STUDY 1

PRICE AND EXPENDITURE TREND ANALYSIS OF PRESCRIPTION DRUGS IN SIX PROVINCIAL PLANS 1990-1997

Federal/Provincial/Territorial

Task Force on Pharmaceutical Prices

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EXECUTIVE SUMMARY

- The Federal Provincial Territorial Task Force on Pharmaceutical Prices was established to examine pharmaceutical pricing issues facing Canadians.

- This study examines annual price changes for single source and multiple source drugs (including generic drugs) covered by six provincial drug plans over the period 1990 to 1997. The provinces include British Columbia, Alberta, Manitoba, Saskatchewan, Ontario and Nova Scotia. Reimbursement information for these provincial drug plans were used to calculate retail price trends, i.e. including wholesale and retail mark-ups as well as, co-insurance and co-payment premiums.

- Over the period 1990 to 1997, overall prices of drugs increased at a rate less than the rate of increase in the consumer price index (CPI).

- Despite this modest increase, and in some cases decrease, in overall prices, expenditures by these six provincial drug plans have increased from $1.5 billion in 1990 to $2.2 billion in 1997, an increase of 44%.

- This suggests that other factors account for rising provincial drug plan costs including; changes in utilization of drugs; changes in prescribing habits of physicians; a tendency to prescribe and use newer and more expensive drugs; a trend towards using drug therapy instead of other treatments; changes in total population; changes in demographics and health status of the population; and the emergence of new diseases to be treated and old diseases which can now be treated more effectively.

- An examination of subgroups of drug products including patented, non-patented single source and non-patented multiple source drugs revealed a difference in price trends. For example, prices of non-patented single source drugs in most provinces increased faster than any other group.

- Prices of many non-patented drug products increased faster than the CPI. It was found that, in 1997, between 11% and 29% of non-patented drug prices, depending on the province, increased by more than the increase in the CPI.

- An examination of the relationship of the prices of brand name multiple source drugs and their corresponding generic equivalents in the six provinces, revealed that over time generic prices were increasing faster relative to their brand name equivalents. This is attributed to the finding that over time new generic drugs were entering with relatively higher prices. For more information see generic study.

- The analysis of price trends contained in this report must be examined together with an analysis of price levels to gain a more complete understanding of price trends across the provinces. See the F/P/T study *A Comparison of Prescription Drug Prices in Six Provincial Drug Plans, 1993 to 1997* - Study 4.

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PRICE TREND ANALYSIS OF PRESCRIPTION DRUGS

IN SIX PROVINCIAL DRUG PLANS 1990 TO 1997

1.0 INTRODUCTION

In March, 1997, the Federal Provincial Territorial (F/P/T) Task Force on Pharmaceutical Prices prepared an overview paper which provided a description of the pharmaceutical sector in Canada, a summary of existing information on drug prices and spending, as well as mechanisms used by private and public payers for regulating and/or influencing pharmaceutical prices. From this research, it was concluded that more detailed analyses of such prices and expenditures were needed. It was noted, that further research should be undertaken not only at an aggregate level, but also according to key criteria including, for example, whether a product is available from one or several competing sources; and whether or not a medicine is patented.

The Task Force has since examined price and expenditure trends, price levels, and cost drivers as they relate to prescription drugs reimbursed under six provincial drug plans.[1] The first of these analyses measured how prices and spending have changed between 1990 and 1997. Subsequent studies have assessed prices of non-breakthrough patented drugs; single source non-patented drugs; and multiple source non-patented (generic) drugs; an inter-provincial price comparison study was also undertaken. Finally, the Task Force has developed and applied a "cost-driver" analysis that has accurately measured the role of changes in existing drug prices, changes in utilization, and the impact of newly introduced medicines to changes in total drug spending.

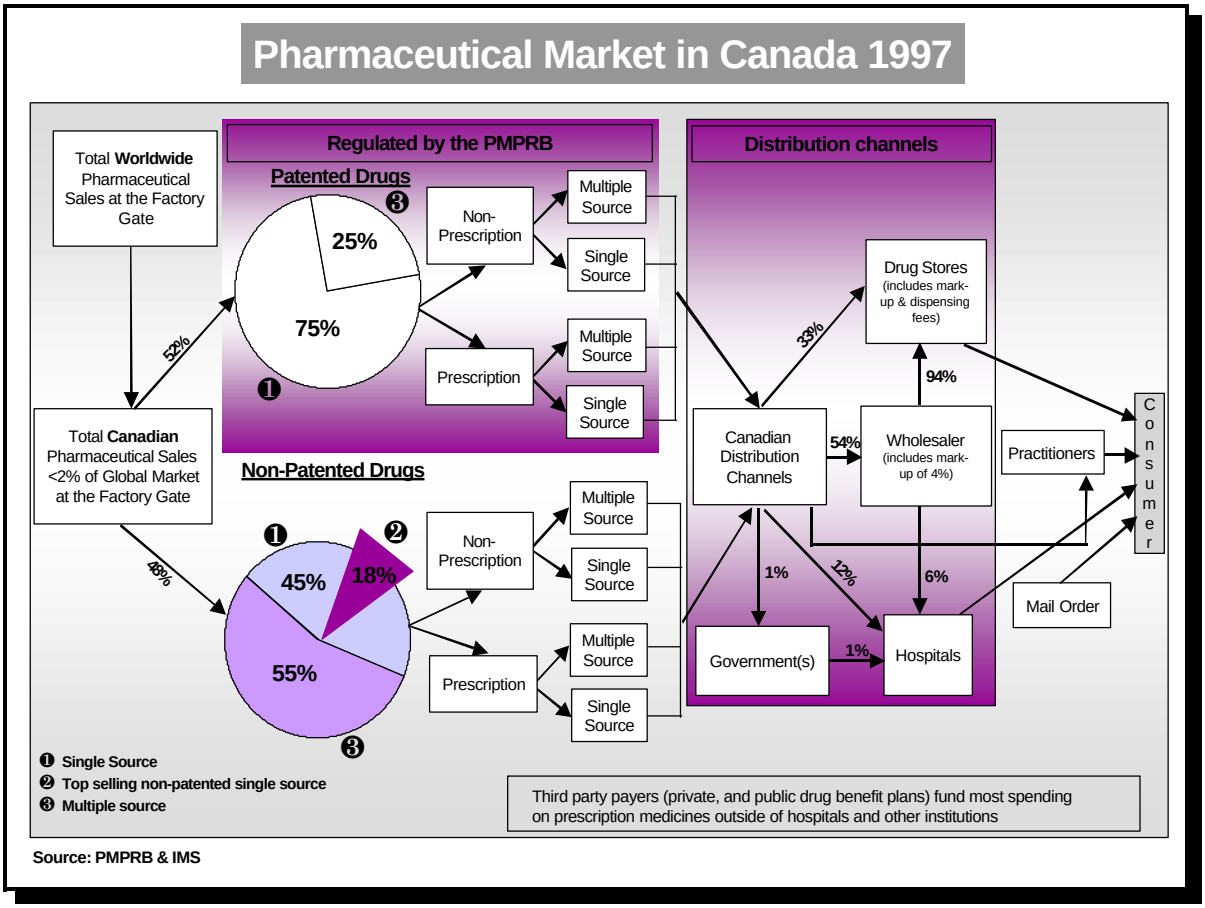
The contribution of this Paper has been to examine annual price changes for single source and multiple source drugs (including generic drugs) covered by the six provincial drug plans represented in this Task Force, over the 1990 to 1997 period.

[1] The Task Force has representatives from British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia, Health Canada and the Patented Medicine Prices Review Board. It was established to examine one of six pharmaceutical issues identified at the April 1996 meeting of federal/provincial/ territorial Ministers of Health. The other issues included utilization, marketing, wastage, consumer education and research and development. The work is overseen by the Pharmaceutical Issues Committee (PIC) of the Advisory Committee on Health Services (ACHS), which reports to the Conference of Deputy Ministers of Health.

2.0 METHODOLOGY

This study examines annual price changes for single source and multiple source drugs, covered by six provincial drug plans over the period 1990 to 1997.[2] In addition, the relationship between prices of generics and their corresponding brand name drugs are examined over the same period.

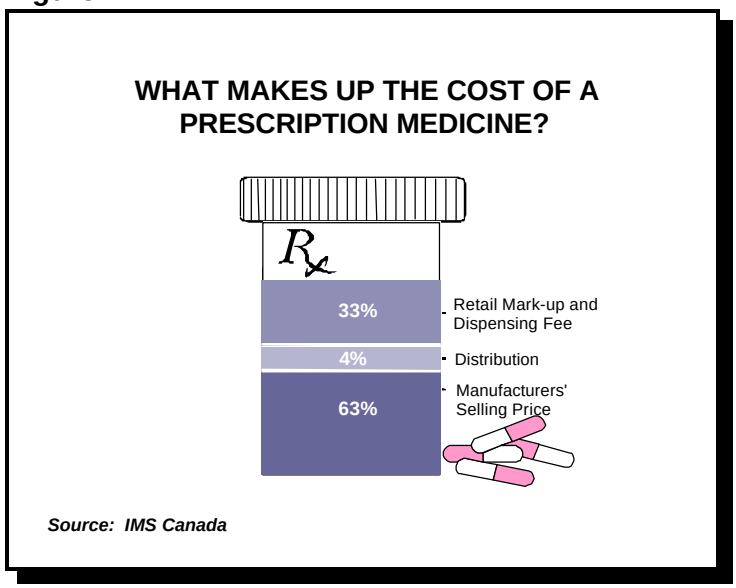
Prices used in this study include wholesale and retail mark-ups (where applicable), and exclude dispensing fees. Appendix 1 provides price trend information for each province based on derived manufacturers' ex-factory prices. To calculate manufacturers' ex-factory prices, information on wholesale and retail mark-ups were obtained from the authorities in each provincial drug plan.



[2] A report by Brogan Consulting Inc. and W.N. Palmer & Associates: *"Review of Prescription Non-Patented Drug Prices in Canada Using Public and Private Drug Plan Data, 1989 - 1994* attempted to track prices for similar groups of drugs. This present study differs from this report in that it corrects for differences between "reimbursement" prices and "actual" prices. In other words, reimbursement prices, for many drug products, are what provinces pay out and not what consumers actually pay.

As shown in Figure 2, retail prices are comprised of wholesale and retail mark-ups, as well as dispensing fees. In general, manufacturers' ex-factory prices make up on average about 63% of the retail price of a prescription drug.[3]

Figure 2



To measure annual price changes, information on prices, quantities and total expenditures were obtained from six provincial drug plans.[4] British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Nova Scotia's. Health Canada's Drug Product Database was used to ensure that only those drugs defined by the *Food and Drug Act* were included. The Patented Medicine Prices Review Board data base was used to group drugs according to patent status. Appendix 2 provides greater detail on the use of the different data bases and the construction of all price indices.

The analysis is organized in the following manner: Section three provides expenditure trends and a brief description of the provincial drug plans covered in this report.[5] Section four presents the major findings of the price trend analysis and Sections five to ten provide more detailed analysis of price trends for each province.

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3 Wholesale and retail mark-ups differ across provincial drug plans. See Sections 5 to 10 below.

4 Private drug plan price and expenditure information are currently being processed and will be analysed in the next phase of work

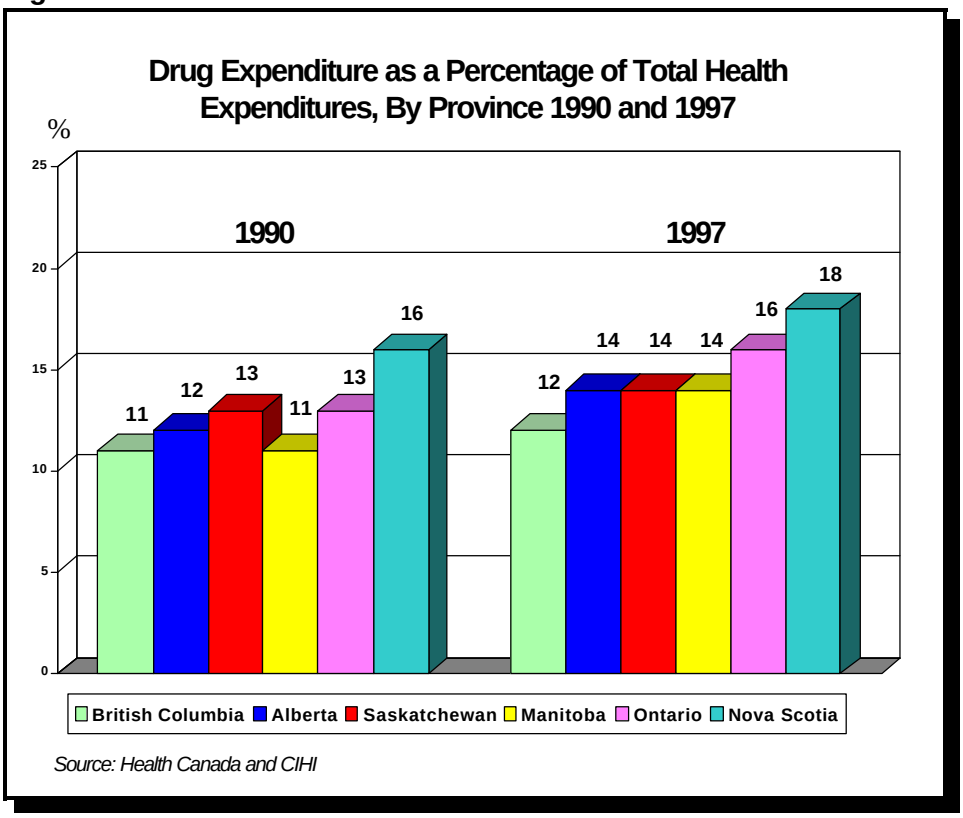
5 See Bacovsky, Rosemary A. *"Drug Submission, Review, And Approval Processes For Provincial and Territorial Government Sponsored Prescription Drug Plans in Canada*, February 1997 for a detailed description of all drug plans.

3.0 TRENDS IN OVERALL DRUG EXPENDITURES

Health Canada[6] has reported that total public and private expenditures on drug products was $11.7 billion in 1997, representing about 15.2% of total health care expenditures. Since the early 1980's drug expenditures have been the fastest growing component of total health care spending, averaging above 10% annually. While drug expenditure growth has slowed in the last few years, increasing by 2.3% in 1997, 2.4% in 1996 and 5.7% in 1995, they continue to grow faster than the annual rate of inflation, as measured by the Consumer Price Index (CPI); the annual increase in the growth of the Canadian economy, as measured by the Gross Domestic Product (GDP); and, the annual increase in the population.

Figure 3 shows the proportion of drug expenditures as a percent of total health expenditures for each of the six provinces examined in this study. In 1997, Nova Scotia spent the highest proportion of health expenditures on drugs, 18%, while British Columbia spent the least, 12%. The proportion of drug expenditures, as a percent of total health expenditures in all of Canada was 15.2% in 1997.

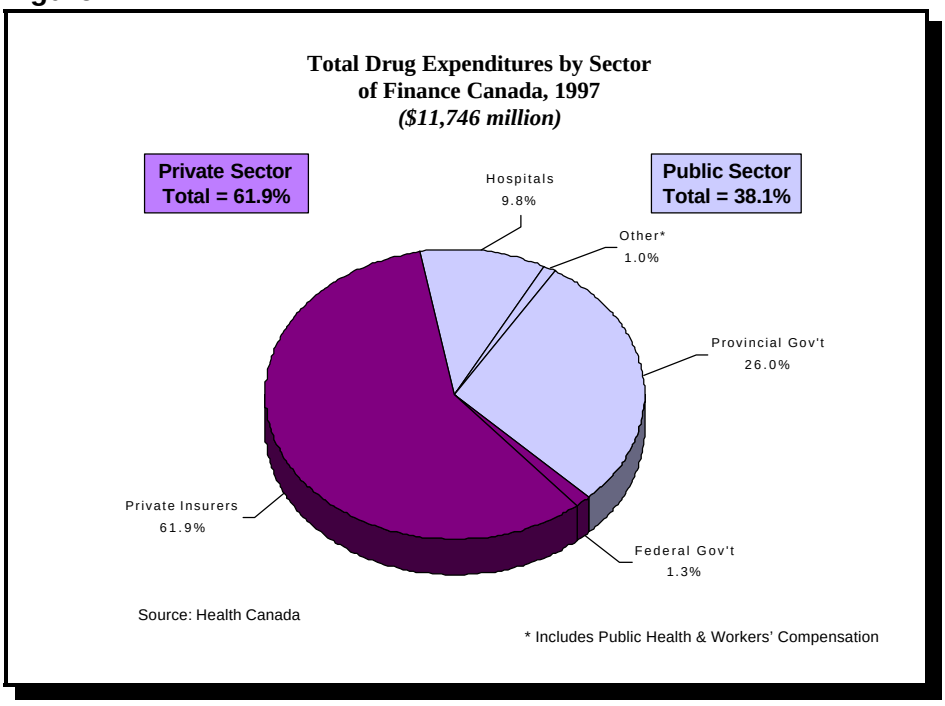
Figure 3



[6] CIHI reports that total drug expenditure was $11.2 billion. However, this figure does not include $500 million in drugs used in institutional settings.

As seen in Figure 4 of the total expenditures on drugs in Canada, total public expenditures accounted for $4.4 billion or 38.1%, and private expenditures accounted for $7.3 billion or 61.9% in 1997. Provincial drug plans make up the largest portion, about $3.1 billion or about 26% of total expenditures on pharmaceuticals in 1997.[7]

Figure 4



Health Canada reports that prescription drugs include about 5,000 drug products and comprise about $9.0 billion or 76.3% of total drug expenditures in 1997. Total prescription drug spending was divided between the private sector, 52% and the public sector (federal/provincial/territorial drug plans), 48%. Provincial drug plans generally cover prescription medicines only. Therefore this analysis reports on price trends of prescription medicines.

[7] The total number of drug products, including prescription (5,000) and non-prescription (18,000), represent about 23,000 drug products. See Health Canada's Drug Product Data Base.

3.1 Drug Plans, Beneficiaries and Client Cost-Sharing

Provincial drug expenditures have increased substantially over the years. As shown in Table 1, between 1990 and 1997 total spending in the six provinces grew from $1.5 billion to $2.2 billion, an increase of 44%. As will be shown below, the rate of growth in drug expenditures was in contrast to the flat growth that took place in annual prices over this time period. This demonstrates that price changes of drugs are only one factor behind the rising expenditures on pharmaceuticals. Other factors include:

- changes in the utilization of drugs;
- changes in the prescribing habits of physicians;
- a tendency to prescribe and use newer and more expensive drugs;
- a trend towards using drug therapy instead of other treatments;
- changes in total population;
- changes in demographics and health status of the population: and,
- the emergence of new diseases to be treated and old diseases which can now be treated more effectively.

All these factors have an independent impact on rising drug costs over time. This means that control of one factor (e.g. drug prices at the factory gate) does not necessarily mean control of total expenditures.

A more detailed analysis of these factors can be found in the F/P/T Task Force's report, Study 5, *Cost Driver Analysis Provincial Drug Plans: British Columbia 1990 -1997*, which breaks out annual changes in the cost of drugs into the following major components:

- annual volume (i.e. utilization) changes of older and newer drugs;
- annual price changes of older and newer drugs;
- annual influence from the introduction of new drugs; and
- annual influence of newer drugs by therapeutic class or disease groups.

Analysis of these factors provides insight into several factors listed above.

Table 1

Total Provincial Government Drug Expenditures
1990 and 1997
(millions of dollars)
(includes Ingredient costs, mark-ups and dispensing fees on drug plans)[8]

		British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Nova Scotia	**Total by 6 Provinces**
1990	Total Expenditures	229.2	179.5	87.2	48.5	875.9	82.9	1503.2
1997	Total* Expenditures	381.7	254.1	64.1	81.2	1294.1	89.8	2165
Total change over 7 years		152.5	74.6	-23.1	32.7	418.2	6.9	661.8
[% change]		66.5%	41.6%	-26.5%	67.4%	47.8%	8.3%	44.0%

Source: Health Canada National Health Expenditure

* Preliminary estimates.

The provinces continually review their plans and have adopted a variety of cost containment measures. These measures include mandatory generic substitution, therapeutic substitution (i.e. reference based pricing in British Columbia); co-payments, best available price rules, special authorization for certain drugs, prescribing guidelines, and controls on reimbursement prices for multiple source drugs.[9]

As shown in Table 2, all the above provinces have developed prescription drug plans for seniors and recipients of social assistance. The number of beneficiaries beyond these groups, the extent of client cost-sharing and the type of drug benefits vary widely across the five provinces. For example, British Columbia, Manitoba and Saskatchewan have universal pharmacare programs which include significant co-payments and deductibles. In Alberta, residents under 65 years of age can access a government subsidized program by paying premiums and enrolling. Ontario has the Trillium program which provides relief for expensive drugs to all citizens. Nova Scotia has Community Services Pharmacare as part of the Family Benefits Program.

[8] The figures exclude deductibles, co-pays, premiums, and hospital based drugs.

[9] See the Task Force's Overview Report for an elaboration of provincial price control mechanisms.

Table 2 also shows the extent to which cost-sharing arrangements varies across the six provinces. These arrangements are designed to reduce utilization and slow the rate of increase of total drug expenditures.

Table 2

Government Sponsored Drug Plans: Type; Beneficiaries; and Client-Cost Share

Province	Plan	Beneficiaries	Client Cost-Share
British Columbia	Pharmacare	A. Seniors	100% of dispensing fee to a max of $200/person/year
		B. Residents of adult long term care facilities and private hospitals C. Social assistance recipients D. Cystic fibrosis patients F. At Home Programs for severely handicapped children	None
		E. All other residents of BC	Annual deductible of $600; 30% co-payment to a maximum of $2000/year /single or family unit. People eligible for Medical Services Plan Premium Assistance may have the 30% co-payment waived after deductible paid
Alberta	Blue Cross Group 66	Seniors and dependants	No premium; 30% co-payment to maximum of $25/drug/prescription
	Blue Cross Group 66A	Recipients of Alberta Widow(er)s' Pension and dependants	
	Blue Cross Group 1	All other residents ca voluntarily enroll with payment of premiums	Premium; subsidized for low income; 30% co-payment to maximum of $25/drug/prescription
	Alberta Family and Social Services Drug Benefits (AFSS)	Residents receiving social assistance (Support for Independence); Assured Income for the Severely Handicapped; and Child Welfare	None
Manitoba	Pharmacare	All provincial residents	Deductible varies with income: 3% of adjusted family income over $15,000 and 2% of adjusted income under $15,000
	Social Allowance Health Services	Residents receiving social assistance	No deductibles or copayments
	Personal Care Home Drug Program	Residents of personal care homes	No deductibles or copayments

Province	Plan	Beneficiaries	Client Cost-Share
Saskatchewan	Prescription Drug Plan (PDP)	Families receiving Family Income Supplement; seniors receiving income supplements	Deductible and co-payment varies with income and residence in a nursing home
		Saskatchewan Assistance Plan	$2/prescription; waived for certain registrants
		Saskatchewan Aids to Independent Living (SAIL); registered palliative care patients; residents with certain high cost drugs	Co-payment waived
		Families with income<$50,000 and if annual drugs costs exceed 3.4% of adjusted income	Deductible and co-payment adjusted
		All other residents	Deductible $850 semiannually per person or family; then 35% co-payment
Ontario	Ontario Drug Benefit Program (ODBP)	Seniors; residents of long term care facilities and Home for Special Care; people receiving professional services under the Home Care program; recipients of social assistance	High income seniors: $100 deductible/person year then up to $6.11 toward the dispensing fee; low income seniors and others: up to $2/prescription
	Trillium Drug Program	All residents; access income based	Deductible based on income; up to $2/prescription
Nova Scotia	Seniors Pharmacare	Seniors > 65 who pay premiums and enrol	Premium $215/person/yr; 20% copay (min $3/ prescription) to max of $200/person/yr. Low income seniors may apply for a credit of $300 which can be used to pay the premium.
	Community Services Pharmacare (CSP)	People receiving income assistance	$3/prescription; no yearly limit
		People registered with the Family Benefits Program	20% copay (min $3/prescription) to max of $150/person/yr; if client is disabled no copayment applies

3.2 Special Drug Programs

In addition, all provinces provide special drug programs for designated diseases and conditions. The purpose of these programs is to provide affordable access to medications for individuals with life threatening chronic diseases. The diseases include: AIDS/HIV, Cancer, End Stage Renal Disease, Cystic Fibrosis, Diabetes, Gaucher's Disease, Growth Hormone Deficiency, Hepatitis, Meningitis, Mental Health, Palliative Care, Rhumatic Fever, Sexually transmitted diseases, Thalassaemia, Transplants and Tuberculosis. The drug benefits within the special drug programs vary widely across the provinces.[10]

3.3 Provincial Drug Submission Requirements

All provinces require manufacturers to make drug submissions in order for their drug to be listed on the formulary. Only Ontario has made the drug submissions part of their regulations, the other provinces describe requirements in policy and usually have them published or available upon request.[11]

[10] See IBID, pg. 6 to 8.

[11] Provinces are currently working on developing harmonized core submission requirements. The objective is to establish a set of common, minimum requirements which allows each province to meet its responsibilities; to avoid duplication with federal reviews; and to refer issues of product quality to Health Canada. See Bacovsky, R, February, 1997.

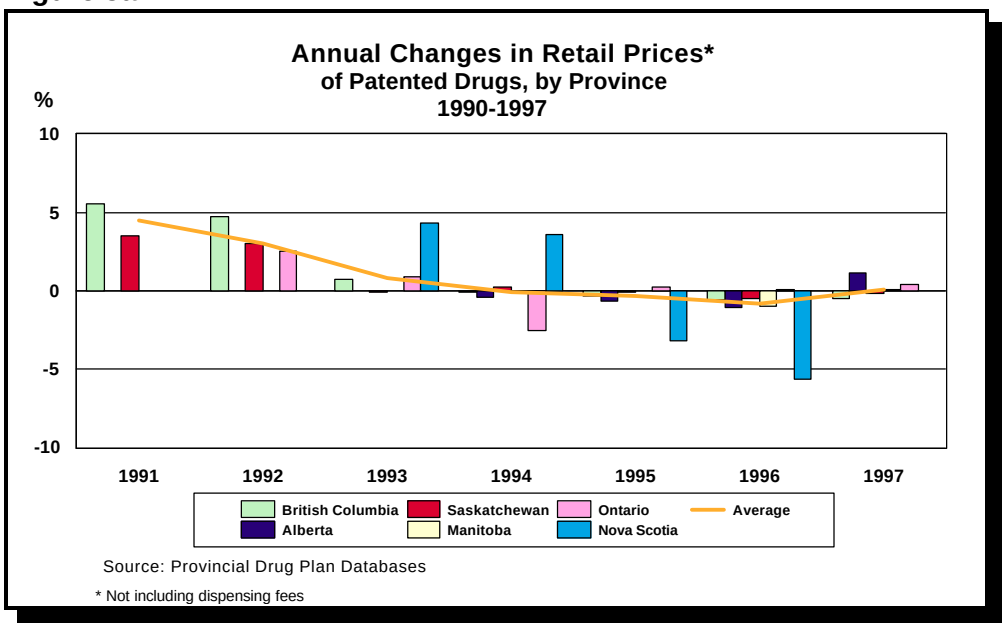
4.0 SUMMARY OF MAJOR FINDINGS

This section presents a summary of the major findings from the price trend analysis. The following sections provide greater detail for the individual provinces.

Figures 5a, 5b, and 5c show annual changes in the retail prices (not including dispensing fees) for patented, non-patented single source, and non-patented multiple source drugs from 1990 to 1997 for British Columbia and Saskatchewan, 1991 to 1997 for Ontario, 1992 to 1997 for Nova Scotia, 1993 to 1997 for Alberta and 1995 to 1997 for Manitoba. It is important to note that this analysis compares the annual rate at which retail price levels changed over time in each of the provinces; **It does not compare the retail price levels across provinces at any point in time**.[12] In addition, the basket of drugs in each year are not comparable across provinces.

As shown in Figure 5a, annual retail price changes for patented drugs for all provinces experienced a decline over the period 1990 to 1997. In particular, over the last couple of years annual retail price changes for patented drugs have been modest and in most cases negative. The provincial price indices for patented drugs were constructed a similar way as the PMPRB constructs its Patented Medicine Prices Index.[13] The results show that, on average, annual changes in patented drug prices in the six provincial drug plans was similar to changes in patented drug prices in the rest of Canada. However, there were exceptions;

Figure 5a



[12] See F/P/T "Study 4, *A Comparison of Prescription Drug Prices in Six Provincial Drug Plans, 1993 - 1997*".

[13] See PMPRB's (1998) S-9811, *Trends in Patented Drug Prices*.

Ontario's decline in patented prices was more rapid than in other provinces. Nova Scotia experienced a higher rate of patented drug price increases for the first couple of years followed by a relatively more rapid rate of decline in prices.

Figure 5b shows annual changes in the retail prices of non-patented single source drugs for each province. While the average annual trend in prices was flat over time, the trend in prices differed across the provinces. Ontario was the only province which experienced a decline in price levels over the entire period. All other provinces experienced an increase of overall prices of non-patented single source drugs over the period. However, the year-over-year increases in the prices of these drugs have been modest for most provinces in the last couple of years.

Figure 5b

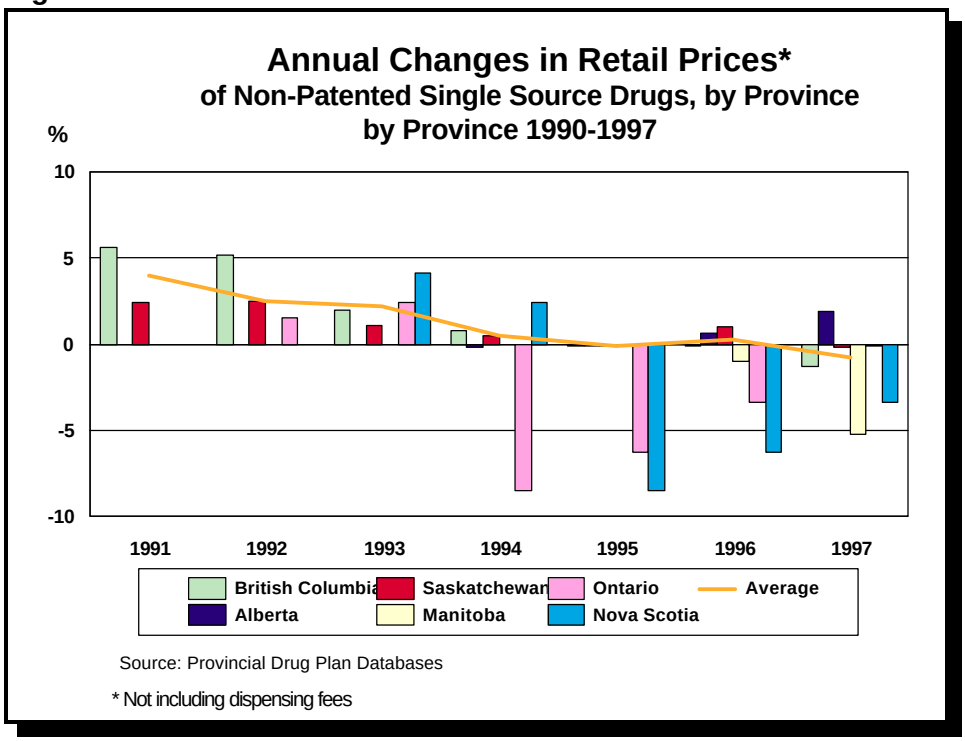
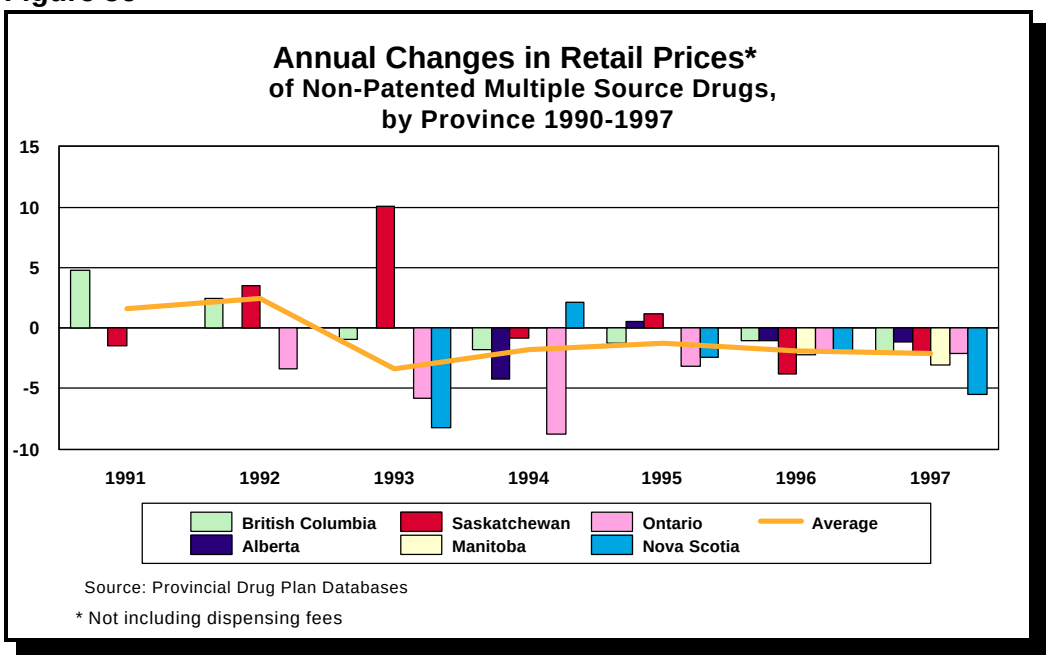


Figure 5c shows annual changes in the retail prices of non-patented multiple source drugs. Since 1991, prices of these drugs have been falling at an average annual rate of 0.9%.

Figure 5c



While price indices provides important information on how **average** prices may change over time, a more detailed analysis of price changes provides a better indication of how specific groups of drug prices may be changing over time.

Table 5 shows the number of drugs that increased by more than CPI in each year for the six provinces. This is a useful benchmark to measure price changes against because manufacturer's prices of patented medicines are generally not permitted to increase by more than the annual increase in the CPI.[14]

[14] Prices of patented medicines are regulated by the Patented Medicine Prices Review Board (PMPRB). Prices of patented medicines have increased by less than half the rate of CPI over the 1988 to 1997, see the PMPRB's Tenth Annual Report. Instances where prices of patented medicines may increase annually by more than the CPI occur if these drug products have not taken increases in the previous three years.

Table 5

Non-Patented Drug Products that Increased in Price by more than CPI						
Year	British Columbia		Alberta		Saskatchewan	
	Sales ($M)	# of DINs	Sales ($M)	# of DINs	Sales ($M)	# of DINs
1991	$48.2	981	N/A	N/A	$2.0	237
1992	$104.8	1531	N/A	N/A	$31.6	897
1993	$56.6	1175	N/A	N/A	$21.8	855
1994	$92.6	1536	$17.9	383	$15.2	1028
1995	$10.6	663	$8.4	280	$15.6	675
1996	$19.8	890	$16.3	391	$9.8	771
1997	$13.8	804	$38.6	383	$4.2	632
Year	Manitoba		Ontario		Nova Scotia*	
	Sales ($M)	# of DINs	Sales ($M)	# of DINs	Sales ($M)	# of DINs
1991	N/A	N/A	N/A	N/A	N/A	N/A
1992	N/A	N/A	$126.0	490	N/A	N/A
1993	N/A	N/A	$155.5	526	$17.2	190
1994	N/A	N/A	$47.5	187	$24.9	240
1995	N/A	N/A	$65.5	334	$1.2	15
1996	$7.3	567	$63.9	242	$4.9	98
1997	$10.1	679	$35.5	245	$1.0	40

* Analysis for Nova Scotia is based on top 500 selling drug products. For more information, see page 59.

As shown in Table 5, British Columbia, Manitoba and Saskatchewan experienced a similar trend with respect to the number of drug products increasing by more than CPI over time. In 1997, over 800 drug products or 26.1% of non-patented drug products increased by more than CPI in British Columbia. Similarly, in Manitoba 679 drug products or 28.8% of non-patented drugs increased by more than the CPI. Finally in Saskatchewan over 630 drug products or 22% of non-patented drug products increased by more than CPI. In British Columbia and Saskatchewan, the number of non-patented drug products increasing by more than the CPI in 1997 was down from the previous year.

In 1997, Alberta had fewer non-patented drugs increasing by more than the CPI at 383 or 15.5% of non-patented drugs.

Ontario, having introduced a "price freeze" policy in 1994, experienced a different price trend than the other provinces. For example, in 1994, 187 drugs increased by more than CPI, substantially lower than in previous years and the 1,536 and 1,028 cases in British Columbia and Saskatchewan, respectively. However, drug products with prices increasing by more than

CPI in Ontario have been steadily increasing since 1994, reaching 245 or 11% of non-patented drug products by 1997. This suggests that pharmaceutical manufacturers were able to increase prices of many drugs during this period regardless of the price freeze policy in effect.

Table 6

Non Patented Drug Products that Increased by more than the CPI

Year	British Columbia				Alberta				Saskatchewan			
	Sales ($M)	# of DINs	% Median Growth	% CPI	Sales ($M)	# of DINs	% Median Growth	% CPI	Sales ($M)	# of DINs	% Median Growth	% CPI
1991	$48.2	981	12.4	5.6	N/A	N/A	N/A		$2.0	237	14.5	5.6
1992	$104.8	1531	7.6	1.5	N/A	N/A	N/A		$31.6	897	7.1	1.5
1993	$56.6	1175	7.0	1.8	N/A	N/A	N/A		$21.8	855	12.7	1.8
1994	$92.6	1536	4.5	0.2	$17.9	383	11.9	0.2	$15.2	1028	8.1	0.2
1995	$10.6	663	10.4	2.1	$8.4	280	10.9	2.1	$15.6	675	10.1	2.1
1996	$19.8	890	9.0	1.6	$16.3	391	19.6	1.6	$9.8	771	10.3	1.6
1997	$13.8	804	8.7	1.6	$38.6	383	6.5	1.6	$4.2	632	7.8	1.6
Year	**Manitoba**				**Ontario**				**Nova Scotia***			
	Sales ($M)	# of DINs	% Median Growth	% CPI	Sales ($M)	# of DINs	% Median Growth	% CPI	Sales ($M)	# of DINs	% Median Growth	% CPI
1991	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1992	N/A	N/A	N/A	N/A	$126.0	490	6.6	1.5	N/A	N/A	N/A	N/A
1993	N/A	N/A	N/A	N/A	$155.5	526	7.4	1.8	$17.2	190	10.2	1.8
1994	N/A	N/A	N/A	N/A	$47.5	187	9.5	0.2	$24.9	240	4.8	0.2
1995	N/A	N/A	N/A	N/A	$65.5	334	16.2	2.1	$1.2	15	4.8	2.1
1996	$7.3	567	13.4	1.6	$63.9	242	8.7	1.6	$4.9	98	4.7	1.6
1997	$10.1	679	18.8	1.6	$35.5	245	7.3	1.6	$1.0	40	3.3	1.6

* Based on Nova Scotia's Top 500 Selling Drugs, which accounted for an estimated 80 to 90% of Nova Scotia's public drug expenditures.

Table 7 shows the relationship between prices of generic and their corresponding brand name drugs for each province over time. To derive the generic to brand name price ratios, weighted average prices of interchangeable generic drugs were calculated and divided by average weighted prices for the corresponding brand name drugs. In the majority of interchangeable groups there was one brand name and at least one or two generic drugs.

Table 7

Ratio for Generic-to-Brand name Prices
1990-1997

Year	British Columbia			Alberta			Saskatchewan		
	# of Cases[15]	% Median Price Ratio	Generic[16] Share %	# of Cases	% Median Price Ratio	Generic Share %	# of Cases	% Median Price Ratio	Generic Share %
1990	254	60.8	10.3	N/A	N/A	N/A	181	41.8	15.5
1991	272	61.9	11.6	N/A	N/A	N/A	191	40.0	19.0
1992	282	59.1	10.5	N/A	N/A	N/A	198	43.8	20.8
1993	321	59.0	10.0	249	56.0	10.2	213	53.0	19.5
1994	349	63.9	17.1	294	62.0	15.9	247	55.8	22.2
1995	374	71.3	22.4	323	63.4	18.3	281	60.0	27.4
1996	411	71.0	23.8	330	65.8	18.3	329	61.5	20.6
1997	395	70.2	22.3	346	68.9	14.5	328	63.1	24.5
Year	**Manitoba**			**Ontario**			**Nova Scotia[17]**		
	# of Cases	% Median Price Ratio	Generic Share %	# of Cases	% Median Price Ratio	Generic Share %	# of Cases	% Median Price Ratio	Generic Share %
1990	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1991	N/A	N/A	N/A	201	74.4	34.1	N/A	N/A	N/A
1992	N/A	N/A	N/A	214	72.4	29.1	N/A	N/A	N/A
1993	N/A	N/A	N/A	207	72.4	24.7	N/A	N/A	N/A
1994	N/A	N/A	N/A	226	72.0	26.1	N/A	N/A	N/A
1995	266	76.4	27.6	250	75.0	25.9	N/A	N/A	N/A
1996	322	83.1	27.3	283	75.0	25.9	N/A	N/A	N/A
1997	308	74.6	25.0	307	74.8	23.1	N/A	N/A	N/A

[15] Number of cases where there was a brand name product with at least one generic competitor.

[16] Generic share of Provincial drug plan expenditures.

[17] Nova Scotia was omitted from this analysis due to data limitations. See the F/P/T Task Force Study, *Prices of Generic-to-Brand Name Prescription Drugs in Six Provincial Drug Plans, 1990 to 1997 - Study 6.*

As shown in Table 7, British Columbia experienced a rising generic market share and a rising generic to brand name price ratio over time.[18] By 1997, the median generic to brand name price ratio reached 70.2%, up from 60.8% in 1990.[19] The introduction of British Columbia's "lowest cost alternative" policy in 1994 had a marked impact on both the generic market share and the generic to brand name price ratio.

Similarly, Saskatchewan experienced rising generic market share and generic to brand name price ratios over time. In 1993, Saskatchewan experienced a 20% increase in it's generic market share, and 53% in it's generic to brand name price ratio. This is largely due to the significant generic price increase experienced in that year as a result of the lowest priced policy introduced in Quebec.[20] By 1997, the generic to brand name price ratio reached 63% in Saskatchewan while generic market share remained flat at around 25%.

While Alberta was shown to have similar generic to brand name prices, generic drugs had a smaller share of the market than the other provinces. For Manitoba, both the generic to brand name price ratios and generic market share were relatively higher than in the other provinces.

Ontario experienced a different trend with respect to both generic market share and generic to brand name price ratios. Generic market share in 1997 was down 11% from 1991. The median generic to brand name price ratio remained stable at around 74%. The little movement in this relationship suggests that prices for both the generic and the corresponding brand name drugs fell by a similar magnitude over this time period.[21]

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[18] See the respective individual provincial analysis for more detailed information on the distribution of generic to brand name price ratios.

[19] The median was used as the measure of central tendency because it shows that 50% of the cases were above this mark and 50% were below.

[20] In 1993, Quebec introduced a policy which ensured that prices of medicines in that province would be no higher than prices available in other provinces.

[21] For a detailed analysis of the relationship of prices of generics and their brand name equivalents see the F/P/T Task Force's Study, Prices of Generic-to-Brand Name Prescription Drugs in Five Provincial Drug Plans, 1990-1997 - Study 6.

5.0 BRITISH COLUMBIA

5.1 General Information

The British Columbia Pharmacare program was implemented on January 1, 1974. BC Pharmacare is administered by the Ministry of Health and Medical Services Commission under the authority of the Continuing Health Care Act. The program covers prescription medications; designated permanent prosthetic appliances; insulin, syringes, needles for insulin dependent diabetics; ostomy supplies; mastectomy supplies, blood glucose testing strips for eligible holders of Certificates for Training; and orthotic bracing for children 19 years of age and under.

In order to ensure evidence-based drug coverage and promote cost control, in 1995, Pharmacare limited the level of reimbursement for specific therapeutic categories of drugs to the cost of a product or products within that category. Pharmacare reimburses other drugs in the category up to the level of the reference-based product.

5.2 Beneficiaries Covered

All permanent residents of British Columbia are covered under Pharmacare. There are several plans under the program which contain various eligibility:

Plan A: seniors 65 or older.
Plan B: residents in long term care facilities.
Plan C: recipients of social assistance.
Plan D: cystic fibrosis patients.
Plan E: all other residents of British Columbia.
Plan F: medically dependent children.

5.3 Deductibles, Co-payments and Professional Fees

Plan A:	Seniors must pay the first $200 of their prescription costs each year. Subsequent expenditures are paid by Pharmacare.
Plans B,C,D & F:	Recipients under these plans pay no deductibles or Co-payments.
Plan E:	Recipients pay the first $800 of their prescription costs and 30% of each prescription thereafter up to a maximum of $2,000.

5.4 Cost Reimbursement

Prescription Drug Products:

Generally, Pharmacare reimburses pharmacies for only the actual acquisition cost of the drug (the price paid by the pharmacy to the wholesaler or manufacturer) subject to the following provisions:

- with respect to all drugs Pharmacare will pay actual acquisition cost up to 7% over the manufacturers' best available list price for wholesale-sourced drugs;

- reimbursement is further limited to the actual acquisition cost of the average of lower cost alternatives, provided a low cost alternative exists within a therapeutic drug class;

- for all drugs falling under the Referenced-Based Pricing policy, reimbursement is limited to the cost of the identified referenced based product or products.

Dispensing Fees – the maximum dispensing fee for a regular prescription is $7.55. The actual professional fee charged is determined by the individual pharmacy. Pharmacare will accept professional fees which do not exceed the provincial average by more than 15%.

Capitation Rates – prescription drugs intended for administration to residents of long-term care facilities are reimbursed on a capitation rate basis for pharmacy services. Service in defined in legislation and in agreement with the Pharmacare Program.

5.5 Cost and Service Data

The total cost of the program based on ingredient cost and dispensing fees was $398 million in 1997.

5.6 Special Considerations

None.

5.7 Major Changes since Implementation

- In 1977 the program expanded to include benefits beyond prescription drugs and beneficiaries beyond seniors and social assistance recipients.

- In 1978 long-term care facility residents were added.

- Co-payments for seniors began in 1987.

- In 1988, a $2,000 maximum limit was placed on what an individual or family would pay.

- The annual deductible was increased to $300 in 1988; $325 in 1989;$ 375 in 1991; $400 in 1992; $500 in 1993; $600 in 1994; and $800 in 1998.

- The Rural Incentive and Product Incentive Programs were introduced in 1990 and phased out in 1994.

- The Low Cost Alternative Drug Program was introduced in 1994.

- PharmaNet, a secure network linking pharmacies through a central database, was introduced in 1995. PharmaNet allows eligibility for recipients to be calculated automatically.

- Reference-Based Pricing was introduced in 1995 for specific therapeutic categories of drug products. Pharmacare reimburses other drugs in the category up to the level of the reference-based product.

5.8 Price Trends: British Columbia

Table B-1 shows the price changes of All Drugs, Patented Drugs and Non-Patented Drugs.[22] See Appendix 1 for an analysis of price trends using derived manufacturers' ex-factory prices. The broadest aggregate 'All Drugs' Index increased by 6.8% while its component indices for patented and non-patented drugs rose by 9.6% and 4.8%, between 1990 and 1997 respectively. It is noteworthy that both indices grew by less than CPI (CPI grew by 11.2% over this period).

Table B-1

Pharmaceutical Price Trend
British Columbia, 1991 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	2568	105.2	5.2	2320	105.1	5.1	248	105.5	5.5
1992	2721	109.4	4.0	2440	108.8	3.5	281	110.5	4.7
1993	2870	110.0	0.5	2570	109.2	0.4	300	111.2	0.7
1994	2853	109.5	-0.4	2536	108.6	-0.6	317	111.1	-0.1
1995	3031	108.9	-0.6	2722	107.7	-0.8	309	110.8	-0.3
1996	3244	108.1	-0.7	2913	106.7	-0.9	331	110.1	-0.6
1997	3415	106.8	-1.2	3076	104.8	-1.8	339	109.6	-0.5

Table B-2 shows the cost to British Columbia's Pharmacare and its beneficiaries of the drugs included in the study for each year. This is not intended to be an estimate of British Columbia Pharmacare drug costs. There are two reasons why the 'All Drugs' column will not equal the

[22] All indices are based on the standard Laspeyres methodology used by Statistics Canada. See Statistics Canada Catalogue #62-533 "The Consumer Price Index Reference Paper", 1995. The Laspeyres methodology is used in the construction of the CPI, IPPI and many other price indices maintained by Statistics Canada.

Phamacare budget. First, there are several DINs which have been excluded from this study.[23] Second, drug costs include amounts which may have been paid for by Pharmacare beneficiaries including deductibles and co-payment charges. The expenditures figures do not include dispensing fees and non drug expenditures such as diagnostic test strips.

In 1997, drugs included in the study had a total expenditure of approximately $250 million. The 'All Drug' category was broken into the following groups; patented and non-patented, single source and multiple source, generic and brand name drugs. It is important to note that brand name drugs include patented, non-patented single source and non-patented multiple source drugs. While generic drugs are generally non-patented multiple source drugs, there are a few non-patented single source generic drugs.

Table B-2[24]

Expenditures on Drug Products included in Study, by Category
British Columbia, 1990 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1990	$148.9	$46.9	$102.1	$132.7	$15.4		
1991	$171.4	$58.9	$112.4	$151.6	$19.8	$88.2	$81.9
1992	$200.7	$72.1	$128.6	$179.6	$21.1	$104.8	$91.8
1993	$221.5	$83.6	$137.9	$199.4	$22.2	$102.4	$99.7
1994	$227.6	$89.3	$138.3	$188.8	$38.9	$108.0	$113.2
1995	$246.4	$98.5	$147.9	$191.4	$55.2	$110.7	$126.3
1996	$231.9	$95.2	$136.7	$177.1	$55.1	$94.0	$129.4
1997	$250.1	$123.1	$127.0	$194.6	$55.8	$99.8	$136.6

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table B-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by more than $70 million per year. In other words, brand name company sales were divided between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) make up less than third of total non-patented drug expenditures, (B).

[23] See Appendix 2: *Provincial Drug Price Analysis* for an explanation of which drugs are excluded.

[24] Given the concerns of generic to brand name issues, Study 5, Prices of Generic-to-Brand Name Prescription Drugs in Six Provincial Plans, gives an in depth analysis building on finding of this present study.

Table B-3 shows non-patented drug price growth when disaggregated by single and multiple sourced drugs.[25] Non-patented multiple sourced drugs increased in price by 4.8% in 1991, and 2.5% in 1992. These increases were subsequently reversed and by 1997 prices of non-patented multiple sourced drugs fell by 2.1% and cost on average about the same in 1997 as in 1990. Prices of non-patented single source drug products increased every year up to 1994. In 1995 prices of these drugs began falling. On the whole, non-patented single source drugs increased faster than any other category of drugs (12.5%) and faster than the CPI (11.2%) over the 1990 to 1997 time period.

Table B-3

Non-Patented Drug Price Trend
British Columbia, 1990 to 1997

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	2320	105.1	5.1	642	105.6	5.6	1651	104.8	4.8
1992	2440	108.8	3.5	663	111.1	5.2	1753	107.4	2.5
1993	2570	109.2	0.4	670	113.3	2.0	1851	106.5	-0.9
1994	2536	108.6	-0.6	638	114.2	0.8	1859	104.5	-1.8
1995	2722	107.7	-0.8	661	114.1	-0.1	2031	103.3	-1.2
1996	2913	106.7	-0.9	672	114.0	-0.1	2197	102.3	-1.0
1997	3076	104.8	-1.8	662	112.5	-1.3	2365	100.1	-2.1

Table B-4 shows price changes for the different groups. Prices of generic[26] drugs have fallen by about 21%, while their brand name equivalent's prices have increased by about 5.1%.

For each class of drug products that share the same active ingredient(s); strength(s); dosage form; and route of administration, and there is at least one generic and at least one brand name manufacturer, a generic-to-brand name price ratio was calculated. As shown in Table B-4 the median generic-to-brand name price ratio has increased from 60.8% in 1990 to 68.5% in 1997. In other words, half of all generic drugs were priced at 68.5% or more of the

[25] For more information on definition of single and multiple source drug products, please refer to Appendix 2: *Provincial Drug Price Analysis*.

[26] For more information on which manufacturers are considered 'generic' or 'brand name' please refer to Appendix 2: *Provincial Drug Price Analysis*.

brand name price in 1997. The generic share of BC Pharmacare has increased from 10.3% in 1990 to 22.3% in 1997 with a substantial increase in 1994 to 17.1% from 10.0% in 1993. The large increase in the generic share of total Pharmacare cost in 1994 coincides with the introduction of mandatory generic substitution.

Table B-4

Relationship of Generic to Brand Name Drug Prices
British Columbia, 1990 to 1997

Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of BC Pharma care
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases[27]	% Median Price Ratio	
1990		100.0			100.0		254	60.8	10.3
1991	738	100.3	0.3	405	105.5	5.5	272	61.9	11.6
1992	814	97.4	-2.9	422	110.0	4.3	282	59.3	10.5
1993	857	88.1	-9.5	439	112.1	1.9	321	59.0	10.0
1994	895	82.3	-6.6	460	111.6	-0.5	349	63.6	17.1
1995	1000	81.3	-1.3	484	109.4	-1.9	374	70.9	22.4
1996	1136	80.2	-1.3	504	108.8	-0.6	411	71.0	23.8
1997	1274	78.8	-1.7	521	105.1	-3.4	395	68.5	22.3

Table B-5 shows the distribution of generic-to-brand name price ratios in 1997. There were 57 products where the generic price was between 90% and 100% of the brand name price. The most frequent range of generic-to-brand name price ratios was between 50% and 75%. This range accounted for almost 40% of all generic to brand name price ratios. Furthermore, over 60% of all generics were sold at a price less than 75% of brand name price. In 94 products or 23.8% of all products, the generic price less than half the brand name price. In 32 cases the generic price was more expensive than the brand name.

[27] This column represent cases where there contains at least one generic and one brand name drug product.

Table B-5

Distribution of Generic-to-Brand Name Drug Price Ratios British Columbia, 1997		
Generic price is	**# of Products**	**% of Total**
less than half the Brand Name price	94	23.8
between 50% & 75% of the Brand Name price	152	38.5
between 75% & 90% of the Brand Name price	60	15.2
between 90% & 100% of the Brand Name price	57	14.4
between 100 and 110% of the Brand Name price	23	5.8
more than 110% of the Brand Name price	9	2.3
TOTAL	**395**	**100**

Table B-6 shows the number of non-patented drug products that have increased in price in each year by more than CPI. In 1997, 804 non-patented drug products or 26.1% of the 3,076 non-patented drugs increased in price by more than CPI. Of these drug products, the median price increase was 4.7%, i.e., more than 50% of these price increases were at least 4.7%. Total cost of these 804 drug products in 1997 was $13.8 million or 11% of total non-patented drug cost.

Table B-6

Non-Patented Drug Prices that Increased by more than CPI British Columbia, 1991 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Expenditure (millions)**
1991	981	5.6	8.6	$48.2
1992	1531	1.5	5.6	$104.8
1993	1175	1.8	4.3	$56.6
1994	1536	0.2	2.1	$92.6
1995	663	2.1	5.8	$10.6
1996	890	1.6	5.0	$19.8
1997	804	1.6	4.7	$13.8

Table B-7 provides a breakdown of the 804 non-patented drug products that increased in price by more than CPI in 1997. About 24% of these drug products, or 192 drug products, increased in price by more than 10% and 15 drug products increased in price by more than 50%.

Table B-7

Distribution of non-patented drugs whose prices increased by more than CPI British Columbia, 1997

Price Change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	244	30.3
Between 3% and 5%	179	22.3
Between 5% and 10%	189	23.5
Between 10% and 15%	80	10.0
Between 15% and 50%	97	12.1
Over 50%	15	1.9
TOTAL	**804**	**100.0**

6.0 ALBERTA

6.1 General Information

The Alberta Government provides prescription drug coverage for Albertans through The Alberta Blue Cross Plans: Alberta Blue Cross 66, for seniors & dependants; Alberta Blue Cross 66A, for widower's & dependants; Alberta Blue Cross - Non-Group Plan, for all Albertans (including low-income residents); and Family and Social Services Prescription Drug Services, for Social Allowance & Child Welfare. These plans were implemented July 1,1970. Funding is also provided for long term care or continuing care recipients, as well as under Province Wide Services for disease specific drugs. With the exception of Family and Social Services, plans are managed by Alberta Health, Health Strategies, which is responsible for registration of coverage and collection of premiums and Alberta Blue Cross, which handles the administration of the benefits payable.

6.2 Beneficiaries Covered

Coverage is available through the Alberta Health Care Insurance Plan without charge to registered Alberta residents 65 years of age or older, their spouses and dependents, and to persons who qualify for the Alberta Widows' Pension (age 55-64) and their dependents; and to other registered Alberta residents on an optional basis subject to payment of a premium.

Province Wide Services cover disease specific drugs and is designed to assist Alberta residents with cancer, cystic fibrosis, growth hormone deficiency, HIV/AIDS, organ transplant, tuberculosis, and sexually transmitted diseases. Only drugs used in direct treatment of the disease are covered.

6.3 Deductibles, Co-payments and Professional Fees

There is no deductible for drug benefits while there is a 30% percent co-payment, up to a maximum of $25 per eligible drug per prescription.

6.4 Cost Reimbursements

In Alberta, pharmacies are reimbursed the actual acquisition cost, (AAC) the price paid by the pharmacy to the wholesaler or manufacturers. The Least Cost Alternative price policy is applied (the lowest unit cost established for a drug product within a set of interchangeable drug products) for interchangeable products and Maximum Allowable Cost (the maximum unit cost established for a specific drug product or selected group of interchangeable drug products) for appropriate categories .

Dispensing Fees – a tiered maximum fee based on drug material cost:

$0-74.99	$9.70
$75.00 - $149.99	$14.70
>$150.00	$19.70

6.5 Cost and Service Data (drug claims only)

The total cost of the program for all plans was $167.4 million in 1996/97.

6.6 Special Considerations

Albertans receive certain drugs free through the Province Wide Services. Drugs for cystic fibrosis, growth hormone deficiency, HIV/AIDS, and organ transplants are dispensed primarily through designated hospital pharmacy outpatient departments in Calgary and Edmonton. Cancer drugs are distributed through the Alberta Cancer Board facilities.

6.7 Major Changes since 1990

- In 1991, introduction of the Alberta Health Drug Benefit List.
- In 1993, introduction of the interchangeable drug list.
- In 1993, the Lowest Cost Alternative policy was introduced.
- In 1993, the dispensing fee formula was changed.
- In 1994, the co-payment was increased.
- In 1996, Maximum Allowable Cost policy was introduced.

6.8 Price Trends: Alberta

Table A-1 shows annual price changes and annual price growth of All Drugs, Patented Drugs and Non-Patented Drugs.[28] See Appendix 1 for an analysis of price trends using derived manufacturers' ex-factory prices.

Over the period 1993 to 1997, 'All Drugs' fell by 2.1%. The patented index fell by 1.0% and the non-patented index fell by 3.1% over this period. It is noteworthy that both indices grew by less than CPI (CPI grew by 6.2% over this period).

[28] All indices are based on the standard Laspeyres methodology used by Statistics Canada. See Statistics Canada Catalogue #62-533 "The Consumer Price Index Reference Paper", 1995. The Laspeyres methodology is used in the construction of the CPI, IPPI and many other price indices maintained by Statistics Canada.

Table A-1

Pharmaceutical Price Trend
Alberta, 1993 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1993		100.0			100.0			100.0	
1994	2234	98.4	-1.6	2009	97.6	-2.4	225	99.6	-0.4
1995	2534	98.0	-0.4	2272	97.3	-0.3	262	99.0	-0.6
1996	2670	97.3	-0.7	2396	96.8	-0.5	274	97.9	-1.1
1997	2770	97.9	0.6	2468	96.9	0.1	302	99.0	1.1

Table A-2 shows the cost to Alberta Health Care Insurance Plan (AHCIP) and its beneficiaries of the drugs included in the study for each year. This is not intended to be an estimate of the AHCIP drug costs. There are two reasons why the 'All Drugs' column will not equal the AHCIP budget First, there are several DINs which have been excluded from this study.[29] Second, drug costs include amounts which may have been paid for by AHCIP beneficiaries including deductibles and co-payment charges. The expenditures figures do not include dispensing fees and non drug expenditures such as diagnostic test strips.

In 1997, drugs included in the study had total expenditures of approximately $240 million. The 'All Drug' category was broken into the following groups; patented and non-patented, single source and multiple source, generic and brand name drugs. It is important to note that brand name drugs include patented, non-patented single source and non-patented multiple source drugs. While generic drugs are generally non-patented multiple source drugs, there are some non-patented single source generic drugs.

[29] See Appendix 2: *Provincial Drug Price Analysis* for an explanation of which drugs are excluded.

Table A-2

Expenditures on Drug Products included in Study, by Category Alberta, 1993 to 1997 (in millions)							
Year	**All Drugs =A+B =C+D >=E+F**	**All Patented Drugs (A)**	**All Non-Patented Drugs (B)**	**All Brand Name Drugs (C)**	**All Generic Drugs (D)**	**Single Source Drugs (E)**	**Multiple Source Drugs (F)**
1993	$119.1	$48.9	$70.2	$106.9	$12.1	$51.6	$64.9
1994	$148.0	$56.0	$92.0	$124.6	$23.5	$81.7	$64.3
1995	$197.1	$85.6	$111.5	$161.0	$36.1	$97.6	$89.0
1996	$186.8	$85.7	$101.0	$166.6	$34.2	$91.9	$87.1
1997	$239.9	$143.3	$96.6	$223.4	$34.9	$105.1	$126.6

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table A-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by more than $50 million per year. In other words, brand name company sales were divided between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) make up about one third of total non-patented drug expenditures.

Table A-3 shows annual changes and growth in non-patented drug prices when broken out by single and multiple sourced drugs.[30] Prices of non-patented multiple source drugs fell by 5.6% over the period 1993 to 1997. On the other hand, prices of non-patented single source drug products increased over this period by 2.2%.

Table A-3

Non-Patented Drug Price Trend Alberta, 1993 to 1997									
Year	**All Non-Patented**			**Non-Patented Single Source**			**Non-Patented Multiple Source**		
	# DINs	**Index**	**% Change**	**# DINs**	**Index**	**% Change**	**# DINs**	**Index**	**% Change**
1993		100.0			100.0			100.0	
1994	2009	97.6	-2.4	462	99.8	-0.2	1522	95.8	-4.2
1995	2272	97.3	-0.3	514	99.7	-0.1	1736	96.4	0.6
1996	2397	96.8	-0.5	522	100.3	0.6	1836	95.4	-1.0
1997	2468	96.9	0.1	509	102.2	1.9	1921	94.4	-1.1

[30] For more information please refer to Appendix 2: *Provincial Drug Price Analysis*

Table A-4 shows price changes for the different groups. Prices of generic[31] drugs have fallen by just over 8%, while brand name drug prices have fallen by 2.2%.

For each class of drug products that share the same active ingredient(s); strength(s); dosage form; and route of administration, and there is at least one generic and at least one brand name manufacturer, a generic-to-brand name price ratio was calculated. As shown in Table A-4 the median generic-to-brand name price ratio has increased from 47.3% in 1993 to 56.3% in 1997. In other words, half of all generic drugs were priced at 56.3% or more of the brand name price in 1997. The generic share of Alberta's provincial drug program increased from 10.2% in 1993 to 14.5% in 1997. The largest increase occurred after 1993 when the lowest cost alternative policy was introduced.

Table A-4

Relationship of Generic to Brand Name Drug Prices
Alberta, 1993 to 1997

Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Alberta Health Drug Benefits
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases[32]	% Median Price Ratio	
1993		100.0			100.0		249	47.3	10.2
1994	732	96.8	-3.2	901	97.3	-2.7	294	50.4	15.9
1995	843	94.4	-2.5	1019	98.8	1.5	323	50.7	18.3
1996	931	93.2	-1.3	1044	97.7	-1.1	330	53.4	18.3
1997	1016	91.7	-1.6	1055	97.8	0.1	346	56.3	14.5

[31] For more information on which manufacturers are considered 'generic' or 'brand name' please refer to Appendix 2: *Provincial Drug Price Analysis*.

[32] This column represent cases where there contains at least one generic and one brand name drug product.

Table A-5 shows the distribution of generic-to-brand name price ratios in 1997. There were 53 products where generic prices were between 90% and 100% of the brand name price. Over 40% of generic drugs were sold at a price that was between 50 and 75% of their brand name competitor's price. However one third of all generics are sold at a price that is at least 75% of the brand name price. In 12 cases the generic price was more expensive than the brand name.

Table A-5

Distribution of Generic-to-Brand Name Drug Price Ratios
Alberta, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	91	26.3
between 50% & 75% of the Brand Name price	144	41.6
between 75% & 90% of the Brand Name price	46	13.3
between 90% & 100% of the Brand Name price	53	15.3
between 100% & 110% of the Brand Name price	12	3.5
more than 110% of the Brand Name price	0	0.0
TOTAL	**346**	**100.0**

Table A-6 shows the number of non-patented drug products that have increased in price in each year by more than CPI. For instance, in 1997, 383 non-patented drug products or 15.5% of the 2,468 non-patented drug products increased in price by more than CPI. Half of these drug products increased by at least 3.8%. Total cost of these 383 drug products in 1997 was $38.6 million or 40.0% of total non-patented drug cost.

Table A-6

Non-Patented Drug Prices that Increased by more than CPI
Alberta, 1994 to 1997

Year	#	CPI%	Median Increase %	Expenditure (millions)
1994	383	0.2	5.0	$17.9
1995	280	2.1	5.1	$8.4
1996	391	1.6	5.0	$16.3
1997	383	1.6	3.8	$38.6

Table A-7 provides a breakdown of the 383 non-patented drug products that increased in price by more than CPI in 1997. About 88% of these drugs increased in price by more than two times the rate of increase in the CPI.

Table A-7

Distribution of non-patented drugs whose prices increased by more than CPI Alberta, 1997

Price Change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	45	11.8
Between 3% and 5%	184	48.0
Between 5% and 10%	97	25.3
Between 10% and 15%	35	9.1
Between 15% and 50%	22	5.7
Over 50%	0	0.0
TOTAL	**383**	**100.0**

7.0 SASKATCHEWAN

7.1 General Information

The Saskatchewan Prescription Drug Plan was implemented on September 1, 1975. The Plan is administered by the Drug Plan and Extended Benefits Branch of Saskatchewan Health under the authority of the Prescription Drug Act and Regulations. The Drug Plan provides coverage for drugs listed in the Saskatchewan Formulary or approved under the "Exception Drug Status" for specific beneficiaries.

7.2 Beneficiaries Covered

All Saskatchewan residents holding a valid Saskatchewan Health Services Card. Exceptions include those whose prescription is paid by another government agency: Status Indians, Department of Veteran Affairs beneficiaries, Workers' Compensation Board claimants, RCMP, Armed Forces personnel and Federal penitentiary inmates.

7.3 Deductibles, Co-payments and Professional Fees

The standard deductible per family is $850 semi-annually. Deductibles for non-seniors on the Family Income Plan, seniors on the Saskatchewan Income Plan and senior guaranteed income supplement (GIS) recipients residing in nursing homes is $100 semi-annually. For senior GIS recipients residing in the community, the deductible is $200 semi-annually. All the above groups are eligible for special support and if approved a co-payment is automatically assigned. This co-payment varies and is based on a ratio in which annual drug cost exceeds 3.4% of annual income and if annual income is below $50,000. The majority of drug plan expenditures are directed toward the income tested special support program.

7.4 Cost Reimbursements

Cost reimbursement is based on the pharmacist's actual acquisition cost (AAC) plus a mark-up of between 10% and 30% depending on the value of the prescription. Claims are submitted by means of a network and adjudicated on-line by a central processing unit. The Pharmacy collects the appropriate payment from the consumer (deductible, cop-payment, and/or incremental cost of no-substitution prescription). The portion of the cost eligible for coverage is paid directly to the pharmacy.

7.5 Cost and Service Data

The total cost of the program was $58 million in 1996/97.

7.6 Special Considerations

The Prescription Drug Plan utilizes compulsory product substitution in interchangeable drug groups to reduce costs. Only when no-substitution is requested by a physician is that product dispensed.

Standing Offer contracts are used to obtain quantity discounts for high volume, usually interchangeable brands of drugs. These contracts are obtained by a tendering process.

Exception Drug Status coverage is provided for certain non-formulary drugs. These drugs are recommended by the Saskatchewan Formulary Committee and coverage is subject to specific criteria being met.

Education programs, including an academic detailing project, and drug utilization reviews are conducted to encourage the rational use of drugs.

7.7 Major Changes since Implementation

- In 1987, coverage changed from a first dollar cost-sharing with fixed copayment for each prescription to a family based deductible program.
- In 1989, introduced on-line claim submissions with payments directly to pharmacy.
- In 1991, family co-payments increased from 20% to 25%.
- In 1992, coverage for drugs in interchangeable groups were changed to allow every approved drug the actual acquisition cost up to the lowest priced product of the group listed in the Saskatchewan Formulary.
- In 1992, family co-payment increased from 25% to 35%. Deductibles changed from annual to semi-annual and regular deductibles increased from $125 annual to $190 semi-annual. Catastrophic Cap was introduced allowing co-payments to be reduced to 10% once a family has paid $375 in a semi-annual deductible period.
- In 1993, deductibles were changed to reflect family economic status rather than age of recipient; the catastrophic cap was also discontinued.
- In 1995, a program to collect 3 cents from each dispensed covered prescription was introduced. The funds will be used to pay for alternative services provided by pharmacies.

7.8 Price Trends: Saskatchewan

All residents of Saskatchewan are beneficiaries of the Saskatchewan Drug Plan and Extended Benefits (SDP & EB). The SDP&EP issues Standing Offer Contracts (SOC's) to the lowest price manufacturer of drug products available from multiple sources. The SOC for such drug products may switch manufacturers from one year to the next. The practice of issuing SOC's may cause the indices presented below to overstate rising drug **costs** because when a SOC holder raises its price above the price of the next lowest price the SDP&EP changes suppliers. The indices however weight the importance of each drug product's price change by the previous year's volume and accurately measures changes in drug product prices.

The data indicates that the broadest aggregate 'All Drugs' Index increased by 6.6% while its component indices for patented and non-patented drugs both rose by 5.9% and 5.5% respectively. It is noteworthy that both indices grew by less than the CPI. This information is shown in Table S-1.

Table S-1

Pharmaceutical Price Trend
Saskatchewan, 1990 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	1822	101.4	1.4	1615	99.7	-0.3	207	103.5	3.5
1992	1892	104.5	3.1	1667	102.7	3.0	225	106.6	3.0
1993	1971	109.1	4.4	1764	110.1	7.2	207	106.5	-0.1
1994	2177	108.9	-0.2	1957	109.6	-0.4	220	106.7	0.2
1995	2565	109.5	0.5	2308	110.5	0.8	257	106.6	-0.1
1996	2679	107.7	-1.6	2385	108.1	-2.2	294	106.1	-0.5
1997	3231	106.6	-1.0	2881	105.5	-2.4	350	105.9	-0.2

Table S-2 shows the total cost of the drugs included in the study. The figures include all costs incurred by patients such as deductibles and co-payment premiums but they do not include non drug expenditures such as diagnostic test strips.[33] In 1997, drugs included in the study had a total cost of $103.3 million. The 'All Drug' category was disaggregated into the following groups; patented and non-patented, single source and multiple source, and generic and brand name.

[33] For more information please refer to Appendix 2: *Provincial Drug Price Analysis*.

Table S-2

Expenditures on Drug Products included in Study, by Category
Saskatchewan, 1990 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1990	$73.6	$32.6	$41.0	$59.2	$11.4	$36.6	$36.3
1991	$77.7	$35.3	$42.4	$62.9	$14.8	$41.1	$36.0
1992	$81.7	$35.5	$46.2	$64.7	$17.0	$42.5	$37.8
1993	$75.2	$29.3	$45.9	$60.6	$14.7	$30.8	$35.1
1994	$71.6	$23.7	$47.9	$55.7	$15.9	$31.5	$37.9
1995	$85.7	$28.5	$57.3	$62.2	$23.5	$30.1	$50.6
1996	$86.1	$39.2	$47.0	$68.4	$17.7	$32.6	$51.3
1997	$103.3	$46.4	$56.8	$78.0	$25.3	$34.7	$64.2

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table S-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by approximately $30 million per year. In other words, brand name company sales were divided substantially between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) made up between 25% and 50% of total non-patented drug expenditures, (B) over this time period

Table S-3 shows non-patented drug price changes when disaggregated by single and multiple sourced drugs.[34] Prices of non-patented multiple sourced drugs fell by 1.5% in 1991, and increased by 3.5% in 1992 and 10.1% in 1993. Prices of single source non-patented drug products increased every year except in 1995 and 1997, when they remained virtually unchanged. Prices of multiple source non-patented drugs increased more rapidly than those of single sourced drugs. This is due largely to the large price growth in 1993 for that group.

[34] For more information please refer to Appendix 2: *Provincial Drug Price Analysis*: For definition of single and multiple source drugs.

Table S-3

Non-Patented Drug Price Trend
Saskatchewan, 1990 to 1997

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	1615	99.7	-0.3	409	102.4	2.4	1190	98.5	-1.5
1992	1667	102.7	3.0	408	105.0	2.5	1240	101.9	3.5
1993	1764	110.1	7.2	424	106.1	1.1	1304	112.2	10.1
1994	1957	109.6	-0.4	455	106.6	0.5	1464	111.3	-0.8
1995	2308	110.5	0.8	504	106.5	-0.1	1768	112.7	1.2
1996	2385	108.1	-2.2	441	107.6	1.0	1620	108.4	-3.8
1997	2881	105.5	-2.4	498	107.4	-0.2	1971	106.2	-2.0

To win SOC's many manufacturers of multiple sourced drugs offered their products to SDP&EB at prices lower than anywhere else in Canada. The large increase in multiple source drug prices coincides with the Province of Quebec's lowest price rule requiring manufacturers to offer Quebec the lowest price available in Canada for their drug product. Manufacturers often choose not to offer Quebec, Saskatchewan's price but instead to raise Saskatchewan's prices to the level offered to Quebec.

Price indices for generic and brand name drugs were also calculated. In Saskatchewan, generic[35] drug prices fell by 6% in 1991 but increased by 4% in 1992 and grew by 18.1% in 1993 to be 15.5% more expensive than in 1990. The 18.1% price increase in 1993 coincides with the introduction of the province of Quebec's lowest price policy. It is interesting to note that brand name prices increased by 1.4% in 1993, indicating that for the most part only generic manufacturers increased their prices in Saskatchewan in response to Quebec's initiative.

For each class of drug products that share the same active ingredient(s); strength(s); dosage form; and route of administration, and there is at least one generic and at least one brand name manufacturer, the generic-to-brand name price ratio was calculated.

As shown in Table S-4, the median generic-to-brand name price ratio increased from 41.8% in 1990 to 61.9% in 1997. The median generic-to-brand name price ratio increased sharply in 1993 due to large generic price increases. The generic share of SDP&EP has risen from 15.5% in 1990 to 24.5% in 1997.

[35] For more information on which manufacturers are considered 'generic' or 'brand name' please refer to Appendix 1.

Table S-4

Relationship of Generic to Brand Name Drug Prices
Saskatchewan, 1990 to 1997

Year	Generic			Brand Name Products with Generic Competitors			Generic to Brand Name		% Generic Share of Sask. Expenditure
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1990		100.0			100.0		181	41.8	15.5
1991	629	94.0	-6.0	743	103.4	3.4	191	40.1	19.0
1992	654	97.8	4.0	770	106.2	2.7	198	44.2	20.8
1993	665	115.5	18.1	816	107.7	1.4	213	53.0	19.5
1994	753	112.6	-2.5	897	108.8	1.0	247	55.8	22.2
1995	887	113.6	0.9	1090	109.7	0.9	281	60.0	27.4
1996	945	106.2	-6.5	997	109.5	-0.2	329	61.5	20.6
1997	1213	103.1	-2.9	1167	109.1	-0.4	328	61.9	24.5

Table S-5 shows the distribution of generic-to-brand name ratios in 1997. There were 36 interchangeable products where the generic price was between 90% and 100% of the brand name price. The most common ranges of generic-to-brand name ratios were between 50% and 75%, each representing 115 products. In 28 cases the generic price was more expensive than the brand name.

Table S-5

Distribution of Generic-to-Brand Name Drug Price Ratios
Saskatchewan, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	115	35.1
between 50% & 75% of the Brand Name price	115	35.1
between 75% & 90% of the Brand Name price	34	10.4
between 90% & 100% of the Brank Name price	36	11.0
between 100% & 110% of the Brand Name price	20	6.1
more than 110% of the Brand Name price	8	2.4
TOTAL	**328**	**100.0**

Table S-6 shows the number of non-patented drug products that have increased in price by more than CPI in each year. For instance in 1997, 632 non-patented drug products or 22% of the 2,881 non-patented drugs with sales in both years, increased in price by more than CPI. More than 50% of these price increases were of at least 4.1%. Total cost of these 632 drug products in 1997 was $4.2 million or 7.4% of total non-patented drug cost.

Table S-6

Non-Patented Drug Prices that Increased by more than CPI Saskatchewan, 1991 to 1997

Year	#	CPI%	Median Increase %	Expenditure (millions)
1991	237	5.6	10.0	$2.0
1992	897	1.5	3.7	$31.6
1993	855	1.8	6.7	$21.8
1994	1028	0.2	4.2	$15.2
1995	675	2.1	5.9	$15.6
1996	771	1.6	5.9	$9.8
1997	632	1.6	4.1	$4.2

Table S-7 provides a breakdown of the 632 non-patented drug products that increased in price by more than CPI in 1997, 19% of these drug products or 120 DINs increased in price by more than 10% and 11 drug products increased in price by more than 50%.

Table S-7

Distribution of non-patented drugs whose prices increased by more than CPI Saskatchewan, 1997

Price Change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	214	33.8
Between 3% and 5%	163	25.8
Between 5% and 10%	135	21.4
Between 10% and 15%	46	7.3
Between 15% and 50%	63	10.0
Over 50%	11	1.7
TOTAL	**632**	**100.0**

8.0 MANITOBA

8.1 General Information

The Manitoba Government provides prescription drug benefits through three programs: Pharmacare, implemented January 1, 1975; Social Allowance Health Services (SAHS), implemented in the early sixties; and, Personal Care Home Drug Program, implemented in January 1,1973. In addition, certain disease specific drugs are provided through designated hospital programs and a special drug program exists for sexually transmitted diseases. The Programs are administered by Manitoba Health.

8.2 Beneficiaries Covered

Pharmacare: all provincial residents who are eligible for benefits under the Manitoba Health Plan, with the exception of residents covered under other Statutes.

Social Allowance Health Services: residents receiving social assistance.

Personal Care Home Drug Program: residents of Personal Care Homes.

The special drug program covers disease specific drugs and is designed to assist Manitoba residents with cancer, mental health needs, organ transplant, palliative care, renal dialysis/chronic renal failure, thalassaemia and tuberculosis.

8.3 Deductibles, Co-payments and Professional Fees

The deductible for residents under the Pharmacare program is 3% of adjusted family income over $15,000 or 2% of adjusted family income equal to or under $15,000. Pharmacare reimburses 100% of eligible drug costs over and above the adjusted annual deductible. Residents covered by either the SAHS or the Personal Care Home Drug Program have no deductibles or co-pay.

8.4 Cost Reimbursements

Claims are submitted to Pharmacare, Social Allowance Health Services Drug Program and the Personal Care Home Drug Program (PCH). Reimbursement is made directly to Pharmacists following adjudication of the claims by the Drug Programs Information Network (computer network) (D.P.I.N.). The SAHS drug program and the PCH drug program came online with D.P.I.N August 28, 1995.

8.5 Cost and Service Data (drug claims only)

The total cost of the pharmacare program, was $73.6 million in 1995/6. The drug component of the Personal Care Home Drug Program was $4.8 million, and the SAHS expenditures were at $13.54 million. The total expenditures for the province were $91.54 million.

8.6 Special Considerations

None

8.7 Major Changes since 1990

- Benefits have been amended from time to time by the addition and deletion of prescription and over-the-counter drugs, and by variations of the deductible and co-pay schemes.

- Deductibles increased throughout the 1990's, starting at $163.65 ($92.75 for seniors), they increased to $237.10 ($134.40 for seniors) by early 1996.

- From 1990 to 1992, co-payments were established at 20% for all recipients including seniors.

- In 1993, co-payments were increased to 40% for recipients 64 years of age and under, and to 30% for those 65 and over.

- In 1996-97, the deductible was changed to 2% of total adjusted family income of less than $15,000 or 3% of total adjusted income if over $15,000 for all Manitoba residents.

8.8 Price Trends: Manitoba

Table M -1 shows annual price changes and annual price growth of All Drugs, Patented Drugs and Non-Patented Drugs.[36] See Appendix 2: *Provincial Drug Price Analysis* for an analysis of price trends using derived manufacturers' ex-factory prices.

Due to the limited data available, price trends in Manitoba were only examined over the period 1995 to 1997. All Drugs fell by 3.4%. The patented index fell by 0.9% and the non-patented index fell by 5.5% over this period. It is noteworthy that these indices grew by less than CPI (CPI grew by 3.2% over this period).

[36] All indices are based on the standard Laspeyres methodology used by Statistics Canada. See Statistics Canada Catalogue #62-533 "The Consumer Price Index Reference Paper", 1995. The Laspeyres methodology is used in the construction of the CPI, IPPI and many other price indices maintained by Statistics Canada.

Table M-1

Pharmaceutical Price Trend
Manitoba, 1995 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1995		100.0			100.0			100.0	
1996	2489	98.5	-1.5	2163	98.1	-1.9	326	99.0	-1.0
1997	2719	96.6	-1.9	2356	94.5	-3.7	363	99.1	0.1

Table M-2 shows the cost to Manitoba Pharmacare and its beneficiaries of the drugs products included in the study in each year. This is not intended to be an estimate of the Manitoba Pharmacare drug costs. There are two reasons why the "All Drugs" column will not equal the Pharmacare budget. First, there are several DINs which have been excluded from this study.[37] Secondly, drug cost include amounts which may have been paid for by Pharmacare beneficiaries such as deductibles, and co-payment charges.

Table M-2

Expenditures on Drug Products included in Study, by Category,
Manitoba, 1995 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1995	$101.3	$40.5	$60.9	$73.3	$28.0	$35.3	$65.1
1996	$97.0	$42.4	$54.6	$70.5	$26.5	$35.2	$58.7
1997	$110.2	$56.3	$53.8	$82.5	$27.6	$38.4	$66.5

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table M-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by at least $20 million per year. In other words, brand name company sales were divided substantially between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) made up less than one half of total non-patented drug expenditures, (B) over this time period.

[37] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for exclusion criteria.

The price trends of non-patented drug products disaggregated by single and multiple source[38] are shown in Table M-3. Prices of non-patented multiple source drug products fell in 1996 and 1997 by 2.1% and 2.2%, respectively. Prices of non-patented single source drugs also fell over this short time period by 1.0% in 1996 and 4.8% in 1997.

Table M-3

Non-Patented Drug Price Trend
Manitoba, 1995 to 1997

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1995		100.0			100.0			100.0	
1996	2169	98.1	-1.9	469	99.0	-1.0	1637	97.9	-2.1
1997	2360	94.5	-3.7	477	94.2	-4.8	1792	95.7	-2.2

Table M-4 shows price trends when disaggregated by drug group. In Manitoba generic manufacturers[39] experienced price declines of 2.8% in 1996, and 3.4% 1997, while prices of brand name equivalent drug products fell by 1.6% in 1996 and 1.2% in 1997.

For each group of interchangeable drug products that included at least one brand name product and one generic product, a generic to brand name price ratio was calculated.[40] The median generic-to-brand price ratio in 1997 was 70.5%, in other words 50% of all generic drug products were priced below 70.5% of the brand name equivalent and 50% were priced at least 70.5% of the brand name. The decline in the generic share of the total drug expenditures, from 27.6% to 25.0%, may be attributable to falling prices of generic products and not necessarily to the decline in the number of prescriptions of generic drugs.

[38] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for a definition of multiple and single sourced drugs.

[39] See Appendix 2: *Provincial Drug Price Analysis*: Methodology a complete list of generic and brand name manufacturers.

[40] For the purpose of this paper, an interchangeable group of drug products is comprised of the drug products which share a unique combination of active ingredient(s), strength(s), dosage form, and route of administration.

Table M-4

Relationship of Generic to Brand Name Drug Prices Manitoba, 1995 to 1997									
Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Manitoba Pharma care
	# DINs	Index	% Growth	# DINs	Index	% Growth	# Cases	% Median Price Ratio	
1995		100.0			100.0		244	71.8	27.6
1996	808	97.2	-2.8	1055	98.4	-1.6	322	74.0	27.3
1997	920	93.9	-3.4	1122	97.2	-1.2	308	70.5	25.0

Table M-5 shows the distribution of generic to brand name price ratios; 45 drug products or 14.6% of generic prices were between 90% and 100% of the brand name price; 82 or 26.6% of generic drug products were priced less than half the brand name price. It is interesting note that in 36 cases, generic drug prices were higher than the brand name price.

Table M-5

Distribution of Generic-to-Brand Name Drug Price Ratios Manitoba, 1997		
Generic price is	**# of Products**	**% of Total**
less than half the Brand Name price	82	26.6
between 50% & 75% of the Brand Name price	93	30.2
between 75% & 90% of the Brand Name price	52	16.9
between 90% & 100% of the Brand Name price	45	14.6
between 100and 110% of the Brand Name price	24	7.8
more than 110% of the Brand Name price	12	3.9
TOTAL	**308**	**100.0**

Table M-6 shows the number of non-patented drugs which have increased in price by more than consumer price inflation as measured by the CPI. In 1997, 679 drug products or 28.8% of non-patented drugs had prices that increased by more than the CPI. This represented an increase from the previous year.

Table M-6

Non-Patented Drug Product that increased by more than CPI Manitoba, 1995 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Expenditure (millions)**
1996	567	1.6	5.3	$7.3
1997	679	1.6	4.5	$10.1

Table M-7 provides a breakdown of the 679 drug products than increased in price by more than CPI in 1997. A large majority of these non-patented drug products, 459, increased by more than twice the rate of CPI.

Table M-7

Distribution of non-patented drugs whose prices increased by more than CPI Manitoba, 1997		
Price Change	**Number of Drug Products**	**% of Total**
Between 1.6% (CPI) and 3%	220	32.4
Between 3% and 5%	153	22.5
Between 5% and 10%	137	20.3
Between 10% and 15%	54	7.9
Between 15% and 50%	99	14.7
Over 50%	16	2.2
TOTAL	**679**	**100.0**

9.0 ONTARIO

9.1 General Information

The Ontario Drug Benefit Program (ODB) was implemented on September 1, 1974. The ODB is administered by the Minister of Health, Drug Programs Branch. The Ontario program provides over 2800 drug products listed in the Drug Benefit Formulary/Comparative Drug Index and about 170 other products which are approved as limited-use products to eligible residents of Ontario.

9.2 Beneficiaries Covered

Ontario Drug Benefit Program provides coverage for the following;

a) All persons 65 and over who are eligible for Ontario Health Insurance
b) persons receiving Family Benefits Assistance;
c) persons receiving General Welfare Assistance;
d) residents of Homes for Special Care;
e) residents of Long Term Care facilities;
f) persons receiving professional services under the Home Care Program;
g) persons eligible under the Trillium Drug Program.

Trillium Drug Program is designed to aid people with high drug costs in relation to their incomes. All Ontario residents are eligible for assistance under this program, however deductibles are set according to income levels.

Special Drug Program covers disease specific drugs and is designed to assist Ontario residents suffering from cystic fibrosis, AIDS, Gaucher's disease, end stage renal disease, schizophrenia, solid organ or bone marrow transplant recipients and children with growth deficiencies.

9.3 Deductibles, Co-payments and Professional Fees

All ODB recipients are required to pay a portion of their prescription drug costs. ODB recipients paying up to $2.00 per prescription include:

- single seniors with an annual net income of less than $16,018;
- senior couples with a combined annual net income of less than $24,175;
- those receiving general welfare benefits or family benefits;
- those receiving home care under the Health Insurance Act;
- residents of a nursing home, home for the aged or Home for Special Care;
- Trillium Drug Program beneficiaries.

Single seniors who have an annual income of $16,018 or more and seniors in couples with a combined annual income of $24,175 or more must pay the first $100 in ODB eligible prescription drug costs each year. After that these seniors will pay up to $6.11 towards the dispensing fee for each prescription.

Trillium Drug Program recipients must pay a deductible based on their net income and family make-up. Deductibles range from $350 for a single person whose net income is less than $6,500 to $150 for a family of four with the same net income and from $4,089 for a single person whose net income is less than $100,000 to $3,889 for a family of four with the same net income. After the above deductibles have been reached they are required to pay $2 for each prescription thereafter.

9.4 Cost Reimbursements

Pharmacies — for all prescription drugs, pharmacies are paid the lesser of:

a) the Drug Benefit Price (DBP) of the lowest cost interchangeable listed drug product in the Drug Benefit Formulary/CDI, plus 10%, plus a dispensing fee of $6.11.
b) the usual and customary amount charged to a person who is not eligible for ODB for the same quantity of the same drug.

Drug Costs — the price of drugs in the ODB Formulary is the price agreed to between the Ministry of Health and the pharmaceutical manufacturer. A 10% mark-up is added to the DBP to cover distribution costs.

Dispensing Physicians — these physicians are paid the lowest interchangeable DBP listed in the Drug Benefit Formulary/CDI, plus 10%. plus a dispensing fee less the applicable co-payment. Current dispensing fees are $4.05 for urban and clinic dispensaries and $4.83 for rural dispensaries.

Hospitals — pharmacies in hospitals are paid the lowest interchangeable DBP listed in the Drug Benefit Formulary/CDI, plus 10%, plus a dispensing fee of $2.83 less the applicable co-payment.

9.5 Cost and Service Data (drug claims only)

The total cost of the program was $1.24 billion in 1995/6.

9.6 Special Considerations

Under exceptional cases, Section 8(1) of the *Ontario Drug Benefit Act* allows for coverage of drugs not listed in the Drug Benefit Formulary/CDI. A physician can request consideration for coverage of an unlisted drug for a particular patient, providing there is no Formulary alternative to treat severe, life threatening, or organ threatening conditions, or diseases that would otherwise cause severe debilitating effects.

9.7 Major Changes since 1990

- In 1993, introduction of 75/90 pricing policy for generic products..
- In 1994. introduced price freeze for all drugs listed on the formulary.
- In 1995, introduced the Trillium Drug Program (see above).
- In 1996, co-payment program was introduced.

9.8 Price Trends: Ontario

The province of Ontario implemented a price freeze policy, which has allowed no product's list price to increase since 1994. This policy has been effective at controlling drug price increases in that province. See Appendix 2 for an analysis of price trends using derived manufacturers' ex-factory prices.[41]

As shown in Table O-1, overall prices in Ontario for All Drugs have fallen by about 10% over the 1991 to 1997 period. In particular, non-patented drugs products have fallen by about 18.3% and patented drugs have increased in price by about 2.8%.

Table O-1

Pharmaceutical Price Trend
Ontario, 1991 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1991		100.0			100.0			100.0	
1992	1655	99.5	-0.5	1461	97.7	-2.3	194	102.5	2.5
1993	1780	97.6	-1.9	1573	94.6	-3.2	207	103.3	0.8
1994	1824	92.6	-5.1	1622	87.8	-7.2	202	102.2	-1.1
1995	2086	91.4	-1.3	1852	85.2	-2.9	234	103.6	1.4
1996	2344	90.3	-1.2	2040	83.5	-2.0	304	103.2	-0.4
1997	2649	89.8	-0.8	2289	81.7	-2.2	360	102.8	-0.4

[41] All indices are based on the standard Laspeyres methodology used by Statistics Canada. See Statistics Canada Catalogue #62-533 "The Consumer Price Index Reference Paper", 1995. The Laspeyres methodology is used in the construction of the CPI, IPPI and many other price indices maintained by Statistics Canada.

Table O-2 shows the cost to ODB and its beneficiaries of the drugs products included in the study in each year. This is not intended to be an estimate of the Ontario Drug Benefit Plan's drug costs. There are two reasons why the "All Drugs" column will not equal the ODB's budget. First, there are several DINs which have been excluded from this study.[42] Secondly, drug cost include amounts which may have been paid for by ODB beneficiaries such as deductibles, and co-payment changes.

Table O-2

Expenditures on Drug Products included in Study by Category
Ontario, 1991 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1991*	$315.4	$111.9	$203.9	$206.9	$107.7	$133.8	$177.8
1992	$641.9	$249.1	$392.8	$455.1	$186.8	$308.6	$326.2
1993	$736.1	$287.7	$448.4	$554.5	$181.7	$309.9	$353.6
1994	$722.8	$285.6	$437.2	$533.8	$189.0	$318.3	$388.4
1995	$841.5	$363.5	$477.9	$623.3	$218.2	$366.6	$442.2
1996	$894.8	$396.0	$498.8	$663.3	$231.6	$381.6	$493.4
1997	$1,012.1	$549.6	$462.5	$778.4	$233.8	$399.4	$549.0

* July 1, 1991 to December 31, 1991

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table O-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by over $200 million per year. In other words, brand name company sales were divided between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) made up less than one half of total non-patented drug expenditures, (B) over this time period.

The price trends of non-patented drug products disaggregated by single and multiple source[43] are shown in Table 0-3. Prices of non-patented multiple source drug products have fallen every year from 1992 to 1997. In 1994, prices fell by 9%. By 1997, non-patented multiple source drugs were, on average, 22% lower than in 1991. Prices of non-patented single source drugs increased in 1992 and 1993, and fell in 1994 to 1997. By 1997 non-patented single source drugs had become 5.3% lower than in 1991.

[42] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for exclusion criteria.

[43] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for a definition of multiple and single sourced drugs.

Table O-3

Non-Patented Drug Price Trend
Ontario, 1991 to 1997

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1991		100.0	-2.3		100.0			100.0	
1992	1461	97.7	-2.3	353	101.5	1.5	1094	96.6	-3.4
1993	1573	94.6	-3.2	397	103.9	2.4	1146	91.1	-5.7
1994	1622	87.8	-7.2	413	100.1	-3.7	1187	82.9	-9.0
1995	1852	85.2	-2.9	455	98.1	-2.0	1372	80.2	-3.3
1996	2040	83.5	-2.0	490	94.8	-3.4	1519	79.1	-1.3
1997	2289	81.7	-2.2	511	94.7	-0.1	1748	77.9	-1.6

Table O-4 shows price trends when disaggregated by drug group. In Ontario generic manufacturers[44] have experienced price declines of over 30% since 1991 while brand name manufacturers have lowered their prices by 1.4%.

For each group of interchangeable drug products that included at least one brand name product and one generic product, a generic to brand name price ratio was calculated.[45] The median generic-to-brand price ratio in 1997 was 74.4%, in other words 50% of all generic drug products were priced below 74.4% of the brand name equivalent and 50% were priced at least 74.4% of the brand name. The decline in the generic share of the total drug expenditures, from 34.1% to 23.1%, over the 1991 to 1997 period, may be attributable to falling prices of multiple source drug products and not necessarily to the decline in the number of prescriptions of generic drugs.

[44] See Appendix 2: *Provincial Drug Price Analysis*: Methodology a complete list of generic and brand name manufacturers.

[45] For the purpose of this paper, an interchangeable group of drug products is comprised of the drug products which share a unique combination of active ingredient(s), strength(s), dosage form, and route of administration.

Table O-4

Relationship of Generic to Brand Name Drug Prices
Ontario, 1991 to 1997

Year	Generic			Brand Name			Generic to Brand Name		% Generic Share of Ontario Expenditure
	# DINs	Index	% Change	# DINs	Index	% Change	# Products	% Median Price Ratio	
1991		100.0			100.0		201	78.0	34.1
1992	585	94.4	-5.6	647	102.0	2.0	214	73.6	29.1
1993	605	84.4	-10.6	683	103.5	1.5	207	75.8	24.7
1994	627	74.1	-12.2	706	100.8	-2.6	226	70.2	26.1
1995	699	71.4	-3.7	827	100.2	-0.6	250	71.5	25.9
1996	772	70.6	-1.1	951	99.2	-1.0	283	74.1	25.9
1997	909	69.7	-1.3	1068	98.6	-0.6	307	74.4	23.1

Table O-5 shows the distribution of generic to brand name price ratios; 62 drug products or 20.2% of generic prices were between 90% and 100% of the brand name price and 46 or 15% of the products was the generic price less than half the brand name price. It is interesting note that in 43 cases generic drug prices were higher than the brand name price. As in the other provinces, the largest groups of generics were priced between 50% and 75% of the brand name price.

Table O-5

Distribution of Generic-to-Brand Name Drug Price Ratios
Ontario, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	46	15.0
between 50% & 75% of the Brand Name price	118	38.4
between 75% & 90% of the Brand Name price	38	12.4
between 90% & 100% of the Brand Name price	62	20.2
between 100% & 110% of the Brand Name price	37	12.1
more than 110% of the Brand Name price	6	1.9
TOTAL	**307**	**100.0**

Table O-6 shows the number of non-patented drugs which have increased in price by more than consumer price index (CPI). During 1992 and 1993 a large number of drug products had price increases in excess of CPI. Half of these drug products increased by 3.5% and 4.1% in 1992 and 1993, respectively. By 1994 the province had implemented a price freeze policy, which mandated that no list price of any drug product may rise. However, transactions data suggests that in 1994, 187 drug products increased in price by more than the CPI. The median price change for this group was 3.5%. In 1997, 245 drug products increased in price by more than CPI. Of these 245 drug products, 123 experienced price increases of at least 4.1%.

Table O-6

Non-Patented Drug Product that Increased by more than CPI Ontario, 1991 to 1997

Year	#	CPI %	Median Increase %	Revenues (millions)
1992	490	1.5	3.5	$126.0
1993	526	1.8	4.1	$155.5
1994	187	0.2	3.5	$47.5
1995	334	2.1	4.6	$65.5
1996	242	1.6	4.6	$63.9
1997	245	1.6	4.1	$35.5

Table O-7 expands on the information shown in the previous table and provides the distribution of price changes by magnitude of price change for 1997. In 1997, 67 or 27% of the non-patented drug products that increased in price by more than did the CPI increased by at least 10%.

Table O-7

Distribution of non-patented drugs whose prices increased by more than CPI Ontario, 1997

Price Change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	81	33.1
Between 3% and 5%	59	24.1
Between 5% and 10%	38	15.5
Between 10% and 15%	25	102.0
Between 15% and 50%	35	14.3
Over 50%	7	2.9
TOTAL	**245**	**100.0**

10.0 NOVA SCOTIA

10.1 General Information

The Nova Scotia Government provides prescription drug coverage through both the Department of Health (DOH) and the Department of Community Services (CS). The Senior's Pharmacare Program, began October 1, 1974, Community Service Pharmacare Plans, began in September 1, 1975 and the first Special Drug Plan (DOH) began October 1, 1976, with new special drug plans being added as recently as August 1, 1998. The Programs are administered by Maritime Medical Care Inc. for the Insured Programs Branch of the Nova Scotia Department of Health.

10.2 Beneficiaries Covered

Seniors' Pharmacare Program is available to all Nova Scotia seniors 65 years of age or older.

The Department of Community Services provides drug insurance to recipients of Family Benefits, Income Assistance and Disabled Programs. Eligibility for these income based programs is determined by the Department of Community Services.

Special Drug Programs cover disease specific drugs and are designed to assist Nova Scotia residents with cystic fibrosis, diabetes insipidus, human growth hormone deficiency, multiple sclerosis, HIV/AIDS and cancer patients. Eligibility requirements vary for each program.

10.3 Deductibles, Co-payments and Professional Fees

Seniors' Pharmacare has a premium of $215 per individual per year, although a rebate of up to $300 is available for low income seniors. Seniors also have a 20% co-payment (minimum of $3.00) to an annual maximum of $200. Family Benefit recipients have a 20% co-payment (minimum of $3.00) to an annual maximum of $150 per year, and Income Assistance copay is $3 per prescription with no yearly limit. Community Services disabled persons plan does not require any co-payments.

10.4 Cost Reimbursements

Pharmacies are reimbursed their "actual acquisition cost" on all products except those that are subject to a Maximum Allowable Cost (MAC) . For any drug grouping deemed "interchangeable" a MAC price is set and all drugs in the group are reimbursed at this level, regardless of their actual cost. Beneficiaries can choose any product they wish, within a MAC group, but they must pick up any incremental costs above the MAC reimbursement level.

10.5 Cost and Service Data (drug claims only)

The total cost of drugs dispensed through the Senior's Pharmacare Program and the Pharmacare Programs of Family Benefits programs, was approximately $110 million in 1997/98.

10.6 Major Changes since 1990

- In 1990, introduced Maximum Allowable Cost (MAC): only pay lowest in interchangeable category; Co-pay introduced: $3.00 per Rx to $150 annual maximum.
- In 1991, Co-pay is increased to 20% per Rx to $150 annual maximum.
- In 1993, Co-pay increased to $400 per year maximum for non-GIS seniors, $150 per year for low income seniors (GIS); Trial prescription Program (part-fill on high cost drugs with high incidence of ADR).
- In 1995, the new Nova Scotia Senior's Pharmacare Program was implemented with an annual premium of $215 per year. A maximum co-payment level was set at $200 for all registered seniors (previously at $150 for GIS recipients and $400 for non-GIS recipients). A rebate plan was also set up with a maximum payment of $300 for low income seniors.
- June 1996 - New Formulary Published
- Sept. 1996 - Seniors were permitted to opt out of Nova Scotia Seniors' Pharmacare Program.
- Other benefit adjustments: de-listed cough and cold preparations, Antihistamines, Compounds, Anorexients, Oral vitamin and mineral preparations, calcium supplements, exception status for high cost specialized drugs
- November 1997, Professional Fee set at $8.65; if drug cost is over $105 fee is increased to $12.98 (1.5 times regular fee)
- Data was only available for Nova Scotias' top 500 selling drugs at estimated manufacturer's prices. The results for Nova Scotia therefore differ from the other five provinces as in that they are based only upon a sample at the ex-factory level.

10.7 Price Trends: Nova Scotia

The price trend analysis for Nova Scotia is based on the top 500 selling drugs in each year. These drugs represented between 80% and 90% of Nova Scotia's public drug expenditures. The prices of these drugs are the price at which the manufacturer sold the product. The analysis of Nova Scotia's price trends are therefore based upon a different level of trade than the other five provinces. The price trends reported in this section should be compared to the trends of the other five provinces reported in the body of the study with some caution as Nova Scotia's prices do not generally include wholesale and retail mark-ups while the analysis of the other provinces does include these mark-ups. If wholesale and retail mark-ups do not change from year to year then trends calculated from manufacturer's prices are probably similar to

retail price trends. Appendix 1 contains a complete set of price trends results calculated at the estimated ex-factory gate for British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario. These trends are directly comparable to the trends for Nova Scotia found in this section.

As shown in Table N-1, overall prices in Nova Scotia for All Drugs have fallen by almost five percent over the 1993 to 1997 period. In particular, non-patented drugs products have fallen by about 10% and patented drugs have increased by almost two percent.

Table N-1

Pharmaceutical Price Trend
Nova Scotia, 1993 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1992		100.0			100.0			100.0	
1993	448	100.5	0.5	326	95.8	-4.2	122	103.8	3.8
1994	455	103.5	3.0	338	98.4	2.7	117	106.5	2.6
1995	452	100.5	-2.9	333	95.7	-2.7	119	102.7	-3.6
1996	475	97.6	-2.9	345	94.2	-1.6	130	97.8	-4.7
1997	473	95.1	-2.6	339	89.8	-4.7	134	97.6	-0.2

Table N-2 shows the cost to the DOH&DOC and their beneficiaries, of the drugs products included in the study in each year. This is not intended to be an estimate of the DOH&DOC's drug costs. There are two reasons why the "All Drugs" column will not equal the DOH&DOC drug budget. First, there are many DINs which have been excluded from this study.[46] Secondly, drug cost include amounts which may have been paid for by beneficiaries such as deductibles, and co-payment changes.

A common misunderstanding is that 'Brand Name' companies sell mainly patented drug products. As shown in Table N-2, total expenditures on brand name drug products (C) exceeded total expenditures of patented drug products (A) by over $9 million per year. In other words, brand name company sales were divided substantially between patented and non-patented drugs. Furthermore, generic drug expenditures, (D) made up about one half of total non-patented drug expenditures, (B) over this time period.

[46] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for exclusion criteria.

Table N-2

Expenditures on Drug Products included in Study, by Category Nova Scotia, 1992 to 1997 (in millions)							
Year	**All Drugs =A+B =C+D >=E+F**	**All Patented Drugs (A)**	**All Non-Patented Drugs (B)**	**All Brand Name Drugs (C)**	**All Generic Drugs (D)**	**Single Source Drugs (E)**	**Multiple Source Drugs (F)**
1992	$46.3	$19.6	$26.7	$37.1	$10.8	$19.3	$27.0
1993	$47.9	$21.2	$26.7	$35.9	$12.0	$20.4	$23.3
1994	$50.2	$17.2	$33.0	$34.8	$15.3	$20.9	$28.5
1995	$57.4	$21.8	$35.6	$40.1	$17.3	$21.9	$34.0
1996	$46.9	$20.5	$26.3	$32.8	$14.1	$16.8	$29.1
1997	$42.1	$22.8	$19.3	$31.3	$10.8	$13.6	$26.3

The price trends of non-patented drug products disaggregated by single and multiple source[47] are shown in Table N-3. Prices of non-patented multiple source drug products have fallen every year from 1995 to 1997. The only year in which price for non-patented multiple source drug increased was 1994, when prices increased by 2.1%. By 1997, non-patented multiple source drugs were, on average, 12.2% lower than in 1992. Prices of non-patented single source drugs increased in 1993 and 1994, and fell in 1995 and 1997. By 1997 non-patented single source drugs had become on average 4.9% higher than in 1992.

Table N-3

Non-Patented Drug Price Trend Nova Scotia, 1992 to 1997									
Year	**All Non-Patented**			**Non-Patented Single Source**			**Non-Patented Multiple Source**		
	# DINs	**Index**	**% Change**	**# DINs**	**Index**	**% Change**	**# DINs**	**Index**	**% Change**
1992		100.0			100.0			100.0	
1993	326	95.8	-4.2	83	105.5	5.5	233	91.8	-8.2
1994	338	98.4	2.7	84	109.5	3.8	246	93.7	2.1
1995	333	95.7	-2.7	76	105.8	-3.4	249	91.5	-2.4
1996	345	94.2	-1.6	76	106.7	0.9	259	89.6	-2.0
1997	339	89.8	-4.7	76	104.9	-1.7	254	87.8	-5.5

[47] See Appendix 2: *Provincial Drug Price Analysis*: Methodology for a definition of multiple and single sourced drugs.

Table N-4 shows price trends when disaggregated by drug group. In Nova Scotia generic manufactures[48] have experienced price declines of 23% since 1992 while brand name manufacturers have lowered the prices of their products which are subject to generic competition by 2.6%

For each group of interchangeable drug products that included at least one brand name product and one generic product both amongst the top 500 selling drug products, a generic to brand name price ratio was calculated.[49] The median generic-to-brand price ratio in 1997 was 84.6%, in other words 50% of all generic drug products were priced below 84.6% of the brand name equivalent and 50% were priced at least 84.6% of the brand name. The generic share of the total drug expenditures, has wavered between 18.2% and 26.3%.

Table N-4

Relationship of Generic to Brand Name Drug Prices
Nova Scotia, 1992 to 1997

Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Nova Scotia Expenditure
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1992		100.0			100.0		1	61.9	21.1
1993	135	83.7	-16.3	39	101.0	1.0	6	90.3	18.2
1994	147	85.0	1.6	35	104.2	3.2	10	85.8	25.0
1995	146	82.7	-2.8	32	100.2	-3.9	8	83.7	26.3
1996	171	80.9	-2.1	27	97.4	-2.8	7	84.1	25.2
1997	165	78.2	-3.4	26	97.3	-0.1	16	84.6	20.6

[48] See Appendix 2: *Provincial Drug Price Analysis*: Methodology a complete list of generic and brand name manufacturers.

[49] For the purpose of this paper, an interchangeable group of drug products is comprised of the drug products which share a unique combination of active ingredient(s), strength(s), dosage form, and route of administration.

Table N-5 shows the distribution of generic to brand name price ratios; 4 products or 25% of generic prices were between 90% and 100% of the brand name price and 2 or 12.5% of the products was the generic price between half and three quarters of the brand name price. In 3 cases the generic price appeared to be greater than or equal to the brand name price.

Table N-5

Distribution of Generic-to-Brand Name Drug Price ratios
Nova Scotia, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	0	0.0
between 50% & 75% of the Brand Name price	2	12.5
between 75% & 90% of the Brand Name price	7	43.8
between 90% & 100% of the Brand Name price	4	25.0
between 100 and 110% of the Brand Name price	1	6.3
more than 110% more of the Brand Name price	2	12.5
Total	**16**	**100.0**

Table N-6 shows the number of non-patented drugs which have increased in price by more than consumer price inflation as defined by the CPI. During 1993 and 1994 a large number of drug products had price increases in excess of CPI. These drug products saw median increases of 11% and 5.4% in 1993 and 1994, respectively. In 1997, 40 drug products increased in price by more than CPI. The median increase for this group was 2.4%.

Table N-6

Non-Patented Drug Prices that Increased by more than CPI
Nova Scotia, 1991 to 1997

Year	#	CPI%	Median Increase %	Expenditure (millions)
1993	190	1.8	11.0	$17.2
1994	240	0.2	5.4	$24.9
1995	15	2.1	7.7	$1.2
1996	98	1.6	3.8	$4.9
1997	40	1.6	2.4	$1.0

Table N-7

Distribution of non-patented drugs whose prices increased by more than CPI Nova Scotia, 1997		
Price Change	**Number of Drug Products**	**% of Total**
Between 1.6% (CPI) and 3%	27	67.5
Between 3% and 5%	4	10.0
Between 5% and 10%	5	12.5
Between 10% and 15%	1	2.5
Between 15% and 50%	1	2.5
Over 50%	2	5.0
TOTAL	**40**	**100.0**

Table N-7 expands on the information shown in the previous table and provides the distribution of price changes by magnitude of price change for 1997. In 1997, 4 or 10% of the non-patented drug products that increased in price by more than the CPI increased by at least 10%, while 27 increased in price by more than CPI but less than 3%.

APPENDIX 1

PROVINCIAL PRICE TRENDS OF EX-FACTORY PRICES

This appendix provides price trend information for each province using "estimated" derived manufacturers' ex-factory prices. It shows the same trends as presented in the main body of the report.

Estimated ex-factory gate prices are based on wholesale and retail mark-up information provided by the drug plan authorities in each province. The wholesale and retail mark-ups (where applicable) were removed from submitted price information to establish an estimate for manufacturers' ex-factory prices.

The limitation of using estimated manufacturers' ex-factory prices is that the wholesale and retail mark-ups may represent the maximum allowed in a given province. Therefore, wholesalers and retailers may take less resulting in an understatement of manufacturers' ex-factory prices.

BRITISH COLUMBIA

Table B-1A

Pharmaceutical Ex-Factory Price Trend
British Columbia, 1991 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	2567	105.2	5.2	2319	105.1	5.1	248	105.5	5.5
1992	2720	109.4	4.0	2439	108.8	3.5	281	110.5	4.7
1993	2869	110.0	0.5	2569	109.2	0.4	300	111.2	0.7
1994	2852	109.5	-0.4	2535	108.6	-0.6	317	111.1	-0.1
1995	3030	108.9	-0.6	2721	107.7	-0.8	309	110.8	-0.3
1996	3243	111.0	2.0	2912	109.6	1.8	331	113.1	2.1
1997	3414	111.7	0.6	3075	109.6	0.0	339	114.7	1.4

Table B-2A

Expenditures on Drug Products by Category
British Columbia, 1990 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1990	$132.8	$41.9	$91.1	$118.4	$13.8	$79.4	$69.8
1991	$152.9	$52.6	$100.3	$135.3	$17.6	$78.8	$73.0
1992	$179.1	$64.4	$114.7	$160.3	$18.9	$93.5	$81.9
1993	$197.7	$74.7	$123.0	$177.9	$19.8	$91.4	$88.9
1994	$203.2	$79.7	$123.5	$168.5	$34.8	$96.5	$101.0
1995	$220.0	$88.0	$132.1	$170.9	$49.3	$98.9	$112.7
1996	$212.7	$87.3	$125.4	$162.4	$50.5	$86.3	$118.7
1997	$233.7	$115.1	$118.7	$181.9	$52.1	$93.3	$127.7

Table B-3A

Non-Patented Drugs Ex-Factory Price Trend in British Columbia

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	2319	105.1	5.1	642	105.6	5.6	1650	104.8	4.8
1992	2439	108.8	3.5	663	111.1	5.2	1752	107.4	2.5
1993	2569	109.2	0.4	670	113.3	2.0	1850	106.5	-0.9
1994	2535	108.6	-0.6	638	114.2	0.8	1858	104.5	-1.8
1995	2721	107.7	-0.8	661	114.1	-0.1	2030	103.3	-1.2
1996	2912	109.6	1.8	671	117.1	2.6	2197	105.1	1.8
1997	3075	109.6	0.0	661	117.8	0.6	2365	104.9	-0.2

Table B-4A

Relationship of Generic to Brand Name Drug Prices
British Columbia, 1990 to 1997

Year	Generic			Brand NameDrug Products with Generic Competitors			Generic to Brand Name		% Generic Share of BC Pharmacare
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1990		100.0			100.0		254	61.2	9.6
1991	738	100.3	0.3	1116	106.1	6.1	272	34.9	8.7
1992	814	97.4	-2.9	1163	111.1	4.7	282	59.3	9.5
1993	857	88.1	-9.5	1235	113.3	2.0	321	59.0	9.4
1994	895	82.3	-6.6	1235	113.3	0.0	349	63.6	5.8
1995	1000	81.3	-1.3	1304	112.4	-0.8	374	70.9	4.5
1996	1137	82.4	1.4	1356	114.3	1.7	410	70.9	4.2
1997	1275	82.5	0.1	1402	114.3	0.0	394	68.5	4.5

Table B-5A

Distribution of Generic-to-Brand Name Drug Price Ratios
British Columbia, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	93	23.6
between 50% & 75% of the Brand Name price	152	38.6
between 75% & 90% of the Brand Name price	60	15.2
between 90% & 100% of the Brand Name price	57	14.5
between 100 and 110% of the Brand Name price	23	5.8
more than 110% of the Brand Name price	9	2.3
TOTAL	**394**	**100.0**

Table B-6A

Non-Patented Drug Prices that Increased by more than CPI British Columbia, 1991 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Expenditure (millions)**
1991	981	5.6	8.6	$43.1
1992	1530	1.5	5.6	$93.6
1993	1175	1.8	4.3	$50.6
1994	1536	0.2	2.1	$82.6
1995	663	2.1	5.8	$9.4
1996	1920	1.6	4.1	$87.2
1997	1589	1.6	3.5	$52.7

Table B-7A

Distribution of non-patented drugs whose prices increased by more than CPI British Columbia, 1997		
Price change	**Number of Drug Products**	**% of Total**
Between 1.6% (CPI) and 3%	643	40.5
Between 3% and 5%	396	24.9
Between 5% and 10%	305	19.2
Between 10% and 15%	108	6.8
Between 15% and 50%	123	7.7
Over 50%	14	0.9
TOTAL	**1589**	**100.0**

ALBERTA

Table A-1A

Pharmaceutical Ex-Factory Price Trend
Alberta, 1994 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1993		100.0			100.0			100.0	
1994	2236	98.4	-1.6	2011	97.6	-2.4	225	99.6	-0.4
1995	2537	97.9	-0.5	2274	97.3	-0.3	263	98.9	-0.7
1996	2674	97.3	-0.6	2400	96.8	-0.5	274	97.8	-1.1
1997	2773	97.9	0.6	2470	96.9	0.1	303	98.9	1.1

Table A-2A

Expenditures on Drug Products included by Category
Alberta, 1993 to 1997
(in millions)

Year	All Drugs =A+B =C+D =E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1993	$110.8	$45.5	$65.3	$99.1	$9.6	$51.6	$64.9
1994	$137.7	$52.1	$85.6	$115.9	$21.8	$76.0	$59.8
1995	$183.7	$80.1	$103.7	$150.2	$33.5	$90.8	$83.1
1996	$186.9	$85.9	$101.0	$155.1	$31.8	$91.9	$87.2
1997	$240.3	$143.7	$96.6	$207.9	$32.5	$105.1	$126.9

Table A-3A

Non-Patented Drug Ex-Factory Price Trend in Alberta									
Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1993		100.0			100.0			100.0	
1994	2011	97.6	-2.4	462	99.8	-0.2	1523	95.8	-4.2
1995	2274	97.3	-0.3	515	99.7	-0.1	1737	95.2	-0.6
1996	2400	96.8	-0.5	522	100.3	0.6	1841	94.3	-1.0
1997	2470	96.9	0.1	510	102.2	1.9	1922	93.2	-1.1

Table A-4A

Relationship of Generic to Brand Names Drug Prices Alberta, 1993 to 1997									
Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Alberta Health Drug Benefits
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1993		100.0			100.0		256	56.9	8.7
1994	786	96.8	-3.2	906	97.3	-2.7	312	62.0	15.8
1995	901	94.3	-2.6	1024	98.7	1.4	333	63.5	18.2
1996	996	93.2	-1.2	1048	97.6	-1.1	353	65.7	17.0
1997	1088	91.7	-1.6	1060	97.7	0.1	313	67.5	13.5

Table A-5A

Distribution of Generic-to-Brand Name Drug Price Ratios Alberta, 1997		
Generic price is	**# of Products**	**% of Total**
less than half the Brand Name price	86	27.5
between 50% & 75% of the Brand Name price	123	39.3
between 75% & 90% of the Brand Name price	36	11.5
between 90% & 100% of the Brand Name price	49	15.6
between 100% & 110% of the Brand Name price	14	4.5
more than 110% of the Brand Name price	5	1.6
TOTAL	**313**	**100.0**

Table A-6A

Non-Patented Drug Prices that Increased by more than CPI Alberta, 1994 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Expenditure (millions)**
1994	382	0.2	5.0	$16.7
1995	279	2.1	5.1	$7.8
1996	392	1.6	5.0	$15.2
1997	383	1.6	3.8	$36.0

Table A-7A

Distribution of non-patented drugs whose prices increased by more than CPI Alberta, 1997		
Price change	**Number of Drug Products**	**% of Total**
Between 1.6% (CPI) and 3%	45	11.8
Between 3% and 5%	184	48.0
Between 5% and 10%	97	25.3
Between 10% and 15%	35	9.1
Between 15% and 50%	22	5.7
Over 50%	0	0.0
TOTAL	**383**	**100.0**

SASKATCHEWAN

Table S-1A

Pharmaceutical Ex-Factory Price Trend
Saskatchewan, 1991 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	1822	101.4	1.4	1616	99.7	-0.3	206	103.5	3.5
1992	1892	104.5	3.1	1668	102.7	3.0	224	106.6	3.0
1993	1969	109.1	4.4	1763	110.1	7.2	206	106.5	-0.1
1994	2175	108.9	-0.2	1956	109.6	-0.4	219	106.5	0 .2
1995	2563	109.5	0.5	2306	110.5	0.8	257	106.4	-0.1
1996	2677	107.7	-1.6	2383	108.1	-2.2	294	105.9	-0.5
1997	3231	109.7	1.8	2881	108.4	0.3	350	108.5	2.5

Table S-2A

Expenditures on Drug Products by Category
Saskatchewan, 1990 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1990	$66.0	$29.2	$36.8	$54.6	$10.5	$36.6	$36.3
1991	$69.7	$31.6	$38.0	$56.4	$13.3	$36.8	$32.3
1992	$73.3	$31.8	$41.5	$58.0	$15.3	$38.1	$33.9
1993	$67.5	$26.2	$41.2	$54.3	$13.1	$27.6	$31.5
1994	$64.2	$21.3	$42.9	$50.0	$14.2	$28.3	$34.0
1995	$76.9	$25.6	$51.3	$55.8	$21.1	$27.0	$45.4
1996	$77.2	$35.1	$42.1	$61.3	$15.9	$29.3	$46.0
1997	$95.2	$42.8	$52.4	$71.9	$23.3	$32.0	$59.2

Table S-3A

Non-Patented Drugs Ex-Factory Price Trend in Saskatchewan									
Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1990		100.0			100.0			100.0	
1991	1522	99.7	-0.3	409	102.4	2.4	1191	98.5	-1.5
1992	1580	102.7	3.0	408	105.0	2.5	1241	101.9	3.5
1993	1685	110.1	7.2	424	106.1	1.1	1303	112.2	10.1
1994	1874	109.6	-0.4	455	106.6	0.5	1463	111.3	-0.8
1995	2215	110.5	0.8	503	106.5	-0.1	1767	112.7	1.2
1996	2305	108.1	-2.2	440	107.6	1.0	1619	108.4	-3.8
1997	2760	105.6	-2.3	497	107.4	-0.2	1971	109.3	0.8

Table S-4A

Relationship of Generic to Brand Names Drug Prices Saskatchewan, 1990 to 1997									
Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Sask. Expenditure
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1990		100.0			100.0		184	41.8	15.9
1991	629	94.0	-6.0	744	103.4	3.4	191	40.0	19.1
1992	654	97.8	4.0	771	106.2	2.7	198	44.0	20.9
1993	665	115.5	18.1	815	107.7	1.4	213	53.0	19.4
1994	753	112.6	-2.5	896	108.8	1.0	247	55.7	22.1
1995	887	113.6	0.9	1089	109.7	0.9	281	60.0	27.4
1996	945	106.2	-6.5	996	109.5	-0.2	329	61.5	20.6
1997	1214	106.0	-0.2	1167	112.0	2.3	328	63.9	24.5

Table S-5A

Distribution of Generic-to-Brand Name Drug Price Ratios Saskatchewan, 1997		
Generic price is	**# of Products**	**% of Total**
less than half the Brand Name price	115	35.1
between 50% & 75% of the Brand Name price	115	35.1
between 75% & 90% of the Brand Name price	34	10.3
between 90% & 100% of the Brank Name price	36	11.0
between 100% & 110% of the Brand Name price	20	6.1
more than 110% of the Brand Name price	8	2.4
TOTAL	**328**	**100.0**

Table S-6A

Non-Patented Drug Prices that Increased by more than CPI Saskatchewan, 1991 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Expenditure (millions)**
1991	237	5.6	10.2	$1.8
1992	897	1.5	3.7	$28.4
1993	855	1.8	6.7	$19.6
1994	1027	0.2	4.2	$13.7
1995	674	2.1	5.9	$14.0
1996	770	1.6	5.9	$8.8
1997	1961	1.6	3.3	$34.5

Table S-7A

Distribution of non-patented drugs whose prices increased by more than CPI Saskatchewan, 1997		
Price change	**Number of Drug Products**	**% of Total**
Between 1.6% (CPI) and 3%	816	41.6
Between 3% and 5%	624	31.8
Between 5% and 10%	346	17.6
Between 10% and 15%	76	3.9
Between 15% and 50%	88	4.5
Over 50%	11	0.6
TOTAL	**1961**	**100.0**

MANITOBA

Table M-1A

Pharmaceutical Ex-Factory Price Trend
Manitoba, 1995 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1995		100.0			100.0			100.0	
1996	2495	98.5	-1.5	2169	98.1	-1.9	326	99.0	-1.0
1997	2723	96.5	-2.0	2360	94.5	-3.7	363	99.1	0.1

Table M-2A

Expenditures on Drug Products by Category
Manitoba, 1995 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1995	$93.3	$36.0	$57.4				
1996	$89.3	$37.7	$51.6	$63.0	$26.3	$31.5	$54.9
1997	$100.1	$49.7	$50.4	$73.1	$27.1	$34.0	$61.4

Table M-3A

Non-Patented Drugs Ex-Factory Price Change in Manitoba

Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1995		100.0			100.0			100.0	
1996	2169	98.1	-1.9	469	99.0	-1.0	1637	97.8	-2.2
1997	2360	94.5	-3.7	477	93.9	-5.2	1792	94.9	-3.0

Table M-4A

Relationship of Generic to Brand Name Drug Prices
Manitoba, 1995 to 1997

Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Manitoba Pharmacare
	# DINs	Index	% Growth	# DINs	Index	% Growth	# Cases	% Median Price Ratio	
1995		100.0			100.0		266	76.4	
1996	808	97.2	-2.8	1055	98.4	-1.6	321	78.1	29.5
1997	920	93.9	-3.4	1122	97.2	-1.2	307	74.7	27.1

Table M-5A

Distribution of Generic-to-Brand Name Drug Price Ratios
Manitoba, 1997

Generic price is	# of Products	% of Total
less than half the Brand Name price	75	24.4
between 50% & 75% of the Brand Name price	80	26.1
between 75% & 90% of the Brand Name price	52	16.9
between 90% & 100% of the Brand Name price	39	12.7
between 100 and 110% of the Brand Name price	43	14.0
over 110% more of the Brand Name price	18	5.9
TOTAL	**307**	**100.0**

Table M-6A

Non-Patented Drug Prices that Increased by more than CPI
Manitoba, 1995 to 1997

Year	#	CPI%	Median Increase %	Expenditure (millions)
1996	567	1.6	5.3	$7.3
1997	680	1.6	4.5	$10.1

Table M-7A

Distribution of non-patented drugs whose prices increased by more than CPI Manitoba, 1997

Price change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	220	32.4
Between 3% and 5%	153	22.5
Between 5% and 10%	138	20.3
Between 10% and 15%	54	7.9
Between 15% and 50%	100	14.7
Over 50%	15	2.2
TOTAL	**680**	**100.0**

ONTARIO

Table O-1A

Pharmaceutical Ex-Factory Price Trend
Ontario, 1990 to 1997

Year	All Drugs			Non-Patented			Patented		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1991		100.0			100.0			100.0	
1992	1648	99.4	-0.6	1454	97.6	-2.4	194	102.4	2.4
1993	1773	97.4	-2.0	1565	94.3	-3.4	208	103.1	0.7
1994	1817	87.9	-9.8	1614	83.1	-11.9	203	96.9	-6.0
1995	2082	83.0	-5.5	1848	77.2	-7.0	234	94.0	-3.0
1996	2342	82.0	-1.2	2038	75.7	-2.0	304	93.6	-0.4
1997	2647	81.4	-0.8	2286	74.0	-2.2	361	93.3	-0.4

Table O-2A

Expenditures on Drug Products by Category
Ontario, 1990 to 1997
(in millions)

Year	All Drugs =A+B =C+D >=E+F	All Patented Drugs (A)	All Non-Patented Drugs (B)	All Brand Name Drugs (C)	All Generic Drugs (D)	Single Source Drugs (E)	Multiple Source Drugs (F)
1991	$313.0	$112.3	$201.1	$206.2	$106.9	$134.3	$176.2
1992	$637.6	$249.9	$387.7	$452.3	$185.2	$307.8	$322.1
1993	$732.2	$288.5	$443.7	$552.1	$180.1	$309.3	$349.9
1994	$686.6	$272.0	$414.6	$507.9	$178.8	$316.9	$369.2
1995	$765.8	$330.5	$435.3	$567.9	$197.9	$361.4	$402.9
1996	$814.3	$360.0	$454.4	$604.2	$210.1	$379.1	$449.4
1997	$921.1	$499.9	$421.1	$709.0	$212.1	$399.2	$500.0

Table O-3A

Non-Patented Drug Ex-Factory PriceTrend in Ontario									
Year	All Non-Patented			Non-Patented Single Source			Non-Patented Multiple Source		
	# DINs	Index	% Change	# DINs	Index	% Change	# DINs	Index	% Change
1991		100.0			100.0			100.0	
1992	1454	97.6	-2.4	353	101.5	1.5	1087	96.4	-3.6
1993	1565	100.0	-3.4	397	100.0	2.4	1138	100.0	-6.0
1994	1614	88.1	-11.9	413	91.5	-8.5	1179	86.4	-13.6
1995	1848	81.9	-7.0	454	85.7	-6.3	1369	80.1	-7.3
1996	2038	80.3	-2.0	490	82.8	-3.4	1517	79.1	-1.3
1997	2286	78.5	-2.2	511	82.7	-0.1	1746	77.8	-1.6

Table O-4A

Relationship of Generic to Brand Names Drug Prices Ontario, 1990 to 1997									
Year	Generic			Brand Name Drug Products with Generic Competitors			Generic to Brand Name		% Generic Share of Ontario Expenditure
	# DINs	Index	% Change	# DINs	Index	% Change	# Cases	% Median Price Ratio	
1991		100.0			100.0		196	78.3	34.2
1992	578	94.3	-5.7	647	101.7	1.7	210	73.6	29.4
1993	598	84.3	-10.6	683	102.7	1.0	208	75.5	24.6
1994	620	70.1	-16.8	706	94.8	-7.7	224	70.6	26.0
1995	692	64.7	-7.7	829	90.2	-4.9	250	71.9	25.8
1996	764	64.0	-1.1	954	89.3	-1.0	283	74.1	25.8
1997	901	63.2	-1.3	1073	88.7	-0.6	275	73.1	23.0

Table -5A

Distribution of Generic-to-Brand Name Drug Price Ratios Ontario, 1997		
Generic price is	**# of Products**	**% of Total**
less than half the Brand Name price	42	15.3
between 50% & 75% of the Brand Name price	109	39.6
between 76% & 90% of the Brand Name price	20	7.3
between 90% & 100% of the Brand Name price	61	22.2
between 100% & 110% of the Brand Name price	38	13.8
more than 110% of the Brand Name price	5	1.8
TOTAL	**275**	**100.0**

Table O-6A

Non-Patented Drug Prices that Increased by more than CPI Ontario, 1991 to 1997				
Year	**#**	**CPI%**	**Median Increase %**	**Revenues (millions)**
1992	486	1.5	3.5	$121.9
1993	524	1.8	4.1	$152.3
1994	68	0.2	7.6	$5.9
1995	113	2.1	9.4	$9.6
1996	241	1.6	4.6	$58.2
1997	244	1.6	4.1	$32.3

The results as shown in Table O-6A require some explanation in light of the Ontario Drug Benefits Program price freeze in effect since 1994. Ontario Drug Benefits Program price freeze applies exclusively to manufacturers' list prices. Transaction prices are allowed to fluctuate so long as they did not exceed the manufacturers list price (plus ten percent for wholesale and retail mark-ups). If a manufacturer offers a drug at a discount one year and cancels it the following year, the manufacturer may still be in compliance with ODB's price freeze but analysis of transaction data would show that their price had increased. The discontinuing of special price offers appear to explain some of the drugs that increased by more CPI during the ODB's price freeze. Similarly this may explain some non-patented drug price increases in other provinces as well.

Manufacturer's whose drugs are affected by the price freeze can choose to disregard it. In instances where the manufacturer charges more than the maximum allowed by the ODB, the pharmacist must submit a "Cost to Operator" claim to be reimbursed for costs in excess formulary price. Many of the drugs identified in Table O-6A are cases where there were "Cost to Operator" claims.

The ODB will also reimburse patients for some drugs which are not listed on the ODB formulary, the prices of these drugs are not affected by the price freeze.

Table O-7A

Distribution of non-patented drugs whose prices increased by more than CPI Ontario, 1997

Price change	Number of Drug Products	% of Total
Between 1.6% (CPI) and 3%	81	33.2
Between 3% and 5%	58	23.8
Between 5% and 10%	38	15.6
Between 10% and 15%	25	10.2
Between 15% and 50%	35	14.3
Over 50%	7	2.9
TOTAL	**244**	**100.0**

APPENDIX 2

PROVINCIAL DRUG PRICE ANALYSIS

METHODOLOGY

What are Indexes?

Indexes are used widely by statistical agencies to provide a one-dimensional measure of complex issues. The most common application of indexes is to measure changes in the 'cost-of-living'.

Canadians consume thousands of goods and services on a daily basis, the prices of which may rise and fall depending upon market forces. To estimate the overall impact of these myriad price changes upon the Canadian cost-of-living Statistics Canada calculates the Consumer Price Index (CPI). The CPI estimates the cost of buying a basket of goods today in terms of what that basket cost in the base year of 1986. In August 1997 CPI was 138.2 which means that it would cost 38.2% more in that month to buy the goods and services which make up that basket then it did in 1986. Furthermore in August 1996 the CPI was only 135.7 therefore during the year ending July 30, 1997 the cost of buying the basket rose by 1.8%.

The importance of these results is due to the fact that the basket of goods is designed to be representative of Canadian consumption patterns. Therefore to purchase exactly the basket of goods and services in August 1997 as he or she bought in August 1996 the average Canadian will need approximately 1.8% more money.

Indexes are used to measure more than consumer prices. For example, indexes are commonly used to measure producer prices, international trade, economic activity, job vacancies, and stock market trading.

In Canada there are two pharmaceutical price indexes which are available. Statistics Canada is responsible for the pharmaceutical component of the Industrial Product Price Index (IPPI Pharma). There is also the Patented Medicines Price Index (PMPI) which is calculated by the Patented Medicines Prices Review Board (PMPRB). Both indexes are based upon ex-factory gate prices and therefore exclude wholesale and retail margins as well as dispensing fees and while the IPPI Pharma is based upon a sample of drug products regardless of patent status, the PMPI is based upon all patented drugs offered for sale in Canada. Non-patented drugs are excluded from the calculation of the PMPI.

Laspeyres Price Indices

The majority of the price indexes reported today, including the CPI, IPPI and the PMPI, are calculated using the following formula, suggested by E. Laspeyres in 1871.

$$I = \frac{\sum_{i=1}^{N} P_i^1 * Q_i^0}{\sum_{i=1}^{N} P_i^0 * Q_i^0}$$

Where $P_i^{0,1}$ is the price of good i in the year '0', the base year or in year '1' which is the current year and Q_i^0 is quantity consumed of good i in the base year. There are at least N number of good or services available for sale in both the current and base years.

Most price indexes use a fixed base year, 1986 in the case of the Canadian CPI and IPPI Pharma. One of the major criticisms of fixed base year indexes is that they ignore new products that were introduced since the base year. Although the criticism is a legitimate one for general indexes such as the CPI and IPPI, it would be much more serious if a pharmaceutical index such as the PMPI or those presented in this paper were to ignore new drugs. In an innovative market such as the pharmaceutical market where new treatments become available every year replacing older products, maintaining a fixed base year would reduce its usefulness after a few years.

For this reason, the PMPI and the indexes presented here use a moving base year with a one year lag between base and current year. For instance, this means that the 1995 indexes have 1994 as their base year and use 1994 consumption patterns to weight price changes.

Provincial Drug Plan Data

Each participating drug plan was requested to provide the following information:

- total drug cost submitted by beneficiaries;
- total number of units purchased;
- product's unique Drug Identification Number (DIN);
- any co-payments and co-insurance premiums

Patient costs, if any, net of dispensing or professional fees were added to the costs covered by the Plan , also net of dispensing or professional fees to arrive at a total drug cost figure. This calculation was done for each DIN. The total drug cost was then divided by the total number of units purchased to arrive at an average unit price for each DIN in each year, in each province.

Health Canada Data

Health Canada maintains a database of all the drug products that have been approved for sale in Canada. The Drug Product Database (DPD) contains information on manufacturer, DIN, the active ingredients and their concentrations, dosage form, route of administration, and Anatomic Therapeutic Class (ATC) code.

Most plans issue a 'pseudo-DIN' to non drug products to facilitate reimbursement of medically necessary items such as diagnostic aids and ostomy supplies. To ensure that the data pertains only to drug products as defined by the Food and Drug Act, only DINs which could be found on the DPD were included in the study.

Determination of Single and Multiple Source Drugs

It is believed that manufacturers of drugs that face competition will price their drug products differently than if no other manufacturer makes an identical product. To investigate whether this hypothesis is correct it was necessary to determine whether in each year an interchangeable product was made by one or more manufacturers. We defined an interchangeable drug product as one that contains exactly the same active ingredient or ingredients, with the same strength(s), with the same dosage form and route of administration. If two or more interchangeable drug products are made by different manufacturers, and reimbursed by one of the five drug plans in a year then the drug products are considered to be multiple sourced drug products.

If two or more identical drug products were produced by the same company or by non-arms length manufacturers their sales data would be transferred to one DIN.

Generic vs Brand Name Products

Table A2-1 below indicates in which sector each manufacturer was classed. All products made by a 'Generic' drug manufacturer are assumed to be 'generic' and all products made by 'Brand Name' company are considered brand name drug products. Not all ‘Brand Name’ companies are members of PMAC[50], nor are all ‘Generic’ companies members of the CDMA.[51]

Determination of Outliers

Any drug which was calculated to have increased in price by more than 100% or to have fallen by more than 50% in a single year was considered an outlier. To prevent drug products with large price changes from affecting the results, all outliers were removed from the study.

[50] Pharmaceutical Manufacturer’s Association of Canada

[51] Canadian Drug Manufacturer’s Association

Patent Status

The PMPRB maintains an exhaustive database of all drug products which have had a valid Canadian patent since 1987. This database was consulted to determine whether a drug product was patented or not. The last full year of patent is considered the last patented year.

Table A2-1 Total expenditure by the Six Provincial Drug Plans by Manufacturer

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
3M CANADA INC	$381.26	1	ACEPHARM LAB, DIVISION OF SHIFA CARE INC	$142.53	1
3M PHARMACEUTICALS	$22,707,850.26	26	ADAMS LABS LTD	$65,104.47	5
ABBOTT LABORATORIES, LIMITED	$137,506,679.24	110	ADVANCE BIOFACTURES CORPORATION	$92,152.70	1
ADRIA LABORATORIES OF CANADA LTD	$557,105.32	3	AKORN PHARMACEUTICALS CANADA LTD.	$337,484.38	20
ALCON CANADA INC	$45,804,117.51	48	ALBERT PHARMA INC.	$25,937,366.51	7
ALLEN & HANBURYS A GLAXO CANADA LTD CO	$348,143.84	15	ALL STAR SALES AND SERVICE LTD	$8,302.81	1
ALLERGAN HERBERT SKIN CARE DIVISION OF ALLERGAN INC	$29,400.82	1	ALTIMED PHARMACEUTICAL COMPANY	$204,117,870.34	97
ALLERGAN INC	$121,631,619.01	44	ANPHARM INC C/O STIKEMAN ELLIOTT	$31.86	1
ALLERGOLOGISK LAB A/S	$2,676.78	2	APOTEX INC.	$1,019,856,634.36	346
ALZA PHARMS DIVISION OF ALZA CORP	$15,735.41	1	ARMOUR PHARMACEUTICAL CO	$53,135.37	3
AMGEN INC	$1,262,863.68	1	BIONICHE INC.	$16,211.97	3
ASTRA PHARMA INC.	$474,466,102.75	54	BRAINTREE LABORATORIES INC	$2,819.87	1
AVANT-GARDE COSMETICS INC.	$13.78	2	CHESTER LABS, INC.	$2,079.98	1
AVONDALE (BRINNY) CHEMICAL COMPANY	$9,083,885.52	4	CLINTEC NUTRITION COMPANY	$627.26	1
AXCAN PHARMA INC	$8,289,041.33	14	CLONMEL PHARMACEUTICALS	$954.01	3
AYERST LABORATORIES	$41,243,353.38	75	DESBERGERS LTEE	$486,627.83	8
BAKER CUMMINS INC.	$3,072.50	3	DIOPTIC LABORATORIES, DIVISION OF AKORN PHARMACEUTICALS CANADA LTD.	$590,090.20	18
BAKER NORTON PHARMACEUTICALS INC.	$987,332.47	1	DISPENSAPHARM	$7,047.90	2
BAUSCH & LOMB CANADA INC.	$1,290,689.12	10	DOMINION PHARMACAL	$1,866,616.32	21
BAXTER CORPORATION	$40,593.30	5	DRUG TRADING COMPANY, INC.	$3,659,157.11	45

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
BAYER CORPORATION	$65,548.50	1	E L STICKLEY AND CO LTD	$1,541.55	2
BAYER INC.	$5,266,085.82	23	FAULDING CANADA INC	$782,175.20	6
BAYER INC. - HEALTHCARE DIVISION	$75,308,514.07	13	GAHLER ENTERPRISES LTD	$303.50	4
BENCARD ALLERGY LABORATORIES, A SMITHKLINE BEECHAM COMPANY	$62,568.37	1	GENPHARM INC.	$91,623,175.82	73
BERLEX CANADA INC.	$75,925,598.71	4	GERMIPHENE CORPORATION	$808.34	3
BIOVAIL CORPORATION INTERNATIONAL	$79,875.60	5	GLENWOOD LABORATORIES CANADA LTD	$116,162.06	4
BLOCK DRUG COMPANY (CANADA) LTD	$10,586.19	4	GUARDIAN LABORATORIES, DIVISION OF UNITED-GUARDIAN INC	$590.74	1
BOEHRINGER INGELHEIM (CANADA) LTD.	$142,112,588.84	45	HALL LABORATORIES LTD.	$354.45	8
BOEHRINGER MANNHEIM (CANADA) LTEE/LTD.	$1,654,168.69	2	ICN CANADA LTD.	$35,610,985.90	159
BOEHRINGER MANNHEIM GMBH	$4,419,101.42	4	INDUSTRIA FARMACEUTICA SERONO SPA	$1,147,507.03	2
BOOTS COMPANY PLC NOTTINGHAM ENGLAND	$36,150.97	1	INTERNATIONAL MEDICATION SYSTEMS LTD	$256.06	4
BOOTS PHARMACEUTICALS INC	$4,054.25	1	IOLAB PHARMACEUTICALS	$6,390,275.84	14
BOOTS PHARMACEUTICALS LTD	$2,485,319.78	13	JAMP PHARMA CORPORATION	$4,244.71	1
BRISTOL LABS, DIVISION OF BRISTOL-MYERS SQUIBB	$96,239,524.96	42	KENRAL INC	$1,946,568.27	2
BRISTOL-MYERS SQUIBB CANADA INC.	$49,970,772.51	20	KRIPPS PHARMACY LTD	$1,500.21	1
BURROUGHS WELLCOME INC, CONSUMER PROD DIVISION	$1,039,050.41	1	KSL PHARMACEUTICALS	$15,888.87	22
BURROUGHS WELLCOME INC.	$206,364.36	3	KV PHARMACEUTICAL COMPANY	$117.11	2
C.E. JAMIESON & COMPANY LIMITED	$14,161.36	36	LABORATOIRE ATLAS INC	$6,044.01	6
CANADIAN MEDICAL SUPPLY INC	$4,968.73	4	LABORATOIRE RIVA INC	$688,152.76	2
CANDERM PHARMA INC.	$250,018.88	8	LABORATOIRES CHARTON LABORATORIES	$6,260.45	5
CAROLINA MEDICAL PRODUCTS COMPANY	$6,626.45	2	LABORATOIRES TRIANON INC	$68.00	1
CARTER PRODUCTS,	$16.38	3	LABS FOR APPLIED BIOLOGY	$2,175.01	1

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
DIVISION OF CARTER WALLACE NS INC					
CARTER-HORNER INC.	$8,317,171.21	68	LEDERLE CONSUMER HEALTH PRODUCTS	$27,723.93	5
CENTER LABS, DIVISION OF EM INDUSTRIES INC(M)	$722,737.02	2	LEDERLE CYANAMID CANADA INC.	$30,760,430.21	62
CENTRAL PHARMACEUTICALS INC	$7,943.53	1	LEE-ADAMS LABORATORIES	$25,429.42	3
CHATTEM (CANADA) INC	$9.54	1	LINSON PHARMA INC	$8,183,065.32	8
CHIRON CORPORATION	$190,397.22	2	LUVABEC LABORATOIRES INC	$52.20	1
CIBA PHARMACEUTICALS, CIBA-GEIGY CANADA LTD	$74,050,607.99	49	MEDICAN PHARMA INC.	$4,567,471.05	17
CIBA SELF MEDICATION	$399.34	5	MERIT PHARMACEUTICALS	$3,134.58	1
CIBA VISION OPHTHALMICS	$4,662,597.11	25	METAPHARMA	$66,591.32	7
CONNAUGHT LABORATORIES INC	$30.18	1	NOVOPHARM LIMITED	$646,188,018.28	395
CONNAUGHT LABORATORIES LTD.	$3,351.80	4	NU-PHARM INC	$66,446,819.21	153
CONPHARM AB	$3,270.92	1	ODAN LABORATORIES LTD	$119,965.02	8
CONVATEC, DIVISION OF BRISTOL-MYERS SQUIBB CANADA INC.	$8,200.03	1	PATHEON LABORATORIES	$108.45	1
CUTTER MED & BIOL, DIVISION OF MILES CANADA LTD	$486.55	1	PGE CANADA (86) INC	$384.21	1
CYTEX PHARMACEUTICALS INC	$481,248.12	8	PHARMACO CANADA INC	$64,575.41	1
DAVID BULL LABORATORIES (CANADA) INC	$1,584,046.85	2	PHARMASCIENCE INC.	$96,536,387.10	278
DAVID BULL LABORATORIES (PTY) LTD	$2,210,829.32	13	PHARMAVITE CORPORATION	$850.30	10
DEPRENYL RESEARCH LTD.	$1,374,423.73	4	PHARMETICS (1997) INC.	$4.93	1
DERMTEK PHARMACEUTICALS LTD	$112,751.18	5	PRO DOC LIMITEE	$96,566.87	34
DOAK PHARMACAL CO INC	$71.30	1	PROFESSIONAL DISPOSABLES INC, DIVISION OF NICE-PAK	$91.29	1
DORMER LABORATORIES INC	$170.54	2	PROVAL PHARMA INC.	$8,505.34	1
DRAXIS HEALTH INC	$9,964,313.11	6	QUEST VITAMINS, DIVISION OF BOEHRINGER INGELHEIM (CANADA) LTD.	$399.79	7

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
DUCHESNAY INC	$1,217,621.57	1	R.W. PACKAGING LTD	$3,900.01	11
DUPONT MERCK PHARMA	$50,446,535.12	13	RANDLE LABS INC	$2,277.62	17
DUPONT MERCK PHARMA INC	$13,338,545.00	7	RICHMOND PHARMACEUTICALS INC	$140,114.73	7
EFAMOL RESEARCH INC	$861.84	1	SABEX INC.	$4,060,291.60	83
ELAN PHARMA LIMITED	$0.00	2	SANDS PHARM	$214,440.69	3
ELAN PHARMACEUTICAL RESEARCH CORPORATION	$65,082.87	1	SCAT CANADA INC.	$10.78	1
ELI LILLY AND COMPANY	$55,448,173.11	15	SCHEIN PHARMACEUTICAL CANADA INC.	$2,013,286.92	20
ELI LILLY CANADA INC.	$265,873,786.44	56	SHOPPERS DRUG MART/PHARMAPRIX	$101,346.23	31
ELI LILLY FRANCE SA	$11,185,811.64	10	SIGMA-TAU PHARMACEUTICALS INC.	$36,887.16	2
ENDO CANADA, DIVISION OF DUPONT CANADA INC	$5,344.86	1	SISU ENTERPRISES COMPANY INC.	$29.53	1
ENDO CANADA, DIVISION OF DUPONT MERCK PHARMA	$3,480,012.66	3	STANLEY PHARMACEUTICALS LTD.	$1,572,349.37	110
ENDO CANADA, DIVISION OF DUPONT MERCK PHARMA INC.	$7,455,561.95	3	STELLA PHARMACEUTICAL CANADA (1994) INC	$3,448.70	3
F. HOFFMANN-LA ROCHE LTD	$79,076.52	4	STERIGEN INC	$518.29	1
FABRIGEN INC	$9,080,285.14	3	SWISS HERBAL REMEDIES LTD.	$1,033.49	5
FERRING INC	$8,196,635.99	14	SYNCARE PHARMACEUTICAL INC	$10,805,118.42	6
FISONS CORPORATION LTD.	$14,530,780.14	8	SYSTEMED INC.	$14,029.70	1
FOREST LABS INC	$340.09	2	TARO PHARMACEUTICALS INC.	$17,912,618.51	57
FRANK W HORNER INC	$434.34	2	TECHNILAB INC.	$51,809,296.45	110
FROSST, DIVISION OF MERCK FROSST CANADA INC.	$536,871,161.49	57	THERAPEUTIC FOODS CO.	$71.90	1
FUJISAWA CANADA INC	$1,058,219.25	5	TILLOTTS PHARMA AG	$340.08	1
G.T. FULFORD PHARMACEUTICALS	$94.59	1	TROPHIC CANADA LTD	$97.40	1
GALDERMA CANADA INC	$3,209,053.26	15	VITA HEALTH COMPANY (1985) LTD.	$178,752.25	63
GEIGY PHARMACEUTICALS, CIBA-GEIGY CANADA LTD	$133,867,830.65	43	WAMPOLE CANADA INC.	$435,252.63	28
GENDERM CANADA INC	$169,272.01	3	WELCKER-LYSTER LTD	$1,111,914.74	6
GENDERM CORPORATION	$3,938,123.50	6	WESTCAN	$191,652.32	17

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
			PHARMACEUTICALS LTD.		
GENENTECH, INC.	$2,558,094.38	4	TOTAL GENERIC MANUFACTURERS	$2,339,151,267.46	2489
GENZYME CORPORATION	$85,931.52	1			
GLADES, DIVISION OF STIEFEL CANADA INC	$234,672.40	10			
GLAXO CANADA INC.	$363,976,480.03	89			
GLAXO-WELLCOME BIOCHEM INC.	$9,690,147.63	2			
GLAXO-WELLCOME INC.	$147,166,810.53	106			
GLENWOOD INC	$158,419.86	3			
HERDT ET CHARTON INC.	$18,236.84	3			
HILL DERMACEUTICALS INC	$105,856.45	2			
HOECHST CANADA INC.	$25,093,089.53	30			
HOECHST MARION ROUSSEL CANADA INC.	$160,335,424.20	90			
HOECHST MARION ROUSSEL INC.	$13,176,172.33	2			
HOECHST-ROUSSEL CANADA INC.	$79,272,343.49	57			
HOFFMANN-LA ROCHE LTD.	$135,853,435.00	96			
HOLLISTER-STIER, UNIT PHARM, DIVISION OF MILES CANADA INC	$14,925.41	5			
IAF BIOVAC INC.	$17,225.61	1			
INGRAM AND BELL INC.	$77.40	1			
INTERFALK CANADA INC.	$865,725.84	2			
INTERNATIONAL DERMATOLOGICALS INC	$6,774.47	3			
JANSSEN PHARMACEUTICA, DIVISION OF JANSSEN-ORTHO INC.	$235,744,333.33	25			
JANSSEN-ORTHO INC	$4,708,735.19	8			
JCP LABORATORIES INC.	$773.63	2			
JOHNSON & JOHNSON - MERCK CONSUMER PHARMACEUTICALS COMPANY OF CANADA	$5,274.13	2			
JOUVEINAL INC	$9,155,612.95	9			
KABI PHARMACIA CANADA INC	$303,786.03	3			
KEY PHARMACEUTICALS, DIVISION OF SCHERING	$19,723,482.18	6			

BRAND NAME			GENERIC		
Brand Name Companies	Total Expenditures	# of DINs	Company Name	Total Expenditures	# of DINs
CANADA INC					
KNOLL PHARMA INC.	$53,139,610.23	33			
LAB NADEAU LTEE	$1,134,721.85	13			
LABS MANEY PAUL LABS, DIVISION OF 471449 (ONT) LTEE/LTD	$165,670.53	2			
LABS NORDIC LABORATORIES INC - SUBSIDARY OF M.M.D.C.	$76,241,025.03	3			
LACTAID INC	$390,201.77	1			
LEO LABORATORIES CANADA LTD	$33,660,093.84	24			
LES LABORATOIRES FOURNIER S.C.A.	$40,520,621.02	2			
LUNDBECK CANADA INC	$3,759,591.47	8			
LYPHOMED, DIVISION OF FUJISAWA CANADA INC	$6,555.83	2			
MARION MERRELL DOW (CANADA) INC.	$153,950.67	4			
MAY & BAKER PHARMA, DIVISION OF RHONE-POULENC-RORER	$4,832,879.10	2			
MCNEIL CONSUMER PRODUCTS COMPANY	$9,699,268.06	37			
MCNEIL PHARMACEUTICAL, DIVISION OF ORTHO-MCNEIL INC	$56,212,633.06	35			
MEAD JOHNSON CANADA	$1,710,840.68	17			
MERCK MANUFACTURING DIVISION, DIVISION OF MERCK & CO., INC.	$954,601.63	5			
MERCK SHARP & DOHME (UK) LTD	$1,296.17	1			
MERCK SHARP & DOHME CANADA, DIVISION OF MERCK FROSST CANADA INC.	$611,934,837.44	82			
MERRELL DOW PHARMACEUTICALS (CANADA) INC	$8,182.73	1			
MERRELL DOW PHARMACEUTICALS (CANADA) INC, DIVISION OF MMDC	$7,281,776.87	13			
MERRELL PHARMS INC, DIVISION OF MERRELL DOW	$9,734,068.06	8			

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
(CAN)					
MILES CANADA INC - CONSUMER HEALTH CARE DIVISION	$2,682,229.13	14			
MILES CANADA INC - PHARMACEUTICAL DIVISION	$301,863,910.60	18			
MISSION PHARMACAL CO	$6,843.46	2			
N.V. ORGANON	$279,626.07	1			
NATIONAL CARE PRODUCTS LTD.	$26.67	1			
NEOLAB INC	$2,038.87	6			
NEPHRON COMPANY LTD	$4.01	1			
NEWPORT PHARMS INTERNATIONAL INC	$30,298.31	1			
NORPAK MANUFACTURING INC	$6.55	1			
NORWICH EATON CANADA INC	$4,390,768.43	5			
NOVARTIS CONSUMER HEALTH CANADA INC.	$3,306,487.61	36			
NOVARTIS PHARMACEUTICALS CANADA INC.	$1,620.88	1			
NOVO NORDISK A/S	$28,062,722.76	15			
NOVO NORDISK CANADA INC	$14,426,443.09	3			
OMEGA	$4,645.70	5			
OMNI LABORATORIES DIVISION, WARNER-LAMBERT CANADA INC.	$18,476,231.35	2			
ORAL B LABORATORIES INC	$2,514.83	1			
ORGANON CANADA LTD	$16,235,078.61	17			
ORGANON TEKNIKA CANADA INC.	$878,986.50	8			
ORTHO BIOTECH	$16,614.85	1			
ORTHO PHARMACEUTICAL, DIVISION OF JANSSEN-ORTHO INC	$32,176,329.78	25			
ORTHO-MCNEIL INC	$7,541,190.09	4			
PALISADES PHARMACEUTICALS INC	$260,403.78	1			
PARKE-DAVIS, DIVISION OF WARNER-LAMBERT	$109,234,234.76	82			

BRAND NAME			GENERIC		
Brand Name Companies	Total Expenditures	# of DINs	Company Name	Total Expenditures	# of DINs
CANADA INC					
PASTEUR MERIEUX SERUMS & VACCINS SA	$229.52	1			
PAUL ELDER PHARMACEUTICALS INC	$35,036.74	1			
PFIZER CANADA INC	$257,338,303.18	48			
PFIZER CANADA INC, CONSUMER HEALTHCARE DIVISION	$34,413.97	5			
PHARMACIA & UPJOHN INC.	$1,929,555.97	9			
PHARMACIA INC.	$1,133,774.72	10			
PROCTER & GAMBLE INC.	$33,743,776.21	12			
PROCTER & GAMBLE PHARMACEUTICALS CANADA, INC.	$44,298,850.23	10			
PROFESSIONAL PHARMACEUTICAL CORP.	$511.95	1			
PURDUE FREDERICK	$56,680,556.78	22			
PURDUE FREDERICK INC.	$1,190,608.17	22			
R & D LABORATORIES INC.	$48,190.05	1			
REED & CARNRICK, DIVISION OF BLOCK DRUG COMPANY (CANADA) LTD	$3,927,575.65	11			
RESEARCH INDUSTRIES CORP	$129,445.47	1			
RHO-PHARM INC	$395,400.77	1			
RHODIAPHARM INC	$23,447,069.38	39			
RHONE-POULENC RORER CANADA INC.	$177,552,648.28	116			
RHONE-POULENC RORER CONSUMER INC.	$6,622,591.38	33			
RICHARDSON-VICKS, DIVISION OF PROCTER & GAMBLE INC	$70.07	1			
ROBERTS PHARMACEUTICAL CANADA INC.	$11,664,794.64	54			
RORER CANADA INC	$10,852.18	2			
ROSS LABORATORIES, DIVISION OF ABBOTT LABORATORIES LTD	$556,404.46	1			
ROUGIER INC.	$6,454,752.20	33			
ROUSSEL CANADA INC	$21,115,133.75	24			

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
ROXANE LABS, DIVISION OF BOEHRINGER INGELHEIM	$177,974.22	6			
S C JOHNSON AND SON LTD	$281.67	2			
SANDOZ CANADA INC.	$127,640,927.21	62			
SANOFI WINTHROP CANADA INC	$18,566,401.64	29			
SCANDIPHARM CANADA	$49,815.71	2			
SCANDIPHARM INC	$2,029.43	1			
SCHERING CANADA INC.	$117,089,248.54	94			
SCHERING-PLOUGH (BRINNY) CO.	$700,055.43	4			
SCHERING-PLOUGH HEALTHCARE PROD. CANADA INC	$70.64	1			
SCHOLL-PLOUGH CANADA INC	$196.25	1			
SCHWARZ PHARMA KREMERS URBAN COMPANY	$164,122.77	3			
SEARLE CAN INC - UNIT MONSANTO CANADA INC	$230,467,269.25	27			
SERONO CANADA INC.	$555,323.75	4			
SERVIER CANADA INC.	$34,712,307.27	9			
SHEPHERD PHARMACEUTICALS INC	$274,092.38	2			
SHERWOOD MEDICAL COMPANY	$209.40	1			
SMITH & NEPHEW INC	$2,038.31	2			
SMITH & NEPHEW PHARMACEUTICALS LTD	$3,340,327.24	1			
SMITH KLINE & FRENCH CANADA LTD	$81,400.08	1			
SMITHKLINE BEECHAM BIOLOGICALS S.A.	$0.00	1			
SMITHKLINE BEECHAM CONSUMER HEALTHCARE, DIVISION OF SMITHKLINE BEECHAM INC.	$8,753.07	4			
SMITHKLINE BEECHAM PHARMA INC.	$132,785,843.38	72			
SOLVAY PHARMA INC.	$40,998,841.24	10			
SPECTROPHARM INC	$20.76	1			
SQUIBB CANADA INC,	$198,004,125.03	34			

BRAND NAME			GENERIC		
Brand Name Companies	Total Expenditures	# of DINs	Company Name	Total Expenditures	# of DINs
DIVISION OF BRISTOL-MYERS SQUIBB CANADA INC					
STERLING PRODUCTS, DIVISION OF STERLING DRUGS	$4,093.61	1			
STERLING WINTHROP INC.	$102,557.22	14			
STIEFEL CANADA INC.	$5,906,285.49	73			
STORZ, DIVISION OF WYETH-AYERST CANADA INC	$2,984,930.50	7			
SYNTEX INC.	$59,931,122.58	40			
TAP PHARMACEUTICALS	$31,605,545.03	4			
THE UPJOHN COMPANY OF CANADA	$56,723,648.87	84			
THE WELLCOME FOUNDATION LTD	$264,235.42	2			
THERAPEX, DIVISION DE E-Z-EM CANADA INC	$19,681.15	2			
TRANS CANADERM INC.	$14,356,521.47	25			
U.S. BIOSCIENCE INC	$67,456.35	1			
UNIMED CANADA INC	$942,779.66	4			
UPJOHN CONSUMER PRODUCTS COMPANY	$17,584.96	6			
VIADENT INC. SUBSID VIPONT LABS INC.	$58.90	1			
VISION PHARMACEUTICALS INC	$13,187.45	1			
WARNER WELLCOME CONSUMER HEALTH PRODUCTS	$3,218,832.50	9			
WARNER-LAMBERT CANADA INC.	$156,757.30	37			
WESTWOOD-SQUIBB, DIVISION OF BRISTOL-MYERS SQUIBB CANADA INC.	$10,540,944.25	33			
WHITEHALL-ROBINS INC.	$9,188,449.51	59			
WINTHROP LAB, DIVISION OF STERLING DRUG LTD	$143,854.30	1			
WYETH LTD	$41,963,156.50	22			
WYETH-AYERST CANADA INC.	$93,779,589.83	165			
XENEX LABORATORIES INC.	$725.91	2			

BRAND NAME			GENERIC		
Brand Name Companies	**Total Expenditures**	**# of DINs**	**Company Name**	**Total Expenditures**	**# of DINs**
ZENECA PHARMA INC.	$82,473,651.91	17			
TOTAL BRAND NAME MANUFACTURERS	**$7,171,677,417.31**	**3682**			
TOTAL BRAND NAME AND GENERIC MANUFACTURERS	**$9,510,828,684.76**	**6171**			