

## Article

# Smoking cessation: intentions, attempts and techniques

by Scott T. Leatherdale and Margot Shields

July, 2009



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## Abstract

### Background

A better understanding of characteristics associated with intentions to quit smoking and quit attempts and of the use of various aids is required to develop effective cessation strategies.

### Data and methods

Data from the 2006 Canadian Tobacco Use Monitoring Survey were used to examine intentions to quit smoking, quit attempts, use of cessation aids, and receipt of cessation advice from health professionals.

### Results

One-third of Canadian smokers aged 15 or older reported intentions to quit within the next 30 days, and almost half had tried to quit in the past year. The number of cigarettes smoked per day was associated with intending to quit and quit attempts. The intention to quit was strongly associated with the number of past quit attempts. Half of current smokers who had seen a doctor in the past year had been advised to reduce or quit smoking.

### Keywords

health personnel, nicotine dependence, nicotine replacement therapy, pharmaceutical aid, quit attempts, smoking quit methods, tobacco, tobacco use cessation

## Authors

Scott T. Leatherdale (416-971-9800, ext 3237; scott.leatherdale@cancercare.on.ca) is with the Department of Population Studies and Surveillance, Cancer Care Ontario, 620 University Avenue Toronto, Ontario, M5G 2L7; Margot Shields (613-951-4177; Margot.Shields@statcan.gc.ca) is with the Health Analysis Division at Statistics Canada, Ottawa, Ontario, K1A 0T6.

Despite the serious health risks, a considerable number of Canadians continue to smoke.<sup>1</sup> However, the vast majority of smokers regret having started.<sup>2</sup> Many are interested in quitting and have tried to do so,<sup>1,3</sup> but most cessation attempts are unsuccessful.<sup>1,4</sup> A better understanding of smokers' intentions and quit attempts may further the development of effective cessation strategies.

Intentions indicate how much effort people are willing to exert to accomplish a goal.<sup>5</sup> Smokers with strong intentions to quit might be expected to have more success than those with weak intentions.<sup>5</sup> It is, therefore, important to understand characteristics associated with intending to quit smoking. Research has shown that smokers are not as likely to intend to quit if they have less education<sup>6</sup> or if they are heavier smokers.<sup>7</sup> As well, female smokers are less likely than male smokers to intend to quit.<sup>6</sup> The frequency of smoking is also important—non-daily smokers more often report intentions to quit than do daily smokers.<sup>8</sup> And smokers are more apt to want to quit if they have previously tried to do so.<sup>4</sup>

Once smokers decide they want to quit, the next step is to actually try. Factors shown to be positively associated with trying to quit smoking include

being a young adult,<sup>9</sup> being a non-daily<sup>8</sup> or lighter smoker,<sup>7</sup> and receiving cessation advice from a health care provider.<sup>10,11</sup> On the other hand, smokers who switch to “light” cigarettes as a harm reduction strategy are less apt to quit.<sup>12</sup> Quit attempts do not appear to be related to the presence of children in the home,<sup>13</sup> and the evidence pertaining to quit attempts and education is mixed.<sup>4,6</sup>

Although most smokers try to quit at least once,<sup>3,4</sup> the majority will relapse. Relapse is more likely if smokers do not use a formal cessation method such as nicotine replacement therapy,<sup>14-16</sup> or if they switch to a lower-tar cigarette before quitting.<sup>12,17</sup> Smokers with higher levels of education are less likely to relapse than those with less education.<sup>17,18</sup>

Given the need for current Canadian information about intentions to quit

smoking, quit attempts and relapse, this study uses data from the 2006 Canadian Tobacco Use Monitoring Survey to examine: 1) factors associated with intentions to quit smoking; 2) factors associated with one or more quit attempts; 3) smokers' reasons for relapse; 4) their use of cessation aids and strategies; and 5) their receipt of cessation advice from health professionals.

## Methods

### Data source

The Canadian Tobacco Use Monitoring Survey is a nationally representative survey designed to monitor trends in smoking prevalence.<sup>19</sup> The survey covers the population aged 15 or older in Canada, excluding residents of Yukon, Nunavut and the Northwest Territories and full-time residents of institutions.

Using computer-assisted telephone interviews, Statistics Canada collected data from 21,976 individuals from February through December 2006. The overall response rate was 69.9%. Only direct reports from selected respondents were allowed (proxy reports were not accepted). The sampling design was a two-phase stratified random sample of telephone numbers. The two-phase design was used to increase the representation of people in the 15 to 19 and 20 to 24 age groups. In the first phase, households were selected using Random Digit Dialing; in the second phase, one or two individuals (or none) were selected based on household composition. Survey weights were used to account for probabilities of selection and to adjust for non-response between provinces and groups. A full description of the sampling design is available.<sup>19</sup>

### Measures

Smokers were identified based on the question, "At the present time, do you smoke cigarettes every day, occasionally or not at all?" Respondents who said they smoked every day or occasionally

were defined as current smokers. Among current smokers, daily smokers were defined as those who reported smoking daily, and occasional smokers, those who reported smoking occasionally. Current smokers were asked about intentions to quit smoking in the next 30 days, quit attempts in the past year, number of cigarettes smoked per day, strength of cigarettes usually smoked, use of pharmaceutical cessation aids, reasons for not using cessation aids, other cessation strategies, reasons for relapse, and cessation advice received from health professionals. Information was also collected about age, sex, marital status, education, and the presence of children younger than 15 in the home.

### Analytical techniques

Descriptive analyses of the demographic characteristics of all current smokers were examined. Cigarettes per day, number of quit attempts, strength of cigarettes and demographic characteristics were cross-tabulated by

intentions to quit in the next 30 days and by quit attempts in the past year. Two logistic regression models were then fitted to examine associations between those characteristics and the likelihood of intending to quit and of having made a quit attempt in the past year. Among current smokers who had tried to quit in the past year, reasons for relapse, use of pharmaceutical cessation aids, reasons for not using such aids, and other cessation strategies were examined by sex and age. Finally, for all current smokers, the receipt of cessation advice from health professionals was examined by sex and age. Data were weighted on sex, age and province, after adjustments for non-response and multiple telephone lines in the household. To account for the survey design effects, standard errors were estimated with the bootstrap technique. The statistical package SAS 9.1 was used for all analyses.<sup>20</sup> Sample sizes for all variables in the analyses are shown in Appendix Table A.

**Table 1**  
**Prevalence of current smoking, by selected characteristics, household population aged 15 or older, Canada excluding territories, 2006**

|   | Percentage | 95% confidence interval |      |
|---|------------|-------------------------|------|
|   |            | from                    | to   |
| Total                                       | 18.6       | 17.6                    | 19.6 |
| Sex   |            |                         |      |
| Males                                       | 20.3*      | 18.8                    | 21.8 |
| Females <sup>†</sup>                        | 17.0       | 15.7                    | 18.2 |
| Age group                                   |            |                         |      |
| 15 to 19                                    | 14.8*      | 13.3                    | 16.4 |
| 20 to 24                                    | 27.3*      | 25.2                    | 29.4 |
| 25 to 34                                    | 23.9*      | 20.7                    | 27.0 |
| 35 to 44 <sup>†</sup>                       | 19.8       | 17.4                    | 22.2 |
| 45 to 54                                    | 22.0       | 19.7                    | 24.3 |
| 55 or older                                 | 11.1*      | 9.7                     | 12.5 |
| Marital status (aged 25 or older)           |            |                         |      |
| Married/Common-law <sup>†</sup>             | 16.0       | 14.6                    | 17.4 |
| Widowed/Divorced/Separated                  | 20.7*      | 18.1                    | 23.4 |
| Never married                               | 26.5*      | 23.1                    | 29.9 |
| Education (aged 25 or older)                |            |                         |      |
| Less than secondary graduation <sup>†</sup> | 22.4       | 19.2                    | 25.6 |
| Secondary graduation                        | 22.0       | 20.0                    | 23.9 |
| Postsecondary graduation                    | 13.9*      | 12.3                    | 15.4 |

<sup>†</sup> reference category

\* significantly different from estimate for reference category ( $p < 0.05$ )

Source: 2006 Canadian Tobacco Use Monitoring Survey.

## Results

### One in five

In 2006, almost one in five Canadians (19%) aged 15 or older was a current smoker (Table 1). Males were more likely than females to be smokers (20% versus 17%). The prevalence of smoking was high among 20- to 24-year-olds (27%) and low among those aged 55 or older (11%). Smoking prevalence was higher among people who had never been married (27%) than among those who were married or in a common-law relationship (16%). Postsecondary graduates were less likely than people who had graduated from secondary school to be current smokers (14% versus 22%).

### Intentions to quit

One-third of current smokers reported that they intended to quit in the next 30 days (Table 2). The intention to quit was negatively associated with the number of cigarettes smoked per day and positively associated with the number of quit attempts made in the past year. The percentage intending to quit were highest among smokers of ultra/extra light, mild cigarettes.

### One or more quit attempts in past year

Almost half of current smokers (48%) reported that they had tried to quit at least once in the past year (Table 3). The likelihood of having made a quit attempt declined at older ages. Fully 62% of smokers aged 20 to 24 had tried to quit, compared with 32% of those aged 55 or older. The number of times smokers had tried to quit was also related to age: 15- to 19-year-olds averaged 2.5 quit attempts, compared with 1.0 attempts for those aged 55 or older (data not shown).

Frequency of smoking was related to quit attempts. Compared with smokers who consumed 10 to 24 cigarettes a day, those who consumed 1 to 9 were more likely, and those who consumed at least 25 less likely, to report at least one quit attempt.

**Table 2**

**Percentage of and adjusted odds ratios for smokers considering quitting within next 30 days, by selected characteristics, household population aged 15 or older, Canada excluding territories, 2006**

|   | Considering quitting in next 30 days |                         |      |                     |                         |      |
|---|--------------------------------------|-------------------------|------|---------------------|-------------------------|------|
|   | Percentage                           | 95% confidence interval |      | Adjusted odds ratio | 95% confidence interval |      |
|   |                                      | from                    | to   |                     | from                    | to   |
| <b>Total</b>  | 32.5                                 | 29.5                    | 35.4 | ...                 | ...                     | ...  |
| <b>Sex</b>  |                                      |                         |      |                     |                         |      |
| Males   | 33.9                                 | 30.0                    | 37.9 | 1.3                 | 0.9                     | 1.8  |
| Females <sup>†</sup>  | 30.8                                 | 26.5                    | 35.2 | 1.0                 | ...                     | ...  |
| <b>Age group</b>  |                                      |                         |      |                     |                         |      |
| 15 to 19  | 34.5                                 | 28.8                    | 40.2 | 0.8                 | 0.4                     | 1.3  |
| 20 to 24  | 32.8                                 | 28.4                    | 37.1 | 0.7                 | 0.5                     | 1.2  |
| 25 to 34  | 37.2                                 | 29.3                    | 45.1 | 1.1                 | 0.6                     | 1.8  |
| 35 to 44 <sup>†</sup>   | 30.0                                 | 23.0                    | 37.0 | 1.0                 | ...                     | ...  |
| 45 to 54  | 31.9                                 | 25.7                    | 38.1 | 1.2                 | 0.7                     | 1.8  |
| 55 or older   | 29.2                                 | 22.2                    | 36.2 | 1.6                 | 0.9                     | 2.9  |
| <b>Marital status (aged 25 or older)</b>                              |                                      |                         |      |                     |                         |      |
| Married/Common-law <sup>†</sup>                                       | 32.4                                 | 27.7                    | 37.1 | 1.0                 | ...                     | ...  |
| Widowed/Divorced/Separated  | 36.2                                 | 27.8                    | 44.6 | 1.4                 | 0.9                     | 2.2  |
| Never married   | 31.5                                 | 24.0                    | 39.0 | 1.1                 | 0.7                     | 1.6  |
| <b>Education (aged 25 or older)</b>                                   |                                      |                         |      |                     |                         |      |
| Less than secondary graduation <sup>†</sup>                           | 26.5                                 | 19.3                    | 33.7 | 1.0                 | ...                     | ...  |
| Secondary graduation  | 31.0                                 | 25.9                    | 36.1 | 1.2                 | 0.8                     | 1.8  |
| Postsecondary graduation  | 37.6*                                | 31.4                    | 43.9 | 1.4                 | 0.9                     | 2.3  |
| <b>Children younger than 15 in household</b>                          |                                      |                         |      |                     |                         |      |
| Yes   | 34.1                                 | 28.5                    | 39.6 | 1.0                 | 0.7                     | 1.4  |
| No <sup>†</sup>   | 31.7                                 | 28.5                    | 35.0 | 1.0                 | ...                     | ...  |
| <b>Cigarettes per day</b>   |                                      |                         |      |                     |                         |      |
| Occasional smoker   | 52.8*                                | 46.9                    | 58.7 | 4.1*                | 2.8                     | 6.0  |
| 1 to 9  | 34.7*                                | 28.1                    | 41.4 | 1.4                 | 0.9                     | 2.0  |
| 10 to 24 <sup>†</sup>   | 25.2                                 | 21.2                    | 29.2 | 1.0                 | ...                     | ...  |
| 25 or more  | 20.0 <sup>E</sup>                    | 13.4                    | 26.7 | 0.9                 | 0.5                     | 1.4  |
| <b>Number of quit attempts in past year lasting at least 24 hours</b> |                                      |                         |      |                     |                         |      |
| 0 <sup>†</sup>  | 17.2                                 | 13.9                    | 20.4 | 1.0                 | ...                     | ...  |
| 1   | 35.3*                                | 27.5                    | 43.1 | 3.0*                | 2.0                     | 4.6  |
| 2   | 46.6*                                | 37.2                    | 55.9 | 4.5*                | 2.8                     | 7.3  |
| 3   | 54.8*                                | 45.5                    | 64.1 | 6.7*                | 4.2                     | 10.9 |
| 4 or more   | 62.1*                                | 55.1                    | 69.1 | 8.9*                | 6.0                     | 13.3 |
| <b>Strength of cigarettes</b>   |                                      |                         |      |                     |                         |      |
| Ultra or extra light  | 43.7*                                | 33.9                    | 53.5 | 1.4                 | 0.9                     | 2.3  |
| Light   | 30.8                                 | 25.9                    | 35.6 | 0.9                 | 0.7                     | 1.4  |
| Ultra or extra mild   | 36.2 <sup>E</sup>                    | 21.2                    | 51.1 | 1.3                 | 0.6                     | 2.6  |
| Mild  | 38.7                                 | 27.0                    | 50.3 | 1.6                 | 0.9                     | 3.0  |
| Regular <sup>†</sup>  | 28.7                                 | 24.7                    | 32.6 | 1.0                 | ...                     | ...  |

<sup>†</sup> reference category

\* significantly different from estimate for reference category ( $p < 0.05$ )

... not applicable

<sup>E</sup> use with caution (coefficient of variation 16.6% to 33.3%)

Note: Odds ratios adjusted for province and all other variables in table.

Source: 2006 Canadian Tobacco Use Monitoring Survey.

### Cessation aids and strategies

Reducing consumption was the most common cessation strategy used by current smokers who had tried to quit

in the past two years (69%) (Table 4). About half (48%) of smokers who had tried to quit used at least one pharmaceutical aid: 32% used the

nicotine patch; 21%, nicotine gum; and 14%, other pharmaceutical-based cessation aids. Use of cessation aids was less common among younger smokers.

Reasons most often reported for not using cessation aids were doubt that the products work (21%), cost (18%), and concern about possible side effects (16%). Higher percentages of females than males expressed concern about side effects.

### Reasons for relapse

Among current smokers who had tried to quit in the past year, the most common reasons for relapsing were stress or the need to relax (34%) and addiction or habit (25%) (Table 4). A higher percentage of females than males reported stress or the need to relax (39% versus 29%).

### Advice from health professionals

Although most current smokers had seen one or more health professionals in the past year, many reported not being advised to reduce or quit smoking (Table 5). For instance, 76% of current smokers had seen a doctor, but 50% of this group reported that a doctor had advised them to reduce or quit smoking. The likelihood of smokers' reporting that a doctor had advised them to quit rose with age from 38% of those aged 15 to 24 to 59% of those aged 45 or older.

Among those who had been advised to reduce or quit smoking, the percentage receiving cessation advice ranged from a 25% from a dentist to 76% from a pharmacist. Smokers aged 15 to 24 were less likely to report that a doctor had provided them with cessation information (41%) than were smokers aged 45 or older (60%).

### Discussion

This study shows that in 2006, close to a third of smokers intended to quit in the immediate future, and about half of them had tried to do so in the

**Table 3**

**Percentage of and adjusted odds ratios for smokers making one or more quit attempts in past year lasting at least 24 hours, by selected characteristics, household population aged 15 or older, Canada excluding territories, 2006**

|  | One or more quit attempts in past year |                         |      |                     |                         |     |
|--|--|-------------------------|------|---------------------|-------------------------|-----|
|  | Percentage                             | 95% confidence interval |      | Adjusted odds ratio | 95% confidence interval |     |
|  |  | from                    | to   |                     | from                    | to  |
| <b>Total</b>                                 | 48.4                                   | 45.4                    | 51.3 | ...                 | ...                     | ... |
| <b>Sex</b>                                   |  |                         |      |                     |                         |     |
| Males  | 48.5                                   | 44.4                    | 52.5 | 1.1                 | 0.9                     | 1.5 |
| Females <sup>†</sup>                         | 48.3                                   | 44.2                    | 52.3 | 1.0                 | ...                     | ... |
| <b>Age group</b>                             |  |                         |      |                     |                         |     |
| 15 to 19                                     | 58.2*                                  | 52.4                    | 64.0 | 2.0*                | 1.2                     | 3.1 |
| 20 to 24                                     | 61.6*                                  | 57.3                    | 65.8 | 2.0*                | 1.4                     | 2.8 |
| 25 to 34                                     | 57.5*                                  | 49.9                    | 65.2 | 1.4                 | 0.9                     | 2.2 |
| 35 to 44 <sup>†</sup>                        | 46.3                                   | 39.5                    | 53.1 | 1.0                 | ...                     | ... |
| 45 to 54                                     | 44.1                                   | 38.1                    | 50.2 | 1.0                 | 0.7                     | 1.4 |
| 55 or older                                  | 31.7*                                  | 25.1                    | 38.2 | 0.5*                | 0.3                     | 0.7 |
| <b>Marital status (aged 25 or older)</b>     |  |                         |      |                     |                         |     |
| Married/Common-law <sup>†</sup>              | 46.1                                   | 41.3                    | 50.8 | 1.0                 | ...                     | ... |
| Widowed/Divorced/Separated                   | 49.0                                   | 41.1                    | 56.9 | 1.5*                | 1.0                     | 2.3 |
| Never married                                | 45.3                                   | 37.8                    | 52.9 | 0.9                 | 0.6                     | 1.2 |
| <b>Education (aged 25 or older)</b>          |  |                         |      |                     |                         |     |
| Less than secondary graduation <sup>†</sup>  | 43.4                                   | 34.8                    | 52.0 | 1.0                 | ...                     | ... |
| Secondary graduation                         | 45.4                                   | 40.3                    | 50.5 | 1.0                 | 0.7                     | 1.4 |
| Postsecondary graduation                     | 48.7                                   | 43.0                    | 54.3 | 1.1                 | 0.7                     | 1.6 |
| <b>Children younger than 15 in household</b> |  |                         |      |                     |                         |     |
| Yes  | 52.7                                   | 46.8                    | 58.6 | 1.1                 | 0.8                     | 1.5 |
| No <sup>†</sup>                              | 46.3                                   | 43.0                    | 49.7 | 1.0                 | ...                     | ... |
| <b>Cigarettes per day</b>                    |  |                         |      |                     |                         |     |
| Occasional smoker                            | 51.0                                   | 45.2                    | 56.8 | 1.0                 | 0.7                     | 1.4 |
| 1 to 9                                       | 57.0*                                  | 49.6                    | 64.4 | 1.5*                | 1.0                     | 2.1 |
| 10 to 24 <sup>†</sup>                        | 48.0                                   | 43.4                    | 52.6 | 1.0                 | ...                     | ... |
| 25 or more                                   | 34.0*                                  | 26.8                    | 41.2 | 0.6*                | 0.4                     | 1.0 |
| <b>Strength of cigarettes</b>                |  |                         |      |                     |                         |     |
| Ultra or extra light                         | 54.1                                   | 44.7                    | 63.5 | 1.2                 | 0.8                     | 1.9 |
| Light  | 48.7                                   | 43.4                    | 54.0 | 1.0                 | 0.7                     | 1.3 |
| Ultra or extra mild                          | 48.1                                   | 33.7                    | 62.6 | 1.1                 | 0.6                     | 2.1 |
| Mild   | 41.9                                   | 30.1                    | 53.6 | 0.8                 | 0.5                     | 1.4 |
| Regular <sup>†</sup>                         | 48.1                                   | 44.1                    | 52.1 | 1.0                 | ...                     | ... |

<sup>†</sup> reference category

\* significantly different from estimate for reference category ( $p < 0.05$ )

... not applicable

Note: Odds ratios adjusted for province and all other variables in table.

Source: 2006 Canadian Tobacco Use Monitoring Survey.

past year. Among those who had tried to quit, pharmaceutical cessation aids were not widely used. Of the smokers who had contacted a doctor in the past year, half reported that they had been advised to reduce or quit smoking.

Findings indicate that cigarette strength was significantly associated with intentions to quit. For instance, smokers of ultra or extra light cigarettes

were more likely to report intentions to quit than were those who smoked regular cigarettes. This is consistent with Borland et al.<sup>3</sup> who reported that although few smokers actually agree that smoking *light* cigarettes will make quitting easier, those intending to quit are more apt to smoke *light* cigarettes. However, evidence of the benefits of switching to light cigarettes as a

**Table 4**  
**Selected characteristics of current smokers who made at least one quit attempt, household population aged 15 or older, Canada excluding territories, 2006**

|  | Total            | Sex               |                    | Age group         |                    |                          |
|--|------------------|-------------------|--------------------|-------------------|--------------------|--------------------------|
|  |                  | Men               | Women <sup>†</sup> | 15 to 24          | 25 to 44           | 45 or older <sup>†</sup> |
| Percentage   |                  |                   |                    |                   |                    |                          |
| <b>Cessation aids used in past 2 years<sup>§</sup></b>       |                  |                   |                    |                   |                    |                          |
| Nicotine patch   | 32.1             | 29.2              | 35.4               | 15.5*             | 34.0               | 40.7                     |
| Nicotine gum   | 21.2             | 23.9              | 18.3               | 17.0*             | 21.2               | 24.1                     |
| Other pharmaceutical-based cessation aids                    | 13.8             | 12.7              | 15.0               | 2.7* <sup>E</sup> | 13.0*              | 22.4                     |
| At least one of these aids                                   | 47.7             | 46.3              | 49.2               | 28.4*             | 49.4               | 58.3                     |
| <b>Reasons for not using cessation aids<sup>§</sup></b>      |                  |                   |                    |                   |                    |                          |
| Do not believe products work                                 | 21.4             | 23.7              | 18.7               | 18.8*             | 17.4* <sup>E</sup> | 30.9                     |
| Cost   | 18.3             | 14.9 <sup>E</sup> | 22.3               | 18.4*             | 23.1* <sup>E</sup> | 10.4 <sup>E</sup>        |
| Concern about possible side effects                          | 16.2             | 10.1*             | 23.4               | 10.1              | 23.4* <sup>E</sup> | 11.7 <sup>E</sup>        |
| Not enough information about products                        | 8.7              | 8.4 <sup>E</sup>  | 9.0 <sup>E</sup>   | 11.2*             | 9.3 <sup>E</sup>   | 4.8 <sup>E</sup>         |
| <b>Other cessation strategies<sup>§</sup></b>                |                  |                   |                    |                   |                    |                          |
| Deal with friend/family member to quit together              | 29.3             | 25.9*             | 33.2               | 39.9*             | 30.4*              | 20.8                     |
| Reduced consumption  | 69.0             | 69.2              | 68.8               | 74.3              | 65.1               | 70.7                     |
| <b>Main reason for beginning to smoke again<sup>††</sup></b> |                  |                   |                    |                   |                    |                          |
| Stress/Need to relax/calm down                               | 33.6             | 28.6*             | 39.2               | 30.2              | 32.3               | 37.9                     |
| Addiction/Habit  | 25.2             | 26.4              | 23.9               | 20.2*             | 25.1               | 29.1                     |
| Family/Friends smoke   | 12.4             | 11.9 <sup>E</sup> | 12.9               | 16.6*             | 14.9* <sup>E</sup> | 5.7 <sup>E</sup>         |
| Going out more (bars/parties)                                | 5.4              | 6.7 <sup>E</sup>  | 4.0 <sup>E</sup>   | 10.0              | 6.1* <sup>E</sup>  | F                        |
| Boredom  | 2.7 <sup>E</sup> | 3.2 <sup>E</sup>  | 2.1 <sup>E</sup>   | F                 | F                  | 3.4 <sup>E</sup>         |
| Other reason   | 11.1             | 10.0 <sup>E</sup> | 12.4 <sup>E</sup>  | 8.6               | 11.4 <sup>E</sup>  | 12.6 <sup>E</sup>        |
| No reason  | 9.6              | 13.2*             | 5.6 <sup>E</sup>   | 11.1*             | 8.3 <sup>E</sup>   | 10.3 <sup>E</sup>        |

<sup>†</sup> reference category

<sup>†</sup> multiple responses permitted

<sup>§</sup> based on smokers who made at least one quit attempt in past two years

<sup>††</sup> based on smokers who made at least one quit attempt in past year

\* significantly different from estimate for reference category (p < 0.05)

<sup>E</sup> use with caution (coefficient of variation 16.6% to 33.3%)

F too unreliable to be published

Source: 2006 Canadian Tobacco Use Monitoring Survey.

**Table 5**  
**Percentage of current smokers receiving advice from selected health professionals, household population aged 15 or older, Canada excluding territories, 2006**

|   | Total | Sex   |                    | Age group |                   |                          |
|---|-------|-------|--------------------|-----------|-------------------|--------------------------|
|   |       | Men   | Women <sup>†</sup> | 15 to 24  | 25 to 44          | 45 or older <sup>†</sup> |
| Percentage  |       |       |                    |           |                   |                          |
| <b>Doctor</b>                                       |       |       |                    |           |                   |                          |
| Saw in past 12 months                               | 76.3  | 69.7* | 83.8               | 69.0*     | 75.8              | 80.4                     |
| Advised to reduce/quit smoking <sup>‡</sup>         | 50.3  | 52.6  | 48.2               | 38.2*     | 47.1*             | 58.6                     |
| Provided information on cessation aids <sup>§</sup> | 53.6  | 56.9  | 50.2               | 41.2*     | 50.3              | 59.5                     |
| <b>Dentist/Dental hygienist</b>                     |       |       |                    |           |                   |                          |
| Saw in past 12 months                               | 59.3  | 53.7* | 65.7               | 64.0*     | 59.8              | 56.5                     |
| Advised to reduce/quit smoking <sup>‡</sup>         | 33.8  | 39.4* | 28.6               | 30.0      | 37.9              | 31.2                     |
| Provided information on cessation aids <sup>§</sup> | 24.5  | 30.0* | 17.3 <sup>E</sup>  | 26.8      | 21.9 <sup>E</sup> | 26.9 <sup>E</sup>        |
| <b>Pharmacist</b>                                   |       |       |                    |           |                   |                          |
| Saw in past 12 months                               | 45.8  | 37.3* | 55.6               | 38.0*     | 44.6              | 50.9                     |
| Advised to reduce/quit smoking <sup>‡</sup>         | 14.2  | 17.8* | 11.5               | 16.3      | 14.0 <sup>E</sup> | 13.6                     |
| Provided information on cessation aids <sup>§</sup> | 76.4  | 74.5  | 78.7               | 63.2*     | 77.3              | 81.3                     |

<sup>†</sup> reference category

<sup>†</sup> among those who saw the health professional in past 12 months

<sup>‡</sup> among those advised to reduce/quit smoking

\* significantly different from estimate for reference category (p < 0.05)

<sup>E</sup> use with caution (coefficient of variation 16.6% to 33.3%)

F too unreliable to be published

Source: 2006 Canadian Tobacco Use Monitoring Survey.

## ***What is already known on this subject?***

- Most Canadian smokers report that they want to quit.
- Previous research has examined a variety of characteristics associated with intending to quit and cessation attempts, but the evidence is often mixed and not specific to the Canadian population.
- Most quit attempts fail.
- Smokers who try to quit are more likely to relapse if they do not use a formal cessation method.

## ***What does this study add?***

- A third of smokers reported that they intended to quit in the immediate future, and close to half had tried to do so in the previous year.
- The majority of smokers who tried to quit did not use pharmaceutical cessation aids, which increase the likelihood of success.
- Many smokers who want to quit are skeptical about the effectiveness and safety of pharmaceutical aids.
- Half the smokers who had contacted a doctor in the past year reported that they had been advised to reduce or quit smoking; among younger smokers, 38% reported that they had received such advice.

cessation strategy is mixed. While Lee and Kahende<sup>17</sup> found that switching to light cigarettes improved the likelihood of quitting, Tindle et al.<sup>12</sup> reported that cessation was less likely among smokers who switched to light cigarettes, and Hyland et al.<sup>21</sup> found that switching to light cigarettes did not alter the chances of success. Some research suggests that smokers may mistakenly regard switching to light cigarettes as a step toward quitting instead of using formal cessation programs or treatments.<sup>10,22</sup> Other research suggests that smokers may switch to light cigarettes rather than use nicotine replacement therapy because of concern about the health risks of nicotine.<sup>23</sup> In light of the inconclusive results in the literature, the relationship between cigarette strength and quit intentions in the present study requires further investigation. Additional research is also needed to evaluate the impact of providing information about the health consequences of using *light* cigarettes as a cessation strategy.

Like earlier studies,<sup>14,23-25</sup> this analysis shows that many smokers do not use pharmaceutical cessation aids. Moreover, many are skeptical about the effectiveness and safety of such products. However, previous research has found that smokers who use a formal cessation method are less likely to relapse,<sup>13-15</sup> compared with those who try to quit on their own.<sup>14,15</sup> Some who are trying to quit smoking may even be at an increased risk of relapse because they tend not to use a formal cessation aid—notably, those with lower educational attainment<sup>22</sup> and young adults.<sup>11,26</sup> Research is needed to determine if these smokers would benefit from alternative formal cessation methods, such as telephone quitlines,<sup>26</sup> and whether uptake of these methods would increase if recommended by health care providers.

A greater variety of formal cessation methods may also be important because, in this analysis, the majority of current smokers who had tried to quit in the

past year reported that their main reason for relapsing was stress or social models rather than addiction alone. Programs focused solely on providing all smokers with nicotine replacement therapy may not address the real barriers to successful cessation. A broad range of formal cessation resources that deal with addiction and situational and psychological reasons for relapse should be evaluated for effectiveness and feasibility of implementation at the population level.

Advice from a health professional can improve cessation outcomes,<sup>11,15</sup> and the vast majority of smokers want additional information on how to quit.<sup>25</sup> Consistent with previous research,<sup>10,11,27</sup> many smokers reported seeing at least one health professional in the past year, and half of them reported that they had been advised to quit or to reduce the amount they smoke. However, previous research has noted variability across health professionals in whether smokers regard them as a credible resource for cessation,<sup>28</sup> in the amount of training they have had in smoking cessation,<sup>27,29,30</sup> and whether health professionals consider it their responsibility.<sup>29</sup> Future research could explore the effectiveness and feasibility of incorporating smoking cessation into the routine practice of different health professionals who can reach groups that may be hard to target. For instance, the present study shows that fewer than a third of smokers aged 45 or older intended to quit in the immediate future, yet 80% of them had seen a doctor in the past year. Given that tobacco-related morbidity and mortality can be reduced substantially, even among smokers who quit at age 60,<sup>31</sup> it is never too late for health professionals to intervene.

Consistent with other reports,<sup>7,8,10</sup> this study found that the frequency of smoking was related to cessation intentions and quit attempts. Occasional smokers and those who consumed fewer cigarettes were more likely to intend to quit. Heavy smokers were less likely to report a quit attempt. This suggests that it may be beneficial to target lighter

smokers, especially because they tend to be more successful in their quit attempts.<sup>10</sup> Current smoking cessation guidelines were developed primarily for daily smokers.<sup>15</sup> But as the population of non-daily smokers continues to grow,<sup>1</sup> there is a need to know if occasional and lighter smokers require strategies designed for their unique situation.

Although the presence of children in the home was not directly associated with quit attempts in this study, it is possible that there may be an indirect effect by motivating smokers to make their homes smoke-free. Research has shown that the strongest predictor of having a smoke-free home is the presence of children,<sup>13</sup> possibly because smokers wish to protect their children from second-hand smoke,<sup>32</sup> because they wish to set a good example,<sup>10</sup> or because most children report that they do not want to be exposed to smoking inside their home.<sup>33</sup>

### Limitations

This study has a number of noteworthy limitations. The cross-sectional nature

of the data from the Canadian Tobacco Use Monitoring Survey does not allow for causal inferences about associations between respondents' characteristics and cessation intentions and quit attempts. As well, longitudinal data, such as those collected by the National Population Health Survey,<sup>34</sup> would be required to ascertain the temporal sequence of the relationships identified in this analysis.

No data were available on risk factors such as mental health or drug and alcohol use that may be associated with smoking cessation. Nor was it possible to discover what cessation aids smokers had used in previous quit attempts. In addition, information from the survey could not be used to determine if lighter smokers simply smoked less often or were former heavy smokers who had reduced their consumption as a cessation strategy. This is an important distinction because quitting abruptly has been shown to be associated with higher long-term success rates than reduced consumption.<sup>15</sup> Data were not available about whether smokers would have

been interested in using or had used other formal cessation aids, such as telephone quitlines and behavioural counselling.

Finally, because abstinence is a distinctly different behaviour from trying to quit, this analysis did not explore factors associated with being a former smoker.

### Conclusion

A large proportion of smokers reported intentions to quit in the immediate future, and almost half of them had tried to do so in the past year. Many current smokers were unaware of or uninterested in cessation aids. Half of smokers who saw a physician were advised to cut down or quit smoking. ■

### Acknowledgement

This work was completed at Cancer Care Ontario and Statistics Canada. Dr. Leatherdale is a Cancer Care Ontario Research Chair in Population Studies funded by the Ontario Ministry of Health and Long-Term Care.

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## Appendix

**Appendix Table A**  
**Unweighted sample counts, by selected characteristics, household population aged 15 or older, Canada excluding territories, 2006**

|   | Total         | Smokers      |
|---|---------------|--------------|
| <b>Total</b>  | <b>21,976</b> | <b>4,608</b> |
| <b>Sex</b>  |               |              |
| Males   | 10,158        | 2,291        |
| Females   | 11,818        | 2,317        |
| <b>Age group</b>  |               |              |
| 15 to 19  | 5,761         | 922          |
| 20 to 24  | 4,589         | 1,377        |
| 25 to 34  | 1,895         | 502          |
| 35 to 44  | 2,534         | 611          |
| 45 to 54  | 2,697         | 624          |
| 55 or older   | 4,500         | 572          |
| <b>Marital status</b>   |               |              |
| Married/Common-law  | 8,219         | 1,595        |
| Widowed/Divorced/Separated  | 2,475         | 524          |
| Never married   | 10,904        | 2,417        |
| Not stated  | 378           | 72           |
| <b>Education</b>  |               |              |
| Less than secondary graduation  | 6,563         | 1,331        |
| Secondary graduation  | 8,762         | 2,138        |
| Postsecondary graduation  | 6,268         | 1,043        |
| Not stated  | 383           | 96           |
| <b>Children younger than 15 in household</b>                          |               |              |
| Yes   | 6,287         | 1,374        |
| No  | 15,689        | 3,234        |
| <b>Smoking status</b>   |               |              |
| Daily smoker  | 3,397         | ...          |
| Occasional smoker   | 1,211         | ...          |
| Non-smoker  | 17,368        | ...          |
| <b>Considering quitting within next 30 days</b>                       |               |              |
| Yes   | ...           | 1,435        |
| No  | ...           | 2,792        |
| Not stated  | ...           | 381          |
| <b>Cigarettes per day</b>   |               |              |
| Occasional smoker   | ...           | 1,211        |
| 1 to 9  | ...           | 868          |
| 10 to 24  | ...           | 1,817        |
| 25 or more  | ...           | 481          |
| Not stated  | ...           | 231          |
| <b>Number of quit attempts in past year lasting at least 24 hours</b> |               |              |
| 0 <sup>1</sup>  | ...           | 2,051        |
| 1   | ...           | 651          |
| 2   | ...           | 585          |
| 3   | ...           | 357          |
| 4 or more   | ...           | 814          |
| Not stated  | ...           | 150          |
| <b>Strength of cigarettes</b>   |               |              |
| Ultra or extra light  | ...           | 360          |
| Light   | ...           | 1,613        |
| Ultra or extra mild   | ...           | 177          |
| Mild  | ...           | 256          |
| Regular   | ...           | 2,043        |
| Not stated  | ...           | 159          |

... not applicable

Source: 2006 Canadian Tobacco Use Monitoring Survey.