

Second Hand Smoke in Ontario Homes: Findings from a National Study

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SECOND HAND SMOKE IN ONTARIO HOMES: FINDINGS FROM A NATIONAL STUDY

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EXECUTIVE SUMMARY

Over the past two decades, a growing body of research has confirmed a range of adverse health effects caused by environmental tobacco smoke or second hand smoke in adult non-smokers and in children. The purpose of this report is to provide new findings on attitudes and behaviours associated with second hand smoke exposure in Ontario home environments. Our chief interest is in how parents and other household members in homes with children perceive, understand and make decisions about second hand smoke in their homes and vehicles. In addition, these data will provide a baseline for assessing the impact of prevention programs and policies.

Findings in this report are from the National Study on Environmental Tobacco Smoke in the Home, a survey funded by the National Cancer Institute of Canada (grant #011173). It is the first Canadian study to provide national population estimates on second hand smoke exposure and protective behaviours. The data were collected between June 2001 and January 2002, using structured computer-assisted telephone interviews with Canadians over the age of 18 years.

Exposure to Second Hand Smoke in Ontario Home Environments, 2001/02

A substantial proportion of Ontarians live with smokers, and more than half of these are exposed to smoke in their homes.

- 34% of Ontarians reported that at least one adult smoker (age 18+) lived in their home, a higher proportion than in British Columbia (29%), but lower than in Quebec (39%) and the Atlantic region (41%).
 - 11% of Ontarians indicated that all adults living in their home were smokers.
 - Young adults in Ontario aged 18-24 years were more likely than adults 25 years of age and older to report living in a household with at least one smoker.
- 21% of Ontarians reported that smoking occurred inside their home at least occasionally; this was higher than in British Columbia (15%), but lower than in Quebec (30%) and the Atlantic region (29%).
 - 15% of Ontarians reported that smoking occurred inside their home daily.
 - Respondents with less education were more likely to report that smoking occurred inside their homes.

Children living in homes with smokers are frequently exposed to second hand smoke at home.

- Half of Ontario respondents in homes with smokers and children (51%) reported that smoking occurred inside their homes; 33% daily and 18% occasionally. This is higher than in British Columbia (34%) but lower than in Quebec (78%).
- Ontarians living with children and a mix of smokers and non-smokers reported that, on average, 64 cigarettes per week or almost half a pack per day were smoked by household members inside their home. Ontarians living with all adult smokers and children reported that an average of 80 cigarettes were smoked per week inside the home.
- A strong majority of Ontarians believe that exposure to second hand smoke is harmful to children; more than two-thirds (70%) agreed that children get sick more often when they are exposed on a regular basis.
- 62% of Ontarians supported a law banning smoking in vehicles with children present; 41% strongly supported such a law.
- Close to half of Ontarians (44%) supported a law banning smoking in homes with children; 24% strongly supported such a law.

Most Ontarians are not exposed to second hand smoke in their homes.

- 80% of Ontarians reported that their homes were smoke-free; this places Ontario in the middle compared to other provinces. British Columbia (86%) and the West (83%) had a higher proportion of smoke-free homes, while the Atlantic region (72%) and Quebec (71%) had lower proportions of smoke-free homes.
 - 13% of Ontarians reported that household members restricted their smoking inside the home to certain areas or times of the day.
 - 7% of Ontarians reported that household members smoked inside the home anywhere and at any time.
- The three primary reasons for making the home smoke-free were:
 - No one smoked anymore.
 - Household members had health problems.
 - Someone was pregnant, or there was a new baby or child in the home.
- Most of those who changed to a smoke-free home did so because of concerns about the health impacts of second hand smoke on others living in the home, to prevent children from believing it was okay to smoke or because of the smell or stains caused by second hand smoke.
- Few respondents believe that second hand smoke is significantly reduced by opening or blowing smoke directly out a window or door, smoking in specific areas in the home, waiting an hour or using a fan.

Recommendations

- Educational efforts to promote smoke-free homes should focus on households with:
 - Smokers and children
 - Smokers with less education.
- Educational efforts should also inform the public that no level of exposure to second hand smoke is safe and that the only way to protect others is to provide a smoke-free environment in homes as well as in vehicles.
- Efforts should be initiated to promote a ban on smoking in vehicles carrying children. This process was recently begun by the Ontario Medical Association. Further work should involve research on actual exposure in vehicles.
- Banning smoking in homes with children will require a high level of public support; continued monitoring of the public acceptability of these measures should be undertaken to inform policy makers.
- Since behaviours and attitudes have undoubtedly changed since the data were collected, further data collection should be undertaken to determine the magnitude of these changes, and where possible, their relation to programs and policies.

CHAPTER 1: INTRODUCTION AND BACKGROUND

Over the past two decades, a growing body of research has confirmed a range of adverse health effects caused by second hand smoke in adult non-smokers and in children (second hand smoke is also often referred to as environmental tobacco smoke or ETS).¹⁻⁶ Exposure to second hand smoke is now a known cause of heart disease, lung cancer, breast cancer, sinus cancer and asthma in adult non-smokers.^{2,3,5-8} Children exposed to second hand smoke are at greater risk of respiratory tract infections, such as pneumonia and bronchitis, middle ear infections, asthma, allergies and sudden infant death syndrome (SIDS).^{2,8-12} There is also suggestive evidence that second hand smoke causes cervical cancer, chronic respiratory symptoms and decreased lung function in adults, as well as brain cancer and lymphomas in children.² Pregnant women exposed to second hand smoke are more likely to have underweight babies and may be more likely to experience spontaneous abortion or preterm delivery. Infants exposed prenatally may also have more allergies and learning and behavioural problems.²

For children, the home is the primary site of exposure to second hand smoke,¹³ and the adverse health effects of this exposure for children have been well documented. The purpose of this report is to provide new findings on attitudes and behaviours associated with second hand smoke exposure in Ontario home environments. Our chief interest is in how parents and other household members in homes with children perceive, understand and make decisions about second hand smoke in their homes and vehicles.

Findings for this report are taken from the National Study on Environmental Tobacco Smoke in the Home, funded by the National Cancer Institute of Canada (grant #011173). It is the first Canadian study to provide national population estimates on second hand smoke exposure among Canadians. The specific research objectives for the National Study on Environmental Tobacco Smoke in the Home were to: (1) assess attitudes, knowledge and practices related to restricting smoking inside homes and family vehicles according to social and demographic characteristics, smoking status and level of use, household composition and other factors; (2) provide national and regional prevalence estimates of self-reported exposure to second hand smoke in households

and family vehicles; (3) quantify the strength and statistical significance of associations between self-reported exposure in the home and in family vehicles and knowledge of health effects of exposure for adults and children, efforts to restrict second hand smoke in the home and vehicles, and restrictions on smoking outside the home; and (4) produce and disseminate national and regional reports on second hand smoke in the home to provide federal and provincial governments and health organizations with a basis for health policy decisions and local programming. This provincial report will inform the Ontario tobacco control community of attitudes and behaviours of Ontario residents regarding exposure to second hand smoke at home.

CHAPTER 2: DATA COLLECTION AND SURVEY DESIGN

Study Details

The Ontario data were taken from the larger national dataset collected between June 2001 and January 2002 as part of the National Study on Environmental Tobacco Smoke in the Home. Structured computer-assisted telephone interviews were conducted with Canadians aged 18 years and older. The interview included questions on the perceived importance of second hand smoke as a health issue, the smoking status of the respondent and other household members, reasons for quitting and relapse for respondents who were former smokers or current smokers, restrictions on smoking in workplaces and public places, exposure to second hand smoke in the home, behaviours to reduce exposure in the home, health risks resulting from exposure for household members and a set of sociodemographic variables. This study extended and refined the 2000 Ontario Environmental Tobacco Smoke Survey, an earlier study completed by the Ontario Tobacco Research Unit at the University of Toronto.

The primary interest of the survey was to collect information that would allow for a better understanding of issues related to second hand smoke in the home. Since the percentage of households where no one smokes is substantial, households that included both smokers and children were oversampled. All respondents (N=14,613) completed a brief screening questionnaire; a subsample, with oversampling of homes including both smokers and children, completed the full questionnaire (N=5,009). Data from Ontario made up 35% of the screening questionnaire sample (N=5,230), and 35% of the full questionnaire sample (N=1,738).

Questionnaire

The brief screening questionnaire consisted of the first three sections of the survey, which were asked of all respondents. These included: (1) the perceived importance of second hand smoke as a health problem, (2) the respondent's smoking status, and (3) the household composition and the smoking status of other people in the household. Based on the respondent's smoking status, the smoking status of other household members, and the presence or absence of children under the

age of 18 years in the household, the interview was either concluded or the respondent was asked the remaining questions to complete the full questionnaire.

Because we oversampled homes with smokers and/or children, data used in this report were weighted to adjust for the unequal probability of selection by household type for all population estimates.

Data Collection

Respondents for the survey were selected in two stages: random digit dialling procedures were utilized to select the households and, within households, the most recent birthday selection method was used to identify respondents. In order to maximize the chances of obtaining a completed interview from each sample number, call attempts were made during the day and the evening, for both week and weekend days. The careful attention to the number and timing of callbacks and attempts to convert initial refusals maximized the response rate and the representativeness of the sample.

Response Rate

The response rate for the national survey was defined as the number of completed interviews divided by the estimated number of eligible households times 100%. A response rate of 62% was obtained for the total survey.

Statistical Considerations

Sample surveys are designed to provide an *estimate* of the true value of a particular characteristic in the population, such as the population's average tobacco-related knowledge, attitudes, and behaviours (e.g., the percentage of Ontario households that report smoking inside the home). Because not everyone in a province is surveyed, the true population value is unknown and is therefore estimated from the sample. Sampling error will be associated with this estimate. A *confidence interval* provides an interval around survey estimates and contains the true population values with a specified probability. In this report, 95% confidence intervals are used, which

means that there is a 95% probability that the given confidence interval will contain the true value of the quantity being estimated. For instance, if the proportion of Ontario households where all adults are smokers is 10% and the confidence interval is 9% to 11%, there is a 95% probability that the true value in the population falls between 9% and 11%.

A significant difference refers to a difference between two group estimates that is not likely due to chance. Specifically, a significant difference is one in which differences as extreme, or more extreme, would occur by chance alone less than 5% of the time if the *true values* in the two groups were the same. Formal tests of statistical significance have not always been performed. One should therefore interpret trend data (e.g., differences in smoking in the home between regions) and comparisons between two or more estimates (e.g., men and women) with caution. When a formal significance test has been conducted, significance is indicated in the text by a probability statement; for example, $p < 0.05$. Statements of significance that do not include a specified probability are based on non-overlapping confidence intervals.

Presentation of Findings

Throughout this report, we present findings for Ontario respondents only. In some cases, we include comparisons with other regions to provide a context for the reader. The regions are as follows: British Columbia, Prairies, Ontario, Quebec and Atlantic. “Prairies” includes Alberta, Saskatchewan and Manitoba. “Atlantic” includes New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island.

CHAPTER 3: ADULT EXPOSURE TO SECOND HAND SMOKE AT HOME

Household Composition: Smokers and Non-smokers

Living with a smoker can greatly increase the likelihood of being exposed to second hand smoke in home environments. While the majority of households in Ontario consisted entirely of non-smokers (66%), about one-third (34%) included at least one adult smoker (Figure 1). At least some, but not all, adults smoked in about one in four households (23%), and all adults smoked in about one in nine households (11%). British Columbians reported the lowest proportion of households including at least one smoker (29%), while the highest was reported by respondents in Quebec (39%) and the Atlantic region (41%).

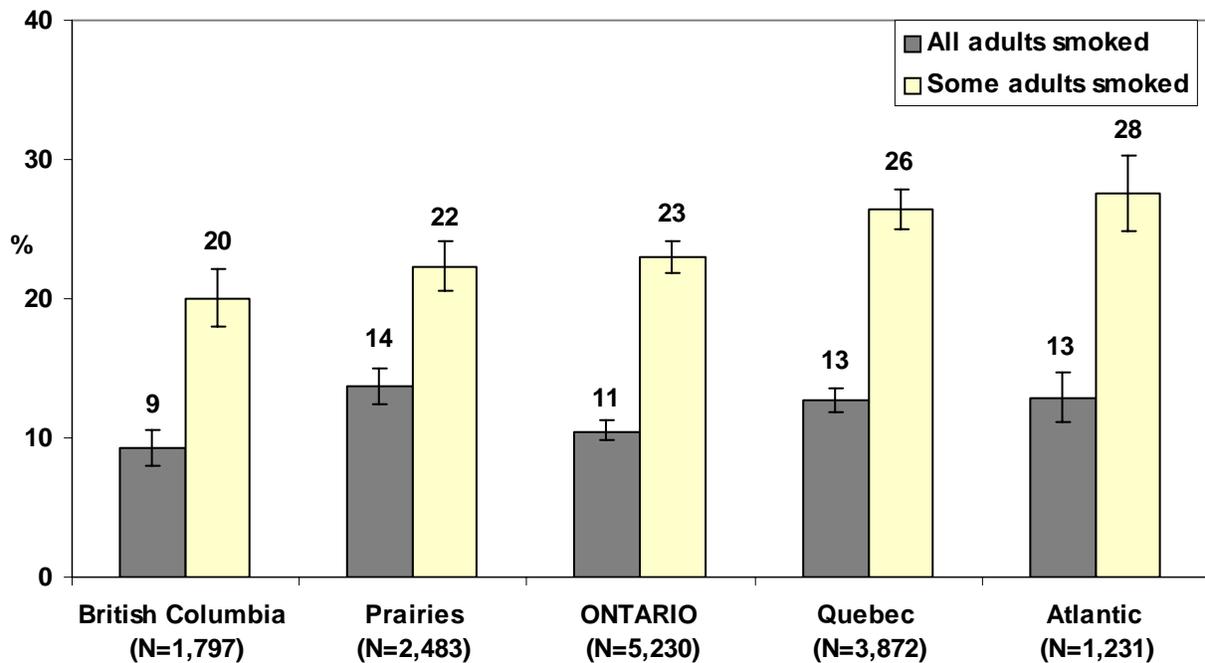


Figure 1: Proportion of smokers among adults (age 18+) living in Canadian homes by region, Canada 2001/02 (N=14,613)

Note: Vertical lines represent 95% confidence intervals; Households with no adult smokers were not included in the figure, so estimates do not add to 100%.

In Ontario, young adults were more likely to report living in a household with smokers; over half of young adults aged 18 to 24 years (52%) lived in homes with at least one smoker (Figure 2). Those over the age of 25 years were much less likely to live with a smoker (38% in the 25-44 years age group and 26% in the 65 years and over age group, $p < 0.01$). Young adults were most likely to report a mixture of smokers and non-smokers in their home.

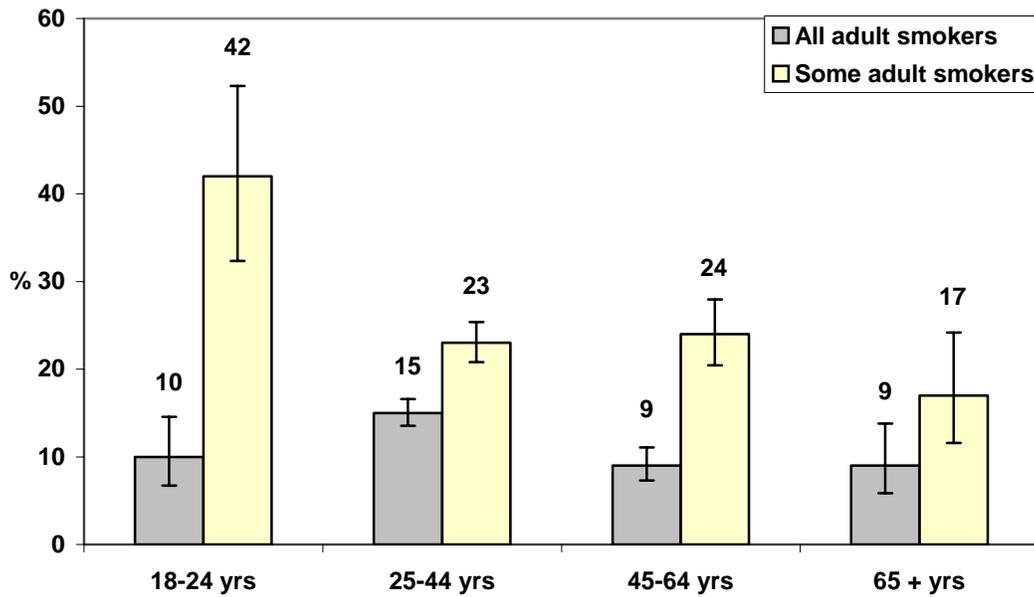


Figure 2: Reports of all smokers or some smokers (age 18+) living in their homes by age of respondent, Ontario 2001/02 (N=1,738)

Note: Vertical lines represent 95% confidence intervals.

More than one-quarter of Ontarians with a university degree or higher (28%) reported living in homes with at least one smoker, significantly lower than those with less education (39% high school or college; 47% less than high school education, $p < 0.01$) (Figure 3). Those with less than high school education were far more likely to live in homes where all adults smoked than those with higher education.

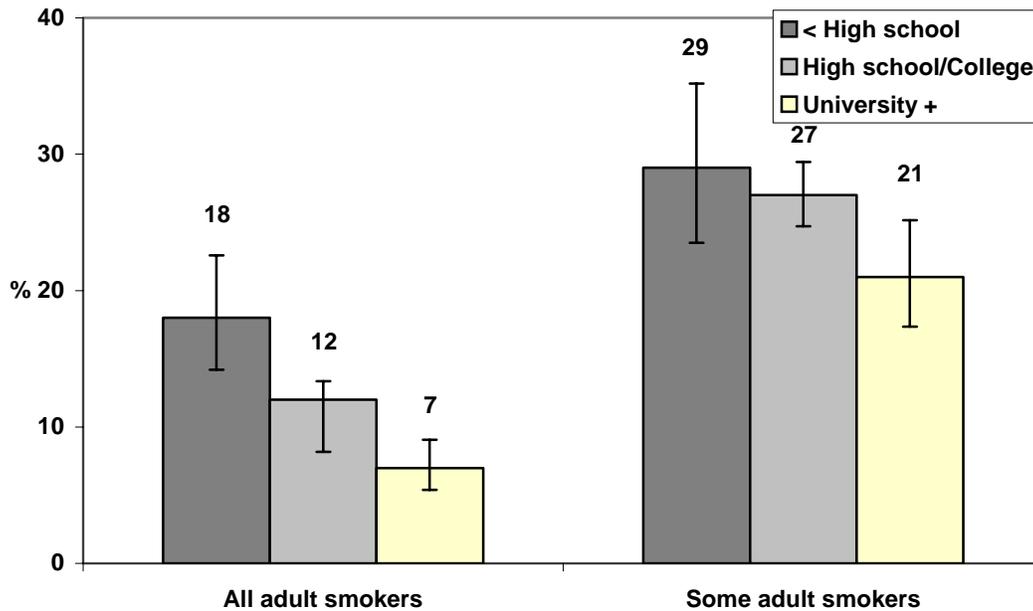


Figure 3: Reports of all smokers or some smokers (age 18+) living in their homes by education level of respondent, Ontario 2001/02 (N=1,716)

Note: Vertical lines represent 95% confidence intervals.

Smoking Inside the Home

In 2001/02, 21% of Ontario respondents reported that household members smoked inside the home at least occasionally (this does not include smoking by visitors); 15% reported that household members smoked inside the home every day (Figure 4). Respondents in Quebec reported the highest proportion of household members smoking indoors (30%: 23% daily, 7% occasionally) and British Columbians reported the lowest proportion (15%: 11% daily, 4% occasionally).

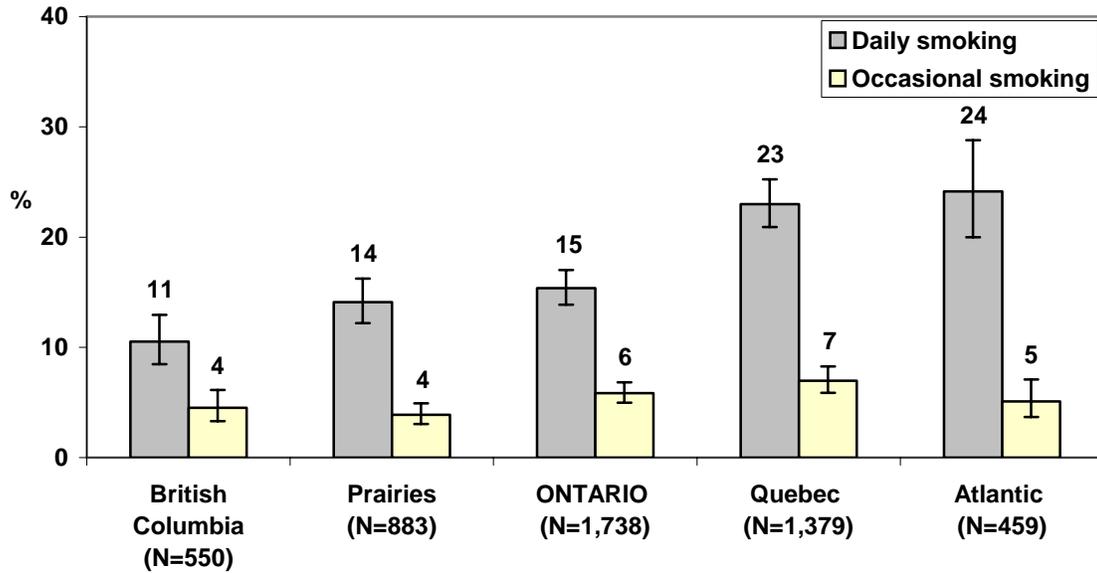


Figure 4: Proportion of Canadian homes with daily or occasional smoking inside the home by region, Canada 2001/02 (N=5,009)

Note: Vertical lines represent 95% confidence intervals.

In Ontario, age and sex were not associated with smoking inside the home, but level of education was: Ontario respondents with less than high school education were more likely than those with high school/college or university education to report smoking inside the home (28%, 12% and 11% respectively, $p < 0.01$).

Summary

A substantial proportion of Ontarians live with smokers, and more than half of these are exposed to smoke in their homes.

- 34% of Ontarians reported that at least one adult smoker (age 18+) lived in their home, a higher proportion than in British Columbia (29%), but lower than in Quebec (39%) and the Atlantic region (41%).
 - 11% of Ontarians indicated that all adults living in their home were smokers.
 - Young adults in Ontario (aged 18-24 years) were more likely to report living in a household with at least one smoker than adults 25 years of age and older.
- 21% of Ontarians reported that smoking occurred inside their home at least occasionally; this was higher than in British Columbia (15%), but lower than in Quebec (30%) and the Atlantic region (29%).
 - 15% of Ontarians reported that smoking occurred inside their home daily.
 - Respondents with less education were more likely to report that smoking occurred inside their home.

CHAPTER 4: CHILD EXPOSURE TO SECOND HAND SMOKE AT HOME

Smoking Inside the Home

For children, the primary site of exposure to second hand smoke is the home.¹³ To reduce children’s exposure to second hand smoke, it is important to reduce, and ideally, to eliminate smoking inside the home. In Ontario, 51% of respondents who lived in homes with at least one smoker and at least one child (under the age of 18 years) indicated that smoking occurred in their home; one in three (33%) reported that smoking occurred inside the home every day and 18% said occasionally (Figure 5). Respondents in Quebec reported the highest proportion of smoking inside homes with smokers and children (78%) and British Columbians reported the lowest (34%).

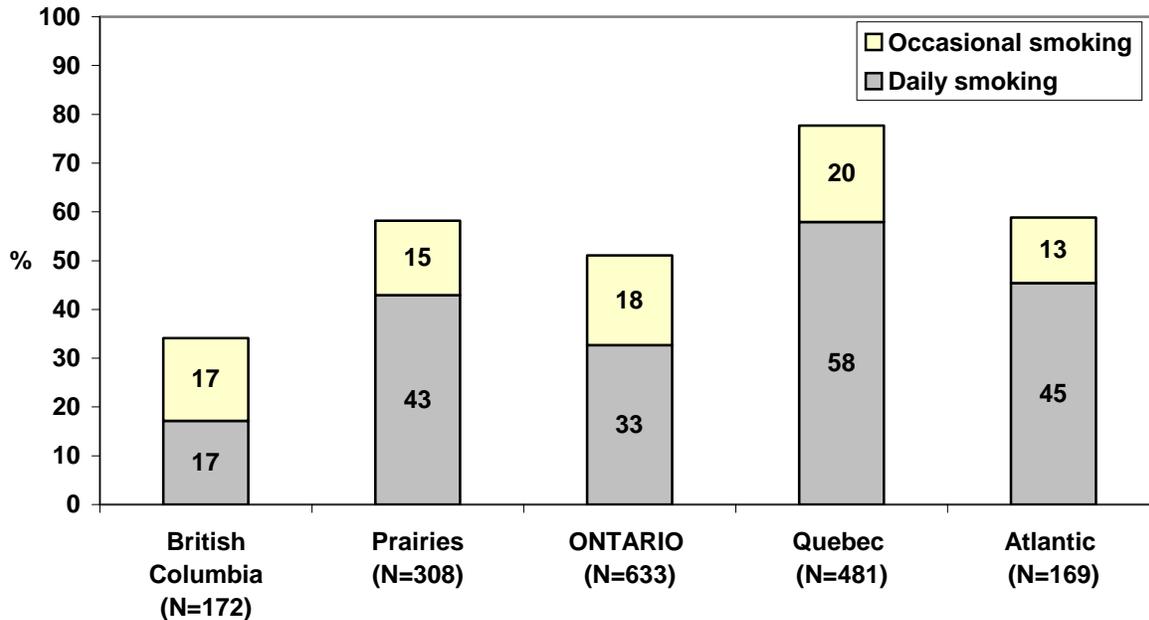


Figure 5: Reported occurrence of daily and occasional smoking inside the home in homes with smokers and children, Canada 2001/02 (N=1,763)

Cigarette Consumption in the Home

In Ontario homes with all adult smokers and children, respondents reported that an average of 80 cigarettes per week were smoked by household members inside the home. In homes with a mix of smokers, non-smokers and children, respondents reported that an average of 64 cigarettes were smoked inside the home each week (Figure 6). There was no significant difference in cigarette consumption between households that included children and those that did not.

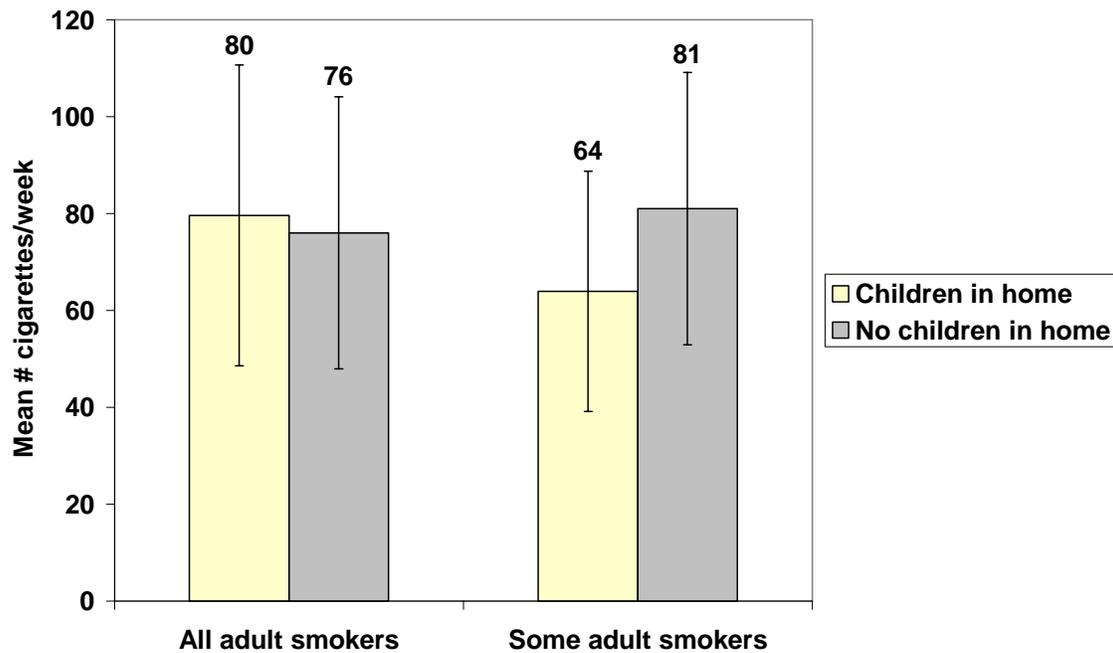


Figure 6: Average number of cigarettes smoked inside Ontario homes per week by presence of smokers and children, Ontario, 2001/02 (N=347)

Note: Vertical lines represent 95% confidence intervals.

Among Ontario respondents, the average number of cigarettes smoked by household members inside the home per week did not vary significantly according to the respondents' level of education.

Attitudes and Beliefs

Our findings indicate that many Ontarians believe that exposure to second hand smoke is harmful for children. More than two-thirds (70%) of Ontario respondents agreed that children get sick more often when they are regularly exposed to second hand smoke; nearly half (47%) indicated that they strongly agreed with this statement (Figure 7). Almost half of Ontarians (44%) agreed with laws banning smoking in homes with children and a clear majority (62%) agreed with laws banning parents from smoking in vehicles if children are present. A majority of Ontario respondents (58%) also agreed that parents should have the right to decide whether or not they smoke around their children.

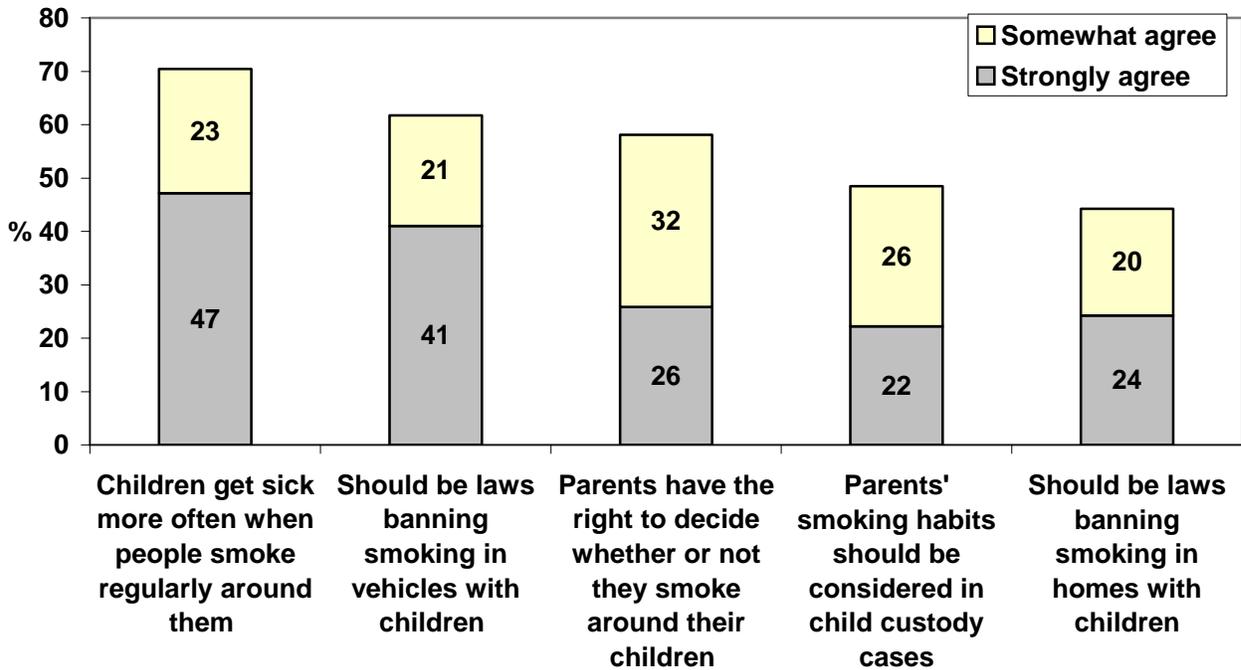


Figure 7: Ontarians’ attitudes toward smoking around children, Ontario, 2001/02 (N=1,738)

Attitudes regarding smoking around children were similar among men and women in Ontario. However, women were more likely than men to feel strongly that children get sick more often when regularly exposed to second hand smoke (54% vs. 41%, $N=1,738$, $p<0.01$).

Smoking status of the respondent was strongly associated with recognition of harm to children caused by exposure to second hand smoke. Never smokers (55% strongly agreed, 24% somewhat agreed) and former smokers (52% strongly agreed, 21% somewhat agreed) were most likely to agree that children get sick more often when people smoke regularly around them. Nevertheless, a majority of current smokers (28% strongly agreed, 24% somewhat agreed; $N=1,738$, $p<0.01$) recognized the harmful effects of second hand smoke.

Summary

Children living in homes with smokers are frequently exposed to second hand smoke at home.

- Half of Ontario respondents in homes with smokers and children (51%) reported that smoking occurred inside their homes; one-third (33%) daily and 18% occasionally. This is higher than in British Columbia (34%) but lower than in Quebec (78%).
- Ontarians living with children and a mix of smokers and non-smokers reported that, on average, 64 cigarettes per week or almost half a pack per day were smoked by household members inside their home. Ontarians living with all smokers and children reported that an average of 80 cigarettes were smoked per week inside the home.
- A strong majority of Ontarians believe that exposure to second hand smoke is harmful to children; more than two-thirds (70%) agreed that children get sick more often when they are exposed on a regular basis.
- 62% of Ontarians supported a law banning smoking in vehicles with children present; 41% strongly supported such a law.
- Close to half of Ontarians (44%) supported a law banning smoking in homes with children; 24% strongly supported such a law.

CHAPTER 5: SMOKING BEHAVIOURS AT HOME

Smoking Behaviour in the Home

The majority of Ontario homes were smoke-free, either because household members restricted their smoking inside the home or because there were no smokers living in the household (Figure 8). Household members can restrict smoking inside the home by smoking in certain areas or rooms of the house, not smoking when children are in the room, or other behaviours that restrict smoking inside the home by space or time. A large majority of Ontario respondents (80%) reported that household members did not smoke inside the home. In 13% of homes, respondents reported that household members restricted their smoking by space or time, and in 7% of homes, respondents reported that household members smoked anywhere and at any time.

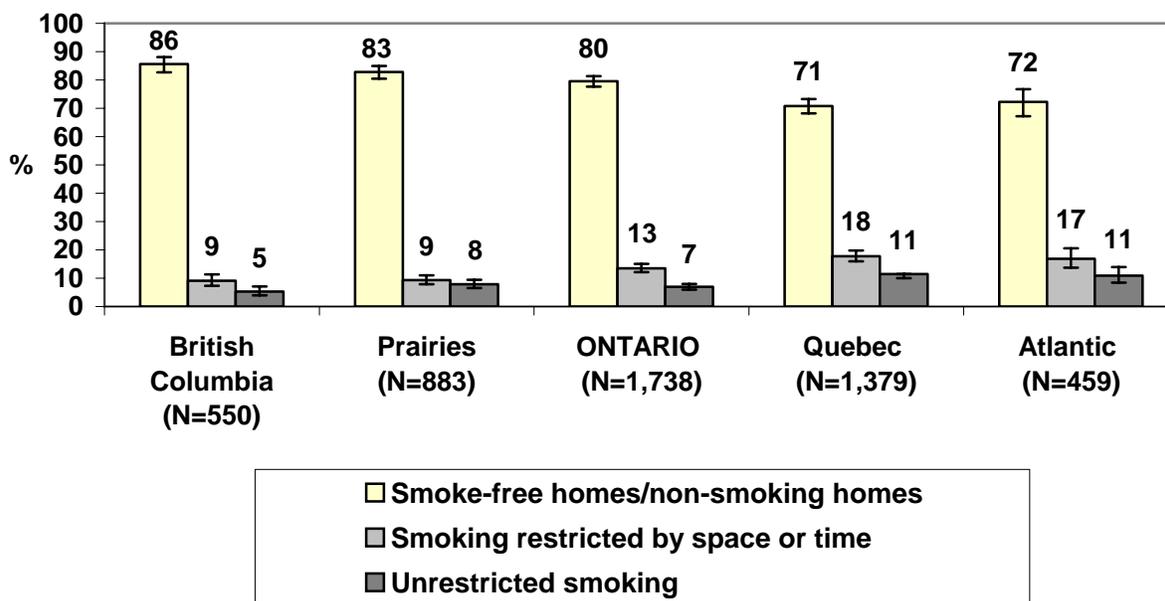


Figure 8: Smoking behaviour in the home by region, Canada 2001/02 (N=5,009)

Note: Vertical lines represent 95% confidence intervals.

In Ontario, the age group and sex of the respondent were not associated with the level of smoking restriction in the home; however, the presence of smokers in the household was associated with restrictions on smoking in the home. Respondents in homes with at least one non-smoker were more than twice as likely to report that smoking behaviour was restricted in their home than those who lived in homes where all members were smokers (56% vs. 22%, N=1,724, $p<0.01$).

Ontarians with more education were more likely to live in a home where household members restricted their smoking indoors, whereas those with less education were more likely to live in a home where household members smoked indoors anywhere and at any time (Figure 9).

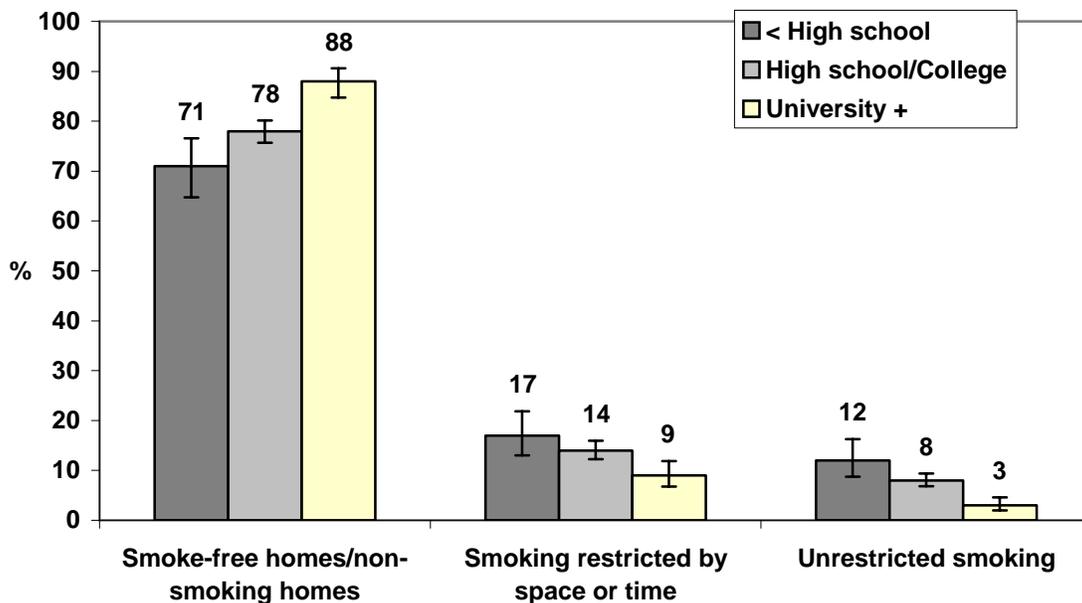


Figure 9: Smoking behaviour in Ontario homes by education level of respondent, Ontario 2001/02, (N=1,702)

Note: Vertical lines represent 95% confidence intervals.

Reasons for Changing to a Smoke-Free Home

Some people stop smoking in their homes gradually or for no specific reason. Others do so because something changes. More than one-third (37%) of Ontario respondents reported that smoking had occurred inside their home in the past, but that they had changed to a smoke-free home. These respondents were asked about the reasons why they made that change. Almost half (47%) reported that they stopped smoking inside the home because no one living in the home smoked anymore; 38% cited this as a major reason (Figure 10). The presence of a household member who was ill or had a health problem in the household was the second most frequently cited reason why homes in Ontario became smoke-free; it was reported by 43% of respondents, with 36% citing it as a major reason for changing to a smoke-free home. Pregnancy or having a new baby or child in the home was reported by 38% as a reason why their homes went smoke-free (34% cited it as a major reason). Moving to a new home, doing renovations or buying new furniture were cited by 30% of respondents as a reason for changing to a smoke-free home, with 18% citing this as a major reason.

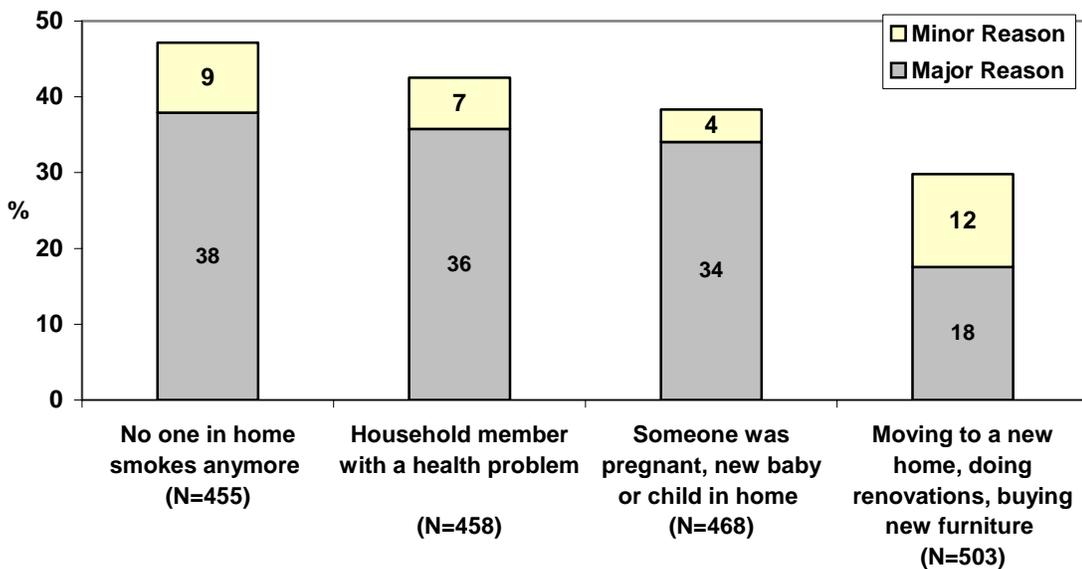


Figure 10: Reported reasons for changing to a smoke-free home, Ontario 2001/02

Ontarians who had changed to a smoke-free home were asked how important various reasons were for this decision (Figure 11). Over 90% said that they did so because they were concerned about the health impact of exposure to second hand smoke on others living in the home. In addition, over 90% stopped smoking in the home to prevent children from believing that it was okay to smoke or to reduce the smell and stains caused by the presence of second hand smoke in the home. Almost two-thirds of respondents in Ontario (63%) stopped smoking in their home to help cut down or quit smoking, with 37% citing this as a very important reason for changing to a smoke-free home.

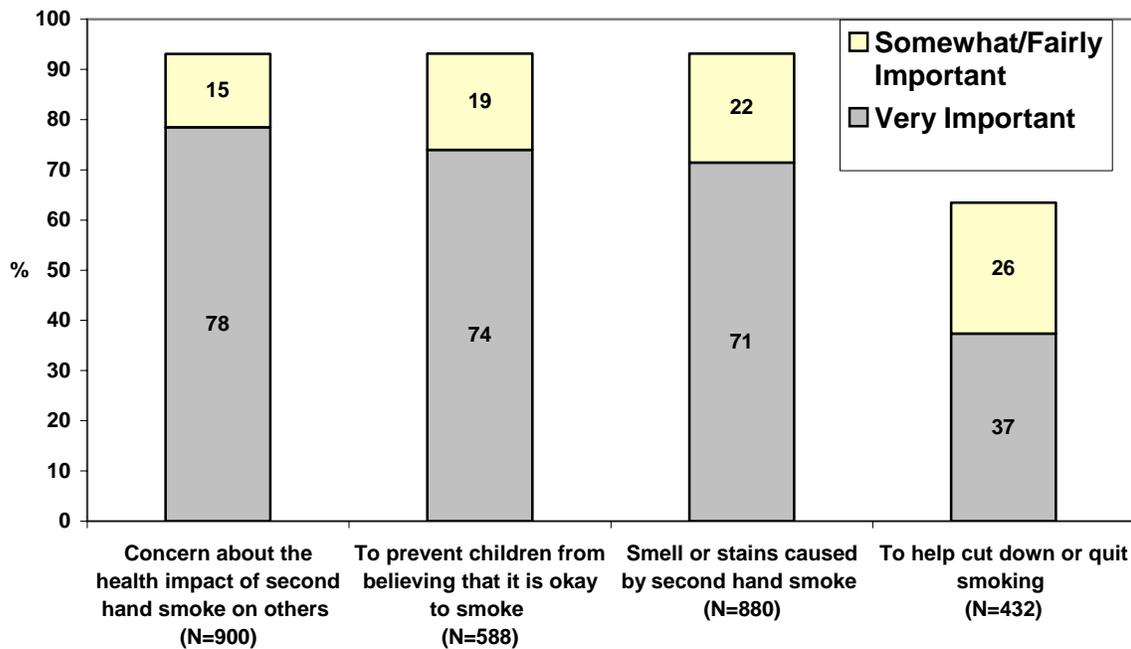


Figure 11: Importance of reasons for changing to a smoke-free home, Ontario 2001/02

Attitudes and Beliefs

Currently, there is no ventilation system that can completely remove second hand smoke from indoor air.¹⁴ To measure beliefs about the effectiveness of various methods to reduce second hand smoke in the home, respondents were asked whether they believed each method removed smoke “a lot”, “a little” or “made no difference”. Only one in five believed that opening a window or door (17%) or blowing smoke directly out a window or door (21%) reduced smoke inside the home “a lot”. Other strategies, such as smoking in specific areas in the home, waiting an hour before using a room where someone had been smoking and using a fan were subscribed to by only 7-11% of Ontario respondents.

Significantly more men than women believed that using a fan (12% vs. 6%), blowing smoke directly out a window or door (29% vs. 16%), or waiting one hour before using a room in which someone had been smoking (10% vs. 5%) reduced smoke in the home “a lot” ($p < 0.05$).

In general, beliefs that various strategies were effective at reducing second hand smoke “a lot” received less support among respondents with higher education. For example, more Ontario respondents with less than a high school education believed that smoking in certain parts of the house or in a certain room reduced second hand smoke “a lot” compared to those with a university education (16% vs. 7%).

Smokers were more likely to believe that various strategies were effective in reducing second hand smoke in the home (Figure 12). For example, current smokers were more than twice as likely than never smokers to believe that blowing smoke directly out a window or door removed second hand smoke in the home “a lot” (37% vs. 15%).

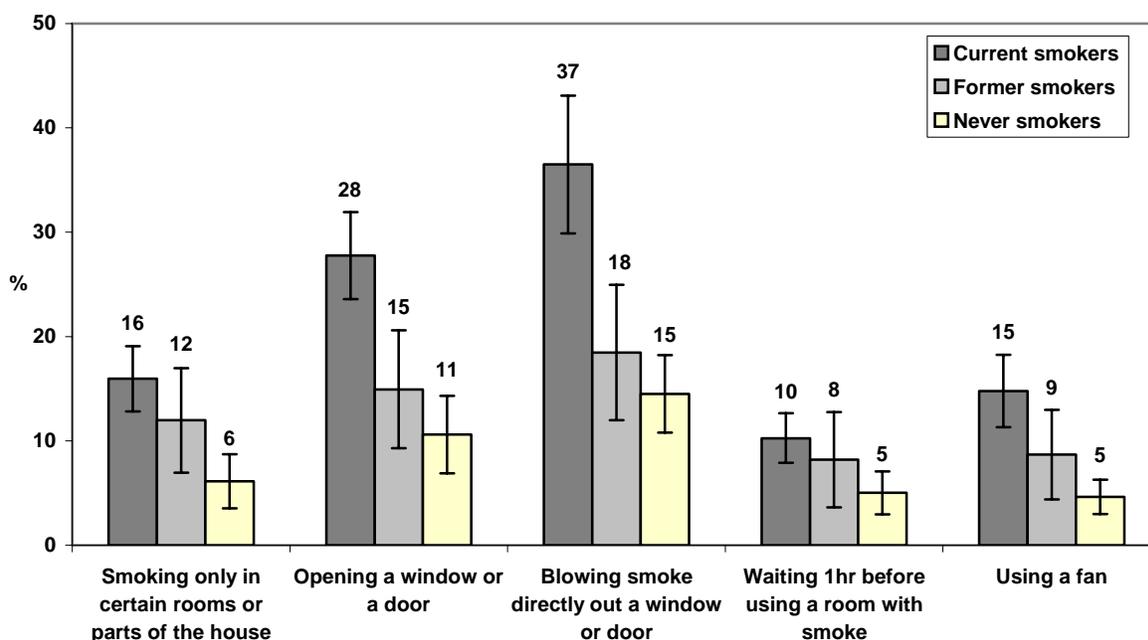


Figure 12: Proportion of respondents who believe various strategies remove second hand smoke in the home "a lot" by smoking status of respondent, Ontario 2001/02 (N=1,738)

Summary

Most Ontarians are not exposed to second hand smoke in their homes.

- 80% of Ontarians reported that their homes were smoke-free; this places Ontario in the middle compared to other provinces. British Columbia (86%) and the West (83%) had a higher proportion of smoke-free homes, while the Atlantic region (72%) and Quebec (71%) had lower proportions of smoke-free homes.
 - 13% of Ontarians reported that household members restricted their smoking inside the home to certain areas or times of the day.
 - 7% of Ontarians reported that household members smoked inside the home anywhere and at any time.
- The three primary reasons for making the home smoke-free were:
 - No one smoked anymore.
 - Someone in the home was ill or had a health problem.
 - Someone was pregnant, or there was a new baby or child in the home.
- Most of those who changed to a smoke-free home did so because of concerns about the health impacts of second hand smoke on others living in the home, to prevent children

from believing it was okay to smoke or because of the smell or stains caused by second hand smoke.

- Few respondents believe that second hand smoke is significantly reduced by opening or blowing smoke directly out a window or door, smoking in specific areas in the home, waiting an hour or using a fan.

CHAPTER 6: POLICY RECOMMENDATIONS

Over the past two decades, a consensus has developed that second hand smoke is a serious hazard to the health of adult non-smokers and children. Yet in 2001/02, over one-third of Ontario respondents reported living in homes with at least one smoker. In these homes, the threat of exposure to second hand smoke persists and should be addressed. In this chapter, we consider the implications of the evidence presented in this report for the development of effective programs and policies to eliminate second hand smoke exposure in Ontario homes. Based on the findings, we will make policy recommendations in three areas: 1) educational initiatives on the health consequences of exposure to second hand smoke for non-smokers and children; 2) promotion and provision of assistance for creating and maintaining smoke-free living environments; and 3) programs to encourage cessation and prevent relapse.

In Ontario, one in five respondents (21%) reported exposure to second hand smoke at home in 2001/02. Those with a high school education or less reported the highest levels of exposure at home compared to those with a university degree or higher. Educational efforts geared to these populations should include health implications of exposure to second hand smoke and highlight the home as an important site of exposure. Policies and educational efforts should be directed to these highly exposed groups to encourage residents to adopt smoking restrictions at home.

For children under the age of 18 years, the home continues to be a primary source of exposure to second hand smoke. In Ontario, 51% of respondents living with both smokers and children reported that smoking occurred inside their homes. Because of the known harmful effects of exposure to second hand smoke on children's health, aggressive policies to protect exposed children should be developed. A good starting point is a policy that would ban smoking in vehicles carrying children. Smoking in vehicles is a serious concern because high concentrations of smoke can develop in enclosed spaces.¹⁵ In addition, smoking in vehicles has been implicated in collisions and forest fires.¹⁶ Other jurisdictions are considering such bans, and numerous precedents have already been set for regulating behaviour in vehicles (e.g., seat belts, alcohol consumption). Our findings indicate a high level of support among Ontario respondents; 62% agreed with a law banning smoking in vehicles with children. Efforts should be initiated to

promote a ban on smoking in vehicles carrying children. This process was recently begun by the Ontario Medical Association, which recommended that the Ontario government introduce legislation banning the use of tobacco inside vehicles used to transport children.¹⁷

There was also substantial support for a law banning smoking in homes with children, with 44% of respondents in Ontario supporting such a law. A legal precedent for this has been set in child custody cases, where the smoking habits of the parents are increasingly being considered.¹⁸ In Ontario, the Child and Family Services Act requires that health professionals report risks to the health of children.¹⁹ Efforts to denormalize smoking in the home are critical to creating a climate where such legislation is possible. Educational programs on the consequences of second hand smoke exposure for children should target households with smokers and children and stress the unacceptability of smoking around children. Effective quit programs and community support resources should be made available in these campaigns, with links to educational initiatives on the harmful effects of second hand smoke on non-smokers and children.

Examining attitudes toward smoking around children can aid in the development of effective education campaigns on the consequences of second hand smoke exposure. Clearly, smokers should be targeted with educational programs on the harmful effects of exposure to second hand smoke on children's health. Smokers were less likely to support protecting children from second hand smoke in the home than non-smokers.

Beliefs about the effectiveness of strategies to reduce second hand smoke exposure in the home reported in this study illustrate the need to educate Ontarians on the ineffectiveness of such strategies. For example, some Ontario respondents believed that opening, or blowing smoke directly out of, a window or door reduces smoke a lot in the home. Smoking in certain rooms or areas of the house, or waiting an hour before using a room where someone has been smoking are common practices in many homes. Unfortunately, research shows that these methods do not significantly reduce second hand smoke in homes. There is no safe level of second hand smoke. Therefore, we need to inform the public that only a smoke-free space is safe and that there is no other method that can safely eliminate second hand smoke. Current smokers in particular should be targeted.

Recommendations

- Educational efforts to promote smoke-free homes should focus on households with:
 - Smokers and children
 - Smokers with less education.
- Educational efforts should also inform the public that no level of exposure to second hand smoke is safe and that the only way to protect others is to provide a smoke-free environment in both homes and vehicles.
- Efforts should be initiated to promote a ban on smoking in vehicles carrying children. This process was recently begun by the Ontario Medical Association. Further work should involve research on actual exposure in vehicles.
- Banning smoking in homes with children will require a high level of public support; continued monitoring of the public acceptability of these measures should be undertaken to inform policy makers.
- Since behaviours and attitudes have undoubtedly changed since the data were collected, further data collection should be undertaken to determine the magnitude of these changes, and where possible, their relation to programs and policies.

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