001 to 2003-2004	-0.2%	0.4%	17.5%	11.3%

Table 11

Price and Quantity Indices and their Average Annual Growth Rates, by ATC

A02: Drugs for Acid-Related Disorders

N06: Psychoanaleptics

A10: Drugs used in Diabetes

C10: Serum Lipid Reducing Agents

N05: Psycholeptics

	Price Indices					Quantity Indices				
	A02	C10	A10	N06	C09	A02	C10	A10	N06	C09
1999-2000	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2000-2001	98.0	97.2	98.4	94.3	103.5	120.5	133.5	120.0	120.6	121.5
2001-2002	97.8	92.7	95.2	93.2	103.7	148.3	180.4	206.3	142.6	146.0
2002-2003	97.7	91.2	93.8	94.2	103.6	180.8	247.3	271.5	169.9	175.4
2003-2004	102.1	85.2	92.5	92.7	103.0	201.9	299.7	333.7	193.9	197.8
Average Annual Growth Rate										
	A02	C10	A10	N06	C09	A02	C10	A10	N06	C09
2000-2001 to 2003-2004	1.4%	-4.3%	-2.0%	-0.6%	-0.2%	18.8%	30.9%	40.6%	17.2%	17.7%

	Price Increases			Quantity Increases		
	All Drugs	Brand Name Drugs	Generic Drugs	All Drugs	Brand Name Drugs	Generic Drugs
<= 2%	78.36	80.43	72.90	46.55	48.53	52.61
> 2% - 5%	7.82	10.08	7.29	5.92	4.60	7.13
> 5% - 10%	4.78	4.79	4.91	10.48	7.63	9.19
> 10% - 20%	3.26	2.25	4.28	12.53	10.86	13.47
> 20% - 50%	3.26	1.57	6.18	13.44	15.75	9.51
> 50%	2.51	0.88	4.44	11.09	12.62	8.08
Total # of DEPINs	1315	1021	630	1317	1022	631

Table 12

% Distribution of DEPINs
Average Annual Price and Quantity Increases, 2000-2001 to 2003-2004

High-to-Low Price Ratios	% Distribution of DEPINs	Potential Savings (\$000)	Potential Savings as % of Drug Costs
Min = Max ¹	58.0%	—	0.0%
1 < Max/Min <= 1.1	7.4%	582.8	0.4%
1.1 < Max/Min <= 1.3	10.2%	680.2	0.5%
1.3 < Max/Min <= 1.5	6.3%	2,113.6	1.5%
Max/Min > 1.5	18.2%	8,441.9	6.0%
Total	100.0%	11,818.5	8.3%

Note: Few of these DEPINs (1/862) have more than 1 DIN level drug within the respective DEPIN category.

Table 13

High-to-Low Price Ratios, 2003-2004

Defined Daily Dose (DDD) Analysis

ATC- Level 2 Description	ATC-2	# of DDDs per Day per 1,000 Claimants	Average Cost per DDD	% Drug Costs for ATC level 2 group ⁸⁶
Drugs for Acid-Related Disorders	A02	59.4	\$1.51	95.9%
Serum Lipid Reducing Agents	C10	61.8	\$1.02	99.6%
Drugs used in Diabetes	A10	82.9	\$0.56	74.8%
Psychoanaleptics	N06	70.0	\$1.12	97.6%
Agents acting on Renin-angiotensin System	C09	144.7	\$0.49	92.1%

Table 14

Utilization of DDDs
of DDDs per Day per 1,000 Claimants
Average Cost per DDD
% Share of Drug Costs, 2003-2004

86 Due to the limitations to oral solids and provision of DDDs by WHO, some ingredient costs are not included in the calculations.

Table 15

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs for Acid-Related Disorders, A02, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
CIMETIDINE	Tagamet, Cimetidine, Peptol, Cimetine, Cimet	0.24	8.2%	4.2%
ESOMEPRAZOLE	Nexium	1.17	0.0%	0.3%
FAMOTIDINE	Pepcid, Famotidine, Ulcidine	1.01	5.2%	2.8%
LANSOPRAZOLE	Prevacid, HP-Pac	2.17	4.0%	6.9%
MAGNESIUM HYDROXIDE	Magnesia, Roloids, Dermagran, Gaviscon, Dioval,	0.42	0.0%	0.0%
MISOPROSTOL	Cytotec, Misoprostol,	1.00	1.0%	0.5%
NIZATIDINE	Axid, Nizatidine	0.96	2.7%	1.1%
OMEPRAZOLE	Losec, Omeprazole	2.34	27.1%	31.2%
PANTOPRAZOLE SODIUM	Pantoloc, Panto	2.07	4.0%	10.8%
RABEPRAZOLE SODIUM	Pariet	1.32	0.0%	4.8%
RANITIDINE HCL	Zantac, Ranitidine, Ranidine, Ranit	0.75	47.2%	37.2%
SUCRALFATE	Sulcrate, Sucralfate	1.11	0.5%	0.3%

Table 16

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Serum Lipid Reducing Agents, C10, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ATORVASTATIN	Lipitor	1.03	41.0%	60.9%
BEZAFIBRATE	Bezalip, Bezafibrate	2.37	1.5%	0.5%
CERIVASTATIN SODIUM ⁸⁷	Baycol	—	4.4%	0.0%
COLESTIPOL HCL	Colestid	5.34	0.0%	0.0%
EZETIMIBE	Ezetrol	1.77	0.0%	0.0%
FENOFIBRATE	Lipidil, Fenofibrate, Feno	1.29	8.5%	5.5%
FLUVASTATIN (FLUVASTATIN SODIUM)	Lescol	1.12	1.3%	0.5%
GEMFIBROZIL	Lopid, Gemfibrozil	1.47	2.4%	1.0%
LOVASTATIN	Mevacor, Lovastatin	1.46	6.5%	1.3%
PRAVASTATIN SODIUM	Pravachol, Pravastatin	0.89	13.9%	6.2%
ROSUVASTATIN CALCIUM	Crestor	1.08	0.0%	1.3%
SIMVASTATIN	Zocor, Simvastatin	0.89	20.6	22.7%

⁸⁷ Ingredient costs equal to zero for 2003-2004

Table 17

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Drugs used in Diabetes, A10, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
ACARBOSE	Prandase	1.28	0.9%	0.4%
CHLORPROPAMIDE	Propamide, Diabinese, Chlorpropamide	0.07	0.4%	0.2%
GLICLAZIDE	Diamicon, Gliclazide	0.77	5.6%	4.8%
GLIMEPIRIDE	Amaryl	1.64	0.0%	0.0%
GLYBURIDE	Diabeta, Eugluson, Glybe, Glyburide, Penta	0.09	61.8%	46.5%
METFORMIN HCL	Metformin, Glucophage, Glycon	0.45	28.3%	35.2%
NATEGLINIDE	Starlix	1.82	0.0%	0.0%
PIOGLITAZONE HCL	Actos	3.33	0.1%	2.3%
REPAGLINIDE	Gluconorm	0.76	1.2%	2.9%
ROSIGLITAZONE (ROSIGLITAZONE MALEATE)	Avandia, Avandamet	2.84	1.6%	7.6%
TOLBUTAMIDE	Orinase, Mobenol, Butamide, Tolbutamide	0.09	0.1%	0.2%

Table 18

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Psychoanaléptics, N06, 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
AMITRIPTYLINE HCL	Elavil, Triptyn, Levate, Amitriptyline	0.24	12.8%	9.7%
AMOXAPINE	Asendin	0.20	0.1%	0.0%
CITALOPRAM HYDROBROMIDE	Celexa, Citalopram	1.15	5.1%	15.7%
CLOMIPRAMINE HCL	Anafranil, Clomipramine, Clopamine	0.80	0.3%	0.2%
DESIPRAMINE HCL	Pertofrane, Norpramin, Desipramine	0.89	0.5%	0.3%
DEXTROAMPHETAMINE SULFATE	Dexedrine	0.68	2.1%	2.6%
DONEPEZIL HCL	Aricept	3.95	0.0%	0.0%
DOXEPIH HCL	Sinequan, Triadapin, Doxepin, Zonalon, Doxepine	0.56	1.5%	0.9%
FLUOXETINE (FLUOXETINE HCL)	Prozac, Fluoxetine, Fxt	1.05	10.8%	6.9%
FLUVOXAMINE MALEATE	Luvox, Fluvoxamine	0.92	2.5%	1.5%
IMIPRAMINE HCL	Tofranil, Pramine, Impril, Imipramine	0.56	0.8%	0.5%
MAPROTILINE HCL	Ludiomol, Maprotiline	1.93	0.1%	0.0%
METHYLPHENIDATE HCL	Ritalin, Methylphenidate, Concerta	0.66	8.5%	7.4%
MIRTAZAPINE	Remeron, Mirtazapine	1.34	0.0%	0.2%
MOCLOBEMIDE	Manerix, Moclobemide	0.63	0.5%	0.2%
MODAFINIL	Alertec	3.99	0.0%	0.0%
NEFAZODONE HCL	Serzone, Nefazadone	1.57	1.8%	0.3%
NORTRIPTYLINE HCL	Aventyl, Nortriptyline, Norventyl	0.76	0.6%	0.5%
PAROXETINE HCL	Paxil, Paroxetine	1.58	24.3%	21.4%
PEMOLINE ⁸⁸		–	0.0%	0.0%
PHENELZINE SULFATE	Nardil	1.45	0.0%	0.0%
PROTRIPTYLINE HYDROCHLORIDE ⁸⁹	Triptil	–	0.0%	0.0%
RIVASTIGMINE ⁹⁰	Exelon	–	0.0%	0.0%
SERTRALINE HCL	Zoloft, Sertraline	0.72	16.8%	12.7%
TRANLYCPROMINE SULFATE	Parnate	0.27	0.1%	0.1%
TRAZODONE HCL	Desyrel, Trazodone	1.21	1.8%	2.0%
TRIMIPRAMINE MALEATE	Trimipramine, Rhotrimine, Surmontil	0.62	0.8%	0.5%
VENLAFAXINE HCL	Effexor	1.70	8.0%	16.4%

88 Ingredient costs equal to zero for 2003-2004

89 Ingredient costs equal to zero for 2003-2004

90 Ingredient costs equal to zero for 2003-2004

Individual Drug Name	Brand Name	Average Cost per DDD	% DDD Share 2000-2001	% DDD Share 2003-2004
BENAZEPRIL HCL	Lotensin	0.36	0.3%	0.2%
CANDESARTAN CILEXETIL	Atacand	0.70	0.8%	2.0%
CAPTOPRIL	Capoten, Captopril, Capto, Capril,	0.45	1.8%	0.5%
CILAZAPRIL	Inhibace	0.44	3.7%	1.8%
ENALAPRIL MALEATE	Vaseretic, Vasotec, Enalapril, Enapril	0.86	27.8%	15.0%
EPROSARTAN (EPROSARTAN MESYLATE)	Teveten	1.03	0.0%	0.0%
FOSINOPRIL SODIUM	Monopril, Fosinopril	0.82	6.8%	3.8%
IRBESARTAN	Avapro, Avalide	0.81	1.6%	2.4%
LISINOPRIL	Prinivil, Prinzide, Zestoretic, Zestril, Lisinopril	0.55	14.7%	7.8%
LOSARTAN POTASSIUM	Cozaar	0.89	3.8%	3.0%
PERINDOPRIL ERBUMINE	Coversyl	0.76	2.5%	1.8%
QUINAPRIL (QUINAPRIL HCL)	Accupril	0.64	4.3%	2.6%
RAMIPRIL	Altace	0.30	29.5%	55.7%
TELMISARTAN	Micardis	0.55	0.6%	1.1%
TRANDOLAPRIL	Mavik	0.87	0.0%	0.0%
VALSARTAN	Diovan	0.79	1.9%	2.2%

Table 19

Average Cost per DDD and % Share of DDDs at the Individual Drug Level, Agents acting on Renin-angiotensin System, C09, 2003-2004

Therapeutic Class	ATC-2	Price Effect	Quantity Effect	Therapeutic Mix Effect	New Drug Effect	Exiting Drug Effect	Cross Effect
Drugs for Acid-Related Disorders	A02	4.28	47.81	34.12	10.43	—	3.37
Serum Lipid Reducing Agents	C10	-18.98	155.90	-5.61	2.88	-4.48	-29.72
Drugs used in Diabetes	A10	-2.34	25.99	96.59	0.03		-20.28
Psychoanaleptics	N06	-7.37	87.94	24.30	0.57	-0.02	-5.42
Agents acting on Renin-Angiotensin System	C09	-18.16	201.53	-70.28	0.41	—	-13.50

Table 20

Average Percentage Contribution to the Change in Drug Costs, 2000-2001 to 2003-2004

Appendix 1

Concepts, Definitions, and Methodologies



The purpose of this section is to provide the reader with an understanding of the concepts, definitions, and methodology used to produce results.

1.1 Categorical Structure of Analysis

Drug expenditures can be examined by various categories or classifications. The categories used in this report include market segment, therapeutic classification, individual drug level, and prescription transactions.

1.1.1 Segmentation of Pharmaceutical Market

The pharmaceutical market is segmented in two ways by patent status or by Brand Name-Generic classification. For example, drug expenditures in a jurisdiction can be split into market segments as demonstrated by pie diagrams as shown in Figures 1.1 and 1.2.

Figure 1.1

Pharmaceutical
Market
Segmented by
Patent Status

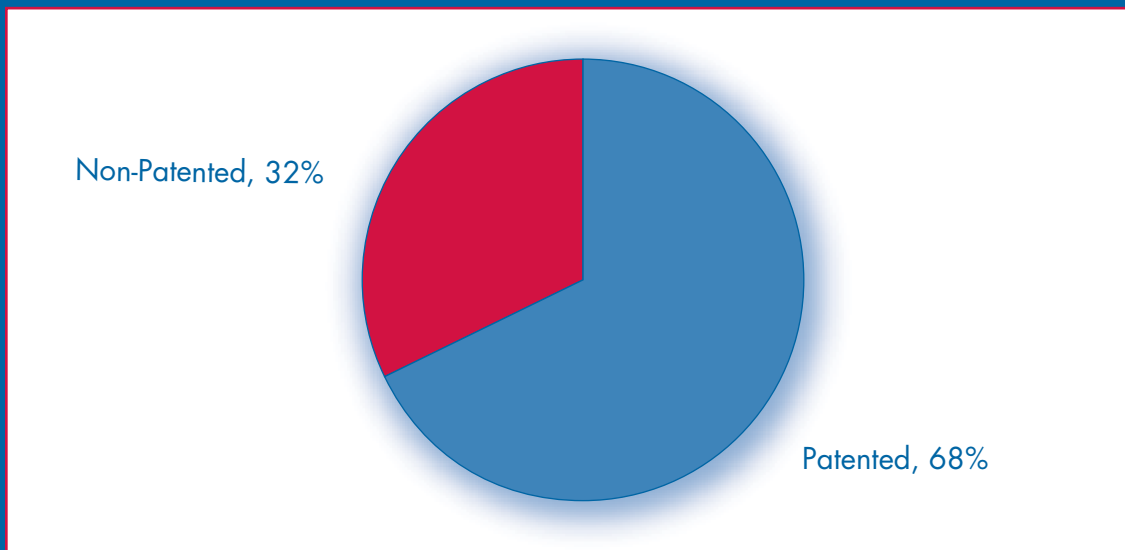
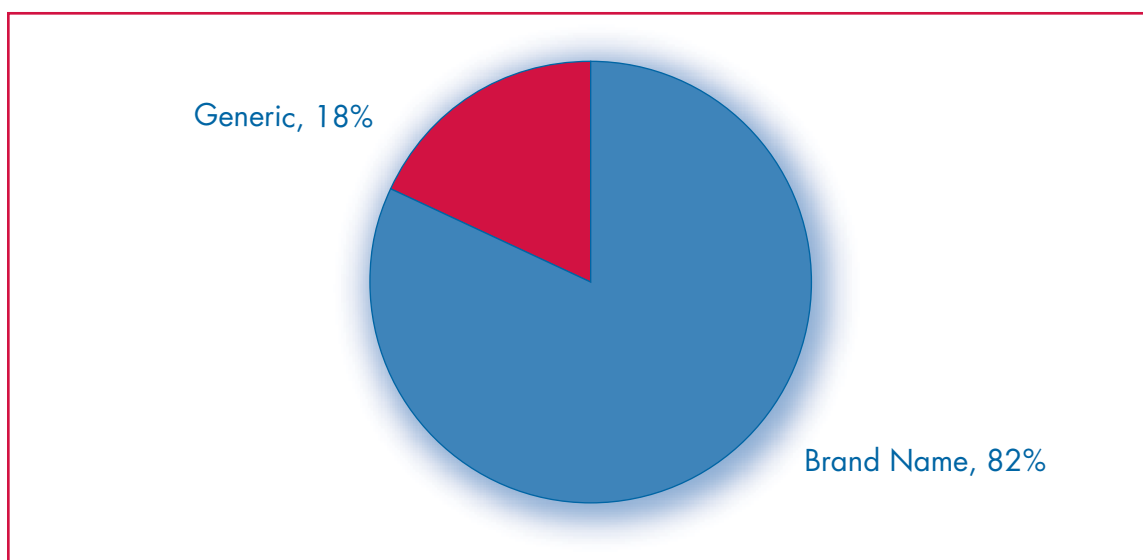


Figure 1.2

**Pharmaceutical
Market
Segmented by
Brand Name –
Generic
Categories**



All drugs are classified as ‘patented or non-patented’ or all drugs are classified as ‘Brand Name or Generic’. Patented drugs are those drugs that have an existing patent, while non-patented drugs may have never been patented or their patent status has expired or are patent-pending. The Patented Medicine Price Review Board (PMPRB) is responsible for regulating the prices that patentees charge—the “factory-gate” price—for prescription and non-prescription patented drugs sold in Canada to wholesalers, hospitals, pharmacies or others, for human and veterinary use, to ensure that they are not excessive.⁹¹ In general terms, the change in the price of existing patented drugs is limited to the increases in the Consumer Price Index as reported by Statistics Canada.

When a drug is non-patented, pharmaceutical companies other than the original developer can enter the marketplace to produce the same drug. The price of a drug that changes from patented to non-patented status is no longer restricted by the PMPRB Guidelines but may face greater competition in the marketplace. Often, a Generic company will begin the production of a drug, once a drug is off-patent.

For the categorization purposes of this report, a Brand Name drug is a pharmaceutical that is produced by one of Canada’s Research Based Pharmaceutical Companies (Canada’s Rx&D). Generic drugs, on the other hand, are those drugs that are produced by companies belonging to generic-oriented associations, such as the Canadian Generic Pharmaceutical Association. The distinction between Brand Name and Generic drugs is somewhat imprecise; a Research and Development company may produce Generic drugs and a company belonging to a generic association may produce patented drugs. Such being the case, the reader is reminded that the Brand Name-Generic split is a broad categorization of drugs.

⁹¹ For more information on the regulation of prices by the PMPRB, annual reports and guidelines can be found at www.pmprb-cepmb.gc.ca.

1.1.2 Therapeutic Classification

Drug expenditures can also be examined by therapeutic classification of pharmaceuticals. The PTOR uses a therapeutic classification system, referred to as the Anatomical Therapeutic Chemical (ATC) Classification System, developed by the WHO. In the ATC classification system, the drugs are first divided into different groups according to the organ or system on which they act. Altogether drugs are subdivided and classified in groups at five different levels. The 5th level is the chemical substance. In this system, drugs are classified according to the main therapeutic use of the main active ingredient, based on the principle of only one ATC code for each pharmaceutical formulation. If a medicinal product is available in two or more strengths or formulations with clearly different therapeutic uses, however, a medicinal product can be given more than one ATC code. Table 1.1 exemplifies the ATC classification level.⁹²

Table 1.1

ATC Levels	Level Description	Example of ATC classification	Name of ATC classification (example)
ATC level 1	Classification according to the organ or system on which they act.	A	Alimentary Tract and Metabolism
ATC level 2	Classification according to therapeutic / pharmacological properties.	A10	Drugs used in Diabetes
ATC level 3	Classification according to therapeutic / pharmacological properties.	A10B	Oral Blood Glucose Lowering Drugs
ATC level 4	Classification according to therapeutic / pharmacological/chemical properties.	A10B A	Biguanides
ATC level 5	Classification according to chemical substance	A10B A02	Metformin

1.1.3 Defined Daily Doses

Associated with the ATC classification system, the WHO also provides corresponding Defined Daily Doses (DDDs). DDDs are based on the daily average maintenance dose for a drug used for its main indication in adults. For instance, the DDD for Lasix (furosemide) is 40 mg. If ten 20 mg tablets are dispensed, this is equivalent to five DDDs $[(10 * 20 \text{ mg}) / 40\text{mg}]$ being dispensed.

1.1.4 Prescription Transactions

Prescription transactions by ATC classification are also included in the analysis and can provide a different picture, as compared to examining drug expenditures by ATC classification. Although an ATC class may account for a low percentage of drug expenditures, it may be responsible for a high proportion of the number of prescription transactions.

⁹² <http://www.who.int/classifications/atcddd/en/>

1.1.5 Individual Drug or Ingredient Level

Drug expenditures can also be categorized at an individual drug or ingredient level, such as digoxin (ATC classification: C01AA05) or atorvastatin (C10A A05).

1.1.6 Unit of Analysis:

1.1.6.1 Drug Identification Number (DIN)

It is important to identify the unit of analysis or grouping that is used in the analysis for PTOR. Most individuals in the pharmaceutical field are familiar with “DINs”: DINs are the registration number that the Health Protection Branch of Health Canada assigns to each prescription and non-prescription drug product marketed under the *Food and Drugs Regulations*. The DIN is assigned using information in the following areas: manufacturer of the product; active ingredient(s); strength of active ingredient(s); pharmaceutical dosage form; brand / trade name; and route of administration. Different DINs can be assigned to the exact or nearly same ingredient due to a host of reasons such as a different manufacturer or different base component that may not have any medicinal effect.

1.1.6.2 Drug Equivalent Product Identification Number (DEPIN)

For the purposes of this report, the PMPRB has developed a unit of analysis called a “DEPIN” which is the acronym for Drug Equivalent Product Identification Number. A DEPIN is a grouping of DINs with the same ingredient(s), same strength(s), same route and same form. A DEPIN is created by using the Active Ingredient Group (AIG) number as its root and appending the numerical codes for both form and route. The AIG number is a 10-digit number that identifies products that have the same active ingredient(s) and ingredient strengths(s) and is available from Health Canada’s Drug Product Database.⁹³ This unit of analysis is used for the price and quantity analysis and decomposition of expenditures increases (decreases).

1.1.7 – Types of Drug Expenditures

PTOR presents results utilizing drug, dispensing fee and program-paid expenditures. Drug costs refer to the cost of the drug component alone, while dispensing expenditures refer to the professional or pharmacist fee for dispensing the medication. Program-paid expenditures are expenditures paid by the drug plan and may include drug costs, dispensing fees and mark-ups.

Drug and dispensing expenditures are further categorized as claimed, approved and paid. Claimed costs (drug or dispensing expenditures) refer to those costs submitted to the drug plan by either the client or pharmacy. Approved costs are those submitted costs that have been adjudicated according to the criteria specific to the drug plan; approved costs are not payer-specific. Approved costs may be shared by the beneficiary, drug plan and third-party payer. Paid costs are those costs that are paid by the drug plan alone.

93 Source: http://www.hc-sc.gc.ca/hpfb-dgpsa/tpd-dpt/dpd_index_e.html

1.2 – Ranking of Top ATC Groups and Individual Drugs

When examining drug cost or prescription transactions by ATC class, the ranking in PTOR is done by their absolute contribution (increases or decreases) to either drug expenditures or prescription transactions. The average annual growth rate and percentage share of expenditures is also provided for the top ATC groups and top individual drugs. The formula used to calculate average annual growth rate (AAGR) follows:

$$AAGR = [X \text{ in last period} / X \text{ in first period}]^{(1/\text{number of years})}$$

The top 10 ATC groups and top 25 individual drugs are provided for each jurisdiction in Results by Jurisdiction of the report. For more direct presentation, the top ATC groups and top individual drugs are ranked on a national basis in Section 4 (Discussion of Results) of the report.

1.3 – Price and Quantity Analysis

Drug expenditures can be viewed as the simple product of the price of a medication multiplied by its quantity (i.e. number of tablets or capsules). It is reasonable, therefore, to examine both price and quantity.

1.3.1 – Price and Quantity Indices

This section introduces price and quantity indices and their associated calculation. A price index number shows how the average price of a market basket of goods changes through time; a quantity index shows how the average quantity of a market basket of goods changes through time. The calculation of indices in this report is limited to the Chained Laspeyres Price and Quantity Index (CLPI, CLQI) methodology. For simplicity, we will limit the explanation of this methodology on CLPI. To calculate the CLQI, the roles of price and quantity are simply reversed.

The CLPI is known as a chained Laspeyres Price Index. A Laspeyres price index measures the cost of buying a basket of goods (drug products) in the current period compared to purchasing the same basket of goods in the base period. “Chained” refers to the fact that the basket of goods is continually updated from one period to another. To be included in the basket, the drug products must exist in adjoining years. The CLPI is calculated using the following formula:

$$CLPI_{2003} = \frac{\sum^E (P_{2003}^{DEPIN} * Q_{2002}^{DEPIN})}{\sum^E (P_{2002}^{DEPIN} * Q_{2002}^{DEPIN})} * 100$$

Where

$CLPI_{2003}$ = Chained Laspeyres Price Index for 2003

\sum^E = Summation of those drugs that exist in both 2002 and 2003

P_{2003}^{DEPIN} = Price per unit of quantity at the drug equivalent product (DEP) level for 2003

Q_{2003}^{DEPIN} = Unit of quantity at the drug equivalent product (DEP) level for 2003

Price indices may be used to adjust drug expenditures for price inflation, while quantity indices may be used to adjust expenditures for quantity inflation. For example, 2003 drug expenditures can be adjusted for price inflation in the following manner:

$$\text{Real Drug Expenditures}_{2003} = \text{Drug Expenditures}_{2003} * \left[\frac{CLPI_{2000}}{CLPI_{2003}} \right]$$

In this case, the terms “real drug expenditures” and “2000 constant dollars” can be used interchangeably.

1.3.2 – Distribution of Price Change and Price Ratios

The reader is also provided with information on price increase and quantity increase distribution and price ratios. The price and quantity distribution indicates the frequency of occurrence (number of DEPINs) for various ranges of the average annual growth rates for the price and quantity of drugs. For example, overall small price increases may be due to small price increases of many drugs or large price increases of few drugs.

The high-to-low price ratio is a comparison of the highest-priced DIN to the lowest-priced DIN within a DEPIN classification. A price ratio of 1.0 indicates that there is no or little difference between the prices of the drugs (DIN level) within a DEPIN classification. The calculation of potential cost savings, associated with the high-to-low price ratios, assumes that the lowest-priced drug (DIN level) is in effect.

1.4 – Decomposition using Defined Daily Dose (DDD)

Decomposition of expenditures increases (decreases) can also be done by using DDDs as the metric of utilization. That is, quantity is measured by DDDs instead of quantity i.e. number of tablets or capsules. In this analysis, changes in drug expenditures are attributed to price, quantity, cross and therapeutic mix effects.

The price effect measures the impact of changes in price (cost-per-DDD) across the various drugs in the therapeutic class, while holding utilization (the number of DDDs) constant. The quantity effect measures the impact of changes in the utilization (the number of DDDs), while holding price constant. As before, the cross effect measures the impact of the interaction between price and utilization changes. The price, quantity and cross effects can be positive or negative and are calculated for existing drugs. The interpretation of existing, new and exiting drugs remains the same as in the previous section.

A great advantage of using DDDs as the metric of utilization is that we can now measure the therapeutic mix effect that measures the impact of shifts among drugs in a therapeutic class. To the extent cost-per-DDD varies among drugs, such shifts can in themselves produce appreciable changes in expenditures. Roughly speaking, if a significant increase in the share of DDDs occurs among individual drugs whose cost-per-DDD is higher than the overall average, the therapeutic mix effect will be positive. The opposite would be true if there is a shift from high cost-per-DDD individual drugs to low cost-per-DDD individual drugs. Hence, the therapeutic mix effect can be positive or negative and it is calculated for existing drugs.

The decomposition formula utilizing DDDs, as the unit of measure, is as follows:

$$\begin{aligned}
 E_f - E_l &= \sum^E [(P_f^i - P_l^i) * Q_f^i] && \text{Price effect} \\
 &= \sum^E [(Q_f^i - Q_l^i) * \bar{P}_f^{ATC}] && \text{Quantity effect} \\
 &= \sum^E [(P_f^i - \bar{P}_f^{ATC}) * (Q_f^i - Q_l^i)] && \text{Therapeutic Mix effect} \\
 &= \sum^E [(P_f^i - P_l^i) * (Q_f^i - Q_l^i)] && \text{Cross effect} \\
 &= \sum^N [(P_f^i * Q_f^i)] && \text{New Drug effect} \\
 &= -[\sum^X (P_l^i * Q_l^i)] && \text{Exiting Drug effect}
 \end{aligned}$$

where

E_f = Drug Expenditures in the first year of analysis

E_l = Drug Expenditures in the last year of analysis

P_f^i = Price per DDD (quantity) at the individual drug level in the first year of analysis

P_l^i = Price per DDD (quantity) at the individual drug level in the last year of analysis

\bar{P}_f^{ATC} = Average Cost per DDD for therapeutic group (ATC-level 2) in the first year of analysis

Q_f^i = Number of DDDs (Quantity) at the individual drug level in the first year of analysis

Q_l^i = Number of DDDs (Quantity) at the individual drug level in the last year of analysis

Q_f^{ATC} = Number of DDDs (Quantity) for therapeutic group (ATC-level 2) in the first year of analysis

Q_l^{ATC} = Number of DDDs (Quantity) for therapeutic group (ATC-level 2) in the last year of analysis

\sum^E = Summation for all existing drugs


\sum^N = Summation for all new drugs

\sum^X = Summation for all exiting drugs

Total% change in expenditures = 100 X

$$\frac{\text{Price effect} + \text{Quantity effect} + \text{Therapeutic Mix Effect} + \text{New Drug effect} + \text{Exiting Drug effect} + \text{Cross effect}}{\text{Total change in drug expenditures from last to first year of analysis.}}$$

Additional information on the cost of daily treatment and utilization patterns, using DDDs as the unit of analysis, is also provided.



Appendix 2 Data Sources and Limitations

2.1 Data Sources

The PMPRB has created an interim Public Drug Plan Aggregate Database using data that are aggregated at the Drug Identification Number (DIN) level. As part of the NPDUIS initiative, the Canadian Institute of Health Information (CIHI) is developing a claims-level database that will be housed at CIHI and shared with the PMPRB.

Aggregate data were submitted by the following jurisdictions: Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia and the Non-Insured Health Benefits (NIHB) Program of the First Nations and Inuit Health Branch of Health Canada. The PMPRB is working collaboratively with the other provinces and territories to increase participation in the PTOR.

Data, received from the jurisdictions, provide information on drug expenditures, quantities, and prescription transactions used for analysis. Most provinces provided seven years of data covering 1997-1998 to 2003-2004, while Manitoba provided four years of data (2000-2001 to 2003-2004). The NIHB drug program provided five years of data (1999-2000 to 2003-2004).

The number of claimants is defined as those individuals who actually made a claim that was paid in part or whole by their public drug plan. The number of claimants was provided as a sum of claimants across the various programs within a jurisdiction's drug plan. Population figures were obtained from Statistics Canada⁹⁴.

94 Statistics Canada. CANSIM II Series V737545, Table 510005.

Total health and total drug expenditures were obtained from CIHI publications: National Health Expenditures in Canada, 1975-2004 and Drug Expenditures in Canada, 1985-2004. Figures for Gross Domestic Product (GDP) and provincial and territorial budgets were obtained from Statistics Canada⁹⁵ and CIHI publications⁹⁶, respectively.

This jurisdictional data are merged with a number of auxiliary datasets including the PMPRB data, Health Canada Drug Product Database (DPD), and the WHO database on Anatomical Therapeutic Chemical (ATC) Classification and defined daily doses (DDD). In order to determine if a drug product was patented, the PMPRB's list of patented drug products was used.⁹⁷

A Brand Name drug is a unique individual drug(s) that was first developed, manufactured, and marketed by a specific company. The classification of Brand Name and Generic drugs is not standardized among researchers. A Generic drug is an individual drug(s) that is essentially a replica of a Brand Name drug whose patent has expired or was never patented. For the purposes of this report, the classification of Brand Name and Generic drugs was done by PMPRB researchers. "Brand Name" classification was assigned if the manufacturer belonged to major Research and Development associations, such as Canada's Research Based Pharmaceutical Companies (Rx&D). The "Generic drug" classification was assigned if the manufacturer belonged to a generic association, such as the Canadian Generic Pharmaceutical Association (CPGA).^{98,99}

Although this classification is fairly robust, a degree of misclassification is possible—manufacturers belonging to Canada's Rx&D can manufacture a generic drug and a manufacturer belonging to CPGA may distribute or produce a new drug product, receive a patent for that drug product and enter the marketplace after its approval.

2.2 Data Limitations

As previously stated, the available data are limited to seven provinces and one federal program. The number of years of available data also differs between provinces. Seven years of data, 1997-1998 to 2003-2004 were available for Alberta, Saskatchewan, Ontario, New Brunswick and Nova Scotia. The Non-Insured Health Benefits program provided five years of data (1999-2000 to 2003-2004) and Manitoba provided four years of data (2000-2001 to 2003-2004).

The analysis in PTOR utilizes the numeric data across the various plans within a jurisdiction. Plan description and the population covered can vary from one jurisdiction to another. The reader is advised to consult Results by Jurisdiction for drug plan information.

95 Statistics Canada. CANSIM II Table 3840001.

96 Canadian Institute of Health Information. National Health Expenditures, 1975-2004. Appendix D.

97 PMPRB. PMPRB Annual Report 2004 – Patented Drug Products for Human Use and Canadian Patentees, January 1 – December 31, 2004.

98 Sources of information for brand name and generic drug classification included Canada Rx & D (www.canadapharma.org), Canadian Pharmaceutical Generic Association (www.cdma-acfpp.org), Pharma (www.pharma.org), European Generic Medicines Association (www.egagenerics.com), several company internet sites.

99 Source: Pharmacy Strategy Group, IMS Health. Generics Canada – Understanding the Threats & Opportunities. December 1995.

Data submitted by the jurisdictions are “administrative data.” That is, the main purpose of these databases is to administer claims submitted to the individual drug plans; administrative data are not collected specifically for research purposes. With administrative data, there are differences between drug plans in the data fields collected and their respective definitions. The presentation of results on a jurisdiction-by-jurisdiction basis was done for the following reasons: the public drug plans differ in the type of coverage (i.e. type of benefits) and the populations that they cover; the years of data submitted is not consistent across the jurisdictions; and, the type of data collected by each jurisdictions also differ. Detailed results on a jurisdiction-by-jurisdiction basis are provided in Results by Jurisdiction of the report.

Data, aggregated at the DIN level, limit research to a broader scope of analysis. Individual utilization and physician practice patterns would only be possible with claims-level data which is one of the ongoing goals of the NPDUI initiative. Demographic information such as age and gender was generally not available from the submitted data.

Data submitted by the jurisdictions were merged with Health Canada’s drug product database. The merging process required that a common field is shared in each of the databases. The link or common record identifier in both of these databases is the DIN. Over all years, approximately 89.0% to 99.5% of the jurisdictional expenditures could be matched with Health Canada’s Drug Product Database (DPD) and used in this report.

Although most new drugs that come onto the market are patented, a manufacturer may choose otherwise. For the purposes of this study, drugs whose patents have expired, have never been patented or are not yet patent are all classified as non-patented drugs.

Health Canada’s DPD is also seen as being a comprehensive database that provides information on assigned DINs, ingredient(s), ingredient strength(s), route of administration, form (i.e. tablet or capsule), active ingredient group (AIG number), and ATC number and description. Health Canada’s DPD is updated on a monthly basis.

The WHO database provides information on therapeutic classification, as well as defined DDDs. Since a DDD is based on the daily average maintenance dose for a drug used for its main indication in adults, this part of the analysis is limited to a proposed adult population only. It is often the case that combination drugs do not have assigned DDDs and are not included in the analysis that utilizes DDDs as the measure of utilization.

Analysis is also limited to oral solids in the following sections of the report: price and quantity analysis, decomposition of expenditure growth and defined daily dosage analysis. An oral solid is a medication that is taken by mouth and has a solid form such as a tablet or capsule. The unit of measure recorded for drugs, other than oral solids, is not reliable. For instance, a bottle of liquid antibiotic may be recorded as ‘1’ for one bottle or ‘150’ for 150 ml. Limiting analyses to oral solids necessarily limits the portion of drug expenditures that are being examined.

Appendix 3

Population



Population British Columbia

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	3,914,446	3,931,016	3,948,544	3,964,637
1998	3,972,781	3,977,875	3,983,077	3,990,414
1999	3,995,605	4,002,399	4,011,342	4,021,567
2000	4,026,630	4,033,285	4,039,198	4,049,264
2001	4,055,195	4,065,998	4,078,447	4,090,659
2002	4,096,473	4,105,904	4,115,413	4,125,295
2003	4,130,759	4,140,057	4,152,289	4,164,043
2004	4,173,596	4,182,928	4,196,383	4,209,856

Population Alberta

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	2,799,682	2,813,321	2,830,056	2,847,779
1998	2,859,603	2,877,094	2,899,452	2,916,212
1999	2,926,555	2,937,912	2,953,255	2,967,290
2000	2,975,170	2,989,163	3,004,940	3,017,734
2001	3,028,773	3,041,661	3,056,739	3,075,186
2002	3,087,024	3,100,798	3,116,332	3,128,430
2003	3,136,581	3,146,513	3,158,641	3,170,227
2004	3,179,066	3,190,436	3,201,895	3,212,813

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	1,018,499	1,017,847	1,018,067	1,017,599
1998	1,017,687	1,017,279	1,017,506	1,017,931
1999	1,017,075	1,015,900	1,014,707	1,012,774
2000	1,011,343	1,009,378	1,007,767	1,006,238
2001	1,003,688	1,001,830	1,000,134	998,926
2002	998,219	996,916	995,886	995,256
2003	994,740	994,605	994,428	994,663
2004	994,443	994,852	995,391	996,194

**Population
Saskatchewan**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	1,134,997	1,135,851	1,136,137	1,135,662
1998	1,135,787	1,136,199	1,137,515	1,138,358
1999	1,138,980	1,140,541	1,142,491	1,143,665
2000	1,144,479	1,145,929	1,147,373	1,148,248
2001	1,148,525	1,149,718	1,151,285	1,151,644
2002	1,152,079	1,153,533	1,155,584	1,156,938
2003	1,157,840	1,159,223	1,161,552	1,163,003
2004	1,164,962	1,167,502	1,170,268	1,173,164

**Population
Manitoba**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	11,146,670	11,180,472	11,228,284	11,279,651
1998	11,292,943	11,323,035	11,367,018	11,410,046
1999	11,420,957	11,454,338	11,506,359	11,561,189
2000	11,578,845	11,623,226	11,685,380	11,750,564
2001	11,774,286	11,828,337	11,897,647	11,965,417
2002	11,986,887	12,036,968	12,102,045	12,153,167
2003	12,167,355	12,206,871	12,256,645	12,299,514
2004	12,312,421	12,347,467	12,392,721	12,439,755

**Population
Ontario**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	7,262,954	7,267,834	7,274,630	7,282,895
1998	7,286,036	7,290,531	7,295,973	7,305,345
1999	7,310,286	7,315,106	7,323,308	7,334,785
2000	7,340,337	7,347,252	7,357,029	7,368,854
2001	7,374,065	7,383,830	7,396,990	7,413,392
2002	7,421,309	7,432,197	7,445,745	7,460,604
2003	7,466,263	7,477,217	7,492,333	7,509,504
2004	7,516,950	7,527,410	7,542,760	7,560,592

**Population
Quebec**

Population New Brunswick

Calendar Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1997	752,375	752,482	752,543	752,279
1998	751,999	751,104	750,551	750,728
1999	750,146	750,088	750,611	750,652
2000	750,794	750,547	750,518	750,252
2001	749,715	749,794	749,890	749,716
2002	749,286	749,618	750,327	750,844
2003	750,779	750,820	750,896	750,877
2004	750,741	751,235	751,384	751,449

Population Nova Scotia

Calendar Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1997	932,438	931,913	932,481	932,815
1998	932,631	932,107	931,907	932,812
1999	932,219	932,182	933,847	936,005
2000	934,661	934,354	933,881	934,521
2001	933,527	932,972	932,389	933,245
2002	933,609	933,720	934,507	935,517
2003	935,343	935,555	936,165	937,082
2004	937,220	936,902	936,960	938,134

Population Prince Edward Island

Calendar Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1997	135,950	135,945	136,109	136,180
1998	135,954	135,650	135,819	135,923
1999	136,010	136,040	136,296	136,439
2000	136,458	136,305	136,486	136,416
2001	136,393	136,512	136,672	136,872
2002	136,847	136,835	136,934	137,066
2003	137,090	137,137	137,266	137,431
2004	137,620	137,863	137,864	137,744

Population Newfoundland and Labrador

Calendar Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1997	555,545	553,218	551,011	547,741
1998	545,873	542,573	539,932	538,001
1999	536,610	534,582	533,409	532,328
2000	531,859	529,655	528,043	526,811
2001	525,380	523,321	521,986	521,455
2002	521,229	519,790	519,449	519,345
2003	518,979	518,581	518,350	518,952
2004	518,809	517,929	517,027	516,875

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	25,735	25,839	25,884	25,995
1998	26,082	26,184	26,374	26,451
1999	26,576	26,723	26,822	26,999
2000	27,147	27,231	27,500	27,686
2001	27,801	27,932	28,121	28,135
2002	28,224	28,233	28,739	28,866
2003	28,926	29,044	29,141	29,134
2004	29,251	29,326	29,644	29,624

**Population
Nunavut**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	41,538	41,678	41,635	41,422
1998	41,234	40,981	40,816	40,650
1999	40,650	40,720	40,654	40,596
2000	40,641	40,474	40,499	40,596
2001	40,646	40,638	40,822	41,144
2002	41,107	41,239	41,489	41,674
2003	41,791	41,964	42,206	42,362
2004	42,629	42,585	42,810	42,925

**Population
Northwest
Territories**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	31,627	31,654	31,791	31,549
1998	31,503	31,313	31,142	30,870
1999	30,739	30,594	30,777	30,599
2000	30,486	30,373	30,421	30,284
2001	30,136	30,114	30,129	30,032
2002	30,155	30,092	30,137	30,239
2003	30,305	30,442	30,554	30,878
2004	30,927	31,018	31,209	31,167

**Population
Yukon Territory**

Calendar Year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1997	29,752,456	29,819,070	29,907,172	29,996,204
1998	30,030,113	30,081,925	30,157,082	30,233,741
1999	30,262,408	30,317,125	30,403,878	30,494,888
2000	30,528,850	30,597,172	30,689,035	30,787,468
2001	30,828,130	30,912,657	31,021,251	31,135,823
2002	31,182,448	31,265,843	31,372,587	31,463,241
2003	31,496,751	31,568,029	31,660,466	31,747,670
2004	31,788,635	31,857,453	31,946,316	32,040,292

**Population
Canada**

Source:
CANSIM II
Series
V737545,
Table 510005,
Statistics
Canada.

Appendix 4 Number of Eligible Beneficiaries and Claimants

Number of Claimants

	BC	AB	SK	MB	ON	NB	NS	NIHB
1997/98	868,674	260,551	152,619	84,062	2,187,249	114,089	159,313	n/a
1998/99	825,352	265,613	172,711	83,928	2,153,874	109,497	164,923	n/a
1999/00	851,591	385,194	182,209	88,060	2,106,498	106,087	182,979	463,064
2000/01	883,206	391,681	185,897	95,676	2,074,158	102,662	143,381	474,826
2001/02	906,780	402,203	189,923	113,359	2,059,453	100,081	138,832	481,308
2002/03	810,447	412,064	185,743	119,304	2,083,497	99,044	137,233	493,472
2003/04	n/a ¹⁰⁰	429,349	176,647	126,792	2,132,055	98,490	136,747	503,812

Source: Provincial Drug plans and Non-Insured Health Benefits, First Nations and Inuit Health Branch of Health Canada.

Number of Eligible Beneficiaries

	BC	AB	SK	MB	ON	NB	NS	NIHB ¹⁰¹
1997/98	3,972,781	447,276	606,973	n/a	3,006,431	n/a	n/a	
1998/99	3,995,605	450,571	612,447	n/a	2,941,592	119,948	n/a	
1999/00	4,026,630	455,754	617,125	n/a	2,858,489	114,261	n/a	676,670
2000/01	4,055,195	462,919	618,788	n/a	2,804,934	110,233	n/a	694,198
2001/02	4,096,473	474,675	614,569	n/a	2,799,081	108,468	n/a	710,025
2002/03	4,130,759	485,803	607,422	n/a	2,808,455	106,660	n/a	724,650
2003/04	4,173,596	499,078	609,883	n/a	2,857,274	105,073	n/a	738,964

Source: Provincial Drug plans and Non-Insured Health Benefits, First Nations and Inuit Health Branch of Health Canada.

Source: Non-Insured Health Benefits Program Annual Report, 2003/2004.

100 Due to changes in sub-plans, an accurate count of claimants is not available.

101 NIHB population figures effective end of fiscal year.



Appendix 5 Provincial and National Gross Domestic Products

	1997	1998	1999	2000	2001	2002	2003 (f)	2004 (f)
British Columbia	114,383	115,641	120,921	131,086	132,050	135,552	142,418	152,599
Alberta	107,048	107,439	117,080	143,721	151,173	149,998	170,631	189,930
Saskatchewan	29,157	29,550	30,778	33,704	33,580	34,592	36,778	39,072
Manitoba	29,751	30,972	31,966	34,141	35,294	37,075	38,078	40,082
Ontario	359,353	377,897	409,020	440,708	452,923	478,112	493,416	518,937
Quebec	188,424	196,258	210,809	225,202	232,592	245,559	254,263	267,738
New Brunswick	16,845	17,633	19,041	20,178	20,772	21,163	22,358	23,202
Nova Scotia	20,368	21,401	23,059	24,770	26,070	27,102	28,813	29,939
Prince Edward Island	2,800	2,981	3,159	3,349	3,474	3,748	3,883	4,039
Newfoundland and Labrador	10,533	11,176	12,184	13,863	14,196	16,555	18,015	18,997
Nunavut			747	832	871	931	916	975
Northwest Territories	2,691	2,652	2,292	2,510	2,889	2,949	3,332	3,545
Yukon Territory	1,107	1,087	1,085	1,188	1,233	1,246	1,310	1,394
Canada	882,733	914,973	982,441	1,075,566	1,107,459	1,154,949	1,214,601	1,290,360

Source: 1975 to 2004 National Accounts and Environment Division, Statistics Canada

Gross Domestic
Products
(\$ 000,000)

Appendix 6

Provincial and Territorial Budgets



Provincial and Territorial Budgets¹⁰², 1997 to 2003 (\$ 000,000)

	1997	1998	1999	2000	2001	2002	2003
British Columbia	22,112	28,627	25,878	24,742	26,203	26,918	28,022
Alberta	13,562	14,188	15,914	18,486	21,523	20,738	21,759
Saskatchewan	4,742	5,138	5,716	5,854	6,513	7,166	7,160
Manitoba	5,675	5,879	6,412	6,660	6,897	7,180	7,697
Ontario	50,546	54,307	55,988	58,943	59,362	62,273	67,318
Quebec	39,796	41,732	44,569	46,943	49,847	52,048	53,889
New Brunswick	3,965	4,159	4,554	4,466	4,518	4,738	5,004
Nova Scotia	4,113	4,379	4,640	4,725	4,826	4,979	5,286
Prince Edward Island	731	766	815	898	959	968	1,020
Newfoundland and Labrador	3,067	3,164	3,400	3,510	3,730	3,914	4,069
Nunavut			587	776	815	912	1,016
Northwest Territories	1,401	1,437	1,010	873	964	1,037	1,092
Yukon Territory	458	457	487	511	545	574	652
Canada	150,167	164,231	169,969	177,386	186,700	193,445	203,983

Source: Statistics Canada

¹⁰² Total Provincial / Territorial Government Programs correspond to Total Provincial / Territorial Government Expenditures less debt charges.



Appendix 7 Anatomical Therapeutic Chemical Classification

Anatomical Therapeutic Chemical (ATC)

The WHO recommends Anatomical Therapeutic Chemical (ATC) classification system [and the Defined Daily Dose (DDD)] as a measuring unit for drug utilization studies.

In the ATC classification system, the drugs are divided into different groups according to the organ or system on which they act and their chemical, pharmacological and therapeutic properties. Drugs are classified in-groups at five different levels. The drugs are divided into fourteen main groups (1st level), with two therapeutic / pharmacological subgroups (2nd and 3rd levels). The 4th level is a therapeutic / pharmacological / chemical subgroup and the 5th level is the chemical substance.

Medicinal products are classified according to the primary therapeutic use of the main active ingredient, on the basic principle of only one ATC code for each pharmaceutical formulation (i.e., similar ingredients, strength and pharmaceutical form). A medicinal product can be given more than one ATC code if it is available in two or more strengths or formulations with clearly different therapeutic uses.

ATC	Therapeutic Class	Subgroups*
A02	Drugs for Acid-Related Disorders	Antacids; Drugs for peptic ulcer and gastro-oesophageal reflux disease (GORD) ; Other drugs for acid related disorders
A10	Drugs used in diabetes	Insulins and analogues; Oral blood glucose lowering drugs; Other drugs used in diabetes
B01	Antithrombotic Agents	Antithrombotic agents
B03	Antianemic Preparations	Iron preparations; Vitamin B12 and folic acid; Other antianemic preparations
C01	Cardiac Therapy	Cardiac glycosides; Antiarrhythmics, class I and III; Cardiac stimulants excl. cardiac glycosides; Vasodilators used in cardiac diseases; Other cardiac preparations
C03	Diuretics	Low-ceiling diuretics, thiazides; Low-ceiling diuretics, excl. thiazides; High-ceiling diuretics; Potassium-sparing agents; Diuretics and potassium-sparing agents in combination
C07	Beta Blocking Agents	Beta blocking agents; Beta blocking agents and thiazides; Beta blocking agents and other diuretics; Beta blocking agents, thiazides and other diuretics; Beta blocking agents and vasodilators; Beta blocking agents and other antihypertensives
C08	Calcium channel blockers	Selective calcium channel blockers with mainly vascular effects; Selective calcium channel blockers with direct cardiac effects; Non-selective calcium channel blockers; Calcium channel blockers and diuretics
C09	Agents acting on the renin-angiotensin system	ACE inhibitors, plain; ACE inhibitors, combinations; Angiotensin II antagonists, plain; Angiotensin II antagonists, combinations; Other agents acting on the renin-angiotensin system
C10	Serum lipid reducing agents	Cholesterol and triglyceride reducers
G03	Sex hormones and modulators of the genital system	Hormonal contraceptives for systemic use; Androgens; Estrogens; Progestogens; Androgens and female sex hormones in combination; Progestogens and estrogens in combination; Gonadotropins and other ovulation stimulants; Antiandrogens; Other sex hormones and modulators of the genital system
H03	Thyroid Therapy	Thyroid preparations; Antithyroid preparations; iodine therapy
J01	Antibacterials for systemic use	Tetracyclines; Amphenicols; Beta-lactam antibacterials, penicillins; Other beta-lactam antibacterials; Sulfonamides and Trimethoprim; Macrolides, Lincosamides and Streptogramins; Aminoglycoside antibacterials; Quinolone antibacterials; Combinations of antibacterials; Other antibacterials
L02	Endocrine Therapy	Hormones and related agents; Hormone antagonists and related agents
L03	Immunostimulants	Cytokines and immunomodulators
L04	Immunosuppressive agents	Immunosuppressive agents
M01	Anti-inflammatory and anti-rheumatic products	Antiinflammatory and antirheumatic products, non-steroids; Antiinflammatory/antirheumatic agents in combination; Specific antirheumatic agents
M05	Drugs for Treatment of Bone Diseases	Drugs affecting bone structure and mineralization
N02	Analgesics	Opioids; Other analgesics and antipyretics; Antimigraine preparations
N03	Antiepileptics	Antiepileptics
N05	Psycholeptics	Antipsychotics; Anxiolytics; Hypnotics and sedatives
N06	Psychoanaleptics	Antidepressants; Psychostimulants, agents used for ADHD and nootropics; Psycholeptics and psychoanaleptics in combination; Anti-dementia drugs
R01	Nasal Preparations	Decongestants and other nasal preparations for topical use; Nasal decongestants for systemic use
R03	Drugs for Obstructive Airway Diseases	Adrenergics, inhalants; Other drugs for obstructive airway diseases, inhalants; Adrenergics for systemic use; Other systemic drugs for obstructive airway diseases

* Main sub-groups are listed



Appendix 8 Glossary

Active Ingredient:

Chemical or biological substance that is responsible for the claimed pharmacologic effect of a drug product.

AIG (Active ingredient group) number:

10-digit number that identifies products that have the same active ingredient(s) and ingredient strengths(s) and is available from Health Canada's Drug Product Database.

Anatomical Therapeutic Chemical (ATC) classification:

Classification system developed and maintained by the World Health Organization (WHO) Collaborating Centre for Drug Statistics Methodology. In the ATC classification system, the drugs are first divided into different groups according to the organ or system on which they act. Altogether drugs are subdivided and classified in groups at five different levels. The 5th level is the chemical substance.

ATC level 2 (ATC-2):

ATC level 2 refers to the second level (therapeutic / pharmaceutical properties) of classification in the ATC classification system.

Drug Equivalent Product Identification Number (DEPIN):

Unit of analysis, developed by the PMPRB, that consists of a group of DINs with the same ingredient(s), same strength(s), same route and same form. A DEPIN is created by using the Active Ingredient Group (AIG) number as its root and appending the numerical codes for both form and route.

Eligible Beneficiaries:

Individuals who are covered by the jurisdictions' drug plans. Due to reimbursement criteria for the individual public drug plans, eligible beneficiaries may or may not be reimbursed for the costs of their prescriptions.

Brand Name drug:

For the purposes of this report, a Brand Name drug is a pharmaceutical that is produced by one of the Research and Development companies.

Claimants:

Eligible beneficiaries who have made a claim which has been at least partially paid by the public drug plan.

Cross Effect:

Cross effect is the product of the change in price and the change in quantity. This is usually a relatively small-to-moderate influence on the change in drug costs. Its inclusion makes for algebraic completeness.

Drug Identification Number (DIN):

A registration number that the Health Protection Branch of Health Canada assigns to each prescription and non-prescription drug product marketed under the Food and Drugs Regulations. The DIN is assigned using information in the following areas: manufacturer of the product; active ingredient(s); strength of active ingredient(s); pharmaceutical dosage form; brand / trade name; and route of administration. Different DINs can be assigned to the exact or nearly same ingredient due to a host of reasons such as a different manufacturer or different base component that may not have any medicinal effect.

Defined Daily Doses (DDDs):

Defined daily doses represent the daily average maintenance dose for a drug used for its main indication in adults. DDDs are associated with the ATC classification system that is developed by the World Health Organization (WHO).

Exiting Drug Effect:

Exiting Drug Effect shows the impact of drug exiting the system on the change in drug costs. Drugs may exit the system as a result of de-listing drugs from the formulary, discontinuation of the products by the manufacturer, or lack of claims during follow-up periods.

Existing Drugs:

For the purposes of this paper, existing drugs are defined as drug products that were reimbursed in the first and last years for which the analysis is being done.

Generic drugs:

For the purposes of this paper, Generic drugs are those drugs that are produced by companies belonging to generic-oriented associations, such as the Canadian Generic Pharmaceutical Association.

Drug Costs:

Drug costs refers to the cost of the drug alone and does not include any other costs that may be associated with the prescription.

New Drug Effect:

New drug effect shows the impact on the change in drug costs due to the entry of new drugs.

Patented drug:

For the purposes of this study, a patented drug is a drug that has an active patent for the period of time being reviewed.

Patent:

An instrument issued by the Commissioner of Patents in the form of letters patent for an invention that provides its holder with a monopoly limited in time, for the claims made within the patent. A patent gives its holder and its legal representatives the exclusive right of making, constructing and using the invention and selling it to others to be used.

Chained Laspeyres Price Index (CLPI):

The CLPI has been developed by the PMPRB as a measure of average year-over-year change in the transaction prices of patented drug products sold in Canada, based on the price and sales information reported by patentees.

Price Effect:

Price effect shows the impact of prices on the change in drug costs, while holding quantity constant.

Program-Paid Costs:

Program-Paid Costs are the prescription costs paid out by the public drug plan and may include drug costs, dispensing fees and mark-ups.

Research and Development (R&D):

Basic or applied research for the purpose of creating new, or improving existing, materials, devices, products or processes (e.g. manufacturing processes).

Therapeutic Mix Effect:

Within a therapeutic group, the therapeutic mix effect captures the impact of shifts amongst different individual drugs on the change in drug costs, holding price and quantity constant.

Quantity Effect:

Quantity effect shows the impact of quantity on the change in drug costs, while holding prices constant.

Appendix 9

Summary Description of Provincial and Territorial Drug Plans



103 <http://www.healthservices.gov.bc.ca/pharme/>
<http://www.hlth.gov.bc.ca/pharme/>

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
British Columbia ¹⁰³				
Fair PharmaCare (Plan I)	<ul style="list-style-type: none"> British Columbia Residents with effective Medical Services Plan of BC and who have filed an income tax return 	- None	Based on net income: - \$0 if income is less than \$15,000: - 2% of net income if income is between \$15,000 and 30,000: - 3% of net income if income is > \$30,000	- 30% per prescription to a maximum based on net income: - Less than \$15,000: 2% of net income - Between \$15,000 and \$30,000: 3% of net income - Over \$30,000: 4% of net income
	<ul style="list-style-type: none"> Seniors 65+ where one or more spouse was born in 1939 or earlier 	- None	Based on net income: - \$0 if income is less than \$33,000 - 1% of net income if income between \$33,000 and \$50,000 - 2% of net income if income over \$50,000	- 25% per prescription to a maximum based on net income: • Less than \$33,000: 1.25% of net income • Between \$33,000 and \$50,000: 2% of net income • Over \$50,000: 3% of net income
Permanent Residents of Long-term Care Facilities (Plan B)	<ul style="list-style-type: none"> Permanent residents of licensed long-term care facilities 	- None	- None	- None
Recipients of British Columbia Benefits (Plan C)	<ul style="list-style-type: none"> B.C. residence receiving medical benefits and income assistance 	- None	- None	- None
Children in At Home Program (Plan F)	<ul style="list-style-type: none"> Severely handicapped children who would become reliant on institutional care 	- None	- None	- None
Disease-Specific Programs	<ul style="list-style-type: none"> Cystic Fibrosis (Plan D) No-Charge Psychiatric Medication Program (Plan G) B.C. Centre for Excellence in HIV/AIDS B.C. Cancer Agency – patients must have a B.C. Care Card with B.C. Cancer Agency numbers B.C. Renal Agency 	- None	- None	- None

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Alberta ¹⁰⁴				
Publicly Funded Drug Programs				
Non-group Coverage	<ul style="list-style-type: none"> Albertans Under 65 not in arrears with the Alberta Health Care Insurance Plan 	<ul style="list-style-type: none"> Quarterly premiums charged based on family size and income¹⁰⁵ 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 30% of prescription cost with maximum of \$25
Prescription Drug Coverage for Seniors	<ul style="list-style-type: none"> Seniors (65+) and all recipients of the Alberta Widows Pension 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 30% of prescription cost with maximum of \$25
Palliative Care Drug Coverage	<ul style="list-style-type: none"> Patients in late stages of terminal illness 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 30% of prescription cost with maximum of \$25 Maximum co-payment of \$1000
Alberta Human Resources and Employment contracts with Alberta Blue Cross				
Alberta Child Health Benefit	<ul style="list-style-type: none"> Children living in families with low incomes 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Assured Income for the Severely Handicapped	<ul style="list-style-type: none"> Residents with permanent disability that impairs their ability to earn a living 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Maximum of \$2 for the first 3 prescriptions. Maximum financial benefit is \$850 per month¹⁰⁶
Income Support ¹⁰⁷	<ul style="list-style-type: none"> Individuals and families who do not have the resources to meet their basic needs 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Maximum of \$2 for the first 3 prescriptions.
Alberta Adult Health Benefit	<ul style="list-style-type: none"> Qualified clients leaving Income Support for Work or because of an increase in Canada Pension Plan Disability benefits 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Other Plans Provided by Alberta Health and Wellness				
Regional Health Authority Plan	<ul style="list-style-type: none"> Patients in hospitals, auxiliary hospitals and nursing homes 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Province-Wide Services	<ul style="list-style-type: none"> Funding to regional health authorities in Edmonton and Calgary for select high cost drugs 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Alberta Cancer Board	<ul style="list-style-type: none"> Patients who require drugs due to cancer disease 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Disease Control and Prevention	<ul style="list-style-type: none"> Patients who require drugs for tuberculosis and STDs (sexually transmitted diseases) 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None

104 <http://www.health.gov.ab.ca/ahcip/prescription/index.html>

105 Premiums may be subsidized through the Premium Subsidy Program for lower-income non-senior registrants.

106 This includes prescription drugs, eyewear, eye examinations, dental work, emergency dental services, and essential diabetic supplies.

107 Income support provides financial benefits to individuals and families who do not have the resources to meet their basic needs, like food, clothing and shelter. [<http://www3.gov.ab.ca/hre/isp/index.asp>]

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Saskatchewan ¹⁰⁸				
Supplementary Health Program	Plan eligibility is determined eligible by Social Services. <ul style="list-style-type: none"> All Plans – Individuals under 18 receive benefit for prescriptions for insulin, oral medication for diabetes, and birth control pills. Plan One <ul style="list-style-type: none"> None None Maximum of \$2 per prescription Plan Two – Covers some additional long-term drugs for those eligible under Plan One. <ul style="list-style-type: none"> None None None Plan Three is designed for people receiving the Saskatchewan Income Plan and residing in special-care homes. <ul style="list-style-type: none"> None None None Individuals living in Approved Homes and Group Homes may also be eligible. <ul style="list-style-type: none"> None None None 			
Saskatchewan Aids to Independent Living (SAIL)	<ul style="list-style-type: none"> People with long-term disabilities or illnesses with functional limitations 	None	None	None
Family Health Benefits Program	<ul style="list-style-type: none"> Families eligible for the Saskatchewan Child Benefit or Employment Supplement 	None	\$100 semi-annually	35% after the deductible has been reached
The Saskatchewan Drug Plan				
Palliative Care Program	<ul style="list-style-type: none"> Patients in late stages of terminal illness 	None	None	None
Emergency Assistance Program	<ul style="list-style-type: none"> Residents who require immediate treatment and cannot cover the cost 	None	None	Level of assistance determined with consumer's ability to pay
Special Support Program	<ul style="list-style-type: none"> People with high drug costs in relation to adjusted family income 	None	None	Determined by family drug costs in excess of 3.4% of adjusted family income
Income Supplement Recipients	<ul style="list-style-type: none"> Residents qualifying for Guaranteed Income Supplement and Saskatchewan Income Plan 	None	\$200 semi-annually for Guaranteed Income Supplement recipients living in community <ul style="list-style-type: none"> \$100 semi-annually for GIS recipients living in a special care home. \$100 semi-annually for Saskatchewan Income Supplement recipients 	35% after deductible has been reached

108 http://www.health.gov.sk.ca/ps_drug_plan.html

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Manitoba ¹⁰⁹				
Pharmacare	<ul style="list-style-type: none"> All provincial residents who are not covered under other statutes/ programs 	- None	Based on % and level of income: <ul style="list-style-type: none"> 2.32% if income level < \$15,000 3.48% if income between \$15,000 and \$40,000 4% if income between \$40,000 and \$75,000 5% if income > \$75,000 	- None
Personal Care Home Residents Plan	<ul style="list-style-type: none"> Personal care home residents 	- None	- None	- None
Palliative Drug Care Access Program	<ul style="list-style-type: none"> Patients in the final days of their lives 	- None	- None	- None
Employment and Income Assistance Prescription Drug Benefits	<ul style="list-style-type: none"> Employment and Income Assistance recipients not covered by other programs. 	- None	- None	- Maximum of \$6.95 ¹¹⁰
Ontario ¹¹¹				
Ontario Drug Benefit Program	<ul style="list-style-type: none"> People 65 years old and older 	- None	- \$100	<ul style="list-style-type: none"> Income-based Maximum of \$6.11 of dispensing fee and \$2 per prescription based on income
	<ul style="list-style-type: none"> Residents of long-term care facilities 	- None	- None	- Maximum of \$2 per prescription
	<ul style="list-style-type: none"> Residents of Homes for Special Care 	- None	- None	- Maximum of \$2 per prescription
	<ul style="list-style-type: none"> People receiving professional services under the Home Care Program 	- None	- None	- Maximum of \$2 per prescription
	<ul style="list-style-type: none"> Recipients of Social Assistance through Ontario Works program or Ontario Disability Support Program 	- None	- None	- Maximum of \$2 per prescription
Trillium Drug Program	<ul style="list-style-type: none"> Those with high prescription costs relative to income who are not eligible under the Ontario Drug Benefit Program 	- None	- Quarterly or prorated deductible based on income	- Maximum of \$2 per prescription
Ontario Drug Benefit: Special Drugs Program	<ul style="list-style-type: none"> Outpatients of certain disease or conditions that are covered 	- None	- None	- None

109 <http://www.gov.mb.ca/health/pharmacare/>

110 Cost Driver Analysis of Provincial Drug Plans, Manitoba 1995/96 – 1998/99

111 http://www.health.gov.on.ca/english/public/program/drugs/drugs_mn.html

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Quebec ¹¹²				
Public Plan	<ul style="list-style-type: none"> Persons over 65 who do not choose private insurance 	<ul style="list-style-type: none"> \$0 to \$460 per adult depending on income 	<ul style="list-style-type: none"> \$9.60 if not receiving Guaranteed Income Supplement (GIS), or receiving less than 94% of the maximum GIS \$8.33 for seniors receiving at least 94% of GIS 	<ul style="list-style-type: none"> Seniors not receiving the GIS: 28% of the prescription cost with a maximum monthly co-payment of \$69.92. Seniors receiving at least 94% of the maximum GIS: 28% of the prescription cost with a maximum monthly co-payment of \$46.17. Seniors receiving at least 94% of the maximum GIS: 25% of the prescription cost with a maximum monthly co-payment of \$16.66.
	<ul style="list-style-type: none"> Employment Assistance Recipients and holders of a claim slip 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> \$8.33 unless waived due to employment constraints 	<ul style="list-style-type: none"> 25% of the prescription cost. Maximum monthly payment of \$16.66 unless waived
	<ul style="list-style-type: none"> Persons who do not have access to a private plan 	<ul style="list-style-type: none"> \$0 to \$460 per adult depending on family income 	<ul style="list-style-type: none"> \$9.60 	<ul style="list-style-type: none"> 28% of the prescription cost to a maximum monthly co-payment of \$69.92
	<ul style="list-style-type: none"> Children of persons covered by the public plan under 18 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
New Brunswick ¹¹³				
Seniors Beneficiary Group (Plan A)	<ul style="list-style-type: none"> Residents 65+ who receive Guaranteed Income Supplement Residents whose annual income is either (i) follows: <ul style="list-style-type: none"> Single with an income of \$17,198 or less for a single or (ii) combined income of \$26,955 or less for those with a spouse over 65 or (iii) combined income of \$32,390 or less; for those with a spouse under 65 Individuals residing in a licensed residential facility who hold a valid health card 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> \$9.05 per prescription to a maximum of \$250 for Seniors receiving Guaranteed Income Supplement \$15 per prescription for Seniors who qualify based on income
Family and Community Services (Plan E)	<ul style="list-style-type: none"> Individuals residing in a licensed residential facility who hold a valid health card 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> \$4 for each prescription to a maximum of \$250 per person

112 <http://www.ramq.gouv.qc.ca/en/citoyens/>

113 <http://www.gnb.ca/0051/0212/>

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Family and Community Services (Plan F)	<ul style="list-style-type: none"> Individuals holding a valid health card for prescription drugs 	- None	- None	<ul style="list-style-type: none"> \$4 per prescription for adults (18 and over), \$2 per prescription for those under the age of 18 years Maximum of \$250 per person
Children in Care of the Minister of Family and Community Services (Plan G)	<ul style="list-style-type: none"> Special needs children and children in the care of the Minister of Family and Community Services 	- None	- None	- None
Nursing Home (Plan V)	<ul style="list-style-type: none"> Individuals who reside in a nursing home 	- None	- None	- None
Disease Specific Programs	<ul style="list-style-type: none"> Cystic Fibrosis Beneficiary Group (Plan B) <ul style="list-style-type: none"> cystic fibrosis patients or patients with juvenile or infant sclerosis of the pancreas Multiple Sclerosis (Plan H) 	- \$50 annually	- \$50 annually	- 20% of the cost of each prescription up to \$20 - Maximum of \$500 per family
	<ul style="list-style-type: none"> Organ Transplant (Plan R) 	- \$50 annually	- \$50 annually	- 20% of the cost of each prescription up to \$20 - Maximum of \$500 per family
	<ul style="list-style-type: none"> Human Growth Hormone (Plan T) 	- \$50 annually	- \$50 annually	- 20% of the cost of each prescription up to \$20 - Maximum of \$500 per family
	<ul style="list-style-type: none"> HIV (Plan U) 	- \$50 annually	- \$50 annually	- 20% of the cost of each prescription up to \$20 - Maximum of \$500 per family
Nova Scotia ¹¹⁴				
Seniors Pharmacare Program	<ul style="list-style-type: none"> Seniors (65+) receiving Guaranteed Income Supplement and do not have coverage through private plans 	- None	- None	- 33% of the total prescription cost to a maximum of \$30 per prescription and a maximum total co-payment of \$350 per year
	<ul style="list-style-type: none"> Seniors (65+) not receiving Guaranteed Income Supplement and do not have coverage through private plans 	- \$390 per year. Premium may be waived if income is below \$18,000 for single seniors and below a combined income of \$21,000 for married seniors	- None	- As above

112 <http://www.ramq.gouv.qc.ca/en/citoyens/>

113 <http://www.gnb.ca/0051/0212/>

114 <http://www.gov.ns.ca/health/pharmacare/>

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Nova Scotia Department of Community Services Programs				
Pharmacare	<ul style="list-style-type: none"> Eligible clients in receipt of Income Assistance without access to another drug plan 	- None	- None	<ul style="list-style-type: none"> \$5 per prescription Co-payment may be waived under certain circumstances
Extended Pharmacare	<ul style="list-style-type: none"> Clients in receipt of Income Assistance 	- None	- None	- As above
Transitional Pharmacare	<ul style="list-style-type: none"> Clients who are not eligible for Income Assistance 	- None	- None	- As above
Disease Specific Programs	<ul style="list-style-type: none"> Drug Assistance for Cancer Patients: Residents with a gross family income less than \$15,720 and not eligible under other drug programs Multiple Sclerosis Drug Funding Assistance Diabetic Assistance Pharmacare Program was discontinued in 1993 but there still are some beneficiaries. 	- None	- None	<ul style="list-style-type: none"> - None - \$9.35 per prescription - 20% per prescription to a maximum co payment of \$150
Prince Edward Island¹¹⁵				
Seniors Drug Cost Assistance Program	<ul style="list-style-type: none"> Seniors over 65 years of age and eligible for PEI Medicare 	- None	- None	<ul style="list-style-type: none"> Initial \$11 of medication cost Professional / dispensing fees
Financial Assistance Program	<ul style="list-style-type: none"> Eligible residents under the Social Assistance Act and Regulations 	- None	- None	- None
Family Health Benefit Program	<ul style="list-style-type: none"> Families with children under age 18 in the following income ranges: <ul style="list-style-type: none"> 1 child with a net family income < \$22,000 2 children with a net income < \$24,000 add \$2000 for each additional child 	- None	- None	<ul style="list-style-type: none"> Professional / dispensing fees
Children-In-Care Program	<ul style="list-style-type: none"> Persons under 18 in custody of the Director of Child Welfare 	- None	- None	- None
Nutrition Services Program	<ul style="list-style-type: none"> Children and high risk pregnant women diagnosed with a nutritional deficiency 	- None	- None	- None
Transplant Program	<ul style="list-style-type: none"> Immunosuppressant therapy for residents who have had an organ transplant or bone marrow transplant 	- None	- None	- None

115 <http://www.gov.pe.ca/infopei/index.php3?number=18131&lang=E>

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Disease-Specific Programs	<ul style="list-style-type: none"> Diabetes Control Program 	- None	- None	<ul style="list-style-type: none"> \$8-\$16 per 10mL vial or box of insulin cartridges. \$11 for oral diabetes medications or urine testing materials
	<ul style="list-style-type: none"> Multiple Sclerosis Medications Program 	- None	- None	<ul style="list-style-type: none"> Portion of medication costs based on income Professional/ dispensing fees
	<ul style="list-style-type: none"> Sexually Transmitted Diseases Program 	- None	- None	- None
	<ul style="list-style-type: none"> AIDS Program 	- None	- None	- None
	<ul style="list-style-type: none"> Community Mental Health Program provides approved long-acting antipsychotic injection medications 	- None	- None	- None
	<ul style="list-style-type: none"> Cystic Fibrosis Program 	- None	- None	- None
	<ul style="list-style-type: none"> Erythropoietin Program for renal failure patients 	- None	- None	- None
	<ul style="list-style-type: none"> Growth Hormone Program for children diagnosed with a growth hormone deficiency 	- None	- None	- None
	<ul style="list-style-type: none"> Hepatitis Program covers the treatment of individuals with chronic hepatitis B or C. Hepatitis A vaccine, Hepatitis B vaccine, and Hepatitis A & B vaccine for persons at risk of infection. 	- None	- None	<ul style="list-style-type: none"> Vaccine may be purchased at cost for those not at risk of infection
	<ul style="list-style-type: none"> Immunization Program for children and persons at risk of exposure to communicable diseases 	- None	- None	- Co-payments may apply
	<ul style="list-style-type: none"> Interferon alfa-2b Program for patients, diagnosed with Hairy Cell Leukemia, AIDS-related Kaposi's Sarcoma and Basal Cell Carcinoma, who are unable to afford the costs and do not qualify for social assistance 	- None	- None	- None
	<ul style="list-style-type: none"> Meningitis Program provides Rifampin to prevent transmission of meningitis to direct contacts of persons diagnosed with meningitis 	- None	- None	- None

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
	<ul style="list-style-type: none"> • Meningitis Program provides Rifampin to prevent transmission of meningitis to direct contacts of persons diagnosed with meningitis 	- None	- None	- None
	<ul style="list-style-type: none"> • Phenylketonuria (PKU) Program provides Phenyl Feu (Fames II) formula to children diagnosed with Phenylketonuria 	- None	- None	- None
	<ul style="list-style-type: none"> • Rabies Program covers rabies vaccine and immunoglobulin to persons with exposure or at risk of exposure to rabies through animal bite 	- None	- None	- None
	<ul style="list-style-type: none"> • Rheumatic Fever Program covers approved prophylactic antibiotics for eligible persons with rheumatic heart disease 	- None	- None	- None
	<ul style="list-style-type: none"> • Tuberculosis Program 	- None	- None	- None
Newfoundland ¹¹⁶				
	<ul style="list-style-type: none"> • Senior Citizens Drug Subsidy Program 	- None	- None	- Mark-ups on ingredients whose total cost is over \$30 - Professional / dispensing fees and pharmacy expenses
	<ul style="list-style-type: none"> • Income Support Program 	- None	- None	- None
	<ul style="list-style-type: none"> • Special Needs Program 	- None	- None	- None
Nunavut ¹¹⁷				
	<ul style="list-style-type: none"> • Extended Health Benefits Program 	- None	- None	- None
	<ul style="list-style-type: none"> • Indigent Health Benefits Program 	- None	- None	- None

116 <http://www.gov.nf.ca/health/nlpdp/overview.htm>

117 http://www.hltss.gov.nt.ca/Features/Programs_and_Services/progandserv.htm

Province / Territory	Who and What is Covered	Premium	Deductible	Co-Payment
Northwest Territories ¹¹⁸				
Extended Health Benefits for Specified Diseases	<ul style="list-style-type: none"> • Non-native or Métis registered with the NWT Health Care Plan 	- None	- None	- None
Extended Health Benefits for Seniors	<ul style="list-style-type: none"> • Non-native and Métis residents who are 60 years of age and over who do not have other coverage 	- None	- None	- None
Métis Health Benefits Program	<ul style="list-style-type: none"> • Indigenous Métis residents who are registered with the NWT Health Care Plan 	- None	- None	- None
Indigent Health Benefits Program	<ul style="list-style-type: none"> • Non-native or Métis who are deemed indigent 	- None	- None	- None
Yukon ¹¹⁹				
Pharmicare	<ul style="list-style-type: none"> • Seniors 65 or over or aged 60 and married to a Yukon resident at least 65 years of age. • This program is a last-resort payer. 	- None	- None	- Dispensing fee and cost over and above the lowest priced generic equivalent, as listed in the Yukon Pharmacare Formulary
Children's Drug and Optical Program	<ul style="list-style-type: none"> • Children under 19 in low income families. 	- None	- \$0 to \$500 based on income and family size. ¹²⁰ - Maximum of \$250 per child and \$500 per family	- None
Chronic Disease Program	<ul style="list-style-type: none"> • Residents who have a chronic disease or a serious functional disability.¹²¹ This program is a last-resort payer. 	- None	- \$0 to \$500 based on income and family size	- None
Non-Insured Health Benefits Program/ Health Canada ¹²²				
NIHB Program	<ul style="list-style-type: none"> • All eligible First Nations and Inuit living on and off reserve. 	- None	- None	- None
Special Formulary for Chronic Renal Failure Clinics	<ul style="list-style-type: none"> • NIHB clients suffering from chronic renal failure in addition to the drugs listed in the NIHB Drug Benefit List 	- None	- None	- None

118 http://www.hlthss.gov.nt.ca/Features/Programs_and_Services/progandserv.htm

119 <http://www.hss.gov.yk.ca/prog/hs/insured/pharmacare.html>

120 Yukon Health and Social Services. Children's drug and optical program. [Brochure], February 2002.

121 A list of disabilities and diseases can be found in the Yukon brochure.

122 <http://www.hc-sc.ca/fnihb/nihb>