Disparities in prescription drug insurance coverage

Wayne J. Millar

Abstract

Objectives

This article examines socioeconomic differences in supplementary insurance for prescription drugs among Canadians aged 15 or older and how the availability of such insurance affects prescription drug use.

Data source

The data on prescription drug insurance coverage and drug use are from the cross-sectional Health file of the 1996/97 National Population Health Survey (NPHS) conducted by Statistics Canada. The sample size of the population aged 15 or older was 70,884.

Analytical techniques

Rates of insurance coverage for prescription drug services were calculated. All summary estimates were age-adjusted using the 1996/97 population of Canada (both sexes).

Main results

Among people aged 15 or older, 61% were covered for prescription medications in 1996/97. Sixty-five percent of workers reported coverage, while those who were not working were less likely to have benefits (52%). Only 38% of lower income groups had insurance compared with 74% of the highest income group. Regardless of the number of chronic diseases individuals had, those with drug insurance were more likely to report taking medication.

Key words

health insurance, pharmaceutical services insurance, income, employment

Author

Wayne J. Millar (613-951-1631; millway@statcan.ca) is with the Health Statistics Division at Statistics Canada, Ottawa K1A 0T6.

All Canadians have access to universal medical care. The 1984 Canada Health Act, however, focuses mainly on hospital services. For example, drugs and other products and preparations that are administered in a hospital are provided to patients without charge. The Act makes no provision for prescription drugs used outside hospitals. And although the provinces cover all "medically necessary" services, the interpretation of what is medically necessary varies by province.[1] Thus, while provincial drug benefit programs have been implemented, publicly funded benefits for prescription drugs are not uniformly available across the country. As a result, when such products are used outside a hospital setting, the cost often becomes the patient's responsibility.

Compounding the problem is the recent shift away from in-patient hospital treatment and a reduction in hospital stays for a broad range of diagnoses.[2] Ambulatory care in hospital out-patient clinics and home care are becoming more common. Individuals who cannot obtain their medication

Methods

Data sources

This article is based on data from Statistics Canada's National Population Health Survey (NPHS). The NPHS, which began in 1994/95, collects information about the health of the Canadian population every two years. It covers household and institutional residents in all provinces and territories, except persons living on Indian reserves, on Canadian Forces bases, and in some remote areas. The NPHS has both a longitudinal and a cross-sectional component. Respondents who are part of the longitudinal component will be followed for up to 20 years.

This analysis of prescription drug insurance uses cross-sectional data from cycle 2 of the NPHS, which was conducted in 1996/97. The data analyzed here pertain to the household population in the 10 provinces.

The 1996/97 cross-sectional sample is made up of longitudinal respondents and respondents who were selected as part of supplemental samples, or buy-ins, in three provinces. The additional respondents were chosen with random digit dialing (RDD) and were included for cross-sectional purposes only.

Individual data are organized into two files: General and Health. Socio-demographic and some health information was obtained for each member of participating households. These data are found in the General file. Additional in-depth health information was collected for one randomly selected household member. The in-depth health information, as well as the information on the General file pertaining to that individual, is found in the Health file.

In households belonging to the cross-sectional buy-in component, one knowledgeable person provided the socio-demographic and health information about all household members for the General file. As well, one household member, not necessarily the same person, was randomly selected to provide in-depth health information about himself or herself for the Health file.

Among individuals belonging to the longitudinal component, the person providing in-depth health information about himself or herself for the Health file was the randomly selected person for that household in cycle 1 (1994/95) and was usually the person who provided information on all household members for the General file in cycle 2 (1996/97).

The 1996/97 cross-sectional response rates for the Health file were 93.1% for the continuing longitudinal component and 75.8% for the RDD component, yielding an overall rate of 79.0%. Information in the Health file is available for 81,804 randomly selected respondents. This analysis is based on the sample of 70,884 Canadians who were aged 15 or older.

A more detailed description of the NPHS design, sample and interview procedures is found in published reports.[3,4] See also *The National Population Health Survey – its longitudinal nature* in this issue.

Information from Health Canada, the Canadian Institute for Health Information, and the Organisation for Economic Co-operation and Development (OECD) was used to supplement the NPHS data.

Analytical techniques

All estimates were weighted to represent the population at the date of the survey. The 1996/97 population of Canada aged 15 or older (both sexes) was used as the reference population for direct standardization of rates. The sample sizes for the 1996/97 cross-sectional component of the NPHS are large, so the variances associated with the estimates tend to be low. All questions about prescription drug insurance are based on non-proxy response. Weighted logistic regression was used to adjust for age and detect significant differences between groups. Coefficients of variation and standard errors were estimated using a weighted bootstrap procedure that fully accounts for the design effects of the NPHS.[5,6]

Limitations

The NPHS data do not indicate the scope or type of insurance coverage for prescription drugs. Consequently, there is no information about deductibles or the proportion of the cost that would be borne by individuals, although that could be expected to influence their prescription drug use. In addition, no information is available about the number of plans under which individuals may be covered.

The estimates of prescription drug insurance reflect the perception of the individual. It is possible that some respondents may have misinterpreted the question about prescription drug insurance coverage. For example, when asked if they currently had "insurance that covers all or part of the cost of prescription medications (including private, government or employer-paid)," respondents may have been uncertain how to answer the question if they did not directly pay a premium for coverage. In addition, some respondents may not have been aware that they had coverage under a spouse's or parent's plan, or under various provincial plans.

in a hospital must either pay for their prescriptions directly, or rely on insurance to help defray the expense.

This article uses data from the 1996/97 National Population Health Survey (NPHS) to look at the proportion of the population that has insurance coverage for prescription drugs. Comparisons of the insured and non-insured populations are also made (see *Methods* and *Definitions*).

Sources of coverage

Prescription drug insurance is available from either public or private sources. Public sources include the provincial plans, which may provide drug benefits to specific groups; for example, people older than 65, individuals with certain chronic diseases, and those receiving social assistance (Appendix Table A).

Private plans include those offered through employment or from private insurance companies. Employers may pay for workers' prescription medications through extended health care benefits. Some unions also provide extended health benefits to their members. Private insurance companies manage extended benefit packages and may cover services that do not fall under government plans.

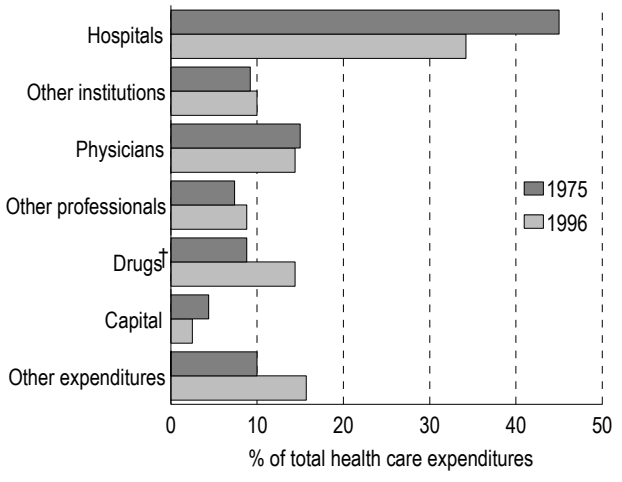
Shift in health care spending

The pattern of total health care expenditures changed between 1975 and 1996 (Chart 1, Appendix Table B).[7,8] The proportion going to hospitals, physicians, and capital expenditures declined. By contrast, the share allocated to other institutions, other professionals, and drugs (prescribed and non-prescribed) rose. In 1996, approximately $10.2 billion was spent on drugs (Appendix Table C), with most of it ($7.0 billion or 68.3%) borne by the private sector.

An international study showed that, in 1995, after co-payments and deductibles were taken into account, public programs covered 45% of drug costs in Canada. This compared with 90% in the United Kingdom and the Netherlands and 25% in the United States (Chart 2).[9]

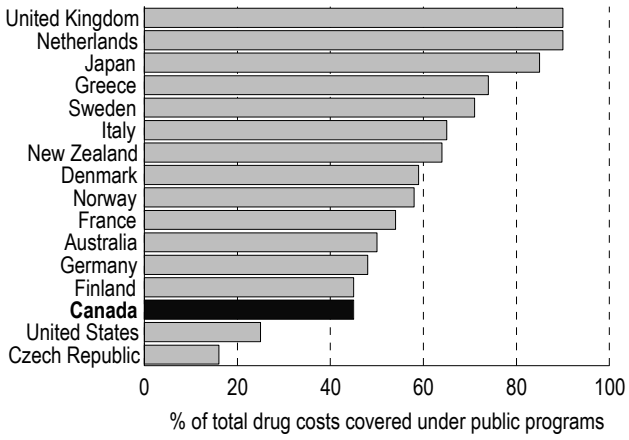
Prescription drugs make up a rising share of the health care budget. In 1996, prescription drugs represented 10.0% of total health care expenditures, up from 6.3% in 1975 (Appendix Table B). In 1975, the public sector (government and government agencies) covered one-third of the cost (33.2%) of prescription drugs. About two decades later, in 1996, this share had risen to almost one-half (48.3%). Although the private sector's share declined over

Chart 1
Health care expenditures, by category, Canada, 1975 and 1996



Data sources: *Health Canada and Canadian Institute for Health Information, references 7 and 8*
† Includes prescribed and non-prescribed (over-the-counter drugs and personal health supplies).

Chart 2
Share of costs† of pharmaceutical goods paid by public programs, Canada and selected countries, 1995



Data source: *Organisation for Economic Co-operation and Development, reference 9*
† Billing less average co-payment and deductible

the same period, by 1996, it was still absorbing just over half (51.7%) of the cost (data not shown).

Provincial governments account for the major share of public sector drug expenditures, spending about $3.0 billion in 1996. This represented close to one-third (29.6%) of total drug expenditures that year, up from 13.2% in 1975 (Appendix Table C).

Wide variations in provincial plans

Provincial prescription drug benefits vary considerably (Appendix Table A). The specific benefits and co-payments or deductibles differ from plan to plan. (Co-payment refers to payment of a proportion of the prescription cost by the consumer. Deductible refers to payment by the consumer of the full cost of a prescription up to a specified

Definitions

Prescribed drugs are those substances sold under the Food and Drug Act that require a prescription. *Non-prescribed drugs* are over-the-counter drugs and personal health supplies such as oral hygiene products and diagnostic test strips.

NPHS respondents were asked: "Do you have insurance that covers all or part of the cost of your prescription medications? (including private, government or employer-paid plans)."

The *number of drugs taken in the past month* by individuals who had been diagnosed with chronic disease was used as an indicator of the influence of drug insurance coverage on medication use. Respondents were asked: "In the past month, did you take any of the following medications?" The following drugs, which are usually available only with a prescription, were considered for this article: tranquilizers, anti-depressants, codeine, demerol or morphine, asthma medications such as inhalers or nebulizers, penicillin or other antibiotics, medicine for the heart, medicine for blood pressure, diuretics, steroids, insulin, pills to control diabetes, sleeping pills, birth control pills, hormones for menopause or aging, and thyroid medication.

Respondents were asked if they had "long-term conditions that have lasted or are expected to last 6 months or more and that have been diagnosed by a health professional." To assess the implications of not having prescription drug insurance, this analysis is based on people with specific medical conditions that are typically treated with prescription drugs: asthma, arthritis, high blood pressure, migraine, chronic bronchitis or emphysema, diabetes, epilepsy, heart disease, cancer, stomach or intestinal ulcers, stroke, thyroid, and glaucoma.

Drug use is influenced by the presence of *chronic conditions*.[10] Consequently, a derived variable that measures the number of chronic conditions a person had was used to place that person into one of the following categories: no chronic diseases, one, two, three, four, and five or more.

Household income levels were defined as lowest/lower-middle, middle, upper-middle and highest , based on total household income and the number of people living in the household.

Employment status was categorized as currently working or not currently working. Those who were working at the time of the survey were classed as full-time (30 or more hours per week) or part-time (less than 30 hours per week). Those who were not working either had a job but were not currently working, or they had not worked in the past 12 months. If respondents were not working, another question asked them why. The reasons used in this analysis are: own illness or disability; family responsibilities; student/educational leave; labour dispute/layoff; retired the entire year; looking for work; and other reasons.

Occupation was based on a derived variable, the Pineo scale, a prestige-based occupational ranking. Occupations were grouped into 16 categories: self-employed professionals; employed professionals; high-level management; semi-professionals; technicians; middle management; supervisors; foremen and forewomen; skilled clerical/sales/service; skilled crafts and trades; farmers; semi-skilled clerical/sales; semi-skilled manual; unskilled clerical/sales/service; unskilled manual; and farm labourers.

Respondents were asked to report their *main source of household income* in the past year. They could choose from: wages and salaries; self-employment; dividends and interest (on bonds, savings); Employment Insurance; Workers' Compensation; benefits from Canada or Quebec Pension Plans; retirement pensions, superannuation and annuities; Old Age Security and Guaranteed Income Supplement; Child Tax Benefit; provincial or municipal social assistance or welfare; child support/alimony; and other (e.g., rental income or scholarship).

amount.) Most provinces offer benefits to seniors (65 or older) and to people receiving Social Assistance, as well as to children and lower income groups. In addition, most provinces offer some kind of provision for special drugs needed for certain diseases; for example, diabetes, cystic fibrosis or HIV/AIDS.

Six in ten covered

The population covered by drug insurance benefits has been growing.[11] Among the lower income groups, the increase in coverage is partly attributable to provincial health care plans. Among the upper income groups, the growth is attributable to the purchase of private insurance or the provision of insured benefits through employment.

According to the 1996/97 NPHS, about 61% of both men and women aged 15 or older reported that they had insurance coverage for prescription medications. Drug insurance coverage tends to be relatively low among younger and older Canadians (Table 1). Just over half of the population in the 15-to-24 and 65-or-older age groups reported having some coverage for prescription drugs. By contrast, about two-thirds of those aged 25 to 64 reported that they were insured. The higher coverage among the middle age groups, who are more likely to be working, reflects the additional benefits that are often available through employment.

Rates of coverage rose along with educational level, from 52% for those with less than high school to 65% for those with a college diploma or a university degree.

The percentage of individuals reporting coverage varied by province as well, from less than half to over two-thirds. Given the extensive benefits offered by the various provincial plans, this may indicate that some respondents are unaware that they have some drug coverage and are entitled to some benefits.

Coverage also varied by family type, with couples being more likely to have drug insurance than single people or lone-parent families. About half of one-person households reported coverage, but individuals in households with two or more members had much higher rates.

Table 1
Household population aged 15 or older with prescription drug insurance, by selected socio-demographic characteristics, Canada excluding territories, 1996/97

	Number	Prescription drug insurance
	'000	Age-adjusted %
Sex		
Both sexes	23,444	61
Men	11,519	61
Women	11,925	61
Age group		
15-24	3,983	53
25-44	9,709	65
45-64	6,335	65
65+	3,416	51
Level of education		
Less than high school	6,376	52
High school	3,909	62
Some postsecondary	5,398	61
College diploma or university degree	7,595	65
Not stated	165	58
Province		
Newfoundland	449	56
Prince Edward Island	107	60
Nova Scotia	738	67
New Brunswick	607	63
Quebec	5,862	54
Ontario	8,879	66
Manitoba	857	48
Saskatchewan	752	40
Alberta	2,121	68
British Columbia	3,072	62
Economic family type		
Couple with children under age 25	9,237	63
Couple alone	5,384	62
Couple with children under age 25 and others	1,350	57
Couple with or without children aged 25 or older, with or without others	1,242	55
Lone parent with children under age 25	1,334	52
Single	3,171	51
Single with others	776	51
Other lone-parent household	765	50
Other	181	54
Not stated	3	- -
Number of persons in household		
One	3,171	51
Two	6,954	61
Three	4,627	62
Four	5,211	65
Five or more	3,480	58

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*
- - Amount too small to provide reliable estimate

Table 2
Household population aged 15 to 74 with prescription drug insurance, by current employment status and occupation, Canada excluding territories, 1996/97

	Number	Prescription drug insurance
	'000	Age-adjusted %
Employment status		
Total	**22,124**	**62**
Currently working	13,814	65
Not currently working†	8,070	52
Worked in past 12 months, but current work status unknown	127	50
Not stated	113	58
Hours of work per week (main job)		
Total	**13,814**	**65**
30+ (full-time)	11,105	65
<30 (part-time)	2,551	57
Not stated	158	52
Reason for not currently working		
Total	**8,070**	**52**
Own illness or disability	961	59
Family responsibilities	1,337	57
Retired for the entire year	2,742	45
Looking for work	520	39
Student/Educational leave	1,537	37
Labour disputes/Layoff	586	37
Other reasons	173	48
Not applicable	131	55
Not stated	83	53
Occupation‡		
Total	**13,814**	**65**
Employed professionals	1,132	78
Technicians	310	76
High-level management	425	73
Skilled clerical/Sales/Service	1,045	70
Semi-professionals	1,151	68
Middle mangagement	1,259	68
Skilled crafts and trades	1,138	66
Unskilled clerical/Sales/Service	1,027	66
Semi-skilled manual	1,148	65
Foremen/Forewomen	305	64
Semi-skilled clerical/Sales	1,946	60
Supervisors	323	58
Unskilled manual	1,486	58
Self-employed professionals	191	49
Farm labourers	183	36
Farmers	165	28
Not stated	580	63

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*
† Had a job but not currently working, or did not work in past 12 months.
‡ Categories are from the Pineo scale; however, its prestige-based ranking is not used here.

Full-time workers more likely to have coverage

As expected, the working population had a relatively high rate of prescription drug insurance coverage. Sixty-five percent of those who were working at the time of the survey stated that they were insured (Table 2), while individuals who were not working were considerably less likely to have benefits (52%). Full-time workers reported a higher rate of coverage than their part-time counterparts: 65% compared with 57%.

Among current workers, the percentage with drug insurance varied by occupation. Employed professionals showed the highest rates of coverage (78%). Self-employed professionals were much less likely to have drug insurance (49%), and farmers (28%) and farm labourers (36%) were least likely to be insured.

For non-workers, the highest rates of coverage were reported by those who were not working because of an illness or disability (59%) or family responsibilities (57%). Students and people on educational leave, along with those who were not working because of a labour dispute or layoff, reported the lowest coverage (37%).

The strong link between work status and prescription drug insurance coverage has implications for the continuity of health care. Between 1981 and 1994, job tenure became more polarized between long- and short-term jobs.[12] Employers are increasingly using a small core of long-term employees and hiring supplementary short-term employees as needs dictate.[13] The latter may not have access to the benefits that are available to full-time workers. Benefit packages are often subject to minimum service requirements, such as 6 or 12 months of continuous employment.[14] Only about 20% of all organizations offer the same benefits to both regular and contingent workers.[15] When insured individuals are laid off or retire, there is no guarantee that they will retain their supplementary health benefits. In fact, according to the 1996/97 NPHS, fewer than half of retired individuals (45%) said they had prescription drug insurance.

Income a major factor

Prescription drug insurance benefits are strongly associated with household income (Table 3). Generally, the rates increase along with income. In fact, the insured rate for the highest income group was almost double that for the lowest (74% compared with 38%).

The main source of income, which reflects employment status, is also a factor in prescription drug insurance coverage. Persons whose household income was derived mainly from wages and salaries were most likely to report coverage (67%). In contrast, individuals who reported Employment Insurance as their main source of income were the least likely to have benefits (25%). People deriving their income mainly from self-employment or from dividends also reported a low rate of coverage (36%).

Although individuals whose main income source was Old Age Security and the Guaranteed Income Supplement are covered by most provincial drug plans, only 31% of this group reported prescription drug coverage. This apparent anomaly could be attributed to misinterpretation of the question, or lack of knowledge about drug benefits.

Individuals in the lowest and lower-middle income groups who reported their health as fair or poor were more likely than healthier people with similar incomes to have prescription drug insurance (Table 4). However, even among those who reported their health as fair or poor, the rate of coverage rose with income.

Table 3
Household population aged 15 or older with prescription drug insurance, by household income level and main source of income, Canada excluding territories, 1996/97

	Number	Prescription drug insurance
	'000	Age-adjusted %
Household income level		
Lowest/Lower-middle	3,051	38
Middle	5,865	53
Upper-middle	7,655	72
Highest	2,966	74
Missing	3,906	56
Main source of household income		
Wages and salaries	14,491	67
Child support/Alimony	50	58
Retirement pension, superannuation, annuities	1,653	57
Canada/Quebec Pension Plan	1,003	48
Child tax benefits	17	47
Provincial or municipal social assistance/Welfare	822	45
Workers' Compensation	108	39
Self-employment	2,218	36
Dividends and interest	227	36
Old Age Security/Guaranteed Income Supplement	1,124	31
Employment Insurance	172	25
Other	378	42
Don't know/Refused/Not stated	1,180	56

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*

Table 4
Household population aged 15 or older with prescription drug insurance, by household income level and self-rated health status, Canada excluding territories, 1996/97

Household income level/ Self-rated health status	Number	Prescription drug insurance
	'000	Age-adjusted %
Lowest/Lower-middle		
Total	**3,051**	**38**
Fair/Poor	618	46
Good	985	38
Very good/Excellent	1,448	35
Middle		
Total	**5,865**	**53**
Fair/Poor	646	58
Good	1,715	49
Very good/Excellent	3,505	53
Upper-middle		
Total	**7,655**	**72**
Fair/Poor	504	74
Good	1,966	71
Very good/Excellent	5,184	73
Highest		
Total	**2,966**	**74**
Fair/Poor	133	71
Good	624	74
Very good/Excellent	2,209	74
Missing		
Total	**3,906**	**56**
Fair/Poor	425	54
Good	1,061	57
Very good/Excellent	2,421	56

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*

Health status and prescription drug insurance

Surprisingly, the rates of coverage for prescription drug insurance did not vary between individuals with and without long-term disabilities: 62% and 61%, respectively.

Prescription drug insurance coverage was, however, directly associated with the number of chronic conditions a person had. With an increasing number of chronic illnesses, the need for drugs increases. This may heighten an individual's awareness of the degree of coverage he or she has, or it may lead to the purchase of supplementary coverage. About 59% of people with no chronic conditions had coverage, compared with 67% of those with three or more chronic diseases (Table 5). Because the estimates were age-adjusted, these differences are not attributable to age differences between the groups.

There was also a gradient in the prevalence of prescription drug insurance by the number of drugs used in the previous two days. Among those who had used no drugs, 61% had prescription drug insurance; the figure rose to 72% among those who had taken three or more drugs in the past two days.

Even among individuals who had not been diagnosed with a chronic condition, those with insurance were more likely to report using prescription drugs in the past month (Table 6). And among people with three or more chronic conditions, about 74% of the insured had used at least two drugs, compared with 58% of the non-insured. Differences in the nature of chronic conditions between the insured and non-insured populations could influence the number of drugs used. However, comparisons of the two groups in terms of the type of chronic diseases revealed few differences (data not shown). Consequently, the lower reported drug use among the non-insured population cannot be solely attributed to better health.

Table 5
Household population aged 15 or older with prescription drug insurance, by selected health characteristics, Canada excluding territories, 1996/97

	Population	Prescription drug insurance
	'000	Age-adjusted %
Long- term disability		
Yes	2,798	62
No	20,599	61
Missing	47	--
Number of chronic conditions		
None	14,447	59
One	5,551	63
Two	2,174	64
Three or more	1,272	67
Number of drugs taken in past two days		
None†	8,372	61
One	5,467	63
Two	2,490	65
Three or more	2,141	72
Not applicable‡	4,863	54
Missing	110	--

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*
† Had taken drugs in past month, but not in past two days.
‡ Had not taken any drugs in past month.
-- Amount too small to provide reliable estimate

Table 6
Number of prescription drugs taken in past month, household population aged 15 or older, by number of chronic conditions and drug insurance status, Canada excluding territories, 1996/97

Number of chronic conditions/Drug insurance status	Population	Number of prescription drugs taken in past month			
		None	1	2	3+
	'000	%			
Total	**23,443**	**58**	**25**	**10**	**7**
Insured	14,300	55	26	11	8
Not insured	8,759	62	24	8	6
None					
Total	**14,446**	**73**	**20**	**5**	**2**
Insured	8,688	71	22	6	2
Not insured	5,469	76	18	4	2
One					
Total	**5,551**	**44**	**35**	**14**	**7**
Insured	3,459	42	35	16	8
Not insured	2,026	48	36	11	5
Two					
Total	**2,174**	**24**	**36**	**22**	**19**
Insured	1,339	22	36	21	21
Not insured	819	26	35	23	16
Three or more					
Total	**1,272**	**13**	**17**	**26**	**44**
Insured	814	11	15	28	46
Not insured	445	18	24	21	37

Data source: *1996/97 National Population Health Survey, cross-sectional sample, Health file*
Note: *Percentages may not add to 100 because of rounding. Excludes insurance status missing.*

The tendency for people without insurance to use fewer prescription drugs may reflect a decision to limit their use to essential medications.[16-20] People who do not have drug coverage may be deterred by the expense. A number of studies[17,18,21,22] have looked at patients who cannot afford prescriptions, and have found various behaviours. Some patients may not purchase a medication if it is too expensive. Others may hoard outdated prescriptions, use prescriptions intended for someone else, or take more drugs than prescribed in hopes of reducing the duration of illness. It has also been noted that elderly patients on fixed incomes make choices about which medications they can afford. It is not unusual for patients to forego expensive anti-depressants and take only what they feel are more necessary drugs (cardiovascular medication, for example).[18]

There is evidence that patients' health may be compromised if they do not have access to drug therapy.[20,23,24] Without proper drug treatment, a disease may progress to more acute levels. For example, not taking blood pressure medication may result in stroke, and failure to take prescribed antibiotics may lead to a relapse of an infection or to the development of resistant strains of bacteria. Unfortunately, such practices may increase the cost of health care in the long run. A conservative estimate of the costs of non-compliance in Canada is $7 billion to $9 billion per year.[21]

Concluding remarks

Over the past 20 years, prescription drugs have accounted for a rising share of Canadian health care costs. Hospital admissions and the length of hospital stays have declined, to some extent, because pharmaceuticals are now available to deal with medical problems that once would have required hospitalization. Thus, the increasingly prominent role of drugs has contributed to the shift from hospital to ambulatory and home care. But this change has meant that as the importance of drug treatment has grown, fewer people receive drugs in a hospital setting. Access to medications is now more and more the responsibility of the individual.

While the public sector has paid a growing share of drug costs over the past two decades, many individuals are not covered under provincial drug care plans and have no other coverage. They must often bear the full cost of their prescription drugs.

Even those eligible for provincial drug care benefits may find those benefits reduced. In an effort to control the cost of prescription drugs, some provinces have undertaken a number of cost control measures, including using lists of drugs eligible for reimbursement (prescription drug formularies) and reference-based pricing to limit the amount paid.[25] Others have removed some drugs from their drug formularies or have introduced co-payments or deductibles.[26]

However, concerns have been expressed that efforts to control costs through co-payments or by eliminating some drugs from formulary plans will reduce the use of medically necessary drugs.[27] Several studies have shown that patients may reduce or abruptly terminate their use of prescription drugs when deductibles or co-payments are required.[16,18,28,29]

Acknowledgements

The author thanks Geoff Ballinger, Canadian Institute for Health Information, for providing data on prescription drug expenditures.

References

1 Rachlis MM. Defining basic services and de-insuring the rest: The wrong diagnosis and the wrong prescription. *Canadian Medical Association Journal* 1995; 152(9): 1401-5.

2 Randhawa J, Riley R. Trends in hospital utilization, 1982-83 to 1992-93. *Health Reports* (Statistics Canada, Catalogue 82-003) 1995; 7(1): 41-9.

3 Tambay J-L, Catlin G. Sample design of the National Population Health Survey. *Health Reports* (Statistics Canada, Catalogue 82-003) 1995; 7(1): 29-38.

4 National Population Health Survey, 1996/97. *Household Component, User's Guide for the Public Use Microdata Files* (Statistics Canada, Catalogue 82-M0009GPE) Ottawa: Statistics Canada, 1998.

5 Rao JNK, Wu CFJ, Yue K. Some recent work on resampling methods for complex surveys. *Survey Methodology* (Statistics Canada, Catalogue 12-001) 1992; 18(2): 209-17.

6 Rust KF, Rao JNK. Variance estimation for complex surveys using replication techniques. *Statistical Methods in Medical Research* 1996; 5: 283-310.

7 Health Canada. *National Health Expenditures in Canada, 1975-1994*. Ottawa: Minister of Supply and Services, 1996.

8 Canadian Institute for Health Information. *National Health Expenditure Trends, 1975-1998*. Ottawa: Canadian Institute for Health Information, 1998.

9 Organisation for Economic Co-operation and Development. *Health Data '98 CD-ROM*. Paris: Organisation for Economic Co-operation and Development, 1997.

10 Millar WJ. Multiple medication use among seniors. *Health Reports* (Statistics Canada, Catalogue 82-003) 1998; 9(4): 11-17.

11 Lexchin J. Income class and pharmaceutical expenditure in Canada: 1964-1990. *Canadian Journal of Public Health* 1996; 87(1): 46-51.

12 Grenon L, Chun B. Non-permanent paid work. *Perspectives on Labour and Income* (Statistics Canada, Catalogue 75-001-XPE) 1997; 9(3): 21-31.

13 Heisz A. Changes in job tenure. *Perspectives on Labour and Income* (Statistics Canada, Catalogue 75-001-XPE) 1996; 8(4): 31-5.

14 Schellenberger G, Clark C. Temporary employment in Canada: Profiles, patterns, and policy considerations. *Social Research*, Paper no. 1. Ottawa: Canadian Council on Social Development, 1996.

15 Booth P. *Contingent Work: Trends, Issues and Challenges for Employers,* Report 192-97. Ottawa: The Conference Board of Canada, 1997.

16 Leibowitz A, Manning WG, Newhouse JP. The demand for prescription drugs as a function of cost-sharing. *Social Science and Medicine* 1985; 21(10): 1063-9.

17 Salzman C. Medication compliance in the elderly. *Journal of Clinical Psychiatry* 1995; 56(Suppl 1): 18-22.

18 Soumerai SB, Avorn J, Ross-Degnan D, et al. Payment restrictions for prescription drugs under Medicaid. Effects on therapy, cost and equity. *New England Journal of Medicine* 1987; 317(9): 550-6.

19 Foxman B, Valdez RB, Lohr KN, et al. The effect of cost sharing on the use of antibiotics in ambulatory care: Results from a population-based randomized controlled trial. *Journal of Chronic Diseases* 1987; 40(5): 429-37.

20 Soumerai SB, Ross-Degnan D, Avorn J, et al. Effects of Medicaid drug-payment limits on admission to hospitals and nursing homes. *New England Journal of Medicine* 1991; 325(15): 1072-7.

21 Coombs RB, Jensen P, Her MH, et al. *Review of the Scientific Literature on the Prevalence, Consequences, and Health Costs of Non-compliance and Inappropriate Use of Prescription Medication in Canada*. Ottawa: Pharmaceutical Manufacturers Association of Canada, 1995.

22 Roemer MI, Hopkins CE, Carr L, et al. Copayments for ambulatory care: Penny-wise and pound-foolish. *Medical Care* 1975; 13(6): 457-66.

23 Johnson RF, Goodman MJ, Hornbrook MC, et al. The impact of increasing patient prescription drug cost sharing on therapeutic classes of drugs received and on the health status of elderly HMO members. *Health Services Research* 1997; 32(1): 103-22.

24 Soumerai SB, McLaughlin TJ, Ross-Degnan D, et al. Effects of a limit on Medicaid drug-reimbursement benefits on the use of psychotropic agents and acute mental health services by patients with schizophrenia. *New England Journal of Medicine* 1994; 331(10): 650-65.

25 Dingwall D. *Drug Costs in Canada*. Ottawa: Health and Welfare Canada, 1997.

26 Brooke J. High cost of Ontario drug benefit plan sees more medication cut from list. *Medical Post* 1993; 2(36).

27 Lexchin J. Prescribing and drug costs in the province of Ontario. *International Journal of Health Services* 1992; 22(3): 471-7.

28 Martin BC, McMillan JA. The impact of implementing a more restrictive prescription limit on Medicaid recipients. Effects on cost, therapy and out-of-pocket expenditures. *Medical Care* 1996; 34(7): 686-701.

29 O'Brien B. The effect of patient charges on the utilization of prescription medicines. *Journal of Health Economics* 1989; 8: 109-32.

30 Bacovsky RA. *Federal, Provincial and Territorial Government-sponsored Drug Plans and Drug Databases*. Background information prepared for the Conference on National Approaches to Pharmacare. Integra Consulting Ltd., December 2, 1997.

31 Government of Newfoundland and Labrador, Department of Health and Community Services. Available at: http://www.gov.nf.ca/health. Accessed January 27, 1999.

32 The Official Website of the Government of Prince Edward Island, Health and Social Services. Available at: http://www.gov.pe.ca/hss. Accessed January 27, 1999.

33 Nova Scotia, Prescription Drug Plan Regulations. Available at: http://www.gov.ns.ca/just/regulations/regs/hsidrugs.html. Accessed January 27, 1999.

34 Nova Scotia, Seniors' Pharmacare Program Regulations. Available at: http://www.gov.ns.ca/just/regulations/regs/hsisenor.html. Accessed January 27, 1999.

35 Nova Scotia, Family Benefits Schedule "B" Regulations. Available at: http://www.gov.ns.ca/just/regulations/regs/fbschedb.html. Accessed January 27, 1999.

36 New Brunswick Prescription Drug Program. Available at: http://www.gov.nb.ca.hcs. Accessed January 27, 1999.

37 Communication-Québec. Available at: http://www.com-qc.ca/55health.html. Accessed January 27, 1999.

38 Ontario Ministry of Health, Drug Programs. Available at: http://www.gov.on.ca/health/english/pub/pub_links/pub_link4.html. Accessed February 16, 1999.

39 Pharmacare, Manitoba Health. Available at: http://www.gov.mb.ca/health/pharmaca.html. Accessed January 27, 1999.

40 Saskatchewan Health Programs and Services. Available at: http://www.gov.sk.ca/health/progserv.html. Accessed January 27, 1999.

41 Alberta Ministry of Health, Alberta Health Care Insurance Plan, Statistical Supplement, 1997-98. Available at: http://www.health.gov.ab.ca/public/document/ssup97-98/sec5.html. Accessed January 27, 1999.

42 Alberta Blue Cross, Non-group Coverage, Hospital and Health Coverage for Albertans. Available at: http://www.health.gov.ab.ca/ahcip/bluecros/index.html. Accessed February 3, 1999.

43 British Columbia Ministry of Health and Ministry Responsible for Seniors, Pharmacare. Available at: http://www.hlth.gov.bc.ca/pharme/index.html. Accessed February 3, 1999.

Appendix A

Table A
Overview of provincial drug insurance programs in Canada

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Newfoundland and Labrador	Newfoundland and Labrador Prescription Drug Program:				
	Senior Citizens' Drug Subsidy Plan	All residents aged 65 or older who receive the Guaranteed Income Supplement.	None, except as indicated in description of eligible beneficiaries.	Recipient pays dispensing fee directly to pharmacist. Prescription fees vary according to competitive practices.	Pharmacy bills plan directly for service. Patient is responsible for dispensing fee and professional services.
	Social Services Drug Plan	Recipients of long-term care or those who qualify for social service benefits.		None.	Retailers bill Department of Health and Community Services for reimbursement.
	Newfoundland and Labrador Interchangeable Drug Products Formulary	Lists commonly used drugs that have chemical and therapeutic equivalence; established to help general population obtain prescription drugs at reasonable price.			
Prince Edward Island	Drug Cost Assistance Plan (for seniors) Welfare Assistance Program Special Drug Programs Drug benefits are listed in the Drug Cost Assistance Plan Formulary. There is a least-cost-alternative pricing policy.	Any person requiring drugs for tuberculosis, rheumatic fever, diabetes, multiple sclerosis, phenylketonuria, transplant therapy, AIDS, renal failure, children with cystic fibrosis if family in need, all Welfare Assistance clients, any persons aged 65 or older, residents of government manors and government-subsidized beds in private nursing homes.	None, except as indicated in description of eligible beneficiaries.	Various co-payment charges including those for vaccines, pharmacist dispensing fees, insulin vials, and Welfare Assistance emergency prescriptions. Co-payments apply only to certain plan components. Seniors pay first $7 of ingredient cost for prescription and pharmacy dispensing fee.	Retailers bill Department of Health and Community Services for reimbursement.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Nova Scotia	Seniors Pharmacare Program	Residents of province aged 65 or older. Each senior contributes annual premium of $215. When a senior meets low income criteria, there are provisions to reduce the premium payable.	Persons with coverage under other drug plans.	Payment to pharmacy of 20% of the charge to Pharmacare for dispensing the drug up to a maximum of $200 per year per senior.	Insured benefits may be obtained from a non-participating pharmacy, physician or institution. Bills are submitted by providers to the plan.
	Special Drug Program	Provincial residents who qualify for income assistance. Residents who qualify under Family Benefits Program. Children in foster care. Residents diagnosed with cystic fibrosis, diabetes insipidus, growth hormone deficiency, HIV/AIDS, or who have had organ transplants.		$3 per prescription; no yearly limit. 20% co-payment (maximum of $150 per person per year).	
	Canadian Cancer Society Funded Drug Program	Cancer patients who meet income requirements. Patients whose gross family income is under $12,000 per year. Patients whose gross family income is between $12,001 and $15,720 and who have no other drug coverage.	Cancer patients with gross family income of more than $12,000 per year.	Cancer patients may be required to share costs. Although there is no co-payment, some drugs cost more than maximum allowable cost, and patients are responsible for difference in price.	Payments normally made directly to provider except for cancer drugs for which payment is made to the Cancer Society.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
New Brunswick	Prescription Drug Program consists of: Seniors Drug Plan, Nursing Home Beneficiary Group; Human Growth Hormone; Children in Care; Organ Transplant Beneficiary Group; Cystic Fibrosis Beneficiary Group; HIV Beneficiary Group; and Human Resources Development.	Seniors aged 65 or older who receive the Guaranteed Income Supplement or qualify for benefits by a declaration of income. Eligibility is based on income.	None, except as indicated in description of eligible beneficiaries.	Beneficiaries of Seniors Plan required to pay co-payment of $9.05 per prescription. Annual co-payment for Guaranteed Income Supplement recipients. Yearly co-payment ceiling applies only to seniors who receive Guaranteed Income Supplement. Cystic fibrosis, HIV, organ transplant, human growth hormone programs: registration fee of $50 and co-payment of $20 for each prescription up to annual ceiling of $500 per family. Persons on social assistance are exempt from yearly registration fee.	Services provided are billed directly to the plan.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Quebec	Prescription Drugs and Pharmaceutical Services Program	Provides basic coverage for all Quebec residents– persons are insured under a group plan (Group Insurance or Employee Benefit Plan) or by the Régie de l'assurance-malade du Québec (RAMQ). Prescription drug insurance is obligatory and financial contributions are required; Income Security Recipients; persons aged 65 or older (RAMQ); and persons without access to prescription drug insurance (covered by RAMQ).	Classes of persons entitled to coverage under another act of Quebec, Act of Parliament, or laws of another province. Alternative coverage must be at least equivalent to basic Quebec plan.	In group plans, must not exceed 25% of cost of prescription drugs purchased. Maximum contribution must not exceed $750 per adult per year, including any deductible amount applicable to children. Persons insured by board must pay premium of $175 per year whether or not any medications purchased. Maximum contribution based on combination of premium charges, deductibles and co-insurance charges. Maximum contribution varies by beneficiary class and income. For persons aged 65 or older receiving the Guaranteed Income Supplement, a maximum of $16.67 to $62.50 per month per adult, depending on level of Guaranteed Income Supplement. Persons on Income Security pay $16.67 per month per adult. Persons without access to RAMQ pay maximum of $62.50 per month per adult; no contributions payable for children.	Services provided by pharmacists who are members of l'Association québécoise des pharmaciens.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Ontario	Three programs: Ontario Drug Benefit Program; Trillium Drug Program; Special Drugs Program. Each eligible drug product is listed in Drug Benefit/Formulary/ Comparative Drug Index.	People aged 65 or older; residents of long-term care facilities or homes for special care; people receiving professional services under the Home Care Program; social assistance recipients (general welfare or family benefits assistance); and Trillium Drug Program recipients. The Special Drugs Program provides selected drugs for Ontario residents with end-stage renal disease, cystic fibrosis, Gaucher's Disease, growth hormone deficiency, HIV/AIDS, organ transplants, schizophrenia, and thalassemia.	Ontario residents not specifically identified as eligible.	Single people aged 65 or older with annual income of $16,018 or more and seniors in couples with a combined income of $24,175 or more pay $100 deductible per senior, then pay up to $6.11 toward dispensing fee. Up to $2 per prescription, at discretion of pharmacist. Income-based deductible per person per family per year, then up to $2 per prescription, at discretion of pharmacist.	Services provided online through network of pharmacies, dispensing physicians, hospital outpatient pharmacies. Providers submit claim to plan. Persons not eligible for coverage under Ontario Drug Benefit Program pay between $1.99 and $16.95 dispensing fee per prescription. Maximum dispensing fee for drugs listed in formulary is $6.11. Pharmacy mark-up is 10% over Drug Index price.
Manitoba	Three programs: Pharmacare; Social Allowance Health Services; Personal Care Home Drug Program. The Manitoba Drug Benefits and Interchangeability Formulary lists benefits under the Pharmacare Program and inter-changeable drugs.	Persons eligible for Manitoba Health coverage whose prescriptions not paid by other provincial or federal programs or by private drug insurance program; persons whose eligible prescription drug costs exceed their Pharma-care deductible; residents who receive social assistance or who are residents of personal care homes.		Deductible of 3% of adjusted family income over $15,000 or 2% of adjusted family income under $15,000. No co-payment after deductible is exceeded. None for recipients of social assistance, or for residents of personal care homes.	Service provided by pharmacists, and in some regions, physicians. Registrants to Pharmacare program are assessed for deductible portion of drug charges. Online pharmacy database determines deductible charge. After deductible exceeded, program pays 100% of eligible prescription drug charges.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Saskatchewan	Saskatchewan Prescription Drug Plan Saskatchewan Formulary lists drugs approved for coverage under the Drug Plan.	All residents holding valid Saskatchewan Health Services card, except those whose prescription costs are paid by another government agency.	Those whose prescription costs are paid by another government agency: Status Indians, Department of Veterans Affairs beneficiaries, Workers' Compensation Board claimants, RCMP, Armed Forces personnel, federal penitentiary inmates.	Deductibles depend on type of beneficiary. For families on Family Income Supplement: $100 deductible semi-annually; co-payment of 35%. For seniors who receive Guaranteed Income Supplement: $200 deductible semi-annually; co-payment of 35%. For residents on Saskatchewan Assistance Plan: $2 per prescription, waived for certain adults and children under age 18, or for people on long-term medications. Co-payment waived for Saskatchewan Aids to Independent Living, persons with cystic fibrosis or chronic end-stage renal disease, registered palliative care patients, residents using certain high cost drugs. Deductible and co-payment adjusted for families, including families with seniors if annual drug costs exceed 3.4% of adjusted income. All other residents: $850 deductible semi-annually per person or family, then 35% co-payment.	Claims submitted by means of electronic data and adjudicated online. Pharmacies collect payment.

Overview of provincial drug insurance programs in Canada – continued

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
Alberta	Alberta Health Alberta Health Drug Benefit List identifies drug benefits and whether they have full or restricted listings. All plans are administered by Alberta Blue Cross.	Prescription drugs available without charge to registered Alberta residents aged 65 or older, their spouses and dependants, persons who qualify for Alberta Widows Pension (ages 55 to 64) and their dependants. Voluntary plan available to other registered Alberta residents subject to payment of a premium. Alberta Health also funds drugs for residents of long-term care facilities and designated drugs under Special Drug Programs for Alberta residents with cancer, cystic fibrosis, growth hormone deficiency, HIV/AIDS, organ transplants, tuberculosis, sexually transmitted diseases, and rheumatic fever. These programs are funded under global budget provided to regional health authorities and the Alberta Cancer Board.	None.	Annual $50 deductible on non-drug benefits (except for senior citizens and eligible widows) and 30% co-payment charge for prescriptions up to maximum of $25 per eligible drug per prescription. Alberta government maintains Alberta Health Drug Benefit List. Program will only pay for lowest-priced drug product where interchangeable products can be used. $25 maximum does not apply in cases where more expensive drug is selected; these patients are responsible for additional cost. No charge for designated drugs through special programs; beneficiaries must be registered with individual programs and obtain drugs through designated hospital pharmacies in Edmonton and Calgary.	Depending on benefit covered, Alberta Blue Cross will pay provider of service, pharmacy, or patient.

Overview of provincial drug insurance programs in Canada – concluded

Province	Plan	Eligible beneficiaries	Exclusions	Co-payment/ Deductible	Mode of payment
British Columbia	Pharmacre	Pharmacare is divided into plans that cover: seniors; permanent residents of adult licensed long-term care facilities; residents not receiving benefits under any Pharmacare program and who are registered with Medical Services Plan; social services recipients; cystic fibrosis patients; children under At Home Program or Associate Family Program; clients of mental health centres who require psychiatric medications; and Home Oxygen Subsidy Program.	None.	First $200 of dispensing fee paid by senior user each year. Pharmacare covers ingredient cost and dispensing fees over $200. Residents receiving premium assistance under Medical Services Plan pay yearly deductible of $600. Once a family has paid a total of $2,000 per year in costs recognized by Pharmacare, Pharmacare pays 100% of further costs. No co-payment or deductibles are associated with cystic fibrosis, or child-at-home programs, residents of long-term care facilities. Persons on premium assistance pay a $600 deductible; Pharmacare pays 100% of further costs.	Provincial government pays suppliers directly for groups who receive benefits at no cost. For all other residents, deductible and co-payments are calculated at point of sale through pharmacy's online database.

Sources: *References 30-43.*

Table B
Total health care expenditures, by category, Canada, 1975 to 1996

						Drugs				
	Total†	Hospitals‡	Other institutions	Physicians‡	Other professionals	Total	Prescribed§	Non-prescribed††	Capital	Other expenditures
	$ millions (current dollars)									
1975	12,260.1	5,514.3	1,124.3	1,839.9	1,094.6	1,076.2	770.6	305.6	536.1	1,074.6
1976	14,102.5	6,408.7	1,367.7	2,071.0	1,273.0	1,197.9	881.9	316.0	544.1	1,240.1
1977	15,500.9	6,841.6	1,575.9	2,284.4	1,491.4	1,309.5	985.0	324.5	563.7	1,434.4
1978	17,172.1	7,444.3	1,850.3	2,566.7	1,711.7	1,442.0	1,049.2	392.8	672.2	1,484.9
1979	19,230.8	8,176.2	2,169.5	2,857.0	1,957.2	1,655.3	1,159.8	495.5	725.1	1,690.5
1980	22,353.4	9,399.2	2,544.9	3,287.5	2,260.0	1,881.5	1,295.2	586.3	990.7	1,989.4
1981	26,363.9	11,134.5	2,892.3	3,824.8	2,626.9	2,328.9	1,673.9	655.0	1,111.2	2,445.3
1982	30,851.0	13,238.2	3,346.3	4,420.8	3,037.5	2,635.9	1,920.9	715.0	1,394.8	2,777.5
1983	34,107.7	14,560.6	3,707.7	5,052.7	3,350.2	2,949.6	2,103.8	845.8	1,436.6	3,050.3
1984	36,775.2	15,452.1	3,898.4	5,525.8	3,681.7	3,310.8	2,252.2	1,058.6	1,504.1	3,402.2
1985	39,889.5	16,386.3	4,089.1	6,046.7	4,131.9	3,793.4	2,557.6	1,235.8	1,657.7	3,784.4
1986	43,441.9	17,800.1	4,074.4	6,675.1	4,522.3	4,405.6	3,006.6	1,399.0	1,816.5	4,147.8
1987	46,939.8	19,142.1	4,335.7	7,342.2	4,915.2	4,900.5	3,278.8	1,621.7	1,884.4	4,419.8
1988	51,092.3	20,561.3	4,748.9	7,947.8	5,353.4	5,506.4	3,721.5	1,784.9	1,910.9	5,063.4
1989	56,303.2	22,461.4	5,150.8	8,516.3	5,893.8	6,218.0	4,242.3	1,975.7	2,113.9	5,949.1
1990	61,229.5	24,058.4	5,757.5	9,258.1	6,415.4	6,906.3	4,847.7	2,058.6	2,162.5	6,671.2
1991	66,492.1	25,928.3	6,350.9	10,219.3	6,945.3	7,674.6	5,438.0	2,236.6	2,018.3	7,355.5
1992	70,003.5	26,879.3	6,869.5	10,464.2	7,282.8	8,461.3	6,059.6	2,401.7	2,058.0	7,988.4
1993	71,927.0	27,066.3	6,090.9	10,513.3	7,611.2	9,091.2	6,531.3	2,559.9	1,986.5	8,748.7
1994	73,367.9	26,530.1	7,047.5	10,747.2	8,043.8	9,295.0	6,678.2	2,616.9	2,371.5	9,332.7
1995	74,223.3	25,917.0	7,355.4	10,597.6	8,454.5	9,925.1	7,283.5	2,641.5	2,295.6	9,678.3
1996	75,304.1	25,861.3	7,529.2	10,744.5	8,827.0	10,207.0	7,527.6	2,679.4	2,221.0	9,914.2
					%					
1975	100.0	45.0	9.2	15.0	8.9	8.8	6.3	2.5	4.4	8.8
1976	100.0	45.4	9.7	14.7	9.0	8.5	6.3	2.2	3.9	8.8
1977	100.0	44.1	10.2	14.7	9.6	8.4	6.4	2.1	3.6	9.3
1978	100.0	43.4	10.8	14.9	10.0	8.4	6.1	2.3	3.9	8.6
1979	100.0	42.5	11.3	14.9	10.2	8.6	6.0	2.6	3.8	8.8
1980	100.0	42.0	11.4	14.7	10.1	8.4	5.8	2.6	4.4	8.9
1981	100.0	42.2	11.0	14.5	10.0	8.8	6.3	2.5	4.2	9.3
1982	100.0	42.9	10.8	14.3	9.8	8.5	6.2	2.3	4.5	9.0
1983	100.0	42.7	10.9	14.8	9.8	8.6	6.2	2.5	4.2	8.9
1984	100.0	42.0	10.6	15.0	10.0	9.0	6.1	2.9	4.1	9.3
1985	100.0	41.1	10.3	15.2	10.4	9.5	6.4	3.1	4.2	9.5
1986	100.0	41.0	9.4	15.4	10.4	10.1	6.9	3.2	4.2	9.5
1987	100.0	40.8	9.2	15.6	10.5	10.4	7.0	3.5	4.0	9.4
1988	100.0	40.2	9.3	15.6	10.5	10.8	7.3	3.5	3.7	9.9
1989	100.0	39.9	9.1	15.1	10.5	11.0	7.5	3.5	3.8	10.6
1990	100.0	39.3	9.4	15.1	10.5	11.3	7.9	3.4	3.5	10.9
1991	100.0	39.0	9.6	15.4	10.4	11.5	8.2	3.4	3.0	11.1
1992	100.0	38.4	9.8	14.9	10.4	12.1	8.7	3.4	2.9	11.4
1993	100.0	37.6	9.6	14.6	10.6	12.6	9.1	3.6	2.8	12.2
1994	100.0	36.2	9.6	14.6	11.0	12.7	9.1	3.6	3.2	12.7
1995	100.0	34.9	9.9	14.3	11.4	13.4	9.8	3.6	3.1	13.0
1996	100.0	34.3	10.0	14.3	11.7	13.6	10.0	3.6	2.9	13.2

Data source: *Canadian Institute for Health Information, reference 8*
† Detail may not add to totals because of rounding.
‡ Includes drugs dispensed in hospitals and by physicians.
§ Substances sold under the Food and Drug Act that require a prescription
†† Includes over-the-counter drugs and personal health supplies.

Table C
Total drug expenditures (prescribed† and non-prescribed‡), Canada, 1975 to 1996

			Public sector				
	Total	Private sector	Total, public sector	Provincial governments	Federal direct	Workers' Compensation	Percentage of total drug expenditures
			$ millions (current dollars)				%
1975	1,076.2	918.7	157.5	142.0	13.5	2.0	14.6
1976	1,197.9	983.6	214.3	196.2	15.7	2.3	17.9
1977	1,309.5	1,045.9	263.6	243.4	17.8	2.5	20.1
1978	1,442.0	1,117.6	324.5	301.4	20.3	2.8	22.5
1979	1,655.3	1,272.0	383.3	359.2	21.1	3.1	23.2
1980	1,881.5	1,419.6	461.9	431.1	26.7	4.2	24.5
1981	2,328.9	1,765.2	563.7	527.2	30.4	6.1	24.2
1982	2,635.9	1,955.5	680.4	636.1	36.8	7.5	25.8
1983	2,949.6	2,135.6	814.0	761.2	43.8	9.0	27.6
1984	3,310.8	2,371.3	939.5	879.2	49.6	10.8	28.4
1985	3,793.4	2,683.6	1,109.8	1,039.2	58.0	12.6	29.3
1986	4,405.6	3,097.9	1,307.8	1,229.2	63.3	15.2	29.7
1987	4,900.5	3,422.2	1,478.3	1,392.3	68.2	17.8	30.2
1988	5,506.4	3,816.8	1,689.7	1,580.3	88.6	20.8	30.7
1989	6,218.0	4,265.8	1,952.2	1,825.9	103.4	22.9	31.4
1990	6,906.3	4,649.8	2,256.5	2,107.8	121.2	27.5	32.7
1991	7,674.6	5,095.0	2,579.6	2,413.5	133.0	33.2	33.6
1992	8,461.3	5,589.1	2,872.2	2,691.3	142.8	38.1	33.9
1993	9,091.2	6,115.4	2,975.8	2,784.8	150.8	40.2	32.7
1994	9,295.1	6,285.5	3,009.7	2,811.8	158.0	39.9	32.4
1995	9,925.0	6,667.8	3,257.2	3,049.1	166.0	42.1	32.8
1996	10,207.0	6,967.2	3,239.7	3,024.6	172.7	42.4	31.7

Data source: *Canadian Institute for Health Information, reference 8*
† Substances sold under the Food and Drug Act that require a prescription
‡ Includes over-the-counter drugs and personal health supplies.