Lifestyle behaviours

The single most enduring impact of A New Perspective on the Health of Canadians *may have been focussing the spotlight on lifestyle behaviours as a critical influence on health. A corollary of this focus was the belief that lifestyle influences were avoidable, in contrast to genetic or biological influences such as aging or gender. Thus, smoking, for example, became routinely referred to as the number one preventable cause of disease and death. Another outcome of* A New Perspective *was the 1978–79* Canada Health Survey, *the first to document comprehensively the health practices of the general Canadian population. Since that time, there have been more surveys of health behaviours than of any other determinant of health. This section reports the latest findings on a wide range of those behaviours.*

Overview

Recent surveys document some positive changes in behaviour, such as more leisure-time activity (Topic 46), breast-feeding (Topic 48), bicycle helmet use (Topic 49), and recycling and composting (Topic 39). Other hoped-for changes have not materialized, however: there has been no change in smoking (Topic 40), contemplating quitting smoking (Topic 41), or the use of cocaine (Topic 45). Still other changes have been negative: increased smoking by teens (Topic 40), more regular heavy drinking (Topic 43), increased cannabis use (Topic 45), and greater consumption of dietary fat (Topic 47). Considering both the magnitude of the risks to health and the number of persons at risk, physical inactivity and diet rank with smoking as major threats to the well-being of the Canadian population.

There are strong and consistent differences in lifestyle behaviours related to social status, and these put less educated or lower-income Canadians at greater risk for poor health. The differences between university graduates and those who have not finished high school are often on the order of twice the level of risk, and sometimes this extends to a three-fold difference (e.g., in the regular use of bicycle helmets) or even a four-fold difference (e.g., in smoking during pregnancy) (Topic 40). Other behaviours with a strong social status gradient are smoking (Topic 40), nicotine dependence (Topic 41), regular heavy drinking (Topic 43), regular physical activity (Topic 46), condom use with a new sexual partner (Topic 50), recycling and composting (Topic 39), sun protection (Topic 51), and intentions to change health behaviours in the future (Topic 52).

While not as consistent as these differences related to social status, there are contrasts among the provinces that are often as pronounced. Behaviours that vary by a factor of 1.5–2 or more include contemplating giving up cigarettes (Topic 41), drinking regularly (Topic 42) or drinking heavily (Topic 43), driving after drinking and routinely arranging for a designated driver (Topic 44), using cannabis and other illegal drugs (Topic 45), and using a bicycle helmet routinely (Topic 49). Interestingly, the use of seatbelts (Topic 49) is quite uniform across provinces and education groups, suggesting that a well-explained and well-enforced law is an effective leveller of the usual social gradient in health behaviour.

On data sources and gaps

As noted above, lifestyle behaviour is one of the more thoroughly surveyed of the health determinants, and reasonably good time series exist for many health practices. Because of the high level of social desirability of so many of these practices, however, and because many of them are complex and some are simply illegal, the validity of reported behaviours is often questioned. As important as additional population data on health practices, therefore, may be a better understanding of the quality of existing data. More detailed analysis, such as examining the profiles of young heavy drinkers, is important, as is further monitoring of increased drinking rates by young Canadians, especially young women.

39

Environmental actions

Introduction

The quality of the physical environment (see Topic 14) is an important part of health, and this is clearly recognized by Canadians. This topic reports on actions taken by Canadians to preserve and protect their physical environment.

Environmental actions, 1997–98

In late 1997 and early 1998, large numbers of adult Canadians reported taking a range of actions to preserve their physical environment or to protect their own health against perceived environmental hazards.[1,2] Over half of all adults (59%) claimed to have avoided certain consumer products for environmental reasons in the previous year, while large numbers (51%) also gathered information about environmental issues (Fig. 39).[1,2] Smaller, but still substantial, proportions belonged to environmental groups or supported them financially (28%) or voted for (or against) political candidates or parties because of their stand on environmental issues (27%). In addition to those who reported these actions, there was an additional significant minority considering each of them in the year leading up to the survey.

Among ongoing activities to preserve the environment, recycling or composting was the most common, being reported by 88% of Canadian adults (Table 39).[1,2] Buying environmentally friendly products (64%) and using energy-saving devices (69%) were also widely reported. While actions that might protect oneself from environmental hazards were less common, there were still very sizable numbers of Canadians who reported using a water purifier at home (42%) and buying organic food (40%). (While the *reasons* for these actions were not ascertained, they are consistent with a high level of concern with food and water as the pollution path of greatest concern to over one-quarter of the population.[2])

Only approximate comparisons with an earlier period are possible, as these questions have not remained stable over time. In 1990, 67% of Canadian adults reported recycling, and 22% claimed to be composting.[3] Since most persons who composted also recycled, this suggests some increases in these behaviours over the previous eight years. In contrast, there may have been less progress in buying "green" products, since 61% reported purchasing goods made with recycled products in 1990 and 64% more recently reported choosing environmentally friendly products.

Differences among groups

Women were somewhat more likely than men to report these environmentally sensitive behaviours, especially buying "green" products and organic food and purifying their home drinking water (Table 39).[1,2] There was little variation in these behaviours by age, with the exception of purchasing environmentally friendly products, which was notably less common among those age 55 and older.

As education increases, so too does the likelihood of most of these environmentally sensitive behaviours (Table 39). Only the consumption of organic food was uniform across education levels. Buying "green" was particularly associated with education: university graduates were 1.4 times as likely to report this behaviour as Canadians who had not finished high school.

Regional differences in these behaviours are modest, but there are some consistent patterns: Quebeckers were least likely to report all the behaviours except the consumption of organic food, while residents of Toronto and Vancouver were above the national average in their use of water filters

(Table 39). Buying "green" and recycling were reported most often in Ontario.

On definitions and methods

The *Environmental Monitor* is a regular telephone survey conducted by Environics Research Group. These results were obtained from approximately 1,500 adults in late 1997 and early 1998. The modest size of the sample suggests that intergroup comparisons should be made with caution. For this same reason, the breakdowns by education in Table 39 were not standardized for age.

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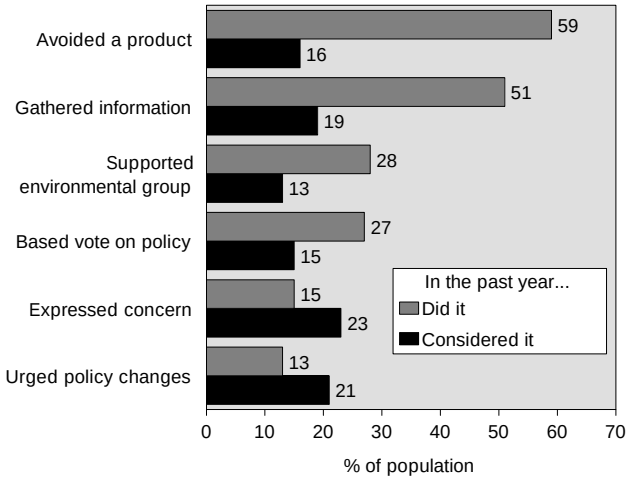
Figure 39. **Environmentally inspired actions in the past year, age 18+, Canada, 1997–98**



Sources: Environics Research Group Ltd., *The Environmental Monitor, 1997, Cycle 4*, Toronto: Environics, 1997; Environics Research Group Ltd., *The Environmental Monitor, 1998, Cycle 1*, Toronto: Environics, 1998.

Table 39. **Actions currently being taken for environmental reasons, by age and sex, by education, and by province/region/city, age 18+, Canada, 1997–98**

	Own "green" products	Recycle or compost	Own energy-saving device	Purify drinking water	Eat organic food
	(%)	(%)	(%)	(%)	(%)
Total, age 18+	**64**	**88**	**69**	**42**	**40**
Male	57	86	68	39	35
Female	70	90	71	45	45
Age 18–34, total	67	89	64	44	39
Male	55	86	61	42	34
Female	78	91	67	47	45
Age 35–54, total	71	90	76	40	40
Male	64	89	74	36	35
Female	78	91	79	44	45
Age 55+, total	50	85	68	42	42
Male	51	82	71	39	40
Female	50	89	66	45	45
Less than high school	54	70	59	33	37
High school	59	91	72	40	42
College	64	90	70	46	39
University	73	95	72	43	43
Atlantic	64	85	73	37	43
Quebec	60	81	54	23	40
Montreal	63	88	56	24	34
Ontario	67	93	76	53	39
Toronto	67	93	64	60	37
Prairies	60	90	72	42	37
British Columbia	65	90	72	49	44
Vancouver	62	88	75	60	34

Sources: Environics Research Group Ltd., *The Environmental Monitor, 1997, Cycle 4*, Toronto: Environics, 1997; Environics Research Group Ltd., *The Environmental Monitor, 1998, Cycle 1*, Toronto: Environics, 1998.

40

Smoking

Introduction

Smoking is widely acknowledged as the most important preventable cause of death in industrialized countries. It is a major cause of illness and death (Topic 79) and thus of direct and indirect costs, which have been estimated at $7.8–11.1 billion annually.[1] In addition to the health impacts of smoking for the smoker and the adult non-smoker, which are at least recognizable to most adults in Canada (Topics 36 and 37), smoking has a disproportionately high impact on the fetus, the newborn, and the infant.[2] These impacts range from low birth weight (Topic 64) to respiratory problems that are exacerbated because infant lungs are large relative to body size. For these reasons, the prevention and reduction of smoking, especially among pregnant women, and the protection of non-smokers are appropriate concerns of government.

Risk to smokers and to others near the smoker, including the fetus, depends on *type of smoker* and *amount smoked*. In both cases, the focus is on cigarettes in this topic, because they are by far the most commonly used form of tobacco.

Prevalence of smoking, 1996–97

In 1996–97, 28% of Canadians age 12 and older smoked (Table 40),[3] on either a daily (24%) or an occasional basis (4%) (data not shown). This level is essentially unchanged from the 29% of Canadians who were current smokers in 1994–95.[4] Former smokers accounted for another 29% of the population in 1996–97, but the largest group (44%) of Canadians remained those who have never smoked at all (Table 40). Nonetheless, there are still nearly 7 million smokers in Canada. The daily smokers among this group smoked an average of 17 cigarettes a day, down from a level of 19 cigarettes per day in 1994–95.[3,4]

From 1970 to 1990, the prevalence of smoking dropped impressively, from 47% to 30% of Canadians age 15 and older. Since 1990, there has been some fluctuation in prevalence, but no clear trend (Fig. 40a).[3,4,5] The national prevalence objective of 27% by 1996 for Canadians age 15 and older was thus missed, and the objective of 24% by 2000[6] is also in jeopardy.

About 36% of new mothers who had ever been smokers acknowledged smoking during their most recent pregnancy, and they smoked an average of nine cigarettes per day during that period (Table 40).[3] This amounts to about 146,000 women who smoked during their last pregnancy.

In 1996, Canada compared quite favourably with many European industrialized countries and Japan,[7] although Finland, the United States, Australia, and the United Kingdom had a lower prevalence of daily smokers.[8]

Differences among groups

The chances of being a current smoker are highest if one is 18–24 years old or has not completed high school (Table 40). The heaviest daily smokers are males, persons age 45–54, and people with less than a university education.

There is also a difference between the numbers of occasional smokers by age and sex (Fig. 40b).[3] Young women age 15–19 and young men age 18–19 were the most likely groups to be occasional smokers (8%). Men and women under the age of 35 were more likely to be occasional smokers than men and women age 35 and older (4–8% vs. 2–3%).

Overall, males continue to have a greater likelihood of smoking and to smoke more cigarettes daily (Table 40), a pattern that has been true for at least a quarter century, although the gender gap in prevalence is narrowing (Fig. 40a).

There are some important ways in which teen smoking is distinctive from that of the general population. Most significantly, the teen rate of current smokers *increased* substantially between 1990 (21%)[5] and 1994–95 (29%),[4] unlike that of other groups in the population, and this level remained at 29% in 1996–97[3] (Fig. 40c). Youth age 12–17 are also the only age group in which females are more likely than males to smoke (Table 40). The relative attraction of smoking for young females is most pronounced at age 15–17 but occurs as young as age 12–14: 10% of girls that age were current smokers, compared with 6% of boys.

The prevalence of smoking is inversely related to education, with impressive strength (Table 40). People with less than a high school education are almost *three times more likely* than university graduates to be current smokers. University-educated daily smokers also smoke about three fewer cigarettes per day than daily smokers with less education.

There are substantial interprovincial variations in current smoking, from a low of 24% in British Columbia to a high of 32% in Quebec and Prince Edward Island (Table 40). Canadians who have never smoked are most likely to live in Ontario, Alberta, or Manitoba and least likely to be from Newfoundland or Nova Scotia. Amount smoked by daily smokers ranged from a low of 16 cigarettes per day in Newfoundland to a high of 20 cigarettes per day in Prince Edward Island.

Of the new mothers age 18–24 who were reported as current or former smokers, just under half (42–46%) actually smoked during their last pregnancy (Table 40).[3] Smoking while pregnant became less prevalent with age; however, the amount smoked daily by these new mothers *increased* with age.

The prevalence of smoking while pregnant is very strongly related to education. Among these ever-smokers, about three-fifths (61%) of pregnant women with less than a high school education smoked during their pregnancy, compared with only 14% of those with a university education (Table 40).[3] Further, pregnant smokers with less than a high school education smoked an average of 10 cigarettes per day, while the university-educated pregnant smokers smoked an average of five cigarettes per day.

Pregnant smokers in Prince Edward Island and Saskatchewan smoked the most (15 cigarettes per day), while pregnant women in British Columbia smoked the least (four cigarettes per day) (Table 40).

Small sample sizes and different reporting periods for smoking during pregnancy preclude meaningful comparison of provincial prevalence levels.

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions.[9] The findings for smokers are based on the full sample of 82,000 respondents age 12 and older.

Data on pregnant smokers describe women between the ages of 15 and 49 who were current or former smokers and pregnant within two years of the survey (five years in Alberta). Education data for pregnant women were not age-standardized, but the restricted age range for this group reduces the need for standardizing.

References

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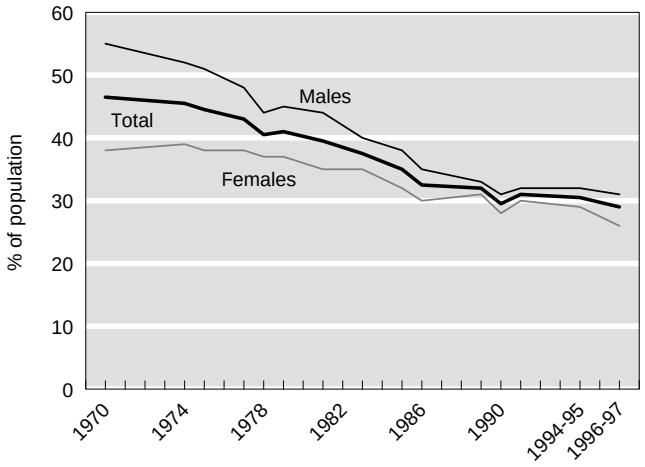
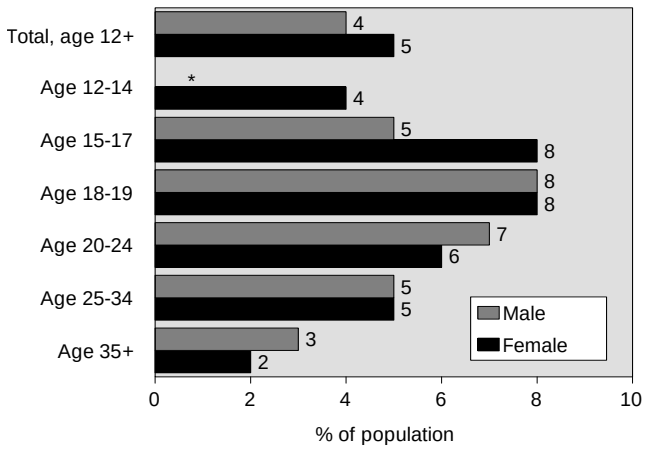
Figure 40a. **Prevalence of smoking, by sex, age 15+, Canada, 1970 to 1996–97**



Sources: Pederson LL, Smoking, in Health and Welfare Canada, Stephens T, Fowler Graham D (eds.), *Canada's Health Promotion Survey 1990: Technical Report*, Ottawa: Minister of Supply and Services Canada, 1993 (Cat. No. H39-263/2-1990E); Statistics Canada, *National Population Health Survey, 1994–95* and *1996–97*, special tabulations.

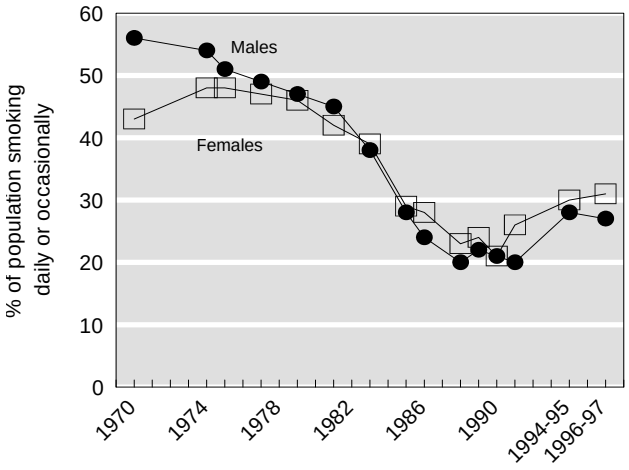
Figure 40b. **Prevalence of occasional smoking, by age and sex, age 12+, Canada, 1996–97**



* Data suppressed because of high sampling variability.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Figure 40c. **Prevalence of smoking, by sex, age 15–19, Canada, 1970 to 1996–97**



Sources: Statistics Canada and Health Canada, various national surveys.

Table 40. **Type of cigarette smoker and number of cigarettes used by daily smokers, by age and sex, by education (age-standardized), and by province, all persons age 12+, and whether smoked during last pregnancy and number of cigarettes smoked daily, by age, by education,[a] and by province, recently pregnant ever-smokers age 15–49, Canada, 1996–97**

	Population estimate	All persons age 12+				Women ever-smokers age 15–49	
		Current smoker	Former smoker	Never smoked	Average number of cigarettes daily	Smoked during last pregnancy	Average number of cigarettes daily
	('000)	(%)	(%)	(%)		(%)	
Total, age 12+	**24,595**	**28**	**29**	**44**	**17**		
Male	12,099	30	31	39	19		
Female	12,495	25	26	48	16	**36**	**9**
Age 12–14, total	1,151	8	14	78	9		
Male	580	6	13	80	11		
Female	571	10	15	75	8		
Age 15–17, total	1,284	25	20	54	12		
Male	683	22	19	59	13		
Female	601	29	22	49	11	#	4
Age 18–19, total	826	35	16	48	13		
Male	403	36	14	50	14		
Female	424	34	19	46	12	46	7
Age 20–24, total	1,873	35	20	45	14		
Male	948	38	18	43	15		
Female	924	31	22	47	13	42	8
Age 25–34, total	4,472	34	22	44	16		
Male	2,209	36	19	45	18		
Female	2,263	31	25	44	15	36	10
Age 35–44, total	5,238	33	28	38	19		
Male	2,645	37	29	34	20		
Female	2,593	30	27	43	17	29	11
Age 45–54, total	3,771	28	34	37	20		
Male	1,922	31	38	30	21		
Female	1,849	25	29	45	18	#	13
Age 55–64, total	2,565	24	38	38	19		
Male	1,231	26	47	26	21		
Female	1,334	21	29	49	17		
Age 65–74, total	2,096	17	41	42	17		
Male	930	20	55	25	18		
Female	1,166	15	30	55	16		
Age 75+, total	1,320	11	41	48	16		
Male	549	13	60	26	17		
Female	771	9	27	63	14		
Less than high school	7,526	39	26	35	18	61	10
High school	9,307	28	30	42	17	36	9
College	4,134	25	28	37	18	31	9
University	3,461	14	27	49	15	14	5
Newfoundland	478	31	31	38	16	#	8
Prince Edward Island	113	32	28	40	20	#	15
Nova Scotia	775	31	31	38	18	#	7
New Brunswick	632	28	30	42	18	#	11
Quebec	6,131	32	28	40	19	#	9
Ontario	9,323	25	27	47	17	32	9
Manitoba	902	26	29	44	17	34	8
Saskatchewan	801	29	30	40	17	#	15
Alberta	2,244	28	26	46	17	38	10
British Columbia	3,196	24	34	42	17	#	4

Data suppressed because of high sampling variability

[a] Education data not age-standardized for pregnant women because of small sample size.

Source: Statistics Canada, *National Population Health Survey*, *1996–97*, special tabulations.

41

Nicotine dependence

Introduction

The last 30 years have seen impressive reductions in the prevalence of smoking among Canadians,[1] even though this trend has stalled since the early 1990s (Topic 40). While some of the decline, especially prior to 1994, can be attributed to lower rates of taking up smoking among youth, much of it is the result of quitting among current smokers. There are several factors that may contribute to a smoker's decision to quit smoking. Generally, health concerns are the biggest reason smokers attempt to quit or would like to quit. Other reasons include cost, restrictions, and pressure from family and friends.[2] Nevertheless, it is clear that nicotine dependence is very powerful and that quitting is not easy.

This topic describes levels of tobacco dependence among daily smokers, based on two indicators: time to first cigarette in the morning and contemplation of quitting. (Topic 40 describes the extent and distribution of former smokers.)

Prevalence of tobacco dependence, 1996–97

In 1996–97, over half (59%) of the 5.6 million daily smokers in Canada were sufficiently addicted to nicotine that they had their first cigarette within a half hour of waking each morning; one-quarter (23%) had a cigarette within *five minutes* of waking. Overall, daily smokers were evenly divided between those contemplating quitting in the next six months and those not even considering a quit attempt (Table 41).[3] These "contemplators," who were taking the first tentative step towards cessation,[4] were about the same proportion of smokers as in 1994.[4]

Differences among groups

Among presumably well-established smokers age 25–64, there was little variation in time to first cigarette (Table 41). That this indicator of dependence *dropped* markedly at age 65 and older undoubtedly reflects a "survivor phenomenon" — the likelihood that daily smokers, especially those with high levels of dependence or daily consumption, have died early (Topic 79). However, contemplating quitting within the next six months was most prevalent among the youngest daily smokers, especially those age 12–14. This is consistent with other surveys showing that quit attempts are most common among teen smokers.[2] By age 65, there was relatively little contemplation of quitting — another and more perverse example of the survivor mentality. Over all age groups, there were no gender differences in time to first cigarette or contemplating quitting.

There was a pronounced *inverse* relationship between socio-economic status and nicotine dependence, just as there was an inverse relationship between the prevalence of smoking and social status, as indicated by education level (Topic 40). Dependence among university graduates, as indicated by having the first cigarette of the day within five minutes of waking, was half that of Canadians who had not finished high school (Fig. 41)[3]; a similar relationship holds for income adequacy (data not shown). Similarly, contemplating quitting became more common as education (Fig. 41) and income (data not shown) increased. Although dependence is a biological, not a social, process, these findings may reflect the greater influence of work-related restrictions on smoking among higher-income and better-educated Canadians (see Topic 12). It is consistent with the greater tendency to attempt quitting as social status increases.[4]

Interprovincial variation in nicotine dependence was less dramatic but still noteworthy, as it has implications for the success of smoking cessation campaigns and support for restrictions on public smoking. The lowest levels of dependence, as indicated by a very brief delay time before the first cigarette, were found in Ontario and Saskatchewan, where 20% of daily smokers lit up within the first five minutes daily (Table 41). The highest levels were in Nova Scotia and Quebec (28%). Contemplating quitting was most common in Ontario (54% of daily smokers) and least common in Quebec and Newfoundland (42%).

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The data presented here are based on a sample of 18,000 respondents age 12 and older. The survey also included a sample of 2,000 respondents under 12 years of age.[5]

These questions on dependence were asked only of daily smokers. Time to first cigarette is the key question from the Fagerström Scale of Nicotine Dependence,[6] while contemplating quitting within the next six months distinguishes "precontemplators" from "contemplators" in the five-stage continuum of quitting.[7]

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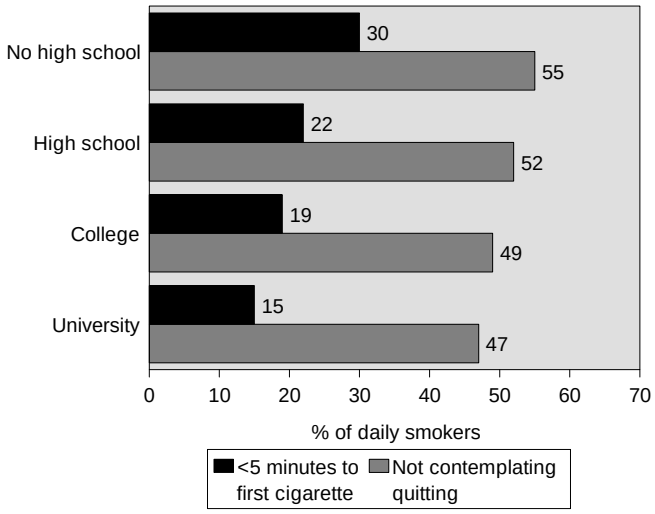
Figure 41. **Nicotine dependence, by education, daily smokers age 12+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 41. **Time to first cigarette in the morning and contemplation of quitting, by age and sex, by education (age-standardized), and by province, daily smokers age 12+, Canada, 1996–97**

	Population estimate	Time until first cigarette after waking[a]		Considering quitting[a]
		<5 minutes	6–30 minutes	
	('000)	(%)	(%)	(%)
Total, age 12+	**5,686**	**23**	**36**	**49**
Male	3,080	24	36	49
Female	2,605	23	35	48
Age 12–14, total	45	#	#	72
Male	16	#	#	#
Female	29	#	#	#
Age 15–17, total	242	21	27	56
Male	119	21	22	54
Female	123	#	32	59
Age 18–19, total	227	17	25	52
Male	119	21	31	55
Female	108	12	19	48
Age 20–24, total	497	20	28	54
Male	275	20	26	55
Female	222	21	31	54
Age 25–34, total	1,267	24	33	49
Male	672	23	36	48
Female	594	26	30	50
Age 35–44, total	1,553	25	39	49
Male	880	26	40	51
Female	674	24	39	45
Age 45–54, total	933	25	38	50
Male	519	26	40	51
Female	414	25	35	49
Age 55–64, total	524	26	41	47
Male	274	31	39	44
Female	250	21	43	51
Age 65–74, total	298	18	39	32
Male	153	18	40	31
Female	145	18	38	34
Age 75+, total	100	14	34	30
Male	53	#	33	28
Female	46	#	35	33
Less than high school	1,858	30	36	45
High school	2,403	22	35	48
College	1,006	19	37	51
University	390	15	27	53
Newfoundland	123	23	38	42
Prince Edward Island	29	24	37	49
Nova Scotia	208	28	34	47
New Brunswick	162	22	47	43
Quebec	1,719	28	33	42
Ontario	1,896	20	37	54
Manitoba	195	21	38	52
Saskatchewan	191	20	40	51
Alberta	520	23	35	50
British Columbia	642	25	32	53

Data suppressed because of high sampling variability

[a] As a percentage of all daily smokers.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

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Drinking

Introduction

While the health impact of moderate alcohol consumption is no longer controversial, excessive use can lead to problems of a social and health nature (Topics 43 and 44). High blood alcohol concentrations continue to be a major factor in fatal traffic crashes in Canada, particularly among young to middle-aged adults (Topic 80).

Individual risk due to drinking is a function of drinking status, the amount one drinks, and the frequency with which one drinks. This topic examines these variables. The next topic (Topic 43) provides statistics on problem drinking.

Prevalence and amount of drinking, 1996–97

In 1996–97, 53% of Canadians age 12 and older reported drinking at least one drink each month in the previous year (Table 42a).[1] This is essentially unchanged from the 55% reported in 1994–95.[2] Twelve percent reported never drinking in 1996–97. This amounts to 12.7 million Canadians who are regular drinkers and another 2.9 million who are lifetime abstainers; the balance consists of occasional and former drinkers.[1] The largest proportion of regular drinkers in Canada (43%) reported consuming an average of 1–6 drinks each week, while another third (32%) drank less than one, on average. Less than one-tenth (9%) of Canadians 12 and older reported drinking 14 or more drinks weekly, or an average of two or more per day.[1] Average weekly consumption is up from 1994–95, when 44% of regular drinkers had less than one drink per week, compared with 32% in 1996–97.[2]

In 1996–97, many more regular or occasional drinkers reported drinking less than once a month (28%) than reported drinking either daily (7%) or 4–6 times a week (3%) (Table 42b).[1] These overall values have changed little since 1994–95.[2]

There are no recent international data on alcohol consumption or frequency of consumption with which to compare the Canadian situation.

Differences among groups

Men were significantly more likely than women to be regular drinkers (63% vs. 43%) (Table 42a). This was true in all age groups but was most pronounced among 25–44 year olds, where three-quarters of men (74%) and half of women (49–50%) were regular drinkers. Male regular drinkers also reported higher average weekly consumption of alcohol than their female counterparts. Men were one and a half times more likely than women to drink 7–13 drinks each week (18% vs. 12%) and three times more likely to drink 14 or more drinks each week (13% vs. 4%).

Men also drink more frequently than women. Among regular and occasional drinkers, men were twice as likely as women to report drinking daily (9% vs. 4%) or 4–6 times a week (5% vs. 2%) (Table 42b). In contrast, women were twice as likely as men to report occasional drinking (less than one drink a month) (38% vs. 20%) (Fig. 42a).[1]

There is a bell-shaped relationship between drinking prevalence and age. The proportion of regular drinkers increases rapidly from age 12–14 through age 20–24, levels out, then starts to decrease at age 55–64. Less than one-third (30%) of Canadians age 75 and older reported drinking at least once a month. Amount drunk weekly by regular drinkers is less clearly related to age; persons age 20–24 and 55–64 were the only age groups to clearly exceed the national average for 14 or more drinks weekly (Table 42a).

Among regular drinkers, however, *daily* drinking increases considerably with age among both

men and women. Between 13% and 16% of drinkers age 55 and older drank daily, compared with only 1% of 20–24 year olds (Table 42b).

There is a *positive* relationship between regular drinking and education. As education increases, so does the likelihood that Canadians are regular drinkers. University graduates were most likely (61%) to drink at least once a month, while those with less than high school were least likely (44%) to do so (Table 42a).[1] The relationship between amount drunk and educational attainment is similar, though less pronounced: with each successive level of education, the likelihood of having had one or more drinks weekly increased. However, university graduates were least likely to have had 14 or more drinks weekly.

There were no education-related differences in drinking four or more times per week. However, drinking less than once a month was twice as common among Canadians who did not finish high school as among university graduates (Table 42b).

There is also a strong positive relationship between regular drinking and income adequacy (Fig. 42b).[1] People in the lowest income group were least likely (40%) to be regular drinkers and most likely (18%) to be abstainers, while people in the highest income group were by far the most likely (68%) to be regular drinkers and the least likely (9%) to be abstainers. People with the highest income were also least likely to consume an average of less than one drink per week.[1]

About 5% of drinkers in the lowest income category were daily drinkers, compared with 9% of drinkers in the highest income category (data not shown).[1] Also, drinkers with the lowest income were almost twice as likely to drink less than once a month, compared with drinkers with the highest income.

There are large interprovincial variations in drinking, with New Brunswick and Prince Edward Island both falling well below the average in terms of regular drinking prevalence (42% and 44%, respectively) and Quebec and British Columbia falling above average (57% and 56%, respectively) (Table 42a). People from Newfoundland and Ontario were most likely (14%) to be abstainers. Drinkers in British Columbia were most likely to have had one or more drinks per week, while drinkers from New Brunswick were least likely to do so. Nova Scotians (12%), Newfoundlanders, and Manitobans (11% each) who drank were most likely to have consumed 14 or more drinks per week compared with people from the other provinces.

There are also large interprovincial variations in drinking frequency. British Columbia and Ontario had the highest rates of daily drinkers (8%), although these rates were only slightly above the Canadian average (Table 42b). As well, although Ontarians were slightly above average in the rate of *daily* drinkers, they were the least likely to report regularly consuming five or more drinks on one occasion (see Topic 43).

In 1994–95, 59% of Aboriginal people in the territories were reported as regular or occasional drinkers, whereas non-Aboriginal residents of the territories were as likely as southern Canadians to be drinkers (78% and 75%, respectively).[3] Other research, however, indicates that when they do consume alcohol, Aboriginal people are more likely than non-Aboriginal people to have five or more drinks[4] at a sitting (see Topic 43).

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the full sample of 82,000 respondents age 12 and older.[5]

Where type of drinker is described, there is a focus on regular drinkers — that is, persons who report drinking at least one drink each month — and lifetime abstainers. The data on number of drinks consumed per week are based only on those respondents who are regular drinkers. One drink was defined for the respondent as one bottle or can of beer or a glass of draft, one glass of wine or a wine cooler, or one straight or mixed drink with one and a half ounces of hard liquor.

Questions on the frequency of drinking were asked of both regular and occasional drinkers. Occasional drinkers consume less than one drink a month. The definition of regular drinker differs from the definition used in earlier Canadian surveys, making trend analysis impossible before 1994–95.

It is generally accepted that frequency of drinking (as well as amount) is under-reported in household surveys.

References

1. Statistics Canada. *National Population Health Survey, 1996–97*. Special tabulations.
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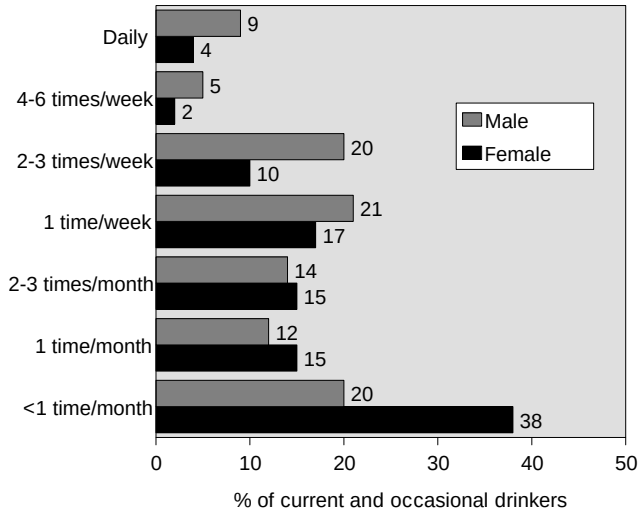
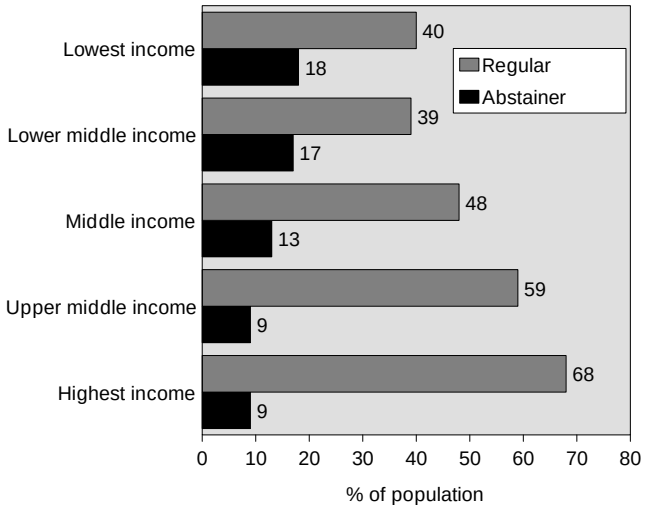
3. Diverty B, Pérez C. The health of northern residents. *Health Reports* 1998; 9(4): 49–58 (Statistics Canada Cat. No. 82-003-XPB).
4. Northwest Territories Bureau of Statistics. *1996 NWT Alcohol and Drug Survey*. *Report No. 1*. Yellowknife: Northwest Territories Bureau of Statistics, 1996.
5. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 42a. **Frequency of drinking, by sex, age 12+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Figure 42b. **Type of drinker, by income adequacy (age-standardized), age 12+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 42a. **Type of drinker and amount drunk weekly, by age and sex, by education (age-standardized),[a] and by province, age 12+, Canada, 1996–97**

	Population estimate	Type of drinker		Number of drinks per week[b]			
		Regular	Never	<1	1–6	7–13	14+
	('000)	(%)	(%)	(%)	(%)	(%)	(%)
Total, age 12+	**24,353**	**53**	**12**	**32**	**43**	**16**	**9**
Male	11,983	63	9	29	40	18	13
Female	12,370	43	15	36	48	12	4
Age 12–14, total	1,143	5	60	63	#	#	#
Male	575	6	59	65	#	#	#
Female	568	4	62	60	#	#	#
Age 15–17, total	1,278	31	23	54	30	8	8
Male	678	32	24	54	28	7	11
Female	600	30	22	53	33	9	#
Age 18–19, total	823	61	9	46	29	17	9
Male	401	65	10	44	26	17	13
Female	422	56	8	48	31	16	4
Age 20–24, total	1,849	68	8	35	34	17	14
Male	938	76	6	27	32	19	22
Female	911	59	10	45	35	15	5
Age 25–34, total	4,440	61	7	34	45	13	8
Male	2,194	74	5	31	41	16	12
Female	2,246	49	8	38	50	9	3
Age 35–44, total	5,185	62	6	28	49	14	9
Male	2,620	74	3	26	45	18	12
Female	2,565	50	10	32	56	9	4
Age 45–54, total	3,734	60	8	30	45	17	8
Male	1,902	70	6	29	40	19	12
Female	1,832	49	11	31	53	13	3
Age 55–64, total	2,529	52	10	29	42	17	12
Male	1,212	64	7	27	38	18	17
Female	1,317	41	13	31	47	16	6
Age 65–74, total	2,070	43	13	28	41	22	9
Male	920	54	7	26	36	24	13
Female	1,151	34	18	30	47	19	3
Age 75+, total	1,302	30	20	32	40	21	7
Male	544	41	10	29	42	23	7
Female	758	23	27	36	38	18	8
Less than high school	7,446	44	15	37	37	16	11
High school	9,216	56	8	35	41	15	9
College	4,099	55	6	27	39	15	9
University	3,437	61	7	24	43	15	7
Newfoundland	477	48	14	28	44	16	11
Prince Edward Island	113	44	11	33	40	17	10
Nova Scotia	773	47	13	36	36	17	12
New Brunswick	630	42	13	38	38	13	10
Quebec	6,070	57	10	32	45	14	9
Ontario	9,190	52	14	34	41	16	9
Manitoba	893	52	13	32	41	17	11
Saskatchewan	795	54	10	32	45	14	8
Alberta	2,226	52	13	32	44	16	9
British Columbia	3,186	56	9	26	46	18	10

Data suppressed because of high sampling variability

[a] Rows may not add to 100% owing to a small number of cases suppressed in calculating standardized rates.

[b] Percentage of regular drinkers (i.e., persons who consume one or more drinks per month).

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 42b. **Frequency of drinking, by age and sex, by education (age-standardized), and by province, regular and occasional drinkers age 12+, Canada, 1996–97**

	Population estimate	Less than once per month	4–6 times per week	Daily
	('000)	(%)	(%)	(%)
Total, age 12+	**18,097**	**28**	**3**	**7**
Male	9,447	20	5	9
Female	8,650	38	2	4
Age 12–14, total	283	79	0	0
Male	144	77	0	0
Female	139	82	0	0
Age 15–17, total	803	51	#	#
Male	422	49	#	#
Female	381	52	0	#
Age 18–19, total	694	28	#	#
Male	333	21	#	#
Female	361	34	#	#
Age 20–24, total	1,584	21	3	1
Male	833	15	5	2
Female	751	28	#	#
Age 25–34, total	3,692	27	3	3
Male	1,917	16	4	4
Female	1,775	38	1	2
Age 35–44, total	4,248	24	4	5
Male	2,263	15	6	7
Female	1,985	35	2	2
Age 45–54, total	2,952	24	4	9
Male	1,579	15	6	13
Female	1,373	34	3	6
Age 55–64, total	1,844	29	4	13
Male	957	19	5	18
Female	887	39	4	8
Age 65–74, total	1,322	33	4	16
Male	660	25	5	23
Female	662	41	3	10
Age 75+, total	675	41	4	14
Male	339	35	6	16
Female	336	48	#	13
Less than high school	4,345	35	3	7
High school	7,343	28	3	6
College	3,392	23	3	7
University	2,929	17	5	8
Newfoundland	337	32	#	#
Prince Edward Island	77	35	#	#
Nova Scotia	566	35	#	#
New Brunswick	435	39	#	#
Quebec	4,676	26	4	6
Ontario	6,688	29	3	8
Manitoba	659	30	2	6
Saskatchewan	577	26	#	#
Alberta	1,650	30	3	5
British Columbia	2,433	27	5	8

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey*, *1996–97*, special tabulations.

43

Problem drinking

Introduction

Although the health impact of drinking continues to be debated, it is undisputed that regular heavy drinking is not healthy. Alcohol abuse can lead to both acute and chronic health problems (Topic 76) and death (Topic 80).

This topic describes problem drinking — in particular, the prevalence of regular heavy drinking in Canada as well as the limited data available on reasons for quitting heavy drinking.

Prevalence of problem drinking, 1996–97

In 1996–97, 18% of current drinkers age 12 and older drank five or more drinks on one occasion 12 or more times in the previous 12 months. This amounts to approximately 3.2 million persons who would be classified as heavy drinkers who imbibe regularly — at least once a month — in Canada. In fact, 6% of current drinkers in 1996–97 drank to this extent on a weekly basis. Close to one-quarter (24%) drank heavily (5+ drinks on one occasion) between one and 11 times in the past year, while the majority (58%) of current drinkers reported not drinking that much on even one occasion (Table 43a).[1] In 1994–95, 14% of current drinkers were regular heavy imbibers — a lower proportion than the 18% reported in 1996–97.[2]

The 1996–97 *National Population Health Survey* asked those respondents who said they had not had a drink in the past 12 months if they had ever regularly drunk 12 or more drinks weekly and, if so, why they had quit drinking. The most common response from those who had quit drinking was that they had been "drinking too much" (40%). Almost one-quarter (22%) had quit because drinking was affecting their physical health, and one in six (17%) quit drinking because it was affecting their family life (Fig. 43a).[1]

A 1994 Canadian survey asked questions from the "CAGE" questionnaire, developed in 1970 and recognized as a simple tool to screen for alcohol dependence.[3] A total of 6% of CAGE-tested current drinkers had a positive result on the past-year CAGE in 1994. The proportion of the population reporting alcohol-related problems in one or more areas of their lives was seven times greater among drinkers with a positive result than among those with a negative result. About 85% of the respondents with a positive result had not sought help for their drinking. Overall, it was estimated that 4% of Canadians had an alcohol dependence in 1994.

There are no international data with which to compare the current Canadian situation. There are also no Aboriginal data on heavy drinking, although, when they do consume alcohol, Aboriginal people are more likely than non-Aboriginal people to have five or more drinks.[4]

Differences among groups

Men are much more likely than women to report drinking heavily on a regular basis. Male current drinkers were two and a half times more likely than female current drinkers to report drinking five or more drinks on one occasion 12 or more times in the previous year (25% vs. 10%) and three times more likely to have drunk heavily 52 or more times in the previous year (9% vs. 3%) (Table 43a). Nevertheless, regular heavy drinking by women increased proportionally more than it did among men between 1994–95 and 1996–97.[1,2]

Regular heavy drinking is most common among youth in Canada. Over one-third (36%) of youth age 20–24 who were current drinkers drank five or more drinks at least 12 times in the previous year (Table 43a).[1] Over one in 10 (13%) such youths actually drank heavily 52 or more times in the previous year.

One-fifth (20%) of young teenage drinkers (age 15–17) also reported regular heavy drinking, despite being under the legal age, along with about one-third (34%) of teens age 18–19. The gender differences among youth in regular heavy drinking are somewhat less pronounced than the overall variation, but young men age 18–24 are about one and a half times more likely than young women to report heavy drinking on a regular basis. However, the proportion of women age 20–24 classified as regular heavy drinkers almost doubled from 1994–95 to 1996–97.[1,2] Regular heavy drinking is very rare among seniors in Canada; 94% of 65–74 year olds and 98% of those age 75 and older either never drank heavily or drank heavily less than once a month in the previous year.[1]

Canadians with university degrees are the least likely of all education groups to report regular heavy drinking. One-fifth (21%) of Canadians with less than a high school education drank heavily on a regular basis, compared with just 12% of current drinkers with a university education (Table 43a).[1] A smaller percentage (8%) of current-drinking Canadians with less than a high school education drank heavily 52 or more times in the previous year, but this was still double the percentage of comparable university graduates.

There are large interprovincial variations in regular heavy drinking, from a low of 16% in Ontario to a high of 28% in Newfoundland (Table 43a).[1] Over one-quarter (26%) of current drinkers in Saskatchewan and Nova Scotia reported drinking heavily on 12 or more occasions in the previous year. One in 10 current drinkers in Newfoundland and Nova Scotia drank heavily at least 52 times in the previous year.

There is an interesting variation among individuals, especially men, by household type (Fig. 43b).[1] Over one-quarter of people living with a partner but no children drank heavily at least 12 times in the previous year. This compares with a low of 16% of individuals in a couple with children, 19% of unattached individuals, and 17% of single parents. In every household type, men were two or more times as likely as women to be regular heavy drinkers. One in six men in a couple without children drank heavily 52 or more times in the previous year, compared with a low of 7% of men in a couple with children (data not shown).

In 1994, when all demographic characteristics were controlled simultaneously, males, those with less than high school and residents of all regions outside Ontario were found to be at a substantially elevated risk (odds ratio >1.6) for a positive result on the CAGE questionnaire (Table 43b).[3]

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the full sample of 82,000 respondents age 12 and older.[5]

Current drinkers are respondents who report drinking at least one drink each month. Heavy drinking is based on those who report drinking five or more drinks on one occasion. Regular heavy drinkers are those who report having drunk this amount 12 or more times in the past 12 months.

The small sample size of former regular drinkers of 12 or more drinks per week precludes further analysis on reasons for quitting. Multiple reasons were accepted on this question.

The CAGE questionnaire ("CAGE" is a mnemonic for four questions on the scale, about the need to Cut down on drinking, feeling Annoyed by criticism of drinking, feeling Guilty about drinking, feeling need for an Eye-opener drink in the morning) was a secondary analysis of data from *Canada's Alcohol and Other Drugs Survey*, which was conducted in October 1994.[3] The sampling frame included Canadians age 15 and older residing in one of the 10 provinces and not a full-time resident of an institution. In the survey instrument, the CAGE questions were asked in relation to the respondent's experience in the 12 months before the survey. A cut point of two or more affirmative responses to the CAGE questionnaire was deemed to be a positive result. Current drinking was defined as having consumed alcohol in the 12 months before the survey. The CAGE questionnaire was administered to all current drinkers whose drinking frequency was at least once per month or who usually consumed at least three drinks on the days they had a drink.

References

1. Statistics Canada. *National Population Health Survey, 1996–97*. Special tabulations.
2. Statistics Canada. *National Population Health Survey, 1994–95*. Special tabulations.
3. Poulin C, Webster I, Single E. Alcohol disorders in Canada as indicated by the CAGE questionnaire. *Canadian Medical Association Journal* 1997; 157(11): 1529–1535.
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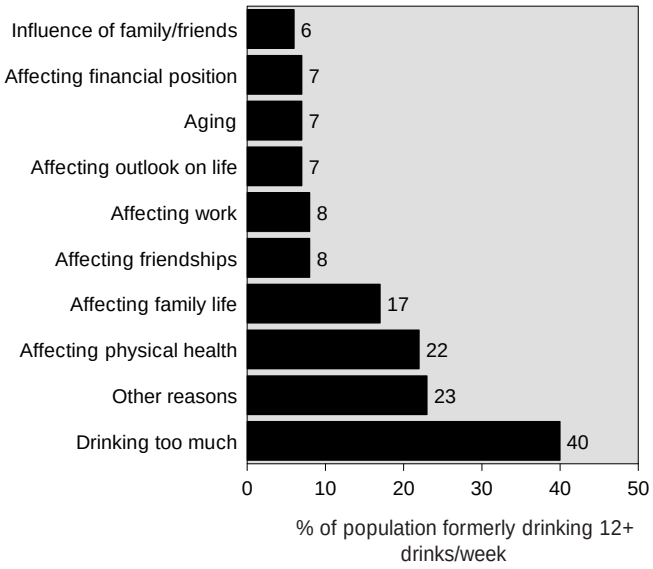
5. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

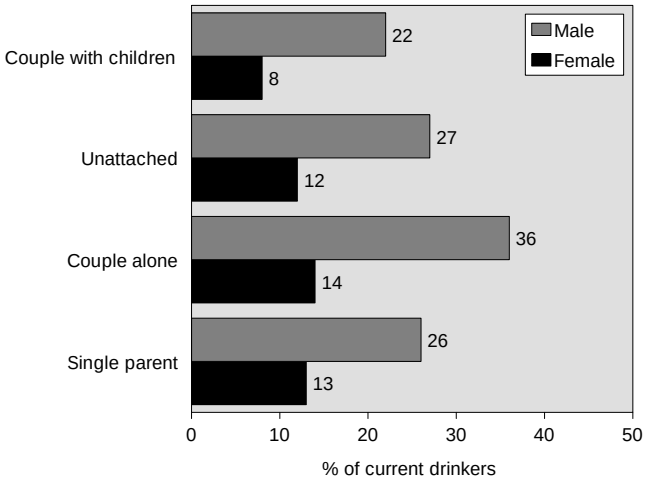
Figure 43a. **Reasons for quitting drinking,* age 12+, Canada, 1996–97**



* Percentage total is greater than 100% owing to multiple responses.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Figure 43b. **Regular heavy drinking,* by household type (age-standardized) and sex, age 12+, Canada, 1996–97**



* Current drinkers who have five or more drinks on a single occasion at least once per month.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 43a. **Prevalence of heavy drinking,[a] by age and sex, by education (age-standardized), and by province, current drinkers[b] age 12+, Canada, 1996–97**

	Population estimate	Frequency during the past year			
		Never	Less than once per month	1–3 times per month	1+ times per week
	('000)	(%)	(%)	(%)	(%)
Total, age 12+	**17,987**	**58**	**24**	**12**	**6**
Male	9,380	48	27	16	9
Female	8,607	70	20	7	3
Age 12–14, total	282	85	12	#	#
Male	143	84	13	#	#
Female	139	85	11	#	#
Age 15–17, total	797	50	29	16	4
Male	421	47	31	17	5
Female	377	54	27	15	#
Age 18–19, total	689	35	31	22	12
Male	331	29	31	24	17
Female	358	41	32	20	7
Age 20–24, total	1,568	32	32	23	13
Male	820	25	29	27	18
Female	748	40	34	19	7
Age 25–34, total	3,668	47	32	14	8
Male	1,904	35	35	19	11
Female	1,763	60	28	8	3
Age 35–44, total	4,232	56	26	12	6
Male	2,254	43	30	17	9
Female	1,978	71	21	6	2
Age 45–54, total	2,934	65	21	10	4
Male	1,567	53	26	15	6
Female	1,367	79	15	5	1
Age 55–64, total	1,831	73	15	7	5
Male	951	59	23	10	8
Female	879	88	7	3	2
Age 65–74, total	1,315	86	8	3	2
Male	652	78	12	6	4
Female	662	94	4	#	#
Age 75+, total	672	94	4	#	#
Male	337	90	6	#	#
Female	335	97	#	#	#
Less than high school	4,325	55	24	13	8
High school	7,294	57	25	12	7
College	3,369	61	22	12	5
University	2,912	66	22	8	4
Newfoundland	337	47	25	18	10
Prince Edward Island	77	52	25	18	#
Nova Scotia	564	49	25	16	10
New Brunswick	434	53	26	13	8
Quebec	4,643	61	22	11	6
Ontario	6,638	61	23	10	6
Manitoba	654	52	28	12	7
Saskatchewan	576	52	22	17	9
Alberta	1,636	52	29	12	6
British Columbia	2,428	56	25	13	6

Data suppressed because of high sampling variability

[a] Heavy drinking is defined as drinking five or more drinks per occasion.

[b] Current drinkers are those who had at least one drink in the previous 12 months.

Source: Statistics Canada, *National Population Health Survey*, *1996–97*, special tabulations.

Table 43b. **Adjusted multivariate model for a positive result on the CAGE questionnaire, by sex, by age, by region, and by education, current drinkers age 15+, Canada, 1994**

	Adjusted odds ratio
Male	1.72
Female	1.00
Age 15–17	0.67
Age 18–19	0.73
Age 20–24	1.07
Age 25–34	0.88
Age 35–44	1.00
Age 45–54	0.96
Age 55–64	0.62
Age 65+	0.32
Atlantic	2.09
Quebec	2.90
Ontario	1.00
Prairies	2.17
British Columbia	1.64
Less than secondary	2.01
Secondary completed	1.29
Some post-secondary	1.22
University completed	1.00
Not stated	1.00

Source: Poulin C, Webster I, Single E, Alcohol disorders in Canada as indicated by the CAGE questionnaire, *Canadian Medical Association Journal* 1997; 157(11): 1529–1535.

44

Driving after drinking

Introduction

Every year in Canada, thousands of lives are lost accidentally in motor vehicle traffic crashes, and many of these deaths are among the young (Topic 83). Thousands more are injured in vehicle collisions (Topic 63). Many of these accidents are the inevitable outcome of combining alcohol and driving (Topic 80). In an attempt to curb these senseless deaths, federal and provincial/territorial governments have increased police enforcement of impaired driving and mounted media campaigns to raise awareness of the dangers of drinking and driving.

This topic examines the prevalence of driving after drinking in Canada.

Incidence of driving after drinking, 1996–97

In 1996–97, there were just over 15 million Canadians age 16 and older who had a driver's licence and were considered to be current drinkers.[1] In the 12 previous months, 10% of these Canadians had drunk too much alcohol, by their own report, and then proceeded to drive (Table 44)[1]; this amounts to about 1.5 million Canadians who acknowledged driving after drinking. About 3% of these licensed, current-drinking Canadians reported they had drunk too much and then driven at least three times in the previous 12 months.

Overall, two-thirds of motorists attend social events where there will be drinking.[1] About 60% of them claim to *always* make arrangements for a designated driver (Fig. 44a).[1]

Although there are trend data on driving after drinking, the survey questions and methods are not consistent. There are no international data with which to compare the Canadian situation. There are also no reliable data on Aboriginal drinking and driving.

Differences among groups

Men were almost three times more likely than women to report driving after drinking in the 12 months prior to the 1996–97 *National Population Health Survey* (13% vs. 5%) (Table 44).[1] The most pronounced difference is found among 35–44 year olds, where 17% of men drove after drinking excessively at least once in the previous 12 months, compared with 5% of women the same age.

Canadians age 18–19 were the most likely to acknowledge having driven after drinking too much (18%), with a consistent downward trend for each successive age group, to a low of 1% of seniors age 65–74 (Table 44). This appears to contrast with data from 1990, when driving after drinking *any amount* was most common at age 25–44.[2] However, since the current survey asked for judgments of *excessive* drinking, this may mean that younger Canadians have stricter definitions of drinking and driving.

Driving after drinking in the previous 12 months does not seem to have any relationship with education (Table 44), and the differences based on income adequacy are modest. For example, 9% of the lowest income group drove after drinking *at least once* in the previous 12 months, compared with 12% in the highest income group (data not shown).[1]

There are large interprovincial variations in prevalence of driving after drinking. Over one-fifth (21%) of licensed, current-drinking Saskatchewan residents age 16 and over reported doing so *at least* once in the previous 12 months, compared with only 7% of drivers from Nova Scotia, New Brunswick, and Ontario (Table 44). The other Prairie provinces also reported slightly higher than average levels of driving after drinking. These rankings are similar to 1990 data,[2] with the exception of Ontario, which has improved its relative position.

The proportion of motorists who always arrange for a designated driver when they go to events where alcohol will be consumed varies greatly among provinces (Fig. 44a).[1] Motorists from Quebec (48%) and Saskatchewan (50%) were least likely to *always* arrange for a designated driver for these social events, while motorists from Nova Scotia (75%) were most likely to do so. Manitoba and Alberta motorists were also below the Canadian average for making such arrangements.

Single parents were the most likely (14%) to have driven after drinking at least one time in the previous 12 months, while individuals in a couple with children were least likely (8%).[1] Single fathers were the most likely (18%) to drive after drinking on at least one occasion, while women in couples with children were least likely (3%) (Fig. 44b).[1]

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions.[3] There were about 55,000 respondents age 16 and older who had valid driver's licences.

Since the behaviour under question is certainly unwise and may be illegal (if the drinking leads to legal impairment), there may have been some under-reporting. No third-party (proxy) answers were accepted for these questions, and the definition of drinking "too much" was left to the respondent. It is impossible to know how this corresponds to actual legal impairment.

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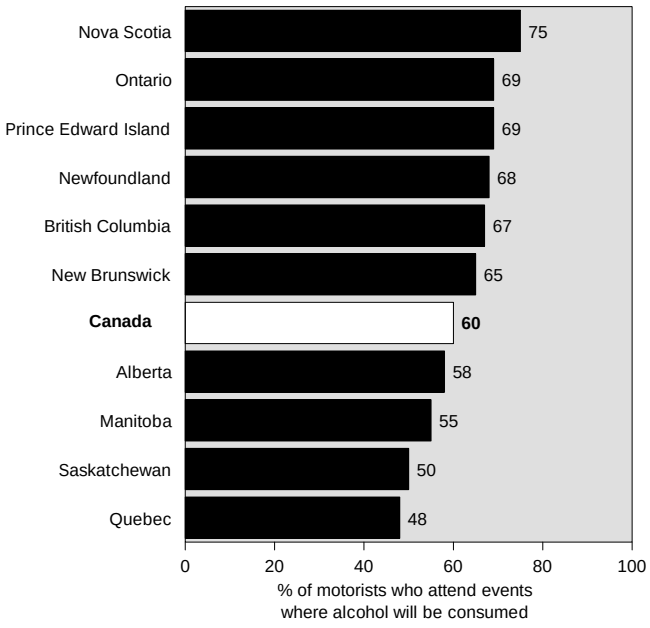
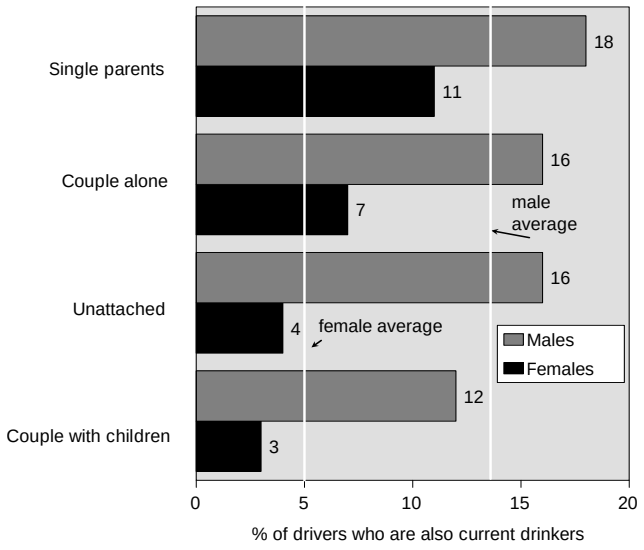
3. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 44a. **Motorists who always arrange for a designated driver when attending an event where alcohol will be consumed, by province, age 16+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Figure 44b. **Driving after drinking at least once in previous 12 months, by household type (age-standardized), drivers age 16+ who are current drinkers, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 44. **Frequency of driving after drinking, by age and sex, by education (age-standardized), and by province, licensed drivers age 16+ who are current drinkers, Canada, 1996–97**

	Population estimate	Frequency of driving after drinking in last 12 months				
		0	1	2	3+	1+
	('000)	(%)	(%)	(%)	(%)	(%)
Total, age 16+	**15,188**	**90**	**4**	**3**	**3**	**10**
Male	8,269	86	5	4	4	13
Female	6,919	95	3	1	1	5
Age 16–17, total	288	91	#	#	#	9
Male	152	93	#	#	#	7
Female	136	89	#	#	#	#
Age 18–19, total	491	82	9	3	6	18
Male	259	83	7	4	5	17
Female	232	81	10	#	#	19
Age 20–24, total	1,352	84	6	4	5	16
Male	722	77	8	6	8	22
Female	631	91	4	2	#	8
Age 25–34, total	3,364	88	5	4	3	12
Male	1,783	83	6	6	5	17
Female	1,581	93	4	2	1	7
Age 35–44, total	3,986	88	5	3	3	11
Male	2,160	83	6	5	5	17
Female	1,825	95	3	1	1	5
Age 45–54, total	2,708	93	3	2	1	7
Male	1,467	89	5	3	2	10
Female	1,240	98	1	1	#	2
Age 55–64, total	1,615	95	2	1	1	5
Male	899	92	4	2	2	8
Female	717	99	#	#	#	#
Age 65–74, total	1,003	98	#	#	#	1
Male	575	97	#	#	#	2
Female	428	100	#	0	#	#
Age 75+, total	380	99	#	#	#	#
Male	252	99	#	#	#	#
Female	129	100	#	0	0	#
Less than high school	2,752	91	3	3	3	9
High school	6,437	90	5	3	3	10
College	3,159	90	4	3	3	10
University	2,774	92	4	3	2	8
Newfoundland	261	92	#	#	#	8
Prince Edward Island	67	91	#	#	#	9
Nova Scotia	474	92	#	#	#	7
New Brunswick	370	92	#	#	#	7
Quebec	3,797	90	4	2	3	10
Ontario	5,621	92	3	2	2	7
Manitoba	558	87	5	5	4	13
Saskatchewan	509	78	6	6	8	21
Alberta	1,408	88	5	4	3	12
British Columbia	2,123	89	5	3	#	11

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

45

Illicit drug use

Introduction

The use of cannabis (marijuana and hashish), cocaine or crack, and heroin continues to be a serious concern of governments, not only because their use is illegal, but also because it can result in social and health problems (Topic 50) and even death, particularly in the case of cocaine, crack, and heroin. The "war on drugs" currently being waged by governments around the world consumes significant government resources in an attempt to deal with drug problems. However, the effectiveness of this control effort is increasingly being questioned, and, as a consequence, the concept of harm reduction is increasingly discussed.

This topic examines the extent of illicit drug use in Canada, focussing on the use of cannabis and cocaine or crack in the previous 12 months, as well as the rate of federal drug offences in the country. It provides some perspective for this debate.

Prevalence of illicit drug use, 1994

Canada's Alcohol and Other Drugs Survey, conducted in 1994, found that 7% of adult Canadians reported current cannabis use (Table 45),[1] and 8% reported current use of some illicit drug — one or more of cannabis (excluding one-time-only use), cocaine/crack, LSD, amphetamines (speed), and heroin. In other words, the use of illicit drugs other than marijuana was very low: 0.7% for cocaine/crack, 0.9% for LSD, and 0.2% for amphetamines (speed).[2] Although current use is relatively low, one-quarter of Canadians (24%) have used an illicit drug at least once in their lifetime (Table 45).

To put this in perspective, consider that there are about one-quarter of a million users of LSD/speed/heroin in Canada, 1.7 million current marijuana users, and 2.0 million heavy drinkers (Fig. 45a).[2] Cigarette smokers outnumber marijuana users by 3.6 times, while there are 8.5 times as many light drinkers as cannabis users.

Between 1985 and 1994, trends in self-reported 12-month use of marijuana or hashish were erratic, but use appears to have returned to 1989 levels after declining in the early 1990s (Fig. 45b).[2,3,4] From 1990 to 1994, there was, for all practical purposes, no change in the use of cocaine/crack.

At least one of the injectable drugs (cocaine/crack, LSD, amphetamines, heroin, and steroids) has been used at some point by 7% of Canadians, and 41% of these persons reported needle-sharing,[2] a clear risk for the transmission of HIV, hepatitis B virus, and other pathogens (see Topics 71 and 72). Less than 1% of Canadians acknowledged sniffing solvents at any point in their lifetime.[2]

In 1996, the national rate of federal drug offences per 100,000 population was 157 for cannabis and 37 for cocaine or crack (Fig. 45c).[5] This represents an increase of 13% since 1991 in cannabis offences and a drop of 20% in cocaine/crack offences.[5]

Differences among groups

Overall, men are twice as likely as women to be *current* users of cannabis or any illicit drug (10% vs .5%) and one and a half times as likely to be *lifetime* users of any illicit drug (Table 45).[1]

Current use of illicit drugs is primarily a teenage phenomenon, although most age cohorts have at least experimented with these drugs at some point. The highest current use of cannabis was reported by men age 15–24 (26–28%), while the highest lifetime use of any illicit drug was by males age 20–34 (44–45%). By age 45, current use is negligible; lifetime use is also much lower starting at this age (Table 45).

There are no significant differences in illicit drug use according to educational attainment, except that current use was higher among persons with some post-secondary education — current students, in many cases (Table 45).

There is a wide range in reported drug use among the provinces. Both current and lifetime use were more than twice as common in British Columbia as in Newfoundland (Table 45).

There is significant interprovincial/territorial variation in rates of federal drug offences. Both territories had by far the highest rates of cannabis offences in 1996, while British Columbia had the highest rate of cocaine/crack offences (Fig. 45c).[5] British Columbia also had rates for federal drug offences that are above the Canadian average for cannabis. In sharp contrast, Quebec had the lowest rate of drug offences for cannabis — approximately three-quarters of the Canadian average.

Since 1991, cannabis offences have become more common in every province and territory except Yukon and Alberta, where they have declined. In the same period (from 1991 to 1996), cocaine offences were fewer everywhere except Manitoba, Saskatchewan, and Prince Edward Island, where the rate increased.[5]

On definitions and methods

Data on the use of illicit drugs are from *Canada's Alcohol and Other Drugs Survey*, a telephone survey conducted in 1994 by Statistics Canada; the sample consisted of 12,155 persons age 15 and older, and the response rate was 76%.[2] The possibility of under-reporting use of these illicit drugs is considerable. Under-coverage of certain high-use populations, such as young men and "street people," is also likely. "Current users" are those persons reporting use of a specified substance at least once in the previous 12 months.

Data on drug offences are from police records and may reflect enforcement efforts as much as differences in actual drug activity. This could account for some of the interprovincial/territorial variation as well as the changes from 1991 to 1996.

References

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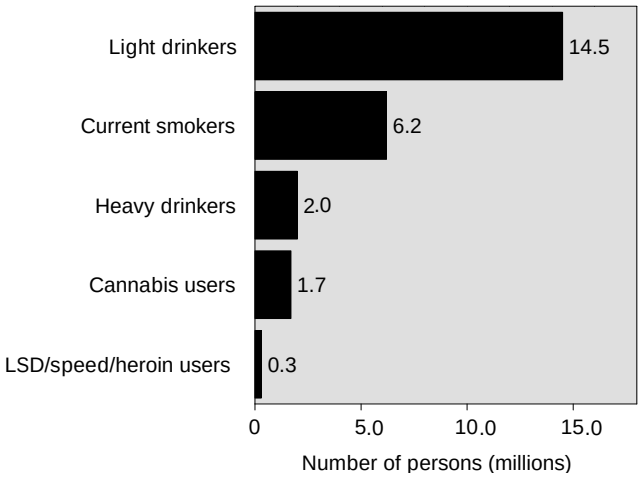
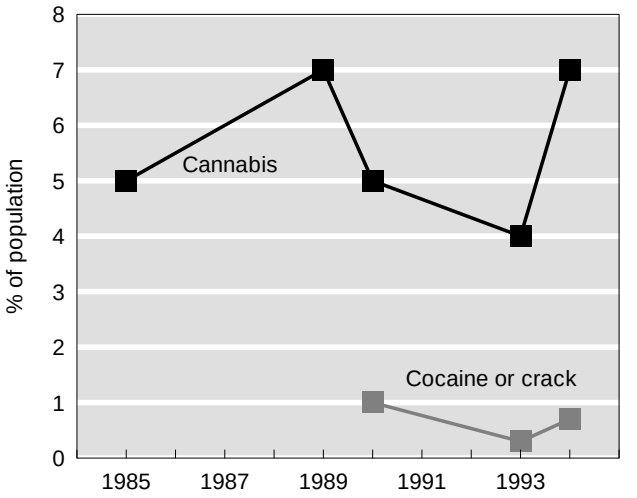
Figure 45a. **Use of alcohol, tobacco, and illicit drugs, age 15+, Canada, 1994**



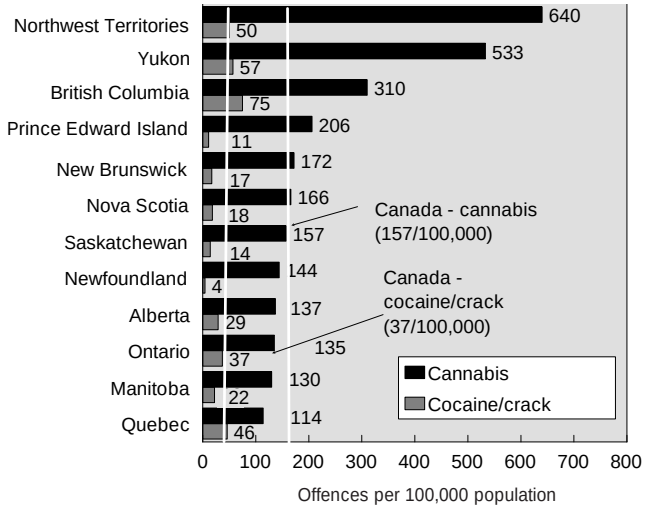
Source: MacNeil P, Webster I, *Canada's Alcohol and Other Drugs Survey: A Discussion of the Findings*, Ottawa: Minister of Public Works and Government Services Canada, 1997.

Figure 45b. **Trends in cannabis and cocaine/crack use, age 15+, Canada, 1985–1994**



Sources: Adlaf EM, Alcohol and other drug use, in Health and Welfare Canada, Stephens T, Fowler Graham D (eds.), *Canada's Health Promotion Survey 1990: Technical Report*, Ottawa: Minister of Supply and Services Canada, 1993 (Cat. No. H39-263/2-1990E); Single E, MacLennan A, MacNeil P, *Horizons 1994: Alcohol and Other Drug Use in Canada*, Ottawa: Health Canada and the Canadian Centre on Substance Abuse, 1994 (Cat. No. H39-307/1994E); MacNeil P, Webster I, *Canada's Alcohol and Other Drugs Survey: A Discussion of the Findings*, Ottawa: Minister of Public Works and Government Services Canada, 1997.

Figure 45c. **Federal drug offences, by province/territory, Canada, 1996**



Source: Statistics Canada, *Canadian Crime Statistics 1996*, Ottawa: Statistics Canada, 1997 (Statistics Canada Cat. No. 85-205-XPE).

Table 45. **Illicit drug use, by age and sex, by education,[a] and by province, age 15+, Canada, 1994**

	Population estimate	Cannabis currently	At least one illicit drug[b]	
			Lifetime	Current
	('000)	(%)	(%)	(%)
Total, age 15+	**23,030**	**7**	**24**	**8**
Male	11,337	10	28	10
Female	11,692	5	19	5
Age 15–17, total	1,247	25	30	26
Male	636	27	31	27
Female	611	24	29	24
Age 18–19, total	711	23	33	24
Male	367	28	38	29
Female	344	18	27	19
Age 20–24, total	2,051	19	38	20
Male	1,038	26	45	26
Female	1,013	13	30	13
Age 25–34, total	4,952	10	38	10
Male	2,497	13	44	13
Female	2,455	6	32	7
Age 35–44, total	4,802	6	33	6
Male	2,404	9	38	9
Female	2,399	3	28	3
Age 45–54, total	3,531	1	15	2
Male	1,771	2	18	2
Female	1,760	#	12	#
Age 55–64, total	2,470	#	4	#
Male	1,220	#	5	#
Female	1,250	#	3	#
Ages 65+, total	3,265	#	1	#
Male	1,405	#	1	#
Female	1,860	–	#	–
Less than high school	5,936	8	19	8
High school	5,415	7	24	7
Some post-secondary	3,572	11	32	11
College/university degree	6,457	7	29	7
Newfoundland	458	4	16	4
Prince Edward Island	104	#	19	#
Nova Scotia	743	8	25	8
New Brunswick	603	6	22	6
Quebec	5,796	9	25	9
Ontario	8,673	5	17	5
Manitoba	874	9	26	9
Saskatchewan	767	7	22	7
Alberta	2,073	8	30	9
British Columbia	2,939	12	37	12

– Data not available

Data suppressed because of high sampling variability

[a] Not age standardized.

[b] "Illicit drugs" refers to one or more of cannabis (excluding one-time-only use), cocaine/crack, LSD, amphetamines (speed), and heroin.

Source: Health Canada, Information Access and Coordination Division, Policy and Consultation Branch, *Canada's Alcohol and Other Drugs Survey, 1994*, special tabulations.

46

Physical activity

Introduction

Lack of physical activity has long been recognized as a risk factor for coronary heart disease (Topic 74). The relative risk (RR) is about 1.9, which establishes a sedentary lifestyle as having about the same importance to coronary heart disease as high blood pressure (RR = 2.1) (Topic 68), high cholesterol (RR = 2.4), and smoking (RR = 2.5)[1] (Topics 40 and 41). Physical activity provides many other health benefits, such as weight control; reduced risk of diabetes, cancer, and osteoporosis; and stress reduction.[2] Consequently, the level of leisure-time activity performed by individuals is highly relevant to the overall health of Canadians.

This topic describes data on physical activity during leisure time, while doing chores and errands, and while commuting to work.

Prevalence of physical activity, 1996–97

Overall, one-fifth (21%) of Canadians were classified as active during leisure time in the three months preceding the 1996–97 *National Population Health Survey*. Another fifth (23%) were moderately active, while the remainder — well over half — were inactive (Table 46a).[3] This is virtually unchanged from 1994–95[4]; however, comparison with older data sources suggests that adult Canadians are becoming more active (Fig. 46).[5]

While participating in physical activity outside an organized setting is the most frequent form of participation among Canadian adults, participation also frequently occurs in organized settings.[6] In 1997, as many as one-fifth of Canadian adults were involved competitively in physical activity. Taking the stairs was the most frequently cited of five ways to incorporate physical activity into daily life and was cited by 80% of Canadian adults. About two-thirds reported light and heavy chores and walking to go to work or to conduct errands. One-quarter chose to commute by bicycle.

In 1996, 7% of employed Canadians age 15 and over walked to work, and an additional 1% rode a bicycle to work (Table 46b).[7] No comparable, earlier data exist for these questions.

Although international comparisons are complicated by different approaches to measuring activity, increased activity over time by adults in Canada (Fig. 46) is matched in Finland, while active leisure time in Scotland, Australia, and the United States has *not* increased similarly.[8]

Differences among groups

Across all age groups, males were generally more active than females; this difference was least pronounced in the middle years (Table 46a),[3] which was also true in 1994–95.[4] Generally speaking, there was a decline in the active population with age, at least until age 65. Interestingly, young seniors (65–74) were about as active as Canadians age 35–44.

As education increases, so does the likelihood of an active lifestyle. Fewer than half of university graduates (47%) were classified as *inactive*, compared with three-fifths (61%) of those with less than a high school education (Table 46a).[3] Similarly, there is a positive relationship between activity level and income adequacy (data not shown). For example, only 48% of Canadians in the highest income group were reported as being inactive, compared with 57% of Canadians in the lowest income group and 61% of Canadians in the lower middle income group.

Provincial comparisons reveal that residents of British Columbia and Alberta lead the way by a considerable margin (27% and 26% active, respectively, compared with the average of 21%). Residents

of Prince Edward Island reported the lowest activity levels, at 14% (Table 46a).[3]

Regarding transportation to work, employed men were slightly more likely to ride a bicycle (2% vs. 1%), but employed women were slightly more likely to walk to work (8% vs. 6%) (Table 46b).[7] While these differences may be statistically significant, the practical difference is negligible.

Walking to work was most common in both territories, Newfoundland, and Saskatchewan. In British Columbia and Yukon, 2% of persons rode bicycles to work (Table 46b).[7] Employed persons in Ontario were least likely to choose either walking or riding as a mode of transportation to work. These results seem to suggest that walking to work is affected by factors such as population density and size of community.

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the full sample of 82,000 respondents age 12 and older.[9]

Leisure-time physical activity was determined in the *National Population Health Survey* by asking participants to list all of their leisure-time physical activities for the previous three months. Information on frequency of participation and amount of time per occasion was also asked. Using independently established values for the energy demands of each activity, an index of total kilocalorie expenditure was calculated. Level of activity was classified according to estimated kilocalories per kilogram body weight per day: active (3.0 or more), moderate (1.5–2.9), or inactive (less than 1.5).

While the *National Population Health Survey* approach was similar to those of the 1981, 1988, and 1995 surveys, these earlier surveys were more comprehensive in their probing of different activities. The *National Population Health Survey* data may thus understate total leisure-time physical activity, comparatively speaking. For this reason, Figure 46 shows comparable sources only.

The question on the 1996 Census on mode of transportation to work was asked of employed Canadians age 15 and older. Details by census metropolitan area have been published elsewhere.[10]

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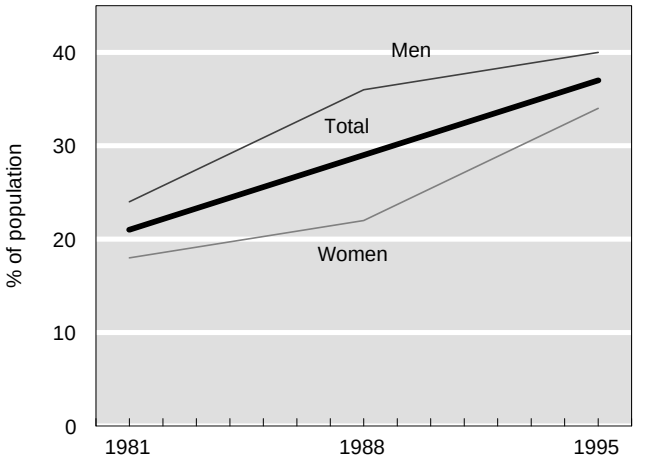
Figure 46. **Active leisure-time physical activity, age 18+, Canada, 1981–1995**



Source: Canadian Fitness and Lifestyle Institute, *Progress in Prevention* #1, 1996 (ISSN 1205-7029).

Table 46a. **Leisure-time physical activity, by age and sex, by education (age-standardized),[a] and by province, age 12+, Canada, 1996–97**

	Population estimate	Active	Moderate	Inactive
	('000)	(%)	(%)	(%)
Total, age 12+	**23,836**	**21**	**23**	**57**
Male	11,611	24	22	54
Female	12,225	17	23	60
Age 12–14, total	1,047	44	27	30
Male	512	54	25	21
Female	535	33	28	38
Age 15–17, total	1,243	43	21	36
Male	658	53	21	26
Female	586	31	22	47
Age 18–19, total	812	33	25	42
Male	395	39	24	37
Female	418	26	27	47
Age 20–24, total	1,827	27	24	49
Male	910	32	22	46
Female	916	22	26	52
Age 25–34, total	4,400	19	23	57
Male	2,166	22	23	55
Female	2,233	17	23	59
Age 35–44, total	5,141	17	22	61
Male	2,583	18	22	61
Female	2,559	17	22	61
Age 45–54, total	3,668	15	22	63
Male	1,844	17	21	62
Female	1,824	14	23	63
Age 55–64, total	2,500	17	24	60
Male	1,190	19	23	58
Female	1,310	15	24	61
Age 65–74, total	2,006	16	23	61
Male	878	21	24	55
Female	1,128	13	22	65
Age 75+, total	1,192	10	16	74
Male	475	14	21	66
Female	716	7	13	80
Less than high school	7,146	19	20	61
High school	9,083	20	23	57
College	4,063	17	22	52
University	3,410	19	24	47
Newfoundland	460	18	21	61
Prince Edward Island	110	14	18	67
Nova Scotia	756	18	22	61
New Brunswick	618	18	18	64
Quebec	5,930	17	22	61
Ontario	9,037	21	23	56
Manitoba	878	20	22	58
Saskatchewan	775	20	20	60
Alberta	2,125	26	24	50
British Columbia	3,147	27	23	50

[a] Rows may not add to 100% owing to a small number of cases suppressed in calculating standardized rates.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 46b. **Active mode of transportation to work, by sex and by province/ territory, employed persons age 15+, Canada, 1996**

	Population estimate	Walking	Bicycling
	('000)	(%)	(%)
Total, age 15+	**12,183**	**7**	**1**
Male	6,591	6	2
Female	5,592	8	1
Newfoundland	172	10	<1
Prince Edward Island	56	7	<1
Nova Scotia	354	8	1
New Brunswick	288	7	1
Quebec	2,909	7	1
Ontario	4,691	6	1
Manitoba	465	9	1
Saskatchewan	377	10	1
Alberta	1,222	7	1
British Columbia	1,608	7	2
Yukon	16	15	2
Northwest Territories	26	42	1

Source: Statistics Canada, 1996 Census: Mode of transportation, *The Nation Series* (Statistics Canada Cat. No. 93F0027XDB96019).

47

Dietary practices

Introduction

Diet in general and the consumption of fat and fibre in particular have been implicated in the onset of some of the major causes of death (Topic 82), especially cancer (Topic 73) and coronary heart disease (Topic 74). The proportion of the population that is overweight has been increasing in recent years (Topic 67), a reflection, in part, of how leisure time is spent (Topic 46). Dietary practices, as the other major component in the energy equation that affects body weight and overall health, are thus a natural concern for governments and individuals concerned with maintaining good health, although the health implications of dietary practices extend far beyond concerns with excess body weight.[1]

This topic describes measures taken by adults to improve their dietary practices.

Prevalence of healthy dietary practices, 1994–95

In 1994–95, dietary fat was a source of concern for more Canadians than any other aspect of the diet: 59% of persons age 12 and older described themselves as concerned about fat in their diet and claimed to be taking action to reduce their consumption of fat (Table 47).[2] Another 9% were concerned but taking no action. The remaining third (32%) of Canadians expressed no concern about the amount of fat in their diet.

In contrast to the concern over fat, only 26% of Canadians age 12 and older described themselves as concerned about the amount of starch and fibre they ate and taking action to increase their consumption (Table 47).[2] Another 17% were concerned but apparently not enough to take any action on this front. The majority of Canadians (57%) were not concerned about how much starch and fibre they had in their diet.

Three popular ways of limiting fat intake were reducing use of butter, oil, and salad dressing (81%), eating less fried food (78%), and cutting down on high-fat milk products (72%) (data not shown).[2] Despite these concerns and claims and some changes in specific food preferences, there was an increase between the early 1980s and 1997 in the amount of fats and oils consumed (Fig. 47a).[3] However, there was a reduction in the consumption of whole and 2% milk and an increase in the consumption of skim and 1% milk (Fig. 47b).[3]

For the relatively small proportion of Canadians trying to increase their starch and fibre intake, the four most popular ways were eating vegetables and fruits at most meals (84%), eating whole-grain products (78%), eating meals with less meat (60%), and eating high-fibre foods (54%) (data not shown). From 1982 to 1996, the apparent consumption of fruits and vegetables increased modestly (Fig. 47a).

Differences among groups

There is clearly a gender difference in concern over diet (Table 47).[2] Two-thirds (67%) of women were concerned and taking action to reduce dietary fat, compared with only 50% of men. Only 24% of women were not concerned about fat intake, compared with 40% of men. However, men were more likely to be classified as overweight than women (see Topic 67).

The gender differences were similar for concern over starch and fibre, although not as pronounced; one-third (32%) of women were concerned and taking action to increase starch and fibre, compared with one-fifth of men (20%) (Table 47).[2] About half (51%) of women were not concerned with fibre and starch intake, compared with two-thirds (63%) of men.

There was a largely positive relationship between action and age. Only one-third (33%) of 15–19 year olds and just over half (54%) of 20–24 year olds reported taking action to reduce dietary fat, compared with around 70% of Canadians age 45–74 (Table 47).[2] This age trend in concern is appropriate, since the likelihood of being overweight also increases with age (see Topic 67). Similarly, concern and action over dietary starch/fibre grow with age.

There were only modest differences related to education regarding dietary action. About half (51%) of Canadians with less than a high school education reported taking action on their fat intake, compared with about 60% of people in the three other education groups (Table 47).[2] Similarly, 21% of Canadians with less than high school were concerned about and taking action to increase starch/fibre intake, compared with 29% of university-educated Canadians.

There were only a few differences among provinces regarding dietary action. People from Saskatchewan (53%) and Prince Edward Island (54%) were least likely to be taking action to reduce fat intake (Table 47)[2]; both provinces were also well above the Canadian average in their overweight population (see Topic 67). In contrast, residents of Quebec and British Columbia were most likely (61%) to report taking action to reduce fat consumption; they also had the lowest prevalence of overweight (Topic 67). Quebeckers were also most likely (27%) to be taking action to increase starch/fibre intake, while Saskatchewan residents were least likely (21%) to do so.

On definitions and methods

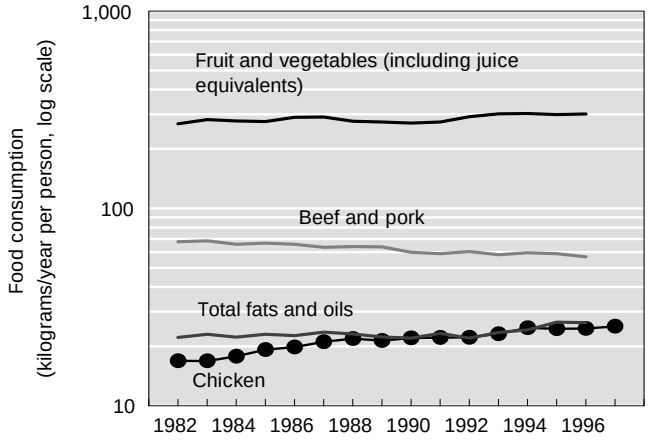
These data about dietary concerns are from the Health Supplement portion of the *National Population Health Survey*, conducted by Statistics Canada in June, August, and November 1994 and March 1995. The survey visited over 22,000 households; these data are based on the sample age 12 and older, which consisted of almost 17,000 persons.[4] The Supplement was sponsored by Health Canada and was not part of the second *National Population Health Survey* in 1996–97.

Data on "apparent food consumption" in the two figures are based on the disappearance of food available for consumption. Most of it is consumed; some of it is spoiled.

References

1. Health Canada. *Action Towards Healthy Eating: Canada's Guidelines for Healthy Eating and Recommended Strategies for Action*. Report of the Communications/Implementation Committee. Ottawa: Minister of Supply and Services, 1990 (Cat. No. H39-166/1990E).
2. Statistics Canada. *National Population Health Survey, 1994–95 (Supplement)*. Special tabulations.
3. Statistics Canada. *Apparent Per Capita Food Consumption Parts 1 and 2, 1997* (Statistics Canada Cat. Nos. 32-229 and 32-230).
4. Tambay J-L, Catlin G. Sample design of the National Population Health Survey. *Health Reports* 1995; 7: 29–38 (Statistics Canada Cat. No. 82-003-XPB).

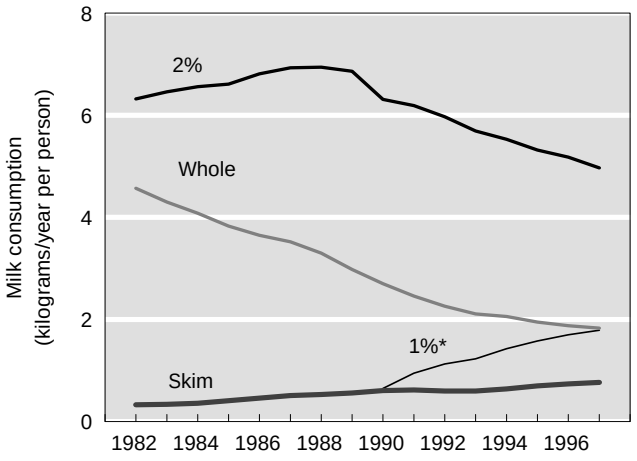
Figure 47a. **Changes in apparent food consumption, Canada, 1982–1997***



* 1997 data available for chicken only.

Source: Statistics Canada, *Apparent Per Capita Food Consumption Parts 1 and 2, 1997* (Statistics Canada Cat. Nos. 32-229 and 32-230).

Figure 47b. **Changes in milk consumption, Canada, 1982–1997**



* 1% milk data became available in 1990.

Source: Statistics Canada, *Apparent Per Capita Food Consumption Parts 1 and 2, 1997* (Statistics Canada Cat. Nos. 32-229 and 32-230).

Table 47. **Concerns about fat and fibre, by age and sex, by education (age-standardized), and by province, age 12+, Canada, 1994–95**

	Population estimate	Fat in diet			Starch and fibre in diet		
		Concerned and taking action	Concerned but not taking action	Not concerned	Concerned and taking action	Concerned but not taking action	Not concerned
	('000)	(%)	(%)	(%)	(%)	(%)	(%)
Total, age 12+	**23,914**	**59**	**9**	**32**	**26**	**17**	**57**
Male	11,762	50	10	40	20	17	63
Female	12,152	67	9	24	32	18	51
Age 12–14, total	1,310	29	16	54	10	14	77
Male	684	26	#	59	#	16	75
Female	626	33	18	49	#	11	78
Age 15–19, total	2,088	33	13	54	10	15	74
Male	1,082	19	11	70	7	14	79
Female	1,006	48	15	37	14	17	70
Age 20–24, total	1,705	54	9	37	21	15	64
Male	826	43	8	50	14	15	70
Female	879	64	10	26	28	14	58
Age 25–34, total	4,747	58	8	34	24	16	60
Male	2,340	50	9	41	18	14	67
Female	2,407	65	8	27	30	17	52
Age 35–44, total	4,855	62	10	28	29	17	54
Male	2,470	53	12	36	22	17	60
Female	2,384	71	9	20	35	17	48
Age 45–54, total	3,448	69	10	21	31	18	50
Male	1,775	61	13	26	26	20	54
Female	1,673	77	7	16	37	17	46
Age 55–64, total	2,516	70	6	24	36	17	47
Male	1,192	58	7	34	26	18	55
Female	1,324	80	4	15	44	16	40
Age 65–74, total	2,064	70	5	25	32	24	45
Male	927	62	7	32	25	22	52
Female	1,137	77	4	19	37	25	38
Age 75+, total	1,180	61	7	32	30	24	47
Male	465	59	#	35	28	20	52
Female	715	62	8	31	30	26	44
Less than high school	7,851	51	9	40	21	17	62
High school	9,113	60	8	32	27	17	56
College	3,775	63	8	30	28	20	52
University	3,142	60	8	17	29	15	42
Newfoundland	483	59	11	30	23	20	56
Prince Edward Island	110	54	12	34	24	21	55
Nova Scotia	764	60	9	31	24	20	56
New Brunswick	626	56	10	35	24	20	56
Quebec	6,020	61	6	33	27	17	56
Ontario	9,034	57	11	32	26	18	56
Manitoba	887	58	10	32	24	17	59
Saskatchewan	792	53	11	35	21	18	61
Alberta	2,166	59	11	31	26	18	57
British Columbia	3,033	61	10	29	26	15	58

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey, 1994–95 (Supplement)*, special tabulations.

48

Breast-feeding

Introduction

Twenty years ago, the Nutrition Committee of the Canadian Paediatric Society officially recommended that breast milk be the only source of nutrients for most infants in the first 3–6 months of life.[1] More recently, federal and provincial/territorial health departments have campaigned to encourage breast-feeding by new mothers and to change societal attitudes towards breast-feeding in public.

This topic describes the breast-feeding of Canadian babies born up to two years prior to the 1996–97 *National Population Health Survey*.

Prevalence of breast-feeding, 1996–97

In 1996–97, 79% of all recently pregnant women age 15–49 reported that they had breast-fed their last child. This amounts to approximately 650,000 mothers (Table 48).[2] Although the only previous survey on this topic used a different approach to the question, it appears that breast-feeding in the mid-1990s may be substantially more common than breast-feeding in the 1980s, when approximately two-thirds of mothers breast-fed.[3]

Of those new mothers who were also current or former smokers, 26% smoked while breast-feeding.[2] This is less than the 36% of ever-smokers who smoked while *pregnant* (Topic 40) but is still cause for concern, as environmental tobacco smoke (ETS) in such close quarters, especially with a small infant, elevates the normal risk of exposure to ETS that is associated with having a smoker in the home (Topic 13).

There are no international data with which to compare Canadian breast-feeding practices.

Differences among groups

There is a relationship between breast-feeding practices and the age of the mother. Only two-thirds to three-quarters (66–76%) of young mothers (under age 25) breast-fed their last child, compared with over 80% of recent mothers age 25–44 (Table 48).

There is a strong relationship between mothers' education and the prevalence of breast-feeding. Recent mothers with less than a high school education were least likely (60%) to have breast-fed their last child, while university-educated mothers were by far the most likely (95%) to have done so (Table 48). There was also a very strong association between education level and smoking while breast-feeding, mothers who had not finished high school being more than three times as likely as university graduates to be smokers (Fig. 48).[2] Although these results are not age-standardized owing to the small sample size, they apply to a somewhat restricted age range compared with other topics in this *Report*.

There is also a relationship between mothers' income adequacy and the prevalence of breast-feeding, although it is not as pronounced as the relationship between mothers' education and breast-feeding. About three-quarters (72–75%) of recent mothers in the two lowest income groups breast-fed their last child, compared with over 80% of recent mothers in the two highest income groups (Table 48).

Of the recent mothers whose child or children were still living in their household at the time of the survey, single mothers were slightly less likely to have breast-fed than mothers who were part of a couple (74% vs. 81%) (Table 48). The recent mothers (in a couple or unattached) who were not living with their child or children were much less likely to have breast-fed their last child.

There was a great deal of variation in breast-feeding practices across provinces and regions. Recent mothers from Quebec were by far the least likely, at 60%, to have breast-fed their last child, while almost all (98%) of the recent mothers in British Columbia did so (Table 48). Also, only two-thirds (67%) of recent mothers in the Atlantic provinces breast-fed their last child, well under the Canadian average (provincial data for these provinces were suppressed because of high sampling variability).

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions.[4] The questions related to this topic were asked only of mothers between the ages of 15 and 49 who were recently pregnant (since 1994–95 for all provinces except Alberta, where the reference period was five years). The question on smoking while breast-feeding was asked of current and former smokers; it is not clear if this was understood by respondents to refer to simultaneously smoking and breast-feeding, or more generally to being both a smoker and a breast-feeding mother. The small sample size of such mothers does not allow for much breakdown into sub-groups.

Data on education, income adequacy, and household type were not age-standardized owing to the small sample sizes involved. As noted, however, the somewhat limited age range (15–49 years) of those questioned reduces the likelihood that age differences, rather than genuine differences in socio-economic status or household composition, explain these findings.

References

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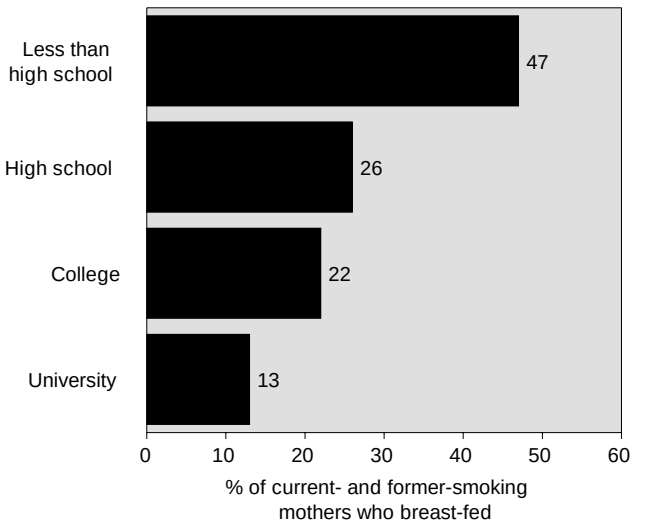
3. Craig CL. Nutrition. In Health and Welfare Canada, Stephens T, Fowler Graham D (eds.), *Canada's Health Promotion Survey 1990: Technical Report*. Ottawa: Minister of Supply and Services Canada, 1993 (Cat. No. H39-263/2-1990E).
4. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 48. **Smoking while breast-feeding, by education, women age 15–49, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 48. **Breast-feeding practices, by age, by education, by income adequacy, by household type, and by province/region, recent mothers age 15–49, Canada, 1996–97**

	Population estimate	Breast-fed last child	
		Yes	No
	('000)	(%)	(%)
Total, age 15–49	**811**	**79**	**21**
Age 15–17	2	#	#
Age 18–19	17	66	#
Age 20–24	115	76	24
Age 25–34	516	80	20
Age 35–44	158	82	18
Age 45–49	2	#	#
Less than high school	96	60	39
High school	372	78	22
College	184	79	21
University	156	95	5
Lowest income	23	75	24
Lower middle income	100	72	28
Middle income	262	78	22
Upper middle income	251	83	17
Highest income	69	82	18
Income not stated	106	81	19
Couple with children	696	81	19
Single mother	89	74	25
Couple alone	5	57	43
Unattached	13	24	76
Atlantic	52	67	33
Quebec	172	60	40
Ontario	312	84	16
Manitoba	28	86	14
Saskatchewan	23	#	#
Alberta	146	85	15
British Columbia	78	98	#

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

49

Helmet and seatbelt use

Introduction

Head injuries arising from mishaps on bicycles affect both adults and children (Topic 62) and can be prevented or reduced in severity by the consistent use of a helmet. For some years now, the Canadian Medical Association has been promoting the use of helmets by young cyclists. The provinces of Ontario, British Columbia, and Nova Scotia have legislation involving the use of bicycle helmets; a number of individual municipalities may also have laws requiring helmet use.[1]

This topic describes consistency of helmet use by Canadians age 12 and older who ride bicycles, based on their own report. It also describes the consistency of Canadian motorists age 16 and older in insisting that their passengers wear their seatbelts.

Prevalence of safety helmet and seatbelt use, 1996–97

About 29% of Canada's 6 million cyclists claim to always wear a helmet when riding a bike.[2] If those who often wear a helmet are included, this figure rises to only 36%. However, the number of cyclists wearing helmets is up significantly from 1994–95, when only 19% always wore a helmet and only 23% always or almost always wore a helmet when riding.[3] The largest proportion by far (59%) reported that they never wear a bicycle helmet (Table 49a),[2] but this is down from 73% who never wore helmets in 1994–95.[3]

An analysis of the main reason why individuals did not wear helmets in 1994–95 revealed that 47% did not have a helmet, 14% claimed that helmets were uncomfortable, 9% said helmets were unnecessary, and 4% said they were subject to ridicule as a result of wearing a helmet (25% claimed other reasons).[3] (These reasons were not ascertained again in 1996–97.)

Eighty-six percent of Canada's 18.7 million motorists age 16 and older reported that they always insist that all passengers are safely fastened with seatbelts (including children in car seats) (Table 49b).[2] About 94% of motorists always or often insisted that their passengers wear seatbelts. Only 4% of Canadian motorists rarely or never insisted on such precautions.

There are no international data on helmet or seatbelt use available for comparison purposes.

Differences among groups

Overall, there is little difference between helmet use by males and females. However, women age 20–34 and 55 and older were slightly more likely to wear helmets, compared with men the same age (Table 49a).

When both sexes are considered together, the most consistent helmet wearers were age 12–14 (40% of cyclists) and 25–64 (about one-third of cyclists) (Table 49a). Less than one in six teens age 15–19 and less than one in four Canadians age 20–24 always wore helmets while cycling.

Differences in helmet use associated with education are very pronounced (Table 49a). There is an almost 2.5-fold difference between the least and most educated groups — one of the steepest gradients related to education of all the topics in the *Statistical Report*.[2] This difference was also noted in the previous *Report*, although the disparity has decreased slightly.[3]

In 1996–97, less than 25% of Canadian cyclists in the two lowest income adequacy groups always wore their helmets, compared with 30% of cyclists in the upper middle income group and 40% in the highest income group (data not shown).[2] This disparity is consistent with analysis from the 1994–95 survey.[3]

Differences were also striking among provinces. Consistent use of a helmet ranged from 12% of cyclists in Manitoba to 53% in British Columbia.

Along with the strict helmet regulations in British Columbia (and other provinces and cities), these ranges in values between provinces may also be a reflection of differences in the type of cycling popular in these provinces and the hazards perceived to be associated with varying conditions.

Overall, women were more likely than men to always insist that their passengers use their seatbelts (92% vs. 80%); this was consistent among all age groups (Table 49b). Only 60% of men age 20–24 always insisted on their passengers wearing seatbelts, the lowest level of all age and sex groups; in fact, 17% of these men rarely or never insisted on the use of seatbelts, the highest level of all age and sex groups. Overall, almost 90% of Canadian motorists age 45 and older always insisted on their passengers wearing their seatbelts.[2]

Interestingly, there were virtually no differences among education levels for insisting that passengers wear seatbelts (Table 49b). People in the lowest income adequacy group were more likely to always insist that their passengers wear their seatbelts compared with people in the highest income group (89% vs. 83%, respectively) (data not shown).[2]

Individuals living as part of a couple with children and single parents were more likely to always insist that their passengers wear seatbelts compared with unattached individuals or individuals in couples without children (Fig. 49).[2] This is likely due to the fact that the passengers of the former groups were often their own young children, where safety was considered to be an even greater issue than with adult or unrelated passengers.

There are some noteworthy differences among provinces regarding seatbelt use. The proportion of motorists always insisting that their passengers wear their seatbelts ranged from lows of 77–78% in Manitoba and Alberta to highs of 88–89% in Newfoundland, New Brunswick, and British Columbia (Table 49b).

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the full sample of 82,000 respondents age 12 and older.[4]

Questions on helmet use were self-reported and asked of everyone who rode a bicycle. Questions on reasons for not wearing a helmet were not repeated in 1996–97. Questions on insistence on seatbelt use were self-reported and asked only of those individuals age 16 and over who had a valid driver's licence.

References

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2. Statistics Canada. *National Population Health Survey, 1996–97*. Special tabulations.
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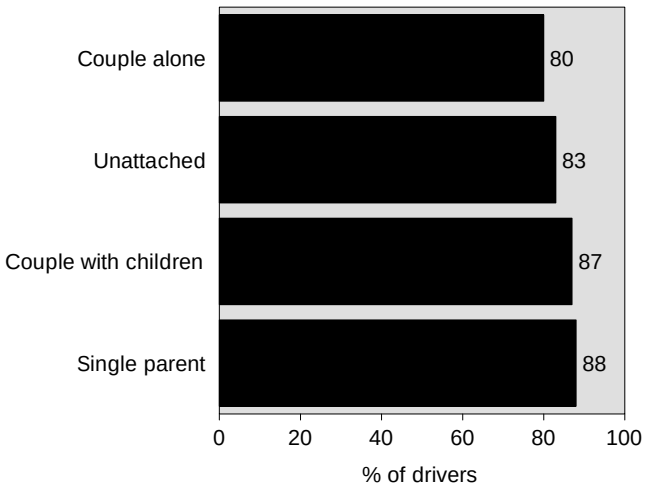
4. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 49. **Always insist on passengers' use of seatbelts, by household type (age-standardized), drivers age 16+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 49a. **Regularity of helmet use, by age and sex, by education (age-standardized), and by province, bicycle riders age 12+, Canada, 1996–97**

	Population estimate	Always	Often	Rarely	Never
	('000)	(%)	(%)	(%)	(%)
Total, age 12+	**6,043**	**29**	**7**	**6**	**59**
Male	3,411	28	7	7	59
Female	2,632	31	7	6	56
Age 12–14, total	561	40	14	14	31
Male	311	41	13	13	33
Female	250	40	16	15	29
Age 15–17, total	597	15	8	12	65
Male	382	16	8	13	63
Female	214	14	7	9	70
Age 18–19, total	351	14	8	9	69
Male	188	14	7	#	67
Female	163	14	#	#	72
Age 20–24, total	607	23	8	5	64
Male	337	20	8	4	67
Female	271	28	8	5	60
Age 25–34, total	1,268	33	5	4	57
Male	690	30	6	5	60
Female	577	37	5	4	54
Age 35–44, total	1,383	32	5	5	58
Male	760	32	5	5	59
Female	623	32	5	5	57
Age 45–54, total	697	32	7	3	58
Male	408	34	5	3	57
Female	289	28	9	#	59
Age 55–64, total	366	31	6	#	60
Male	208	28	#	#	62
Female	158	36	#	#	58
Age 65–74, total	173	29	#	#	60
Male	104	27	#	#	61
Female	69	31	#	#	58
Age 75+, total	41	#	#	#	77
Male	24	#	#	0	68
Female	17	#	#	#	89
Less than high school	1,845	16	6	8	71
High school	2,221	23	5	7	65
College	982	23	6	3	49
University	979	36	7	4	34
Newfoundland	85	#	#	#	69
Prince Edward Island	18	#	#	#	68
Nova Scotia	133	37	#	#	50
New Brunswick	145	21	#	#	67
Quebec	1,778	19	7	6	69
Ontario	1,935	33	8	7	52
Manitoba	220	12	5	4	79
Saskatchewan	197	#	#	#	82
Alberta	596	26	8	8	58
British Columbia	935	53	#	#	36

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 49b. **Frequency of insisting on seatbelt use by passengers, by age and sex, by education (age-standardized), and by province, motorists age 16+, Canada, 1996–97**

	Population estimate	Always	Often	Sometimes	Rarely/ never
	('000)	(%)	(%)	(%)	(%)
Total, age 16+	**18,656**	**86**	**8**	**3**	**4**
Male	9,809	80	10	4	7
Female	8,847	92	5	1	2
Age 16–17, total	361	80	10	5	5
Male	195	74	12	7	8
Female	166	87	8	#	#
Age 18–19, total	575	75	11	5	9
Male	305	68	12	7	14
Female	270	84	10	3	3
Age 20–24, total	1,563	71	12	6	11
Male	809	60	14	9	17
Female	754	84	10	3	4
Age 25–34, total	3,952	82	9	3	6
Male	2,001	74	12	4	10
Female	1,952	90	6	2	2
Age 35–44, total	4,774	89	7	1	3
Male	2,496	85	9	2	4
Female	2,278	93	5	1	1
Age 45–54, total	3,349	89	6	2	3
Male	1,755	84	9	3	4
Female	1,594	94	3	1	1
Age 55–64, total	2,094	89	6	1	3
Male	1,115	84	9	2	5
Female	979	95	3	#	1
Age 65–74, total	1,407	92	4	2	2
Male	772	90	5	2	3
Female	635	93	3	#	1
Age 75+, total	581	91	4	1	3
Male	361	89	5	2	4
Female	220	95	3	#	#
Less than high school	3,750	85	8	2	5
High school	7,845	86	8	2	4
College	3,758	86	7	2	5
University	3,199	85	8	3	4
Newfoundland	326	88	8	#	#
Prince Edward Island	91	83	10	#	#
Nova Scotia	588	82	8	#	8
New Brunswick	492	88	4	#	#
Quebec	4,571	87	6	3	4
Ontario	6,977	86	7	2	4
Manitoba	681	77	12	4	7
Saskatchewan	634	82	9	#	7
Alberta	1,735	78	12	3	7
British Columbia	2,564	89	6	#	3

Data suppressed because of high sampling variability

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

50

Sexual practices

Introduction

Healthy sexual practices are becoming increasingly important, as unsafe sexual behaviours may lead to consequences such as infertility or serious illnesses such as AIDS (Topic 71) or other sexually transmitted diseases (Topic 70). Among the safe-sex practices widely promoted is the routine use of condoms, especially in short-term relationships where the partner's sexual history may be unknown. Having multiple partners compounds the risk.

This topic describes regularity of condom use with a new sexual partner and number of partners in the previous year.

Prevalence of risky sexual practices, 1996–97

The results of the 1996–97 *National Population Health Survey* suggest that many Canadians are at risk for HIV and other sexually transmitted diseases because of their sexual behaviour. Among those Canadians age 15–59 in a relationship of less than 12 months' duration, one sixth (16%) did not use a condom the last time they had sex, and 8% reported *never* using a condom. Three percent of Canadians had three or more sexual partners in the 12 months before the survey (Table 50).[1]

Differences among groups

Men appear to be at greater risk than women, as they were twice as likely to have had three or more partners in the last year, though they were equally likely not to have used a condom the last time they had sex with a partner in a relationship of less than 12 months' duration (16%) (Table 50).

The percentage reporting that they did not use a condom the last time they had sexual intercourse with a partner of less than 12 months ranged from 8% among 50–59 year olds and 15-17 year olds, to 26% among 18–19 year olds (Table 50). The 35–44 year age group had the highest proportion (10%) of respondents who reported that they *never* used a condom with a partner of less than 12 months.

By province, the percentage reporting that they had not used a condom the last time they had sexual intercourse with a partner of less than 12 months ranged from 8% in Ontario to 31% in Alberta (Table 50).

There is a relationship among level of risk and the likelihood of HIV testing (see Topic 20). For example, HIV testing was at least twice as high among those who had two or more partners in the prior year than among those who did not have any sexual partner and those who had one partner (Fig. 50).[2]

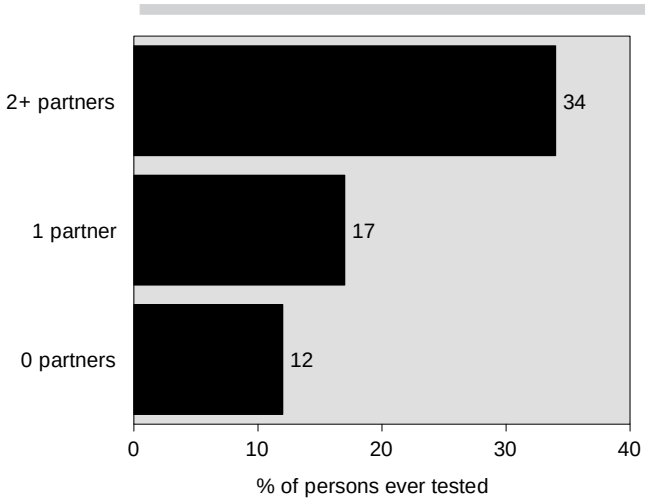
On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the sample of respondents age 15–59, and only direct (non-proxy) reports were accepted.[3]

References

1. Statistics Canada. *National Population Health Survey, 1996–97*. Special tabulations.
2. Health Canada, Laboratory Centre for Disease Control, Division of HIV Epidemiology. *National Population Health Survey, 1996–97*. Special tabulations.
3. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 50. **Likelihood of an HIV test, by number of sexual partners in past year, age 18–59, Canada, 1996–97**



Source: Health Canada, Laboratory Centre for Disease Control, *National Population Health Survey, 1996–97*, special tabulations.

Table 50. **High-risk sexual behaviours, by age and sex, by education (age-standardized), and by province, age 15–59, Canada, 1996–97**

	Population estimate	Use a condom with a sexual partner of less than 12 months[a]			3+ sexual partners last year[b]
		Occasionally	Never	Not last time	
	('000)	(%)	(%)	(%)	(%)
Total, age 15–59	**18,835**	**6**	**8**	**16**	**3**
Male	9,454	8	8	16	5
Female	9,381	5	9	16	2
Age 15–17, total	1,268	#	#	8	8
Male	666	#	#	#	#
Female	601	#	#	#	#
Age 18–19, total	822	9	#	26	12
Male	394	#	#	25	16
Female	428	#	#	27	8
Age 20–24, total	1,870	12	9	23	9
Male	950	14	8	21	11
Female	920	7	11	27	6
Age 25–34, total	4,434	8	9	18	4
Male	2,189	9	8	17	6
Female	2,246	7	9	20	2
Age 35–44, total	5,275	6	10	15	2
Male	2,665	8	9	18	3
Female	2,610	#	11	12	1
Age 45–49, total	2,049	#	9	12	1
Male	1,057	#	11	16	2
Female	992	#	#	#	#
Age 50–59, total	3,118	#	7	8	1
Male	1,533	#	8	9	1
Female	1,585	#	6	6	#
Less than high school	4,197	3	8	12	3
High school	7,963	6	7	14	3
College	3,544	5	8	14	2
University	3,043	4	4	9	2
Newfoundland	370	#	#	#	#
Prince Edward Island	86	#	#	#	#
Nova Scotia	580	#	#	#	#
New Brunswick	491	#	#	#	#
Quebec	4,750	#	14	23	3
Ontario	7,128	3	4	8	2
Manitoba	667	4	7	13	4
Saskatchewan	567	#	#	#	#
Alberta	1,740	#	#	31	4
British Columbia	2,457	#	#	23	5

Data suppressed because of high sampling variability

[a] As a percentage of those in such relationships. The rate of non-response was close to 50%.

[b] As a percentage of those who had sexual intercourse in the previous year. The rate of non-response was 12%.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

51

Sun exposure and protection

Introduction

In 1999, estimates called for 3,500 new cases of melanoma and 770 deaths from melanoma, both incidence and mortality having steadily increased since 1969. Deaths among males were 1.5 times the rate for females, and the 1999 figures were all-time highs for males, but not for females.[1,2] Cataracts were reported by 659,000 Canadians age 18 and older in 1996–97.[3] Since melanoma and cataracts are long-term outcomes of excessive sun exposure, dermatologists and other public health authorities have been actively advising the population for the last few years to limit their midday exposure. This is especially important for children, whose skin may be more susceptible and who have more years of potential exposure with reduced natural protection from the ozone layer.

This topic describes the extent of exposure to the sun and the protective measures taken by Canadians as of 1996.

Sun exposure and protection, 1996

Prolonged exposure to the sun is the norm for many Canadians — at work, at play, and during southern travel in the winter. Exposure of more than 30 minutes daily during June through August was reported for 92% of the 4.6 million persons who are obliged to work outdoors and 79% of those at play; similar amounts of exposure were reported by 89% of the 3.3 million Canadians who travelled south during the winter months.[4]

A majority of those spending 30 or more minutes in the sun during their summertime *leisure* hours take protective measures of some form, but large proportions do not do so regularly. Indeed, some of the easiest measures — using sunscreen on the face and body and wearing a hat — are *rarely or never* used by almost half of these persons (Table 51).[4] The measures most widely used by adults are staying in the shade (72% at least do it sometimes), wearing sunglasses (70%) and protective clothing such as a long-sleeved shirt (67%), and avoiding the sun between 11 a.m. and 4 p.m. (66%).

Parents are much more conscientious about protecting their children from exposure, as sunglasses appear to be the only measure that is substantially under-utilized (Fig. 51).[4]

Differences among groups

Although males were more likely than females to report 30 or more minutes' exposure to sun at work, at play, and during travel, the vast majority of both genders were exposed in all three settings. There was little variation in exposure related to age, education, or region (data not shown).

The more extensive and important variation among groups was in the use — or under-use — of specific protective measures (Table 51). With the exception of wearing a hat and protective clothing, men were more likely than women to routinely *avoid* sun protection measures. This difference was most striking for the use of sunblock, which men were only half as likely as women to use sometimes. In contrast to these gender differences, there was no consistent pattern in protective measures related to age. With increases in income, there was increased use of sunscreen and sunglasses, but, generally, *less* tendency to seek shade or avoid the midday sun.

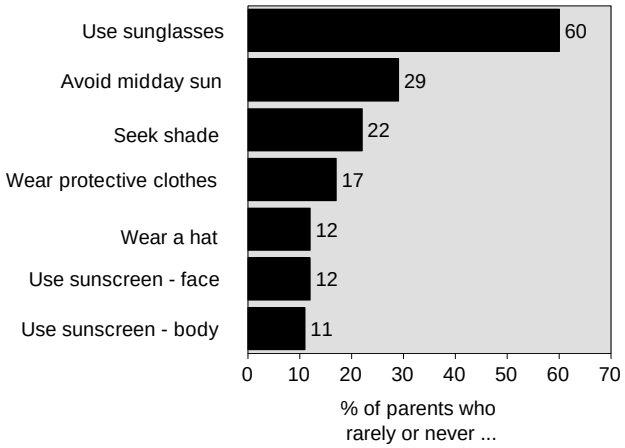
Regional comparisons suggest that residents of British Columbia and Ontario are most consistent in their use of protective measures (Table 51). Quebeckers were, by a large margin, least likely to wear a hat or protective clothing, Prairie residents were the least consistent users of sunblock, and Atlantic Canadians were least likely to stay in the

shade. Measures to protect children also varied somewhat, but comparisons are hampered by small sample sizes. Children in Atlantic Canada were least likely to avoid the midday sun, while children in Quebec were least likely to wear sunglasses (data not shown).

On definitions and methods

Statistics Canada conducted the *Sun Exposure Survey* for the National Cancer Institute of Canada, the Canadian Dermatology Association, the Canadian Association of Optometrists, and other organizations in order to assess exposure levels and describe the measures taken by Canadians to protect themselves. Telephone interviewing of a sample of slightly over 4,000 persons age 15 and older took place during September and October 1996. Respondents answered for themselves except for children age 12 and under, for whom a parent provided information. The protective measures described here are only for those persons spending 30 or more minutes in the sun daily, a level that was predetermined as part of the interview procedure.[5]

Figure 51. **Under-used measures for reducing children's sun exposure, Canada, 1996**



Source: Statistics Canada, *Sun Exposure Survey, 1996*, special tabulations.

References

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2. Gaudette L, Gao R. Changing trends in melanoma incidence and mortality. *Health Reports* 1998; 10(2): 29–39 (Statistics Canada Cat. No. 82-003-XPB).
3. Statistics Canada. *National Population Health Survey, 1996–97*. Special tabulations.
4. Statistics Canada. *Sun Exposure Survey, 1996*. Special tabulations.
5. Statistics Canada. *Sun Exposure Survey, 1996: Microdata Users Guide* (Statistics Canada Cat. No. 62M0019XDBGPE).

Table 51. **Rarely or never used measures to protect against the sun during leisure time, by age and sex, by income (age-standardized), and by region, persons age 15+ exposed 30+ minutes daily during June–August, Canada, 1996**

	Population estimate	Seek shade	Avoid midday sun	Wear a hat	Protective clothing	Sunglasses	Sunscreen on face	Sunscreen on body
	('000)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Total, age 15+	**18,540**	**28**	**34**	**41**	**33**	**30**	**47**	**48**
Male	9,891	32	39	31	30	34	63	62
Female	8,649	22	27	53	35	26	29	32
Age 15–19, total	1,842	32	39	46	37	38	41	42
Male	952	36	38	30	33	48	57	60
Female	890	27	40	62	41	27	24	23
Age 20–24, total	1,641	36	45	50	45	26	51	44
Male	852	43	52	33	40	23	60	55
Female	789	29	36	69	51	29	42	33
Age 25–34, total	3,952	29	34	47	32	27	45	40
Male	2,030	34	41	36	30	33	62	54
Female	1,922	23	27	58	34	20	26	25
Age 35–44, total	4,087	26	32	44	32	26	42	42
Male	2,221	29	37	34	29	29	57	53
Female	1,866	22	26	56	35	22	23	29
Age 45–54, total	2,952	27	32	41	32	27	48	52
Male	1,618	33	38	37	29	30	67	70
Female	1,334	20	25	46	36	23	26	30
Age 55–64, total	1,772	22	27	30	28	38	47	56
Male	1,026	29	36	24	30	44	63	74
Female	746	#	#	37	25	29	26	31
Age 65–74, total	1,476	21	30	31	30	40	56	68
Male	776	21	37	#	#	39	68	77
Female	700	#	#	45	36	42	43	57
Age 75+, total	818	29	29	23	24	39	67	76
Male	416	#	#	#	#	#	83	88
Female	402	#	#	#	#	35	51	64
Lowest income	942	23	31	48	33	39	63	72
Lower middle income	2,789	26	33	44	32	39	54	55
Middle income	3,373	29	35	43	31	32	49	51
Upper middle income	5,945	26	30	40	33	29	46	46
Highest income	3,213	36	40	36	37	25	40	41
Income not stated	2,279	28	33	42	34	29	49	49
Atlantic	1,533	33	36	37	27	34	49	51
Quebec	4,414	29	39	52	41	36	45	47
Ontario	6,883	26	30	38	30	27	45	46
Prairies	3,206	30	32	37	31	32	55	55
British Columbia	2,503	25	34	39	30	24	44	47

Data suppressed because of high sampling variability

Source: Statistics Canada, *Sun Exposure Survey, 1996*, special tabulations.

52

Health behaviour changes

Introduction

The importance of individual behaviour as a determinant of health status has been recognized officially in federal government policy for at least a quarter century.[1] While the focus has shifted away from behaviour in recent years towards socio-economic determinants,[2] health education directed at individual behaviour remains one of the predominant health promotion strategies on a population level — and one of the challenges (Topics 36–38).

At the individual level, there is a strong consensus that personal behaviours — nutrition, smoking, exercise — are the key determinants of health and are much more influential than health services, the environment, or genetics.[3] Given this mind-set and a fairly constant barrage of advice and encouragement regarding healthy lifestyles, it is hardly surprising that the population makes and contemplates behavioural changes to improve health. This topic examines the extent and nature of these changes.

Actual, needed, and intended behaviour changes, 1996–97

Almost half (47%) of the Canadian population age 12 and older reported changing some behaviour to improve their health in the year before the 1996–97 *National Population Health Survey*, and a slightly larger proportion (54%) reported feeling that some future change was needed. Of this latter group, however, over two thirds (69%) reported the intention to change their behaviour in the coming year (Table 52).[4]

Among those recognizing the need for future change, more exercise was the need cited most often, followed by reduced smoking, better nutrition, and losing weight (Fig. 52a).[4] A lack of will and a lack of time seem to be the main barriers to improved lifestyles (Fig. 52b).[4]

This compares with 1990, when 49% of adult Canadians reported some change in the previous year and 51% intended a change in the coming year, with more exercise the most frequently mentioned initiative.[5]

Differences among groups

Females were more likely than males to report changes in the past year, to recognize the need for more changes, and to intend to make these changes in the coming year (Table 52). While consistent, these gender differences were less pronounced than those related to age, however. There was a general decline in behaviour change — whether actual, needed, or intended — with increasing years. For example, Canadians age 20–44 were about twice as likely as seniors to believe that they needed to make a change for their health. This is similar to the trend in 1990.[5]

There is little systematic relationship between education and behaviour change (Table 52), which is a contrast to 1990, when actual and intended change became more common with increasing education.[5]

Behaviour changes in the previous year were most often reported in Ontario (50%) and least often in Saskatchewan (39%), yet Saskatchewan residents were the least likely to report intentions to change in the next year (56%) and British Columbia residents among the most likely (73%) (Table 52). If these intentions are acted upon, it would increase the existing discrepancies among the provinces in behaviours such as smoking and exercise (see Topics 40 and 46). Ontarians appear to feel they have made sufficient changes, as they were *least* likely to see any need for more change in the coming year, and their intentions were correspondingly modest. Albertans were most likely to report the need for change (61%), and Quebeckers reported the greatest intention to make changes (79%).

On definitions and methods

These data are from the personal interview portion of the second cycle of the *National Population Health Survey*, conducted by Statistics Canada from June 1996 to August 1997. The survey visited over 20,000 households that had also participated in the first cycle two years earlier, for a total of 16,000 respondents who provided full information; an additional 66,000 respondents (who were not part of the longitudinal panel) were also surveyed to provide detailed cross-sectional data on the in-depth health questions. The findings for this topic are based on the full sample of 82,000 respondents age 12 and older.[6]

The questions about behaviour changes were asked at the beginning of the interview, before detailed questioning on specific behaviours might influence responses, especially to the questions about needed or intended changes. No third-party answers were accepted for this set of questions. Questions on *actual* and *needed* changes were asked of everyone and were independent of each other; however, the questions about *intended* change were confined to those who reported feeling the need to make a change.

References

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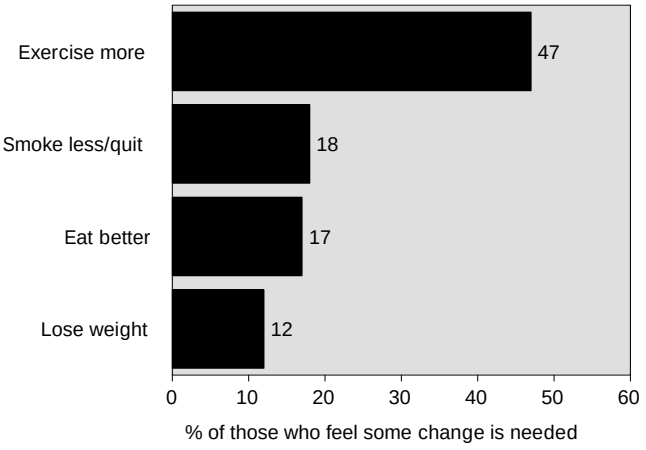
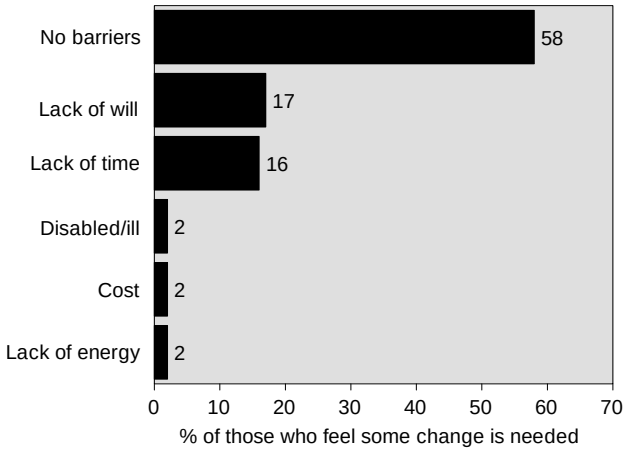
6. Statistics Canada. *National Population Health Survey Overview, 1996–97*. Ottawa: Minister of Industry, 1998 (Statistics Canada Cat. No. 82-567-XPB).

Figure 52a. **Self-reported changes needed to improve health, age 12+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Figure 52b. **Barriers to needed changes, age 12+, Canada, 1996–97**



Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.

Table 52. **Changes to benefit health, by age and sex, by education (age-standardized), and by province, age 12+, Canada, 1996–97**

	Population estimate	Last year	In the future	
		Took action to improve health	Feel some action needed	Intend to take needed action[a]
	('000)	(%)	(%)	(%)
Total, age 12+	**24,595**	**47**	**54**	**69**
Male	12,099	44	53	67
Female	12,495	50	56	70
Age 12–14, total	1,175	55	45	67
Male	604	58	42	70
Female	571	51	49	64
Age 15–17, total	1,268	56	55	73
Male	666	56	49	76
Female	601	56	62	70
Age 18–19, total	822	57	59	71
Male	394	58	56	67
Female	428	56	62	74
Age 20–24, total	1,870	59	62	72
Male	950	55	61	70
Female	920	63	63	74
Age 25–34, total	4,434	50	61	73
Male	2,189	47	59	70
Female	2,246	53	64	75
Age 35–44, total	5,275	44	62	69
Male	2,665	40	62	68
Female	2,610	48	62	70
Age 45–54, total	3,795	48	59	68
Male	1,949	42	57	66
Female	1,846	53	62	70
Age 55–64, total	2,540	46	48	65
Male	1,203	41	46	61
Female	1,337	50	50	69
Age 65–74, total	2,085	39	35	58
Male	926	35	33	53
Female	1,159	41	36	62
Age 75+, total	1,331	24	20	51
Male	552	24	17	47
Female	779	24	22	53
Less than high school	7,550	39	48	65
High school	9,407	46	55	70
College	4,050	45	52	62
University	3,444	46	54	63
Newfoundland	478	41	57	60
Prince Edward Island	113	43	59	64
Nova Scotia	775	46	57	67
New Brunswick	632	44	55	68
Quebec	6,131	44	57	79
Ontario	9,323	50	49	62
Manitoba	902	46	53	65
Saskatchewan	801	39	52	56
Alberta	2,244	48	61	70
British Columbia	3,196	49	59	73

[a] Expressed as a percentage of those reporting some change was needed.

Source: Statistics Canada, *National Population Health Survey, 1996–97*, special tabulations.